



# Medical Facilities Development and University Expansion

FINAL ENVIRONMENTAL IMPACT STATEMENT  
Volume II: Appendices

JULY 2013

Naval Support Activity Bethesda





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**APPENDIX A: PUBLIC INVOLVEMENT**

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## APPENDIX A: PUBLIC INVOLVEMENT

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### 1.0 Introduction

National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, codified in Title 40 of the Code of Federal Regulations, Part 1500 (40 CFR 1500), require public involvement during all stages of the preparation of an environmental impact statement (EIS). Scoping, which is part of the overall public involvement process, allows the Federal agency undertaking the action to determine the scope of issues to be addressed in an EIS and identify any significant issues. Through a public scoping meeting, a Federal agency can inform the public of a proposed action and its alternatives and receive comments. Public hearings and the associated comment period, which are also part of the overall public involvement process, allow the public to review and comment on a Draft EIS. Federal agencies consider all comments received on a Draft EIS during the designated comment period and use the comments to prepare and refine the Final EIS.

### 2.0 Public Scoping Notification

To ensure that the full range of issues related to the proposed actions is addressed, the Navy published a notice of intent (NOI) to prepare an EIS in the Federal Register on 19 August 2011, (Attachment 1). The Federal Register publication initiated a 46-day scoping period beginning on 19 August 2011, and ending on 3 October 2011. The NOI provided general information on the Navy's proposed actions, an announcement of public scoping meetings concerning the actions, and contact information for providing comments.

The Navy also placed a notice in local newspapers: the Washington Post (August 25, 26, and 27), the Washington Times (August 26, 29, and 30), and Montgomery County Gazette (August 29 - Gaithersburg, Bethesda, Potomac, and Rockville). An example of the public notice is located in Attachment 1.

In addition, notices of the public scoping meetings were mailed to 697 local community associations and members of the general public as well as 70 Federal, state, and local government entities and elected officials. The notice was also posted on the project website: <http://www.bethesda.med.navy.mil/nsa/eis.aspx>. Attachment 2 of this appendix lists the Federal, state, and local agencies/representatives that were informed of the project prior to the scoping meetings.

The public was invited to provide comments pertaining to environmental issues that should be considered in the development and analysis of alternatives during the 46-day scoping period. Comments were accepted

at the public scoping meetings, as well as by mail, email, project website, or telephone.

### **3.0 Public Scoping Meetings**

Two public scoping meetings were held at the Pooks Hill Marriott in Bethesda, Maryland on:

- 7 September 2011, 5 PM to 9 PM.
- 12 September 2011, 1 PM to 5 PM.

The public scoping meetings were a combination of an open house and formal presentation. The first portion of the meeting was an open house format, where information on the proposed actions was displayed on poster boards and knowledgeable Navy representatives were available to answer questions. The open house session was followed with a presentation by the Navy and a public hearing session, which was transcribed by a court reporter.

### **4.0 Results of Public Scoping Period**

Forty-one people attended the two public scoping meetings. The attendees included representatives from Federal, state, and local agencies, representatives from community organizations, neighborhood associations, and residents of surrounding neighborhoods. Representatives from the offices of the U.S. Congress, Maryland General Assembly, Montgomery County Council, and Montgomery County Executive Office also attended the public scoping meetings. Attachment 3 of this appendix lists the meeting attendees.

One comment card was submitted during the two public scoping meetings and one commenter provided comments to a Navy representative. Six attendees provided verbal comments during the two meetings. Additionally, 11 commenters provided comments via email and three provided comments via mail. No comments were received via telephone.

The discussion below provides a summary of the comments provided during the public scoping period.

The majority of the comments from the state and local agencies and the local residents reflected concerns for the potential traffic increase in an already highly congested area. The comments can be grouped into the following major categories:

- Transportation Issues
- Air Quality
- Noise
- Visual Effects
- Biological Resources
- Cultural Resources

### Transportation Comments

The comments on transportation were further grouped into the following subcategories:

- **Roadway/Traffic:** congestion of main thoroughfares that affect adjoining neighborhoods; requests for additional intersections to be included in the traffic study.
- **Parking:** concerns that increased parking spaces at NSA Bethesda would increase traffic.

### Other Comments

Other comments addressed issues including air quality, noise, visual impacts, construction, property values, biological resources, and cultural resources. Comments on air quality focused on impacts from construction equipment, traffic, and hazardous materials from demolition. Comments on noise were related to construction and roadway issues. Commenters also stated concerns regarding visual impacts from construction and lighting and negative impacts on property values. Other comments focused on biological resources and stated the need to protect forest stands and green space and provide a screen for construction. Comments on cultural resources were related to Tower 1 and National Register of Historic Places (NRHP) and National Historic Preservation Act (NHPA) Section 106 consultation.

Attachment 4 includes a matrix that presents the scoping comments and responses to them.

## **5.0 Draft EIS Review**

On 14 September 2012, the U.S. Environmental Protection Agency (USEPA) published a Notice of Availability (NOA) and the Navy published the Notice of Public Hearing (NOPH) for the Draft EIS in the Federal Register (see Attachment 5). The publication of the USEPA NOA initiated the 46-day public comment period, which ended on 29 October 2012. It should be noted that the Navy extended the public comment period an additional week to 7 November 2012, to account for Hurricane Sandy. The Navy provided the extension notification to the public via an email from the Montgomery County Base Closure and Realignment (BRAC) coordinator (see Attachment 5).

The Navy's NOPH provided a summary of the proposed actions and impacts, an announcement of public hearings, and information on how to provide comments on the Draft EIS. The Navy also placed notices in local newspapers: the Washington Post (September 14, 15, and 16), the Washington Times (September 14, 17, and 18), and Montgomery County Gazette (September 19 - Gaithersburg, Bethesda, Potomac, and Rockville) (an example is provided in Attachment 5). The NOA and NOPH were mailed to 682 local community associations and members of the

general public as well as 75 Federal, state, local government entities and elected officials. Copies of the Draft EIS and the appendices, paper or electronic version on a compact disk, were mailed to key Federal, state, and local agencies and representatives. The Navy also placed copies of the Draft EIS and the appendices, paper and electronic version on a compact disk at the Bethesda, Chevy Chase, Davis, Kensington Park, and Rockville Memorial libraries and at the Bethesda-Chevy Chase Regional Services Center. The Navy also posted the notice on the project website:

<http://www.bethesda.med.navy.mil/nsa/eis.aspx>. Attachment 6 includes the list of Federal, state, and local agencies and representatives that were informed of the NOA/NOPH and the public hearings, and that received a copy of the Draft EIS for review.

During the 46-day public review period, the Navy invited the public to provide comments on the Draft EIS. Comments were accepted at the public hearing, as well as by mail, email, project website, or telephone.

Two public hearings were held at the Pooks Hill Marriott, in Bethesda, Montgomery County, Maryland on:

- 4 October 2012, 1 PM to 5 PM.
- 11 October 2012, 5 PM to 9 PM.

The public hearings were a combination of an open house and formal presentation. The first portion of the meeting was in an open house format, where information on the proposed actions and impacts presented in the Draft EIS was displayed on poster boards and knowledgeable Navy representatives were available to answer questions. The open house session was followed with a presentation by the Navy and a public hearing session, which was transcribed by a court reporter.

A total of 41 persons attended the two public hearings. The attendees included representatives from Federal, state, and local agencies, community organizations, neighborhood associations, and residents of surrounding neighborhoods. Representatives of the offices of the U.S. Congress, Maryland General Assembly, Montgomery County Council, and Montgomery County Executive Office also attended the public hearings (Attachment 7).

No comment cards were submitted during the two public hearings. A total of six attendees provided verbal comments during the hearings. Additionally, 19 commenters provided comments via email and mail. No comments were received via telephone.

The majority of the comments from the local residents reflected concerns for the potential traffic increase in an already highly congested area. Attachment 8 includes a matrix that presents the

comments on the Draft EIS and the Navy's responses. Comment categories were similar as those received during scoping.

## 6.0 Agency Outreach

The Navy initiated and engaged in early and frequent coordination with various Federal, state, and local agencies, including the Maryland Historical Trust (MHT) and the National Capital Planning Commission (NCPC).

In a letter dated 11 October 2011, shortly after EIS NOI publication, the Navy initiated formal consultation under Section 106 of the National Historic Preservation Act (NHPA) with the MHT and the Advisory Council on Historic Preservation (ACHP) for the various projects in the EIS as "undertakings" with the potential to affect historic properties. Subsequently, the Navy continued to consult informally with MHT and NCPC staff. In a letter to the MHT dated 14 December 2012, the Navy resumed the formal Section 106 process and designated areas of potential effect for the undertakings. It also made initial determinations of either "no effect" or "no adverse effect" on historic properties for all of the undertakings addressed in the EIS, except Building C and the Underground Parking Garage. For these undertakings, the Navy indicated its intent to develop a Programmatic Agreement (PA), because no concept design for these facilities—of acknowledged sensitivity with regard to their impact upon the Central Tower Block and the Front Lawn—would be available prior to the anticipated date of the EIS's Record of Decision (ROD). Lastly, the Navy indicated its acceptance of a request by the NCPC to be a Consulting Party under the Section 106 regulations.

In a letter dated 16 January 2013, the MHT replied that the demolition of certain features of the Front Lawn (lawn, terrace, and flagpole) and the construction of the Underground Parking Garage would constitute an adverse effect on the Central Tower Block and its landscape setting under Section 106. MHT further recommended that the Navy implement one of the above-ground parking alternatives for the Medical Facilities Development. In response to MHT's recommendation, the Navy decided that underground parking below the Front Lawn could not be considered the preferred alternative for meeting the parking requirements of the Medical Facilities Development. MHT has, however, concurred with the Navy on the plan to develop a PA for Building C. The PA would guide a future consultation process as the design of this facility proceeds. Its goal would be to avoid, minimize, or mitigate any adverse effects on historic properties due to the construction or operation of Building C. In a 4 February 2013 letter, the Navy requested active participation of the ACHP in the development of PAs for the Underground Parking Garage and Building C, but this request preceded the Navy's decision to drop underground parking as the preferred alternative.

The Navy also contacted the U.S. Fish and Wildlife Service (USFWS) and the Maryland Department of Natural Resources (MDNR) on 11 October

2011, to request a list of endangered or threatened species that have the potential to occur at NSA Bethesda. USFWS has determined that, except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project areas for the proposed actions. Therefore, the Navy is not required to consult with USFWS to satisfy Section 7 of the Endangered Species Act (ESA). Should Federal endangered or threatened transients be discovered within the proposed project areas during construction, the Navy would adhere to all requirements under ESA. MDNR has determined that there are no state or Federal records for rare, threatened, or endangered species within the boundaries of the project sites and, therefore, the agency does not have specific comments or requirements pertaining to protection measures at this time.

Additionally, the Navy continues to consult with the Maryland National Capital Park and Planning Commission (M-NCPPC), Maryland State Highway Administration (MSHA), and Montgomery County Department of Transportation (MCDOT) on the EIS traffic study and has conducted the study in accordance with the local guidelines.

Correspondence with the agencies to date is included in Attachment 9. The Navy also participates in regularly scheduled Bethesda BRAC Workgroups and hosts forums at NSA Bethesda to provide timely updates to the community.

In addition to the above mentioned correspondence and consultation, agencies provided comments on the Draft EIS (Attachment 8).

## **7.0 Attachments**

The following attachments provide supporting documentation for the scoping period, expanded comment period, and the public hearings:

Attachment 1: Federal Register Notice of Intent and public notice for scoping meetings.

Attachment 2: List of the public and government entities that were mailed the notification of the public scoping meetings.

Attachment 3: List of scoping meeting attendees.

Attachment 4: List of commenters and comments/responses from the scoping period.

Attachment 5: Federal Register Notice of Availability (NOA), Notice of Public Hearings (NOPH), and Public Notice for Draft EIS.

Attachment 6: List of public and government entities notified of the public hearings and Draft EIS.

Attachment 7: List of public hearing attendees.

Attachment 8: Public comments and Navy responses on the Draft EIS.

Attachment 9: Formal correspondence - local, state, and Federal agencies, and elected officials.

Attachment 10: Distribution of and/or Notification of the Final EIS.

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**Attachment 1: Federal Register Notice of Intent and  
Public Notice for Scoping Meetings**

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and Game, 78078 Country Club Drive, Suite 109, Bermuda Dunes, CA 92203, (760) 200-9372. For additional information, please call Rick Davis of the Davis Group at (760) 610-2072 or e-mail

[CAFishandGame@davisgroupca.com](mailto:CAFishandGame@davisgroupca.com).

Alternatively, you may contact the Corps and DFG project managers identified above.

**SUPPLEMENTARY INFORMATION:** This Draft EIS/EIR has been filed with the Environmental Protection Agency to be published in the **Federal Register**. The review period for the Draft EIS/EIR will begin from the date of publishing the Notice of Availability in the **Federal Register**, which is expected to be on August 17, 2011. Comments on the Draft EIS/EIR will be accepted 60 days later, until October 17, 2011.

Dated: August 8, 2011.

**R. Mark Toy, P.E.,**

*Colonel, US Army, Commander and District Engineer.*

[FR Doc. 2011-21239 Filed 8-18-11; 8:45 am]

**BILLING CODE 3720-58-P**

## DEPARTMENT OF DEFENSE

### Department of the Navy

#### **Notice of Intent To Prepare an Environmental Impact Statement for the Medical Facilities Development and University Expansion at Naval Support Activity Bethesda, Bethesda, Maryland and To Announce Public Scoping Meetings**

**AGENCY:** Department of the Navy, DoD.

**ACTION:** Notice.

**SUMMARY:** Pursuant to section (102)(2)(c) of the National Environmental Policy Act (NEPA) of 1969, the regulations implemented by the Council on Environmental Quality (40 Code of Federal Regulations [CFR] parts 1500-1508), the Department of the Navy (DoN) announces its intent to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental effects associated with the proposed actions at Naval Support Activity (NSA) Bethesda to implement the Congressional mandate in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center at Bethesda (WRNMMCB) by providing enduring facilities commensurate in quality, capability and condition as those provided by the Base Realignment and Closure (BRAC) investment and address the space and operational

limitations at the Uniformed Services University of the Health Sciences (USUHS). The proposed actions, which will enhance and support but not add to the missions of the installation, medical center or USUHS, include: (1) The demolition of five (5) hospital buildings and reconstruction of a single 5-story facility and associated parking garage, utility capacity upgrades, and temporary medical facilities to provide uninterrupted patient care during construction (Medical Facilities Development) and (2) the expansion of the USUHS and associated parking garage.

These proposed actions are two components of the 2012 NSA Bethesda Master Plan that the DoN is currently updating and this EIS analyzes the implementation of these components. The 2012 NSA Bethesda Master Plan reflects ongoing projects previously considered under NEPA as well as potential future development opportunities at NSA Bethesda. The EIS will evaluate the cumulative effects of the proposed actions in the context of the known, ongoing activities and identify the potential programmatic effects of the proposed actions in the context of the potential future development opportunities. Therefore, the EIS will analyze the environmental effects of the 2012 NSA Bethesda Master Plan relative to the implementation of the proposed actions in this EIS. For the potential future development opportunities, the DoN will ensure the appropriate NEPA review is completed at such time as the projects are proposed for implementation.

The proposed actions at NSA Bethesda consist of: (1) The Medical Facilities Development, which includes demolition of Buildings 2, 4, 6, 7, and 8 and construction of a single, 5-story replacement building in the medical center core, construction of an associated parking garage, utility capacity upgrades, construction of temporary medical facilities to maintain uninterrupted patient care during construction, and internal renovations to Buildings 1, 3, 5, 9, and 10; and (2) the University Expansion, which includes construction of a new classroom/research facility and associated parking garage at USUHS. The proposed actions would not add to the existing missions at NSA Bethesda and would occur subsequent to the 2005 BRAC Law mandated relocation of the Walter Reed Army Medical Center's (WRAMC) tertiary (sub-specialty and complex care) medical services to National Naval Medical Center (NNMC) at NSA Bethesda in September 2011.

With the relocation, the NNMC will be renamed the WRNMMCB.

NSA Bethesda is the action proponent and the DoN is the lead agency for the proposed actions. Joint Task Force National Capital Region Medical (JTF CapMed), NNMC, and USUHS, are tenants of NSA Bethesda and are the stakeholders for these activities.

The DoN is initiating a 45-day public scoping period to identify community interests and specific issues to be addressed in the EIS. The public scoping period starts with the publication of this Notice of Intent. The DoN will hold two public scoping meetings to inform the public of the proposed actions and receive comments.

Comments, both written and oral, will be collected at each of the two public scoping meetings. Each of the public scoping meetings will consist of an open house session followed by a live presentation and an opportunity for the public to present their comments. To ensure that the full range of issues related to the proposed actions will be addressed, representatives from the DoN will be available to solicit comments from all interested parties during the public scoping meetings. Following future publication of the draft EIS, at a time to be determined, further public meetings will be held to address comments on the draft document.

**Dates and Addresses:** The two public scoping meetings will be held on the following dates:

1. Wednesday, September 7, 2011, 5 p.m. to 9 p.m., Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, Maryland 20814.

2. Monday, September 12, 2011, 1 p.m. to 5 p.m., Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, Maryland 20814.

Additional information concerning meeting times and locations are available on the NSA Bethesda Web site at: <http://www.bethesda.med.navy.mil/nsa/eis.aspx>. Public scoping meeting schedules and locations will also be announced in local newspapers.

**FOR FURTHER INFORMATION CONTACT:**

Sandy Dean, NSA Bethesda Public Affairs Office; e-mail: [NNMC.NSABETHESDAEIS@med.navy.mil](mailto:NNMC.NSABETHESDAEIS@med.navy.mil); telephone number: 301-295-5727.

**SUPPLEMENTARY INFORMATION:** NSA Bethesda is a 243-acre health care, medical education and research installation located in Bethesda in Montgomery County, Maryland and is the home of the world renowned NNMC. The installation provides logistical and service support to all of its tenant commands, including JTF

CapMed, NNMC, and USUHS. In September 2011, with the completion of 2005 BRAC mandated relocation of WRAMC tertiary medical services to NNMC and its transformation to WRNMMCB, the facility will become the premier DoD medical center offering intensive and complex specialty and subspecialty medical services for the most seriously injured personnel from all military services. WRNMMCB and USUHS will also provide training and post-graduate level education to the military medical community and serve as a critical medical research center.

The purpose of the Medical Facilities Development is to implement the Congressional mandate from the FY2010 National Defense Authorization Act to achieve the new statutory world-class standards for military medicine at the WRNMMCB by providing enduring facilities commensurate in quality, capability and condition as those provided by the BRAC investment. The Medical Facilities Development is needed because current space is insufficient to meet world class standards such as decompression to single occupancy patient rooms, a state-of-the-art simulation center, and a health innovation center. The purpose of, and need for, the Medical Facilities Development was identified subsequent to the programming for BRAC 2005, which was specifically designed to accommodate the transfer of WRAMC to WRNMMCB and was never intended to address the mission capability or functionality of the existing infrastructure.

The primary purpose of the University Expansion is to address the significant space and operational limitations that exist for education and research activities due to the fragmented, aging, and inefficient infrastructure and enable USUHS to serve as the core academic health research center at WRNMMCB. The University Expansion is needed because the USUHS operations are currently fragmented between off-site leased space in Montgomery County, Maryland and other dispersed buildings on NSA Bethesda. Additionally, the University Expansion will address the most recent Liaison Committee on Medical Education accreditation requirements, and provide adequate education and research space to meet Military Health System commitments to deliver training and post-graduate level education to the military medical community.

The Medical Facilities Development resulted from an iterative planning process which resulted in the Comprehensive Master Plan (CMP) developed by JTF CapMed in response

to the FY10 NDAA Congressional mandate, which identified and evaluated alternatives based on the departmental needs anticipated at the WRNMMCB after the completion of the BRAC-mandated relocations in September 2011. The CMP development process identified the proposed action as the best approach to meet the Congressional mandate for world class facilities commensurate in quality, capability and condition with the BRAC investment. The Medical Facilities Development, as described in the CMP, entails demolition of Buildings 2, 4, 6, 7, and 8 (approximately 326,000 square feet (SF)) of and construction of a single, 5-story facility totaling approximately 563,000 SF in the same basic footprint. The Medical Facilities Development also proposes utilities and power capacity upgrades, internal renovations in Buildings 1, 3, 5, 9 and 10, and the use of the northwest parking lot for temporary medical facilities to maintain uninterrupted patient care during the construction period.

The Medical Facilities Development also proposes, in the lawn in front of Building 1, the construction of an approximately 203,000 SF, 500-space underground parking garage, which in addition to the medical center, will serve the overall parking needs at NSA Bethesda. The EIS will analyze three alternative sites at NSA Bethesda for the underground parking garage: The warehouse area in the northeast corner, the Taylor Road site in the northeast area, and H-Lot in the south area, respectively.

The EIS will consider two alternative sites for the University Expansion: Alternative 1 and Alternative 2 are south and west, respectively, of the existing USUHS campus. Under either of the alternative sites, the University Expansion would entail an approximately 341,000 SF education and research facility and an approximately 144,000 SF, 400-space parking structure that will serve USUHS and the overall parking needs across NSA Bethesda.

The EIS will also consider the No Action Alternative, which will evaluate the impact at NSA Bethesda in the event that the proposed actions do not occur.

The EIS will address the potential impacts of the proposed actions on the number of staff, patients, and visitors at NSA Bethesda. In addition, the EIS will evaluate the potential direct, indirect, short-term, long-term, and cumulative impacts to the human and natural environment, to include potential impacts to topography, geology, and soils; water resources, biological resources, air quality, noise,

infrastructure and utilities, traffic and transportation, cultural resources, land use, socioeconomic, environmental justice, and public health and safety. Known areas of concern associated with proposed actions include providing the required space and facilities at NSA Bethesda in consideration of historic characteristics of the installation, and the impact to local traffic and on-base parking associated with personnel and patient visits. Other recent changes at, and in the vicinity of, NSA Bethesda will be evaluated to ensure consideration of the cumulative impacts of the proposed actions in the context of the ongoing and programmed projects as well as reasonably foreseeable projects identified in the 2012 Master Plan.

The EIS will also consider the 2012 NSA Bethesda Master Plan relative to the implementation of the Medical Facilities Development and University Expansion. The EIS will evaluate the cumulative impacts of the proposed actions in the context of the programmed projects already in progress and the programmatic effects of the potential future development opportunities identified in the 2012 NSA Bethesda Master Plan.

The DoN encourages agencies and the public to provide written comments in addition to, or in lieu of, oral comments at the public scoping meetings. To be most helpful, comments should clearly describe specific issues or topics that the EIS should address. Written comments must be postmarked within 45 days of the date of publication of this notice in the **Federal Register** and should be mailed to the address below. Comments may also be submitted via e-mail and/or the Web site listed below, within 45 days of the date of publication of this notice in the **Federal Register**. Requests for inclusion on the EIS mailing list may also be submitted to: Sandy Dean, NSA Bethesda Public Affairs Office, 8901 Wisconsin Avenue, Bethesda, Maryland 20889; via e-mail at [NNMC.NSABETHESDA](mailto:NNMC.NSABETHESDA) [EIS@med.navy.mil](mailto:EIS@med.navy.mil); via telephone at 301-295-5727; or visit the project Web site at <http://www.bethesda.med.navy.mil/nsa/eis.aspx>.

Dated: August 15, 2011.

**J.M. Beal,**

*Lieutenant Commander, Judge Advocate General's Corps, U.S. Navy, Federal Register Liaison Officer.*

[FR Doc. 2011-21216 Filed 8-18-11; 8:45 am]

**BILLING CODE 3810-FF-P**

PROOF OF PUBLICATION

District of Columbia, ss., Personally appeared before me, a Notary Public in and for the said District, Kadedhra Greenidge well known to me to be BILLING SUPERVISOR of The Washington Post, a daily newspaper published in the City of Washington, District of Columbia, and making oath in due form of law that an advertisement containing the language annexed hereto was published in said newspaper on the dates mentioned in the certificate herein.

I Hereby Certify that the attached advertisement was published in The Washington Post, a daily newspaper, upon the following date(s) at a cost of \$4,369.64 and was circulated in the Washington metropolitan area.

Published 3 time(s). Date(s):26,27 and 28 of August 2011

Account 2010185069

Witness my hand and official seal this 29 day of August 2011

*Kadedhra Greenidge*  
*Maxine M. Williams*

My commission expires \_\_\_\_\_

**Maxine M. Williams**  
**Notary Public, District of Columbia**  
**My Commission Expires 11/14/2015**

NOTICE OF PUBLIC SCOPING MEETINGS ENVIRONMENTAL IMPACT STATEMENT FOR MEDICAL FACILITIES DEVELOPMENT

AND UNIVERSITY EXPANSION AT NAVAL SUPPORT ACTIVITY BETHESDA, BETHESDA, MARYLAND The Navy will conduct public scoping meetings in Bethesda, Maryland to further determine the scope of the analysis

to be addressed in an Environmental Impact Statement (EIS) under the provisions of the National Environmental Policy Act. The EIS will evaluate the potential environmental effects associated with

the proposed actions at Naval Support Activity (NSA) Bethesda to implement the Congressional mandate

in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory

world-class standards for military medicine at the Walter Reed National Military Medical Center at

Bethesda (WRNMMCB). The proposed action will provide enduring facilities commensurate in quality,

capability and condition as those provided by the Base Closure and Realignment (BRAC) investment and

address the space and operational limitations at the Uniformed Services University of the Health Sciences (USUHS). These proposed actions will enhance and support, but not add to missions and functions of the installation, medical center or the USUHS. The public scoping meetings are scheduled as follows: 1. Wednesday, 7 September, 2011, 5:00 - 9:00 p.m., Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, MD. 2. Monday, 12 September, 2011, 1:00 - 5:00 p.m., Bethesda Marriott,

5151 Pooks Hill Road, Bethesda, MD. Following publication of the draft EIS in the future, at a time to be determined, the Navy will conduct a second set of public meetings to address comments on

the draft document. To ensure that the full range of issues related to the proposed actions will be

addressed, Navy representatives will be available to solicit comments from all interested parties during the public scoping meetings. Agencies and the public are also encouraged to provide written

comments in addition to, or in lieu of, comments at the public scoping meetings. To be most helpful,

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comments should clearly describe specific issues or topics that the EIS should address. Written comments may also be submitted via U.S. mail, E-Mail, or the website listed below without attending the meetings and must be postmarked or E-Mailed no later than October 3, 2011.

Comments

should be sent to: Sandy Dean, NSA Bethesda Public Affairs Office 8901 Wisconsin Avenue Bethesda,

Maryland 20889 By E-Mail address: NNMC.NSABETHESDAEIS@med.navy.mil By Telephone: (301) 295-5727

You can also provide comments at the project website:

<http://www.bethesda.med.navy.mil/nsa/eis.aspx>

Requests for language interpreters, an interpreter for the hearing impaired, or other special needs should be made to the NSA Bethesda Public Affairs Office at the address, E-Mail, or phone number given above.

# The Gazette

Serving Maryland Communities since 1959

9030 Comprint Court, Gaithersburg, MD 20877 301-846-2108

9/1/11

This is to certify that the annexed advertisement of NOTICE OF PUBLIC SCOPING MEETINGS ENVIRONMENTAL IMPACT STATEMENT FOR MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT ACTIVITY was published in the Gaithersburg/Germantown, Rockville/Bethesda Gazette newspapers, a weekly newspaper published in Montgomery County, Maryland. The Ad appeared once a week for one week, before 9/2/11.

**Copy of Ad Attached**  
Ad Order Number

**NOTICE OF PUBLIC SCOPING MEETINGS  
ENVIRONMENTAL IMPACT STATEMENT FOR  
MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION AT  
NAVAL SUPPORT ACTIVITY BETHESDA, BETHESDA, MARYLAND**

The Navy will conduct public scoping meetings in Bethesda, Maryland to further determine the scope of the analysis to be addressed in an Environmental Impact Statement (EIS) under the provisions of the National Environmental Policy Act. The EIS will evaluate the potential environmental effects associated with the proposed actions at Naval Support Activity (NSA) Bethesda to implement the Congressional mandate in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center at Bethesda (WRNMMCB). The proposed action will provide enduring facilities commensurate in quality, capability and condition as those provided by the Base Closure and Realignment (BRAC) investment and address the space and operational limitations at the Uniformed Services University of the Health Sciences (USUHS). These proposed actions will enhance and support, but not add to missions and functions of the installation, medical center or the USUHS.

The public scoping meetings are scheduled as follows:

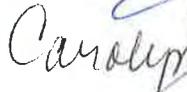
1. Wednesday, 7 September, 2011, 5:00 - 9:00 p.m., Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, MD.
2. Monday, 12 September, 2011, 1:00 - 5:00 p.m., Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, MD.

Following publication of the draft EIS in the future, at a time to be determined, the Navy will conduct a second set of public meetings to address comments on the draft document.

Gazette Legal Advertising Dept



Notary Public



My Commission Expires: Jan

To ensure that the full range of issues related to the proposed actions will be addressed, Navy representatives will be available to solicit comments from all interested parties during the public scoping meetings. Agencies and the public are also encouraged to provide written comments in addition to, or in lieu of, comments at the public scoping meetings. To be most helpful, comments should clearly describe specific issues or topics that the EIS should address. Written comments may also be submitted via U.S. mail, E-Mail, or the website listed below without attending the meetings and must be postmarked or E-Mailed no later than October 3, 2011. Comments should be sent to:

Sandy Dean, NSA Bethesda Public Affairs Office  
8901 Wisconsin Avenue  
Bethesda, Maryland 20889  
By E-Mail address: NNMC.NSABETHESDAEIS@med.navy.mil  
By Telephone: (301) 295-5727

You can also provide comments at the project website: <http://www.bethesda.med.navy.mil/nsa/eis.aspx>

Requests for language interpreters, an interpreter for the hearing impaired, or other special needs should be made to the NSA Bethesda Public Affairs Office at the address, E-Mail, or phone number given above.



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**Attachment 2: List of Community Associations and  
Government Entities That Were Mailed the  
Notification of the Public Scoping Meetings**

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**List of Elected Official, Agencies and Organizations That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
Council Chair	Brigitte	Akalovsky	Village of North Chevy Chase
Councilmember	Phil	Andrews	Stella B. Werner Office Building
Board of Managers Chair	Patricia S.	Baptiste	Chevy Chase Village
Mayor	Debbie	Beers	Town of Glen Echo
Councilmember	Roger	Berliner	Stella B. Werner Office Building
Village Manager	Geoffrey B.	Biddle	Chevy Chase Village
Village Council Chairman	Bill	Brownlee	Section 3 of the Village of Chevy Chase
Senator	Benjamin	Cardin	US Senate Attn: Christopher Lynch, Chief of Staff
Clerk-Treasurer	Tom	Carter	Town of Somerset
	Jana S.	Coe	Town of Chevy Chase View
Councilmember	Marc	Elrich	Stella B. Werner Office Building
Councilmember	Valerie	Ervin	Stella B. Werner Office Building
Councilmember	Nancy	Floreen	Stella B. Werner Office Building
Mayor	Peter C.	Fosselman	Town of Kensington
Town Clerk	Nicole	Fraser	Town of Glen Echo
Delegate	William	Frick	Maryland House of Delegates
Senator	Brian E.	Frosh	Maryland State Senate
Council Chair	Peter	Gray	Section 5 of the Village of Chevy Chase
Delegate	Ana Sol	Gutierrez	Maryland House of Delegates
Village Manager	Andy Leon	Harney	Section 3 of the Village of Chevy Chase
Village Manager	Frances L.	Higgins	Section 5 of the Village of Chevy Chase
Town Manager	Todd	Hoffman	Town of Chevy Chase
Mayor	Chris	Keller	Town of Garrett Park
Delegate	Ariana B.	Kelly	Maryland House of Delegates
Delegate	Susan C.	Lee	Maryland House of Delegates
County Executive	Isaiah	Leggett	Executive Office Building
Councilmember	George	Leventhal	Stella B. Werner Office Building
Mayor	David	Lublin	Town of Chevy Chase
Senator	Richard S.	Madaleno, Jr.	Maryland State Senate
Village Manager	Julian	Mansfield	Village of Friendship Heights
Senator	Barbara	Mikulski	US Senate Attn: Julia Frifield, Chief of Staff
Councilmember	Nancy	Navarro	Stella B. Werner Office Building
Governor	Martin	O'Malley	State of Maryland
Town Administrator	Ted	Pratt	Town of Garrett Park
Councilmember	Craig	Rice	Stella B. Werner Office Building
Councilmember	Hans	Riemer	Stella B. Werner Office Building

**List of Elected Official, Agencies and Organizations That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
Mayor	Jeffrey Z.	Slavin	Town of Somerset
Town Administrator	Jean	Sperling	Village of Martin's Additions
Council Chairman	Maurice	Trebach	Village of Friendship Heights
Congressman	Chris	Van Hollen	US House of Representatives Attn: Joan Kleinman, District Director
Delegate	Jeffrey	Waldstreicher	Maryland House of Delegates
Village Manager	Robert	Weesner	Village of North Chevy Chase
Mayor	Melanie Rose	White	Village of Friendship Heights
Executive Director	Marcel C.	Acosta	National Capital Planning Commission
NEPA Team Leader	William	Arguto	Office of Environmental Programs U.S. Environmental Protection Agency
	Jim	Ashe	Washington Metro Area Transit Authority
HCD Director	Sara Anne	Daines	Housing and Community Development Office, City of Takoma Park
		Director	Office of Planning and Program Development, Federal Highway Administration
Director	Kenneth B. J.	Hartman	Bethesda-Chevy Chase Regional Services Center
Director	Arthur	Holmes	Montgomery County Department of Public Works and Transportation
Chair, Board of Trustees	Eileen C.	Mayer, Esq.	Stone Ridge School of the Sacred Heart
Executive Director	David	Robertson	Metropolitan Washington Council of Governments
Head of School	Catherine	Ronan Karrels	Stone Ridge School of the Sacred Heart
Planner	Bob	Rosenbush	Maryland Office of Planning
Director	Rollin	Stanley	Montgomery County Planning Department, M-NCPPC
Chair	Nancy	Sutley	Council on Environmental Quality
Director	Willie R.	Taylor	Office of Environmental Policy and Compliance, U.S. Department of the Interior
Director	Daniel	Wheeland	National Institutes of Health, Office of Research Facilities
Field Supervisor, Chesapeake Bay Field	John	Wolflin	Fish and Wildlife Service, U.S. Department of the Interior

**List of Elected Official, Agencies and Organizations That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
Office			
	Kathleen	Guinan	Wheaton & Kensington Chamber of Commerce
	John	Luke III	Montgomery County Airpark
	Peggy	Dennis	Montgomery County Civic Federation
	Andrea	Jolly	Rockville Chamber of Commerce
	W. Dave	Dabney	Bethesda Urban Partnership, Inc.
	Leslie	Ford Weber	Greater Bethesda-Chevy Chase Chamber of Commerce
	Andrea	Jolly, Executive Director	Rockville Chamber of Commerce
	Jeff	Burton, Deputy Executive Director	Bethesda Urban Partnership, Inc.
	Carmen	Larsen	Hispanic Chamber of Commerce of MC

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**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Tyler	Abell	Merry-Go-Round Farm Cluster
	Allison	Abernathy	
	Gary	Abramson	Kentsdale Estates Civic Assn.
President	Gary	Abramson	Kentsdale Estates Civic Assn.
President	Gary	Abramson	Preseve at Small's Nursery
	Marjorie	Ackerman	
Contact	Tom	Adams	Merrimack Park Citizens Assn. Sec 1
President	Curtis	Adkins	Norbeck Grover Condominium Inc.
Co-President	Avi	Adler	Chevy Chase West Neighborhood Assn.
	Bill	Adler	The Mains Homeowners Assn.
	Penelope	Alberg	Whitehall Condominium Assn.
	Alicia	Alexion	
President Board of Directors	Linda	Aley	Grosvenor Park III Condo.
President	Myers	Allen	Maplewood Citizens Assn.
President	Jon	Alterman	Bethesda Parkview Citizens Assn.
	Laura	Alvey	
President	Augustus	Alzona	Alta Vista Gardens/North Bethesda
Management Agent	Shireen	Ambush	Cloverleaf Center Homeowners Assn. c/o Abaris Realty, Inc.
	Shireen	Ambush	Castle Gate Homeowners Assn. c/o Abaris Realty, Inc.
	Shireen	Ambush	Cloverleaf Center II Condominium c/o Abaris Realty, Inc.
	Shireen	Ambush	Greencastle Manor Condominium Inc. c/o Abaris Realty, Inc.
	Shireen	Ambush	Greencastle Manor II Condominium Inc
	Shireen	Ambush	Kensington Terrace Condominium c/o Abaris Realty, Inc.
	Shireen	Ambush	Homeland Village at Olney Condo. c/o Abaris Realty, Inc.
	Shireen	Ambush	Montrose Woods Condo., Inc. c/o Abaris Realty, Inc.
	Shireen	Ambush	Tuckerman Station Homeowners Assn. c/o Abaris Realty, Inc.
	Shireen	Ambush	Castle Gate Homeowners Assn.
	Shireen	Ambush	Fairhill Condo, Inc.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Shireen	Ambush	Rolling Spring Homeowners Assn.
Property Manager	Shireen	Ambush	Wheaton Square East Condo. Assn. c/o Abaris Realty, Inc.
Co-President	Sue	Anderson	Chevy Chase West Neighborhood Assn.
President	Julia	Andrews	Chevy Chase Park Condo. Assn.
	Matthew	Andrulot	
	Mohamed	Aniba	
President	Sharon	Antonelli	North Kensington News Homes Association
	Laura	Araujo	
	Wayne	Armchin	Potomac Glen Community Assn.
President	Harriet	Arshawsky	Grosvenor Park Cono. Citizens Assn.
President	Connie	Atwell	Village Gate Homeowners Assn.
	Alvin	Aubinoe	Christopher Condo. c/o Aubino Mgmt.
President	David	Bach	Potomac Woods Citizens Association
	Steve	Baldwin	Merrimack Park Citizens Assn. - Sec. II
President	Rachel	Ballard-Barbash	Glenmore Homeowners Assn.
	Esber	Barakat	
	Musco	Barber	Grosvenor Park Homeowners Assn.
President	Susanna	Barber	Chadsberry Homeowners Assn.
	Lynn	Barclay	English Village Assn.
	Bill	Barger	
	George and Ginny	Barnes	Potomac Glen Assn.
	George & Ginny	Barnes	Potomac Glen Assn.
President	Ginny	Barnes	West Montgomery County Citizens Assn.
Treasurer	John	Barpoulis	Eldwick Homes Assn.
	Barbara	Barracato	Westchester Homeowners Assn. c/o Bethesda Management Company
	Barbara	Barracato	Westchester Condominium c/o Bethesda Mgmt. Co.
	Barbara	Barracato	Camelot Mews Homeowners Assn. c/o BMC Property Group
President	Christine	Beatty	Kenwood Forest I Condominium
President	Connie	Beck	Belvedere Neighbors Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	Phil	Becker	Kensington Crossing HOA
President	Al	Beer	South Bradley Hills Neighborhood
	Walter	Behr	Town of Somerset
	Traci	Bennett	Manchester Gardens Condo. Assn.
Property Manager	Traci	Bennett	Woodside Village Condominium Assn. c/o Shea Management
President	David	Berg	Saddlebrook Association
	Robert	Berger	
President	Ira	Berger	Fallsbend Homeowners Assn.
	Steven	Berkowitz	
President	Louis	Berlin	Grosvenor Square Homeowners Assn.
	Richard	Berney	Kenwood Park Citizens Assn.
Vice President	Rodella	Berry	Glenfield North Association
	Renate	Bever	
President	Peter	Beveridge	Byeforde-Rock Creek Highlands
	Brenda	Bickel	
Town Manager	Geoffrey	Biddle	Chevy Chase Village
Planning and Development Chair	Paula	Bienenfeld	Luxmanor Citizens Assn.
	Michele	Blanchi	
	Dorothy	Bloomfield	Maplewood Park Place Community Assn.
	Bruce	Blumberg	Blunt Commons Townhouse HOA c/o Abaris Realty, Inc.
	Bruce	Blumberg	Hadley Farms Community Assn. Inc. c/o Abaris Realty, Inc.
	Bruce	Blumberg	Heritage Green Condo., Inc. c/o Abaris Realty, Inc.
	Bruce	Blumberg	Middlebrook Commons Condominium c/o Abaris Realty, Inc.
	Bruce	Blumberg	Quince Orchard Estate c/o Abaris Realty, Inc.
	Bruce	Blumberg	Monterey Condominium c/o Abaris Realty, Inc.
	Bruce	Blumberg	Shady Grove Village III Condo. c/o Abaris Realty, Inc.
	Bruce	Blumberg	Potomac Meadows Homeowners Assn. c/o Abaris Realty, Inc.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Bruce	Blumberg	College Square Condos
	Bruce	Blumberg	Westchester West Condo Assn.
Property Manager	Bruce	Blumberg	Quince Orchard Homeowners Assn. c/o Abaris Realty, Inc.
Site Manager	Bruce	Blumberg	College Square Condos
	Robert	Blumenthal	
Vice President	Pam	Blumenthal	Woodhaven Citizens Association
President	Richard	Blumstein	Regency Estates Citizens Assn.
	Pauline	Boston	
President	Nancy	Bowen	Bells Mill Civic Assn.
President	Marina	Bowsher	Brookdale Citizens Assn., Inc.
President	Joam	Brammer	Potomac Crest Condominium
President	John	Breckenridge	Kenwood House Inc.
Facilitator	Fernando	Bren	Greater Potomac Council of Presidents
	John	Brennan	
	Liz	Brennan	Coalition of Kensington Communities
President	William	Breslyn	Montgomery Century Condo
President	Brenda	Brewer	Lakeshore Townhomes Condominium
	Jeffrey	Bridges	Grosvenor Park II Condominium c/o Polinger Shannon & Luchs
	Bernie	Brill	Fallsreach Homeowners Assn.
	Sara	Brodie	City Commons of Bethesda c/o Allied Realty
	Sara	Brodie	Pooks Hill Condominium Inc. c/o Allied Realty
	Sara	Brodie	Sumner Square Condo. Assn. c/o Allied Realty Corp.
	Sara	Brodie	City Homes of Edgemoor HOA
Property Manager	Sara	Brodie	Bethesda Place Community Council, Inc. c/o Allied Realty
Property Manager	Sara	Brodie	Strathmore Place Homeowners Assn. c/o Allied Realty Corp.
President	Fern	Brodney	Treasure Oak Community Association
Co-President	Lyn	Brown	Marwood Homeowners Assn.
	Stuart	Brown	Bannockburn Citizens Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Alexander	Brown	
	Lyn	Brown	Marwood Homeowners Assn.
	Diana	Bruhn	Battery Park Citizens Assn.
	Andres	Buonanno	
Community Liason	Linda	Burgin	Fox Hills West Citizens Assn.
	Stephen	Burks	Greenwich Forest Citizens Assn.
	Alfred	Burnickas	
President	Cynthia	Burns	Copenhaver Homes Corporation
President	Marvin	Burt	Avenel Community Assn.
	Michael	Cabrales	
President	Susan	Cameron	Turning Creek Homeowners Assn.
President	Philip	Cantor	Fox Hills Civic Association
	Albert	Capon	
	Barbara	Carey	
	Victoria	Cargill	Olde Coach Square Homeowners Assn.
President	Thomas	Carlson	Bristol Square Condominium
Manager	Wendy	Carrion	Chevy Chase Lake Apts.
	Maxwell	Carroll	
	Ehud	Caspi	
President	Dennis	Cassidy	Wickford Community Assn.
	Raul	Castro	
Chairman			Oakmont Citizens Committee
	Guy	Chamberlin	Copenhaver Homes Corporation
	Amy	Chang	
President	J. William	Charrier	Normandie Farm Estates
	Bette	Cherrick	
Vice President	Beatrice	Chester	Old Georgetown Village Homeowners
	Ursula	Chomon	
	Judith	Christensen	
	Michael	Cicero	Village of Drummond
	Julius	Cinque	Northern Montgomery County Alliance
President	Jack	Cochrane	Wildwood Hills Citizens Assn.
President	Peter	Cody	Somerset House, A Condominium
	John	Coggins	Paint Branch Park Condominium c/o Palisades Association
	John	Coggins	Palisades Assn., Inc.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	Barry	Cohen	Palisades Citizens Assn.
President	Moritz	Cohen	Westlake Park Condo B
President	Barry	Cohen	Potomac Grant Homeowners Assn. Inc.
President	Bailey	Condrey, Jr.	Parkwood Residents Association
	Sharon	Constantine	Maplewood Citizens Assn.
		Contact	Grand Bel Manor Condominium c/o Shea Property Mgmt. Inc.
		Contact	Kenwood Forest I Condominium, c/o Shea Management
		Contact	Montclair Manor Homeowners Assn.
		Contact	Timberwood on the Park, Inc. c/o Allied RealtyCorp.
President	Bill	Conway, Jr.	Potomac Manor II Homeowners Assn.
President	Ella	Cook	Scotland Community Development Assn.
President	Marianne	Cordier	Falls Ridge Homeowners Assn.
	Phil	Corn	Fallstone Homeowners Assn.
President	Suez Kehl	Corrado	Potomac Pond Homeowners Assn.! Inc.
President	Tara	Corvo	Country Place Citizens Assn.
	John	Costello	
	Robert	Crowley	
	Fernando	Cruz	Hispanic Alliance of Montgomery County
	Carla	Cullati	
	Rick	Cummings	Waterford Condominium
President	Brenda	Curtis-Heiken	Grosvenor Park Townhouse Condo.
	Elizabeth	Dane	Grosvenor Park Townhouse Condominiu
	Eddie	Daniel	
President	Herb	Davidow	West Spring Condominium
	Ann	Davis	Hamlet Citizens Assn. of Chevy Chase
President	Hirsch	Davis	Bethesda Park A Condo.
President	Sarah	Davis	Carmelita Homeowners Assn.
	Steven	Delaney	

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	John	DePalma	Old Georgetown Village Homeowners
	Louis	DePalma	
	Paula	Deschamp	
	Robin	DeSilva	Bradley House Condo. Assn.
	Melvin	Dickover	Strathmore Place Homeowners Assn.
President	Michael	Diehl	Fleming Park Community Assn
	Alan	Dieringer	Battery Park Citizens Assn.
	Gary	Digges	Forum Council of Co-Owners
Management Agent	Andrew	Dimond	Preston Place Townhouses c/o Chevy Chase Land Co.
	Michael	Dittman	
	Evan	Donovan	Tildenwood Homeowners Assn., Inc. c/o Abaris Realty, Inc.
	Evan	Donovan	Wetherstone Homeowners Assn. c/o Abaris Realty, Inc.
President	Charles	Doran	Birckyard Road Citizens Assn.
President	Joyce	Doria	Potomac Citizens Assn.
Board of Directors	Ann	Dorough	Huntington Terrace Citizens Assn.
President	Cyril	Draffin	Deerfield-Weathered Oak Citizens
	Marie	Dray	Sacks Neighborhood Council
President	Lynn	Dubin	South Tuckerman-Inverness Citizens
	Thomas	Durek	Riverhill Homeowners Assn.
	Thomas	Durek	Riverhill Homeowners Assn.
President	Seth	Edlavitch	Palisades Association
President	George	Edler	Rock Creek Hills HOA
	Jerry	Effer	Turning Creek HOA
	Alan	Ehrlich	Westlake Park Condo Assn.
	Ofer	Eidelman	
	Ann	Elliott	Kenwood Forest Condo. I c/o Abaris Realty, Inc.
President	Donna	Ely	Winterset Civic Assn.
President	Patricia	Engel	Devonshire East Homeowners Assn.
	Marietta	Ethier	Parc Somerset Condo
	Jay	Etris	Wildwood Manor Citizens Assn.
	Jeffery	Evans	
	Dianne	Faup	
	Olivia	Fechter	Potomac Glen South HOA
	Craig	Fedchock	

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Alan	Feld	Willowbrook Citizens Assn.
	Jose	Fernandez	
Vice of Development	Mark	Fernandez	Chevy Chase West Neighborhood Assn.
	Barbara	Fichman	Sonoma Citizens Assn.
	Anne	Fink	Forty Seven Twenty CC Drive Condo c/o Paul Associates Mgmt. Co.
	Ann	Fink	Woodfield at Manchester Farms c/o Paul Associates, Inc.
President	Louis	Fireison	Merry-Go-Round Farm HOA
	William	Fisher	Strathmore Park Condo Assn.
President	Bernard	Fisken	Village of Bethesda HOA
President	Beatrice	Fitch	Pooks Hill Square Condo Assn.
President	David P.	Fitch	Rivers Edge Homeowners Assn.
	Joseph	Fitzgerald	Forty Seventh Twenty CC Condo Assn.
President	Sarah	Fitzpatrick	Fallstone Condominium
President	Christopher	Flaesch	Stonecrest of Potomac Homeowners Assn.
President	Charlie	Fleischer	East Gate II Homeowners Assn.
	Jim	Fleshman	
	James	Flood	Senecabrook Homeowners Assn.
	Robert	Fogel	Broadmore Hills Community Svcs. c/o Abaris Realty, Inc.
	Robert	Fogel	Glen Knoll Condominium c/o Abaris Realty, Inc.
	Robert	Fogel	Fallswick Homeowners Assn., Inc. c/o Abaris Realty, Inc.
	Bob	Fogel	Heritage Walk Homes Corporation c/o Abaris Realty, Inc.
	Robert	Fogel	Stonecrest of Potomac Homeowners Assn. c/o Abaris Realty, Inc.
	Robert	Fogel	Village Gate Homeowners Assn. c/o Abaris Realty, Inc.
	Robert	Fogel	Thayer Towers Condominium Assn. c/o Abaris Realty, Inc.
	Marilyn	Forrest	Bellwood Community Council, Inc.
Mayor	Peter	Fosselman	Town of Kensington
	Jacki	Frank	Potomac Glen Homeowners Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	Larry	Freeman	Potomac Pond Homeowners Assn.
	Louis	French	
President	Allan	Fried	Whitley Park Condominium Assn.
	Larry	Friend	Hilltop Estates Civic Assn.
President	Lawrence	Funt	East Edgemoor Property Owners
	Colin	Furtaw	Montrose Forest Homeowners Assn.
	Philip	Gallas	Birnam Wood Community Assn.
President	Gabriele	Gandal	Rollingwood Citizens Assn.
President	Jim	Garber	Miraont Villas
	Frederico	Garcia-Lopez	
	Lois	Gargano	
President	Theodore	Garrett	Bannockburn Citizens Assn.
	Michael	Garson	North Farm Citizens Assn.
President	Michael	Garson	North Farm Citizens Assn.
President	Jerrold	Garson	Seven Locks Civic Assn.
Treasurer	Jerry	Garson	Regency Estates Citizens Assn.
	Alvaro	Garzon	
	Diego	Gaudenzi	
	Marian	Gay	
	Brenda	Gehan	Potomac Crest Homeowners Assn.
General Manager		General Manager	Parc Somerset Condo
	Seal	George	Chevy Chase Crest c/o Paul Associates, Inc.
	Alvin	Geske	Rock Creek Palisades Citizens Assn.
	Patricia	Geuting	
	Fernando	Giacomini	
	Sara	Gilverston	Battery Park Citizens Assn.
President	Monte	Gingery	Potomac Falls Homeowners Assn.
Chairman	Sol	Gnatt	Northern Chevy Chase Citizens Assn.
	Sol	Gnatt	Northern Chevy Chase Citizens Assn.
	Gloria	Goicochea	
	Bernard	Gold	
President	Natalie	Goldberg	Garrett Park Estates - White Flint
President	Martha	Golden	Willoughby of Chevy Chase
President	Steve	Goldhill	Fox Den Homeowners Assn.
Legislative Committee	Steve	Goldstein	Montrose Woods Condo., Inc.
	Wayne	Goldstein	Kensington Heights Citizens Assn.
	Jordan	Goldstein	Sonoma Citizens Assn.
	Steven	Goldstein	

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	James	Goldstein	
	Al	Goltz	
Bldg. Manager	Vicki	Gomez	Grosvenor Park Condo I
	Teresa	Gomez	
President	David	Gonzalles	Paloma Court Homeowners
Vice President	Steve	Good	Wildwood Manor Citizens Assn.
	William	Granik	
President	James	Graves	Spruce Tree Village Homeowners Assn.
	Jill	Greenstein	
President	Jenna	Greenstein	Chevy Chase Hills Civic Assn.
President	Stefan	Greve	Bethesda Overlook Townhouse
President	Stefan	Grewe	Bethesda Overlook Homeowners Assn.
President	Franklin	Groff	Fallswood Condominium Assn.
	Robert	Gross	Montgomery Square Citizens Assn.
President	Robert	Gross	Montgomery Square Citizens Assn.
Treasurer	Linda	Guest	Riverhill Homeowners Assn.
	Victor	Hall	
	Chad	Hamilton	
	Chris	Hamlin	
President	Shannon	Hamm	Rock Creek Hills Citizens Association
President	Edgar	Hanley	Inverness Association Inc.
Contact	Paul	Hannerfield	Oldfield Homeowners Assn.
	Dennis	Harris	
Site Managers Office	Karen	Harris	Old Georgetown Village Condo. Assn.
	Joe	Haurand	
	Elizabeth	Haven	Elizabeth Condominium Assn., Inc.
President	Neil	Hazard	Lake Potomac Civic Assn.
President	John	Heliotis	Clagett Farm Homeowners Assn. Inc.
President	Mark	Heller	Fallsgate Homeowners Assn.
Property Manager	Bonnie	Henderson	Spring Lake Condominium Assn. c/o CMI Mgmt. Co.
	Kristopher	Herrell	Kensington Woods HOA
	Steven	Heyman	Brookside Citizens Assn., Inc.
	Jose	Hidalgo	
	Francis L.	Higgins	Section 5 of Village of Chevy Chase
Town Manager	Francis L.	Higgings	Section 5 of Village of Chevy Chase

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Lesley	Hildebrand	Huntington Terrace Citizens Assn.
President	David	Hill	Hungerford Civic Assn.
	Jane	Hochberg	
	Todd	Hoffman	Town of Chevy Chase - Section IV
Town Manager	Todd	Hoffman	Town of Chevy Chase
President	Kristen	Hohman	Locust Hill Citizens Assn
	Nick	Holst	Timberlawn South-Tuckerman Walk
President	Brenda	Holt	Al Marah Neighborhood Assn.
	Nancy	Hoos	Sonoma Citizens Assn.
Board of Directors	Michael	Horan	Elizabeth Condominium Assn., Inc.
	Ben	Horenberg	Potomac Towne Homeowners Assn.
President	Arthur	Horwtz	Montrose Village
	Jerry	Hua	
	Eddy	Huang	
	Suzanne	Hudson	Garrett Park Estates-White Flint
Land Use Chair	Jim	Humphrey	Montgomery County Civic Federation
	Carl	Hunt	Carleton of Chevy Chase
	John	Hunter	
Vice President	Joan	Hurley	Fleming Park Community Assn
	Thomas	Hutchins	Kenwood Forest Condo. II
	Wallace	Hutchins	4620 North Park Condo.
	Marty	Hutt	Churchhill Community Foundation
President	Jonathan	Isaacs	Huntington Parkway Citizens Assn.
	Miriam	Israel	Sacks Neighborhood Assn.
President	Benjamin	Israel	Potomac Springs Civic Assn.
Executive Director	Ginanne	Italiano	Bethesda-Chevy Chase CC
President	Bill	Jackson	Kensington Ridge HOA
President	Karen	Jackson-Knight	Ken-Gar Civic Association
	Henry	Jacob	Fox Chapel North Homes Assn. Inc. c/o Allied Realty Corporation
	Henry	Jacob	Falls Ridge Homeowners Assn. c/o Allied Realty Corp.
	Hank	Jacob	Greenhills Condo I
	Henry	Jacob	Montclair Manor Homeowners Assn. c/o Allied Realty Corp.
	Hank	Jacob	Timberwood on the Park c/o Allied Realty Corp.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Henry	Jacob	Bethesda Place Community Council, Inc.
	Hank	Jacob	City Homes of Edgemoor HOA
	Hank	Jacob	Pooks Hill Condominium Inc.
	Henry	Jacob	Pooks Hill Homeowners Assn.
	Henry	Jacob	Strathmore Place Homeowners Assn.
	Henry	Jacob	Trophy Court Homeowners Assn.
	Henry	Jacobs	Waterford Place Homeowners Assn.
President	Connie	Jacobson	Old Farm Civic Association
	Jesse	James	Trophy Court Homeowners Assn.
Dr.	Steven	Janowitz	Fallsbend Homeowners Assn.
President	Charlotte	Joseph	Montrose Civic Assn.
President	Surinder	Juneja	Timberlawn South/ Tuckerman Walk HOA
Secretary	Celesta	Jurkovich	Chevy Chase West Neighborhood Assn.
President	Bernadine	Kalberer	Tuckerman Station homeowners Assn.
	Karen	Kamachaitis	Penbrooke Community Assn.
	Muliadi	Kamaruzzaman	
	David	Kasamatsu	
	Gary	Kaufman	
	Beth	Kaufman	Rannoch Road HOA
	Linda	Kauskey	Bradley Boulevard Citizens Association
Vice President	Andrew	Kavounis	Regency Estates Citizens Assn.
	Kevin	Kelley	
President	Earl	Kendrick	Woodmont Spring Condos
	David	Kerlina	Potomac Woods Citizens Association
	Sofdar	Khan	
	Vijaykumar	Khandge	
President	Anne	Kilcullen	Hamlet Place Owner's Inc.
President	Suzanne	Kilczweski	Fallsberry Homeowners Assc.
	Susan	Kim	Pooks Hill Square Condo Assn.
Landscape Chairperson	Seena	King	Drumaldry Homes Assn.
President	Peter	Kirchner	Westlake Terrace Civic Assn.
	Claude	Klee	
Treasurer	Gordon	Klepper	Fox Hills Civic Association
Executive Secretary	Kevin	Kline	Randolph Civic Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Sally	Klippel	Village of North Chevy Chase
	Joshua	Klotz	
President	Ian	Knight	River Falls Community Center Assn.
	Patricia	Knowles-Stogoski	West Kensington Civic Assn.
	Dolores	Knutson	
President	Judith	Koenick	Rock Creek Forest Citizens Assn.
President	Ali	Koknar	Stoneybrook Homeowners Assn., Inc.
President	Fritz	Konigshofer	Congressional Forest Community Assn.
Vice President	Carl	Kownig	West Bradley Citizens Assn.
President	George	Kozar	Robert's Glen Homeowners Assn.
President	Eric	Kraus	Bradley House Condo. Assn.
	Ed	Krauze	
President	James	Krzyminski	Normandy Falls Homeowners Assn.
President	Steve	Kudla	Ashleigh Community Assn.
President	Eugene	Lambert	Somerset House II Condominium
	Steven	Landsman	Cloisters Homeowners Assn. c/o Abaris Realty, Inc.
	Steven	Landsman	Tildenwood Homeowners Assn., Inc.
	Steven	Lanksman	Cherington Condominium
President of the Board	Michael	Laplaca	Westlake Terrace Condo. Assn.
President	Doris	Lavine	Timberlawn Homeowners Association
	Suk	Lee	
	Laerte	Leiroz	
	Darrell	Lemke	
	Mark	Lerner	
President	Gerry	Levenberg	Potomac Crest Homeowners Assn.
	Adam	Levine	
President	Patience	Levine	Sussex House Condominium
President	Louis	Levy	Fallsreach Homeowners Assn.
Vice President	Bill	Lewis	Chevy Chase West Neighborhood Assn.
President	David	L'Heureux	Fallswood Civic Assn.
	Erqiu	Li	
	Catherine	Libert	
	Ella	Lichtenberg	
	Charles	Lileikis	Fallswick Homeowners Assn., Inc.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
Vice Chair	Brenda	Lizzio	Elm Street-Oakridge-Lynn Civic Assn.
President	Ray	Longerbeam	Bethesda Court Condo.
	Roland	Louis	
	Glen	Loveland	Cherington Condominium c/o Abaris Realty, Inc.
	Glenn	Loveland	Maplewood Park Place Comm. Assn. c/o Abaris Realty, Inc.
Property Manager	Glen	Loveland	Westlake Terrace Condominium Assn. c/o Abaris Realty, Inc.
	Kira	Lueders	Parkwood Residents Assn.
	Joan	Lunney	Sonoma Citizens Assn.
President	Laurie	Lyons	Tara Citizens Assn.
	Peter	MacQueen	
	Herbert	Maisel	Tildenwood Homeowners Assn., Inc.
President	Barry	Malkin	Kensington Terrace Condominium
	Mike	Maloney	Riviera of Chevy Chase Condo.
Contact	Quantum	Management	Luxberry Courts Condominium
	Lynn	Mangione	Westlake Towers Condo. Assn.
Manager	Ms. Lucille	Mannelly	Preston Place T.H./C.C.L. Apt.
Village Manager	Julian	Mansfield	Friendship Heights Village Council
Co-Presidents	Lisa & Neal	Martin	Mazza Wood Homeowners Assn.
	Hermanio	Martinez	
President	Jeffrey	May	West Bethesda Park Homeowners Assn.
President	Joyce	May	Grosvenor Park IV Condomium
	Barbara	McCall	Forty Seven Twenty CC Drive Condo
	Jeff	McCoy	
President	Patrick	McDonough	Friendship Heights Village Civic Assn.
	Ray	McKelvy	
Treasurer	Philip	McMann	Sonoma Citizens Assn.
	Neil & Cynthia	McMullen	Kendale Neighborhood Coalition
	Ronald	McNabb	Trail Riders of Today
President	Bob	McNeil	Kensington Terrace Citizens Group
President	James	Meister	Grosvenor Homeowners Association
President	Marc	Meltzer	Bentley Place Condo
	Susan C.	Merryman	Chevy Chase Lake Apts.
President	Paul	Meyer	Wisconsin Condo Homeowners Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	Deborah	Michaels	Glenbrook Village Homeowners Assn.
	Andy	Miller	Vineyard Condo. Homeowners Assn.
	Pam	Miller	Whittier Woods Civic Assn.
President	Virginia	Miller	Wyngate Citizens Assn.
President	Dolores	Milmoe	For A Rural Montgomery (F.A.R.M)
	Douglas	Milton	Promenade Towers Mutual Hsg Corp.
President	Steven	Mister	Ridgeleigh Homeowners Assn.
	Roger	Mitchell	Elm Street-Oakridge-Lynn Civic Assn.
	Lloyd	Mitchell	
	Susanne	Mitchell	Hamlet House Condo.
	Virginia	Mitz	Somerset Citizens Assn.
	Michael	Modesitt	Whitehall Condominium Association
President	Sheila	Moldover	Fox Hills West Citizens Assn.
	Maria	Morasso	
	Judy	Morenoff	Luxmanor Citizens Assn.
President	Alavan	Morris	Carleton of Chevey Chase A Condo.
President	Dr. Andrew	Muchmore	Spring Ridge Road Citizens Assn.
	Nancy	Mudd	Marymount Citizens Assn.
	John	Mullen	Hadley Farms Community Assn. c/o Abaris Realty, Inc.
President	Dr. Alfred	Muller	Friendship Village Civic Assn.
	John	Murgolo	Battery Lane Tenants
President	Faye	Nabavian	Rock Creek Palisades Citizens Association
	Bertram	Nagarajah	
	Afshan	Nagvi	
Administrator	Henry	Nalven	Normandy Falls Homeowners Assn.
	Joanna	Neal	Bradley Park Homeowners Assn.
President	Ray	Nightingale	Maryknoll Citizens Assn.
	Seth	Niman	
	Amalina	Nisos	
	J. Thomas	Nolan	Kensington Woods Homeowners Assn.
Chariman	George	Nolfi	Wilson Lane Safety Coalition c/o Nolfi & Associates
	Bernard	Norwood	Somerset House II Condominium
Acting President	George	Oberlander	Huntington Parkway Citizens Assn.
	David	Oblon	Heritage Farm Homeowners Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	David	O'Bryon	City Homes of Edgemoor HOA
	Betty	O'Connell	
President	Kathleen	O'Connell	Wellington Condominium Inc.
	Edward	Oh	Cherrington Condominium
	Karen	Olson	
	Richard	O'Rorke Jr.	
	Robert	Oshinsky	Heritage Walk Homes Corporation
	Louis	Ostrach	
President	Linda	Owen	Bellwood Community Council, Inc.
President	Jim	Owens	Hampden Square Condominium Assn., I
	Kit	Pardee	Carroll Knolls and McKenny Hills Civic
Co-President	Christine	Parker	Greenwich Forest Citizens Assn.
	Jeffrey	Parmet	Potomac Manors HOA, Inc.
	Ellen	Passman	Clagett Farm Homeowners Assn. Inc. c/o Abaris Realty, Inc.
President	Eric	Peek	Coquelin Run Citizens Assn.
	Pat	Perkins	Churchill View Condominium c/o Shea Mgmt., Inc.
President	Louis	Petty	Crestberry Homeowners Assn., Inc.
President	Jacob	Philip	Glen Park of Potomac
President	Barbara	Phillips	Newbridge Citizens Assn.
President	Marilyn	Plevin	Jefferson Square Homeowners Assn.
President	Garry	Plushnick	Willowbrook Cambridge Resident Assn.
	David	Podolsky	Town of Chevy Chase
President	Ron	Polant	Crest of Wickford Condominium
	Sue	Polis	Camelot Mews Homeowners Assn.
	Brent	Polkes	Concerned Families of City Homes
	Diana	Pomeranz	
	James	Pontachack	
President	Pedro	Porro	Spanish Speaking People of Montgomery
President	Benjamin	Porto	Kenwood Court Homes Assn., Inc.
		President/ Board of Directors	Riviera of Chevy Chase Condo.
President	Alan	Privot	East Gate III Homeowners Assn., Inc.
	Margaret	Pully	Montgomery Century Condo

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	Elizabeth	Quinn	Kensington View Citizens Association
	Mr. & Mrs.	Rabinovitz	
Secretary	Ellen	Rader	Sacks Neighborhood Assn.
	Joy	Rafey	Sonoma Citizens Assn.
President	Richard	Ramsey	Bannockburn Civic Assn.
President	Thomas	Rand	Drumaldry Homes Association
	William	Ratcliff	Country Place Citizens Assn.
	Gerard	Raymond	
	Megan	Raymond	Battery Park Citizens Assn.
	Darani	Reddick	
	Eric	Rees	
	Edward	Reich	Georgetown Village Condominium
	Alan	Remaley	
	Ellen	Richomond	
President	Terry	Ricks	Birnam Wood Community Assn.
President	Vernon	Ricks	Teversall Homeowners Assn., Inc.
President	Sean	Ridge	Eldwick Homes Assn.
	Alan	Ring	Palisades Assn., Inc.
	Helen	Rivera	
	Malcolm	Rivkin	Battery Park Citizens Association
Bld. Mgmt.	Roxana	Rizzone	Grosvenor Park Homeowners Assn.
Vice President	Thomas	Robertson	Maplewood Park Place Community Assn.
	Dan	Robinson	Grosvenor Park Condo. Citizens Assn.
President	John	Rogers	Grosvenor Woods Homeowners Assn.
	Gary	Rosch	Massachusetts Avenue Forest Assn.
Vice President	Richard	Rose	Grosvenor Homeowners Assn.
Mayor	Melanie	Rose White	Friendship Heights Village Council
President	Esther	Rosen	Devonshire Homeowners Assn. Inc.
	Nelson	Rosenbaum	Bradley Hills Civic Assn.
Dr.	Harvey	Rubenstein	Potomac Station Homeowners Assn.
President	Kenneth	Rubinson	Kenwood Park Citizens Assn.
President	Robert	Rudnick	East gate IV
	Susan C.	Runner	
Chairman of Community Relations Com.	Martin	Rush	Tuckerman Station Homeowners Assn.
General Manager	Sasha	Russo	Westlake Towers Condo. Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	David	Sacks	Strathmore Park Condo Assn.
President	Ruwan	Salgado	Gables on Tuckerman Condo. Assn.
	Eric	Sanne	Citz. Cord. Committee on Friendship Hgts
	George	Sauer	Citizens for a Better Montgomery
President	Michael	Saunders	Randolph Civic Assn.
	Donna	Savage	Kensington Heights Citizens Assn.
	John	Saveland	Fallsmead Homes Corp.
President	Steve	Sawicki	Edgewood/Glenwood Citizens Assn.
	Stanley	Schiff	
President	Joy	Schindler	Sonoma Citizens Assn.
President	Raymond	Schmidt	North Ashburton Citizens Assn.
	Jeff	Schott	
President	Steven	Schram	Goldsboro Homeowners Assn.
	Maxine	Schwartzman	Oldfield Homeowners Assn.
General Manager	Cathy	Segor	Waterford Condominium
	Alan	Seldin	Potomac Towne Homeowners Assn.
	Bernie	Sevilla	
	Larry	Shade	
President	Richard	Shapiro	Village at Potomac Homeowners Assn.
	Susie	Shauger	
	Barbara	Shea	Leisure World-Mutual #6B c/o Shea Property Mgmt. Inc.
	Barbara	Shea	Hamlet North Towne Assn., Inc. c/o Shea Property Mgmt. Inc.
	Barbara	Shea	Townes of North Creek Condominium c/o Shea Property Mgmt. Inc.
Property Manager	Barbara	Shea	Grand Bel Manor Condo Sec. III
	Shepard	Sheinkman	Edgemoor Citizens Association
	Neil	Sherman	Potomac Pond Homeowners Assn.
	Russell	Shew	
President	Amy	Shiman	Huntington Terrace Citizens Assn.
	Antoinette	Shupp	
	Stanley	Sigel	Bannockburn Co-op, Inc.
President	David	Silver	Coldspring Civic Assn.
	Len	Simon	Edgemoore Citizens Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Len	Simon	President, Edgemoor Citizens Association
President	Carol	Simon	Hilltop Estates Civic Assn.
President	Rita	Singer	Cloisters Homeowners Assn.
	Tamara	Skiscim	
Mayor	Jeffrey	Slavin	Town of Somerset
Co-Chairman	Chris	Slingerman	Marymount Citizens Assn.
Board Member	Claudia	Smith	Grosvenor Mews Condominium Assn.
President	Robert	Smythe	Sacks Neighborhood Assn.
President	Michael	Spalletta	Fallsreach and Fallsberry Civic
Village Manager	Jean	Sperling	Village of Martin's Addition
	Jeff	Spiegel	Civic Assn. of River Falls
	Jim	Spinner	
President	George	Springston	Burning Tree Civic Assn.
	Jean	Spurling	Village of Martin's Addition
President	Judy	Starr	Inverness North Homeowners Assn., Inc.
	John	Steele	Chevy Chase Hills Civic Assn.
	Raffael	Stein	
	Robert	Steinwustzel	Glenmore Homeowners Assn.
	Tim	Stelzig	
	Alan	Sterling	Bannockburn Citizens Assn.
President	Richard	Sternberg	Potomac Green Civic Association
Acting Chair	Jacquelyn	Stevens	Rock Creek Hills Residents Association
	Louise	Stewart	
	Matthew	Streich	
President	Ken	Strickland	Chevy Chase Valley Citizens Assn
	Wesley	Stubbs	Hamlet Place Owners, Inc.
President	Marcia	Sullivan	English Village Assn.
President	David	Sullivan	Limestone Court Homeowners Assn.
President	Alice	Tamzarian	MacArthur Park Condominium! Inc.
	Michael	Tardif	Whitehall Condominium Association
President	Barbara	Tauben	Friendship Heights Village Civic Assn.
	Steven	Teitelbaum	Battery Park Citizens Assn.
President	Zorita	Thomas	Normandy Hills Homeowners Association

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
Vice President	Maureen	Thomas	Sonoma Citizens Assn.
	Fred	Thomas, Jr.	Congressional Forest Community Assn.
	Duane	Thomson	Citizens United to Save the Circle
	Marvin	Thorpe, Jr.	
President	John	Tiernan	Riverhill Homeowners Assn.
President	Philip	Tierney	Madison Park Condominium
	Marc	Toplin	South Tuckerman-Inverness Citizens
	Maryellen	Trautman	
President	Ronald	Tripp	Citiz. Cord. Committee on Friendship Hgts.
Board Member	Jonathan	Turak	Westlake Terrace Condominium Assn.
	Jason	Umans	Riverway Homeowner's Assn.
	Molly	Vacca	
President	Sandor	Vargyai	Democracy Commons HOA
	Frank	Veleo	Friendship Heights Village Council
President	Ronald	Venezia	The Mains Homeowners Assn.
	Anne	Venzen	Riverhill Homeowners Assn.
President	Marta	Vogel	Tilden Woods Citizens Assn.
	Sandy	Vogelgesang	West Bradley Citizens Assn.
	Timothy	Vogt	
	William	Wallace	Jones Mill Road Citizens Assn., Inc.
	Alan	Ward	Hamlet Place Owners, Inc.
	Claudette	Warner-Milne	Rolling Spring Homeowners Assn. c/o Abaris Realty, Inc.
	Alicia	Wattenberg	Sacks Neighborhood Assn.
Manager	Robert	Weesner	Village of North Cheby Chase
	Debbie	Weinman	Woodrock Homeowners Assn., Inc.
	Harold	Weiss	Wisconsin Condo Homeowners Assn.
	David	Welch	
	Pierre	Welsh	Civic Assn. of River Falls
Secretary/ Treasurer	Cheryl	Wetter	East Gate III Homeowners Assn., Inc.
	Philip	Wexler	
President	Melanie	White	Friendship Heights Village Council
President	Ben	White	Highlands Homeowners Assn.
President	Tom	Whiteman	Hillmead Citizens Assn.
General Manager	Lucy	Wilson	Avenel Community Assn.
	Miriam	Wilson	Normandy Falls Homeowners Assn.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
President	Craig	Windham	Tuckerman Station Condominium
Bdg. Manager	Doreen	Winkler	Chelsea Tower Condo. Assn.
President	Steven	Wishnow	Christopher Condominium
Vice President	Bob	Wisman	Huntington Terrace Citizens Assn.
	Julie	Withers	Penbrook Community Assn.
President	John	Wolf, Jr.	Edson Lane Citizens Assn.
	C.J.	Wong	
	Cindy	Wong	
President	Dennis	Wood	Bethesda Coalition
President	Keith	Woodard	Carderock Springs South HOA
President	Shawn	Woodyard	Hamlet Citizens Assn. of Chevy Chase
President	Chris	Worch	Walnut Woods Citizens Assn.
	Bernard	Wortman	Merrimack Park Citizens Assn. Sec 1
President	Fred	Wright	Kensington Heights HOA
	Robert	Wuhrman	
Property Manager	Katie	Wyrsh	Eight One Zero One (8101)
	Dawn	Yardeni	East Gate II Homeowners Assoc
	Donald	Yeung	
	Robert	Young	
	Howard	Youth	
Dr.	Niki	Zaldivar	Park View Citizens Assn
President	Martin	Zamula	Riverhill Condominium Assn.
	Tony	Zapata	Wetherstone Homeowners Assn.
	Tony	Zapata	Surrey Walk Homeowners Assn. Inc. c/o Abaris Realty, Inc.
	Ping	Zhou	
President	Richard	Zierdt	North Bethesda Congress of Citizens
	Magda	Ziver	
City Manager			Chevy Chase Village, Section III
Contact			Chevy Chase Crest Homeowners Assn. c/o Paul Associates, Inc.
Contact			Woodfield at Manchester Farms c/o Paul Associates, Inc.
Contact	General Manager		Westlake Park Condo. B Inc.
Contact			Castle Gate Homeowners Assn. c/o Abaris Realty, Inc.
Contact			Amberfield Homeowners Assn. c/o Abaris Realty, Inc.

**List of Individuals/Community Organization That Were Mailed the Scoping Notification**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
Contact			Old Georgetown Village Condo.
Manager			Georgetown Village Condominium c/o Community Mgmt. Corp.
President			Lakeside Terrace Condo
President	President		Spring Lake Condominium Assn.
President	President		Westlake Park Condo. Assn.
President			Wexford Homeowners Assn. Inc.
President/Board of Directors			Riviera of Chevy Chase Condo.
Property Manager			Kenwood Forest Condo. II
Property Manager	c/o Abaris Realty		Greens of Warther
Property Manager			Westlake Terrace Condo A c/o Abaris Realty, Inc.
			Amberfield Homeowners Assn.
	Property Manager		City Commons of Bethesda
	Contact		Drummond Citizens Assn.
	Property Manager		Greens of Warther
	Contact		Hadley Farms Community Assn. c/o Abaris Realty, Inc.
	President		Parkside Condo. Assn.
	President		Randolph Civic Assn.
	Property Manager		Sumner Square Condo. Assn.
	Property Manager		Three Oaks Homeowners Assn.
	Property Manager		Westlake Terrace Park Condo A

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**Attachment 3: List of Scoping Meetings Attendees**

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**List of Scoping Meeting Attendees Notified of the Public Hearings and Availability of the Draft EIS**

**7 SEPTEMBER 2011 Attendees**

	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
1	Jeanette	Musil	
2	Karen	Thom	Bethesda Urban District
3	Joan	Kleinman	Rep. Van Hollen
4	Rochelle	Follender	
5	Dawn	Chaikin	
6	Doris	Teplitz	Glenbrook Village
7	V.L	Teplitz	Glenbrook Village
8	Alex	Michaels	
9	Mary R.P.	Rainey	
10	Ana	Baide	Neighbor
11	Sara	Loantz	The Gazette
12	George	Nolfi	Resident
13	Robert B.	Smythe	Sack Neighborhood Assn.
14	Joe	Hogan	Clark Construction
15	Katie	Hughes	
16	Gwen	Kaye	Whitehall Condos
17	Allan	Kaye	
18		Harris	
19	Ed	Krauze	BRAC/ Parkview Citizens Association
20	Andres	Buonanno	
21	Ken	Richard	US Senator Cardin
22	Susan	Buffone	Montgomery Council member
23	Phil	Alperson	Montgomery County BRAC Coordinator

**List of Scoping Meeting Attendees Notified of the Public Hearings and Availability of the Draft EIS**

**12 SEPTEMBER 2011 Attendees**

	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
1		Deborah	Michaels	Glenbrook Village Hat
2	Col.	Dail	Doucette	
3		Ken	Reichard	US Senator Cardin
4		Susan	Petersen	NIH
5		Jim	Ashe	WMATA
6		Lee Ann	Weir	Lionsgate at Woodmont
7		Bhareti	Sanghvi	Whitley Park Condominium
8		Debra	Turkat	Hamlet Place Coop
9		Sarah	Leming	Senator Barbara Mikulski
10		Phil	Alperson	Montgomery County BRAC Coordinator
11		Joseph	Trella	Governor's BRAC Subcabinet
12		Sally W.	Kaplan	WMCCAB
13		Jenny	Lanning	Atkins
14		Jeanette	Musil	OEA
15		Susan	Buffone	Council Member Berliner
16		Kathy	Sessions	
17		Richard	Hoye	ACT
18	Mr. & Mrs.	Stanley D.	Schiff	

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**Attachment 4: List of Commenters and  
Comment/Response from Scoping Period**

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**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

<b>CMT Number</b>	<b>Source</b>	<b>Organization</b>	<b>Comments</b>	<b>Response</b>
1	Public Scoping Meeting	General Public	The possibility of an entrance from 495 to NMMC. Traffic is terrible on 355 and takes 1/2 hour to pass NSAB. Recognizes that we aren't the whole problem but some relief would go a long way.	Thank you for your comment. As presented the 24 July 2008 Discussion Paper titled, "Bethesda National Naval Medical Center Beltway Access," Maryland State Highway Administration has indicated that given the limited operational effectiveness of direct access ramps on local traffic congestion due to several identified traffic flow and safety concerns, and the environmental constraints associated with a new access point, it would be highly unlikely that the SHA would be able to obtain approval from FHWA for a new Beltway access point at this location. However, a decision regarding pursuing a potential slip-ramp from I-495 will be the jurisdiction of the Maryland State Highway Administration and the Federal Highway Administration.
2	EIS Email	Huntington Terrace Citizen's Association	<p>On behalf of Huntington Terrace Citizens' Association, I request that your Environmental Impact Statement include two additional intersections for traffic analysis:</p> <ol style="list-style-type: none"> <li>1. Old Georgetown Road and Battery Lane</li> <li>2. Old Georgetown Road and Greentree Road</li> </ol> <p>I make this request on behalf of the 300 single-family homes in Huntington Terrace, which is located approximately ½ mile west of the Bethesda Naval Medical Center and borders on Old Georgetown Road. At the BRAC briefing to neighboring Citizens Associations on August 22nd, your Commanding Officer explained that, before additional expansion of this campus, another EIS would be completed. His power point presentation indicated that the EIS traffic analysis would study many intersections to the north (on Rt. 355) and east (on Jones Bridge Road, even past Connecticut Ave). However, only two intersections to the west are slated for analysis and both are on Cedar Lane.</p> <p>I expressed at the meeting that our residential community is extremely concerned about additional traffic that BRAC will create and that both Route 355 and Old Georgetown Road are now highly congested during several hours of morning and evening commutes. We anticipate that when BRAC is fully operational in the near future, traffic on Old</p>	Thank you for your comment. The traffic study intersections were selected based on the Maryland National Capital Park and Planning Commission's (MNCPPC) Local Area Transportation Review methodology. The additional intersections identified by the public were considered; however, it was determined that the influence of the proposed actions on those intersections were captured within the existing 17 intersections already proposed for analysis. This methodology was developed in coordination with the MNCPPC staff, who concurred that the additional intersections beyond the 17 identified are not necessary.

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			Georgetown Road will exceed allowable levels as visitors and employees will access the campus not only to the north and east but also to the west. Please include these additional two intersections on Old Georgetown Road as part of your EIS traffic analysis before further expansion of Bethesda Naval Medical Center.	
3	EIS Email	General Public	There is no need to further burden the taxpayers of this country with this boondoggle of construction at a time when half the commercial and hospital buildings in this entire country are vacant. Where do you get off with this chutzpah, gall and effrontery to bamboozle the overburdened taxpayers of this country with more govt spending. We are in hard economic times. We have no more left for the stupid govt that spends and spends and spends. Did anybody in this govt agency hear that everything is down for America and we are going down the tube. It is clear we do not want this debt. Use what you have or move to a vacant building and use it. There is clearly no need for more construction. Jean public address if required.	Thank you for your comment.

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4	EIS Email	General Public	Despite all the construction and the loss of the Walter Reed property, the Navy has a real chance to offset Naval Med's landscape change with wildlife conservation enhancements. Non-suburb birds such as eastern bluebird and purple martin could have populations here with nestbox construction and maintenance. Landscaping should include native trees, shrubs, and flowers that are not only drought-resistant but valued by wildlife. The state-threatened yellow crowned night-heron nests adjacent and likely uses the pond and nearby mature trees for feeding and roosting. Hopefully an enhanced wildlife conservation program will keep this more-crowded property still important to already stressed species such as those mentioned above. Patients and staff alike will benefit from such measures as well, seeing the wildlife that shares the grounds with them.	Thank you for your comment. The mature landscape of the Bethesda campus is one of its most positive attributes. The mature trees and plant materials provide a park-like, unifying feature and are a pleasing contrast to the increasingly urban character of the area. To ensure that these characteristics are enduring, the proposed projects at NSA Bethesda will adhere to the design guidelines in the 2010 Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors and utilizing trails, pocket parks, and landscaping to contribute to a pleasant environment for the patients and their families.
5.1	EIS Email	General Public	I would like to know what measures, Navy Medical is going to use to keep the toxic dust from becoming airborne in Bethesda? Resulting is toxic dust in our homes? Can they spray the buildings with a fire hose, during the process, to keep the dust down?	Thank you for your comment. The Navy will ensure that the fugitive dust would be minimized during construction by control methods such as using water for dust control; installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials; covering open equipment for conveying materials; and promptly removing spilled or tracked dirt or other materials from paved streets or dried sediments resulting from soil erosion.

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5.2	Transcripts	General Public	I hope you guys address the construction dirt and the toxic dust that's going to come from taking down the buildings, because right now it's bad enough. I can't tell you what my vacuum cleaner picks up in the course of a week. So if you can at least address these five buildings with some constructive way of doing it when you take it down, that would be really appreciated. That's all.	Thank you for your comment. The Navy will ensure that the fugitive dust would be minimized during construction by control methods such as using water for dust control; installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials; covering open equipment for conveying materials; and promptly removing spilled or tracked dirt or other materials from paved streets or dried sediments resulting from soil erosion. Additionally, to the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors.
6	EIS Email	General Public	I am unable to attend the meeting tonight but wanted to alert you to the terrible traffic on Jones Bridge Road headed from East West Highway to Connecticut Avenue during the morning rush hour. This is a new problem for our neighborhood this fall and seems likely to be caused by BRAC. Please let me know if there are plans to do anything to alleviate this problem. As it is it is almost impossible to get out of the neighborhood in the morning rush hour.	Thank you for your comment. The Navy is conducting a traffic study, which will be a part of the EIS and will provide impact analysis on traffic due to the proposed actions. Based on the results of the traffic study, the Navy will identify potential mitigation measures, as appropriate, which will be coordinated with the local and state transportation agencies as a part of the continued dialog on the proposed projects.
7	EIS Email	General Public	I recommend that the EIS include consideration of light pollution from any new buildings or parking lots. Buildings associated with the BRAC construction and parking lots adjacent to our neighborhood (Parkview and East Parkhill Avenue) resulted in a significant increase in unwanted bright light all night. We appreciate some changes in lowering light intensity and use of shades. I hope that better planning will go into any new construction near the base perimeter.	Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including visual impacts and will also identify potential mitigations measures, as appropriate.

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8	EIS Email	General Public	The increased building and parking density on base will probably result in the loss of green-space and wild-life habitat. I suggest that the EIS include a section on wildlife habitat preservation and remediation. This could easily be included in the Statement of Work for landscape architects. There are world-class experts associated with the nearby Audubon Naturalist Society at Woodend <a href="http://www.audubonnaturalist.org">www.audubonnaturalist.org</a> (< <a href="http://www.audubonnaturalist.org">http://www.audubonnaturalist.org</a> > ). I am sure your neighbors would be glad to help.	Thank you for your comment. The EIS will include, under Biological Resources Section, the impacts analysis on Wildlife and Vegetation. The mature landscape of the Bethesda campus is one of its most positive attributes. The mature trees and plant materials provide a park-like, unifying feature and are a pleasing contrast to the increasingly urban character of the area. To ensure that these characteristics are enduring, the proposed projects at NSA Bethesda will adhere to the design guidelines in the 2010 Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors and utilizing trails, pocket parks, and landscaping to contribute to a pleasant environment for the patients and their families.
9	EIS Email		I see that there is a historic preservation part of the EIS plan. I am not sure that people at the Navy Med campus realize that the land the hospital is on received incoming artillery fire during the Civil War resulting in the death of soldiers. As you protect and commemorate the historical aspects of the base, this would certainly be worthy of a memorial of some sort. I am sure someone knows where that shell hit. Here is info some info on this: Civil War Defenses of Washington, Fort Reno: <a href="http://www.nps.gov/cwdw/historyculture/fort-reno.htm">http://www.nps.gov/cwdw/historyculture/fort-reno.htm</a> "During Early's assault of Fort Stevens on July 11th and 12th, 1864, the heavy guns of Fort Reno lent little support value, as there was a fear the long range guns would hit the Union Army's advanced pickets. One of the shells that was fired from Fort Reno by a 100-pounder Parrott Rifle traveled 3 1/2 miles south of the fort, killing four Confederates where the present day Bethesda Naval Hospital is located in Bethesda, Maryland. Because Fort Stevens was reinforced on July 12, 1864, it was never taken by the Confederate army, nor was the capital city ever reached."	The Navy is coordinating with the Maryland Historical Trust pursuant to the process identified in Section 106 of the National Historic Preservation Act to ensure that all potential historic, architectural, and archaeological impacts of the proposed projects would be properly evaluated within the EIS.

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10	EIS Email		<p>My only comment directly on this slide set concerns slide 11 titled "Traffic Study Intersections - External". There was no supporting text for this slide but it appears that intersections marked in red will be part of the Traffic Study/ Transportation Management portion of the EIS. Intersections marked include roads leaving the area to the north (Rockville Pike), to the west (West Cedar Lane), to the south (Wisconsin Avenue) and to the east (Jones Bridge Road). The other main route for people leaving the Navy Med Campus area is to the northeast along Cedar Lane with rush hour traffic connecting to Beach Drive, Connecticut Avenue, Summit Avenue and Knowles Avenue in Kensington. For example, six intersections are marked next to the base and east of the base on Jones Mill Road while no intersections are marked on Cedar Lane going east after Rockville Pike. It is clear that Cedar Lane receives a significant amount of morning and afternoon rush hour traffic from Navy Medical as well as NIH, Stone Ridge School and longer distance commuters. Based on personal experience, I recommend that the following intersections be included in the traffic flow analysis:</p> <ul style="list-style-type: none"> <li>* Cedar Lane and Beach Drive</li> <li>* Beach Drive and Connecticut Avenue</li> <li>* Cedar Lane and Saul Road</li> <li>* Summit Avenue and Knowles Ave (Route 547)</li> <li>* Knowles Avenue (Route 547) and Connecticut Avenue (Route 185)</li> <li>* Morning traffic flow over one remaining eastbound lane of Cedar</li> <li>* Lane bridge over Rock Creek and impact on neighborhood access to Cedar</li> <li>* Lane from adjacent neighborhoods</li> </ul>	<p>Thank you for your comment. The traffic study intersections were selected based on the Maryland National Capital Park and Planning Commission's (MNCPPC) Local Area Transportation Review methodology. The additional intersections identified by the public were considered; however, it was determined that the influence of the proposed actions on those intersections were captured within the existing 17 intersections already proposed for analysis. This methodology was developed in coordination with the MNCPPC staff, who concurred that the additional intersections beyond the 17 identified are not necessary.</p>
11	EIS Email		Air Quality	<p>Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including air quality impacts and will also identify potential mitigations measures, as appropriate.</p>

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12	EIS Email		Noise	Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including noise impacts and will also identify potential mitigations measures, as appropriate.
13	EIS Email		Contamination/Chemical/Biological Disposals-I'm very concern regarding soil/air contamination and proper disposal of chemical and biological waste. What measures have the Navy Hospital implemented to avoid accidents or carelessness that can impact the environment?	Thank you for your comment. The Navy follows all applicable regulations and has strict procedures in place for handling of chemical and biological wastes, such as separation of such wastes from other wastes at the point of origin. The EIS will analyze the impacts from the proposed actions, including hazardous waste and will also identify potential mitigations measures, as appropriate.
14	EIS Email	General Public	Traffic Impact-We only have access to our neighborhood via Cedar Lane which can be accessed via Rockville Pike and Beach Drive, with the expansions at the Navy Hospital that means more personnel and visitors to the facility that will cause major traffic issues for the local residents in the area. I know from previous notices that the Hospital is offering personnel a \$250 per month credit if they take public transportation, although that might help a little, but Is there any plans to minimize this problem?	Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions using locally approved methodology and will also identify potential mitigation measures, as appropriate. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.

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15.1	EIS Email	General Public	<p>Below please find my concerns about the new construction at your site and BRAC. My name is Bharati Sanghvi. I live at the west end of Pooks Hill Road. My concern is about increased traffic as a result of new construction at your site and BRAC. During 7-9 am and 4-6 pm right turn on Linden Avenue from Pooks Hill road going west-to-east (and left turn from other direction) is not allowed and to go to Old Georgetown Road we are forced to go on Wisconsin Avenue increasing the traffic on already congested Wisconsin Avenue. Linden Avenue is a county Road and you may not have direct control over it, but I would like you to be aware of the problem many (those living on Pooks Hill Road or neighboring road as well as people driving on Wisconsin Avenue) of us are facing.</p> <p>You may not have direct control but the projects you have affect the traffic in the surrounding area and you can help us make our case understood by others. Everyone knows Wisconsin Avenue at pick hours is very congested. BRAC adds to the usual heavy pick hour traffic on Wisconsin Avenue. The new construction at your site will add congestion. I am a member of Traffic solutions with BRAC committee. Our mission is improving traffic flow among the corridors leading to Bethesda Naval Hospital, particularly in the Pooks Hill environs to improve our quality of life. We are sure you have considered different ways of addressing the traffic issues.</p>	<p>Thank you for your comment. The Navy continues to consult and collaborate with local and state transportation agencies to address critical transportation issues to the surrounding communities and to coordinate the implementation of improvement measures, however, a decision regarding restrictions on local streets are under purview of the Montgomery County DOT.</p>

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15.2	EIS Email	General Public	<p>There is one more option that can reduce some traffic on Wisconsin Avenue. When going east on Pooks Hill Road, right turn on Linden Avenue is not allowed during 7-9 am and 4-6 pm and at those times going west on Pooks Hill Road left turn on Linden Avenue is not allowed. To the best of our knowledge, this restriction was put over 30 years back. Since then many things have changed and it is time to revisit this decision. Should the needs/preferences of 20 dwellings on those 2 blocks of Linden Avenue be given priority or 4000+ (4000 persons living on Pooks Hill Road + traffic on Wisconsin Avenue) be taken care of? Whatever were the reasons for the restriction, the situations have changed especially BRAC has added to the already congested traffic on Wisconsin Avenue. And it is time to revisit the situation. The argument that kids play on Linden Avenue is not a strong argument for the above restriction. Kids are not supposed to play on the road, and by any means it is not a dead-end road and the convenience of a larger group should be taken care of rather than causing inconvenience to a larger group for taking care of a very small group. For many it is not clear that there are about 4,000 persons living on Pooks Hill Road especially because Promenade complex has 1000. For going to Old George Town Road, we have to use Linden Avenue. During 7-9 am and 4-6 pm., we have to go east, get on Wisconsin Avenue and get off on Alta Vista Road, adding to already crowded Wisconsin Avenue. During these hours, this is the only exit from Pooks Hill Road! During the 7-9 am and 4-6 pm, Linden Avenue does not become one-way street because buses are allowed to go on Linden Avenue. Allowing only local traffic during those hours to turn right on Linden Avenue will still stop the traffic coming off 495 and entering 495 again at Wisconsin Avenue.</p>	<p>Thank you for your comment. The Navy continues to consult and collaborate with local and state transportation agencies to address critical transportation issues to the surrounding communities and to coordinate the implementation of improvement measures, however, a decision regarding restrictions on local streets are under purview of the Montgomery County DOT.</p>

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15.3	EIS Email	General Public	Lifting off the restriction for Local traffic only will take care of the road condition of Linden Avenue, reduce some traffic from already congested Wisconsin Avenue, there will still be two outlets from Pooks Hill Road all the time and will give a relief to people on Pooks Hill Road and indirectly to those using Wisconsin Avenue as well as taken care of the concern that Linden Avenue is not built for more traffic. Issuing permits for local traffic can be done as a one-time permit to reduce the burden on the county. It is time to revisit the problem and its possible solution. We should move with the time. Please let me know if I can help you in any way. Thank you.	Thank you for your comment. The Navy continues to consult and collaborate with local and state transportation agencies to address critical transportation issues to the surrounding communities and to coordinate the implementation of improvement measures, however, a decision regarding restrictions on local streets are under purview of the Montgomery County DOT.
16	EIS Email	Montgomery County Department of General Services	The Montgomery County Department of General Services is in receipt of the notice of intent to prepare an environmental impact statement at the Naval Support Activity in Bethesda, Maryland. Thank you for the opportunity to comment. Generally, the application is consistent with Montgomery County's program and objectives. As you are aware, Montgomery County has been coordinating with the State of Maryland, the Department of the Navy and the National Institutes of Health to reduce traffic and gridlock in the area. It was noted that this project will add two new parking garages with a total of 900 spaces that will accommodate the estimated future capacity of one million visitors per year. Long term future construction will eliminate several hundred surface parking spaces and the Department of the Navy will greatly reduce the ratio of parking spaces to personnel. Please find the attached State of Maryland Clearinghouse form for your reference. Please contact me directly if you have any questions at 240-777-6192 or <a href="mailto:gossont@montgomerycountymd.gov">gossont@montgomerycountymd.gov</a>	Thank you for your comment. The Navy does not anticipate dipping below 1:3 NCPC ratio as a result of proposed action .

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17.1	Transcripts	General Public	As I was saying, I'm a neighbor at 8525 Hawkins Lane. This is a historic district. There are 15 houses on the lane. It's a gravel road and we're very concerned with the construction because of what we have seen so far; the pollution, the traffic and the noise. We've already seen our trees cut down between the there's a fence that borders our neighborhood and the medical unit, and the trees have been cut down already. And we can hear the construction. We can see the trucks at all hours of night, mornings, it doesn't matter. The trucks are going up and down. They've built a there's a two lane road right next to our on the fence. We are very concerned. 6:00 in the morning we're wakened up by the trucks backing up. It's only going to get worse if these are allowed to go on.	Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including visual and noise impacts and will also identify potential mitigations measures, as appropriate. To the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors, the eastern boundary is in proximity to Hawkins Lane.
17.2	EIS Email	General Public	Noise pollution -The perimeter road construction on the facility has become unbearable during regular business hours. Our neighborhood was very quiet prior to this construction now it all day all we hear are the road construction machinery. More construction only means more noise.	Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including visual and noise impacts and will also identify potential mitigations measures, as appropriate. To the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors.
17.3	EIS Email	General Public	And the other issue that I said is the noise. I mean, now that they cut down the trees, we can hear everything, all the construction that's going on. And that's not even the start of this major addition that you'd like to propose. By cutting down the trees, all that noise just comes right through. We only have a chain link fence separating the facility and our lane. It's unsightly. What we see now, it's dirt and the trucks going by. Is that right for us? We've been on the lane for more than 48 years. It's not fair.	Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including visual and noise impacts and will also identify potential mitigations measures, as appropriate. To the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors.

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18	EIS Email	General Public	Impact on Property values - the increased noise and sight of the construction site has affected the rental properties on the lane - nobody wants to rent or live next to a construction site with noise and dust issues. EIS should at a minimum consider the building of an attractive fence or barrier to reduce the noise as well as overlooking into a construction site.	Thank you for your comment. The Navy will ensure that the fugitive dust would be minimized during construction by control methods such as using water for dust control; installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials; covering open equipment for conveying materials; and promptly removing spilled or tracked dirt or other materials from paved streets or dried sediments resulting from soil erosion. Additionally, to the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors.
19.1	Transcripts	General Public	The traffic. I can't get out of my house anymore. I have to leave by 6:30, otherwise I cannot make a left turn on Jones Bridge and I can only go right. The same thing happens in the afternoons. How long does it takes over an hour to get to go from Wisconsin Avenue onto Jones Bridge and so that I can make a left turn to get into my lane. Forget about trying to leave the lane between 4:00 and 6:00 in the afternoon. Why? Because it's impossible to make a left turn on Jones Bridge. I have to plan activities to make sure that I turn right instead of going left. So this already having an impact. How much more are we supposed to take on this? And the fact that, yes, you're adding 900 more----you would like to add 900 more parking facilities, that means that 900 more vehicles are going to be coming down and parking. And is that entrance going to be on Jones Bridge? How is that going to affect some more our ability to get out of our lane and go onto either Connecticut or Wisconsin? And this is something that the neighbors, our 15 houses, are going to be deeply affected.	Thank you for your comment. The Navy does not anticipate going below 1:3 staff parking ratio (one parking space for three employees) recommended by NCPC as a result of proposed action because of the 900 spaces from the proposed actions. As a part of the EIS, the Navy is conducting a traffic study, which will analyze the traffic and parking impacts of the proposed actions. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.

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19.2	EIS Email	General Public	Traffic - has become a nightmare during rush hours. We have difficulties leaving our lane at 6 30 a.m. because of the number of vehicles heading towards the hospital. The traffic on Jones Bridge at 4 00 p.m. has also become an issue. Adding 900 new parking spaces would only encourage 900 more vehicles to be on the road and it is likely that Jones Bridge road will become completely congested with all these additional vehicles.	Thank you for your comment. The Navy does not anticipate dipping below 1:3 NCPC ratio as a result of proposed action. Additionally, as a part of the EIS, the Navy is conducting a traffic study and updating the Installation Transportation Management Plan (TMP). The goal of the TMP is identify options to single occupancy vehicle commuting.
19.3	EIS Email	General Public	In addition if the 900 additional parking spaces are going to be built entrance or access to these spaces should be spread among the various entrances to reduce the impact on Jones Bridge Road. Another idea is to stagger classes at the University so that students and staff enter and depart the facility at different hours not just at peak rush hours. -	Thank you for your comment. The Navy does not anticipate dipping below 1:3 NCPC ratio as a result of proposed action. As a part of the EIS, the Navy is conducting a traffic study, which will analyze the traffic and parking impacts of the proposed actions. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.
20	EIS Email	General Public	Air pollution and public health - Hawkins Lane neighborhood is too close to the proposed construction sites which would add more pollutants in our airspace. Hawkins Lane is home to a number of small children and older residents who are more susceptible to developing health issues. Trees have already being cut down so there are no natural barriers to slow down the pollutants from travelling to our lane.	Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including air quality impacts and will also identify potential mitigations measures, as appropriate. The Navy will ensure that the fugitive dust would be minimized during construction by control methods such as using water for dust control; installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials; covering open equipment for conveying materials; and promptly removing spilled or tracked dirt or other materials from paved streets or dried sediments resulting from soil erosion. Additionally, to the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors.

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21	Written Letter	National Capital Planning Commission	Thank you for the opportunity to participate in the scoping for the preparation of an Environmental Impact Statement (EIS) at the Naval Support Activity Bethesda (NSA Bethesda). National Capital Planning Commission (NCPCC) staff understands that the EIS will analyze the environmental impacts of implementing the proposed actions within the 2012 NSA Bethesda Master Plan, which is currently under development by the Department of the Navy. Our comments are provided below.	Thank you for your comment.
22	Written Letter	National Capital Planning Commission	<p>Land Use Resources</p> <p>NCPCC staff understands that within the EIS the Navy is evaluating proposed actions that include the redevelopment of medical facilities at the Walter Reed National Military Medical Center, expansion of the Uniformed Services University of Health Services, and the development of other support facilities at NSA Bethesda. The EIS should evaluate the consistency of these proposed actions with land use policies in the Commission's Comprehensive Plan for the National Capital (Comprehensive Plan) as well as local land use plans and policies. For example, the proposed actions appear to be consistent with the policies of the Comprehensive Plan's Federal Workplace Element, which encourages:</p> <ul style="list-style-type: none"> <li>• The modernization, repair, and rehabilitation of existing federally owned facilities for new federal workplaces before developing new facilities.</li> <li>• The utilization of available federally owned land or space before purchasing or leasing additional land or building space.</li> <li>• The minimization of development of open space by selecting disturbed land or brownfields for new federal workplaces or by reusing existing buildings or sites.</li> </ul>	Thank you for your comment. The EIS will analyze the land use impacts from the proposed actions, including the consistency with the applicable area plans and policies. The proposed actions are all within NSA Bethesda and the majority of the proposed projects are within previously disturbed areas.

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23	Written Letter	National Capital Planning Commission	Employment and Installation Population NSA Bethesda's information package for the EIS scoping states that the proposed actions will enhance and support, but not add to, missions and functions of the installation. It is unclear from this statement if the proposed action will result in an increase in patients, visitors, and employees at the installation. The EIS should clearly define and evaluate the environmental impacts of any potential increase in patients, visitors, or employees associated with these proposed actions together with associated environmental impacts for ongoing projects previously considered under NEPA and the 2008 update to the installation's master plan (approved by the Commission on February 5, 2009).	Thank you for your comment. The proposed actions will enhance and support, but not add to missions and functions of the installation, medical center or the University. Therefore, the increase in Medical Facilities staff is anticipated to be limited to support staff. For the University Expansion, the incoming staff is from off-base facilities that will be consolidated at one place and these personnel are already part of the institution in the area and currently travel back and forth to the NSA Bethesda. Additionally, because the Medical Facilities Development is right-sizing of the already existing facilities, increase in patients or visitors are not anticipated. The EIS will evaluate the impacts of on patients, visitors, or employees from the staff number increases from the proposed actions and will also evaluate the cumulative effects of the proposed actions in the context of the known, ongoing activities and identify the potential programmatic effects of the proposed actions in the context of the potential future development opportunities. Therefore, the EIS will analyze the environmental effects of the 2012 NSA Bethesda Master Plan relative to the implementation of the proposed actions in this EIS.
24	Written Letter	National Capital Planning Commission	Transportation Understanding that the EIS will include a traffic study based on post Base Realignment and Closure (or BRAC) conditions, it is unclear if this condition includes the direct link from the Medical Center Metrorail Station to the installation's south gate. The EIS should fully evaluate the transportation impacts that will result following completion of this direct link. The EIS should also clearly reflect the proposed number of parking spaces at the installation. The Comprehensive Plan provides policy guidance on the permitted number of parking spaces per employee (the parking ratio) at federal facilities in the National Capital Region. The parking ratio for federal installations in suburban areas within 2,000 feet of Metrorail stations is 1:3. The EIS, and associated traffic	Thank you for your comment. The Navy does not anticipate dipping below 1:3 NCPC ratio as a result of proposed action. As a part of the EIS, the Navy is conducting a traffic study, which will analyze the traffic and parking impacts of the proposed actions. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.

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			<p>study and Transportation Management Plan (TMP) should evaluate the ability of the installation to maintain this parking ratio over the operative timeframe of the 2012 NSA Bethesda Master Plan, or provide clear descriptions of the obstacles that may preclude the installation from meeting the parking ratio. Additionally, the EIS should specify the proposed measures that will implement the TMP, which must be submitted for NCPC review, and should address the following:</p> <ul style="list-style-type: none"> <li>• Current demand for employee and visitor/contractor parking spaces</li> <li>• Future demand for employee parking</li> <li>• Future parking demand for visitors/contractors</li> <li>• Strategies to reduce parking demand by employees</li> <li>• Strategies to reduce parking demand by visitors/contractors</li> </ul> <p>NCPC staff encourages the Navy to continue its efforts to promote use of public transportation and other non-single occupancy vehicle modes of transportation, including METRO, commuter rail and bus service, carpooling, and shuttle service. These efforts should continue to be included within the TMP.</p> <p>NCPC staff also has other transportation concerns related to the cumulative impacts of increased traffic when considered along with planned State and County transportation improvements, and other public and private development, in the vicinity of NSA Bethesda. The EIS should include a comprehensive analysis and projection of cumulative traffic impacts, as well as proposed off base minimization / mitigation measures.</p>	
25	Written Letter	National Capital Planning Commission	<p>Cultural Resources</p> <p>The proposed action to develop new medical facilities includes the demolition of multiple buildings and the construction of new facilities including a parking garage and a medical facility adjacent to Building 1. NCPC staff has concerns how this proposed action and related alternatives may impact the historic qualities and aesthetics of the</p>	<p>Thank you for your comment. To ensure effective collaboration and communication, the Navy initiated coordination with the Maryland Historical Trust as well as the National Capital Planning Commission early in the EIS process. After EIS NOI, the Navy initiated Section 106 consultation with the Maryland Historical Trust and has provided copies of the communication to the National</p>

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			<p>installation's National Register Historic District and Building 1.</p> <p>In particular, NCPC staff has considerable concern regarding potential impacts from new construction to the significant viewshed on the Rockville Pike side of the installation. The EIS should clearly identify any potential adverse impacts to this historic landscape with any alternative development plans considered. For the last three to four years most of the historic lawn in front of Building 1, a contributing element to the National Register Historic District, has been used for construction storage or staging for BRAC-related projects (beginning approximately in 2008 through today). NCPC staff does not support the use of the historic lawn for future construction storage or staging. Therefore, we encourage the Navy to identify and evaluate in the EIS other sites for construction uses that would not obstruct this important primary viewshed. All development alternatives considered within the EIS should be evaluated under a primary goal of preserving this significant viewshed in its historic state, both during future construction activities and after construction is completed. Also, NCPC staff is currently unaware of the status of the Section 106 consultation for the proposed actions and related alternatives being considered. As such, NCPC requests to be a consulting party within the Section 106 process, which we recommend occur concurrently with development of the EIS in order to identify and address impacts to historic resources. The Section 106 consultation process, and any agreement document such as a Programmatic Agreement or Memorandum of Agreement, should be completed prior to concluding the EIS. NCPC staff appreciates the opportunity to participate in this phase of the EIS and looks forward to continued involvement in the EIS process and the development of the 2012 NSA Bethesda Master Plan.</p>	<p>Capital Planning Commission. In addition, NCPC participated in a meeting with the Navy, Maryland Historical Trust, and Advisory Council on Historic Preservation in November 2011 regarding the proposed actions. The Navy acknowledges the Commission's concerns the use of front lawn for construction storage and staging and will take that into consideration in selecting a site for such purposes. Additionally, for the proposed underground parking in the front lawn, the EIS will evaluate three alternative above-ground sites in different areas of the installation.</p>

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26	Written Letter	Parkview Association	My late husband and sons and I arrived at our house at 9314 East Parkhill Drive, Bethesda, MD., 20814, in September 1963. This is in the Parkview neighborhood of Bethesda. In the intervening time between then and now I have several times served as President and Co-president of the Association. There have been many attempts to disturb the residential nature of our neighborhood. Now we have the Walter Reed Army Hospital on the Naval Hospital grounds, and you are now envisioning some enlargements and modernization of some medical laboratories associated with the Navy and USUH's. My main environmental worry is whether the conduits bringing in our purified Water supply and taking away our sewage drainage from our area are large enough with much more utilized and populated National Naval Med. Center and Walter Reed Army Hospital and improved USUH. If these older conduits are too small and have to be replaced with larger ones, then that construction would affect a much larger area in Bethesda than erecting buildings on the Naval Hospital grounds. I request that this topic be addressed in the EIS statement.	Thank you for your comment. The EIS will analyze the utilities impacts from the proposed actions, including the capacity of the utilities providers to accommodate the proposed projects.

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27	Transcripts	Sacks Neighborhood Association	<p>Thank you. Hi, my name is Robert Smythe. I am the president of the Sacks Neighborhood Association. The Sacks Neighborhood is the single family development of 60 homes just south of Downtown Bethesda, just north of Bradley Boulevard. And I have a couple other reasons for wanting to be here tonight. I'm a D.C. native. I was born in D.C. while my mother was a medical technician at Walter Reed Army Medical Center and my brother is a former Navy pilot who fortunately did not need the facilities that you offer here, but we were glad they were there anyway.</p> <p>Time is short. I think you ought to allow a little more time, but let me just welcome the Army and the medical professionals to Bethesda. We're glad to have you here. The combination of NIH, Navy Medical and the Uniformed Services University really does make a world class medical complex and we hope you guys will continue doing some of the ground breaking work that you've done already here in the past decades.</p> <p>Since the purpose of this meeting is to give you some input about scoping, which means the scope of the environmental impact statement, let me flag two or three, three or four things that I think are most important. I might also include the comment that I worked at the President's Council on Environmental Quality during the years that we wrote the rules for the NEPA process, so I'm glad to see you here carrying them out. I was in the room when we invented the word "scoping." Had an argument about that, but it stuck and it's now a worldwide term used in environment impact assessment.</p>	Thank you for your comment.

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28	Transcripts	Sacks Neighborhood Association	<p>I guess there are some obvious concerns. My experience in dealing with environmental impact statements is that there are two areas of analysis that don't get adequate treatment often, and those have to do with the off site effects. Talk about we're going to take down this many trees and we're going to build roads here. But the fact is that the impacts of this facility are going to be quite measurable on this community, those of us who live near here and who have to try to drive up Wisconsin Avenue. It took me half an hour to get here from my house less than three miles away in the current traffic situation, so that I think is going to only get worse, and it needs to be looked at.</p> <p>Off site effects also include not just the traffic from people that you're hiring to work here, but your vendors, and this place has daily deliveries of trucks and medical facilities and medical equipment that will add and will increase as you finish your reconstruction. The impacts during construction, off site impacts are a major concern to us because of the fact that we already have gridlock on Wisconsin Avenue and this could basically shut down the road as a thoroughfare, and I think the EIS needs to address that very carefully.</p>	<p>Thank you for your comment. As a part of the EIS, the Navy is conducting a traffic study and it will analyze the traffic impacts of the proposed actions, including construction traffic and will also identify potential mitigation measures, as appropriate. Additionally, the EIS will analyze three alternative sites to the underground parking garage that are in the northeast and south areas of the installation.</p>
29	Transcripts	Sacks Neighborhood Association	<p>Perhaps second consideration is let's say the fact that we don't have a whole lot of green space in Downtown Bethesda anymore. It's been chewed up gradually for, you know, various justifiable reasons, but the Navy Medical Complex and NIH have been two nice big green areas that are close to our homes and our community, and we've seen then encroached on, you could say for good reasons, but the fact is that they aren't building anymore green space around here. And we've lost some at NIH, we've lost a chunk here at Navy Medical and we are jealous of our green space and would like to make sure that the EIS deals with protecting as much of what you do have as green space. I'm not talking about parking lots. Open space is not a parking lot. It's something green or with trees on it. And I think that should be carefully looked at.</p>	<p>Thank you for your comment. The EIS will include, under Biological Resources Section, the impacts analysis on Wildlife and Vegetation. The mature landscape of the Bethesda campus is one of its most positive attributes. The mature trees and plant materials provide a park-like, unifying feature and are a pleasing contrast to the increasingly urban character of the area. To ensure that these characteristics are enduring, the proposed projects at NSA Bethesda will adhere to the design guidelines in the 2010 Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors and utilizing trails, pocket parks, and landscaping to contribute to a pleasant environment for the patients and their families.</p>

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30	Transcripts	Sacks Neighborhood Association	<p>The EIS process requires mitigation for the loss of environmental resources. And mitigation, as you can find in the regulations at 1508.20 include avoiding impacts, minimizing impacts and substituting, you know, more environmental green space or wildlife habitat for what you've lost. And I think you need to pay attention to the definitions of both of direct and indirect impacts and of mitigation for impacts that cannot be eliminated.</p> <p>I should say that my experience as an environmental professional is that EISs done by contractors often have significant weaknesses and the weaknesses are that they're too big, they contain a whole lot of extraneous information and they---</p> <p>Yes, okay. The third thing I think that's important is design. We haven't heard anything about the design. The county requires new developers to use to LEED standards for green buildings and I think the higher the level that you strive for, the better it is for the owner of the facility and for the community. And I would say that we'd like to see discussion of what LEED standard you're going to meet with the construction.</p>	Thank you for your comment. The proposed projects will be designed in compliance with the applicable federal mandates as well as DOD and Navy guidelines and policies and will meet, at the minimum, the LEED Gold standards and will also adhere to the Low Impact Development guidelines.
31	Transcripts	Sacks Neighborhood Association	<p>And finally, there's an executive order that requires an environmental mitigation --- well, let me finish an environmental management system for the operation of the facility that involves both energy and environmental conservation. We'd like to see that environmental management system plan addressed in the EIS. It's hard to say what you want to say for a complex process in five minutes, but I just had a couple other points to make. I kind of skirted over my comment about not being fond of contractor prepared EISs. There are certainly some notable exceptions to my rule of mediocrity and I hope you guys will be one of those in that exception. But the purpose of the document is to lay out indirect and direct short term and long term impacts and what's going to be done about those major impacts. That's what the document should be. The CEQ regulations say they should not be longer than 300</p>	Thank you for your comment. The EIS will be prepared to meet the CEQ regulations on impact analyses and conciseness to the extent possible.

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			<p>pages, ideally not longer than half that. I'd like to see you try that. That takes a good writer and a good editor to focus on what the real issues are not include, you know, long lists of species or, you know, background documents. Those can be available online or however, so let's have a decision document here and not a master's thesis. That would be nice. And, you know, I'm encouraging you to do that. I think you can and I know contractors who have and I'd like to see you do it.</p>	
32	Transcripts	Sacks Neighborhood Association	<p>Second, I guess it's important to look at the relationship of what you're doing to what BRAC has proposed and what's going to come after, and that's where I think the traffic concern is greatest to us. I don't think the BRAC analysis did an adequate traffic analysis. Traffic models and I've looked at a number of traffic studies and I'd never seen a traffic study that overestimated the amount of traffic that occurred afterwards. They're usually underestimating, but there's not a lot of ground truth done after they're written. They're we did the traffic study and what happens in reality is often ignored. And I think you ought to be tough on what you're relying on if you're relying on anything from BRAC. And I hope that we see a real recognition that traffic doesn't just mean vehicles. It means people on foot, as when I came up here and, you know, 20 or 30 people crossed in the short green light that they had to cross Wisconsin Avenue to get to NIH and to the Metro. I think you need to consider that, not only during your construction when it's worse, but during the operation of the facility.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The Traffic Study will analyze the traffic impacts of the proposed actions using the Montgomery County-approved methodology, including pedestrian traffic and will also identify potential mitigation measures, as appropriate.</p>

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33	Transcripts	Sacks Neighborhood Association	<p>And as I said, the last point I made was that environmental management systems. This is a industry invented protocol and certification process. It's not a regulation, but it dovetails very well with NEPA and the EIS, which is the preconstruction environmental analysis. Environmental management systems are done by many industries to show how they're going to operate their facility from through the whole life cycle of a facility. There are certification levels under internationally agreed standards that I think we'd like to hear you guys address, whether it's ISO 14,000, or it's a federal equivalent. I think that the Navy and the Army and military together need to look at that carefully, because frankly, it's the way most industries operate to get the most efficient and environmentally sound management of their facilities.</p> <p>There have been environmental management systems done for military facilities. I'd like to see one done for this facility, and it doesn't have to be in the EIS because it comes after it, but it needs the plan for it ought to be addressed there. I'd like to see that, along with what LEED level of design you're going to adopt, because I think those are important to the military, to the medical professionals, as well as to those of us who live around here. It saves everybody money, it reduces energy consumption, it makes generally the operation of the facility a lot safer and cleaner.</p> <p>So, those are things I'd like to see addressed in the EIS. That's what the purpose of scoping folks is to tell them what are the real issues that we want them to address. They can't give us the answers today, but they can hear what we want to see in that document when we get a chance to review it. So, those are my expanded comments. Thank you for the opportunity to do it.</p>	Thank you for your comment. The proposed projects will be designed in compliance with the applicable federal mandates as well as DOD and Navy guidelines and policies and will meet, at the minimum, the LEED Gold standards and will also adhere to the Low Impact Development guidelines.
34	Transcripts	General Public	<p>Okay. I just have three quick questions. One is in the new expansion with the new buildings, is there going to be an increase in the student population? I notice you didn't refer to students.</p>	Thank you for your comment. The University Expansion is to consolidate already existing activities that are dispersed in various locations on- and off-base and is not anticipated to increase student numbers.

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35	Transcripts	General Public	<p>The second question is we live in a town house that's at the corner of Jones Bridge and Wisconsin, so we get to view the problem that lots of neighbors are having in the area, and it looks pretty serious now, but we're of course worried about what happens when the BRAC movement is full fruition. I was wondering if the people that are going to sign the EIS and the people say sitting at the table, and contractors like you, have actually come and driven up Wisconsin or Jones Bridge around say 6:00, 7:00 5:00 to 7:00 in the evening. And the third question is since Mr. Smythe didn't get to finish, I was wondering if I could yield the rest of my five minutes to him.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions and will also identify potential mitigation measures, as appropriate.</p>
36	Transcripts	General Public	<p>All right. My question's about traffic, of course. I live in Bethesda, and the question I have is since we just presumably there was an EIS done for the current construction that's going on. There must have been a traffic study going on there where they predicted what the impact would be. My question is I would hope that when you do the EIS for this study that you take a look at how close their prediction was, you know, to see were they off or were they not, or were they on?</p> <p>And also request that when you do a traffic impact; I'm not sure how you do it, but if it's just the number of cars or things going by, I think someone ought to really look at time, how much time does it take to get from Wisconsin Avenue to turning left on Connecticut Avenue, for example, going across Jones Bridge there. And the same thing with going in on Wisconsin Avenue heading north or south coming by the facility, because it's really time is the issue and that's where we have seen the greatest impact on the previous construction and that's what the concerns are now.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions using locally approved methodology, including pedestrian traffic and will also identify potential mitigation measures, as appropriate.</p>

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37	Transcripts	General Public	<p>Hi. These may apply partially to the traffic plan and the master plan. But from what is said, although I didn't see numbers, there's more square feet, there's somewhat more staff and there's more parking than if you didn't build this underground parking garage. What we have currently even before Walter Reed came over to the campus is a rush-hour, in the afternoon particularly, disaster and anything that doesn't move in the direction of mitigating that, compounds the problem. I'm a commissioned officer, Captain in the Public Health Service retired. I was planning officer at NIH. We dealt -- when we were a third the budget size of what we are now. We had to deal with this issue of congestion and a lot of buildings have gone up since then.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions using locally approved methodology, including pedestrian traffic and will also identify potential mitigation measures, as appropriate.</p>
38.1	Transcripts	General Public	<p>I have used Bethesda Navy Hospital for 30 years. I have been a staff volunteer on a number of services. I have talked with staff. I have been there almost at every hour in the day, like MRIs at 3:00 in the morning. Anyway. How do they affect the functioning of the National Naval Medical Center? Staff tells me that some of them have to get up extremely early in the morning to get there at 5:30 to get a parking place. Then some of those staff tell me they then have to stay until 6:30 at night because of the traffic and so that's a long day. But yet they don't have a flexible work schedule so they aren't able to see patients. One of them was in behavioral health, saw mental health patients and he wasn't able to see patients past whatever it is, 5:00 or 4:30 when they officially stop, even though he was in his office because of this.</p> <p>Some staff, I'm told that it's typically like 10, 20, 30, up to an hour, minutes currently to leave the base. That is not helping it. I as a patient never schedule an appointment on a weekday after 12:00 because if there are various delays and other services I need, I am in this gridlock and I'm wasting an hour of my life in that gridlock and I don't care to do that.</p> <p>Anything that I can do and you have a few things are open on Saturdays, some of which only take 10 minutes: getting</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions using locally approved methodology and will also identify potential mitigation measures, as appropriate. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.</p>

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			<p>gas, using the PX, picking up a copy of my lab tests, getting lab tests done. Now, if you define, what is the problem, the problem is there are other problems, there are other ways to solve them. But the problem in one sense is that between Monday through Friday between 2:00 and 6:00 p.m. that there are a huge number of cars that are released on 355 from the Navy campus. So, let's take those elements.</p>	
38.2	Transcripts	General Public	<p>355. Not everybody has to exit on 355. One day because of construction, they exited most everybody to Jones Bridge Road and I was surprised that about half the people then took a left on Connecticut. They found it convenient and they hadn't even gone by that exit, which is the one in from the medical school.</p> <p>The second is there are bunches of people, some are even contractors because they come at set leaving times, 3:30, 4:00, 4:30, 5:00, whatever it is. NIH has staggered working hours. It's not only on the exits problem, NIH has exits on Old Georgetown Road that is less congested mostly. And they recently, partly due to the BRAC discussions that we had and I've been sitting in on that, opened a new exit right at Greentree Road where's there's a traffic light which will help.</p> <p>They have thought about closing, which I hope they will, closing Wilson Road, Lane, whatever it is. It's a light just north of the Metro. That, again, would lessen the 355 impact. But what Navy can do at a minimum is stagger the release hours so they aren't coming at precise times, so they're staggered. In a selected way, a few of internal medicine, gynecology, perhaps behavioral health can see patients on Saturdays. I'm not talking about everybody. It might be 10 percent of the staff. It may be medics do that instead of people coming to the emergency room at various hours. They can then get service. So, it's not an either/or thing.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions and will also identify potential mitigation measures, as appropriate. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.</p>

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<b>CMT Number</b>	<b>Source</b>	<b>Organization</b>	<b>Comments</b>	<b>Response</b>
38.3	Transcripts	General Public	<p>Some things can be telecommuted. Now, there are security problems, but when I worked at the library, this is a very small example. Reference work, I did at home because I used publicly available databases like Medline and then I brought them in or I could email them and no security threat whatsoever.</p> <p>Some activities could be done off campus. Just to take a few that are space consuming. Health promotion involves -- you don't even have to see somebody's medical record if they're referred to stress reduction, health promotion. That could be done anywhere in the area. If they were referred to physical therapy for a specific thing, generally don't have to see their whole medical record for that. That could be done in a secure way.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions using locally approved methodology and will also identify potential mitigation measures, as appropriate. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.</p>
38.4	Transcripts	General Public	<p>Suburban Hospital has pioneered or had to use, whatever you call it, many things off-site, physical therapy, outpatient clinics and so on so that they don't have a vast traffic jam right there and overuse their facilities. So, if we have for some and this may only be support staff and a few staff, for the working week, telecommute, that could cut quite a number of people that are exiting Monday through Friday. If they have Saturday hours for a few, that could cut down on that. If they stagger the release times and the hours, that could cut away from this bolus. So that is in some sense what we consider just permanent rush hour is a scheduling problem because most of the day -- if I drive down to Bethesda Navy at 8:00 or 9:00 in the morning, there's practically no traffic. If I leave at 11:00 or 12:00 there's very little traffic. But after 2:00 there's a problem. That is a scheduling problem. That hurts me as a patient but it hurts Navy because there are patients missing appointments, coming in late. Their staff are half asleep because of having to get up very early. They are not very happy and there are arrangements they can do for their staff and their patients.</p> <p>Some of their patients have emergencies. They may just be delivering a baby. If they have to fight through this traffic,</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions and will also identify potential mitigation measures, as appropriate. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.</p>

**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

<b>CMT Number</b>	<b>Source</b>	<b>Organization</b>	<b>Comments</b>	<b>Response</b>
			<p>that can cause real medical problems. But in a broader sense, 355 is a major route going to the Beltway and since 9/11 it's a major evacuation route. Since we're closing Walter Reed, the old Walter Reed, it's a major route to one of the major military hospitals in the whole area or the major one. So that Bethesda Navy personnel, staff, decision makers have an interest in keeping and reducing, not adding to. So, I would suggest that, as far as the Environmental Impact Statement, that none of this go forward until they have implemented plans such as these and they can figure out ways to do them better than I have suggested.</p> <p>As I suggested to them in a letter to the admiral in charge and I suggested this in April of 2008. It appeared in a Dr. Gridlock column that discussed my ideas at great length. And so NIH has made some progress on those. Navy, when I talked to them, they say that people don't come to Saturday hours. They need to publicize them more and they're given a choice. If I'm given a choice of having an MRI in three months or 3:00 in the morning this week, I go to the one this week. Now, it's not as extreme as that, but if they're given more choice instead of dragging themselves out of work and kids out of school, some people would prefer to come on a Saturday morning.</p>	
39	EIS Email	General Public	<p>Proposed parking garage between the tower and Rt. 355. would increase base internal congestion near North Gate 1 increase Rt. 355 congestion and increase air pollution near patients. Instead build it near Gate 4 or Gate 5 to provide direct access to and from Jones Bridge Road and better balance the impact of base garages. Have patients only typically short term use the three existing garages adjacent to hospital and staff use ones near bldg. 46, 66, and 17.</p>	<p>Thank you for your comment. As a part of the EIS, the Navy is conducting a traffic study and it will analyze the impacts of the proposed underground parking garage and will also identify potential mitigation measures, as appropriate. Additionally, the EIS will analyze three alternative sites to the underground parking garage that are in the northeast and south areas of the installation.</p>

**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

<b>CMT Number</b>	<b>Source</b>	<b>Organization</b>	<b>Comments</b>	<b>Response</b>
40	Transcripts	General Public	<p>So, I'm Kathy Sessions. I'm a resident of Hawkins Lane which is a historic district just off Jones Bridge Road adjacent to the university, Uniformed Services University Health Center.</p> <p>I and my neighbors are proud to be neighbors of the Naval Medical Center and support in general its renovation. However, we do have a number of neighborhood concerns about the impacts of both the ongoing construction and the proposed additional construction.</p> <p>There are four categories of concern that I'd like to just flag. The one of most concern to me is about air pollution and public health. Our neighborhood is home to a number of families with small children. We have a few older residents also with health issues and the neighborhood is situated close to multiple sources of air pollution including the Beltway and there's been a pretty dramatic increase in vehicular traffic along Jones Bridge Road related to the Walter Reed BRAC transitions, which has brought additional transportation pollution and the road and building construction equipment is bringing more in. We have trucks idling along Jones Bridge Road so we are concerned that additional construction and the proposal to make Jones Bridge an entrance for parking garages and trucks would add more pollutants to the airspace and create more of a kind of cumulative public health impact. So, that's one concern.</p>	<p>Thank you for your comment. As a part of the EIS, the Navy is conducting a traffic study and it will analyze the traffic impacts of the proposed actions, including construction traffic and will also identify potential mitigation measures, as appropriate. Additionally, the EIS will analyze the air quality impacts of the construction equipment and traffic and will also identify potential mitigation measures, as appropriate.</p>
41	Transcripts	General Public	<p>So, the second is about traffic impacts during rush hour. Traffic is already now so backed up on Jones Bridge that it can take a half hour to get home when it used to take five minutes, can get very difficult to get in and out of our lane which is Hawkins Lane onto Jones Bridge. So, again, we're concerned about the impacts of both the construction and renovation and additional vehicular traffic given that we don't seem to have successfully absorbed the Walter Reed-related transition, increases in traffic.</p>	<p>Thank you for your comment. The traffic study to be included in the EIS will be based on the post BRAC conditions and the data collected in 2011 will be used as the baseline for evaluation of the future impacts analysis in the EIS. The traffic study will analyze the traffic impacts of the proposed actions using locally approved methodology and will also identify potential mitigation measures, as appropriate. Additionally, the Navy is also updating the Installation Transportation Management Plan (TMP) at the same time and the goal of the TMP is identify options to single occupancy vehicle commuting.</p>

**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

CMT Number	Source	Organization	Comments	Response
42	Transcripts	General Public	<p>The third concern is about noise and noise pollution. Construction noise in the land adjacent to our lane has been constant and it often goes on all night long. So if you have your windows open, you hear, beep, beep. And it's been hard for neighbors to sleep at night.</p> <p>And the final concern is about impact on property values. The increased noise and the loss of green space bordering our neighborhood, the increased traffic and all of the related kind of impacts already on the neighborhood have decreased the pastoral, peaceful feel of our neighborhood. And we've had decreased interest in rental properties on the Lane this year and people trying to refinance their homes have been told that their homes are worth less than they had before the BRAC construction started. So, we fear additional impacts on the property values of the proposed renovations.</p> <p>So, I would hope that the impact assessment would consider the cumulative impact of all of the current and proposed changes in the federal facilities adjacent to our neighborhood in terms of the air pollution and the traffic and the noise. And also would hope it would identify options for mediating neighborhood impacts such as if there could be either a kind of no-idling practices for trucks coming in and out or other requirements for filters if they're diesel trucks so that they're not -- to reduce the diesel pollution.</p> <p>The possibility of noise barriers or other kind of tree plantings along the lane, curtailing construction activities to daylight hours so that they're not doing construction overnight would all potentially be helpful to the neighbors and make this lower impact.</p>	<p>Thank you for your comment. The EIS will analyze the impacts from the proposed actions, including traffic and noise impacts and will also identify potential mitigations measures, as appropriate. To the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors.</p>

**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

<b>CMT Number</b>	<b>Source</b>	<b>Organization</b>	<b>Comments</b>	<b>Response</b>
43	Email	Montgomery County Planning Department The Maryland National-Capital Park and Planning Commission	The Planning Department received the State Clearinghouse communication re this project. Thank you. We met with the Dept of the Navy, September 30, to find out more about their proposal and their traffic analysis. We look forward to continued coordination with them as they move forward. Since this submittal is a Notification of Intent to prepare an Environmental Impact Statement it concerns establishing the scope of the review. That being said, it will establish alternatives for evaluation. The Planning Department would like to remain involved as the EIS is prepared and receive the draft EIS for review as soon as it is available.	Thank you for your comment. The Navy will continue timely coordination with your agency throughout the EIS process.
44	Email	Montgomery County Planning Department The Maryland National-Capital Park and Planning Commission	We request that the scope of the EIS, which includes an evaluation of alternatives include the use of local regulations and their criteria, such as the Forest Conservation Law, the Montgomery County Historic Preservation ordinance and any applicable State regulations, as yardsticks to measure impacts on - The County-designated historic resource: the Bethesda Naval Hospital Tower Block We would also like to continue coordination on traffic and transportation issues and compatibility issues related to the existing neighborhood. Please also include us in all notifications of community meetings in advance. Thank you for contacting us early in the process. We look forward to working with you.	Thank you for your comment. The EIS will analyze the impacts on biological and cultural resources from the proposed actions and will include the analysis of compliance with the applicable regulations pertaining to the resources during construction and operation of the proposed actions. Additionally, the Navy has initiated Section 106 consultation with the Maryland Historical Trust because of the historic resources at NSA Bethesda.
45	Email	Montgomery County Planning Department The Maryland National-Capital Park and Planning Commission	We would also like to continue coordination on traffic and transportation issues and compatibility issues related to the existing neighborhood. Please also include us in all notifications of community meetings in advance. Thank you for contacting us early in the process. We look forward to working with you.	Thank you for your comment. The Navy continues to consult and collaborate with local and state transportation agencies to address critical transportation issues to the surrounding communities and to coordinate the implementation of improvement measures, if appropriate. To this end, the EIS traffic study intersections were selected based on the Maryland National Capital Park and Planning Commission's (MNCPPC) Local Area Transportation Review methodology and were identified in coordination with the M-NCPPC staff.

**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

<b>CMT Number</b>	<b>Source</b>	<b>Organization</b>	<b>Comments</b>	<b>Response</b>
46	Email	Montgomery County Planning Department The Maryland National-Capital Park and Planning Commission	Please also include us in all notifications of community meetings in advance. Thank you for contacting us early in the process. We look forward to working with you.	Thank you for your comment. The Navy will continue timely coordination with your agency throughout the EIS process, including notifications of community meetings.
47	Written Letter	Maryland Department of the Environment	<p>Thank you for the opportunity to review the above referenced project. The document was circulated throughout the Maryland Department of the Environment (MDE) for review, and the following comments are offered for your consideration.</p> <ol style="list-style-type: none"> <li>1. Any above ground or underground petroleum storage tanks that may be utilized must be installed and maintained in accordance with applicable State and federal laws and regulations For demolition, any aboveground or underground petroleum storage tanks that may be on site must have the contents and tanks removed. Contact the Oil Control Program at (410) 537-3442 for additional information.</li> <li>2. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3318 for additional information.</li> <li>3. The Hazardous Waste Program should be contacted directly at (410) 537-3343 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations.</li> <li>4. The Hazardous Waste Program should be contacted at (410) 537-3343 prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal</li> </ol>	Thank you for your comment. The EIS will analyze the impacts on Human Health and Safety from the proposed action and will include the analysis of compliance with the applicable regulations pertaining to hazardous material and hazardous waste during construction and operation of the proposed actions.

**MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS/RESPONSES**

CMT Number	Source	Organization	Comments	Response
			<p>laws and regulations.</p> <p>5. Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR) 26.16.01 Accreditation and Training for Lead Paint Abatement Services. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02- Reduction of Lead Risk in Housing; and Environment Article Title 6, Subtitle 8, is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 531-3825.</p> <p>6. The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please contact James Carroll, Program Administrator, Land Restoration Program at (410) 531 3437.</p>	

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Attachment 5: Federal Register NOA, NOPH, and Public  
Notice of Draft EIS

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**ENVIRONMENTAL PROTECTION AGENCY**

[ER-FRL-9005-1]

**Environmental Impacts Statements; Notice of Availability**

*Responsible Agency:* Office of Federal Activities, General Information (202) 564-7146 or <http://www.epa.gov/compliance/nepa/>.

Weekly receipt of Environmental Impact Statements.

Filed 09/03/2012 Through 09/07/2012. Pursuant to 40 CFR 1506.9.

**Notice**

Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: <http://www.epa.gov/compliance/nepa/eisdata.html>.

**SUPPLEMENTARY INFORMATION:** Starting October 1, 2012, EPA will not accept paper copies or CDs of EISs for filing purposes; all submissions on or after October 1, 2012 must be made through e-NEPA.

While this system eliminates the need to submit paper or CD copies to EPA to meet filing requirements, electronic submission does not change requirements for distribution of EISs for public review and comment. To begin using e-NEPA, you must first register with EPA's electronic reporting site—[https://cdx.epa.gov/epa\\_home.asp](https://cdx.epa.gov/epa_home.asp).

*EIS No. 20120296, Draft EIS, BLM, CO, White River Field Office Oil and Gas Development, Resource Management Plan Amendment, Rio Blanco, Garfield, Moffat Counties, CO, Comment Period Ends: 12/12/2012, Contact:* Heather Sauls 970-878-3855.

*EIS No. 20120297, Draft EIS, FHWA, OR, OR 62: I-5 to Dutton Road (Medford) Project, New Highway Construction, Funding, USACE Section 404 Permit, Jackson County, OR, Comment Period Ends: 10/29/2012, Contact:* Chris Bucher 503-316-2555.

*EIS No. 20120298, Final EIS, USFS, 00, Kiowa, Rita Blanca, Black Kettle, and McClellan Creek National Grasslands Land and Resource Management Plan, Implementation, Cibola National Forest and National Grasslands, Mora, Harding, Union, and Colfax Counties, NM; Dallam, Hemphill, and Gray Counties, TX; and Cimarron and Rogers Mills Counties, OK, Review Period Ends: 10/15/2012, Contact:* Champe Green 505-346-3889.

*EIS No. 20120299, Final EIS, BLM, CA, Imperial Sand Dunes Recreation Area Management Plan, Proposed Amendment to the California Desert Conservation Area Plan, Imperial County, CA, Review Period Ends: 10/15/2012, Contact:* Greg Hill 951-697-5395.

*EIS No. 20120300, Draft EIS, USN, MD, Medical Facilities Development and University Expansion at Naval Support Activity Bethesda, Montgomery County, MD, Comment Period Ends: 10/29/2012, Contact:* Joseph Macri 301-295-1803.

*EIS No. 20120301, Draft EIS, NPS, IN, Indiana Dunes National Lakeshore, Shoreline Restoration and Management Plan, Lake, Porter, and LaPorte Counties, IN, Comment Period Ends: 11/13/2012, Contact:* Constantine J. Dillon 219-926-7561.

**Amended Notices**

*EIS No. 20120235, Draft Supplement, FRA, CA, California High-Speed Train (HST): Fresno to Bakersfield Section High-Speed Train, Reintroducing Alignment Alternatives and an Additional Alternative through the Bakersfield Area, USACE Section 10 and 404 Permits, Fresno, Kings, Tulare, and Kern Counties, CA, Comment Period Ends: 10/19/2012, Contact:* David Valenstein 202-493-6381. Revision to FR Notice Published 07/20/2012; Extending Comments Period from 09/20/2012 to 10/19/2012.

Dated: September 11, 2012.

**Cliff Rader,**

*Director, NEPA Compliance Division, Office of Federal Activities.*

[FR Doc. 2012-22739 Filed 9-13-12; 8:45 am]

**BILLING CODE 6560-50-P**

**ENVIRONMENTAL PROTECTION AGENCY**

[FRL-9727-8]

**Meeting of the Environmental Financial Advisory Board—Public Notice**

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice of a public webinar/teleconference meeting.

**SUMMARY:** The United States Environmental Protection Agency's (EPA) Environmental Financial Advisory Board (EFAB) will hold a webinar/teleconference meeting on October 17, 2012. EFAB is an EPA advisory committee chartered under the Federal Advisory Committee Act (FACA) to provide advice and

recommendations to EPA on creative approaches to funding environmental programs, projects, and activities.

The purpose of this meeting is to hear from informed speakers on environmental finance issues, proposed legislation, and EPA priorities; to discuss activities and progress with regard to current EFAB work projects; and to consider recent requests for assistance from EPA offices. Environmental finance discussions are expected on the following topics: Clean air technology; tribal environmental programs; transit-oriented development in sustainable communities, energy efficiency/green house gas emissions reduction; drinking water pricing and infrastructure investment; and green infrastructure.

**DATES:** The webinar meeting will be held on Wednesday, October 17, 2012 from 10 a.m. to 5 p.m., Eastern Time.

**ADDRESSES:** The webinar/teleconference meeting will be available to the public via Adobe Connect access. Members of the public who wish to participate in the meeting should register at <http://www.epa.gov/envirofinance/efabmeeting> by no later than Monday, October 8, 2012. Registrants will receive a confirmation notice and the information required to access the meeting.

**FOR FURTHER INFORMATION CONTACT:** For information on access or services for individuals with disabilities, or to request accommodations for a person with a disability, please contact Sandra Williams, U.S. EPA, at (202) 564-4999 or [williams.sandra@epa.gov](mailto:williams.sandra@epa.gov), at least 10 days prior to the meeting, to allow as much time as possible to process your request.

**Joseph L. Dillon,**

*Director, Center for Environmental Finance.*

[FR Doc. 2012-22760 Filed 9-13-12; 8:45 am]

**BILLING CODE 6560-50-P**

**ENVIRONMENTAL PROTECTION AGENCY**

[9728-3]

**Proposed Consent Decree, Clean Air Act Citizen Suit**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of proposed consent decree; request for public comment.

**SUMMARY:** In accordance with section 113(g) of the Clean Air Act, as amended ("CAA" or the "Act"), 42 U.S.C. 7413(g), notice is hereby given of a proposed consent decree to address a



mailing addresses are published as an appendix to the Army's compilation of record system notices.

**CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:**

Current and former officer, warrant officer, and enlisted military personnel, including Army Reservists and National Guard; family members of the above service members; civilian employees of Department of Defense; and samples of civilians from the general U.S. population who are surveyed to determine why people do or do not consider military service as a career or a short-term employment option.

**CATEGORIES OF RECORDS IN THE SYSTEM:**

Service member: Individual's name and Social Security Number, Army personnel records and questionnaire-type data relating to service member's pre-service education, work experience and social environment and culture, learning ability, physical performance, combat readiness, discipline, motivation, attitude about Army life, and measures of individual and organizational adjustments; test results from Armed Services Vocational Aptitude Battery and Skill Qualification Tests.

Non-service member: Individual's name and Social Security Number, and questionnaire type data relating to non-service member's education, work experience, motivation, knowledge of and attitude about the Army. When records show military service or marriage to a service member, the appropriate non-service records will be linked to the service record.

**AUTHORITY FOR MAINTENANCE OF THE SYSTEM:**

5 U.S.C. 301, Departmental Regulations; 10 U.S.C. 3013, Secretary of the Army; 10 U.S.C. 2358, Research and Development Projects; and E.O. 9397 (SSN), as amended.

**PURPOSE(S):**

To research manpower, personnel, and training dimensions inherent in the recruitment, selection, classification, assignment, evaluation, and training of military personnel; to enhance readiness effectiveness of the Army by developing personnel management methods, training devices, and testing of weapons methods and systems aimed at improved group performance. (No decisions affecting an individual's rights or benefits are made using these research records).

**ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:**

In addition to those disclosures generally permitted under 5 U.S.C. 552a(b) of the Privacy Act of 1974, these records or information contained therein may specifically be disclosed outside the DoD as a routine use pursuant to 5 U.S.C. 552a(b)(3) as follows:

The DoD Blanket Routine Uses set forth at the beginning of the Army's compilation of systems of records notices also apply to this system.

**POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN THE SYSTEM:**

**STORAGE:**

Paper records in file folders, CD-ROM, computer disks, and magnetic tape.

**RETRIEVABILITY:**

By individual's name and/or Social Security Number. For research purposes, the data are usually retrieved and analyzed with respect to relative times of entry into service, training performance, and demographic values. Scheduled data for follow-up data collections however, are retrieved by month of scheduled follow-up and by name.

**SAFEGUARDS:**

Access to records is restricted to authorized personnel having official need therefore. Automated data are further protected by controlled system procedures and code numbers governing access.

**RETENTION AND DISPOSAL:**

Information is retained until completion of appropriate study or report, after which it is destroyed by shredding or erasing.

**SYSTEM MANAGER(S) AND ADDRESS:**

Director, U.S. Army Research Institute for Behavioral and Social Sciences, ATTN: AHRC-ARI-ASZ, 5001 Eisenhower Avenue, Alexandria, VA 22333-5600.

**NOTIFICATION PROCEDURE:**

Individuals seeking to determine if information about themselves is contained in this record system should address written inquiries to the Director, U.S. Army Research Institute for Behavioral and Social Sciences, ATTN: AHRC-ARI-ASZ, 5001 Eisenhower Avenue, Alexandria, VA 22333-5600.

Individual should provide the full name, Social Security Number, current address, subject area, and the year of survey, if known.

**RECORD ACCESS PROCEDURES:**

Individuals seeking access to records about themselves contained in this record system should address written inquiries to the Director, U.S. Army Research Institute for Behavioral and Social Sciences, ATTN: AHRC-ARI-ASZ, 5001 Eisenhower Avenue, Alexandria, VA 22333-5600.

Individual should provide the full name, Social Security Number, current address, subject area, and the year of survey, if known.

**CONTESTING RECORD PROCEDURES:**

The Army's rules for accessing records, and for contesting contents and appealing initial agency determinations are contained in Army Regulation 340-21; 32 CFR part 505; or may be obtained from the system manager.

**RECORD SOURCE CATEGORIES:**

From the individual, his or her peers, or, in the case of ratings and evaluations, from supervisors.

**EXEMPTIONS CLAIMED FOR THE SYSTEM:**

None.

[FR Doc. 2012-22718 Filed 9-13-12; 8:45 am]

BILLING CODE 5001-06-P

**DEPARTMENT OF DEFENSE**

**Department of the Navy**

**Notice of Public Hearings for the Draft Environmental Impact Statement for Medical Facilities Development and University Expansion, Naval Support Activity Bethesda, Maryland**

**AGENCY:** Department of the Navy, DoD.

**ACTION:** Notice.

**SUMMARY:** Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) and the Council on Environmental Quality Regulations for implementing the procedural provisions of NEPA (Title 40 Code of Federal Regulations parts 1500-1508), the Department of the Navy (DoN) has prepared and filed with the U.S. Environmental Protection Agency a Draft Environmental Impact Statement (EIS) to evaluate the potential environmental effects of Medical Facilities Development (MFD) and University Expansion at Naval Support Activity (NSA) Bethesda, MD.

The purpose of the MFD proposed action is to implement the Congressional mandate from the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center

(WRNMMC) by providing enduring medical facilities commensurate in quality, capability and condition as those provided by the 2005 Base Realignment and Closure (BRAC) investment. The 2005 BRAC program was designed to accommodate transfer of Walter Reed Army Medical Center (WRAMC) to WRNMMC but not address mission capability or improvements of the existing infrastructure. The MFD is needed because current space is insufficient to meet world-class standards.

The purpose of the University Expansion of the Uniformed Services University of the Health Sciences (USU) is to provide adequate education and research space to meet Military Health System (MHS) commitments to deliver training and post-graduate level education to the military medical community and enable USU to serve as the core academic health research center at WRNMMC. The University Expansion is needed because current operations are dispersed between the main USU buildings and nineteen facilities comprising off-site leased locations in Montgomery County and other buildings on NSA Bethesda. Operations are fragmented and insufficient to meet education and research space requirements as well as Liaison Committee on Medical Education (LCME) accreditation requirements.

NSA Bethesda is the action proponent and Joint Task Force National Capital Region Medical, WRNMMC, and USU are tenants of NSA Bethesda. There are no cooperating agencies for the EIS.

The EIS considers the 2012 NSA Bethesda Master Plan relative to the implementation of the MFD and University Expansion. The EIS evaluates the direct, indirect, and cumulative impacts of the proposed actions in the context of the programmed projects already in progress and the programmatic effects of the potential future development opportunities identified in the 2012 NSA Bethesda Master Plan.

The DoN will conduct two public hearings to receive oral and written comments on the Draft EIS. Federal, state, and local agencies, elected officials, and other interested individuals and organizations are invited to be present or represented at the public hearings. This notice announces the dates and locations of the public hearings for this Draft EIS.

**Dates and Addresses:** Public hearings will be held on the following dates and locations:

1. October 4, 2012 from 1 p.m. to 5 p.m. at the Bethesda Marriott, 5151

Pooks Hills Road, Bethesda, MD 20814; and

2. October 11, 2012 from 5 p.m. to 9 p.m. at the Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, MD 20814.

Both meetings will start with an open house session followed by a presentation by the DoN and a public hearing session, which will be transcribed by a court reporter. The open house session will allow individuals the opportunity to review summaries of the information presented in the Draft EIS. DoN representatives will be available during the open house sessions to clarify information related to the Draft EIS.

**FOR FURTHER INFORMATION CONTACT:** NSA Bethesda Public Affairs Office, Attn: Joseph Macri, 8901 Wisconsin Avenue, Bethesda, MD 20889, Email: [NNMC.NSABETHESDAEIS@med.navy.mil](mailto:NNMC.NSABETHESDAEIS@med.navy.mil), Phone: 301-295-1803, or Web site: <http://www.wrnmmc.capmed.mil/PatientVisitors/SitePages/EIS.aspx>.

**SUPPLEMENTARY INFORMATION:** A Notice of Intent (NOI) to prepare the EIS was published in the **Federal Register** on August 19, 2011 (76 FR 51957). The DoN held two public scoping meetings on September 7, 2011 and September 12, 2011 at the Pooks Hills Marriott, Bethesda, MD.

The proposed actions would enhance and support but not add to the missions of the installation, medical center, or the USU.

The MFD proposed action includes:

1. Demolition of five hospital buildings (Buildings 2, 4, 6, 7, and 8) and construction of a single 5-story replacement facility in the same footprint (Medical Center Addition and Alterations—MCAA);
2. Construction of a 500-space underground parking garage for visitors, patients, and very important persons (VIPs);
3. Utility capacity upgrades;
4. Temporary medical facilities to maintain uninterrupted patient care during construction;
5. Internal renovations of five hospital buildings (Buildings 1, 3, 5, 9, and 10);
6. Internal and external renovation of a workshop/warehouse to office space (Building 13); and
7. Accessibility and appearance improvement projects.

The internal and external renovation of a workshop/warehouse to office space was added to the MFD proposed action after the NOI and public scoping period.

The University Expansion proposed action includes:

1. Construction of a 341,151 square-foot (SF) education and research facility (Building F);

2. Construction of a 400-space staff parking garage; and
3. Internal renovations to existing USU buildings.

The purpose of the MFD proposed action is to implement the Congressional mandate from the FY 2010 NDAA to achieve the new statutory world-class standards for military medicine at the WRNMMC by providing enduring medical facilities commensurate in quality, capability and condition as those provided by the 2005 BRAC investment. The MFD is needed because current space is insufficient to meet world-class standards such as, single occupancy patient rooms, a state-of-the-art simulation center, and a health innovation center.

The purpose of, and need for, the MFD were identified subsequent to the programming for BRAC 2005. The BRAC 2005 construction was specifically designed to accommodate the transfer of WRAMC to WRNMMC and restricted BRAC funding to projects related to accommodating BRAC relocation. Therefore, parts of the medical center did not undergo renovation or improvement during BRAC construction because that program was never intended to address the mission capability or functionality of the existing infrastructure.

The MFD would allow space for single-patient rooms and in-fill development for consolidating units to better serve the patient population. The development would also provide space for world-class features such as a state-of-the-art simulation center and a health innovation center. The proposed parking garage would serve visitors, patients, and VIPs using the medical facilities and meet the overall parking needs across NSA Bethesda. The proposed utility improvements would provide the additional capacity and repairs required. Utility capacity at NSA Bethesda is essentially at equilibrium, with only a small margin of excess capacity. The WRNMMC Master Plan concluded that any development of future facilities would require additional electrical capacity and that a large percentage of the utility services at NSA Bethesda are either nearing capacity or is in need of significant repair. The accessibility and appearance improvement projects provide accessible and aesthetically pleasing pedestrian pathways focused on wounded warriors, their special needs, and the staff helping them to adjust to their new challenges. These projects are needed because currently there are deficiencies in existing pathways or a lack of pathways that make areas of the installation inaccessible to wounded

warriors and other disabled patients. The internal and external renovations to the warehouse/workshop (Building 13) would convert the current facility to administrative space. The renovations would provide a consolidated location for security services currently in fragmented and temporary spaces at NSA Bethesda.

The purpose of the University Expansion is to provide adequate education and research space to meet MHS commitments to deliver training and post-graduate level education to the military medical community and enable USU to serve as the core academic health research center at WRNMMC. The University Expansion would address the most recent LCME accreditation requirements to provide additional space for student-centered learning, small-group teaching, and technological innovation. The University Expansion is needed because current operations are dispersed between the main USU buildings and nineteen facilities comprising off-site leased locations in Montgomery County, MD and other buildings on NSA Bethesda. Operations are fragmented and insufficient to meet education and research space requirements as well as the LCME accreditation requirements.

The MFD proposed action resulted from an iterative planning process from the Comprehensive Master Plan for the National Capital Region Medical (CMP), which identified and evaluated alternatives based on the departmental needs anticipated at the WRNMMC after the completion of the BRAC-mandated relocations in September 2011. Selection criteria were based on mandates from the Defense Health Board Study and the 2010 NDAA and were used to identify alternatives that were "reasonable" (i.e., practical and feasible). Selection criteria included:

1. Patient care—provide adequate quantity of single patient rooms; allow on-site separation of inpatient and ambulatory services; provide an improved surgical suite, including operating rooms, support areas, and perioperative flow and configuration; provide adequate space for centers of excellence and clinics; incorporate evidence-based design; include expansion of technology; and allow for operational efficiency;

2. Teaching hospital—provide adequate space and infrastructure for Simulation Center design and configuration, classroom and meeting spaces/learning environment, medical center auditorium, and DoN medical manpower personnel training and education;

3. Physical plant—provide adequate infrastructure/utilities, sustainability features, infrastructure/facilities parking capacity, and enhanced public support and amenities required;

4. Cost factors—based on an eight-year construction period and a 30-year economic life for the facilities, provide the most economical value over the life of the asset, taking into consideration operational and energy costs in addition to the initial capital investment for construction/renovation; and

5. Construction impacts—minimize temporary relocation/facilities and disruption to operations.

The CMP development process identified the proposed action as the best approach to meet the Congressional mandate for world class facilities commensurate in quality, capability, and condition with the BRAC investment. Reasonable alternatives were carried forward in the Draft EIS analysis.

The Draft EIS considers the No Action Alternative and the MFD with four alternative parking facility sites on NSA Bethesda:

1. No Action Alternative—evaluates the impact at NSA Bethesda in the event that the proposed action does not occur. Neither demolition/construction nor renovation would occur, and staffing at NSA Bethesda would not change. The No Action Alternative would not provide WRNMMC with facilities to accommodate the DoD healthcare mission, including the attributes of the new statutory, world-class standards for military medicine as mandated by 2010 NDAA. The No Action Alternative is considered in accordance with Section 1502.14(d) of the NEPA regulation.

2. MFD—demolition of five hospital buildings, construction of a single 5-story replacement facility, a parking garage, utility capacity upgrades, temporary medical facilities, internal renovations of five hospital buildings, internal and external renovations of a workshop/warehouse to office space (Building 13), and accessibility and appearance improvement projects.

- a. Underground parking garage (Preferred)—construction of an approximately 225,000 SF, 500-space underground parking garage west of Building 1 on the installation;

- b. Warehouse Area parking garage—construction of an approximately 29,200 SF footprint, up to 6-story above ground parking garage in the existing industrial and warehouse area located in the northeast corner of the installation;

- c. Taylor Road Facilities parking garage—construction of an approximately 28,450 SF footprint, up to 5-story above ground parking garage

located in the northeast area of the installation; and

- d. H-Lot parking garage—construction of an approximately 39,100 SF footprint, up to 6-story above ground parking garage in the south area of the installation.

The 2008 National Naval Medical Center Master Plan identified an area south of the University campus for facility expansion. Since the 2008 Master Plan, a second location west of the USU campus was identified as a potential site for the expansion. These sites were selected based on the following selection criteria:

1. Address LCME accreditation requirements;

2. Unify 19 departments, activities, and centers currently dispersed in NSA Bethesda buildings or in leased space in and around Rockville, MD;

3. Resolve space constraints following BRAC integration; and

4. Position the USU for sustained relevancy as a competitive and lead academic institution for medical education and biomedical science research, and so enable the WRNMMC endeavors to achieve status as a World Class Academic Health Center.

The Draft EIS considers the No Action Alternative and two alternative sites for the University Expansion. Both alternative sites involve construction of an approximately 341,151 SF education and research facility (Building F) and an approximately 144,000 SF, 400-space parking structure that will serve USU and the overall parking needs across NSA Bethesda:

1. Alternative 1 site—would be located south of the USU campus on a forested lot east of Grier Road. Building F and the above ground parking garage would be located in two separate buildings.

2. Alternative 2 site (preferred)—would be located west of the current USU campus on a developed parking lot and adjacent to the Armed Forces Radiobiology Research Institute (AFRRI). Building F and the above ground parking garage would be located in one structure with the garage under Building F.

3. No Action Alternative—evaluates the impact at NSA Bethesda in the event that the proposed action does not occur. The No Action Alternative would not allow construction of an education and research facility, parking garage, and renovations to USU buildings. USU would continue to operate sub-optimally in 19 dispersed departments, centers, and activities in inadequate and temporary spaces at NSA Bethesda or in off-campus leased locations in Montgomery County, Maryland. LCME

accreditation of USU would be in jeopardy, and the institution would not be able to provide adequate education and research space to meet its MHS commitments. The No Action Alternative is considered in accordance with Section 1502.14(d) of the NEPA regulation.

The Draft EIS evaluates the potential environmental effects associated with the MFD and University Expansion. The proposed actions and alternatives were evaluated within several environmental resource areas: Geology, topography, and soils; surface water and groundwater; floodplains; wetlands; vegetation; wildlife; aquatic and wetland habitat; threatened and endangered species; air quality; noise; utilities and infrastructure; transportation and traffic; cultural resources; land use and aesthetics; socioeconomics and environmental justice; and human health and safety. Methods to avoid, reduce or minimize impacts to affected resources are addressed. The analysis includes an evaluation of the direct, indirect, and cumulative impacts.

The Draft EIS finds that overall there would be minor impacts to geology, topography, and soils. The Draft EIS finds that the proposed MFD and parking garage alternatives would result in a minimal increase in impervious surface area and minimal impacts to biological resources because new facilities would be constructed on existing developed or landscaped areas. The increase in storm water runoff resulting from the increase in impervious surface would be controlled with storm water management and erosion and sediment control measures.

The Draft EIS finds that for the MFD, the underground parking garage alternative (preferred) would require excavation of the lawn in front of Building 1; no adverse effects on Building 1 are anticipated if the ingress/egress is designed in accordance with the Secretary of Interior standards. The underground parking garage alternative would interact with groundwater and would require dewatering system. The Draft EIS finds that there would be no significant impacts to floodplains. The Draft EIS finds that approximately 0.11 acres of the Stoney Creek Trail Improvements would occur along Stoney Creek in the vicinity of the areas that are considered to be potential wetlands. The final design layout and construction of the trail improvements in these areas would seek to avoid the potential wetland areas to the maximum extent possible.

The Draft EIS finds that emissions of air pollutants from the proposed MFD

during construction and operations would not exceed de minimis levels or ambient standards established by the United States Environmental Protection Agency (USEPA) for protection of the airshed and thus air quality impacts would not be significant. The Draft EIS finds that there would be no significant increase in greenhouse gases.

The Draft EIS finds that short-term increases in noise levels would occur during construction that are typical of construction activities; for some components of the proposed action, depending on distance between sensitive receptors on NSA Bethesda and construction areas, noise mitigation measures could be required.

The Draft EIS finds that impacts on aquatic and wetland habitats would primarily be temporary during construction and those impacts would be minimized. Per DoN's communication with the United States Fish and Wildlife Service (USFWS), except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project areas for the proposed actions. Therefore, the DoN would not be required to consult with USFWS to satisfy Section 7 of the Endangered Species Act (ESA). Per DoN's communication with the Maryland Department of Natural Resources, the agency has determined that there are no state or Federal records for rare, threatened, or endangered species within the boundaries of the project sites; therefore, the agency does not have specific comments or requirements pertaining to protection measures at this time.

The Draft EIS finds that the proposed MFD and parking garage alternatives would generate new staff trips (50 new staff) and shift patient or staff trips within the installation roadway network. However, no significant impacts on external traffic would occur as a result of the MFD or any of the parking garage alternatives.

Formal consultation under the National Historic Preservation Act with appropriate agencies such as the Maryland Historical Trust by the DoN is ongoing to ensure avoidance, minimization, and/or mitigation of any potential adverse effects on historic properties at NSA Bethesda including Building 1, Central Tower Block, or Buildings 3 and 5.

The Draft EIS finds that the proposed updates to the utilities would provide the required support to the MFD. The DoN is coordinating with the utilities service providers to ensure that the proposed changes would not affect

service delivery to the larger community.

The Draft EIS finds that the proposed MFD is compatible with existing land use plans and land use planning underway within NSA Bethesda. Aesthetic impacts from construction activities would be temporary and cease upon their completion. Beneficial economic impacts to the surrounding economy are anticipated, resulting from the investment in construction and renovations of facilities but would not have a significant impact on the local economy. There would be no disproportionately high or adverse impacts on minority, low-income populations, or children. Adherence to applicable regulations and guidance will avoid impacts to human health and safety.

The Draft EIS finds that overall there would be minor impacts to geology from either of the University Expansion alternatives. The Draft EIS finds that proposed University Expansion Alternative 1 would require clearing of forested area, extensive cut and fill and grading, and result in approximately 2.8 acres of new impervious surface. The loss of forested area would result in direct loss of wildlife habitat. University Expansion Alternative 2 is the preferred site and would be located in an existing parking lot and landscaped area and would require less new impervious surface (1.6 acres). The increase in runoff resulting from the increase in impervious surface from either of the University Expansion alternatives would be controlled with storm water management and erosion and sediment control measures. Under University Expansion Alternative 1, an approved sediment and erosion control plan and stormwater Best Management Practices would reduce runoff and potential pollutants carried to University Pond, preventing any potential impacts on the wetland on the northeast side of the pond. Per DoN's communication with the USFWS except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the either of the University Expansion alternatives. Therefore, the DoN would not be required to consult with USFWS to satisfy Section 7 of ESA.

Under University Expansion Alternative 1, the conversion of forested area to impervious surfaces would permanently impact the previously undisturbed infiltration area. However, NSA Bethesda would ensure that precipitation and runoff from impervious surfaces would be conveyed through stormwater control structures to the natural drainage system.

The Draft EIS finds that emissions of air pollutants from the proposed University Expansion alternatives during construction and operations would not exceed de minimis levels or ambient standards established by the USEPA for protection of the airshed and thus air quality impacts would not be significant. The Draft EIS finds that there would be no significant increase in greenhouse gases.

The Draft EIS finds that under University Expansion Alternative 2, short-term increases in noise levels would occur during construction and noise mitigation measures could be required.

The Draft EIS finds that there is sufficient capacity for telecommunication to support either of the University Expansion alternatives. There is sufficient power to support the expansion via an independent electrical feeder; however the DoN will coordinate with the utility service provider to confirm the capacity once the exact requirements are known. For the increase in demand for potable water and natural gas, the initial utility coordination is based on the building footprint and the DoN will confirm the capacity once the design work is completed and exact requirements are known. The DoN is also coordinating with the utilities service providers to ensure that the proposed changes would not affect service delivery to the larger community. University Alternative 1 would require steam/chilled water lines to travel a longer distance to connect to existing systems compared to Alternative 2.

The Draft EIS finds that either of the proposed University Expansion alternatives would generate new staff trips from the consolidated staff (220) and would also either shift patient or staff trips within the installation roadway network. However, because the staff is current USU personnel that already travel within the area, no significant impacts on external traffic would occur as a result of either of the University Expansion alternatives.

The Draft EIS finds that there would be no impacts to historic properties University Expansion Alternative 1. University Expansion Alternative 2 would not have any adverse effects on the integrity of the National Register of Historic Places eligible AFRRI.

The Draft EIS finds that the proposed University Expansion is compatible with existing land use plans and land use planning underway within NSA Bethesda. The Draft EIS finds that University Expansion Alternative 1 would impact forested areas and would alter the visual characteristics of the

area; the DoN would ensure that the design of the building would minimize the removal of trees to the extent possible. University Expansion Alternative 2 would offer the potential for fostering a continuous campus feel between AFRRI and USU; visual character of the area would not change noticeably.

The Draft EIS finds that either of University Expansion alternatives would have beneficial economic impacts to the surrounding economy, resulting from the investment in construction and renovation of facilities but would not have a significant impact on the local economy. There would be no disproportionately high or adverse impacts on minority, low-income populations, or children. Adherence to applicable regulations and guidance will avoid impacts to human health and safety.

The decision to be made by the DoN is to determine which of the MFD and University Expansion alternatives to implement based upon operational needs and the reasonably foreseeable environmental impacts identified in the EIS.

The Draft EIS was distributed or made available to Federal, state, and local agencies, elected officials, and other interested individuals and organizations. The public comment period will end on October 29, 2012. The Draft EIS is also available for public review at the following local libraries and public facilities:

1. Bethesda Library, 7400 Arlington Road, Bethesda, MD 20814;
2. Chevy Chase Library, 8005 Connecticut Avenue, Chevy Chase, MD 20815;
3. Davis Library, 6400 Democracy Boulevard, Bethesda, MD 20817;
4. Kensington Park Library, 4201 Knowles Avenue, Kensington, MD 20895;
5. Rockville Library, 21 Maryland Avenue, Rockville, MD 20850; and
6. Bethesda-Chevy Chase Regional Services Center, 4805 Edgemoor Lane, Bethesda, MD 20814.

The Draft EIS is also available for public viewing at the following Web site: <http://www.wrnmcc.capmed.mil/PatientVisitors/SitePages/EIS.aspx>. The executive summary or a single compact disc of the Draft EIS will be made available upon written request by contacting: NSA Bethesda Public Affairs Office, Attn: Joseph Macri, 8901 Wisconsin Avenue, Bethesda, MD 20889.

Federal, state, and local agencies, elected officials, and interested individuals and organizations are invited to be present or represented at

the public hearings. Written comments can also be submitted during the open house sessions preceding the public hearings. Oral statements will be heard and transcribed by a court reporter; however, to ensure the accuracy of the record it is encouraged that all statements also be submitted in writing. All statements, both oral and written, will become part of the public record on the Draft EIS and will be responded to in the Final EIS. Equal weight will be given to both oral and written statements. In the interest of available time, and to ensure all who wish to give an oral statement have the opportunity to do so, each speaker's comments will be initially limited to three (3) minutes. If a long statement is to be presented, it should be summarized at the public hearing with the full text submitted either in writing at the hearing, or via mail, email, or online to: NSA Bethesda Public Affairs Office, Attn: Joseph Macri, 8901 Wisconsin Avenue, Bethesda, MD 20889, Email: [NNMC.NSABETHES](mailto:NNMC.NSABETHES), [DAEIS@med.navy.mil](mailto:DAEIS@med.navy.mil), Web site: <http://www.wrnmcc.capmed.mil/PatientVisitors/SitePages/EIS> during the comment period. All written comments must be postmarked or received by October 29, 2012 to ensure they become part of the official record. All comments will be addressed in the Final EIS.

Dated: September 7, 2012.

**C.K. Chiappetta,**

*Lieutenant Commander, Office of the Judge Advocate General, U.S. Navy, Federal Register Liaison Officer.*

[FR Doc. 2012-22701 Filed 9-13-12; 8:45 am]

**BILLING CODE 3810-FF-F**

**DEPARTMENT OF DEFENSE**

**Department of the Navy**

**[Docket ID: USN-2012-0013]**

**Privacy Act of 1974; System of Records**

**AGENCY:** Department of the Navy, DoD.

**ACTION:** Notice to amend two Systems of Records.

**SUMMARY:** The Department of the Navy is amending two systems of records notices in its existing inventory of record systems subject to the Privacy Act of 1974 (5 U.S.C. 552a), as amended.

**DATES:** This proposed action will be effective on October 15, 2012 unless comments are received which result in a contrary determination. Comments will be accepted on or before October 15, 2012.

## Sadlon, William P CIV NAVFAC Washington

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**From:** Alperson, Phil [Phil.Alperson@montgomerycountymd.gov]  
**Sent:** Friday, November 02, 2012 6:03 PM  
**To:** Alperson, Phil  
**Subject:** Navy Extends Comment Period on DRAFT EIS to 11:59 pm, Wednesday, November 7.

**Importance:** High

Hello.

See the message below from Naval Support Activity-Bethesda for an important update on commenting on the Navy's DRAFT Environmental Impact Statement for new construction on the Bethesda campus.

Due to Hurricane Sandy, we are keeping the public comment period on the Naval Support Activity Bethesda EIS open until 11:59 p.m. Wednesday 7 November. All comments on the Draft EIS must be postmarked or submitted electronically.

Comments should be sent to:  
Joseph Macri, NSA Bethesda Public Affairs Office  
8901 Wisconsin Avenue  
Bethesda, Maryland 20889  
By E-Mail address: [NNMC.NSABETHESDAEIS@med.navy.mil](mailto:NNMC.NSABETHESDAEIS@med.navy.mil) By Telephone: (301) 295-1803

For more information on the EIS, go to:  
<http://www.wrnmmc.capmed.mil/PatientVisitors/SitePages/EIS.aspx>

You can also find valuable background information by going here and scrolling down to entries posted under December 18, 2012:  
<http://www6.montgomerycountymd.gov/brctmpl.asp?url=/content/exec/brac/community.asp>

Phil Alperson  
Montgomery County BRAC Coordinator  
Office of County Executive Isiah Leggett  
101 Monroe Street, 2nd Floor  
Rockville, MD 20850  
240 777 2595  
[www.montgomerycountymd.gov/BRAC](http://www.montgomerycountymd.gov/BRAC)

**AFFIDAVIT OF PUBLICATION**

**AD# 14663648**

DISTRICT OF COLUMBIA, ss,  
Personally appeared before me, CHIZUKO CARTER,  
a Notary Public in and for the District of Columbia,

CARL S. JOHNSON, who is being duly sworn according to law, an oath says that he is  
an AUTHORIZED AGENT of THE WASHINGTON TIMES, L.L.C., publisher of

**The Washington Times**

Circulated daily, in the City of Washington, District of Columbia,  
and that the advertisement, of which the annexed is a true copy,  
was published in said newspaper 3 time(s) on the following dates:

2012 SEPTEMBER 14, 17 & 18

at the rate of \$ 2.91 per line

Total Cost \$ 1,911.87 Dollars

Carl S. Johnson

Subscribed and sworn to before me

SEPTEMBER 19, 2012

Notary Public

Chizuko Carter

CHIZUKO CARTER  
NOTARY PUBLIC DISTRICT OF COLUMBIA  
My Commission Expires July 31, 2016

My Commission expires \_\_\_\_\_



**NOTICE OF AVAILABILITY AND NOTICE OF PUBLIC HEARINGS OF  
THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE  
MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY  
EXPANSION, NAVAL SUPPORT ACTIVITY BETHESDA,  
BETHESDA, MONTGOMERY COUNTY, MARYLAND.**

The Department of the Navy announces the availability of the Draft Environmental Impact Statement (EIS) for the proposed Medical Facilities Development and University Expansion at Naval Support Activity (NSA) Bethesda, Bethesda, Montgomery County, Maryland. The Draft EIS assessed the potential environmental impacts associated with the proposed actions at NSA Bethesda to implement the Congressional mandate in the Fiscal Year 2010 National Defense Authorization Act to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center (WRNMMC) at NSA Bethesda by providing enduring medical facilities commensurate in quality, capability, and condition as those provided by the 2005 Base Realignment and Closure (BRAC) investment. The Draft EIS also assessed the environmental impacts of the proposed expansion of the Uniformed Services University of the Health Sciences (USU) at NSA Bethesda. The proposed expansion would provide adequate education and research space to meet Military Health System commitments to deliver training and post-graduate level education to the military medical community and would enable USU to serve as the core academic health research center at WRNMMC. The proposed actions would enhance and support but not add to the missions of the installation, medical center, or the USU.

The public review period for the Draft EIS is from September 14, to October 29, 2012. Copies of the Draft EIS have been placed at the following locations: Bethesda Library, 7400 Arlington Road, Bethesda, MD, 20814; Chevy Chase Library, 8005 Connecticut Avenue, Chevy Chase, MD, 20815; Davis Library, 6400 Democracy Boulevard, Bethesda, MD, 20817; Kensington Park Library, 4201 Knowles Avenue, Kensington, MD, 20895; Rockville Memorial Library, 21 Maryland Avenue, Rockville, MD 20850; and Bethesda-Chevy Chase Regional Services Center, 4805 Edgemoor Lane, Bethesda, MD, 20814.

The Draft EIS is also available at the following website:  
<http://www.wrnmmc.cpmc.med.mil/PatientVisitors/SitePages/EIS.aspx>

The Navy invites the general public, local governments, state, and other Federal agencies to submit written comments concerning the assessment of environmental impacts provided by the Draft EIS. All comments must be dated no later than midnight October 29, 2012 to be accepted and addressed in the Final EIS. Comments should be sent to:

By Mail: Joseph Macri, NSA Bethesda Public Affairs Office  
8901 Wisconsin Avenue, Bethesda, Maryland 20889  
By E-Mail address: [NNMC.NSABETHESDAEIS@med.navy.mil](mailto:NNMC.NSABETHESDAEIS@med.navy.mil)  
By Telephone: (301) 295-1803

The Navy also invites the public and government agency representatives to participate in public hearings for the Draft EIS. Verbal and written comments can be presented to Navy representatives at the public hearings. The Navy will hold two public hearings at the Pooks Hill Marriott, 5151 Pooks Hill Road, Bethesda, Montgomery County, Maryland on:

\*October 4, 2012, from 1:00 PM to 5:00 PM, and  
\*October 11, 2012, from 5:00 PM to 9:00 PM.

Requests for language interpreters, an interpreter for the hearing impaired, or other special needs should be made to Navy representatives at the address, email, or phone provided above at least one week prior to the meetings.

Ad#14663648

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**Attachment 6: List of Public and Government Entities  
Notified of the Public Hearings and Draft EIS.**

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**List of Individuals/Community Organizations Notified of the Public Hearings and Availability of the Draft EIS**

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Tyler	Abell		Merry-Go-Round Farm Cluster
Allison	Abernathy		
Gary	Abramson	President	Kentsdale Estates Civic Assn.
Gary	Abramson	President	Preseve at Small's Nursery
Marjorie	Ackerman		
Tom	Adams		Merrimack Park Citizens Assn. Sec 1
Curtis	Adkins	President	Norbeck Grover Condominium Inc.
Avi	Adler	Co-President	Chevy Chase West Neighborhood Assn.
Bill	Adler		The Mains Homeowners Assn.
Penelope	Alberg		Whitehall Condominium Assn.
Alicia	Alexion		
Linda	Aley	President Board of Directors	Grosvenor Park III Condo.
Myers	Allen	President	Maplewood Citizens Assn.
Jon	Alterman	President	Bethesda Parkview Citizens Assn.
Laura	Alvey		
Augustus	Alzona	President	Alta Vista Gardens/North Bethesda
Shireen	Ambush	Management Agent	Cloverleaf Center Homeowners Assn. c/o Abaris Realty, Inc.
Shireen	Ambush	Property Manager	Wheaton Square East Condo. Assn. c/o Abaris Realty, Inc.
Shireen	Ambush		Castle Gate Homeowners Assn. c/o Abaris Realty, Inc.

First Name	Last Name	Title	Organization
Shireen	Ambush		Cloverleaf Center II Condominium c/o Abaris Realty, Inc.
Shireen	Ambush		Greencastle Manor Condominium Inc. c/o Abaris Realty, Inc.
Shireen	Ambush		Greencastle Manor II Condominium Inc
Shireen	Ambush		Kensington Terrace Condominium c/o Abaris Realty, Inc.
Shireen	Ambush		Homeland Village at Olney Condo. c/o Abaris Realty, Inc.
Shireen	Ambush		Montrose Woods Condo., Inc. c/o Abaris Realty, Inc.
Shireen	Ambush		Tuckerman Station Homeowners Assn. c/o Abaris Realty, Inc.
Shireen	Ambush		Fairhill Condo, Inc.
Shireen	Ambush		Rolling Spring Homeowners Assn.
Sue	Anderson	Co-President	Chevy Chase West Neighborhood Assn.
Julia	Andrews	President	Chevy Chase Park Condo. Assn.
Matthew	Andrulot		
Mohamed	Aniba		
Sharon	Antonelli	President	North Kensington News Homes Association
Laura	Araujo		
Wayne	Armchin		Potomac Glen Community Assn.
Harriet	Arshawsky	President	Grosvenor Park Cono. Citizens Assn.
Alvin	Aubinoe		Christopher Condo. c/o Aubino Mgmt.
David	Bach	President	Potomac Woods Citizens Association

First Name	Last Name	Title	Organization
Steve	Baldwin		Merrimack Park Citizens Assn. - Sec. II
Rachel	Ballard-Barbash	President	Glenmore Homeowners Assn.
Esber	Barakat		
Susanna	Barber	President	Chadsberry Homeowners Assn.
Musco	Barber		Grosvenor Park Homeowners Assn.
Lynn	Barclay		English Village Assn.
Bill	Barger		
Ginny	Barnes	President	West Montgomery County Citizens Assn.
George and Ginny	Barnes		Potomac Glen Assn.
John	Barpoulis	Treasurer	Eldwick Homes Assn.
Barbara	Barracato		Westchester Homeowners Assn. c/o Bethesda Management Company
Barbara	Barracato		Camelot Mews Homeowners Assn. c/o BMC Property Group
Christine	Beatty	President	Kenwood Forest I Condominium
Connie	Beck	President	Belvedere Neighbors Assn.
Phil	Becker	President	Kensington Crossing HOA
Al	Beer	President	South Bradley Hills Neighborhood
Walter	Behr		Town of Somerset
Traci	Bennett		Manchester Gardens Condo. Assn.
David	Berg	President	Saddlebrook Association
Ira	Berger	President	Fallsbend Homeowners Assn.
Robert	Berger		
Steven	Berkowitz		
Louis	Berlin	President	Grosvenor Square Homeowners Assn.
Richard	Berney		Kenwood Park Citizens Assn.
Rodella	Berry	Vice President	Glenfield North Association

First Name	Last Name	Title	Organization
Renate	Bever		
Peter	Beveridge	President	Byeforde-Rock Creek Highlands
Brenda	Bickel		
Geoffrey	Biddle	Town Manager	Chevy Chase Village
Paula	Bienenfeld	Planning and Development Chair	Luxmanor Citizens Assn.
Michele	Blanchi		
Dorothy	Bloomfield		Maplewood Park Place Community Assn.
Bruce	Blumberg	Property Manager	Quince Orchard Homeowners Assn. c/o Abaris Realty, Inc.
Bruce	Blumberg	Site Manager	College Square Condos
Bruce	Blumberg		Blunt Commons Townhouse HOA c/o Abaris Realty, Inc.
Bruce	Blumberg		Hadley Farms Community Assn. Inc. c/o Abaris Realty, Inc.
Bruce	Blumberg		Heritage Green Condo., Inc. c/o Abaris Realty, Inc.
Bruce	Blumberg		Middlebrook Commons Condominium c/o Abaris Realty, Inc.
Bruce	Blumberg		Monterey Condominium c/o Abaris Realty, Inc.
Bruce	Blumberg		Shady Grove Village III Condo. c/o Abaris Realty, Inc.
Bruce	Blumberg		Potomac Meadows Homeowners Assn. c/o Abaris Realty, Inc.
Bruce	Blumberg		Westchester West Condo Assn.
Pam	Blumenthal	Vice President	Woodhaven Citizens Association
Robert	Blumenthal		
Richard	Blumstein	President	Regency Estates Citizens Assn.

First Name	Last Name	Title	Organization
Pauline	Boston		
Nancy	Bowen	President	Bells Mill Civic Assn.
Marina	Bowsher	President	Brookdale Citizens Assn., Inc.
Joam	Brammer	President	Potomac Crest Condominium
John	Breckenridge	President	Kenwood House Inc.
Fernando	Bren	Facilitator	Greater Potomac Council of Presidents
John	Brennan		
Liz	Brennan		Coalition of Kensington Communities
William	Breslyn	President	Montgomery Century Condo
Brenda	Brewer	President	Lakeshore Townhomes Condominium
Jeffrey	Bridges		Grosvenor Park II Condominium c/o Polinger Shannon & Luchs
Bernie	Brill		Fallsreach Homeowners Assn.
Sara	Brodie	Property Manager	Bethesda Place Community Council, Inc. c/o Allied Realty
Sara	Brodie	Property Manager	Strathmore Place Homeowners Assn. c/o Allied Realty Corp.
Sara	Brodie		City Commons of Bethesda c/o Allied Realty
Sara	Brodie		Pooks Hill Condominium Inc. c/o Allied Realty
Sara	Brodie		Sumner Square Condo. Assn. c/o Allied Realty Corp.
Sara	Brodie		City Homes of Edgemoor HOA
Fern	Brodney	President	Treasure Oak Community Association
Lyn	Brown	Co-President	Marwood Homeowners Assn.
Stuart	Brown		Bannockburn Citizens Assn.
Alexander	Brown		

First Name	Last Name	Title	Organization
Lyn	Brown		Marwood Homeowners Assn.
Linda	Burgin	Community Liasion	Fox Hills West Citizens Assn.
Stephen	Burks		Greenwich Forest Citizens Assn.
Alfred	Burnickas		
Cynthia	Burns	President	Copenhaver Homes Corporation
Marvin	Burt	President	Avenel Community Assn.
Michael	Cabrales		
Susan	Cameron	President	Turning Creek Homeowners Assn.
Philip	Cantor	President	Fox Hills Civic Association
Albert	Capon		
Barbara	Carey		
Victoria	Cargill		Olde Coach Square Homeowners Assn.
Thomas	Carlson	President	Bristol Square Condominium
Wendy	Carrion	Manager	Chevy Chase Lake Apts.
Maxwell	Carroll		
Ehud	Caspi		
Dennis	Cassidy	President	Wickford Community Assn.
Raul	Castro		
Guy	Chamberlin		Copenhaver Homes Corporation
Amy	Chang		
J. William	Charrier	President	Normandie Farm Estates
Bette	Cherrick		
Beatrice	Chester	Vice President	Old Georgetown Village Homeowners
Ursula	Chomon		
Judith	Christensen		
Michael	Cicero		Village of Drummond
Julius	Cinque		Northern Montgomery County Alliance
Jack	Cochrane	President	Wildwood Hills Citizens Assn.

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Peter	Cody	President	Somerset House, A Condominium
John	Coggins		Paint Branch Park Condominium c/o Palisades Association
John	Coggins		Palisades Assn., Inc.
Barry	Cohen	President	Palisades Citizens Assn.
Moritz	Cohen	President	Westlake Park Condo B
Barry	Cohen	President	Potomac Grant Homeowners Assn. Inc.
Bailey	Condrey, Jr.	President	Parkwood Residents Association
Sharon	Constantine		Maplewood Citizens Assn.
Bill	Conway, Jr.	President	Potomac Manor II Homeowners Assn.
Ella	Cook	President	Scotland Community Development Assn.
Marianne	Cordier	President	Falls Ridge Homeowners Assn.
Phil	Corn		Fallstone Homeowners Assn.
Suez Kehl	Corrado	President	Potomac Pond Homeowners Assn. Inc.
Tara	Corvo	President	Country Place Citizens Assn.
John	Costello		
Robert	Crowley		
Fernando	Cruz		Hispanic Alliance of Montgomery County
Carla	Cullati		
Rick	Cummings		Waterford Condominium
Brenda	Curtis-Heiken	President	Grosvenor Park Townhouse Condo.
Elizabeth	Dane		Grosvenor Park Townhouse Condominiu
Eddie	Daniel		
Herb	Davidow	President	West Spring Condominium
Hirsch	Davis	President	Bethesda Park A Condo.
Sarah	Davis	President	Carmelita Homeowners Assn.

First Name	Last Name	Title	Organization
Ann	Davis		Hamlet Citizens Assn. of Chevy Chase
Steven	Delaney		
John	DePalma		Old Georgetown Village Homeowners
Louis	DePalma		
Paula	Deschamp		
Robin	DeSilva		Bradley House Condo. Assn.
Melvin	Dickover		Strathmore Place Homeowners Assn.
Michael	Diehl	President	Fleming Park Community Assn
Alan	Dieringer		Battery Park Citizens Assn.
Gary	Digges		Forum Council of Co-Owners
Andrew	Dimond	Management Agent	Preston Place Townhouses c/o Chevy Chase Land Co.
Michael	Dittman		
Evan	Donovan		Tildenwood Homeowners Assn., Inc. c/o Abaris Realty, Inc.
Evan	Donovan		Wetherstone Homeowners Assn. c/o Abaris Realty, Inc.
Charles	Doran	President	Birckyard Road Citizens Assn.
Joyce	Doria	President	Potomac Citizens Assn.
Ann	Dorough	Board of Directors	Huntington Terrace Citizens Assn.
Cyril	Draffin	President	Deerfield-Weathered Oak Citizens
Marie	Dray		Sacks Neighborhood Council
Lynn	Dubin	President	South Tuckerman-Inverness Citizens
Thomas	Durek		Riverhill Homeowners Assn.
Seth	Edlavitch	President	Palisades Association
George	Edler	President	Rock Creek Hills HOA
Jerry	Effer		Turning Creek HOA
Alan	Ehrlich		Westlake Park Condo Assn.
Ofer	Eidelman		

First Name	Last Name	Title	Organization
Ann	Elliott		Kenwood Forest Condo.   c/o Abaris Realty, Inc.
Donna	Ely	President	Winterset Civic Assn.
Patricia	Engel	President	Devonshire East Homeowners Assn.
Marietta	Ethier		Parc Somerset Condo
Jay	Etris		Wildwood Manor Citizens Assn.
Jeffery	Evans		
Dianne	Faup		
Olivia	Fechter		Potomac Glen South HOA
Craig	Fedchock		
Alan	Feld		Willowbrook Citizens Assn.
Mark	Fernandez	Vice of Development	Chevy Chase West Neighborhood Assn.
Jose	Fernandez		
Barbara	Fichman		Sonoma Citizens Assn.
Anne	Fink		Forty Seven Twenty CC Drive Condo c/o Paul Associates Mgmt. Co.
Ann	Fink		Woodfield at Manchester Farms c/o Paul Associates, Inc.
Louis	Fireison	President	Merry-Go-Round Farm HOA
William	Fisher		Strathmore Park Condo Assn.
Bernard	Fisken	President	Village of Bethesda HOA
Beatrice	Fitch	President	Pooks Hill Square Condo Assn.
David P.	Fitch	President	Rivers Edge Homeowners Assn.
Joseph	Fitzgerald		Forty Seventh Twenty CC Condo Assn.
Sarah	Fitzpatrick	President	Fallstone Condominium
Charlie	Fleischer	President	East Gate II Homeowners Assn.
Jim	Fleshman		
James	Flood		Senecabrook Homeowners Assn.

First Name	Last Name	Title	Organization
Robert	Fogel		Broadmore Hills Community Svcs. c/o Abaris Realty, Inc.
Robert	Fogel		Glen Knoll Condominium c/o Abaris Realty, Inc.
Robert	Fogel		Fallswick Homeowners Assn., Inc. c/o Abaris Realty, Inc.
Bob	Fogel		Heritage Walk Homes Corporation c/o Abaris Realty, Inc.
Robert	Fogel		Stonecrest of Potomac Homeowners Assn. c/o Abaris Realty, Inc.
Robert	Fogel		Village Gate Homeowners Assn. c/o Abaris Realty, Inc.
Robert	Fogel		Thayer Towers Condominium Assn. c/o Abaris Realty, Inc.
Marilyn	Forrest		Bellwood Community Council, Inc.
Jacki	Frank		Potomac Glen Homeowners Assn.
Larry	Freeman	President	Potomac Pond Homeowners Assn.
Louis	French		
Allan	Fried	President	Whitley Park Condominium Assn.
Larry	Friend		Hilltop Estates Civic Assn.
Lawrence	Funt	President	East Edgemoor Property Owners
Philip	Gallas		Birnam Wood Community Assn.
Gabriele	Gandal	President	Rollingwood Citizens Assn.
Jim	Garber	President	Miraont Villas
Frederico	Garcia-Lopez		
Lois	Gargano		
Theodore	Garrett	President	Bannockburn Citizens Assn.
Michael	Garson	President	North Farm Citizens Assn.
Jerrold	Garson	President	Seven Locks Civic Assn.

First Name	Last Name	Title	Organization
Jerry	Garson	Treasurer	Regency Estates Citizens Assn.
Michael	Garson		North Farm Citizens Assn.
Alvaro	Garzon		
Diego	Gaudenzi		
Marian	Gay		
Brenda	Gehan		Potomac Crest Homeowners Assn.
	General Manager	General Manager	Parc Somerset Condo
Seal	George		Chevy Chase Crest c/o Paul Associates, Inc.
Alvin	Geske		Rock Creek Palisades Citizens Assn.
Patricia	Geuting		
Fernando	Giacomini		
Sara	Gilverston		Battery Park Citizens Assn.
Monte	Gingery	President	Potomac Falls Homeowners Assn.
Sol	Gnatt	Chairman	Northern Chevy Chase Citizens Assn.
Sol	Gnatt		Northern Chevy Chase Citizens Assn.
Gloria	Goicochea		
Bernard	Gold		
Natalie	Goldberg	President	Garrett Park Estates - White Flint
Martha	Golden	President	Willoughby of Chevy Chase
Steve	Goldhill	President	Fox Den Homeowners Assn.
Steve	Goldstein	Legislative Committee	Montrose Woods Condo., Inc.
Wayne	Goldstein		Kensington Heights Citizens Assn.
Jordan	Goldstein		Sonoma Citizens Assn.
Steven	Goldstein		
James	Goldstein		
Al	Goltz		
Vicki	Gomez	Bldg. Manager	Grosvenor Park Condo I
Teresa	Gomez		
David	Gonzalles	President	Paloma Court Homeowners

First Name	Last Name	Title	Organization
Steve	Good	Vice President	Wildwood Manor Citizens Assn.
William	Granik		
James	Graves	President	Spruce Tree Village Homeowners Assn.
Jenna	Greenstein	President	Chevy Chase Hills Civic Assn.
Jill	Greenstein		
Stefan	Grewe	President	Bethesda Overlook Homeowners Assn.
Franklin	Groff	President	Fallswood Condominium Assn.
Robert	Gross	President	Montgomery Square Citizens Assn.
Linda	Guest	Treasurer	Riverhill Homeowners Assn.
Victor	Hall		
Chad	Hamilton		
Chris	Hamlin		
Shannon	Hamm	President	Rock Creek Hills Citizens Association
Edgar	Hanley	President	Inverness Association Inc.
Karen	Harris	Site Managers Office	Old Georgetown Village Condo. Assn.
Dennis	Harris		
Joe	Haurand		
Elizabeth	Haven		Elizabeth Condominium Assn., Inc.
Neil	Hazard	President	Lake Potomac Civic Assn.
John	Heliotis	President	Clagett Farm Homeowners Assn. Inc.
Mark	Heller	President	Fallsgate Homeowners Assn.
Bonnie	Henderson	Property Manager	Spring Lake Condominium Assn. c/o CMI Mgmt. Co.
Kristopher	Herrell		Kensington Woods HOA
Steven	Heyman		Brookside Citizens Assn., Inc.
Jose	Hidalgo		
Lesley	Hildebrand		Huntington Terrace Citizens Assn.
David	Hill	President	Hungerford Civic Assn.

First Name	Last Name	Title	Organization
Jane	Hochberg		
Kristen	Hohman	President	Locust Hill Citizens Assn
Brenda	Holt	President	Al Marah Neighborhood Assn.
Nancy	Hoos		Sonoma Citizens Assn.
Michael	Horan	Board of Directors	Elizabeth Condominium Assn., Inc.
Ben	Horenberg		Potomac Towne Homeowners Assn.
Arthur	Horwtz	President	Montrose Village
Jerry	Hua		
Eddy	Huang		
Suzanne	Hudson		Garrett Park Estates-White Flint
Jim	Humphrey	Land Use Chair	Montgomery County Civic Federation
Carl	Hunt		Carleton of Chevy Chase
John	Hunter		
Joan	Hurley	Vice President	Fleming Park Community Assn
Thomas	Hutchins		Kenwood Forest Condo. II
Wallace	Hutchins		4620 North Park Condo.
Marty	Hutt		Churchhill Community Foundation
Jonathan	Isaacs	President	Huntington Parkway Citizens Assn.
Benjamin	Israel	President	Potomac Springs Civic Assn.
Miriam	Israel		Sacks Neighborhood Assn.
Ginanne	Italiano	Executive Director	Bethesda-Chevy Chase CC
Bill	Jackson	President	Kensington Ridge HOA
Karen	Jackson-Knight	President	Ken-Gar Civic Association
Henry	Jacob		Fox Chapel North Homes Assn. Inc. c/o Allied Realty Corporation
Henry	Jacob		Falls Ridge Homeowners Assn. c/o Allied Realty Corp.
Hank	Jacob		Greenhills Condo I

First Name	Last Name	Title	Organization
Henry	Jacob		Montclair Manor Homeowners Assn. c/o Allied Realty Corp.
Hank	Jacob		Timberwood on the Park c/o Allied Realty Corp.
Henry	Jacob		Bethesda Place Community Council, Inc.
Hank	Jacob		City Homes of Edgemoor HOA
Hank	Jacob		Pooks Hill Condominium Inc.
Henry	Jacob		Pooks Hill Homeowners Assn.
Henry	Jacob		Strathmore Place Homeowners Assn.
Henry	Jacob		Trophy Court Homeowners Assn.
Henry	Jacobs		Waterford Place Homeowners Assn.
Connie	Jacobson	President	Old Farm Civic Association
Jesse	James		Trophy Court Homeowners Assn.
Steven	Janowitz	Dr.	Fallsbend Homeowners Assn.
Charlotte	Joseph	President	Montrose Civic Assn.
Surinder	Juneja	President	Timberlawn South/ Tuckerman Walk HOA
Celesta	Jurkovich	Secretary	Chevy Chase West Neighborhood Assn.
Bernadine	Kalberer	President	Tuckerman Station homeowners Assn.
Karen	Kamachaitis		Penbrooke Community Assn.
Muliadi	Kamaruzzaman		
David	Kasamatsu		
Gary	Kaufman		
Linda	Kauskey		Bradley Boulevard Citizens Association
Andrew	Kavounis	Vice President	Regency Estates Citizens Assn.

First Name	Last Name	Title	Organization
Kevin	Kelley		
Earl	Kendrick	President	Woodmont Spring Condos
David	Kerlina		Potomac Woods Citizens Association
Sofdar	Khan		
Vijaykumar	Khandge		
Anne	Kilcullen	President	Hamlet Place Owner's Inc.
Susan	Kim		Pooks Hill Square Condo Assn.
Seena	King	Landscape Chairperson	Drumaldry Homes Assn.
Peter	Kirchner	President	Westlake Terrace Civic Assn.
Claude	Klee		
Gordon	Klepper	Treasurer	Fox Hills Civic Association
Kevin	Kline	Executive Secretary	Randolph Civic Assn.
Sally	Klippel		Village of North Chevy Chase
Joshua	Klotz		
Ian	Knight	President	River Falls Community Center Assn.
Patricia	Knowles-Stogoski		West Kensington Civic Assn.
Dolores	Knutson		
Judith	Koenick	President	Rock Creek Forest Citizens Assn.
Ali	Koknar	President	Stoneybrook Homeowners Assn., Inc.
Fritz	Konigshofer	President	Congressional Forest Community Assn.
Carl	Kownig	Vice President	West Bradley Citizens Assn.
George	Kozar	President	Robert's Glen Homeowners Assn.
Eric	Kraus	President	Bradley House Condo. Assn.
James	Krzyminski	President	Normandy Falls Homeowners Assn.
Steve	Kudla	President	Ashleigh Community Assn.
Eugene	Lambert	President	Somerset House II Condominium
Steven	Landsman		Cloisters Homeowners Assn. c/o Abaris Realty, Inc.

First Name	Last Name	Title	Organization
Steven	Landsman		Tildenwood Homeowners Assn., Inc.
Steven	Lanksman		Cherington Condominium
Michael	Laplaca	President of the Board	Westlake Terrace Condo. Assn.
Doris	Lavine	President	Timberlawn Homeowners Association
Suk	Lee		
Laerte	Leiroz		
Darrell	Lemke		
Mark	Lerner		
Gerry	Levenberg	President	Potomac Crest Homeowners Assn.
Patience	Levine	President	Sussex House Condominium
Adam	Levine		
Louis	Levy	President	Fallsreach Homeowners Assn.
Bill	Lewis	Vice President	Chevy Chase West Neighborhood Assn.
David	L'Heureux	President	Fallswood Civic Assn.
Erqiu	Li		
Catherine	Libert		
Ella	Lichtenberg		
Charles	Lileikis		Fallswick Homeowners Assn., Inc.
Brenda	Lizzio	Vice Chair	Elm Street-Oakridge-Lynn Civic Assn.
Ray	Longerbeam	President	Bethesda Court Condo.
Glen	Loveland	Property Manager	Westlake Terrace Condominium Assn. c/o Abaris Realty, Inc.
Glen	Loveland		Cherington Condominium c/o Abaris Realty, Inc.
Glenn	Loveland		Maplewood Park Place Comm. Assn. c/o Abaris Realty, Inc.
Kira	Lueders		Parkwood Residents Assn.
Joan	Lunney		Sonoma Citizens Assn.
Laurie	Lyons	President	Tara Citizens Assn.
Peter	MacQueen		

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Herbert	Maisel		Tildenwood Homeowners Assn., Inc.
Barry	Malkin	President	Kensington Terrace Condominium
Mike	Maloney		Riviera of Chevy Chase Condo.
Quantum	Management		Luxberry Courts Condominium
Lynn	Mangione		Westlake Towers Condo. Assn.
Ms. Lucille	Mannelly	Manager	Preston Place T.H./C.C.L. Apt.
Julian	Mansfield	Village Manager	Friendship Heights Village Council
Lisa & Neal	Martin	Co-Presidents	Mazza Wood Homeowners Assn.
Hermanio	Martinez		
Jeffrey	May	President	West Bethesda Park Homeowners Assn.
Barbara	McCall		Forty Seven Twenty CC Drive Condo
Patrick	McDonough	President	Friendship Heights Village Civic Assn.
Ray	McKelvy		
Philip	McMann	Treasurer	Sonoma Citizens Assn.
Neil & Cynthia	McMullen		Kendale Neighborhood Coalition
Ronald	McNabb		Trail Riders of Today
Bob	McNeil	President	Kensington Terrace Citizens Group
James	Meister	President	Grosvenor Homeowners Association
Marc	Meltzer	President	Bentley Place Condo
Susan C.	Merryman		Chevy Chase Lake Apts.
Paul	Meyer	President	Wisconsin Condo Homeowners Assn.
Deborah	Michaels	President	Glenbrook Village Homeowners Assn.
Virginia	Miller	President	Wyngate Citizens Assn.

First Name	Last Name	Title	Organization
Andy	Miller		Vineyard Condo. Homeowners Assn.
Pam	Miller		Whittier Woods Civic Assn.
Dolores	Milmoe	President	For A Rural Montgomery (F.A.R.M)
Douglas	Milton		Promenade Towers Mutual Hsg Corp.
Steven	Mister	President	Ridgeleigh Homeowners Assn.
Roger	Mitchell		Elm Street-Oakridge-Lynn Civic Assn.
Lloyd	Mitchell		
Susanne	Mitchell		Hamlet House Condo.
Virginia	Mitz		Somerset Citizens Assn.
Michael	Modesitt		Whitehall Condominium Association
Sheila	Moldover	President	Fox Hills West Citizens Assn.
Maria	Morasso		
Judy	Morenoff		Luxmanor Citizens Assn.
Alavan	Morris	President	Carleton of Chevey Chase A Condo.
Dr. Andrew	Muchmore	President	Spring Ridge Road Citizens Assn.
Nancy	Mudd		Marymount Citizens Assn.
John	Mullen		Hadley Farms Community Assn. c/o Abaris Realty, Inc.
Dr. Alfred	Muller	President	Friendship Village Civic Assn.
John	Murgolo		Battery Lane Tenants
Faye	Nabavian	President	Rock Creek Palisades Citizens Association
Bertram	Nagarajah		
Afshan	Nagvi		
Henry	Nalven	Administrator	Normandy Falls Homeowners Assn.
Joanna	Neal		Bradley Park Homeowners Assn.
Ray	Nightingale	President	Maryknoll Citizens Assn.
Seth	Niman		
Amalina	Nisos		

First Name	Last Name	Title	Organization
J. Thomas	Nolan		Kensington Woods Homeowners Assn.
Bernard	Norwood		Somerset House II Condominium
George	Oberlander	Acting President	Huntington Parkway Citizens Assn.
David	O'Bryon	President	City Homes of Edgemoor HOA
Kathleen	O'Connell	President	Wellington Condominium Inc.
Betty	O'Connell		
Edward	Oh		Cherrington Condominium
Karen	Olson		
Richard	O'Rorke Jr.		
Robert	Oshinsky		Heritage Walk Homes Corporation
Louis	Ostrach		
Linda	Owen	President	Bellwood Community Council, Inc.
Jim	Owens	President	Hampden Square Condominium Assn.
Kit	Pardee		Carroll Knolls and McKenny Hills Civic
Christine	Parker	Co-President	Greenwich Forest Citizens Assn.
Jeffrey	Parmet		Potomac Manors HOA, Inc.
Ellen	Passman		Clagett Farm Homeowners Assn. Inc. c/o Abaris Realty, Inc.
Eric	Peek	President	Coquelin Run Citizens Assn.
Louis	Petty	President	Crestberry Homeowners Assn., Inc.
Jacob	Philip	President	Glen Park of Potomac
Barbara	Phillips	President	Newbridge Citizens Assn.
Marilyn	Plevin	President	Jefferson Square Homeowners Assn.
Garry	Plushnick	President	Willowbrook Cambridge Resident Assn.
David	Podolsky		Town of Chevy Chase

First Name	Last Name	Title	Organization
Ron	Polant	President	Crest of Wickford Condominium
Sue	Polis		Camelot Mews Homeowners Assn.
Brent	Polkes		Concerned Families of City Homes
Diana	Pomeranz		
Pedro	Porro	President	Spanish Speaking People of Montgomery
Benjamin	Porto	President	Kenwood Court Homes Assn., Inc.
	President/ Board of Directors		Riviera of Chevy Chase Condo.
Alan	Privot	President	East Gate III Homeowners Assn., Inc.
Margaret	Pully		Montgomery Century Condo
Elizabeth	Quinn	President	Kensington View Citizens Association
Mr. & Mrs.	Rabinovitz		
Ellen	Rader	Secretary	Sacks Neighborhood Assn.
Joy	Rafey		Sonoma Citizens Assn.
Richard	Ramsey	President	Bannockburn Civic Assn.
Thomas	Rand	President	Drumaldry Homes Association
Gerard	Raymond		
Megan	Raymond		Battery Park Citizens Assn.
Darani	Reddick		
Eric	Rees		
Edward	Reich		Georgetown Village Condominium
Alan	Remaley		
Ellen	Richomond		
Terry	Ricks	President	Birnam Wood Community Assn.
Vernon	Ricks	President	Teversall Homeowners Assn., Inc.
Sean	Ridge	President	Eldwick Homes Assn.
Alan	Ring		Palisades Assn., Inc.
Helen	Rivera		

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Malcolm	Rivkin		Battery Park Citizens Association
Roxana	Rizzone	Bld. Mgmt.	Grosvenor Park Homeowners Assn.
Thomas	Robertson	Vice President	Maplewood Park Place Community Assn.
Dan	Robinson		Grosvenor Park Condo. Citizens Assn.
John	Rogers	President	Grosvenor Woods Homeowners Assn.
Richard	Rose	Vice President	Grosvenor Homeowners Assn.
Esther	Rosen	President	Devonshire Homeowners Assn. Inc.
Nelson	Rosenbaum		Bradley Hills Civic Assn.
Harvey	Rubenstein	Dr.	Potomac Station Homeowners Assn.
Kenneth	Rubinson	President	Kenwood Park Citizens Assn.
Robert	Rudnick	President	East gate IV
Susan C.	Runner		
Martin	Rush	Chairman of Community Relations Com.	Tuckerman Station Homeowners Assn.
Sasha	Russo	General Manager	Westlake Towers Condo. Assn.
David	Sacks	President	Strathmore Park Condo Assn.
Ruwan	Salgado	President	Gables on Tuckerman Condo. Assn.
Eric	Sanne		Citz. Cord. Committee on Friendship Hgts
George	Sauer		Citizens for a Better Montgomery
Michael	Saunders	President	Randolph Civic Assn.
Donna	Savage		Kensington Heights Citizens Assn.
John	Saveland		Fallsmead Homes Corp.

First Name	Last Name	Title	Organization
Steve	Sawicki	President	Edgewood/Glenwood Citizens Assn.
Stanley	Schiff		
Joy	Schindler	President	Sonoma Citizens Assn.
Raymond	Schmidt	President	North Ashburton Citizens Assn.
Jeff	Schott		
Steven	Schram	President	Goldsboro Homeowners Assn.
Maxine	Schwartzman		Oldfield Homeowners Assn.
Cathy	Segor	General Manager	Waterford Condominium
Alan	Seldin		Potomac Towne Homeowners Assn.
Bernie	Sevilla		
Larry	Shade		
Susie	Shauger		
Barbara	Shea	Property Manager	Grand Bel Manor Condo Sec. III
Barbara	Shea		Townes of North Creek Condominium c/o Shea Property Mgmt. Inc.
Shepard	Sheinkman		Edgemoor Citizens Association
Neil	Sherman		Potomac Pond Homeowners Assn.
Russell	Shew		
Amy	Shiman	President	Huntington Terrace Citizens Assn.
Antoinette	Shupp		
Stanley	Sigel		Bannockburn Co-op, Inc.
David	Silver	President	Coldspring Civic Assn.
Carol	Simon	President	Hilltop Estates Civic Assn.
Len	Simon		Edgemoor Citizens Assn.
Len	Simon		President, Edgemoor Citizens Association
Rita	Singer	President	Cloisters Homeowners Assn.
Tamara	Skiscim		
Chris	Slingerman	Co-Chairman	Marymount Citizens Assn.

First Name	Last Name	Title	Organization
Claudia	Smith	Board Member	Grosvenor Mews Condominium Assn.
Robert	Smythe	President	Sacks Neighborhood Assn.
Michael	Spalletta	President	Fallsreach and Fallsberry Civic
Jean	Sperling	Village Manager	Village of Martin's Addition
Jeff	Spiegel		Civic Assn. of River Falls
Jim	Spinner		
George	Springston	President	Burning Tree Civic Assn.
Jean	Spurling		Village of Martin's Addition
Judy	Starr	President	Inverness North Homeowners Assn., Inc.
John	Steele		Chevy Chase Hills Civic Assn.
Raffael	Stein		
Robert	Steinwustzel		Glenmore Homeowners Assn.
Tim	Stelzig		
Alan	Sterling		Bannockburn Citizens Assn.
Richard	Sternberg	President	Potomac Green Civic Association
Jacquelyn	Stevens	Acting Chair	Rock Creek Hills Residents Association
Louise	Stewart		
Matthew	Streich		
Ken	Strickland	President	Chevy Chase Valley Citizens Assn
Wesley	Stubbs		Hamlet Place Owners, Inc.
Marcia	Sullivan	President	English Village Assn.
David	Sullivan	President	Limestone Court Homeowners Assn.
Alice	Tamzarian	President	MacArthur Park Condominium! Inc.
Barbara	Tauben	President	Friendship Heights Village Civic Assn.
Steven	Teitelbaum		Battery Park Citizens Assn.
Zorita	Thomas	President	Normandy Hills Homeowners Association
Maureen	Thomas	Vice President	Sonoma Citizens Assn.

First Name	Last Name	Title	Organization
Fred	Thomas, Jr.		Congressional Forest Community Assn.
Duane	Thomson		Citizens United to Save the Circle
Marvin	Thorpe, Jr.		
John	Tiernan	President	Riverhill Homeowners Assn.
Philip	Tierney	President	Madison Park Condominium
Marc	Toplin		South Tuckerman-Inverness Citizens
Maryellen	Trautman		
Ronald	Tripp	President	Citiz. Cord. Committee on Friendship Hgts.
Jonathan	Turak	Board Member	Westlake Terrace Condominium Assn.
Jason	Umans		Riverway Homeowner's Assn.
Molly	Vacca		
Sandor	Vargyai	President	Democracy Commons HOA
Frank	Veleo		Friendship Heights Village Council
Ronald	Venezia	President	The Mains Homeowners Assn.
Anne	Venzen		Riverhill Homeowners Assn.
Marta	Vogel	President	Tilden Woods Citizens Assn.
Sandy	Vogelgesang		West Bradley Citizens Assn.
Timothy	Vogt		
William	Wallace		Jones Mill Road Citizens Assn., Inc.
Alan	Ward		Hamlet Place Owners, Inc.
Claudette	Warner-Milne		Rolling Spring Homeowners Assn. c/o Abaris Realty, Inc.
Alicia	Wattenberg		Sacks Neighborhood Assn.
Robert	Weesner	Manager	Village of North Cheby Chase
Debbie	Weinman		Woodrock Homeowners Assn., Inc.
Harold	Weiss		Wisconsin Condo Homeowners Assn.
David	Welch		
Pierre	Welsh		Civic Assn. of River Falls

First Name	Last Name	Title	Organization
Cheryl	Wetter	Secretary/ Treasurer	East Gate III Homeowners Assn., Inc.
Philip	Wexler		
Melanie	White	President	Friendship Heights Village Council
Ben	White	President	Highlands Homeowners Assn.
Tom	Whiteman	President	Hillmead Citizens Assn.
Lucy	Wilson	General Manager	Avenel Community Assn.
Miriam	Wilson		Normandy Falls Homeowners Assn.
Craig	Windham	President	Tuckerman Station Condominium
Doreen	Winkler	Bdg. Manager	Chelsea Tower Condo. Assn.
Steven	Wishnow	President	Christopher Condominium
Bob	Wisman	Vice President	Huntington Terrace Citizens Assn.
Julie	Withers		Penbrook Community Assn.
John	Wolf,Jr.	President	Edson Lane Citizens Assn.
C.J.	Wong		
Cindy	Wong		
Dennis	Wood	President	Bethesda Coalition
Keith	Woodard	President	Carderock Springs South HOA
Shawn	Woodyard	President	Hamlet Citizens Assn. of Chevy Chase
Chris	Worch	President	Walnut Woods Citizens Assn.
Bernard	Wortman		Merrimack Park Citizens Assn. Sec 1
Fred	Wright	President	Kensington Heights HOA
Robert	Wuhrman		
Katie	Wyrsh	Property Manager	Eight One Zero One (8101)
Dawn	Yardeni		East Gate II Homeowners Assoc
Donald	Yeung		
Robert	Young		
Howard	Youth		

First Name	Last Name	Title	Organization
Niki	Zaldivar	Dr.	Park View Citizens Assn
Martin	Zamula	President	Riverhill Condominium Assn.
Tony	Zapata		Wetherstone Homeowners Assn.
Tony	Zapata		Surrey Walk Homeowners Assn. Inc. c/o Abaris Realty, Inc.
Ping	Zhou		
Richard	Zierdt	President	North Bethesda Congress of Citizens
Magda	Ziver		
		Chairman	Oakmont Citizens Committee
		City Manager	Chevy Chase Village, Section III
		Manager	Georgetown Village Condominium c/o Community Mgmt. Corp.
		President	Lakeside Terrace Condo
President		President	Spring Lake Condominium Assn.
President		President	Westlake Park Condo. Assn.
		President	Wexford Homeowners Assn. Inc.
		President/Board of Directors	Riviera of Chevy Chase Condo.
		Property Manager	Kenwood Forest Condo. II
c/o Abaris Realty		Property Manager	Greens of Warther
		Property Manager	Westlake Terrace Condo A c/o Abaris Realty, Inc.
			Chevy Chase Crest Homeowners Assn. c/o Paul Associates, Inc.
			Woodfield at Manchester Farms c/o Paul Associates, Inc.
General Manager			Westlake Park Condo. B Inc.

First Name	Last Name	Title	Organization
			Castle Gate Homeowners Assn. c/o Abaris Realty, Inc.
			Amberfield Homeowners Assn. c/o Abaris Realty, Inc.
			Old Georgetown Village Condo.
			Grand Bel Manor Condominium c/o Shea Property Mgmt. Inc.
			Montclair Manor Homeowners Assn.
			Timberwood on the Park, Inc. c/o Allied RealtyCorp.
			Amberfield Homeowners Assn.
Property Manager			City Commons of Bethesda
Contact			Drummond Citizens Assn.
Property Manager			Greens of Warther
Contact			Hadley Farms Community Assn. c/o Abaris Realty, Inc.
President			Parkside Condo. Assn.
President			Randolph Civic Assn.
Property Manager			Sumner Square Condo. Assn.
Property Manager			Three Oaks Homeowners Assn.
Property Manager			Westlake Terrace Park Condo A

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**List of Scoping Meeting Attendees Notified of the Public Hearings and Availability of the Draft EIS**

**7 SEPTEMBER 2011 Attendees**

	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
1	Jeanette	Musil	
2	Karen	Thom	Bethesda Urban District
3	Joan	Kleinman	Rep. Van Hollen
4	Rochelle	Follender	
5	Dawn	Chaikin	
6	Doris	Teplitz	Glenbrook Village
7	V.L	Teplitz	Glenbrook Village
8	Alex	Michaels	
9	Mary R.P.	Rainey	
10	Ana	Baide	Neighbor
11	Sara	Loantz	The Gazette
12	George	Nolfi	Resident
13	Robert B.	Smythe	Sack Neighborhood Assn.
14	Joe	Hogan	Clark Construction
15	Katie	Hughes	
16	Gwen	Kaye	Whitehall Condos
17	Allan	Kaye	
18		Harris	
19	Ed	Krauze	BRAC/ Parkview Citizens Association
20	Andres	Buonanno	
21	Ken	Richard	US Senator Cardin
22	Susan	Buffone	Montgomery Council member
23	Phil	Alperson	Montgomery County BRAC Coordinator

**List of Scoping Meeting Attendees Notified of the Public Hearings and Availability of the Draft EIS**

**12 SEPTEMBER 2011 Attendees**

	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
1		Deborah	Michaels	Glenbrook Village Hat
2	Col.	Dail	Doucette	
3		Ken	Reichard	US Senator Cardin
4		Susan	Petersen	NIH
5		Jim	Ashe	WMATA
6		Lee Ann	Weir	Lionsgate at Woodmont
7		Bhareti	Sanghvi	Whitley Park Condominium
8		Debra	Turkat	Hamlet Place Coop
9		Sarah	Leming	Senator Barbara Mikulski
10		Phil	Alperson	Montgomery County BRAC Coordinator
11		Joseph	Trella	Governor's BRAC Subcabinet
12		Sally W.	Kaplan	WMCCAB
13		Jenny	Lanning	Atkins
14		Jeanette	Musil	OEA
15		Susan	Buffone	Council Member Berliner
16		Kathy	Sessions	
17		Richard	Hoye	ACT
18	Mr. & Mrs.	Stanley D.	Schiff	

**List of Elected Officials that were sent the Draft EIS**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>
Senator	Barbara	Mikulski
Senator	Benjamin	Cardin
Congressman	Chris	Van Hollen
Governor	Martin	O'Malley
Senator	Richard S.	Madaleno, Jr.
Senator	Brian E.	Frosh
Delegate	Ariana B.	Kelly
Delegate	Susan C.	Lee
Delegate	William	Frick
Delegate	Jeffrey	Waldstreicher
Delegate	Ana Sol	Gutierrez
County Executive	Isaiah	Leggett
Councilmember	Phil	Andrews
Councilmember	Roger	Berliner
Councilmember	Nancy	Floreen
Councilmember	George	Leventhal
Councilmember	Valerie	Ervin
Councilmember	Nancy	Navarro
Councilmember	Marc	Elrich
Councilmember	Craig	Rice
Councilmember	Hans	Riemer
Town Manager	Todd	Hoffman
Mayor	David	Lublin
Village Manager	Geoffrey B.	Biddle
Board of Managers Chair	Patricia S.	Baptiste
Village Manager	Andy Leon	Harney
Village Council Chairman	Bill	Brownlee
Village Manager	Frances L.	Higgins
Council Chair	Andrew	Smith
Village Manager	Robert	Weesner
Council Chair	Adrian	Andreassi
Clerk-Treasurer	Tom	Carter
Mayor	Jeffrey Z.	Slavin

Title	First Name	Last Name
Town Administrator	Ted	Pratt
Mayor	Chris	Keller
Town Administrator	Jean	Sperling
Village Manager	Julian	Mansfield
Mayor	Melanie Rose	White
Council Chairman	Maurice	Trebach
Town Clerk	Nicole	Fraser
Mayor	Debbie	Beers
Mayor	Peter C.	Fosselman
	Jana S.	Coe

### Chambers of Commerce that were sent the Draft EIS

Title	First Name	Last Name	Hard Copy, Both Volumes
President	Kathleen	Guinan	Wheaton & Kensington Chamber of Commerce
Airport Manager	Keith	Miller	Montgomery County Airpark
President	Carol Ann	Barth	Montgomery County Civic Federation
Executive Director	Andrea	Jolly	Rockville Chamber of Commerce
Executive Director	W. Dave	Dabney	Bethesda Urban Partnership, Inc.
Chair	Leslie	Ford Weber	Greater Bethesda-Chevy Chase Chamber of Commerce
Ms.	Andrea	Jolly, Executive Director	Rockville Chamber of Commerce
Mr.	Jeff	Burton, Deputy Executive Director	Bethesda Urban Partnership, Inc.
Vice President	Carmen	Larsen	Hispanic Chamber of Commerce of MC

### Agencies and Libraries that were sent the Draft EIS

Title	First Name	Last Name	Organization
Director	Kenneth B. J.	Hartman	Bethesda-Chevy Chase Regional Services Center
Chair	Nancy	Sutley	Council on Environmental Quality
Field Supervisor, Chesapeake Bay Field Office	John	Wolflin	Fish and Wildlife Service, U.S. Department of the Interior
HCD Director	Sara Anne	Daines	Housing and Community Development Office, City of Takoma Park
Planner	Bob	Rosenbush	Maryland Office of Planning
Executive Director	David	Robertson	Metropolitan Washington Council of Governments
Director	Arthur	Holmes	Montgomery County Department of Public Works and Transportation
Director	Rollin	Stanley	Montgomery County Planning Department, M-NCPPC
Executive Director	Marcel C.	Acosta	National Capital Planning Commission
Director	Daniel	Wheeland	National Institutes of Health, Office of Research Facilities
Director	Willie R.	Taylor	Office of Environmental Policy and Compliance, U.S. Department of the Interior
NEPA Team Leader	William	Arguto	Office of Environmental Programs U.S. Environmental Protection Agency
		Director	Office of Planning and Program Development, Federal Highway Administration
Chair, Board of Trustees	Eileen C.	Mayer, Esq.	Stone Ridge School of the Sacred Heart
Head of School	Catherine	Ronan Karrels	Stone Ridge School of the Sacred Heart
Environmental Protection Specialist	Denise	King	Federal Highway Administration
			Bethesda Library
			Chevy Chase Library
			Davis Library
			Kensington Park Library
			Rockville Memorial Library
			Bethesda-Chevy Chase Regional Services Center

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**Attachment 7: List of Public Hearing Attendees**

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**ENVIRONMENTAL IMPACT STATEMENT PUBLIC HEARING ATTENDEES  
 MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
 NAVAL SUPPORT ACTIVITY BETHESDA  
 4 OCTOBER 2012**

	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
1		Uzair	Asadullah	MC DOT
2		Julie	Woepke	MD DBED / Office of Military Affairs
3		Tina	Schneider	MNCPPC
4	Commissioner	Edward	Reilly	Whitley Park & Maple Wood
5	Corporate Secretary	Helma	Goldmark	The Promenade
6		Marilyn	Lipowsky	Promenade Towers
7	BRAC Coordinator	Phil	Alperson	Montgomery County Executive Office
8	B Gen	Mike	Hayes	State of MD
9		Debbie	Michaels	Glenbrook Village HOA
10		Jeanette	Musil	DOD - OEA
11		Cherian	Eapen	M-NCPPC
12		Carmen	Qalsim	
13		Aaron	Kravt	BethesdaNow.com
14		Liz	Essley	Washington Examiner
15		Jessica	Alblamsky	The Gazette
16		David	Derenick	NIH/ORF/DFP
17		Andres	Buonanno	
18		Maria	Morasso	
19		Curtis	Barton	
20		Joan	Kleinman	Rep. Van Hollen
21	President			Locust Hill

**ENVIRONMENTAL IMPACT STATEMENT PUBLIC HEARING ATTENDEES  
 MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
 NAVAL SUPPORT ACTIVITY BETHESDA  
 11 OCTOBER 2012**

	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
1	Howard	Kaplan	North Chevy Chase Village
2	Condil	Eddy	
3	Nancy	Eddy	
4	Carl	Gentilcore	
5	Dan	Schebler	DOD - OEA
6	Aaron	Kraut	BethesdaNow.com
7	Katie	Hughes	Clark Construction
8	Phil	Alperson	Montgomery County, BRAC Coordinator, County Executive's Office
9	Ana	Aguirre-Deadreis	
10	Janet	Maalouf	Maplewood
11	Allen	Myers	Maplewood Citizens Assoc.
12	Joan	Kleinman	Van Hollen
13	Jeff	Hinkle	National Capital Planning Commission
14	Barbara P.	Ordway	
15	Winnie	Windaver	
16	Philip	Neuberg	NIH
17	Marilyn	Lipowsky	
18	Andres	Buonanno	
19	Fred	Ordway	
20	Robert	Young	

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**Attachment 8: Public Comments and Navy Responses on the  
Draft EIS**

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## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
1	1.1	General Public	<p>"...And as part of my comments, I want to say that I think it's incredible incredibly unfortunate that this is not a Q&amp;A. It is very difficult for citizens to feel empowered in any process where the process runs like this where statements are presented full of charts, citizens read the charts, read the data but can't have an actual conversation with those people in charge of making the final decision. That is not a process that feels transparent in my opinion to citizens in my neighborhood, because it doesn't allow us to understand your thinking as well as we could. And it really doesn't allow you to understand our thinking."</p>	<p>Thank you for your comment. The public involvement process is important to the Navy and we value your input. The public hearing was a forum to receive public comments on the Draft EIS. While the public hearing portion of the meeting was not a forum for a question/answer session, the meeting included an open-house session during which Navy representatives were available to answer questions from the public. Additionally, during the 46-day public review period for the Draft EIS, the public could provide comments by mail, on the project website, or by telephone, and the public also had an opportunity to give oral and/or written comments during the public hearing. The Navy considered all comments received during the public comment period in the development of the Final EIS. Additionally, the public will have an opportunity to comment after the Final EIS has been released, during a 30-day wait period, and before the Record of Decision is issued.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
2	1.2	General Public	<p>We live here and I'll speak for myself. I live here and myself and many of my neighbors and friends on both sides of Cedar Lane, so my neighborhood as well as the Parkview neighborhood, those numbers there are not our experience. I don't know if those numbers there that represent in particular what stood out to me, travel times between Grosvenor Lane and Woodmont Avenue being 11 minutes at the peak of rush hour is a complete impossibility. I don't honestly, I don't know if that is an average that was achieved including other hours or what AM means. If AM means 5:00 a.m. to 11:00 a.m. or what it means. But it is impossible to travel at peak of rush hour from my house which is close to Cedar and Rockville Pike to Woodmont in 11 minutes. Just today I was coming home in the middle of the day. I had an unusual day and I was at 2:00 p.m. at the intersection of Wisconsin and Cedar Lane and I'm sorry and the Metro -- Rockville Pike and the Metro traveling northbound and it took me, I don't know how long to go from there to Cedar Lane. And the reason for that was tons of traffic and the fact that the lights are completely discoordinated. So, when my light turns green, the next light turns red. And then when that light turns green, the next light turns red. So, it's just a progression of ant movement down the street.</p> <p>So, I think that if you live here and you travel here to work, from work, home, those numbers do not</p>	<p>Thank you for your comment. Existing travel time runs were conducted on December 13, 2011, between 7:45 AM - 8:45 AM in the southbound direction on Rockville Pike between Tuckerman Lane and Chelsea Lane and between 4:45 PM and 5:45 PM in the northbound direction between Chelsea Lane and Tuckerman Lane (See EIS Appendix D, Section 3.1.6). Two travel time runs were conducted in the southbound direction during the AM peak hour and the northbound direction during the PM peak hour to reflect the peak direction of travel. The runs consist of recording the time in seconds to travel by vehicle between major intersections (See EIS-Appendix D, Figure 17) along the route between Tuckerman Lane and Chelsea Lane on Rockville Pike. Upon completion of each travel run, all times were added to determine the total travel time through the corridor. Traffic conditions in December 2011 represent higher than average travel conditions, but actual commutes can be shorter or longer on any given day based on any number of factors (i.e., weather, special events, roadway construction, vehicle incidents, holiday season). The No Build alternative condition (future baseline) and all Build alternatives are not intended to represent the current conditions, because they include reasonably foreseeable future proposed development projects external to NSA Bethesda (provided by the Maryland National Capital Planning and Park Commission),</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
			<p>make sense. I don't know where you all live. I don't know, you know, what times you travel. I definitely don't know how that chart back there, how those numbers were made. And when you all measure, you know, the rate of traffic and the 17 seconds and, you know, how those numbers are obtained. I have some statistics in my professional background and I'd really like to know were the actual values that were either averaged, you know, or was this mean obtained because I have to tell you honestly. I am so grateful that we have a hospital like Navy Medical and I am grateful for everything it can provide for, you know, the men and women that go and serve, including all the health care that they need. I am not against, you know, providing health care or providing wonderful education at the University on that campus. I am completely in favor.</p>	<p>three NSA Bethesda internal development projects, the positive impact of a pedestrian improvement project (Rockville Pike at South Wood Road), and the positive impact of the proposed four intersection improvement projects not in place today (Old Georgetown Road at West Cedar Lane, Rockville Pike at Cedar Lane, Rockville Pike at Jones Bridge Road, and Connecticut Avenue at Jones Bridge Road) external to NSA Bethesda. The future condition travel times along Rockville Pike were determined based on conducting an arterial analysis using the Highway Capacity Manual process (See EIS Appendix D, Section 3.2.2.1) and are not based on the existing travel time data collected. The difference between the future No Build alternative condition (with positive roadway improvements in place) versus the future Build alternatives would result in a less than 25 second travel time difference. This comparison is not a comparison of the current conditions to the future conditions but a comparison of the future No Build condition to future Build conditions.</p> <p>To ensure that the analysis complies with all state and county requirements, the Navy coordinated closely with several agencies and organizations including the Montgomery County National Capital Planning and Park Commission (M-</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
				<p>NCPC, Maryland State Highway Administration (MSHA), and Montgomery County Department of Transportation (MCDOT) and agreement was obtained on the study area, analysis methods, and future external roadway distribution of new NSA Bethesda trips.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
1	1.3	General Public	<p>I'm a psychologist. I believe in providing all the trauma work that's being done there. So, I'm in favor of that, but I think that you need to understand and particularly in light of what happened to the Parkview residents already with a building that was erected in their backyards that was told was going to be three floors and is now five or six. They have lost -- they can't see a thing. That was never rectified for them and now there's this additional piece. So, all of this is coming on the heels of a very difficult previous experience to say the least. And those numbers they're not our experience. And in the future I would recommend that you do hold Q&amp;A's because it will help people feel like they're really a part of a process and not just that this is something that you have to do by law and who really cares.</p>	<p>Thank you for your comment. The public involvement process is important to the Navy and we value your input. The public hearing was a forum to receive public comments on the Draft EIS. While the public hearing portion of the meeting was not a forum for a question/answer session, the meeting included an open-house session during which Navy representatives were available to answer questions from the public. Additionally, during the 46-day public review period for the Draft EIS, the public could provide comments by mail, on the project website, or by telephone, and the public also had an opportunity to give oral and/or written comments during the public hearing. The Navy considered all comments received during the public comment period in the development of the Final EIS. Additionally, the public will have an opportunity to comment after the Final EIS has been released, during a 30-day wait period, and before the Record of Decision is issued.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
2	2.1	General Public	<p>I think that would be very helpful if you would be willing to explain to us and make available to use what the rates of traffic are during the peak hours of rush hour. And then ask the next question which is, if you use those rates in your models, what do they show, because one of the problems that you have is you have 100 cars that are traveling in 10 hours. That's basically 10 cars per hour. But the fact is that rate is never constant. Probably 80 of those cars are traveling in one hour and the other 20 are in the rest of the time. So, if you now derive a constant from that, it's pretty clear that your model will look quite different. And the reason I think that's pretty important to ask these questions is because by experience, we are experiencing that we're stuck in traffic and as was just voiced a minute ago, we're not sitting there for 11 minutes. We're sitting there for half an hour, for 45 minutes. So, clearly what's important about a model is that the model must reflect the reality. And when models don't reflect realities, it's a time to re-evaluate the model and this is what I would like to be, you know, be able to ask. And, again, if we would have been able to have a question and answer session this would have been something that could have been discussed openly. So, I</p>	<p>Thank you for your comment. Multiple processes were used to ensure that an accurate traffic analysis was conducted. To ensure that the traffic analysis complies with all state and county requirements, the Navy coordinated closely with several agencies and organizations including the M-NCPCC, MSHA, and MCDOT and agreement was obtained on the study area, analysis methods, and future external roadway distribution of new NSA Bethesda trips.</p> <p>The traffic data collection took place at 17 external study area intersections in October, 2011, on a Tuesday, Wednesday, and Thursday representing a typical traffic pattern, but traffic counts can vary on any given day based on any number of factors (i.e., weather, special events, vehicle incident, roadway construction, holiday season). Traffic collection included manual turning movement counts covering the entire AM and PM peak period (5:30 AM - 9:00 AM and 3:00 PM - 6:30 PM). It also included automated hourly vehicle counts over a three day period. All traffic analyses in the study were based on 15-minute traffic counts. Both counting methods were obtained for continuous periods, thus capturing</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
			think that's one important point.	<p>all of the traffic and the AM and PM peak hours (worst-case) were identified and used to analyze the traffic operations (See the EIS-Appendix D, Section 3.1.1.4) To complement the traffic data collection, general roadway travel conditions were observed at all 17 external intersections (See EIS-Appendix D, Section 3.1.1.6) and travel time runs were performed in December, 2011, along Rockville Pike and Jones Bridge Road during the AM and PM peak hour (See Response for Comment 1.2). Together these data collection methods provide a comprehensive snap shot of the traffic conditions during a typical weekday and the analysis methods used meet the local guidelines for conducting traffic impact studies. The traffic operations were analyzed and confirmed by observation.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
2	2.2	General Public	<p>The second point that I'd like to make is we know that we're failing. You're telling us that we're going to fail worse so it doesn't really help because if you're stuck in traffic, you're stuck in traffic. You can't do worse than be stuck in traffic. So, my question is, why make this move at this point? Why not wait a little bit longer? Let's find out. Let's fix these intersections. Let's take these next actions and then move the process forward later. Because I'd like to second the fact that I think we all support the Naval hospital and what the Naval hospital wants to achieve. It's just that what we are questioning is, you know, how are these decisions being made? What is the input of the community?</p> <p>We want to be able to work with you, but we also would like our feelings to be respected. And that's a very important part of the process and that's what I think you're hearing very often is that we feel that we really have not participated in this process and we would like you to really hear what we have to say. And also to take into consideration how these actions are affecting all of our lives. So, I think that's a second important point.</p>	<p>Thank you for your comment. The model results have changed based on feedback from key external stakeholders (the Maryland State Highway Administration and Maryland National Capital Planning and Park Commission) resulting in a passing level of service for all future analyzed intersections in both the No Build and Build conditions.</p> <p>As described in Chapter 1 of the EIS, the proposed actions are needed because current space at the Walter Reed National Military Medical Center at Bethesda is insufficient to meet world-class standards, and USU operations are currently dispersed between the main USU buildings and 19 other facilities. The public involvement process is important to the Navy and we welcome your input. All comments received during the EIS scoping period were considered in the preparation of the Draft EIS. All comments received during the public comment period were considered by the Navy in development of the Final EIS. Additionally, the public will have an opportunity to comment after the Final EIS has been released, during a 30-day wait period, and before the Record of Decision is issued.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
2	2.3	General Public	<p>And the third is, I still have not heard and in today's presentation I commend you. You really did try to address some of the problems that came out of the previous presentation, but there was still an issue that I brought up that I'm still wondering about. And that is I don't hear much talk about emergency measures or measures of, you know, when there is a natural situation where there's a snowstorm or even, you know, an emergency evacuation at Bethesda in this area. I haven't heard anything. I mean, so what do your models say if we have an emergency?</p> <p>If you take all these cars and you try to put them on Connecticut Avenue and Old Georgetown Road can you really evacuate Bethesda? Can you, you know, give us the security that this can be done? I'm not sure of that. I've been here during snowstorms. I've been here during, you know, just cases where a single car breaks down on Wisconsin Avenue and everything comes to a halt. So, I am concerned about that. And so I hope that you can try to address these issues because I think they are very important.</p>	<p>Thank you for your comment. NSA Bethesda actively participates with local and regional emergency services departments to ensure that the installation's emergency processes (for both patients and staff) in the event of weather or other regional emergencies are coordinated.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
2	3.1	General Public	<p>So I speak as a resident of Bethesda and a resident that has been affected very much by the initial decision to -- with the BRAC program, and I want to show you something important.</p> <p>Here's the huge building that, from this diagram, can't be appreciated. The size and the impact that it has in this entire community that's right here.</p> <p>So, I am concerned as a neighbor, and I've expressed this before, because one of the alternatives that's being considered for parking is to put additional parking in this area of the campus.</p> <p>So my first comment that I'd like to make for the record is I think that it is important that it be taken into consideration that this renovations are having impact in many of our communities and they have long-term impact in the sense that families cannot sell their homes, the values are going down.</p> <p>There's a young couple that lives down our street who had to sell their house and could not find a buyer. And the reason they can't find a buyer is</p>	<p>Thank you for your comment. The EIS and Master Plan limit the height of the proposed parking garage to 6 stories with some levels that would potentially be constructed underground. The documents also discuss provisions to limit lighting impacts to the surrounding community. The Navy has conducted an analysis of potential socioeconomic impacts from the proposed actions; see Section 4.10 and Appendix E of the EIS. NSA Bethesda is committed to working with its neighbors to minimize the impacts of its facilities and operations to the extent possible.</p>

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			because this structure is huge. It is much more -- it's much closer in real life to these homes. I invite anyone who's here to drive through these streets.	

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2	3.2	General Public	<p>Comment number two. I am a scientist and I believe in numbers, but I also believe in logic. To try to suggest to any of us that try to navigate Old Georgetown Road, Rockville Pike and any other -- other major roads, that we will have a 17-minute extra commute -- second. Sorry. Second. -- commute over something that's already terrible. It's a parking lot. It sounds like you are fooling around with the modeling, or your modeling does not face the reality of what we are facing as residents of this area. And I can tell you that I am concerned, as a scientist, when you take a model and you spread numbers through a large number of hours, because what that does, it has an averaging effect. What I suggest is that your model should show a 15-minute binding of data because I think what you'll see there is that there's particular hours where you can sit around in your car, not for 17 seconds more, but probably for 17 minutes in a 20-minute trip. And I think those of us that have been stuck in traffic know that that is a reality and not a theory. So I think that needs to be taken into account.</p>	<p>Thank you for your comment. See the response to comment 1.2 that discusses travel time analysis conducted in the EIS and see the response to comment 2.1 that discusses the transportation data collection process used as part of the EIS. Using the traffic count data, the intersection analysis was conducted based on using the hourly count from the peak hour and the peak hour factor (PHF) for each intersection approach. The PHF accounts for the highest 15-minute count during the peak hour (See EIS-Appendix D, Section 3.1.1.5). Each intersection approach PHF was calculated using the highest 15-minute traffic count during the peak hour obtained for all 16 signalized study intersections compared to the peak hour count. Intersection approaches with a constant flow of traffic during the peak hour would have a PHF closer to 1.0, while intersection approaches with changing flow during the course of an hour would have a lower PHF. Lower PHFs would impact the intersection's level of service. All PHF analyses were conducted using the Highway Capacity Manual analysis method, which was one of the methods used for all external intersections.</p>

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				<p>To ensure that the traffic analysis complies with all state and county requirements, the Navy coordinated closely with several agencies and organizations including the M-NCPPC, MSHA, and MCDOT and agreement was obtained on the study area, analysis methods, and future external roadway distribution of new NSA Bethesda trips.</p>
2	3.3	General Public	<p>So, the last comment I want to make -- and this will stay still under five minutes -- is if you lived in this area you also know the effects of storms, snow storms, even rainstorms, and what happens to these roads when only one single lane -- when you have an accident in a single lane how the traffic comes to a halt.</p> <p>Now, according to documents from the Government, the NIH is a "high-target value," quote, unquote. That's why we have a fence</p>	<p>Thank you for your comment. This study is focused on identifying the typical weekday AM and PM peak hour impact to Rockville Pike, Jones Bridge Road, and West Cedar Lane.</p> <p>NSA Bethesda actively participates with local and regional emergency services departments to ensure that the installation's emergency processes (for both patients and staff) in the event of weather or other regional emergencies</p>

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			<p>around it. And I would believe that the Navy is the same.</p> <p>I'm concerned as a resident of this county, that what happens if we have to evacuate the area. You're not going to tell me that we're going to be able to evacuate Bethesda. That's just logic.</p>	<p>are coordinated.</p>
2	3.4	General Public	<p>Okay. So I think that those are major things that we have to take into account, and what I don't understand is why you don't follow what at least the NIH is trying to do right now, which is to have area -- satellite areas for parking and to shuttle those extra people into Bethesda, instead of building more parking lots.</p> <p>So I'm just being told I actually did it in less than five minutes. I have 30 seconds to spare. Thank you.</p>	<p>Thank you for your comment. Since there is limited space in the USU, some staff park and work at a satellite building in Rockville, MD and must travel to NSA Bethesda frequently during the course of a week. The project to expand the USU would provide space to incorporate all USU staff at NSA Bethesda. As that staff already commutes to NSA Bethesda on a frequent basis, the trips would not be new but consolidated. Additionally, the proposed parking structure associated with Medical Facilities Development is for patient and visitor use and not the staff. Therefore, satellite parking instead of the proposed parking structures would not be expected to fulfill the need for the proposed parking. NSA Bethesda also has areas designated as satellite parking that are currently</p>

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				<p>underutilized due to lack of direct connections from the parking areas. NSA Bethesda will continue to evaluate options for the reduction of traffic including the feasibility of using additional satellite parking beyond the current spaces used today.</p>

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4	4	General Public	<p>I represent the Promenade, which is right up the hill, and I'm the corporate secretary. We have 1,071 apartments and approximately 1,800 residents. I would say about 3,000 cars. The major problem that we have that, according to a Bethesda -- Chevy Chase, Bethesda master plan, during the rush hours, namely from seven a.m. to nine a.m. and from four to six p.m. in the afternoon, we have restrictions and cannot make a right turn from or into Pooks Hill Road. That means that all ingress and egress is only from Pooks Hill Road. In the morning when people go to work it takes roughly 10 to 15, sometimes 20 minutes to get down from the top of the hill to our -- to 355. It is not in seconds. It's in minutes. Now, I don't see anything at all that a survey was made about this restriction. The restriction is from Monday through Friday. We can make a turn over the weekend. And it is a very, very difficult way in the morning for people, not only to go to work, but to take children to school. For instance, there is a day school on Old Georgetown Road and Beach. People that take their children cannot make a right-hand turn. They have to come down on Pooks Hill Road, go all the way around to Altavista in order to get into Old Georgetown Road.</p>	<p>Thank you for your comment. The Navy continues to consult and collaborate with local and state transportation agencies to address critical transportation issues to the surrounding communities and to coordinate the implementation of improvement measures; however, a decision regarding restrictions on local streets is under the purview of the Montgomery County Department of Transportation. As part of the EIS process, the M-NCPPC and MSHA were asked to provide the Navy with information about anticipated future intersection conditions for the EIS modeling. The EIS travel time runs were not performed for the exact trips mentioned, but did cover the main travel corridors serving NSA Bethesda as agreed upon by M-NCPPC and MSHA (See the response to comment 1.2 covering travel time runs). Based on the Montgomery County required critical lane volume measure, the level of service (LOS) for the future No Build condition for the Pooks Hill Road intersection with Rockville Pike would be LOS D (a passing value) and all 10 future Build alternatives would continue to be LOS D (a passing value), with an increase of 15 to 20 vehicles per hour to the critical lane volume. Using another analysis method (2000 Highway</p>

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			<p>One of our shareholders indicated it takes him a half-hour to do three blocks. That is a major, major problem. I don't know whether or not you are aware of that, but there is a restriction and we cannot make that turn. Now, in addition to the Promenade, we have Woodley Towers -- Terrace, which is on top of the hill. They have approximately 500 people living there, which get added to ours, and I think that should be investigated what to do in the morning. I have taken pictures. The cars are backed up all the way up to the hill. So this is the Promenade at 5225 Pooks Hill Road, which is adjacent to this location here. Thank you.</p>	<p>Capacity Manual) covered in the study, the difference between the No Build condition and all 10 Build alternatives in terms of the Pooks Hill eastbound approach would result in no increase in the average vehicle delay in seconds.</p>

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Committer Number	Comment Number	Organization	Comments	Navy Response
5	5.1	General Public	<p>Yes. My name is Maria Morasso, and I would like to start as just by giving a bigger scope to the problem. I understand that there is particular areas with particular problems, but I really don't understand how you could present to me a project that has an E and an F as an overall standing and you say, "Well, this is what we're trying to do now to maintain it, or get it -- continue to be an E and an F," instead of looking to solutions to make this better. It's like if a student is an F, giving him more classes or more anything, if you want him to get better, to get an A or a B, not to maintain him as an F and make that seem like it's a great thing. So, I think that, again, to recap what was said, having 17 seconds which, in reality, I -- I don't know where that number could have come from and how it was taken. All of us have already -- are already living, and projections from 2008 to 2011, to tell me, "Oh, it's not as bad as we thought it could be. It's 17 or X, there's two minuses, instead of being 20 minuses." That's not an option. I just don't see how anybody can say that failing is good. We are failing and instead of looking for approaches to make this better, we're just saying, let's do approaches that most probably are going to maintain it just as bad and in all logic, anybody</p>	<p>Thank you for your comment. Please see the response to comment 1.2 for a discussion of the travel times. The model results have changed based on feedback from key external stakeholders (the Maryland State Highway Administration and Maryland National Capital Planning and Park Commission) resulting in a passing level of service (LOS) for all future analyzed intersections in both the No Build condition and Build conditions. The Highway Capacity Manual (HCM) describes each LOS grade as a performance measure to compare intersections based on the travelers' perception of delay. The HCM further clarifies that the driver perception of intersection operations in urban areas can have lower acceptable LOS grades than a rural area. The purpose of the EIS is to determine the impact that the project would have on the future traffic with the proposed actions compared to without the proposed actions (No Build). The Navy is committed to a continued effort to encourage staff to use alternative transport modes through the strategies contained in the NSA Bethesda Transportation Management Program.</p>

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			<p>that lives here will know having an impact of a thousand more parking lots. 500 -- you said there's 7700 and 400 that are already in the works. That's 8100, and you are thinking about 500 plus 400. Another almost a thousand.</p> <p>There's no way that there's going to be going from an E and an F to a quality of life, A, B or C, if that's what you want. So, how do we make you convey our frustration so that you understand that what we want is to make an A, B or C, not maintain it at an F. And then the other thing that is correlated with this is, these meetings are set at a time that is very -- not conducive to having people being able to participate in them. And, second, they are very -- we are very -- we are here by luck.</p>	

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5	5.2	General Public	<p>Sometimes they are not publicized so that people can know about them. So that's why you probably have four people here that are participating in this. I will probably spread the word, but it's -- it's very difficult, and if you were a little bit more proactive yourselves, letting people know that this is what you are planning, and please let us know what you think, well, we cannot let you know what we think if we're not informed of when you are presenting this -- this data. Thank you.</p>	<p>Thank you for your comment. The public involvement process is important to the Navy and it values the public's input. The Navy has kept the public informed, as required by NEPA, by holding scoping meetings, public hearings, and requesting comments on the Draft EIS. For both the scoping and Draft EIS public meetings, the Navy published notices in the <i>Federal Register</i>, Washington Post, Washington Times, and Montgomery County Gazette and mailed notifications to over 700 homeowners associations and other individuals. Email notices were also distributed via the Montgomery County Base Realignment and Closure (BRAC) Coordinator. Additionally, for the Draft EIS public hearings, the Navy also emailed or mailed notification to the attendees of the scoping meetings. The Navy has also coordinated with local agencies and elected officials on the progress of the EIS. Additionally, the Draft EIS public comment period was informally extended an additional week to account for the impacts of Hurricane/Superstorm Sandy and that notification was provided via e-mail by the Montgomery County BRAC Coordinator.</p>

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6	6	General Public	<p>I can't agree with -- more with everything that has been said. But, aside from the fact that we can't make the turn onto Linden Lane at all, there are, adjacent to this property, there are going to be three 20-story buildings built. And I believe the number of residents will be 800 and some-odd -- 400 per building.</p> <p>So that's an additional. Now, this is adding on to Pooks Hill Road. I thought, number one, that nobody works at your facility should ever bring a car.</p> <p>You have the train right there, and the out -- the out-sourcing for parking, that's fine. But people have the train right there. They don't -- nurses, orderlies can take the train. They don't have to take a car.</p> <p>But, aside from being busy in the afternoon, I happen to be an outpatient at NIH, and I go and I -- sometimes I'm lucky and I get out at noon or 11:30. I could not get out of NIH onto 355 Monday afternoon. It was a parking lot.</p> <p>So, it's not just in the morning. It's anytime that you come down 355. As soon as you get near -- near the facility, it's bumper-to-bumper until after you pass Cedar Lane, and then it lets up.</p>	<p>Thank you for your comment. As part of the Master Plan Update, NSA Bethesda is updating its Transportation Management Program (TMP). The TMP's primary goal and objective is to help NSA Bethesda continue to successfully reduce traffic, conserve energy, and improve air quality by seeking to further reduce and/or shorten the number of employee single occupant vehicle trips in the weekday commute to and from the installation. The Maryland State Highway Administration has begun work to upgrade the Rockville Pike at Cedar Lane intersection. A second intersection improvement project is planned for Rockville Pike at Jones Bridge Road. Based on the EIS-Appendix D traffic operations analysis, these intersection improvement projects will improve the traffic operations along Rockville Pike. The Navy continues to coordinate with those projects to minimize incremental impacts from NSA Bethesda activities.</p>

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			<p>And that's during the day. Not at rush hour. But I -- I thought for sure that they were going to make the road wider or have roads that would access to the side streets so they could get into the property, instead of everything -- I -- I just thought there would be extra -- extra road when the buildings went up.</p>	

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7	7	General Public	<p>I would like to follow with the issue of the representation that we have here today. I think it's very telling of the fact that now we took a hand count. It would actually be good for the record to have a hand count. How many people here are representing or associated with the Naval Hospital versus how many people are here as private residents and citizens of the county? I would be interested to have a count on the number of the people that live here. One, two, three, four, five persons of the entire meeting. Now, first, I don't think it's because of lack of interest. I can tell you this, because I met with some neighbors yesterday at Starbucks who, when I mentioned this meeting, were completely unaware of it. As a matter of fact, I think it's almost impossible to find a person that is aware that this meeting is taking place today. And, even if they were aware of it, they have children. They have work. And if they don't have -- if they are not retired or they are not individually -- have a job, they can't come to this meeting. I'm aware you're having another meeting at a different time on another day, but that's not enough. I think you have to be proactive, as was said earlier. I think you know very well as much as we do that there is an office in Bethesda that can</p>	<p>Thank you for your comment. The public involvement process is important to the Navy and it values the public's input. The Navy has kept the public informed, as required by NEPA, including holding scoping meetings and public hearings, and requesting comments on the Draft EIS. For both the scoping and Draft EIS public hearings, the Navy published notices in the <i>Federal Register</i>, <i>Washington Post</i>, <i>Washington Times</i>, and <i>Montgomery County Gazette</i> and mailed notifications to over 700 homeowners associations and other individuals. The Navy held two public scoping meetings and two public hearings, scheduling one during the day and one at night to provide different time options for the public. Email notices were also distributed via the Montgomery County Base Realignment and Closure (BRAC) Coordinator. Additionally, for the Draft EIS public hearings, the Navy emailed or mailed notification to the attendees of the scoping meetings. The Navy has also coordinated with local agencies and elected officials on the progress of the EIS, and the Bethesda Chevy-Chase Regional Services Center sent out an email notification to its email list on the availability of the Draft EIS in its offices as well as the schedule for the public hearings and opportunities to</p>

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			<p>communicate to all the different neighborhoods in this area. Why didn't you send an email to everybody? Why didn't you take an ad in front of the Washington Post? Why didn't you take an ad in front of the Gazette? Why don't you really make this a public meeting? Because, if not, I think the danger that you have is that you lose credibility. And I have already gone through a round of this, and I do feel that you have a lack of credibility because I was present in the first meetings for the first phase of BRAC and this issue of further expansion of the Navy came up. And I was assured time-after-time that there would be no more requests for additional parking into this area. Guess what? What are we talking about today?</p>	<p>comment.</p>

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7	7	General Public	<p>So, this is the second meeting. Can you tell me you won't have a third meeting a couple years from now? So I'm concerned that this whole issue that you're bringing up with trying to give the impression of transparency would have a lot more credibility if you were more proactive in getting everybody in this area engaged, because I have not yet met one single person who has not complained about how the quality of life in our city -- and I will repeat that again.</p> <p>Our city. We live here. We are not theory. We live here. We are not the politicians and we are not those person that put a vote in to approve the BRAC. We are the consequence of the BRAC. And I think we deserve the respect to be told with higher transparency what the -- what these actions will -- and the impact they will have in our lives and I think that we deserve to be heard.</p> <p>The fact that there's not a public representative here, I think is a sign of how little they feel this will impact their constituents. Because why? Because none of us know about it. So, I want to leave you with that. I don't know how much it will help, how much it will change your mind, but I think many of us here are not happy about this.</p>	<p>Thank you for your comment. The public involvement process is important to the Navy and it values the public's input. The Navy has kept the public informed, as required by NEPA, including holding scoping meetings, public hearings, and allowing comments on the Draft EIS. For both the scoping and Draft EIS public hearings, the Navy published notices in the Washington Post, Washington Times, and Montgomery County Gazette and mailed notifications to over 700 homeowners associations and other individuals. Email notices were also distributed via the Montgomery County Base Realignment and Closure (BRAC) Coordinator. Additionally, for the Draft EIS Public Hearings, the Navy emailed or mailed notification to the attendees of the scoping meetings. The Navy has also coordinated with local agencies and elected officials on the progress of the EIS.</p>

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			<p>We're not happy about the way these meetings are being held, and we are not happy that you are again considering actions that are going to make our life even worse.</p> <p>And the arguments that are being presented, as I said earlier, the fact that we're failing and you try to comfort us by telling us about your models, we won't get any worse, is not comforting whatsoever. We have already been living a nightmare. So, a nightmare on top of a nightmare is not any different.</p>	
8	8.1	General Public	<p>Out of control congressional spending is bankrupting the citizens of America. They just print more money devalusing [sic] all American money. Or they Raise the federal deb until our</p>	<p>Thank you for your comment.</p>

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			kids will never be free from debt. Congress needs to be controlled. They are killing America.	
8	8.2	General Public	This facility needs to use vacant leased space. You can run a well-managed facility with using the space you have. Taxpayers need to be free from being Gouged for the Washington beltway. There should be no new building Conwtruction [sic] when America has thousands of vacant buildings just sitting there waitint [sic] to be used.	Thank you for your comment. Utilizing vacant, leased space off-site would not meet the mission of the medical facility or the USU and would not meet the purpose of and need for the proposed action, as described in Chapter 1 of the EIS. The existing core buildings cannot be successfully renovated to create facilities that can meet world-class military medicine healthcare standards and would not provide sufficient space to accommodate the medical mission dislocated by clinical decompression (i.e. converting double occupancy to single occupancy rooms).
8	8.3	General Public	Congress needs to stop excessive spending. Training can be provided in various locations. Congress has a law called the immigration law. Where is The spending for thqat [sic] to keep out of this country those illegal lawbreaking immigrants. Just take the money from this ludicrous overspending. This comment is for the pubilc [sic] record.	Thank you for your comment.

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9	9	General Public	I am deeply concerned about the environmental impact of this project on my family. SHA/PEPCO have destroyed the tree barrier between the Pike and our access road. The hillside looks like horrific and the trash is unbelievable. The dirt is flying and my house is being destroyed by the heavy duty machinery used for your project. I have new cracks in my house and the seals are being destroyed by the vibrations. This can't be healthy! and all to save a few seconds of commute time.	Thank you for your comment. The Navy will continue to coordinate with non-Navy actions in the area to minimize NSA Bethesda's impacts to the community. However, the ongoing State Highway Administration (SHA)/PEPCO actions are independent of the proposed actions analyzed in the EIS.
10	10	General Public	Who (eg National Cap. Park and Planning or EPA) has the final authority to accept to reject the NSA EIS?	Thank you for your comment. Both U.S. Environmental Protection Agency (USEPA) and the National Capital Planning Commission were provided the Draft EIS for review and comment. Comments received from the agencies were considered in the Final EIS. Under Section 309 of the Clean Air Act, USEPA is required to review and publicly comment on the environmental impacts of major federal actions, including actions which are the subject of EISs. If USEPA determines that the action is environmentally unsatisfactory, it is required by Section 309 to refer the matter to the Council on Environmental Quality for resolution. The Draft EIS received a rating of Lack of Objection, which indicates that

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				<p>the agency's review did not find any environmental impacts requiring any substantive changes to the preferred alternatives. The Navy will publish a Final EIS, which considers all comments received on the Draft EIS. The Final EIS is available for public review for 30 days. At the end of that period, Assistant Secretary of the Navy (Energy, Installations, and Environment) will ultimately sign the Record of Decision to either implement the preferred alternatives or select an alternative including the No Action Alternative.</p>
11	11	General Public	<p>Please consider adding bike lane, lighted sidewalk or path to Wisconsin Ave connecting WRNMMC and the Grosvenor community during your expansion program. This will not only ease the traffic congestion (by providing residents an option to bike or run to work), but it will also promote healthy living and reduced carbon footprint.</p>	<p>Thank you for your comment. While the 10 Build alternatives do not significantly impact the bicycle or pedestrian access to NSA Bethesda, the installation has recently upgraded all 5 gates. The upgrades included the design of pedestrian (all 5 gates) and bicycle accommodations (4 out of the 5 gates) to provide a safe and easy means to walk or use a bicycle to access the installation.</p>

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12	12.1	Office of County Executive Ike Leggett	<p>In my view, post-BRAC traffic counts do not reflect the true nature of current traffic around the Medical Center. Indeed, traffic in the area, especially along Rockville Pike, is so congested that the study could not derive accurate readings. In other words, traffic may not seem much different than before BRAC – clearly it is still very bad – but the fact is that traffic right now is dramatically worse than before.</p>	<p>Thank you for your comment. See the response to comment 2.1 regarding the EIS traffic data collection methods. Through the use of the Synchro Traffic Analysis Program, the intersection operation analysis includes the effect of queues building up and vehicle progression slowed based on the existing peak hour traffic volume (See EIS-Appendix D, Section 3.1.1.5). The critical lane volume-based analysis method (also discussed in Section 3.1.1.5) identifies the intersections with real problems (intersections with level of service F). The EIS used these analysis tools to identify problem locations and evaluate average vehicle delays and saturation, based on hourly volumes, calculated queues, lane geometry, signal timings, truck percentages, pedestrian conflicts, and the interaction of adjacent intersections (See EIS-Appendix D, Section 3.1.1.5). NSA Bethesda is committed to continue its effort to encourage staff to use alternative transport modes through the strategies contained in the NSA Bethesda Transportation Management Program.</p>

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12	12.2	Office of County Executive Ike Leggett	On the other hand, I support the longer-range projections of the Navy’s EIS to 2018 which indicate that traffic will show a slight improvement over pre-BRAC levels – even though personnel at the Medical Center will have increased by 33% and daily visits to the campus by 100% since the BRAC process was completed last fall. This projected improvement is largely attributable to the anticipated completion of the traffic mitigation projects that have been fully funded and have begun, or will soon begin, construction.	Thank you for your comment. The traffic data collection occurred in October 2011, following the completion of Base Realignment and Closure (BRAC) activities for NSA Bethesda. These counts provided the baseline volumes adjusted by the expected positive impacts of intersection improvement projects and additional trips generated by external and internal developments projected to be in place by 2018. The Navy will continue to coordinate with the County and State on those traffic mitigation projects.
12	12.3	Office of County Executive Ike Leggett	My dispute with the description of the current state of post-BRAC conditions is supported by the Traffic Study itself, which includes the following:  “While the three intersections listed above [Old Georgetown Road & Oakmont Avenue/Cedar Lane, Rockville Pike & Cedar Lane, and Connecticut Avenue & Jones Bridge Road & Kensington Parkway] operate at levels beyond the acceptable range, it is acknowledged that several of the intersections along Rockville Pike experience significant delay due to heavy congestion in the area and that as a result, traffic progression is compromised.” (Page D-3-15)	Thank you for your comment. Please see the responses to comment 2.1 regarding the traffic data collection process and comment 12.1 regarding the model calculation process. Based on the referenced responses, all traffic has been accounted for and analyzed appropriately according to Montgomery County requirements. In addition, the EIS used the 2000 Highway Capacity Manual to account for traffic queuing and delays.

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			<p>In other words, congestion along Rockville Pike is so bad that it is difficult to derive accurate calculations of traffic flow. Traffic frequently is stuck farther down the road. Because of this, traffic moving through a given intersection at a particular time doesn't reflect the trailing traffic that isn't moving.</p>	
12	12.4	Office of County Executive Ike Leggett	<p>It is also significant to note that personnel at NSAB increased from 8,000 prior to BRAC to approximately 11,600 today according to the Draft EIS, rather than the 10,500 initially expected.</p>	<p>Thank you for your comment. The staff increases identified in the 2008 Base Realignment and Closure (BRAC) EIS utilized the best available personnel estimates at the time the study was completed. Subsequent to that study, it was determined that additional support staff were needed in order to maximally sustain the clinical warrior support operations.</p>

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12	12.5	Office of County Executive Ike Leggett	<p>Transportation planners typically rate the performance of intersections – Level of Service, or LoS – on a scale of A through F, much like a school report card. LoS A means that traffic flows smoothly, while LoS F means the intersection is failing with gridlock-like conditions. However, this rating system does not truly represent the conditions near the Medical Center. Certain intersections were at LoS F prior to 2011 and continue to be rated at LoS F today. Does this mean the Level of Service at these intersections have not changed since the BRAC process was completed last fall? It absolutely has changed. While the Navy must be commended for encouraging its personnel to utilize transit and other commuting options, the simple fact is that more personnel and patients are coming to the area, many by car.</p>	<p>Thank you for your comment. The model results have changed based on feedback from key external stakeholders (the Maryland State Highway Administration and Maryland National Capital Planning and Park Commission) resulting in a passing level of service (LOS) for all future analyzed intersections in both the No Build condition and Build conditions. The intersection operation analysis was conducted using the Montgomery County-required critical lane volume method. While the LOS was LOS F at several intersections in 2008 and again in 2011, the critical lane volumes dropped by an average of 270 vehicles per hour, reducing the critical lane volume from several hundred above the threshold for LOS F to less than 30 vehicles above the threshold for LOS F.</p>

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12	12.6	Office of County Executive Ike Leggett	The Level of Service system should not stop at F – it should keep going to reflect the true state of affairs. What is the actual Level of Service today at the intersections along Rockville Pike? We don't know, because the rating system stops at F. It should keep going – to G, H, I, or whatever letter represents the actual Level of Service.	Thank you for your comment. The model results have changed based on feedback from key external stakeholders (the Maryland State Highway Administration and Maryland National Capital Planning and Park Commission) resulting in a passing level of service (LOS) for all future analyzed intersections in both the No Build condition and Build conditions. The intersection operation analysis was conducted using the Montgomery County-required critical lane volume method. While the LOS was LOS F at several intersections in 2008 and again in 2011, the critical lane volumes dropped by an average of 270 vehicles per hour, reducing the critical lane volume from several hundred above the threshold for LOS F to less than 30 vehicles above the threshold for LOS F. In addition, the Highway Capacity Manual process was conducted for all external intersections that provides a comparison of the average vehicle delays in addition to volume changes, enabling a comparison among alternatives even where LOS grades do not change.

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12	12.7	Office of County Executive Ike Leggett	<p>Increased traffic resulting from growth at Walter Reed-Bethesda represents the quandary in which we find ourselves. Walter Reed is empowered to provide world class care to our military family and we enthusiastically support this mission. But the result is more traffic coming to an already congested and developed area.</p> <p>Particularly in the afternoon, traffic routinely backs up well into downtown Bethesda and into Chevy Chase. If we consider the actual impacts of BRAC and further proposed expansion at both Walter Reed and NIH on the Level of Service in the area, then I am convinced that the projects designed by the Montgomery County Department of Transportation and the State Highway Administration to mitigate BRAC-related traffic are more justified than ever.</p> <p>These projects include the Multimodal Crossing Project at the Medical Center Metro Station and four major intersection improvement projects at Rockville Pike &amp; Cedar Lane, Connecticut Avenue &amp; Jones Bridge Road, Rockville Pike &amp; Jones Bridge Road, and Old Georgetown Road &amp; Cedar Lane. These are in addition to projects that are already complete: the County's enhancements to</p>	<p>Thank you for your comment. To ensure that the EIS properly analyzes the future conditions, the traffic analysis for all of the alternatives (including the No Build condition) included the completion of the reasonably foreseeable future proposed development projects external to NSA Bethesda (provided by the Maryland National Capital Planning and Park Commission), three NSA Bethesda internal development projects, the positive impact of the pedestrian improvement project (Rockville Pike at South Wood Road), and the positive impact of the proposed four intersection improvement projects (Old Georgetown Road at West Cedar Lane, Rockville Pike at Cedar Lane, Rockville Pike at Jones Bridge Road, and Connecticut Avenue at Jones Bridge Road) external to NSA Bethesda. NSA Bethesda is committed to a continued effort to encourage staff to use alternative transport modes through the strategies contained in the NSA Bethesda Transportation Management Program.</p>

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			<p>area bike paths and sidewalks and the Navy's improvements at its five gates on Rockville Pike and Jones Bridge Road.</p> <p>These projects can make traffic operate somewhat better, even though more people will be coming to the area. Our projects take a comprehensive, multi-modal approach that encourages alternative modes of transportation while offering short-term improvements that allow vehicles and pedestrians to move more efficiently and safely through the area.</p>	

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Committer Number	Comment Number	Organization	Comments	Navy Response
13	13.1	Maryland National Capital Parks and Planning Commission	Staff Comments and Recommendations on the Medical Facilities Expansion--Environmental Stewardship: Throughout the DEIS it is clear that good stewardship is a thoughtful consideration. Significant efforts are being considered for preserving the sites resources as well as providing a sense of community, a pedestrian friendly campus, and sustainable building and site initiatives.	Thank you for your comment. The Navy is committed to continuing with its Environmental Stewardship.
13	13.2	Maryland National Capital Parks and Planning Commission	(Regarding the Medical Facilities Expansion) Staff recommends the highest level of environmental stewardship by complying with the local Montgomery County regulatory requirements for: Forest Conservation; Noise Control for external and internal levels; stormwater management; erosion and sediment control.	Thank you for your comment. The Navy is committed to continuing with its Environmental Stewardship. Although the Forest Conservation Act does not apply to NSA Bethesda, the Installation's Master Plan identifies current forested areas and other natural resources and, in general, provides for the continued use of natural resources to enhance/augment the installation's mission. The Navy strives to minimize tree loss to the extent practicable during project development through either avoidance or re-vegetation. The Navy will comply with Stormwater Management and Sediment and Erosion Control requirements called for by the Maryland Department of the Environment. Although Montgomery County noise ordinances do not apply to federal property, NSA Bethesda

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				<p>seeks to comply with the county noise levels as a condition of its construction contracts. It is expected that construction would occur during daylight hours (7:00 AM - 3:30 PM); however, the contractor could request permission to work outside of that timeframe provided the work would occur during daylight hours and/or comply with the Montgomery County Noise Control Ordinance.</p>
13	13.3	Maryland National Capital Parks and Planning Commission	(Regarding the Medical Facilities Expansion) Staff does not favor using University Pond as a stormwater management facility and prefers other onsite Low Impact Development stormwater control techniques such as green roofs, porous surfaces, underground cisterns or catchment facilities, and bio infiltration systems which would reduce direct pollution discharge to the pond.	Thank you for your comment. A Stormwater Management Plan would be implemented by NSA Bethesda and approved by the Maryland Department of the Environment before any new construction that could increase impervious surface area by more than 5,000 square feet takes place. The Plan would detail the various best management practices and other stormwater controls, such as silt fencing, grass channels, and cisterns, among others. As stated

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				in Section 4.2.1 of the EIS, Low Impact Development (LID) would be among the measures that would be considered and implemented when practical.
13	13.4	Maryland National Capital Parks and Planning Commission	(Regarding the Medical Facilities Expansion) DEIS states that the spring feeding Lake Eleanor is “anticipated” to not be within the shallow aquifer. If impacts to the shallow aquifer are encountered during the construction of the underground parking facility, ensure maintaining a fresh water supply to feed Lake Eleanor.	Thank you for your comment. As stated in the EIS, NSA Bethesda would comply with all groundwater regulations to protect groundwater resources. The recharge area is upgradient from Lake Eleanor, and water removed by dewatering processes would be treated and redirected into the natural groundwater flow.
13	13.5	Maryland National Capital Parks and Planning Commission	(Regarding the Medical Facilities Expansion) Describe further how the permanent dewatering device needed for the construction of the underground parking lot will be channeled and pumped back into the shallow aquifer.	Thank you for your comment. This approach would be determined during the final design process, which will adhere to groundwater regulations.

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Committer Number	Comment Number	Organization	Comments	Navy Response
13	13.6	Maryland National Capital Parks and Planning Commission	<p>Parks (Regarding the Medical Facilities Expansion)</p> <p>The undeveloped area of NSA property adjacent to North Chevy Chase Local Park totaling approximately 37 acres that comprises several ball fields, forested area and stream valley associated with Stoney Creek run is of long term interest to the M-NCPPC. If this area or portions of this area are ever deemed appropriate for the Federal Government to surplus, the M-NCPPC would like to evaluate acquisition as an extension to North Chevy Chase Local Park. This 37 acre area currently provides vital recreational benefits to the NSA Campus and includes ball fields, a picnic pavilion, and a hard surface trail system through the woods. These natural resources and recreation amenities are directly adjacent to North Chevy Chase Local Park.</p> <p>NSA should consider discussions with M-NCPPC Department of Parks regarding the potential formalization of an improved access connection from NSA to North Chevy Chase Local Park to increase recreation amenities for the Navy and ease of access to the park from the NSA campus.</p> <p>The Stoney Creek trail system should be</p>	<p>Thank you for your comment. At this time, the Navy does not anticipate excessing the NSA Bethesda area adjacent to North Chevy Chase Local Park or providing access to the park from the installation. However, it will continue to collaborate and coordinate with the Maryland National Park and Planning Commission on future developments, as appropriate.</p>

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			<p>expanded to formalize a connection with forested area identified as Alternative 1 to provide and promote greater recreational use of the campus. There are no significant impacts from implementing any of the alternatives with regard to bicycle and pedestrian accessibility at NSA Bethesda.</p>	

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Committer Number	Comment Number	Organization	Comments	Navy Response
13	13.7	Maryland National Capital Parks and Planning Commission	<p>Parks (Regarding the Medical Facilities Expansion)</p> <p>As 103 acres of the existing 243 acre NSA campus is maintained as impervious area, the M-NCPPC supports future measures that reduce surface parking lots and measures that develop a greater open-space campus environment. Expansion should use previously developed sites for new construction.</p>	<p>The Navy would continue to comply with the Energy Policy Act of 2005, Energy Independence and Security Act of 2007, and Executive Orders 13514 and 13423, which require the installation to adhere to sustainable principles. The Medical Facilities Development Preferred Alternative is proposed for construction within an existing area that is developed and impervious (demolition of existing building and construction) and the parking garage is on an existing surface parking lot. Additionally, other components of the Medical Facilities Development, such as the utilities upgrades and accessibility/improvement projects are within existing impervious surfaces/developed areas. For the University Expansion, Alternative 2 (Preferred Alternative) would be located mostly on an existing surface parking lot.</p>
13	13.8	Maryland National Capital Parks and Planning Commission	<p>Parks (Regarding the Medical Facilities Expansion)</p> <p>The North Chevy Chase Recreation Center should be referred to as the North Chevy Chase Local Park.</p>	<p>Thank you for your comment. The name change is reflected in the Final EIS.</p>

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13	13.9	Maryland National Capital Parks and Planning Commission	Parks (Regarding the Medical Facilities Expansion)The M-NCPPC does not endorse the use of existing ball fields as a staging area for future construction, due to the temporary or long term loss of use of those fields.	Thank you for your comment. The Navy selected the three construction staging areas, including the ballfields, based on their accessibility to the proposed construction sites and their locations with respect to the Commercial Vehicle Inspection Facility at Gate 5, where the construction trucks would undergo inspection before entering the installation. Though potentially required for short-term, non-recreational use, the NSA Bethesda Master Plan identifies these areas as being maintained for long-term use as recreational fields.
13	13.10	Maryland National Capital Parks and Planning Commission	Parks (Regarding the Medical Facilities Expansion)  The Bethesda Chevy Chase Master Plan (M-NCPPC, 1990) states that landscaped buffer zones along NSA Bethesda's borders with neighborhood communities should be reconfirmed so as to preserve the open space character of the site as development in the CBD of Bethesda intensifies.	Thank you for your comment. To the extent possible the Navy intends to adhere to the landscape design guidelines in the 2010 NSA Bethesda Installation Appearance Plan (IAP). The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors. The goal of the 2013 NSAB Master Plan is to maintain the five categories of open space identified in the 2010 IAP.

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13	13.11	Maryland National Capital Parks and Planning Commission	(Regarding the University Expansion) Environmental Stewardship: Within the DEIS, two locations for the University Expansion are presented, Alternative 1 and Alternative 2. Mentioned within the DEIS is a preference for Alternative 2. The M-NCPPC agrees and strongly supports Alternative 2 over Alternative 1. Alternative 1 would be devastating to 4.2 acres of high quality forest with steep slopes . In addition to the ecological loss of this forest, future use of this outdoor woodland habitat for recreational and rehabilitation purposes would be permanently destroyed.	Thank you for your comment. Both Alternatives satisfy the selection criteria presented in Section 2.2.2 of the EIS; however, the Navy recognizes that Alternative 1 would result in greater environmental impacts, particularly to forested areas. Alternative 2 continues to be the Navy's preferred alternative.
13	13.12	Maryland National Capital Parks and Planning Commission	(Regarding the University Expansion) Environmental Stewardship: The construction of the Stony Creek Trail System may impact up to 0.11 acres of "potential" wetlands. Wetland mitigation should be onsite, if that is not feasible, off-site mitigation should be as close to the area of impact as possible or, at a minimum, within the existing impacted watershed.	Thank you for your comment. The Stoney Creek Trail System improvements are part of the Medical Facilities Development proposed action. If potential wetlands would be impacted, the Navy would delineate the area to confirm the presence of the wetland and mitigate the impacts if required.

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Committer Number	Comment Number	Organization	Comments	Navy Response
13	13.13	Maryland National Capital Parks and Planning Commission	The Planning Department concurs with the draft traffic study included with the DEIS and asks that NSAB continue to monitor traffic conditions at the 17 external intersections where manual turning movement count data was collected during the last two weeks in October 2011 (post – BRAC) on a periodic basis to ensure operation of these intersections within the Policy Area congestion standard.	Thank you for your comment. At this time, the Navy does not anticipate recurring traffic monitoring of the 17 external intersections evaluated in the EIS.
13	13.14	Maryland National Capital Parks and Planning Commission	The Environmental Impact Statement addresses impacts of the two projects from the two largest tenants on the site but does not cover the entire campus. For example, it does not evaluate the potential impacts on the stream valley and forest of the new stream crossings and ADA trail network recommended in the NSAB master plan. We suggest that a comprehensive, campus-wide EIS be prepared to address all the master plan’s recommendations.	Thank you for your comment. The ADA trail network is covered in the EIS as an accessibility and improvement project, specifically the Stoney Creek component. In addition, the Cumulative Impacts sections present the potential impacts analysis of the short-term planned projects identified in the Master Plan. The long-term future development projects, such as the new stream crossings, are recommended in the NSA Bethesda Master Plan as potential future development opportunities and the Navy would ensure that the appropriate National Environmental Policy Act review is completed when the projects are proposed for implementation.

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13	13.15	Maryland National Capital Parks and Planning Commission	Comply with the Montgomery County Noise Control Ordinance particularly during construction.	Thank you for your comment. Although Montgomery County noise ordinances do not apply to federal property, NSA Bethesda seeks to comply with the county noise levels as a condition of its construction contracts. It is expected that construction would occur during daylight hours (7:00 AM - 3:30 PM); however, the contractor could request permission to work outside of that timeframe provided the work would occur during daylight hours and/or comply with the Montgomery County Noise Control Ordinance.
14	14.1	Office of the Honorable Chris Van Hollen, U.S. Congress, 8th District Maryland	I strongly support NSA Bethesda's effort to provide world-class care to our wounded warriors and our veterans. However, I am concerned about the additional traffic that this project will bring to our already-congested roadways. In this regard, I urge you to do all that is possible to minimize the number of additional single-occupancy vehicles that will enter the facility.	Thank you for your comment. As part of the NSAB Bethesda Master Plan Update, NSA Bethesda is updating its Transportation Management Program (TMP). The TMP's primary goal and objective is to help NSA Bethesda continue to successfully reduce traffic, conserve energy, and improve air quality by seeking to further reduce and/or shorten the number of employee single occupant vehicle trips in the weekday commute to and from the installation. There will be minimal staff increases as a result of the Medical Facilities Development and the project does not accommodate a new mission, only augments

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				existing functions.
14	14.2	Office of the Honorable Chris Van Hollen, U.S. Congress, 8th District Maryland	Moreover, the impact of this project on the residents of the Parkview neighborhood is deeply concerning to me. This community has already borne the brunt of a number of mandated changes over the past decade - first, with the construction of a fence in their backyards (and having never received the landscape screening that had been promised), then with the challenge caused by a lengthy period of construction, followed by the construction of a very large building - Tranquility Hall -- that towers over their homes, and now faced with the possibility of a parking garage overlooking their property. I urge that, as the site for the parking garage be reviewed, that the interests of the Parkview community be considered and respected.	Thank you for your comment. The Draft EIS analyzed four alternative sites for a Medical Facilities Development parking garage. The alternative sites include three sites for an above-ground and an underground garage. The Navy will select one suitable site based on various factors including public comments.

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15	15.1	Glenbrook Village HOA	<p>While I think the University expansion is warranted with the preferred location being optimal, I question the validity of spending another Billion Dollars when the Country is Trillions of Dollars in debt. Another 6 years of construction, bringing the cost of the 345 hospital beds and in house support for the two projects to 5,797,101.45 for each bed. What is the cost differential between renovations of these buildings and a tear down and rebuild? Have other alternatives been looked at. Is there not the availability for joint ventures with other area hospitals? I fail to see the justification for the Medical Facility expansion. Everyone is still adjusting to the BRAC changes and it appears that it would be prudent to complete one project and assess its impact both positive and negative before jumping into something else.</p>	<p>Thank you for your comment. The Medical Facilities Development and University Expansion have a different purpose and need as described in the Draft EIS. As discussed in the EIS in Section 1.2.3, the National Capital Region (NCR) Base Realignment and Closure (BRAC) Health Systems Advisory Subcommittee (HSAS) of the Defense Health Board (DHB) was convened In May 2008 to advise the Department of Defense on the planned integration of military medical facilities in the NCR. In October 2008, National Defense Act Authorization (NDAA) 2009 required an independent review to determine whether plans for Walter Reed National Military Medical Center (WRNMMC) and Fort Belvoir Community Hospital (FBCH) would provide world-class medical facilities. This review was performed by the DHB HSAS, which subsequently published its report in May 2009 titled “Achieving World-Class, an Independent Review of the Design Plans for the Walter Reed National Military Medical Center and the Fort Belvoir Community Hospital.” In its report, the DHB developed an operational definition for a “world-class medical facility” and identified several areas where the plans for WRNMMC facilities did not meet this standard. The NDAA 2010 codified the DHB’s operational</p>

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				<p>definition for a “world-class medical facility” and required the Secretary of Defense to “develop and implement a comprehensive master plan (CMP) to provide sufficient world-class military medical facilities and an integrated system of healthcare delivery for the NCR.” As discussed in Sections 2.2.4, the proposed action for the Medical Facilities Development was a result of the comprehensive master plan, which analyzed different options including renovations and off-site facilities. The comprehensive planning process identified and recommended the demolition of existing buildings and construction of Building C as the preferred alternative that would meet the requirements for a world-class facility. The alternatives such as renovation and/or combination of renovation/use of off-site facilities were dismissed based on the evaluation results that identified operational and energy inefficiencies, anticipated future costs to replace renovated structures within the next 20 years, and potentially high relative lifecycle costs. Therefore, the proposed Medical Facilities Development as evaluated in the EIS is the preferred alternative recommended in the CMP.</p>

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Committer Number	Comment Number	Organization	Comments	Navy Response
15	15.2	Glenbrook Village HOA	While we are bringing our troops home from overseas, what are the statistics for the medical center patient load? Is the need increasing or decreasing? This should play an important role in how this moves forward. Are we adding onto a world class facility because of the need or is it a want? Why does it have to be new instead of a rebuild?	Thank you for your comment. As our nation's warriors return home from the current conflict, other warriors continue to operate in difficult and potentially dangerous global circumstances. The demand/need for their world-class medical care (both acute and long-term) will also be a continuing requirement beyond the end of current hostilities. The Medical Facilities development is needed to meet current and future needs of our nation's wounded, ill, and injured.

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15	15.3	Glenbrook Village HOA	<p>The DEIS state's that there will be little or no impact to the surrounding Communities. I do not think it is looking at the cumulative impact of all build outs on the campus. There was no EIS for the new Navy Exchange. No Community involvement on its impact or development plan. One day they just started ripping out large trees that lined the campus from the Community. When I enquired, I was informed there would be a roof garden and the view from our Community (4 story townhomes) would be lovely. We presently look at bright silver mechanical equipment on top of the roof – this has a huge impact on our Community. Why are all of these so called improvements not taken into account, nor Communities involved in the process? Our Community has worked closely with Navy on its BRAC and other endeavors and been nothing but supportive. We understand the need and serious injuries to those that are at war. We are asking for the same consideration of our Community – in a much smaller way of course, but it is about being a Community and respecting each other's needs. Ours were ripped out of the ground on this occasion.</p>	<p>Thank you for your comment. The Navy Exchange Environmental Assessment was made available for public review from July 21 to August 20, 2010 and the notice of availability was published in the Gazette on July 21, 28, and August 4, 2010.</p> <p>The Navy appreciates and values the community's support and is committed to continuing the collaboration and coordination with its neighbors to minimize the impacts of its activities.</p>

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Committer Number	Comment Number	Organization	Comments	Navy Response
15	15.4	Glenbrook Village HOA	<p>Why is the preferred parking structure an underground in front of the tower, when the cost of this is substantially higher than an above ground structure for both its build out and ongoing maintenance costs? They have identified 3 above ground alternatives. What is the cost differential between the 4 sites? Why would an underground parking facility be considered when there is a known dewatering process required for the site that will be an ongoing cost and maintenance issue? The underground garage will require a complex ventilation system with ongoing energy costs. What will be the ongoing cost for this? How will the vents for the ventilation system affect the view shed? What will the cost of the noise abatement from the ventilations system cost on an installation and ongoing basis? I also question the impact on the Historic view shed and the additional vehicles this will bring to Rockville Pike for ease of entering and exiting the underground facility. Building on one of the above ground sites will cost less initially, cost less for ongoing maintenance and encourage drivers to use gates on Jones Bridge Road that has a less congested route from the beltway, not bring more to 355. With all of these positive attributes how can the</p>	<p>Thank you for your comment. Although the underground parking garage is no longer the preferred alternative, only patients, visitors, and VIPs would be able to use the underground garage. According to a 2009 patient temporal chart in the EIS Appendix D, the patient trips per hour total 5 to 15 percent of the total patient trips per day resulting in patient trips spread during the course of the day. The impact to Rockville Pike and Jones Bridge Road for all 10 Build alternatives would be comparable given the intended users and distribution of arrival and departures throughout the day. The estimated construction costs of the various alternatives are identified in the EIS and as follows: Underground Garage - \$629,462,000; Warehouse Area Parking Garage - \$613,738,337; H-Lot Parking Garage - \$613,699,000 and Taylor Road Facilities Parking Garage - \$614,574,650. The EIS does not include operating costs for the parking garages; however, the facility would be designed to comply with energy efficiency requirements. The Navy is consulting with the Maryland Historic Trust (MHT) on National Historic Preservation Act Section 106 consultation in order to avoid, minimize, or mitigate any impacts to historic resources. Per MHT's advice that an adverse</p>

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			underground garage even be considered?	effect upon the Central Tower Block (Building 1) and the front lawn would occur if the underground garage were pursued, the underground parking garage is no longer the preferred alternative as the Navy has identified H-lot as the preferred alternative.
15	15.5	Glenbrook Village HOA	What will the increase acreage of impervious coverage be upon completion of the build out?	Thank you for your comment. The total number of impervious acres has been included, and is discussed in the analysis of soils and surface water impacts in Chapter 4, and is summarized in the Environmental Consequences tables found in Chapter 2 of the EIS.

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Committer Number	Comment Number	Organization	Comments	Navy Response
15	15.6	Glenbrook Village HOA	<p>It is quoted that the build out will bring an additional 270 staff to the NSA site. The BRAC ROD stated that the build out would bring an additional 2500 staff to the site when in fact when all was said and done the reality was around 3800 additional staff. How is it justified in the ROD to have a 52% increase in staff? What can we expect for the final number in this build out and how can one project impacts with such large percentage increases in numbers? What additional staff will other build outs not covered in the current DEIS bring to the campus?</p>	<p>Thank you for your comment. The staff increases identified in the 2008 Base Realignment and Closure (BRAC) EIS utilized the best available personnel estimates at the time the study was completed. Subsequent to that study, it was determined that additional support staff were needed in order to maximally sustain the clinical warrior support operations.</p> <p>The proposed Medical Facilities Development would increase 50 support staff and the University Expansion would bring 220 staff, most of which already commute to/from the leased facilities within and around NSAB (in Rockville area).</p> <p>The No Build Scenario under the Traffic Study accounts for the anticipated staff growth through 2018 as identified through the ongoing Master Planning process and includes other projects such as the Wounded Warrior Transition Lodge and Navy Lodge Expansion.</p>

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15	15.7	Glenbrook Village HOA	<p>The DEIS identifies back up water tanks to be installed in the south west corner of the campus. As with the build out of the Navy Exchange and the loss of many mature trees, that use to block the campus from our neighborhood, can the tanks be installed without further loss of trees in this area? It states that this will have no impact on the surrounding Community – if the trees are lost the impact will be even greater to our Community and to the emissions and noise on the adjoining streets.</p>	<p>Thank you for your comment. The proposed location for the back up water tanks is a landscaped area with few trees; the area would be revegetated once the construction is completed.</p>
15	15.8	Glenbrook Village HOA	<p>What will the parking ratio be at the University for Staff and students?</p>	<p>University staff/students are considered as part of the overall installation staff number and are part of the National Capital Planning Commission installation parking ratio goal of 1:3. The proposed parking garage for the University Expansion would not be limited to University users, but would serve to meet the overall staff parking deficit at NSA Bethesda.</p>

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Committer Number	Comment Number	Organization	Comments	Navy Response
15	15.8	Glenbrook Village HOA	<p>I feel the traffic study peak hours need to be expanded both at NSA and outside the fence to truly calculate the impact of all traffic in this area. Continuing to use the present standards is causing us to move forward without true numbers and impacts.</p>	<p>Thank you for your comment. The peak period intersection traffic data collection hours were selected to cover the entire morning and evening commuting period (See response to comment 2.1). Using these counts, obtained in 15-minute intervals, the AM and PM peak hours were determined by selecting the highest 4 sets of continuous 15-minute counts. Two analysis methods were performed for each external intersection, the Montgomery County required critical lane volumes and 2000 Highway Capacity Manual method, each evaluating the intersections using different processes. To ensure the EIS Traffic Study was in compliance with Montgomery County traffic impact regulations and that major study assumptions were approved by the state and county transportation agencies (including the dates and times for collecting traffic data), the Navy coordinated early in the process with the Maryland State Highway Administration, the Maryland National Capital Planning and Park Commission, and Montgomery County Department of Transportation.</p>

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15	15.9	Glenbrook Village HOA	What percentage of the predicted 500 new parking spaces will be for staff?	Thank you for your comment. There are 900 proposed new parking spaces: 500 parking spaces for the Medical Facilities Development would be for patient, visitor, and VIPs only. The 500 spaces would either be located in the proposed underground parking facility located in the front of Building 1 (Build Alternatives 1,2,6, or 7) or a combination of Buildings 54 and 55 located along R.B. Brown Drive (Build Alternatives 3,4,5,8,9 or 10) as 500 total staff spaces would be relocated from Buildings 54 and 55 to a new parking facility in one of the above-ground parking garage alternative sites: the Warehouse area, Taylor Road Facilities, or H-Lot. The 400-space garage associated with the University Expansion would be available to staff. It should be noted that the net gain in parking will depend on the final project locations, as several of the alternatives being evaluated would place new parking structures on existing parking lots; thereby, reducing the net gain in parking as the existing parking lots would be removed.
15	15.10	Glenbrook Village HOA	How many additional visitors and patients will this proposed build out bring to the campus?	Thank you for your comment. The number of patients, visitors, and students is not anticipated to change from existing levels because there would be no change in mission or function at

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Committer Number	Comment Number	Organization	Comments	Navy Response
				Walter Reed National Military Medical Center or USU.
15	15.11	Glenbrook Village HOA	Have the traffic studies taken into account construction on the roadways now and what is scheduled for several more years? I will be happy when it only takes me an additional 17 seconds to travel through the area than it did in 2008. It is not the case today, but this is not just due to NSA, but to the growth in the entire area. I encourage you to continue to weigh the impact of traffic from all sources, not just from NSA as this will not project an accurate account of the reality.	Thank you for your comment. Please see the response to comment 12.7 regarding the background growth and intersection improvements to develop the No Build and all Build alternative conditions. The difference between the No Build condition (2018 condition without the Medical Facilities Development and University Expansion) travel time along Rockville Pike between Grosvenor Lane and Woodmont Avenue and the worse-case Build alternative would be less than 25 seconds. This travel time difference does not represent a comparison between the existing conditions and 2018 future conditions. NSA Bethesda is committed to a continued effort to encourage staff to use alternative transport modes through the strategies contained in the NSA Bethesda Transportation Management Program.
16	16.1	US Department of Interior	The Department of the Interior (DOI) has reviewed the DEIS for Medical Facilities Development and University Expansion at the Naval Support Activity in Bethesda, MD. DOI Bureaus have provided no comments and I have	Thank you for your comment.

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Committer Number	Comment Number	Organization	Comments	Navy Response
			no further comment at this time.	
17	17.1	Law office of Lerch Early & Brewer on behalf of Stone Ridge School of the Sacred Heart	Stone Ridge supports NAS's current proposal to upgrade WRNMMC's existing facilities to ensure that our wounded warriors obtain world-class care at the nation's premier military hospital. We note that the net effects of the proposed facilities upgrade appear to be relatively modest in scope and impact.	Thank you for your comment.
17	17.2	Law office of Lerch Early & Brewer on behalf of Stone Ridge School of the Sacred Heart	However, we do not have sufficient information to reach the same conclusion for the interim conditions plan for the project. Stone Ridge seeks further impact analysis in the Final Environmental Impact Statement regarding the "construction of approximately 100,000 SF of temporary medical facilities" at G-Lot (see ES-13). We expect that this analysis would include more information about the location, footprint, height and operations of the temporary facilities. It should also provide some specificity about the anticipated timing for implementation of the facilities, as well as their expected duration. The land use and zoning consequences of this construction, among others, could have significant impacts on Stone Ridge and should be	Thank you for your comment. The temporary medical facilities would be located at the G-Lot, as shown in Figure 2-1 of the EIS. The temporary facilities, which would be modular, prefabricated structures, would house the tenants displaced by the proposed demolitions, until Building C is constructed. Once the facilities are no longer needed, the area would return to parking. The facilities would temporarily alter the visual character of the site but would be eliminated once they are removed. There would not be a significant change in land use patterns at the installation.

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Committer Number	Comment Number	Organization	Comments	Navy Response
			evaluated as part of the Final EIS.	
18	18.1	Montgomery County Planning Board to NCPC	The Planning Board concurs with the draft traffic study included with the DEIS and asks that NSAB continue to monitor traffic conditions at the 17 external intersections where manual turning movement count data was collected during the last two weeks in October 2011 (post-BRAC) on a periodic basis, to ensure operation of these intersections within the Policy Area congestion standard.	Thank you for your comment. Please see the response to comment 13.13.
18	18.2	Montgomery County Planning Board to NCPC	Achieve the highest level of environmental stewardship by complying with the local Montgomery County regulatory requirements for: a. Erosion and Sediment Control; b. Storm water Management; c. Forest Conservation.	Thank you for your comment. Please see the response to comment 13.2.

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Committer Number	Comment Number	Organization	Comments	Navy Response
18	18.3	Montgomery County Planning Board to NCPC	The Environmental Impact Statement addresses impacts of the two projects from the two largest tenants on the site but does not cover the entire campus. For example, it does not evaluate the potential impacts on the stream valley and forest of the new stream crossings and ADA trail network recommended in the NSAB master plan. We suggest that a comprehensive, campus-wide EIS be prepared to address all the master plan's recommendations.	Thank you for your comment. Please see the response to comment 13.14.
18	18.4	Montgomery County Planning Board to NCPC	Comply with the Montgomery County Noise Control Ordinance, particularly during construction.	Thank you for your comment. Please see the response to comment 13.2 and 13.15.
18	18.5	Montgomery County Planning Board to NCPC	Include the "M-NCPPC; Montgomery County Planning Department" as an official, designated "Cooperating Agency" per the NEPA process in order to ensure ongoing collaboration between NSAB and the Department for all present and future NEPA regulated projects on campus.	Thank you for your comment. The Navy does not agree to inclusion of M-NCPPC as a cooperating agency on all current and future NEPA documents as M-NCPPC does not have jurisdiction by law at NSA Bethesda (per 42 CFR 1508.6). The Navy will consider inviting M-NCPPC as a Cooperating Agency on those actions for which they provide special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative).

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
18	18.6	Montgomery County Planning Board to NCPC	The Planning Board concurs with the conclusions and recommendations as follows: Any proposal to demolish buildings adjacent to Building 1 and construct a new building must be done in a sensitive manner. The design of the new architecture must be undertaken with great care to avoid, reduce or mitigate adverse effects on Building 1, (noting that design will be reviewed by the State Historic Preservation Office and NCPC), and within the general design parameters outlined in the draft master plan on pages 4-129 and 4-130.	Thank you for your comment. Because of the historic resources at NSA Bethesda, including Building 1 (listed on the National Register of Historic Places) and others that are eligible for listing, most projects at the installation require consultation with the Maryland Historic Trust (MHT) under Section 106 of the National Historic Preservation Act. Therefore, the demolition and design/construction of the new building would be conducted in Section 106 consultation with MHT and would also be reviewed by the National Capital Planning Commission.
18	18.7	Montgomery County Planning Board to NCPC	Retain Alternative 2 as the preferred Alternative. Support the elimination of Alternative 1, which locates new structures on a steeply sloped site with intact, high quality mature forest near Jones Bridge Road and the surrounding community.	Thank you for your comment. Please see the response to comment 13.11.
18	18.8	Montgomery County Planning Board to NCPC	Emphasize onsite stormwater treatment including the use of low impact development techniques, and avoid the use of University Pond as a stormwater management facility.	Thank you for your comment. A Stormwater Management Plan would be implemented by NSA Bethesda and approved by the Maryland Department of the Environment before any new construction that could increase impervious surface area over 5,000 square feet takes place. The Plan would detail the various best management practices and other stormwater

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				controls, such as silt fencing, grass channels, cisterns, and pervious pavement, among others. As stated in Section 4.2.1 of the EIS, Low Impact Development (LID) would be among the measures that would be considered and implemented when practical.
18	18.9	Montgomery County Planning Board to NCPC	Exceed the LEED Silver standards and follow the Department of Energy's Guiding Principles for High Performance buildings.	Thank you for your comment. NSA Bethesda will comply with federal policies and requirements concerning environmental sustainability and meet Leadership in Energy and Environmental Design (LEED) silver in accordance with existing federal policy guidelines.
18	18.10	Montgomery County Planning Board to NCPC	Reduce net imperviousness on the campus, and ensure long term filtration capacity of the proposed pervious pavements through ongoing training of maintenance staff and development of maintenance programs.	Thank you for your comment. Prior to construction, the Navy would obtain all necessary permits for stormwater management from the Maryland Department of the Environment. A Stormwater Management Plan would be implemented by NSA Bethesda and approved by the Maryland Department of the Environment before any new construction that could increase impervious surface area takes place. The Plan would detail the various best management practices and other stormwater controls, such as silt fencing, grass channels, cisterns, and pervious pavement, among others. As stated in Section

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				<p>4.2.1 of the EIS, Low Impact Development (LID) would be among the measures that would be considered and implemented when practical. To the extent practicable, the preferred alternative proposes development on areas that are already developed or disturbed to limit the creation of new impervious surfaces.</p> <p>The Navy is committed to maintaining the quality and functionality of all facilities/structures, including stormwater management systems.</p>
18	18.11	Montgomery County Planning Board to NCPC	Provide mitigation of any unavoidable impacts associated with the Stoney Creek Trail System. Provide this as close to the site of the impact as possible or, at a minimum, within the existing impacted watershed.	Thank you for your comment. The final design layout and construction of the Stoney Creek Trail System would avoid wetland areas to the extent possible. If the areas cannot be avoided, a wetland investigation would need to be conducted to determine if the areas are wetlands. If impacts on wetland areas cannot be avoided, the construction would be conducted in compliance with the U.S. Army Corps of Engineers permit requirements, if appropriate. Additionally, the Navy would implement appropriate site-specific erosion and sediment controls, as required.

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Committer Number	Comment Number	Organization	Comments	Navy Response
18	18.12	Montgomery County Planning Board to NCP	Provide additional bike parking areas at destination points reached via the woodland bike paths; such as picnic grounds and ball fields.	Thank you for your comment. The Transportation Management Program provides for improving bicycle access at and within the installation. NSA Bethesda would continue to monitor the need for additional bicycle parking throughout the installation.
19	19.1	General Public	The NSA Plans should be rejected because they: <ol style="list-style-type: none"> <li>1. understate the detrimental impact of added parking garages,</li> <li>2. use a misleading traffic study that underestimates traffic, and</li> <li>3. propose parking and other NSA construction projects that may be unnecessary due to mitigating developments.</li> </ol>	Please see responses to comments 19.5, 19.6, and 19.7.
19	19.2	General Public	Overall, the NSA Plans (Naval Support Activity Bethesda) fail to support their claim that “no significant impacts on external traffic would occur as a result of the (Walter Reed) Medical Facilities Development...air quality impacts would not be significant.” Reducing traffic and pollution should be given a higher priority to avoid degradation of the environment. Building new parking garages at the NSA site, including WR and near the Medical School, is inconsistent with this priority.	Thank you for your comment. The No Build condition will occur regardless of whether the Medical Facilities Development or University Expansion is implemented or not. The difference between the No Build condition and all 10 Build alternatives results in a maximum additional vehicle increase of 1.8 percent added to the roadway network.  NSA Bethesda currently exceeds the National Capital Planning Commission prescribed 1:3 staff

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				<p>parking ratio (one parking space for every three employees - i.e., NSA Bethesda has more than 3 staff per parking space) and would continue to be above the ratio for all 10 of the proposed actions.</p> <p>According to the survey conducted as part of the NSA Bethesda Transportation Management Program update, 40 percent of employees arrive as single occupant vehicles and the remaining 60 percent use an alternative transportation mode to commute each day.</p>
19	19.3	General Public	<p>In addition, a non-congested Route 355 corridor leading to both the Beltway and Route 270 is critical for ambulance, fire and police vehicles (some to WR) and as an emergency evacuation route. Mitigating developments (below) may make construction of new parking garages and other NSA base facilities unnecessary.</p>	<p>Thank you for your comment. NSA Bethesda actively participates with local and regional emergency services departments to ensure that the installation's emergency processes (for both patients and staff) in the event of weather or other regional emergencies are coordinated.</p>

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19	19.4	General Public	<p>Understates the detrimental impact of added parking garages. The entries/exits to the proposed large parking garage between the WR hospital and the congested Route 355 is not specified. If it exits directly to Route 355, it would increase congestion on this the most congested nearby road. Alternatively, if the exit were through the WR Medical Center Gate or WR North Gate exits to Route 355, it would also add to a frequent ten-minute WR exit line during the afternoon rush hour. The close proximity of this proposed garage to the WR hospital will increase the Route 355 area pollution risk for the most vulnerable WR patients, NIH and the surrounding community. Building this plus proposed additional parking garages and other facilities would increase car usage, congestion and pollution.</p>	<p>Thank you for your comment. For the underground parking garage alternative, the entrance would be located along North Wood Road and exit to South Wood Road in Alternatives 1 and 6. In Alternatives 2 and 7, the underground parking garage would be accessed from G-Lot. Since the underground parking garage would be limited to patients, visitors, and VIPs only, travel patterns along Rockville Pike would experience little or no additional trips during the AM or PM peak hour than currently occur.</p> <p>Air quality analysis in the EIS shows that emissions associated with constructing and operating the Medical Facilities Development and the parking alternatives, including the underground parking, when compared to the de minimis values for an area that is in moderate nonattainment for ozone, nonattainment for PM2.5, and maintenance for CO established in 40 CFR 93.153 (b) fall below the de minimis values.</p>

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19	19.5	General Public	<p>Misleading traffic study. The NSA Plans rely on a traffic study that purports to show little impact on traffic of the merger of Bethesda Naval and WR Hospitals. This study fails to take into account reductions in WR staff and patient rush hour road use during the 2011 study period. During the study period many WR staff needed to come by car as early as 5:30 AM (before morning rush hour) to find a parking place. Some left as late as 7 PM to avoid afternoon rush hour traffic. Evidently, again due to traffic and parking problems, the number of patient visits to some WR clinics declined during this period. These rush hour traffic-reducing factors during the traffic study period give the erroneous impression that the traffic impact of the merger was minimal. Adding multiple garages and planned additions to staff will increase traffic and pollution levels. The NSA Plans' traffic analysis also does not take into account additional major increases in traffic by the end of NSA construction in 2018. These future increases arise from traffic growth from downtown Bethesda, NIH and from nearby Suburban Hospital (now affiliated with Johns Hopkins Medicine).</p>	<p>Thank you for your comment. Please see the response to comment 2.1 regarding the comprehensive traffic data collection process obtained in October 2011 and see the response to comment 12.7 regarding the process for developing the No Build and Build alternative conditions and taking into account proposed developments inside and external to NSA Bethesda including the developments along Wisconsin Avenue south of the installation near downtown Bethesda and Suburban Hospital. NSA Bethesda is committed to a continued effort to encourage staff to use alternative transport modes through the strategies contained in the NSA Bethesda Transportation Management Program.</p>

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19	19.6	General Public	<p>Some NSA construction projects will be unnecessary due to mitigating developments. The NSA Plans fail to take into account ongoing and potential developments that by 2018 can reduce WR staff counts, auto use and building utilization during current weekday service hours (now typically 7:30 or 8 AM until 4 PM). For example, if service hours were extended by over 25% to earlier mornings (e.g., 7 AM), later weekday evenings (e.g., 7 PM), and Saturdays (e.g., 8 AM to 3 PM) and the extended hours were effectively promoted, the need for more parking garage spaces and other facilities would be reduced for current service hours and overall. This change (see A below) plus B, C, D, and E will make the current staff: parking space ratio standard of 1:3 inapplicable. It needs to be changed to 1:4 or higher as parking garage use will be spread out over more hours and Saturdays. This would make the existing infrastructure more space efficient and saves construction resources.</p>	<p>Thank you for your comment. In an ever evolving/constrained fiscal climate, Walter Reed National Military Medical Center continues to explore hours of operations that are most beneficial to our patients. However, please note that as part of the Master Plan Update, NSA Bethesda is updating its Transportation Management Program (TMP). The TMP's primary goal and objective is to help NSA Bethesda continue to successfully reduce traffic, conserve energy, and improve air quality by seeking to further reduce and/or shorten the number of employee single occupant vehicle trips in the weekday commute to and from the installation. While the EIS evaluates the impact of adding 270 staff to NSA Bethesda, the installation would continue to encourage alternate transportation options and restrict access to the existing and future parking structures.</p>

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19	19.7	Public Citizen	<p>Mitigating developments that reduce both parking garage and other facilities construction needs for 2018 completion include:</p> <p>A. Less use of weekday service hours by providing and promoting Saturday hours and expanding (to before and after rush hours) weekday service and other hours at the NSA base. Staff and patients who are working single parents should be given special scheduling flexibility. WR scheduling changes are already being considered. Already some WR health services have expanded hours. The extensive use of military and contract personal facilitates scheduling changes.</p> <p>B. Some traffic problems and pollution result from readily addressed scheduling problems – also see A above. Staggered auto, delivery and contractor entry/exit times coordinated with both NIH and Suburban Hospital will reduce traffic congestion (especially at rush hours) and the resultant higher pollution levels.</p> <p>C. Development of WR satellite health care facilities (e.g., at Largo and Germantown, MD) can reduce WR hospital use. These would supplement the Fort Belvoir Community (Military) Hospital that serves Northern Virginia. Satellite facilities, as well as many of the topics in</p>	<p>Thank you for your comment. In an ever evolving/constrained fiscal climate, Walter Reed National Military Medical Center continues to explore hours of operations that are most beneficial to our patients. Please note that as part of the NSA Bethesda Master Plan Update, NSA Bethesda is updating its Transportation Management Program (TMP). The TMP's primary goal and objective is to help NSA Bethesda continue to successfully reduce traffic, conserve energy, and improve air quality by seeking to further reduce and/or shorten the number of employee single occupant vehicle trips in the weekday commute to and from the installation. Thank you for your comments regarding alternative transportation strategies. While the Navy is always seeking methods to improve its patient services, the Navy cannot commit to implementing these suggested improvements at this time.</p>

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			<p>this comment document, were discussed during the Walter Reed (WR) Bethesda Strategic Plan development. Construction of satellite facilities may be a better use of limited construction funds rather than adding to the congested NSA Route 355 Bethesda site.</p> <p>D. Expansion of telemedicine. The NSA Plans underestimate future WR telemedicine use. The U.S. Military and the VA employ telemedicine. Already, WR uses automated telephone appointment reminders, phone contact with physicians and other staff and e-mail dialog (Relay Health). Telemedicine-enabling hardware and software is rapidly improving and becoming more widespread. Telephones, smart phones and iPads as well as the Internet and home computers are increasingly useful telemedicine tools. Studies project an 18% annual global growth in telemedicine. Increased telemedicine use will decrease WR and some other NSA base facility use as more patients may not have to come to WR. This also can save limited funds.</p> <p>E. WR disease prevention efforts, that are improving, can reduce future illness visits to WR. These developments above add to other efforts to disincentivize automobile use and increase use of public transit and ride sharing that are noted in</p>	

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			the NSA Plans.	

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20	20.1	U.S. Environmental Protection Agency, Region III	<p>EPA has developed a set of criteria for rating Draft Environmental Impact Statements to provide a basis upon which EPA makes recommendations to the lead agency. Based on this rating system, EPA considers the Medical Facilities Development and University Expansion DEIS as a Lack of Objection (LO). A LO rating means the EPA review has not identified any environmental impacts requiring any substantive changes to the preferred alternative. A copy of our rating system is attached, and can also be found at:</p> <p><a href="http://www.epa.gov/Compliance/nepaicomments/ratings.html">http://www.epa.gov/Compliance/nepaicomments/ratings.html</a>.</p>	Thank you for your comment.

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20	20.2	U.S. Environmental Protection Agency, Region III	<p>While EPA has rated the project as a LO, it has the following recommendations:1. In order for Low Impact Development (LID) Storm water Management measures to be effective they need to be introduced into the project initial design.2. The overall project is in alignment with the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007, Executive Orders 13514 and 13423, and is adhering to the sustainable practices of the Leadership in Energy and Environmental Design (LEED) silver features. It is suggested that Green Roof designs be incorporated into the project.EPA appreciates the opportunity to comment on the proposed project. NSA Bethesda and the Navy should continue the effort to avoid and minimize the project impacts to the ecological community.</p>	<p>Thank you for your comment. NSA Bethesda will comply with Federal policies and requirements concerning environmental sustainability and the referenced acts and executive orders, and will continue its efforts to avoid and minimize impacts to the ecological community.</p>

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21	21.1	Member of Public/Nearby resident 9235 E. Parkhill Drive, Bethesda, MD 20814	<p>In response to an article published in the Gazette on 09/26/2012 and the presentation on the draft environmental impact of medical facilities development and university expansion stating that the overall effect would be only 17 sec, I ask: where do these people live? It cannot be anywhere close to Bethesda, Kensington or Rockville. If they do live in these communities they would know it is an impossibility that the effects are minor or none. The proposed walter reed expansion includes a new 400 space [sic] above ground parking lot, and a 500 space underground parking garage, new education and research buildings and a 5-story medical facility. This would involve increases in the number of commuters to an area where the commuting situation is presently chaotic. When is enough expansion, enough? I think we have reached enough. In addition, if there should be need for an emergency evacuation of this area that includes two of the larger governmental facilities (Walter Reed and NIH), there is no way that the gridlock generated could be resolved safely and expediently.</p>	<p>Thank you for your comment. The Medical Facilities Development and the University Expansion will enhance and support, but not add to missions of the installation, medical center or the USU. The proposed Medical Facilities Development would increase 50 support staff and the University Expansion would bring 220 staff, most of whom already commute to/from the leased facilities within and around NSA Bethesda (in Rockville area). The difference between the No Build condition (2018 condition without the Medical Facilities Development and University Expansion) travel time along Rockville Pike between Grosvenor Lane and Woodmont Avenue and the worse-case Build alternative would be less than 25 seconds. This travel time difference does not represent a comparison between the existing conditions and 2018 future conditions. Over 55 percent of the proposed new parking would be reserved for patient use and patient trips would be distributed throughout the day. In addition, the number of daily patient trips is not expected to change.</p> <p>NSA Bethesda actively participates with local and regional emergency services departments to ensure that the installation emergency processes</p>

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				(for both patients and staff) in the event of weather or other regional emergencies are coordinated.
22	22.2	Maryland State Highway Administration Project Management Division	On page 3-44 [of the DEIS], the description of the proposed SHA improvements along Rockville Pike should include the addition of a fourth southbound through lane between Cedar Lane and Wilson Drive, which will help morning peak period travel through the intersection.	Thank you for your comment. The EIS was modified to include the addition of a fourth travel lane along southbound Rockville Pike between Cedar Lane and Wilson Drive for the future condition. The language in the EIS future condition was updated to match this comment.

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22	22.3	Maryland State Highway Administration Project Management Division	On page 3-45 [of the DEIS], the description of the proposed SHA improvements at Jones Bridge Road and Rockville Pike indicate SHA's project "would widen each leg of the intersection in order to incorporate additional turning and through lanes at each approach." At Jones Bridge Road and Rockville Pike intersection, SHA is only widening on the west leg of the intersection along Center Drive, where we are separating shared thru/left-turn lane into an exclusive left and an exclusive through lane. SHA is also converting a shared thru/left-turn lane to an exclusive left-turn lane on the east leg of Jones Bridge Road. The statement: "would widen each leg of the intersection in order to incorporate additional turning and through lanes at each approach" would be more appropriately used at the SHA improvements at Rockville Pike and Cedar Lane.	Thank you for your comment. The EIS was modified to reflect that only the eastbound approach to the Rockville Pike at Jones Bridge Road intersection would be widened for the future condition. The Rockville Pike at Cedar Lane intersection description was modified in the EIS' future condition section to reflect the widening of each leg of the intersection.
22	22.4	Maryland State Highway Administration Project Management Division	On page 4-79 [of the DEIS], it is West Cedar "Lane" not Road.	Thank you for your comment. Instances where Cedar Lane is referred to as "Cedar Road" have been changed to "Cedar Lane" throughout the document.

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22	22.5	Maryland State Highway Administration Project Management Division	<p>On page 4-79 [of the DEIS], for Rockville Pike at West Cedar "Lane" / Cedar Lane, once all external roadway improvements are made:</p> <p>The Rockville Pike northbound approach would have "a shared through/right turn lane extending from North Wood Road (Gate #1) to Locust Hill Road." The Rockville Pike southbound approach would have a 300-foot "exclusive right turn lane converted into a shared right turn/through lane, with the new through lane" extended to the "Wilson Drive" intersection. The Cedar "Lane" westbound approach would include a 600-foot exclusive double left turn bay, a 150-foot extension to the existing single left turning lane, "a through lane and a shared through lane / right turn lane." The West Cedar "Lane" eastbound approach would have a 399-foot extension to the existing right turn lane, "two through lanes," and an exclusive double left turning bay, 50-feet longer than the existing single turning lane.</p>	<p>Thank you for your comment. The future condition section that describes Rockville Pike at Cedar Lane lane geometry was updated to include the changes identified in the quotations. The appropriate analysis tables and descriptions were updated in the EIS to reflect the revised intersection lane geometry.</p>

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22	22.6	Maryland State Highway Administration Project Management Division	<p>On page 4-79 [of the DEIS], for Rockville Pike at Jones Bridge Road: The Rockville Pike southbound approach would "convert one southbound through lane to a second left turn lane during the PM peak period" to provide two lanes for turning left onto Jones Bridge Road during peak travel times," plus the existing left turn lane would be extended approximately 50 feet. The Jones Bridge Road westbound approach would be reconfigured to change the existing "shared through / left turn lane" into "an exclusive left turn lane," extending back to the Gunnell Road intersection (Gate #3). The existing right turn lane would remain 225 feet in length) however, the channelized right turn bay would be removed to provide safer bicycle and pedestrian movements at the intersection. The Center Drive approach would have a separate left turn bay, matching the 50-foot existing right turn bay. The signal would be upgraded to include the latest vehicle detector system.</p>	<p>Thank you for your comment. The future condition section that describes Rockville Pike at Jones Bridge Road lane geometry was updated to include the changes identified in the quotations. The appropriate analysis tables and descriptions were updated in the EIS to reflect the revised intersection lane geometry.</p>

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23	23.1	Maryland State Highway Administration/Regional and Intermodal Planning Division	<p>Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D:</p> <p>On page 3-45, the description of the proposed SRA improvements at Jones Bridge Road and Rockville Pike indicate that fully actuated signals would be implemented; however, the state Highway Administration (SRA) already has fully actuated signals at this location. As a part of the Base Realignment and Closure (BRAC) improvements, SRA is also proposing dynamic lane controls at this location, which would convert one southbound through lane to a second left-turn lane during the PM peak period. This may be what the report intended to describe.</p>	Thank you for your comment. The future condition section that describes the Rockville Pike at Jones Bridge Road dynamic lane control was updated to describe the change in lane designation. The appropriate analysis tables and descriptions were updated in the EIS to reflect the revised intersection lane geometry.
23	23.2	Maryland State Highway Administration/Regional and Intermodal Planning	<p>Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: On page 3-45, the description of proposed SHA improvements at Rockville Pike and Cedar Lane indicates that the improvements will increase the saturation flow rate. SRA suggests changing the</p>	Thank you for your comment. The term saturation flow rate was changed to throughput.

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		Division	wording in the report from saturation flow rate to throughput	
23	23.3	Maryland State Highway Administration/Regional and Intermodal Planning Division	<p>Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: On page 3-57, the report indicates that the current traffic volumes are lower than projected in the study area. The report assumes that this could be caused by higher nonauto ridership, economic factors, diversion to alternate routes, and other external causes.</p> <p>SHA would like to note that lower traffic counts do not necessarily equate to lower demand. In a congested corridor, when demand increases above capacity, throughput can actually decrease. The traffic counts are counting throughput, and the analyst must be careful when analyzing traffic data in a congested system. For example, the Level of Service (LOS) values shown on page 3-54 suggest only two failing intersections in the study area, while the descriptions of observed traffic congestion on</p>	Thank you for your comment. Please see the response to comment 2.1 regarding the traffic data collection methods used to ensure all vehicles were counted and the response to comment 12.1 regarding the methods used to accurately analyze the intersections taking into account the queues and vehicle progression slowed.

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			pages 3-55 through 3-57 and the results of the travel time runs in Appendix D on page D-3-57 indicate existing traffic congestion issues at many more locations.	
23	23.4	Maryland State Highway Administration/Regional and Intermodal Planning Division	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: On page 3-64, there are formatting issues in the tables that make it difficult to read some values.	Thank you for your comment. The tables will be revised to improve the formatting to improve the legibility.
23	23.5	Maryland State Highway Administration/Regional and Intermodal	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: On page 4-83, it is not clear that the report considers the proposed expansion at the Navy	Thank you for your comment. The 2018 Background Development includes the National Institute of Health's (NIH) Porter Neuroscience Research Lab (See EIS-Appendix D, Section 3.2.1.3). NIH provided a trip generation of 200 vehicles per day that would be produced by the

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		Planning Division	Institutes of Health (NIH).	proposed research laboratory.
23	23.6	Maryland State Highway Administration/Regional and Intermodal Planning Division	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: On page 4-93, the trip distribution percentages have been updated based on previous SHA comments and are satisfactory.	Thank you for your comment.
23	23.7	Maryland State Highway Administration/Regional and Intermodal Planning Division	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: On page 4-111, the intersection of Connecticut Avenue at Jones Bridge Road and Kensington Parkway is shown to operate at LOS F in the PM peak under all Build scenarios. SHA suggests this report should indicate what mitigation is proposed for this location.	Thank you for your comment. As part of the NSA Bethesda Master Plan Update, NSA Bethesda is updating its Transportation Management Program (TMP). The TMP's primary goal and objective is to help NSA Bethesda continue to successfully reduce traffic, conserve energy, and improve air quality by seeking to further reduce and/or shorten the number of employee single occupant vehicle trips in the weekday commute to and from the installation. Note that the model results have changed based on feedback from the Maryland State Highway Administration and

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				Maryland National Capital Planning and Park Commission feedback resulting in a passing level of service for all analyzed intersections.
23	23.8	Maryland State Highway Administration/Regional and Intermodal Planning Division	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: The report indicates that no additional improvements are required above and beyond the planned external roadway improvements proposed by SHA as part of the BRAC improvements. SHA would like to note that these assumed improvements include several SHA projects in which funding and/or construction activity is still pending. SHA will need continued cooperation and support from the Navy to complete these projects, which are clearly important to both parties.	Thank you for your comment. The Navy will continue to coordinate and collaborate with SHA.

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23	23.9	Maryland State Highway Administration/Regional and Intermodal Planning Division	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: Additionally, if access will be needed onto the state roadways while this project is underway, please coordinate with SHA's Access Management Division. Mr. Steve Foster, Chief, Access Management Division, may be reached at (410) 545-5601 or via email at <a href="mailto:atsfoslerl@Sha.state.md.us">atsfoslerl@Sha.state.md.us</a> . He will be pleased to assist you.	Thank you for your comment. The Navy will continue to coordinate and collaborate with SHA.
23	23.10	Maryland State Highway Administration/Regional and Intermodal Planning Division	Based on the information provided in this submittal, we offer the following comments regarding the Traffic Impact Analysis in Appendix D: Finally, SHA has several BRAC related projects within the subject site's vicinity along MD 355. Please coordinate with the SHA's Office of Highway Development's Project Manager, Ms. Christina Minkler, if any impacts to MD 355 will occur while this project is underway. Ms. Minkler may be reached at 410-545-8050 or via email at <a href="mailto:cminkler@sha.state.md.us">cminkler@sha.state.md.us</a> . She will be pleased to assist you.	Thank you for your comment. The Navy will continue to coordinate and collaborate with SHA.

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24	24.1	General Public	<p>The posters also struck us as somewhat disconnected from everyone's day to day, on the ground reality in that while they covered required areas such as traffic, congestion, water drainage and the like, the data on the posters repeatedly concluded with variations of minimal to no impact. Indeed, one poster unbelievably showed that there had actually been a decrease in traffic at virtually all the concerned intersections. However, closer examination of the poster revealed that what had been compared were 2008 traffic projections figures with 2011 actual counts and, since the actual counts were lower than the earlier projections, the figures were listed as showing as much as an 11-12% decrease in traffic.</p>	<p>Thank you for your comment. The table that the commenter refers to presented the traffic counts estimated in the 2008 Base Realignment and Closure (BRAC) EIS compared to the actual traffic counts taken in October 2011. The comparison shows that with the exception of two intersections, the BRAC EIS overestimated the traffic at all other intersections. This information was presented in response to feedback received from the public during the EIS-scoping public meetings. The public requested to provide a comparison of the post -BRAC traffic conditions to the projections from the 2008 EIS.</p>
24	24.2	General Public	<p>The captain worked very hard to make a clear distinction between BRAC (although, he too, avoided using the term) and the Medical Facilities Development and University Expansion. We were told that after the closing of the old Walter Reed Hospital, it was realized that upgrading and modernization was needed to make the hospital a "World Class Facility" and that this project was, therefore, an "enhancement" not an enlargement. Furthermore, by creating, as</p>	<p>Thank you for your comments. The existing conditions consider changes already in place from the Base Realignment and Closure (BRAC) relocation, which was completed in September 2011. Please see the response to comment 2.1 regarding the traffic data collection methods and the response to comment 12.7 regarding the cumulative impacts that are part of the No Build and Build alternative conditions.</p>

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			<p>independent time periods, 2008 -2011, the first BRAC period, and 2012-2018, the period he wants us to concentrate on, he ignored the cumulative impact and made it seem that such a relatively small project would have minimal impact.</p>	
24	24.3	General Public	<p>While none of us want anything less than the best available for our servicemen and women, we question why the original planners hadn't taken all of this into account. I left feeling that the only reason we had been invited was to validate the presentation and fulfill the DEIS requirement. How do we, the impacted area civilians, hold the military accountable? Or is their accountability limited to insulting us by holding pro forma meetings and presenting us with spurious, arbitrary data based on false assumptions to which we can't respond?</p>	<p>Thank you for your comment. The purpose of, and need for, the Medical Facilities Development were identified subsequent to the programming for Base Realignment and Closure (BRAC) 2005. The BRAC 2005 construction was specifically designed to accommodate the transfer of Walter Reed Army Medical Center (WRAMC) to Walter Reed National Military Medical Center (WRNMMC) and restricted BRAC funding to projects related to accommodating BRAC relocation. Therefore, parts of the medical center did not undergo renovation or improvement during BRAC construction because that program was never intended to address the mission capability or functionality of the existing infrastructure.</p>

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25	25.1	Maryland Department of Planning	<p>In accordance with Presidential Executive Order 12372 and Code of Maryland Regulation 34.02.01.04-.06, the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter, with attachments, constitutes the State process review and recommendation based upon comments received to date. This recommendation is valid for a period of three years from the date of this letter. Review comments were requested from the Maryland Department(s) of Transportation. the Environment. Natural Resources. Health &amp; Mental Hygiene, Maryland Military Department. Montgomery County, National Capital Planning Commission. Maryland National Capital Parks and Planning Commission - Montgomery County. Maryland Historical Trust. and the Maryland Department of Planning. As of this date, Maryland Military Department. and National Capital Planning Commission have not submitted comments. This recommendation is contingent upon the applicant considering and addressing any problems or conditions that may be identified by their review. Any comments received will be forwarded.</p> <p>The Maryland Department of Planning found this project to be consistent with their plans,</p>	Thank you for your comments.

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			programs, and objectives.	
25	25.2	Maryland Department of Planning	The Maryland Department(s) of Health & Mental Hygiene, Natural Resources, Transportation, and Environment; and Montgomery County found this project to be generally consistent with their plans, programs, and objectives, but included certain qualifying comments summarized below.	Thank you for your comments.

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25	25.3	Maryland Department of Planning	<p>The Department of Health &amp; Mental Hygiene (DHMH) stated that there are concerns regarding congestion on neighborhood roads. The Public comment recommending including two additional intersections for traffic analysis in the following areas seemed warranted: 1. Old Georgetown Road and Battery Lane 2. Old Georgetown Road and Green-tree Road DHMH also suggested the use of what is often called a "road diet" adding more sidewalks and bike paths on the surrounding roads near the new hospital. Daily air quality alerts to the neighbors, especially during construction, would help in management of asthma and allergies.</p>	<p>Thank you for your comment. The intersections analyzed in the EIS Traffic Study were identified based on a preliminary site trip assignment. Although several additional intersections were identified by the public, these intersections were not found to be substantial enough to warrant including them in the analysis. The traffic study intersections were selected based on the Maryland National Capital Park and Planning Commission's (M-NCPPC) Local Area Transportation Review methodology and were identified in coordination with the M-NCPPC staff, who concurred that the additional intersections beyond the 17 were identified are not necessary. The design for the recent upgrades at all five gates at the installation include pedestrian (all 5 gates) and bicycle accommodations (4 out of 5 gates) to provide a safe and easy means to walk or use a bicycle to access the installation. The Navy will ensure that the fugitive dust would be minimized during construction by control methods such as using water for dust control; installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials; covering open equipment for conveying materials; and promptly removing spilled or tracked dirt or other</p>

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				materials from paved streets or dried sediments resulting from soil erosion.

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25	25.4	Maryland Department of Planning	<p>The Department of Natural Resources commented that the DEIS describes a commitment to sustainability and LEED certification of new buildings and recommended the reuse and recycle of demolition materials to the maximum extent possible. Also suggested is to consider using distributed power technology to optimally achieve economic, health and safety, environmental and power reliability goals. Hospital facilities require power reliability that local utilities often cannot provide i.e., onsite backup power generators are often required to prevent life-threatening situations). Fuel cells, combined heat and power, and solar should be considered to meet these needs, especially when power purchase agreements and other cost-effective measure are deployed.</p> <p>To the extent possible, green and sustainable choices should be deployed. This includes access to affordable energy and local food production. Ground-source heat pumps, energy efficient appliances, doors and windows, and passive solar gain should also be considered in building design in combination with above to provide reliable comfort to residents with minimum ecological impact. Green roofs, permeable pavement,</p>	<p>Thank you for your comment. The Navy is committed to using sustainability measures to the extent possible including Leadership in Energy and Environmental Design (LEED) Silver Standards and Low Impact Development (LID) measures.</p>

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			<p>planting of trees and other vegetation proximate to the building (such as rain gardens and community vegetable gardens) could help reduce both heat island effect, and help with onsite stormwater management. All of the above also provide opportunities for green jobs and training and support stormwater management goals.</p>	
25	25.5	Maryland Department of Planning	<p>Please consider sustainable, multi-modal transportation to and within the facility, including bus, ADA-compliant vehicles, pedestrians, bicycles and connections with Metro system.</p>	<p>Thank you for your comment. NSA Bethesda has a robust Transportation Management Plan, which is in the process of being updated as part of the Master Plan update. NSA Bethesda already enjoys approximately 60 percent non-single occupant vehicle commuters and will continue to seek improvements to increase multimodal transportation use.</p>

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25	25.6	Maryland Department of Planning	Impacts to wetlands, forests, and common animals and plants are described. Please work with local and state experts to avoid and minimize impacts.	Thank you for your comment. The Navy is committed to environmental stewardship and continuing its coordination and collaboration with the state and local agencies as appropriate.
25	25.7	Maryland Department of Planning	The Maryland Department of Environment (MDE) noted that: If boilers or other equipment capable of producing emissions are installed as a result of this project, the applicant is requested to obtain a permit to construct from MDE's Air and Radiation Management Administration for this equipment. unless the applicant determines that a permit for this equipment is not required under State regulations pertaining to "Permits, Approvals, and Registration" (COMAR 26.11.02.). A review for toxic air pollutants should be performed. Please contact the New Source Permits Division, Air and Radiation Management Administration at (410) 537-3230 to learn about the State's requirements and the permitting processes for such devices.	Thank you for your comment. This would be completed as part of the construction activities, similar to all construction projects and the requirement cannot be identified until the design has progressed and detailed equipment lists are available as needed to support the intended facility.

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25	25.8	Maryland Department of Planning	<p>The Maryland Department of Environment (MDE) noted that:</p> <p>The applicant is encouraged to plan for the maximum utilization of carpools and public transit by employees providing preferential carpool/vanpool parking and bus shelters for commuters that use these methods of transportation. This will minimize the adverse impact of additional traffic generated by the proposed project. Please contact the Mobile Sources Program, Air and Radiation Management Administration at (410) 537-3270 for additional information.</p>	<p>Thank you for your comment. NSA Bethesda has a robust Transportation Management Plan, which is in the process of being updated as part of the Master Plan update. NSA Bethesda already enjoys approximately 60 percent non-single occupant vehicle commuters and will continue to seek improvements to increase multimodal transportation use.</p>
25	25.9	Maryland Department of Planning	<p>The Maryland Department of Environment (MDE) noted that:</p> <p>If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone or carbon monoxide, the applicant should determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than 25 tons per year, contact James Wilkinson, Air and Radiation Management Administration, at (410) 537-3245 for further information regarding threshold</p>	<p>Thank you for your comment. The EIS includes a General Conformity Rule applicability analysis for the ozone precursor pollutants nitrogen oxides (NOx) and volatile organic compounds (VOCs), for PM2.5, and the PM2.5 precursor pollutant sulfur dioxide (SO2), and for CO. Per results of the applicability analysis, annual project emissions are below de minimis values, and therefore, a conformity determination is not required. Please also refer to the signed Record of Non-Applicability (RONA), at the back of Appendix B.</p>

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			limits.	
25	25.10	Maryland Department of Planning	The Maryland Department of Environment (MDE) noted that: Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.	Thank you for your comment. The Navy will adhere to all applicable Federal and state regulations for UST/AST installations.
25	25.11	Maryland Department of Planning	The Maryland Department of Environment (MDE) noted that: If the proposed project involves demolition - Any above ground or underground petroleum storage tanks that may be on site must have contents and tanks along with any contamination removed. Please contact the Oil Control Program at (410) 537-3442 for additional	Thank you for your comment. The Navy will adhere to all applicable Federal and state regulations for UST/AST removals.

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			information.	
25	25.12	Maryland Department of Planning	The Maryland Department of Environment (MDE) noted that: Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.	Thank you for your comment. Disposal of construction and demolition materials for a specific project is handled by the contractor through the project specifications; the Navy will ensure that the contractor adheres to disposal regulations.
25	25.13	Maryland Department of Planning	The Maryland Department of Environment (MDE) noted that: The Waste Diversion and Utilization Program should be contacted directly at (410) 537-3314 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be	Thank you for your comment. The Navy will adhere to all applicable Federal and state regulations.

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			<p>contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and federal laws and regulations.</p>	
25	25.14	Maryland Department of Planning	<p>The Maryland Department of Environment (MDE) noted that:            Any contract specifying "lead paint abatement" must comply with Code of Maryland Regulations (COMAR) 26.16.01 - Accreditation and Training for Lead Paint Abatement Services. If a property was built before 1950 and will be used as rental housing, then compliance with COMAR 26.16.02 - Reduction of Lead Risk in Housing; and Environment Article Title 6, Subtitle 8, is required. Additional guidance regarding projects where lead paint may be encountered can be obtained by contacting the Environmental Lead Division at (410) 537-3825.</p>	<p>Thank you for your comment. The Navy will adhere to all applicable Federal and state regulations.</p>

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25	25.15	Maryland Department of Planning	<p>The Maryland Department of Environment (MDE) noted that:</p> <p>The proposed project may involve rehabilitation, redevelopment, revitalization, or property acquisition of commercial, industrial property. Accordingly, MDE's Brownfields Site Assessment and Voluntary Cleanup Programs (VCP) may provide valuable assistance to you in this project. These programs involve environmental site assessment in accordance with accepted industry and financial institution standards for property transfer. For specific information about these programs and eligibility, please contact the Land Restoration Program at (410) 537-3437.</p>	Thank you for your comment. The proposed projects do not involve transfer of properties.
25	25.16	Maryland Department of Planning	<p>Montgomery County commented that the only concern raised by Montgomery County Government Health and Human Services that apparently was not addressed in the draft EIS is light pollution. They request that an analysis and any mitigation deemed potentially necessary be included in the EIS.</p>	<p>Thank you for your comment. The majority of project components would be located interior to the installation and would not increase light pollution to the neighbors. The H-Lot parking structure and temporary medical facilities would have the potential for light impacts; however, these projects occur in areas that are already lit. In most perimeter locations at NSA Bethesda, Light Control Zones have been established to minimize light pollution into surrounding areas and the Navy would employ measures such as downward facing lights that are shielded and</p>

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				angled to the interior of the installation during construction (see Section 4.9.1.3 of the EIS).
25	25.17	Maryland Department of Planning	Regarding traffic, Montgomery County commented that Post-BRAC integration traffic counts do not reflect the true nature of current traffic around the Medical Center. Indeed, traffic in the area, especially along Rockville Pike, is so congested that the study could not derive accurate readings. In other words, traffic may not seem much different than before BRAC integration clearly it is still very bad but the fact is that traffic right now is dramatically worse than before.	Thank you for your comment. Please see the response to comment 12.1.

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25	25.18	Maryland Department of Planning	<p>The Traffic Study itself says: While the three intersections listed above [Old Georgetown Road &amp; Oakmont Avenue/Cedar Lane, Rockville Pike &amp; Cedar Lane, and Connecticut Avenue &amp; Jones Bridge Road &amp; Kensington Parkway 1 operate at levels beyond the acceptable range, it is acknowledged that several of the intersections along Rockville Pike experience significant delay due to heavy congestion in the area and that as a result, traffic progression is compromised. (Page 0-3-15, Appendix D) Noted that longer range projections to 2018 indicate that traffic will show a slight improvement over pre-integration levels even though personnel at the Medical Center will have increased by 33% and daily visits to the campus by 100%, since BRAC integration was completed in the fall of 2011. This improvement is largely attributable to the anticipated completion of major traffic mitigation projects that have been fully funding and have begun, or will soon begin, construction.</p> <p>These include the Multimodal Crossing Project at the Medical Center Metro Station and four major intersection improvement projects at Rockville Pike &amp; Cedar Lane, Connecticut Avenue &amp; Jones Bridge Road, Rockville Pike &amp; Jones Bridge Road,</p>	Thank you for your comment. Please see the response to comment 12.3.

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			<p>and Old Georgetown Road &amp; Cedar Lane. These projects are in addition to projects that are already complete: the County's enhancements to area bike paths and sidewalks and the Navy's improvements at its five gates on Rockville Pike and Jones Bridge Road.</p>	
25	25.19	Maryland Department of Planning	<p>The Maryland Historical Trust stated that their finding(s) of consistency is/are contingent upon the applicant taking the action(s) summarized below.</p> <p>There is the potential that some of the proposed undertakings in the draft EIS would have an adverse effect on historic properties. In order to continue the Trust's review of these undertaking and provide informed comments on the project's effects on historic properties, the Trust requests</p>	<p>Thank you for your comment. This information is provided to the Maryland Historical Trust under separate cover during the concurrent Section 106 consultation process for the EIS.</p>

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			<p>the Navy provide us with the following information when it becomes available in the project planning process:</p> <ul style="list-style-type: none"> <li>~ A defined project Area of Potential Effect (APE).</li> <li>~ Preliminary drawings and scope of work illustrating each undertaking.</li> <li>~ Copies or summaries of any views provided by consulting parties and the public.</li> </ul>	
25	25.20	Maryland Department of Planning	<p>Any statement of consideration given to the comment(s) should be submitted to the approving authority, with a copy to the State Clearinghouse. The State Application Identifier Number must be placed on any correspondence pertaining to this project. The State Clearinghouse must be kept informed if the approving authority cannot accommodate the recommendation. Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at <a href="mailto:srichardson@mdp.state.md.us">srichardson@mdp.state.md.us</a>.</p>	<p>Thank you for your comment. The Navy will provide responses to the comments received in the Final EIS. Additionally, the Navy will adhere to all applicable Federal and state regulations.</p>

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26	26.1	National Capital Planning Commission	<p>NCPC staff has reviewed the Draft NSAB Installation Master Plan and Draft NSAB 2012 Transportation Management Program Update concurrently with the DEIS; however, comments on these documents are being provided separately to the Department of the Navy. We require that the Final Environmental Impact Statement (FEIS) and associated Record of Decision be complete prior to submission of the Final NSAB Installation Master Plan to NCPC for review pursuant to 40 U.S.C. § 8722(b)(1). Please find NCPC staff comments below for your consideration in development of the FEIS for the Medical Facilities Development and University Expansion at the NSAB.</p>	<p>Thank you for your comment. The Navy intends to complete the Final EIS and Record of Decision prior to the submission of the Final Master Plan to the National Capital Planning Commission.</p>

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26	26.2	National Capital Planning Commission	<p>NCPC staff encourages the Navy to continue evaluating the effects on historic resources with the Maryland Historic Trust (MHT) under Section 106 consultation and to determine appropriate mitigation measures, particularly with regard to proposed actions and alternatives associated with Building 1. Once the scope of the undertaking is confirmed and the range of historic preservation alternatives has been agreed upon, the Navy and the MHT should develop a Memorandum of Agreement that will demonstrate concurrence in the avoidance, minimization or mitigation of any adverse effects. This should be completed prior to concluding the FEIS.</p>	<p>Thank you for your comment. The Navy is consulting with the Maryland Historic Trust (MHT) on National Historic Preservation Act Section 106 consultation in order to avoid, minimize, or mitigate any impacts to historic resources. Per MHT's advice that an adverse effect upon the Central Tower Block (Building 1) and the front lawn would occur if the underground garage were pursued, the underground parking garage is no longer the preferred alternative as the Navy has identified H-Lot as the preferred alternative.</p> <p>The Navy does not anticipate having design information in the near future sufficient to make a determination of effect for Building C. Therefore, per 36 CFR 800.14(b), the Navy has developed a Programmatic Agreement (PA) with MHT for the undertaking to identify the process for consultation, review, and compliance with Section 106 of the NHPA during design development. It is the Navy's intent that NCPC would be identified as a consulting party in the PA, to maintain continued involvement in the Section 106 process for these actions.</p>

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26	26.3	National Capital Planning Commission	<p>One of the action alternatives being evaluated in the DEIS includes the proposed construction of an underground 500-space parking garage within the Medical Facilities Development. We note that this may have significant short-term and long-term negative effects on the significant view shed related to the original campus structures, particularly Building 1 and the landscape to its west (which is a contributing element of to the National Register Historic District). As such, NCPC staff cannot support the potential construction of an underground parking garage in front of Building I until further study is complete on design details and their associated potential adverse impacts to historic views of Building 1 from Rockville Pike and its associated landscape.</p>	<p>Thank you for your comment. The Navy is consulting with the Maryland Historic Trust (MHT) on National Historic Preservation Act (NHPA) Section 106 consultation in order to avoid, minimize, or mitigate any impacts to historic resources. Per MHT's advice that an adverse effect upon the Central Tower Block (Building 1) and the front lawn would occur if the underground garage were pursued, the underground parking garage is no longer the preferred alternative as the Navy has identified H-Lot as the preferred alternative.</p> <p>The Navy does not anticipate having design information in the near future sufficient to make a determination of effect for Building C. Therefore, per 36 CFR 800.14(b), the Navy has developed a Programmatic Agreement (PA) with MHT for the undertaking to identify the process for consultation, review, and compliance with Section 106 of the NHPA during design development. It is the Navy's intent that the National Capital Planning Commission would be identified as a consulting party in the PA, to maintain continued involvement in the Section 106 process for these actions.</p>

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26	26.4	National Capital Planning Commission	<p>Regarding the expansion of the Uniformed Service University of Health Services, NCPC staff is supportive of Alternative 2, which would occur in a currently developed area. Staff, however, also recommends further study to mitigate adverse impacts on the existing landscape and views for Alternative 1 as a potential location for the expansion of the Uniformed Service University of Health Sciences. Under this alternative, forested areas-approximately 4.2 acres-will be impacted. In addition, this alternative will be detrimental to the visual character of the area including the view onto the installation from Jones Bridge Road, impact existing recreational trails, result in the direct loss of wildlife and wildlife habitat, and add 2.8 acres of new impervious surface in a previously forested, steeply-sloped area. In addition, the DEIS notes that the University Pond may be used for storm water control with Alternative 1; this approach to stormwater control should be avoided. As such, NCPC staff suggests that Alternative 2 be considered the preferred alternative in the DEIS.</p>	<p>Thank you for your comment. University Expansion Alternative 2 remains the preferred alternative.</p>

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26	26.5	National Capital Planning Commission	NCPC staff suggests that the Navy ensure that all information regarding individual projects is up-to-date with the issuance of the FEIS. For example, Section 106 consultation for the Uniformed Services Organizations (USO) Warrior and Family Center project was complete in August, 2012 and the project was approved by NCPC in September 2012; however, the DEIS notes that Section 106 for this project will need to be done, that the site is subject to change as the program is further refined.	Thank you for your comment. The EIS is revised and updated to reflect the latest status on the cumulative projects' developments.
26	26.6	National Capital Planning Commission	Regarding stormwater management as described within the DEIS, NCPC staff understands that the appropriate stormwater management measures will be considered during the design phase of each individual project to address potential pollution and runoff impacts, and that these measures will be implemented in accordance with Maryland's permitting and regulatory requirements for erosion, sediment, and stormwater controls. Furthermore as described in the DEIS, NCPC staff understands that the Navy will also adhere to stormwater management requirements for new development or redevelopment projects in accordance to the Energy Independence and Security Act of 2007.	Thank you for your comment. The Navy will obtain and comply with all appropriate stormwater permits from the Maryland Department of the Environment before, during, and after construction of these projects as well as the provisions of Section 438 of the Energy Independence and Security Act. The Navy anticipates the individual projects in this program would be submitted to the National Capital Planning Commission (NCPC) for individual project review per their requirements and would include stormwater management strategies per NCPC's Project Submittal Guidelines.

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			Documentation on a project's conformance with these above requirements should be provided to NCPC at the time a project is submitted for review under 40 U.S.C. § 8722(b)(1).	
26	26.7	National Capital Planning Commission	In regards to both water and biological resources, the descriptions of exiting conditions within Sections 3.2 and 3.3 of the DEIS reference the 1999 National Naval Medical Center Integrated Natural Resources Management Plan (referenced as NNMC, 2000) and the Biological Surveys and Management Plan National Naval Medical Center Bethesda, Maryland (referenced as NA VF AC, 2009a). The FEIS should note any management goals and objectives that are provided within these documents, or subsequent updates of these documents, and whether any proposed actions have positive or negative impacts on these goals and objectives. It is also unclear to NCPC staff if there is a forest conservation plan (FCP) for the installation. A FCP should identify priority forested areas and forested areas	Thank you for your comment. NSA Bethesda does not have a forest conservation plan, as this is a requirement of the Maryland Forest Conservation Act that does not apply to NSA Bethesda. However, the installation Master Plan identifies current forested areas and other natural resources and, in general, provides for the continued use of the natural resources to enhance/augment the installation mission. The Navy strives to minimize tree loss to the extent practicable during project development (though either avoidance or re-vegetation). The EIS has been revised to acknowledge that the installation manages its natural resources to balance biodiversity goals with the Navy mission.

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Committer Number	Comment Number	Organization	Comments	Navy Response
			<p>adjacent to streams and wetlands, or on steep or erodible soils, and protect these areas from development to the extent possible. The FEIS should then also note any positive or negative impacts the proposed actions may have on these identified areas within the FCP. The FEIS should also contain more information on potential mitigation measures for tree loss as a result of any proposed actions.</p>	
26	26.8	National Capital Planning Commission	<p>Regarding parking at the installation, the FEIS should provide more information about the phasing of proposed actions and how this affects where employees can park and the availability of parking for employees. An analysis of the how the installation's ratio for employee parking would be affected through the course of construction should also be included.</p>	<p>Thank you for your comment. The EIS projects do not include provisions for construction of temporary parking to accommodate those losses incurred during the construction phases; therefore, during the construction period there will be a net loss of employee parking. The degree to which staff parking will decrease during this period is unknown as it will depend on specific conditions within the installation at the time of each phase of construction. However, the employee parking ratio during construction is anticipated to further exceed the 1:3 National Capital Planning Commission recommended ratio for the entirety of the construction period.</p>

## Comments and Responses on Draft EIS

Committer Number	Comment Number	Organization	Comments	Navy Response
26	26.9	National Capital Planning Commission	<p>The Cumulative Impacts section of the DEIS is insufficient in evaluating potential negative impacts on the installation's overall landscape features (natural and man-made) from both the short-term planned projects and the long-term opportunity areas. As many of the proposed projects are planned in locations close to the installation's perimeters, the FEIS should thoroughly examine potential negative impacts to the existing landscaped buffer areas found on the installation perimeter as well as potential negative impacts to the view onto the installation from Rockville Pike. Mitigation measures, such as developing a landscape framework plan that maintains and enhances the installation's landscape buffers and increases its tree canopy, should be considered by the Navy. In addition, the temporary medical facilities proposed to be sited on G-Lot, which would be in place for a number of years, would likely have adverse visual impacts to the west drive and lawn in front of Building 1; however, the DEIS is insufficient in evaluating these potential negative impacts. A landscape framework plan would aid in mitigating any potential negative visual impacts the temporary medical facilities may have.</p>	<p>Thank you for your comment. The 2010 Installation Appearance Plan (IAP) addresses the aesthetic considerations for NSA Bethesda and provides guidance for the installation to shape the appearance of NSA Bethesda for the next 20 years. The short-term planned projects and the long-term opportunity areas listed in the EIS Cumulative Impacts sections are the projects identified in the Master Plan, which strives to the extent possible to adhere to the landscape design guidelines in the IAP. The landscape design guidelines include maintaining a landscaped buffer at the southern, eastern, and northern perimeters in consideration of the residential and institutional neighbors. The Final EIS includes additional information on the temporary medical facilities including potential negative viewshed impacts. These facilities will be within an existing parking lot and will not encroach into the vegetated buffer area bordering the Stone Ridge School. These buildings will be limited to two-stories, which minimize the facility's visual profiles from Rockville Pike.</p>

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**Attachment 9: Formal Correspondence - Local, State, and  
Federal Agencies**

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## Correspondence - Scoping Period





DEPARTMENT OF THE NAVY  
NAVAL SUPPORT ACTIVITY BETHESDA  
8901 WISCONSIN AVENUE  
BETHESDA MARYLAND 20889-5600

IN REPLY REFER TO  
5090  
Ser N00/0171

OCT 11 2011

Mr. Reid Nelson  
Director  
Office of Federal Agency Programs  
Advisory Council on Historic Preservation  
1100 Pennsylvania Avenue, N.W., Suite 803  
Washington, D.C, 20004

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

Dear Mr. Nelson:

On August 19, 2011, the Department of the Navy (DoN) announced its intent to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of proposed actions at Naval Support Activity (NSA) Bethesda. The purpose of the proposed actions is to implement the Congressional mandate in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center (WRNMMC) at Bethesda by providing facilities commensurate in quality, capability and condition with those provided by the Base Realignment and Closure (BRAC) investment and to address the space and operational limitations at the Uniformed Services University of the Health Sciences (USUHS or the University) to enable USUHS to serve as the core academic health research center at WRNMMC. The purpose of this letter is to notify the Council that we have initiated consultation with the Maryland Historical Trust (MHT) under Section 106 of the National Historic Preservation Act of 1966, as amended, on the effects of these two undertakings on historic properties. (See the attached letter.)

The proposed actions consist of the following components. Please see the attached graphics, Figures 1 and 2, which depict their proposed locations and siting alternatives, as applicable.

1. The Medical Facilities Development

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND

a. Demolition of Buildings 2, 4, 6, 7, and 8 (326,000 square feet (SF)) and construction of a single, 5-story replacement building (563,000 SF) in the same footprint.

b. Construction of an underground parking garage (approximately 203,000 SF; 500 spaces) in the front lawn of Building One.

c. Utility capacity and infrastructure upgrades.

d. Construction of temporary medical facilities to maintain uninterrupted patient care during construction.

e. Internal renovations to Buildings 1, 3, 5, 9, and 10.

## 2. The University Expansion

a. Construction of a new research/education facility (341,000 SF).

b. Construction of an associated parking garage (144,000 SF; 400 spaces).

With regard to the Medical Facilities Development, all buildings proposed for demolition are within the National Naval Medical Center Historic District, which was established in 1998; however, they were determined to be non-contributing. Those proposed for interior renovation include the National Register listed Building 1 as well as the Historic District contributing Buildings 3 and 5. None of the new facilities would impact the NSA Bethesda's limited zones of archaeological sensitivity at the east of the installation.

The EIS will analyze alternatives to the Medical Facilities Development proposed action, but only with regard to the Medical Facilities garage. As shown in Figure 1, three above ground alternative sites for the underground parking garage are under

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OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

evaluation: the warehouse area in the northeast corner, the Taylor Road site in the northeast area, and H-Lot in the south area.

For the University Expansion, the EIS will analyze two alternative sites for both educational/research facility and garage. As shown in Figure 2, they are located south and west (Alternatives 1 and 2 respectively) of the existing USUHS campus. The buildings in the USUHS campus complex were constructed in the 1970s, 1980s, and 2000s and therefore, do not require a Determination of Eligibility (DOE) for the National Register at this time. However, Buildings 42, 43, and 44 in the Armed Forces Radiobiology Research Institute (AFRRI) complex were constructed in 1962. The AFRRI complex is located immediately west of the University Expansion Alternative 2 and as per Navy's informal consultation with the MHT, we will formally submit to the Trust a DOE for the National Register of those buildings as a part of our ongoing Section 106 compliance for the University Expansion undertaking.

As you may be aware, the pace of organizational realignment and physical change at this installation has been remarkable. While much new development has had to be accommodated, and not every National Register eligible building could be retained, it has been our common goal to preserve the iconic Central Tower Block and its landscape setting including the Bethesda Lawn between the Tower Block and Rockville Pike.

At this time we are not prepared to make a formal determination of effect under 36 CFR Part 800 for either undertaking. We also do not intend to use the provision of the Council's regulations that permit the NEPA process to be used to carry out Section 106 consultation; however, as part of the scoping period, which was initiated by the Notice of Intent, the Navy held two public scoping meetings on Wednesday, September 7, 2011 and on Monday, September 12, 2011, and will consult further with the MHT on issues of public outreach, definition of areas of potential effect, and identification of Consulting Parties.

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Ser N00/0171

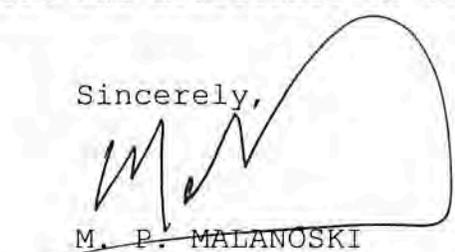
OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

Because of the importance and potential public interest in these actions, we are happy to invite the active participation of the Council in the Section 106 process.

If you have any questions or would like to arrange a site visit, please contact Mr. William Sadlon who can be reached at (202) 685-0164 or E-Mail: william.sadlon@navy.mil. Thank you for your continuing cooperation and assistance on Section 106 reviews at NSA Bethesda.

Sincerely,



M. P. MALANOSKI

Captain, Medical Corps  
U.S. Navy  
Commanding Officer

Attachments: 1. Figure 1  
2. Figure 2  
3. Copy of Section 106 Letter to MHT

Copy to:

Mr. Brian Hillis, NSA Bethesda

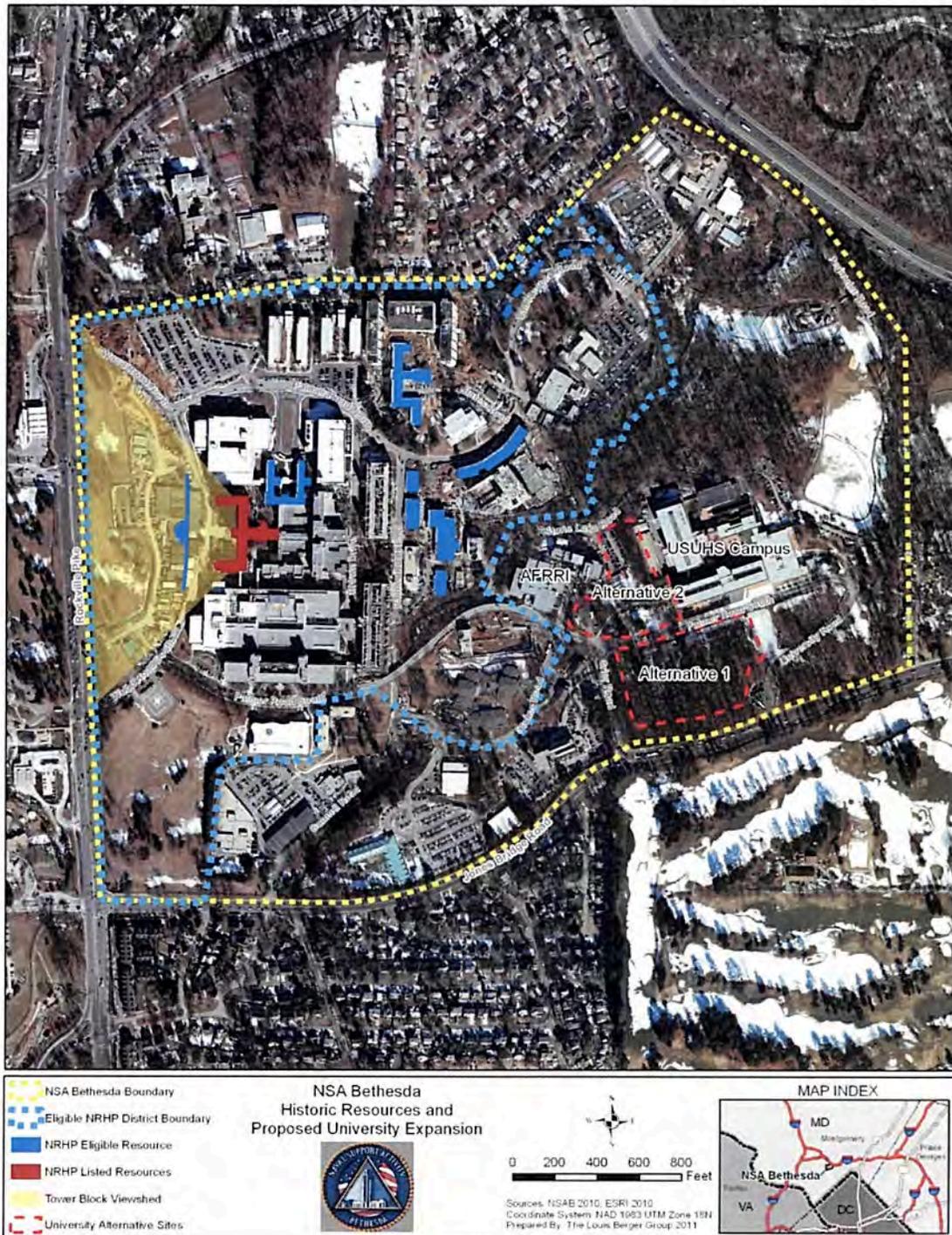
Mr. Jeffrey Hinkle, National Capital Planning Commission

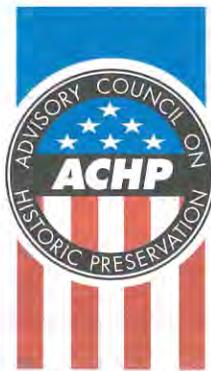
Ms. Amanda Apple, Maryland Historical Trust

Figure 1: Relationship of Proposed Medical Facilities Development and Alternatives to NNMC Historic District



**Figure 2: Relationship of Proposed University Expansion and Alternatives to NNMC Historic District**





Preserving America's Heritage

November 16, 2011

M. P. Malanoski  
Captain, Medical Corps  
Department of the Navy  
Naval Support Activity Bethesda  
8901 Wisconsin Avenue  
Bethesda, MD 20889-5600

**Ref: *Proposed Medical Facilities Development and University Expansion  
Naval Support Activity Bethesda, Montgomery County, Maryland***

Dear Captain Malanoski:

On October 17, 2011, the Advisory Council on Historic Preservation (ACHP) received your invitation to participate in early consultation for the referenced project pursuant to Section 106 of the *National Historic Preservation Act*. Based upon the documentation you provided as well as the presentation at NSA Bethesda on November 10, 2011, we do not believe our participation at this stage is warranted.

The Navy should continue consultation with the Maryland SHPO, Indian tribes, and other consulting parties to identify and evaluate historic properties and to assess any potential adverse effects on those historic properties. If your agency determines through consultation with the consulting parties that the undertaking will adversely affect historic properties, or that the development of a Programmatic Agreement is necessary, the agency must notify the ACHP and provide the documentation detailed at 36 CFR § 800.11(e). In the event that this undertaking is covered under the terms of an existing Programmatic Agreement, you should follow the process set forth in the applicable Programmatic Agreement.

Should you have any questions as to how your agency should comply with the requirements of Section 106, please contact Louise D. Brodnitz at (202) 606-8527, or by e-mail at [lbrodnitz@achp.gov](mailto:lbrodnitz@achp.gov).

Sincerely,

Caroline D. Hall  
Assistant Director,  
Office of Federal Agency Programs  
Federal Property Management Section

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

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DEPARTMENT OF THE NAVY  
NAVAL SUPPORT ACTIVITY BETHESDA  
8901 WISCONSIN AVENUE  
BETHESDA MARYLAND 20889-5600

IN REPLY REFER TO

5090

Ser N00/0176

OCT 11 2011

Ms. Elizabeth Cole  
Administrator, Review and Compliance  
Maryland Historical Trust  
100 Community Place  
Crownsville, MD 21032-2023

Attn: Ms. Amanda Apple

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

Dear Ms. Cole:

On August 19, 2011, the Department of the Navy (DoN) announced its intent to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of proposed actions at Naval Support Activity (NSA) Bethesda. The proposed actions are: Medical Facilities Development and the Uniformed Services University of the Health Sciences (USUHS or the University) expansion.

The purpose of the Medical Facilities Development is to implement the Congressional mandate in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center (WRNMMC) at Bethesda by providing facilities commensurate in quality, capability and condition with those provided by the Base Realignment and Closure (BRAC) investment. The purpose of the University Expansion is to address the space and operational limitations at the institution to enable USUHS to serve as the core academic health research center at WRNMMC.

We are therefore writing to formally initiate consultation with the Maryland Historical Trust under Section 106 of the National Historic Preservation Act of 1966, as amended, on the effects of these two undertakings on historic properties. The undertakings are described in detail below.

OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND

### Medical Facilities Development

The Medical Facilities Development comprises the following components, which are shown in the attached figure, Figure 1:

1. Demolition of Buildings 2, 4, 6, 7, and 8 (326,000 square feet (SF)) and construction of a single, 5-story replacement building (563,000 SF) in the same footprint.
2. Construction of an underground parking garage (approximately 203,000 SF; 500 spaces) below the front lawn of Building 1.
3. Utility capacity and infrastructure upgrades.
4. Construction of temporary medical facilities to maintain uninterrupted patient care during construction.
5. Internal renovations to Buildings 1, 3, 5, 9, and 10.

All buildings proposed for demolition (Buildings 2, 4, 6, 7, and 8) are within the National Naval Medical Center (NNMC) Historic District, established in 1998; however, they were determined to be non-contributing. Those proposed for interior renovation include the National Register listed Building 1 as well as the Historic District contributing Buildings 3 and 5. None of the new facilities would impact the NSA Bethesda's limited zones of archaeological sensitivity at the east of the installation.

The EIS will also analyze alternatives to the Medical Facilities Development proposed action, but only with regard to the Medical Facilities garage. Three above ground alternative sites for the underground parking garage are under evaluation: the warehouse area in the northeast corner, the Taylor Road site in the northeast area, and H-Lot in the south area.

OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

**University Expansion**

The University Expansion comprises the following components, which are shown in the attached figure, Figure 2:

1. Construction of a new research/education facility (341,000 SF).
2. Construction of an associated parking garage (144,000 SF; 400 spaces).

The EIS will evaluate two alternative sites for the University Expansion and, as shown in Figure 2, these are located south and west (Alternatives 1 and 2 respectively) of the existing USUHS campus. The buildings in the USUHS campus complex were constructed in the 1970s, 1980s, and 2000s and therefore, do not require a Determination of Eligibility (DOE) for the National Register at this time. However, Buildings 42, 43, and 44 in Armed Forces Radiobiology Research Institute (AFRRI) complex were constructed in 1962. The AFRRI complex is located immediately west of the University Expansion Alternative 2 and as per Navy's informal consultation with your agency, we will be formally submitting a DOE for the National Register of those buildings as a part of our ongoing Section 106 consultation for this undertaking.

We have already benefitted from the cooperation of your agency, and particularly the informal advice of Ms. Amanda Apple of your staff, on recent BRAC mandated development and subsequent projects at NSA Bethesda. In particular, the Navy met with Ms. Apple to informally discuss these proposed actions on May 11, 2011. As you are well aware, the pace of organizational realignment and physical change at the installation has been remarkable. While much new development has had to be accommodated, and not every National Register eligible building could be retained, it has been our common goal to preserve the iconic Central Tower Block and its landscape setting including the Bethesda Lawn sweeping down to Rockville Pike.

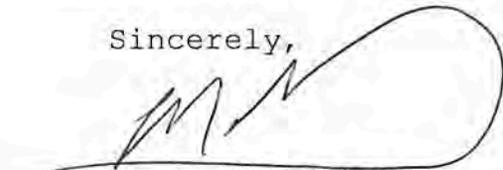
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Ser N00/0176  
OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

At this time we are not prepared to make a formal determination of effect under 36 CFR Part 800 for either undertaking. However, we look forward to further consultation with your office on means to avoid, minimize, or mitigate any adverse effects to historic properties. In particular, we would like to begin discussion of the appropriate areas of potential effect, identification of Consulting Parties, requirements for any additional project or affected resource data, and the extent to which we can efficiently utilize the EIS public scoping for purposes of Section 106 public participation. As part of the scoping period, which was initiated by the Notice of Intent, the Navy held two public scoping meetings on Wednesday, September 7, 2011, 5:00 p.m. to 9:00 p.m., and on Monday, September 12, 2011, 1:00 p.m. to 5:00 p.m., both at the Bethesda Marriott, 5151 Pooks Hill Road, Bethesda, Maryland 20814.

If you have any questions or would like to arrange a site visit, please contact Mr. William Sadlon who can be reached at (202) 685-0164 or E-Mail: william.sadlon@navy.mil. Thank you for your continuing cooperation and assistance on Section 106 reviews at NSA Bethesda.

Sincerely,



M. P. MALANOSKI  
Captain, Medical Corps  
U.S. Navy  
Commanding Officer

Attachments: 1. Figure 1  
2. Figure 2

Copy to:

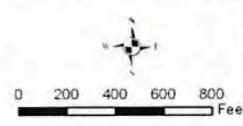
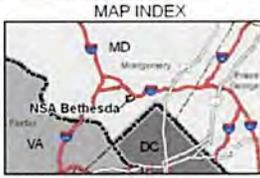
Mr. Brian Hillis, NSA Bethesda  
Mr. Jeffrey Hinkle, National Capital Planning Commission  
Mr. Reid Nelson, Advisory Council on Historic Preservation

**Figure 1: Relationship of Proposed Medical Facilities Development and Alternatives to NNMC Historic District**



Figure 2: Relationship of Proposed University Expansion and Alternatives to NNMC Historic District



<ul style="list-style-type: none"> <li> NSA Bethesda Boundary</li> <li> Eligible NRHP District Boundary</li> <li> NRHP Eligible Resource</li> <li> NRHP Listed Resources</li> <li> Tower Block Viewshed</li> <li> University Alternative Sites</li> </ul>	<p>NSA Bethesda Historic Resources and Proposed University Expansion</p>	 <p>0 200 400 600 800 Feet</p>	<p>MAP INDEX</p> 
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Sources: NSAB 2010, ESRI 2010  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2011



DEPARTMENT OF THE NAVY  
NAVAL SUPPORT ACTIVITY BETHESDA  
8901 WISCONSIN AVENUE  
BETHESDA MARYLAND 20889-5600

IN REPLY REFER TO

5090  
Ser N00/0172  
OCT 11 2011

Mr. Leopoldo Miranda  
Field Supervisor  
Chesapeake Bay Field Office  
U.S. Fish & Wildlife Service  
177 Admiral Cochrane Drive  
Annapolis, MD 21401

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

Dear Mr. Miranda:

The Department of the Navy is preparing an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of proposed actions at Naval Support Activity (NSA) Bethesda in Bethesda, Maryland. The proposed actions are: Medical Facilities Development and the Uniformed Services University of the Health Sciences (USUHS or the University) Expansion.

This EIS is being prepared pursuant to Section (102)(2)(c) of the National Environmental Policy Act (NEPA) of 1969, the regulations implemented by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500 - 1508), Department of the Navy NEPA implementing regulations at 32 CFR Part 775, OPNAVINST 5090.1C, the Navy's Environmental Readiness Program Manual, and the Supplemental Environmental Planning Policy, 23 September 2004.

The purpose of the Medical Facilities Development is to implement the Congressional mandate in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center (WRNMMC) at Bethesda by providing facilities commensurate in quality, capability and condition with those provided by the Base Realignment and Closure (BRAC) investment. The purpose of the University Expansion is to address the space and operational limitations at the institution to enable USUHS to serve as the core academic health research center at WRNMMC.

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Ser N00/0172  
OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

The proposed actions and their components are described in detail below. Please see the enclosed figure, which presents the locations of proposed actions and siting alternatives, as applicable.

### **Medical Facilities Development**

The Medical Facilities Development comprises the following components, which are shown in the attached figure:

1. Demolition of Buildings 2, 4, 6, 7, and 8 (326,000 square feet (SF)) and construction of a single, 5-story replacement building (563,000 SF) in the same footprint.
2. Construction of an underground parking garage (approximately 203,000 SF; 500 spaces) below the front lawn of Building 1.
3. Utility capacity and infrastructure upgrades.
4. Construction of temporary medical facilities to maintain uninterrupted patient care during construction.
5. Internal renovations to Buildings 1, 3, 5, 9, and 10.

As noted, the new 5-story building construction will be in the same footprint of the existing Buildings 2, 4, 6, 7, and 8, therefore, will occur in previously developed space. The underground parking garage will be in the installation's front lawn, which has been used for BRAC construction staging activities in the past few years. The installation plans to reseed the area with grass once the BRAC construction activities are complete. Most components of the utilities upgrades will occur within developed areas; the back-up water supply tanks will be underground in the installation's southwest corner which contains mowed grass and few scattered trees.

The EIS will also analyze alternatives to the Medical Facilities Development proposed action, but only with regard to the Medical Facilities parking garage. As shown on the enclosed

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Ser N00/0172  
OCT 11 2011

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND

figure, three above ground alternative sites for the underground parking garage are under evaluation: the warehouse area in the northeast corner, the Taylor Road site in the northeast area, and H-Lot in the south area. All three alternative sites are previously developed and mostly impervious areas.

### University Expansion

The University Expansion comprises the following components, which are shown in the enclosed figure:

1. Construction of a new research/education facility (341,000 SF).
2. Construction of an associated parking garage (144,000 SF; 400 spaces).

The EIS will analyze two alternative sites for the University Expansion and, as shown in the figure, these are located south and west (Alternatives 1 and 2 respectively) of the existing USUHS campus. Alternative 1 site is the wooded area south of the existing USUHS campus, therefore, would require clearing of the area. Alternative 2 site has an existing parking lot and would require some tree removal.

The EIS will also evaluate the No Action Alternative as required by NEPA. The No Action Alternative will describe the conditions at NSA Bethesda should the proposed actions not occur and also performs the important function of acting as an environmental baseline against which the environmental consequences of the action alternatives are measured. Under the No Action Alternative, the demolition of Buildings 2, 4, 6, 7, and 8 and the construction of the replacement building as well as the associated infrastructure upgrades and construction of the parking structure would not occur. Similarly, under the No Action Alternative, construction for the University Expansion and parking garage would not occur.

The purpose of this correspondence is to request a list of federally listed species that may be impacted by this proposed

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Ser N00/0172

OCT 11 2011

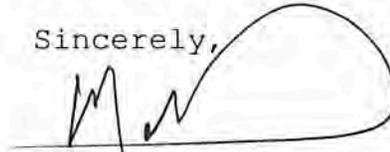
Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

project and to solicit Fish and Wildlife Service concerns related to these species. Because of NSA Bethesda's location in a highly urbanized environment in Montgomery County, Maryland, it is unlikely that the proposed action at the installation will affect any federally listed or locally sensitive species. However, we would appreciate input from your office.

A letter is also being sent to the Maryland Department of Natural Resources to solicit their input.

If you have any questions or require additional information, please contact William Sadlon at E-Mail: [william.sadlon@navy.mil](mailto:william.sadlon@navy.mil). Thank you in advance for your assistance.

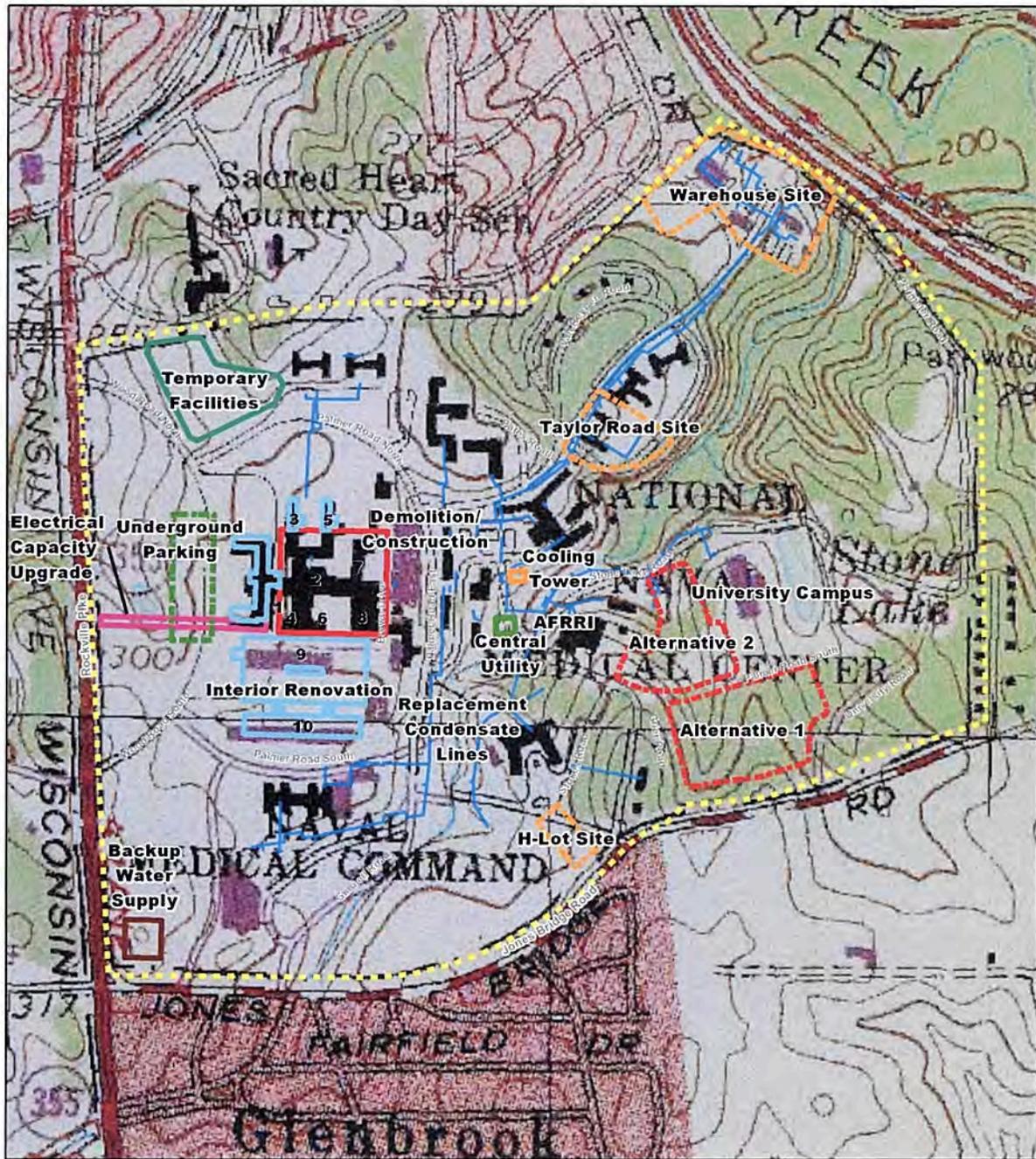
Sincerely,

A handwritten signature in black ink, appearing to read 'M. P. Malanoski', with a large, sweeping flourish extending to the right.

M. P. MALANOSKI  
Captain, Medical Corps  
U.S. Navy  
Commanding Officer

Attachment: (1)

Enclosure 1: Location of the Proposed Actions Components and Alternative Sites for the Medical Facilities Development and University Expansion at Naval Support Activity Bethesda



<ul style="list-style-type: none"> <li><span style="color: blue;">—</span> Replacement Condensate Lines</li> <li><span style="border: 1px dashed yellow; display: inline-block; width: 10px; height: 10px;"></span> NSA Bethesda Boundary</li> <li><span style="border: 1px dashed green; display: inline-block; width: 10px; height: 10px;"></span> MED Facilities Underground Parking</li> <li><span style="border: 1px dashed blue; display: inline-block; width: 10px; height: 10px;"></span> Temporary Facilities</li> <li><span style="border: 1px dashed red; display: inline-block; width: 10px; height: 10px;"></span> University Alternative Sites</li> <li><span style="border: 1px dashed orange; display: inline-block; width: 10px; height: 10px;"></span> MED Facilities Alternative Parking Sites</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> Interior Renovation</li> <li><span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> Demolition/Construction</li> <li><span style="border: 1px solid orange; display: inline-block; width: 10px; height: 10px;"></span> Cooling Tower Upgrade</li> <li><span style="border: 1px solid green; display: inline-block; width: 10px; height: 10px;"></span> Central Utility Plant</li> <li><span style="border: 1px solid pink; display: inline-block; width: 10px; height: 10px;"></span> Electrical Capacity Upgrade</li> <li><span style="border: 1px solid brown; display: inline-block; width: 10px; height: 10px;"></span> Backup Water Supply</li> </ul>	<p>NSA Bethesda USGS Topo Quadrangle</p> 	 <p>0 200 400 600 800 Feet</p> <p>Sources: NSAB 2010, ESRI 2010 Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2011</p>	<p>MAP INDEX</p> 
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# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, Maryland 21401  
<http://www.fws.gov/chesapeakebay>

October 27, 2011

Department of the Navy  
Naval Support Activity Bethesda  
8901 Wisconsin Avenue  
Bethesda, MD 20889-5600

*RE: Medical Facilities Development and University Expansion at Naval Support Activity  
Bethesda MD*

Dear M.P. Malanoski:

This responds to your letter, received October 11, 2011, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above reference project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.



If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at:

<http://www.fws.gov/migratorvbirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,



Leopoldo Miranda  
Supervisor



DEPARTMENT OF THE NAVY  
NAVAL SUPPORT ACTIVITY BETHESDA  
8901 WISCONSIN AVENUE  
BETHESDA MARYLAND 20889-5600

IN REPLY REFER TO  
5090  
Ser N00/0175  
OCT 11 2011

Ms. Lori Byrne  
Environmental Review Coordinator  
Wildlife and Heritage Service  
Maryland Department of Natural Resources  
Tawes State Office Building  
580 Taylor Avenue  
Annapolis, MD 21401

Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

Dear Ms. Byrne:

The Department of the Navy is preparing an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of proposed actions at Naval Support Activity (NSA) Bethesda, Maryland. The proposed actions are: Medical Facilities Development and the Uniformed Services University of the Health Sciences (USUHS or the University) Expansion.

This EIS is being prepared pursuant to Section (102)(2)(c) of the National Environmental Policy Act (NEPA) of 1969, the regulations implemented by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500 - 1508), Department of the Navy NEPA implementing regulations at 32 CFR Part 775, OPNAVINST 5090.1C, the Navy's Environmental Readiness Program Manual, and the Supplemental Environmental Planning Policy, 23 September 2004.

The purpose of the Medical Facilities Development is to implement the Congressional mandate in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA) to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center (WRNMMC) at Bethesda by providing facilities commensurate in quality, capability and condition with those provided by the Base Realignment and Closure (BRAC) investment. The purpose of the University Expansion is to address the space and operational limitations at the institution to enable USUHS to serve as the core academic health research center at WRNMMC.

The proposed actions and their components are described in detail below. Please see the enclosed figure, which presents the

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Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

location of proposed actions and siting alternatives, as applicable.

### **Medical Facilities Development**

The Medical Facilities Development comprises the following components, which are shown in the attached figure:

1. Demolition of Buildings 2, 4, 6, 7, and 8 (326,000 square feet (SF)) and construction of a single, 5-story replacement building (563,000 SF) in the same footprint.
2. Construction of an underground parking garage (approximately 203,000 SF; 500 spaces) below the front lawn of Building 1.
3. Utility capacity and infrastructure upgrades.
4. Construction of temporary medical facilities to maintain uninterrupted patient care during construction.
5. Internal renovations to Buildings 1, 3, 5, 9, and 10.

As noted, the new 5-story building construction will be in the same footprint of the existing Buildings 2, 4, 6, 7, and 8, therefore, will occur in previously developed space. The underground parking garage will be in the installation's front lawn, which has been used for BRAC construction staging activities in the past few years. The installation plans to re-seed the area with grass once the BRAC construction activities are complete. Most components of the utilities upgrades will occur within developed areas; the back-up water supply tanks will be underground in the installation's southwest corner which contains mowed grass and few scattered trees.

The EIS will also analyze alternatives to the Medical Facilities Development proposed action, but only with regard to the Medical Facilities parking garage. As shown on the enclosed

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figure, three above ground alternative sites for the underground parking garage are under evaluation: the warehouse area in the northeast corner, the Taylor Road site in the northeast area, and H-Lot in the south area. All three alternative sites are previously developed and mostly impervious areas.

### University Expansion

The University Expansion comprises the following components, which are shown in the enclosed figure:

1. Construction of a new research/education facility (341,000 SF).
2. Construction of an associated parking garage (144,000 SF; 400 spaces).

The EIS will analyze two alternative sites for the University Expansion and, as shown in Figure 2, these are located south and west (Alternatives 1 and 2 respectively) of the existing USUHS campus. Alternative 1 site is the wooded area south of the existing USUHS campus, therefore, would require clearing of the area. Alternative 2 site has an existing parking lot and would require some tree removal.

The EIS will also evaluate the No Action Alternative as required by NEPA. The No Action Alternative will describe the conditions at NSA Bethesda should the proposed actions not occur and also performs the important function of acting as an environmental baseline against which the environmental consequences of the action alternatives are measured. Under the No Action Alternative, the demolition of Buildings 2, 4, 6, 7, and 8 and the construction of the replacement building as well as the associated infrastructure upgrades and construction of the parking structure would not occur. Similarly, under the No Action Alternative, construction for the University Expansion and parking garage would not occur.

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Subj: ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES  
DEVELOPMENT AND UNIVERSITY EXPANSION AT NAVAL SUPPORT  
ACTIVITY BETHESDA, MARYLAND

The purpose of this correspondence is to determine if there are any local species of concern that may be affected by this proposed project and to solicit the Department of Natural Resources input or concerns related to these species. We would appreciate information from your office regarding that state-rare species and presence or absence of any other local species of concern in the installation.

If you have any questions or require additional information, please contact William Sadlon at E-Mail: [william.sadlon@navy.mil](mailto:william.sadlon@navy.mil). Thank you in advance for your assistance.

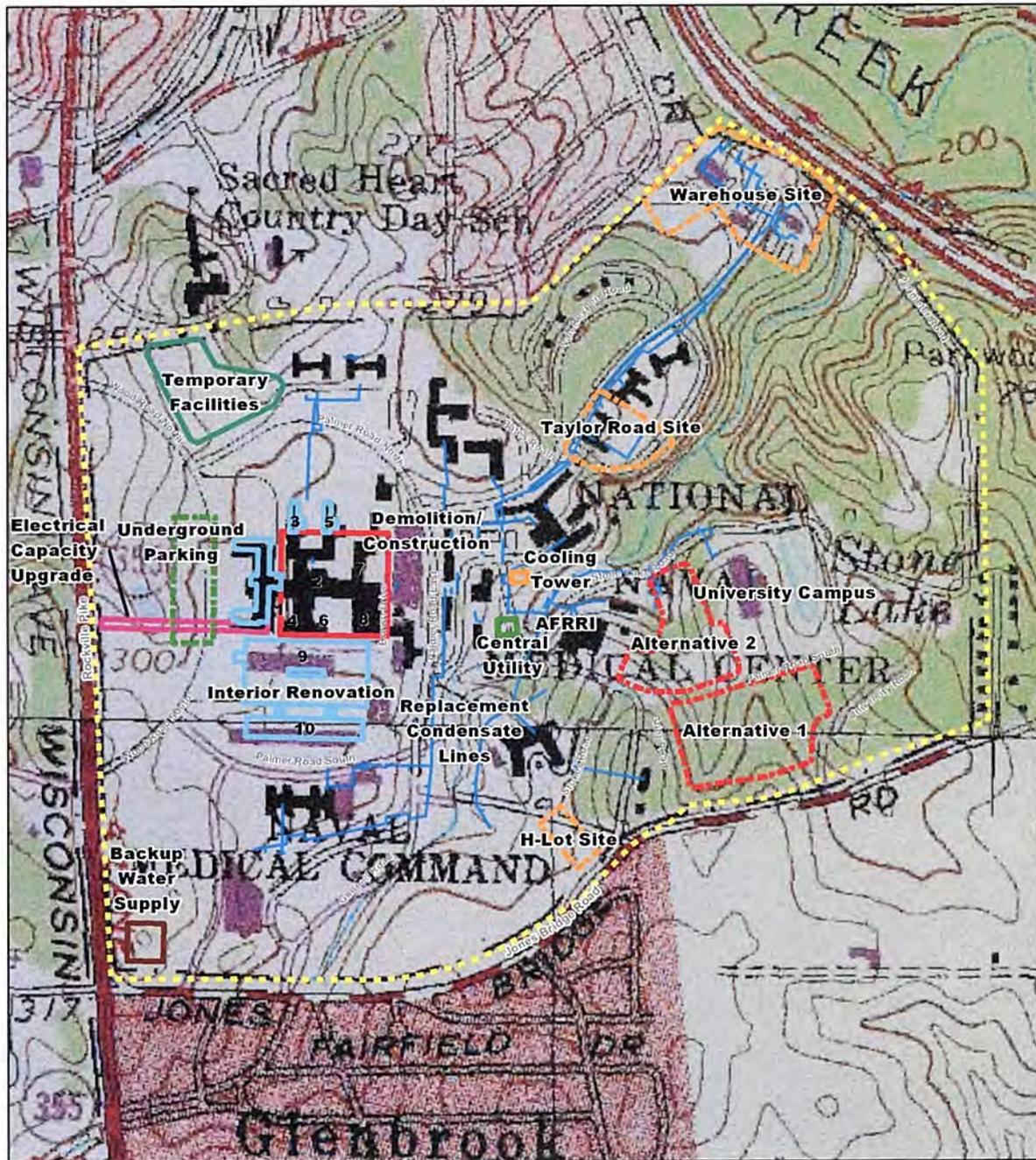
Sincerely,

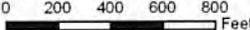
A handwritten signature in black ink, appearing to read 'M. P. Malanoski', with a large, loopy flourish extending to the right.

M. P. MALANOSKI  
Captain, Medical Corps  
U.S. Navy  
Commanding Officer

Attachment: (1)

Enclosure 1: Location of the Proposed Actions Components and Alternative Sites for the Medical Facilities Development and University Expansion at Naval Support Activity Bethesda



<ul style="list-style-type: none"> <li><span style="color: blue;">—</span> Replacement Condensate Lines</li> <li><span style="border: 1px dashed yellow; padding: 2px;"> </span> NSA Bethesda Boundary</li> <li><span style="border: 1px solid green; padding: 2px;"> </span> MED Facilities Underground Parking</li> <li><span style="border: 1px solid green; padding: 2px;"> </span> Temporary Facilities</li> <li><span style="border: 1px solid red; padding: 2px;"> </span> University Alternative Sites</li> <li><span style="border: 1px solid orange; padding: 2px;"> </span> MED Facilities Alternative Parking Sites</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 1px solid blue; padding: 2px;"> </span> Interior Renovation</li> <li><span style="border: 1px solid red; padding: 2px;"> </span> Demolition/Construction</li> <li><span style="border: 1px solid orange; padding: 2px;"> </span> Cooling Tower Upgrade</li> <li><span style="border: 1px solid green; padding: 2px;"> </span> Central Utility Plant</li> <li><span style="border: 1px solid pink; padding: 2px;"> </span> Electrical Capacity Upgrade</li> <li><span style="border: 1px solid brown; padding: 2px;"> </span> Backup Water Supply</li> </ul>	<p>NSA Bethesda USGS Topo Quadrangle</p> 	 	<p>MAP INDEX</p> 
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Sources: NSAB 2010, ESRI 2010  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2011

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**MARYLAND**  
DEPARTMENT OF  
NATURAL RESOURCES

*Martin O'Malley, Governor*  
*Anthony G. Brown, Lt. Governor*  
*John R. Griffin, Secretary*  
*Joseph P. Gill, Deputy Secretary*

---

December 8, 2011

MP Malanoski  
Department of the Navy  
8901 Wisconsin Ave.  
Bethesda, MD 20889-5600

**RE: Environmental Review for EIS for medical facilities development and uniformed services university of the health sciences (USUHS) expansion at Naval Support Activity, Bethesda, Montgomery County, MD.**

Dear Mr. Malanoski:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne,  
Environmental Review Coordinator  
Wildlife and Heritage Service  
MD Dept. of Natural Resources

ER# 2011.1496.mo

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## Sadlon, William P CIV NAVFAC Washington

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**From:** Sadlon, William P CIV NAVFAC Washington  
**Sent:** Wednesday, October 19, 2011 4:18 PM  
**To:** 'Eapen, Cherian'; 'Margaret Rifkin (Margaret.Rifkin@montgomeryplanning.org)'; 'Marco.Fuster@montgomeryplanning.org'; 'Tina.Schneider@montgomeryplanning.org'; 'Autrey, Thomas'; 'Bob.simpson@montgomerycountymd.gov'; 'Matt Snare'; 'Petersen, Susan (NIH/OD/ORF) [E]'; 'Hillis, Brian D CIV NNMC'; 'Miller, Jeffrey M. CIV NSA Bethesda'; 'Montgomery, Kevin P CIV NAVFAC Washington'; 'Tollefson, Christine R CIV NAVFAC Washington'; 'Canan, Timothy'; 'Shrestha, Suni'; 'Ismart, Dane'; 'Rupp, George'; 'Erwin N. Andres'; 'Christopher L. Bowyer'  
**Subject:** NSA Bethesda EIS Traffic Study Meeting - FINAL Meeting Minutes  
**Attachments:** Meeting Minutes\_NSAB EIS Traffic Study\_18OCT2011.pdf  
**Signed By:** william.sadlon@navy.mil

Good Afternoon all,

Once again I would like to thank everyone for their participation in the NSA Bethesda EIS Traffic Study meeting on 30 September. Attached please find the FINAL Meeting Minutes from this discussion, inclusive of the comments on the DRAFT minutes provided by M-NCPPC and MCDOT. The key points are as follows:

1. M-NCPPC, SHA, and MCDOT identified the POCs for the Traffic Study and EIS for future coordination with the Navy.
2. The Navy presented its proposed methodology for the traffic analysis including the anticipated vehicle trips (AM/PM periods), intersections proposed for analysis, and proposed analytical methodologies.
3. M-NCPPC agreement that the proposed methodology would meet the LATR guidelines.
4. M-NCPPC concurs that no additional intersections beyond those proposed would be required for analysis. (Stated the Navy proposal exceeds the minimum analysis requirements based on anticipated trip volume)
5. Navy and M-NCPPC identified information requests for further coordination as the process continues.

The Navy initiated its traffic counts, in accordance with the attached discussion, on 18 October.

V/r,  
Bill

---

Bill Sadlon  
NAVFAC Washington  
1314 Harwood St. S.E., Bldg 212  
Washington D.C., 20374  
(202) 685-0164 (ph)  
(202) 685-0615 (fax)

**NSA Bethesda  
Medical Facilities Development and University Expansion  
Environmental Impact Statement – Traffic Study Meeting  
30 September 2011  
Meeting Minutes**

**Attendees:**

<i>Name</i>	<i>Organization</i>	<i>Telephone</i>	<i>Email Address</i>
Erwin Andres	Gorove/Slade Inc.	202-540-1925	<a href="mailto:ENA@goroveslade.com">ENA@goroveslade.com</a>
Tom Autrey	M-NCPPC	301-495-4533	<a href="mailto:Thomas.autrey@montgomeryplanning.org">Thomas.autrey@montgomeryplanning.org</a>
Chris Bowyer	Gorove/Slade Inc.	202-296-8625	<a href="mailto:CLB@goroveslade.com">CLB@goroveslade.com</a>
Tim Canan	Louis Berger Group	202-303-2638	<a href="mailto:tcanan@louisberger.com">tcanan@louisberger.com</a>
Cherian Eapen	M-NCPPC	301-515-3254	<a href="mailto:Cherian.Eapen@montgomeryplanning.org">Cherian.Eapen@montgomeryplanning.org</a>
Marco Fuster	M-NCPPC	301-495-4521	<a href="mailto:Marco.fuster@montgomeryplanning.org">Marco.fuster@montgomeryplanning.org</a>
Brian Hillis	NSA Bethesda – Environmental	301-295-5869	<a href="mailto:Brian.hillis@med.navy.mil">Brian.hillis@med.navy.mil</a>
Dane Ismart	Louis Berger Group	407-399-2325	<a href="mailto:dismart@louisberger.com">dismart@louisberger.com</a>
Susan Petersen	NIH/ORF/DFP	301-594-7570	<a href="mailto:petersensu@mail.nih.gov">petersensu@mail.nih.gov</a>
Margaret Rifkin	M-NCPPC	301-495-4583	<a href="mailto:Margaret.rifkin@mncppc-mc.org">Margaret.rifkin@mncppc-mc.org</a>
George Rupp	Louis Berger Group	212.612.7912	<a href="mailto:grupp@louisberger.com">grupp@louisberger.com</a>
William Sadlon	NAVFAC Washington	202-685-0164	<a href="mailto:William.Sadlon@navy.mil">William.Sadlon@navy.mil</a>
Tina Schneider	M-NCPPC	301-495-2101	<a href="mailto:Tina.Schneider@montgomeryplanning.org">Tina.Schneider@montgomeryplanning.org</a>
Suni Shrestha	Louis Berger Group	202-380-6569	<a href="mailto:sshrestha@louisberger.com">sshrestha@louisberger.com</a>
Bob Simpson	MCDOT	240-777-7193	<a href="mailto:Bob.simpson@montgomerycountymd.gov">Bob.simpson@montgomerycountymd.gov</a>
Matt Snare	SHA	410-545-5645	<a href="mailto:msnare@sha.state.md.us">msnare@sha.state.md.us</a>

**Discussion:****1. Introduction/Overview – Bill Sadlon, Navy****Points:**

- B. Sadlon: Project has 2 basic elements: meet the FY2010 National Defense Authorization Act mandate to achieve the new, statutory world class standards for military medicine at WRNMMC by providing enduring facilities commensurate in quality, capability, and condition as those provided by the BRAC investment (Right-sizing of the Medical Facilities to allow more single patient rooms etc. to meet current state of the art); and University Expansion to address space and operational limitations for education and research at the current campus (accept staff and functions now in satellite facilities in Montgomery County and at the Bethesda campus). The proposed parking garage for the Medical Facilities Development is proposed to be underground in front of Building 1. The University Expansion would also include a parking garage with their building.
- Three major issues associated with EIS: (1) traffic, (2) historic resources [medical facilities development located in NNMC historic district], and (3) construction and operational impacts to the community
- M-NCPPC: Preference to preserve wooded area and preserve or enhance stream valley.

- B. Sadlon: General Schedule:
  - Public Scoping Meetings completed and comment period closed 3 October 2011.
  - DEIS – anticipated April 2012
  - FEIS – anticipated September 2012
  - ROD – at least a month after FEIS
- B. Sadlon: ongoing SHPO consultation and cooperation with the agency during design phase

**Questions (Navy response from meeting in parenthesis):**

- What is the Congressional mandate concerning the proposed action? (To report back to Congress how the Navy intends to meet new medical facilities standards)
- Is the project fully funded? (EIS is fully funded. The proposed action is not yet funded.)
- What will be the no action alternative? (yes) What are the new footprints? (Shown on map)
- Have other sites for USUHS been considered? (There are two alternative sites considered for the USUHS facilities, one reuse and one open site).
- What are some known initial concerns for environmental analysis? Is medical waste a concern? (The EIS will discuss medical waste practices and there are no existing wastes that are not contained)
- Is there a stream located on campus? (Yes, small tributary bisects campus. Shown on map.)
- M-NCPPC more concerned about condition and quality of stream; most likely stream restoration would not be required because of the wooded area still intact on the installation (The EIS will discuss impacts to the stream and forested area as well as planned restoration or enhancements that may occur).
- Will Navy be required to comply with state permitting with regard to storm water? (Yes, permits will be obtained from MDE. NPDES permits will be obtained, too.)
- Given that it is a federal facility, who (state or county) has the jurisdiction over the forest conservation review if required? (This will be determined; both State and County agencies will have the opportunity to comment)
- Question concerning public participation program. (Scoping meetings already occurred; neighborhood association meetings; MCBIC meeting; project website; and actively engaging community.)
- What is the official name of the campus? (Naval Support Activity Bethesda is the name of the campus. Walter Reed National Military Medical Center, Uniformed Services University of the Health Sciences, etc. are tenants within NSA Bethesda.)
- Will solar or alternative sources of energy be considered for energy needs? (Yes, through the process to achieve at least LEED Silver certification for all new buildings [DoD policy]. Alternative/efficient energy considerations will be part of that process.)

**Action Items:**

- B. Sadlon to provide EIS schedule to M-NCPPC (B. Sadlon provided C. Eapen/M. Rifkin with link to project website, which contains timeline documents on 3 October).

**2. Traffic Analysis Methodology – Dane Ismart (Traffic Study Approach – Attached)**

**Points:**

- NSAB has instituted prescriptive parking plan and the initial changes in commuter pattern shows that the AM traffic arrival times have shifted to the left and there has been considerable

increase in carpools and application for transit benefits. Bigger issues still appears to be PM not AM.

- Concern for need for good response rate in commuter survey (M-NCPPC)
- M-NCPPC has seen a lot of military families settle in Silver Spring with military member taking bus to work at NSAB
- This EIS waited until after BRAC implementation to collect data to get good current trends in data. (B. Sadlon)
- NSAB does not anticipate dipping below 1:3 NCPC ratio as a result of proposed action because 900 spaces from the proposed action do not mean 900 additional spaces as many surface parking spaces will be lost due to already planned construction or the proposed actions. (This would be a big consideration for M-NCPPC.)
- EIS team conducted a preliminary site trip assignment through several additional intersections identified by the public and they were not found to be substantial enough to warrant including them in the analysis.
- M-NCPPC: Proposed methodology goes well beyond M-NCPPC's standards and is therefore technically acceptable. M-NCPPC staff concurred that the additional intersections beyond the 17 that were identified are not necessary.
- EIS team requests a list of approved but not yet built projects from M-NCPPC for use in the traffic analysis. EIS Team also requested M-NCPPC provide the approved background growth rates for use in the future conditions analysis.
- Several groups interested in examining feasibility of implementing BRT in MD355 corridor. There is some discussion of needing additional ROW for this. Perhaps NIH and NSAB could consider this as part of master plan process.
- MCDOT also has a plan for a BRT line along Rockville Pike. There are other BRT studies as well.
- Big increase in bicycling and interest in bicycling. Capital Bike Share may move out to MoCo, but M-NCPPC needs to identify stations. Perhaps NSAB can be considered. (Increased interest has also been observed at NSAB. New gates will have dedicated bike lanes and the facilities have new bike racks; in fact there has been an increase in need for additional bike racks.) FDA has a very successful bike program – could be useful to talk to them.
- MCDOT: Perhaps parking supply can serve as a constraint for parking demand so the vehicle trip projections may be too conservative. (Conservative estimates are being used currently, but they will be refined as study moves forward).
- SHA points:
  - Comfortable with intersections proposed
  - Some background improvements are underway and should be considered - most should be in by 2018
  - SHA may have some synchro data to provide
  - Look at 30% distribution turning left on Cedar Lane from N-B MD355. This may be too high.
  - Requested that the Navy share the study with SHA.

**Questions:**

- M-NCPPC would like to see new parking/commuter trend data, when available (Cherian)
- Will synchro analysis be performed? (Yes, to analyze speed runs, but LOS analysis will be in accordance with M-NCPPC CLV method)
- To what does 2018 completion date refer? (Medical Facilities by 2018, USUHS by late 2016, cumulative impact projects over time up to 2018)

- Will there be enough parking for all new trips? (Parking on the installation will continue to comply with NCPC parking ratio's (1:3) and current/future ratio will be better understood through the traffic study).
- MCDOT question on the timeline of the proposed and cumulative actions and NEPA in the context of those cumulative actions. (Separate NEPA evaluation has been or will be conducted, as appropriate, for the cumulative actions.)
- MCDOT asked if the 17 intersections proposed are sufficient, or should additional intersections be considered. M-NCPPC stated that the intersections identified in the attached technical approach go beyond the required by the LATR. M-NCPPC questioned whether the traffic study will include Synchro analysis and progression. (The local and state agencies discussed whether there was a need for additional intersections in the traffic study. Some discussion on East-West Highway and Connecticut Ave, which is an intersection of interest in Chevy Chase Lakes planning process; however, those present agreed there is no technical reason why this or other any other additional intersections – beyond the 17 proposed – should be included in this EIS study).
- M-NCPPC – document the baseline so the delta can be shown

#### **Action Items**

- Navy: Provide new parking/commuter trend data, when available, from commuter survey
- M-NCPPC: provide list of approved but not-built projects; provide background growth projection information
- B. Sadlon: e-mail EIS project website to Cherian **\*\*Completed on 3 October\*\***
- EIS Team: include Margaret (M-NCPPC EIS lead), Cherian (M-NCPPC TMP/Traffic lead), and Edgar (MCDOT lead) on all correspondences, as well as others, as appropriate.
- Cherian to send information regarding planning for the Metro Purple Line. **\*\*Completed 14 October\*\***

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**Attachment 1: Traffic Study Approach**

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# Naval Support Activity Bethesda Medical Facilities Development and University Expansion Traffic Analysis Approach

The Navy will prepare a traffic study as part of the Medical Facilities Development and University Expansion Environmental Impact Statement (EIS) for the Naval Support Activity (NSA) Bethesda, Maryland. The traffic study will identify the current and future availability of staff parking (as it dictates ingress/egress of traffic network trips) and the impacts of the proposed actions on local transportation networks.

Additionally the Navy will update its Transportation Management Program (TMP) to continue and further Navy’s goals to reduce traffic congestion, conserve energy, and improve air quality by reducing the number of employee Single Occupant Vehicle (SOV) trips in the workday commute, better utilizing existing parking spaces, and, maximizing the use of alternative transportation options.

Described below are the proposed trip generation, trip distribution, and intersection identification approach for the traffic study.

### Trip Generation, Trip Distribution, and Intersection Identification:

For the proposed Medical Facilities Development and University Expansion at the NSA Bethesda, a preliminary trip generation estimate is based on the proposed actions and other anticipated increases in staff due to other projects at the installation.

A preliminary estimate of the additional new trips that will be generated by 2018 (anticipated completion date) during the AM and PM peak periods are presented in **Table 1**. Based on existing travel patterns to the installation, it is expected that the peak periods will be two hours from 5:45 to 7:45 AM in the morning and from 3:15 to 5:15 PM in the afternoon. Although new vehicle trips will most likely be spread across the AM/PM peak periods, it is assumed that all new trips would occur during a single peak hour to identify the intersections for analysis.

**Table 1: Projected New Vehicle Trips**

	AM	PM
<b>Proposed Actions</b> (Medical Facilities Development and University Expansion)	155	155
<b>Other Known Ongoing and Future Projects<sup>1</sup></b> (Cumulative Impacts 2012 – 2018)	105	190
<b>Total (Proposed and Previously Planned)</b>	<b>260</b>	<b>345</b>

<sup>1</sup> Projects projected to generate additional vehicle trips include: Wounded Warrior Transient Lodge (WWTL), Navy Lodge, Navy Exchange, Child Development Center, USO, 3 PPV Housing Units, and Fire House Expansion.

Maryland-National Capital Park and Planning Commission Local Area Transportation Review and Policy Area Mobility Review Guidelines (M-NCPPC LATR Guidelines) require inclusion of a minimum of two (2) signalized intersections in each direction for projects projected to increase weekday peak hour site trips by 250 to 749.

Existing as well as anticipated distribution of traffic based on staff surveys and residential locations are shown in the attached **Figure 1**. The roads with the major movements of the NSA Bethesda new traffic are anticipated to be Cedar Lane, Rockville Pike, Jones Bridge Road, and Connecticut Avenue.

Taking into consideration the projected number of new trips shown in Table 1, the anticipated trip distribution, the five (5) gate entrances at NSA Bethesda, and the geographic boundaries such as the interstate routes, the Navy proposes to go beyond the minimum requirements of the M-NCPPC LATR Guidelines and include a total of 17 intersections in the analysis. These 17 intersections include two signalized intersection in each direction based on M-NCPPC LATR Guidelines and 13 additional key signalized intersections on major corridors. These intersections are identified below and shown on **Figure 2**.

**Signalized Intersections:**

1. Rockville Pike & Grosvenor Lane
2. Rockville Pike & Pooks Hill Road
3. Rockville Pike & West Cedar Lane
4. Rockville Pike & Wilson Drive
5. Rockville Pike & South Wood Road
6. Rockville Pike & Jones Bridge Road
7. Rockville Pike & Woodmont Avenue
8. West Cedar Lane & Old Georgetown Road
9. West Cedar Lane & West Dr.
10. Jones Bridge Road & Gunnel Road
11. Jones Bridge Road & Grier Road
12. Jones Bridge Road & Connecticut Avenue
13. Jones Bridge Road & Manor Road

14. Jones Bridge Road & Jones Mill Road

15. Rockville Pike & North Wood Road

**Unsignalized Intersections**

16. Rockville Pike & North Drive

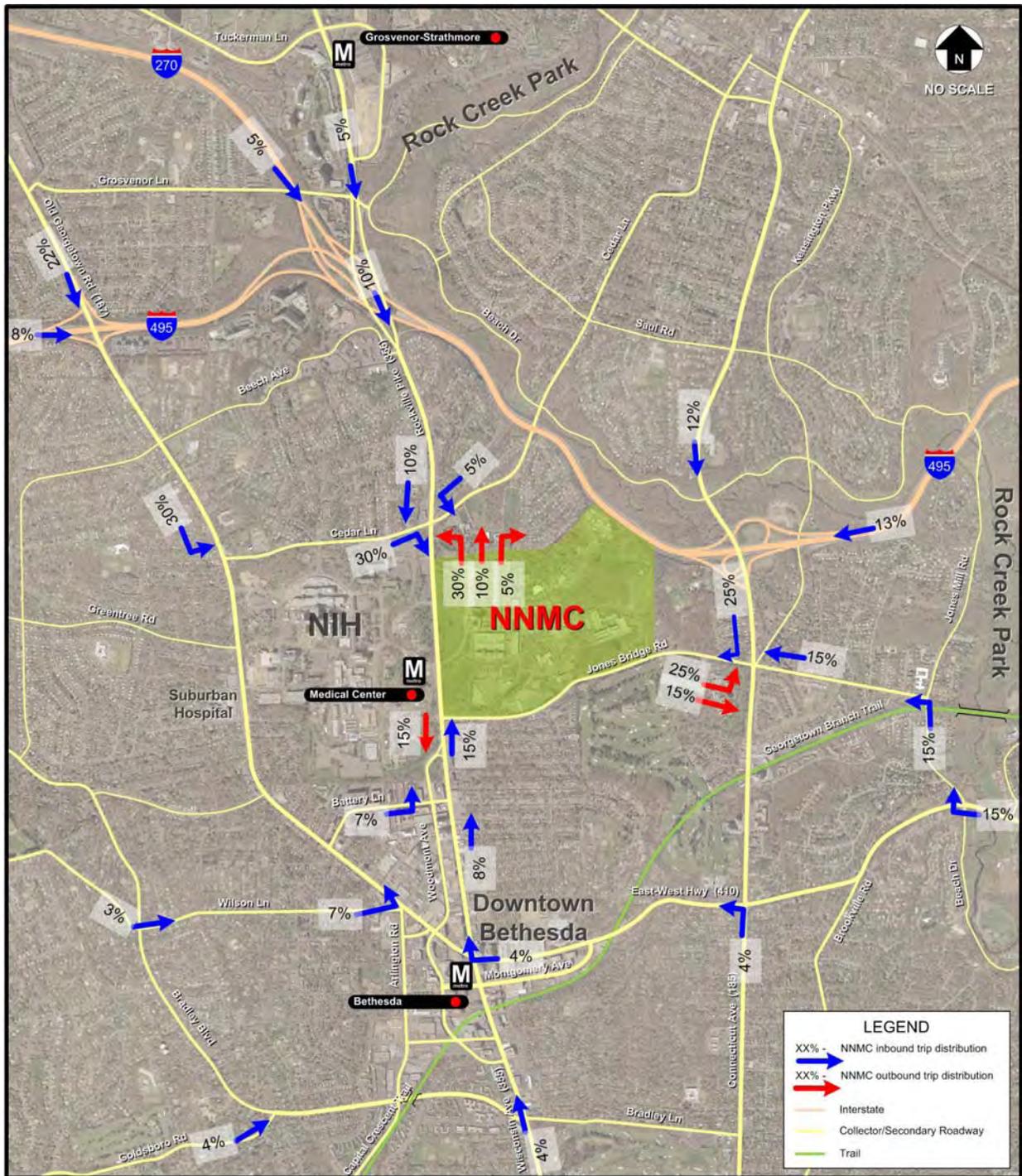
17. Jones Bridge Road & University Drive

Level of Service and Data Collection:

Each of the identified intersections will be analyzed using the Critical Lane Volume (CLV) procedure to determine the Levels of Service during the morning and afternoon peak hours as described above.

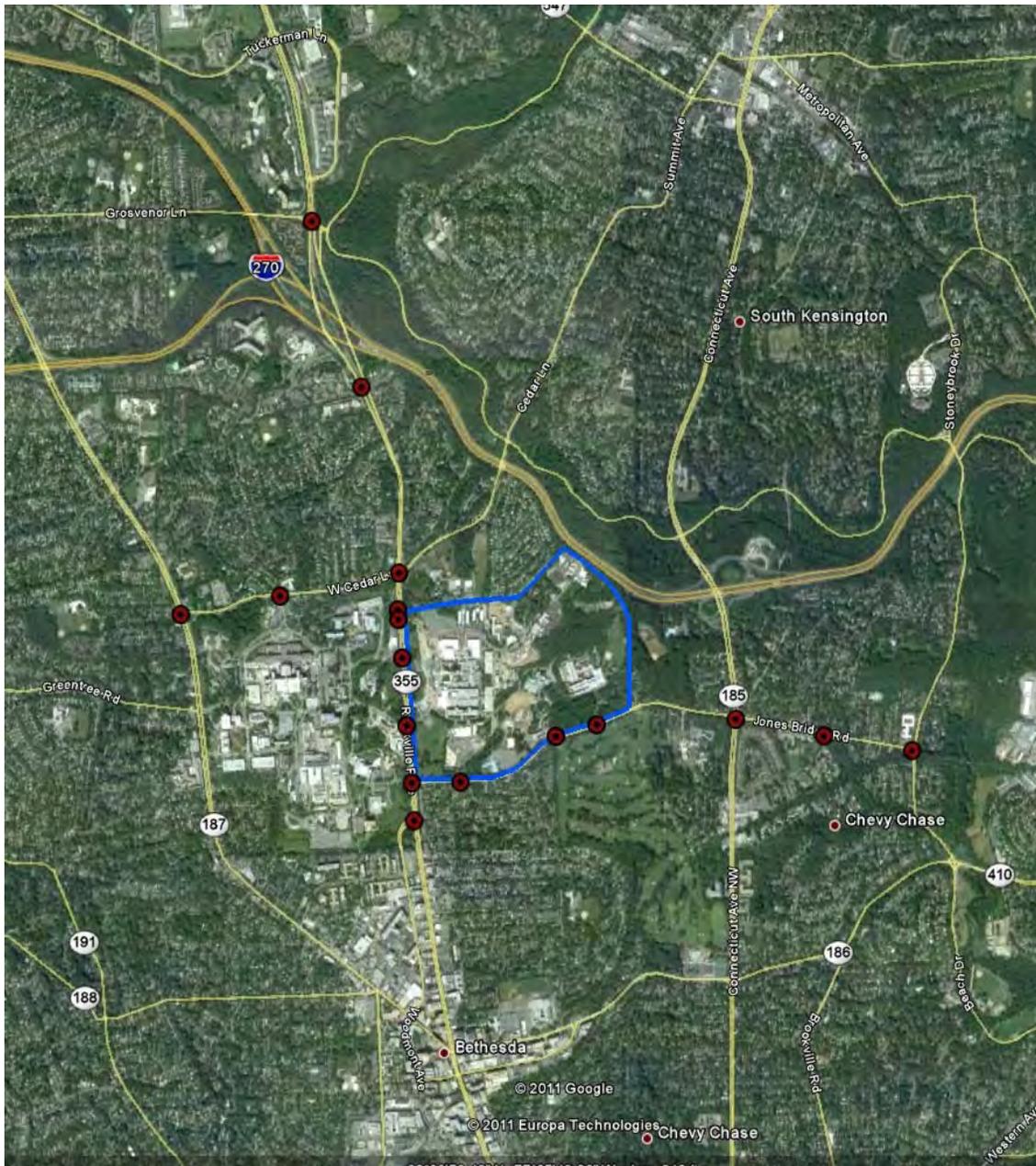
Intersection data collected for earlier studies at NSA Bethesda, such as the 2008 traffic management plan, the BRAC EIS and other traffic survey information will be incorporated and updated with new street, highway, and traffic data. Manual intersection counts will be conducted for the 17 key identified intersections for the 2-hour AM peak period and 2-hour PM peak period. In addition, 24 to 48 hour machine traffic counts (directional, 15 minute counts with hourly summations adjacent to the NSA Bethesda) will be taken where data gaps exist. Counts will be taken on non-holiday weeks during a typical Tuesday, Wednesday, or Thursday. It is expected that both manual and machine counts will be conducted in mid-October to establish the 2011 baseline condition.

In addition to the traffic counts, a new commuter survey (including travel mode, , arrival times, vehicle occupancy, ability to telecommute, use of bicycle, etc.) will be conducted to identify existing travel characteristic, validate the trip generation parameters of the traffic study, and the results of the survey will also be used to prepare a TMP. The TMP will identify existing TMP programs and features, future TMP strategies and implementation, and TMP monitoring and evaluation.



Source: 2008 BRAC EIS

Figure 1 – Site Trip Distribution Percentages



**Figure 2 – Traffic Study Intersections**

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**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

November 22, 2011

Mr. Bill Sadlon  
Natural Resources Specialist  
NAVFAC Washington  
1314 Harwood St. S.E., Bldg 212  
Washington D.C., 20374

Re: Scope for Traffic Study  
NSA Bethesda  
Medical Facilities Development and University Expansion Project  
Environmental Impact Statement and Transportation Management Program Update  
Bethesda-Chevy Chase Policy Area

Dear Bill:

The following is the scope to conduct a traffic study for the proposed Environmental Impact Statement (EIS) and Transportation Management Program (TMP) Update associated with the Medical Facilities Development and University Expansion project at the Naval Support Activity in Bethesda (NSA-B).

The *Local Area Transportation Review (LATR) and Policy Area Mobility Review (PAMR) Guidelines* require a traffic study for all uses that generate **30** or more total peak-hour trips during the typical weekday morning (6:30 a.m. – 9:30 a.m.) and/or evening (4:00 p.m. – 7:00 p.m.) peak periods. Based on Section II.A of the *LATR/PAMR Guidelines*, this traffic study scope is limited to the peak-hour trip increment resulting from the proposed project rather than “total” peak-hour trips generated by NSA-B.

The scope for the traffic study is provided below.

1. **Study Intersections:** Based on an estimate that incremental traffic generated by the proposed project will be between 250 and 750 weekday peak-hour trips, the traffic study must include the following intersections:
  - a. Rockville Pike (MD 355)/Grosvenor Lane,
  - b. Rockville Pike/Pooks Hill Road,
  - c. Rockville Pike/West Cedar Lane/Cedar Lane,
  - d. Rockville Pike/North Drive,
  - e. Rockville Pike/North Wood Road,
  - f. Rockville Pike/Wilson Drive,

- g. Rockville Pike/South Wood Road/South Drive,
- h. Rockville Pike/Jones Bridge Road,
- i. Rockville Pike/Woodmont Avenue/Glenbrook Parkway,
- j. West Cedar Lane/Old Georgetown Road (MD 187)/Oakmont Avenue,
- k. West Cedar Lane/West Drive/Locust Avenue,
- l. Jones Bridge Road/Gunnel Road/Glenbrook Parkway,
- m. Jones Bridge Road/Grier Road,
- n. Jones Bridge Road/University Drive,
- o. Jones Bridge Road/Connecticut Avenue (MD 185)/Kensington Parkway,
- p. Jones Bridge Road/Manor Road, and
- q. Jones Bridge Road/Jones Mill Road.

We recommend that the study consider the following peak periods: 6:30 a.m. – 9:30 a.m. in the morning and 4:00 p.m. – 7:00 p.m. in the evening, and document pedestrian and bicycle counts separately.

2. **Background Developments:** See attachments. We recommend that the traffic study do not include any additional background through traffic growth.
3. **Access Management, Internal Traffic Circulation, Queuing, and Pedestrian/Bicycle Activity:** The traffic study must document existing/proposed access, internal traffic circulation, any existing/projected queuing along site frontage roadways, as well as pedestrian/bicyclist activity to and from the site during the peak periods.
5. **Pedestrian/Bicyclist Impact Statement:** A detailed Pedestrian/Bicyclist Impact Statement (PBIS) must be included in the traffic study (in accordance with the *LATR/PAMR Guidelines*). The PBIS must include an inventory of sidewalks, bike paths, crosswalks, pedestrian signals, transit, and pedestrian/bicyclist safety/accessibility features within the study area. The PIS must also address internal/external pedestrian/bicyclist and transit accommodation, impact of the proposed project on adjacent public facilities, and document any pedestrian, bicyclist, and transit improvements that will be provided by the project.
4. **Policy Area Mobility Review:** The traffic study for the proposed project must include a PAMR study as required by the *LATR/PAMR Guidelines*. Please note that the Bethesda-Chevy Chase Policy Area requires mitigation of 25% of “new” peak-hour trips.
5. **Traffic Count Data:** Follow *LATR/PAMR Guidelines* in scheduling and completing traffic counts. In accordance with the *Guidelines*, electronic copies of traffic counts and intersection CLV calculations must be emailed in standardized format to the attention of Mr. Jose Dory at the following address:

*mcp-trafficcounts@mncppc-mc.org*

Once a draft traffic study is completed, please provide us two copies for review and comment. In the meantime, if you have questions, please call me at 301-495-4539.

Sincerely,

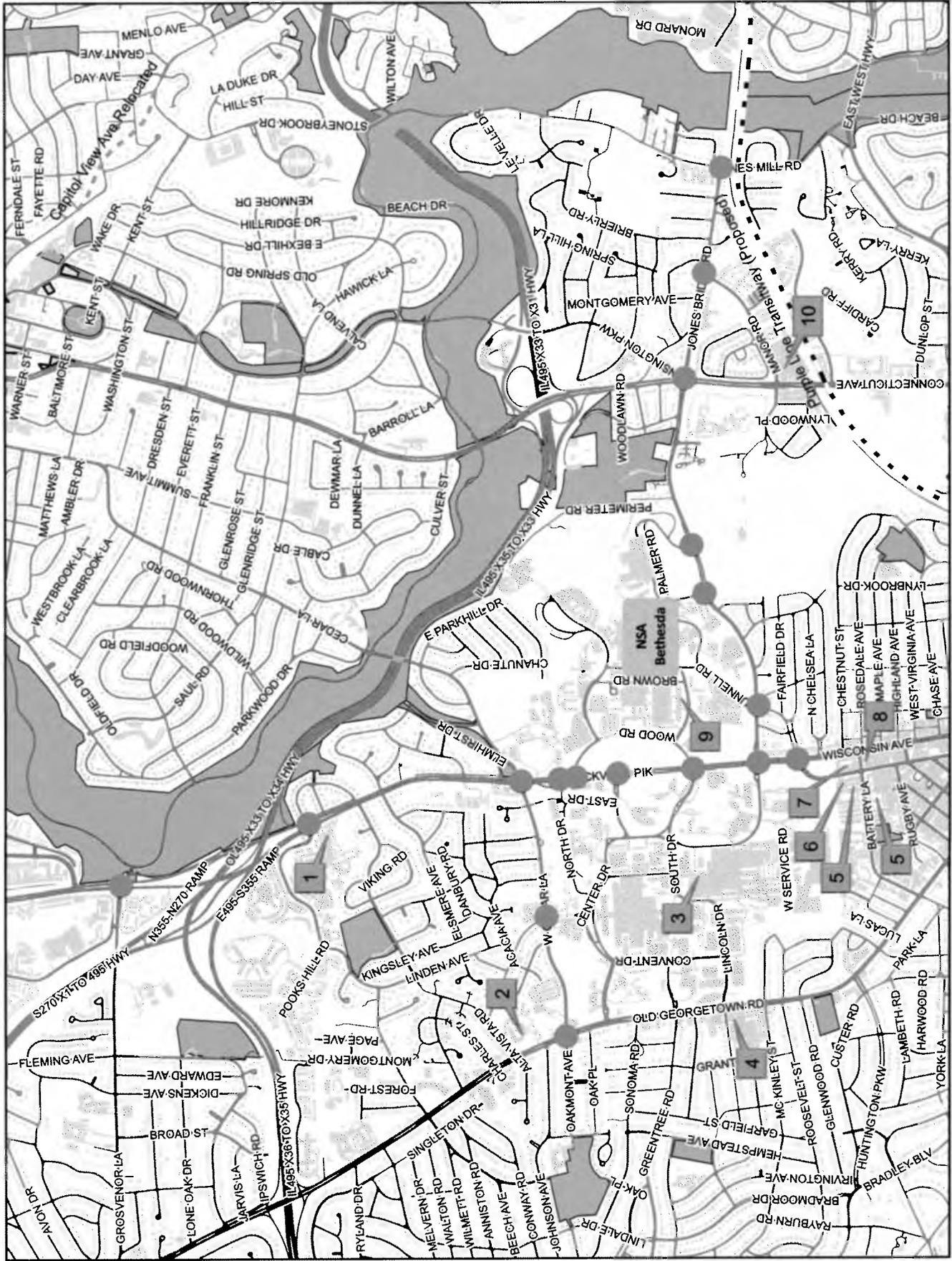


Cherian Eapen, Planner Coordinator  
Area 1 – Transportation Planning

CE-  
Attachments

cc (via email): Robert Kronenberg  
Margaret Rifkin  
Tom Autrey  
Jose Dory  
Scott Newill  
Greg Leck  
Erwin Andres  
Chris Bowyer  
Tim Canan  
George Rupp  
Dane Ismart  
Suni Shrestha  
Susan Petersen  
Brian Hills  
Bob Simpson  
Matt Snare

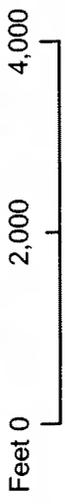
# Traffic Study Scope for NSA Bethesda-Medical Facilities Development and University Expansion



● Recommended Study Intersections



■ Background Developments



Area 1 - Transportation Planning  
Sources: M-NCPPC

**Background Developments**  
**Traffic Study Scope for NSA Bethesda - Medical Facilities Development and University Expansion, Bethesda**

#	Application No.	Project Name	Location	Number of Units or SF or Other
1	12002079A	FASEB Office Addition*	Southwest quadrant of Rockville Pk and Pooks Hill Rd; north of Alta Vista Rd; access to Rockville Pk and Pooks Hill Rd	40,000 SF Office addition
2	120070750	Alta Vista @ACC	Southeast quadrant of Old Georgetown Rd and Alta Vista Rd; access to Alta Vista Rd and Camberly Ave	37 Single-Family DU's
3	--	NIH - Main Campus	East side of Old Georgetown Rd; south of West Cedar Ln	See below**
4	S-274-D	Suburban Hospital*	Southwest corner of Old Georgetown Rd and Southwick St	114,996 SF Expansion; 134,996 SF Standard of Care Expansion
5	G-909	Glen Aldon on Battery Lane	North/south sides of Battery La; West of Woodmont Ave	694 High-Rise DU's replacing 260 Mid-Rise DU's
6	820090010	Woodmont View	Northwest corner of Woodmont Ave and Battery La	46 Mid-Rise DU's, 3,200 SF Restaurant, and 1 Extended Stay Multi-Family Facility for 5 families replacing 4,200 SF General Office and 1 Single-Family DU
7	--	8300 Wisconsin Avenue	Between Wisconsin Ave and Woodmont Ave; north of Battery La	150 Room Hotel, 350 High-Rise DU's, and 50,000 SF Grocery Store
8	820110020	Woodmont Central - A	Southwest corner of Wisconsin Ave and Battery La	81,107 SF Office and 10,505 SF Retail replacing existing Gas Station (with Conv. Retail and Car Wash)
9	--	BRAC - National Navy Medical Center*	East side of Rockville Pk; north of Jones Bridge Rd	2,500 additional employees and 484,000 additional visitors annually***
10	120020200	Chevy Chase Lake East	Southeast quadrant of Connecticut Ave and Manor Rd	74,356 SF Office and 174,016 SF Retail replacing 67,009 SF Retail

SF - Square Feet, DU - Dwelling Units

\* See attached

\*\* The NIH is approved for the build-out of its Campus and has a Memorandum of Understanding (MOU) to "cap" the total number of vehicular trips in the peak direction, entering the Campus during the morning peak-hour and exiting the Campus during the evening peak-hour. The background traffic for the Campus will therefore be equivalent to the difference between the 1992 vehicle trip "cap" and the latest May 2009 driveway counts. See Table below:

Weekday Peak Hour	1992 "Cap" or Max Trips	May 2009 Driveway Trips	Background Trips
Inbound Morning	4,925	2,120	2,805
Outbound Evening	4,450	1,882	2,568

\*\*\* Adjust as necessary

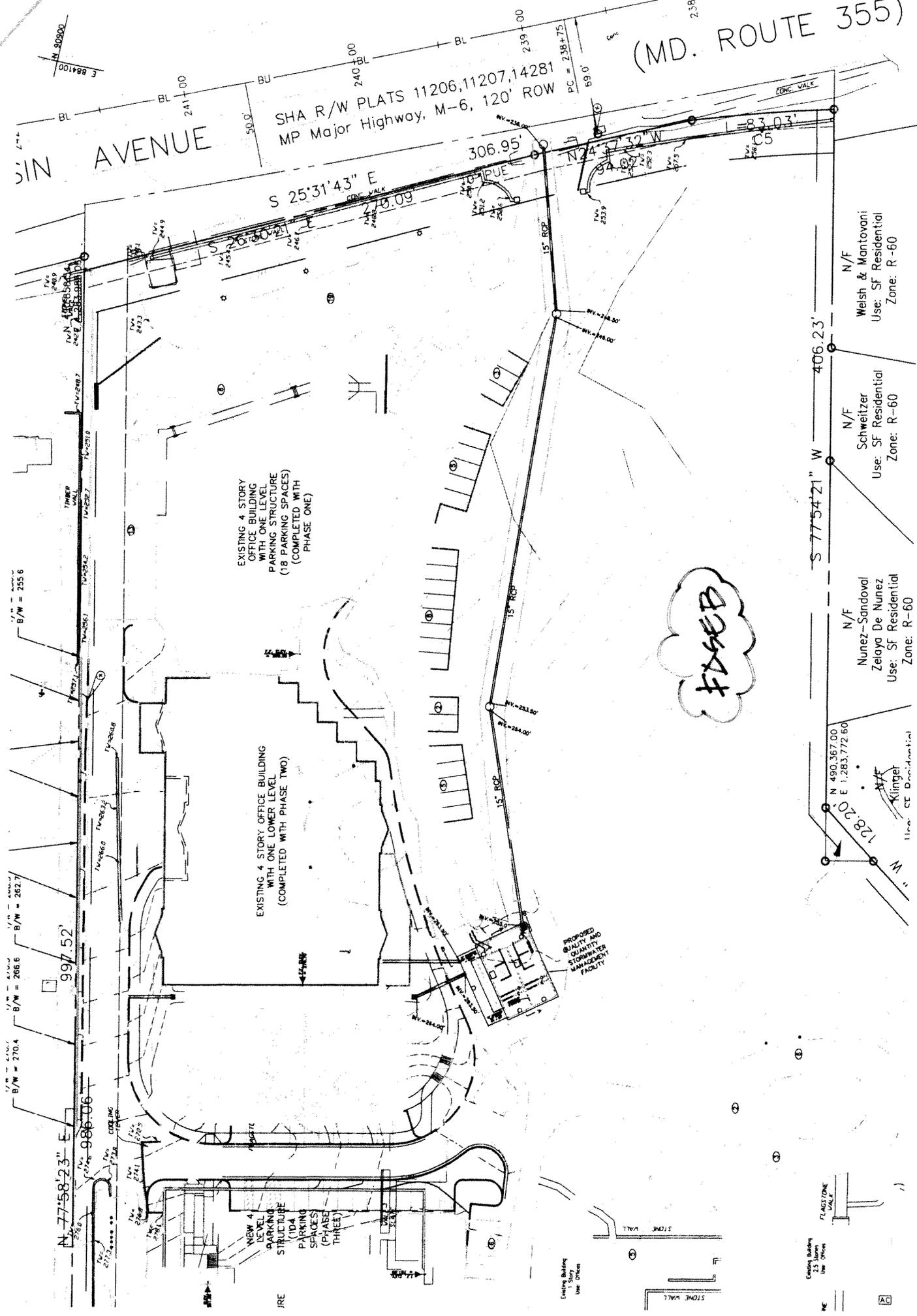
Refer to: [www.montgomerycountymd.gov/brcmpl.asp?url=/Content/EXEC/BRAC/index.asp](http://www.montgomerycountymd.gov/brcmpl.asp?url=/Content/EXEC/BRAC/index.asp) for more info on infrastructure improvements.  
Refer to: [www.montgomeryplanning.org/transportation/brac/index.shtm](http://www.montgomeryplanning.org/transportation/brac/index.shtm) for more info on infrastructure improvements.



(MD. ROUTE 355)

SIN AVENUE

SHA R/W PLATS 11206, 11207, 14281  
MP Major Highway, M-6, 120' ROW



**FASEB HEADQUARTERS EXPANSION  
LOCAL AREA TRANSPORTATION REVIEW  
MONTGOMERY COUNTY, MARYLAND**

Prepared for:  
Federation of American Societies  
for Experimental Biology

Prepared by:  
Wells & Associates, LLC

February 7, 2005

## INTRODUCTION

This report presents the results of a Local Area Transportation Review (LATR) of the proposed Federation of American Societies for Experimental Biology (FASEB) headquarters expansion. The subject site is bounded by Wisconsin Avenue (MD Route 355) and Alta Vista Road, in the Bethesda/Chevy Chase policy area of Montgomery County, Maryland, as shown on Figure 1.

This 11.5-acre site is currently zoned R-60. A 50,000 square foot (S.F.) expansion on the FASEB headquarters ("Phase One") has recently been constructed, and this expansion is partially occupied by offices previously located in other parts of the original 120,000 S.F. campus. The existing 100,000 S.F. Lee Building is proposed to be razed and another building of equal size constructed in its place ("Phase Two"). The Federation is also requesting approval for a potential future expansion of their headquarters facility of approximately 40,000 square feet ("Phase Three"), which is the subject of this analysis. ←

The scope of this traffic study was established in consultation with the Maryland-National Park and Planning Commission (M-NCPPC). A copy of the M-NCPPC letter describing the study scope is included in Appendix A.

This study includes evaluations of the following intersections:

1. MD Route 355/Grosvenor Lane/Beach Drive,
2. MD Route 355/Pooks Hill Road,
3. MD Route 355/North Site Entrance,
4. MD Route 355/South Site Entrance,
5. MD Route 355/Alta Vista Road,
6. MD Route 355/Cedar Lane,
7. Old Georgetown Road/Beech Avenue, and
8. Alta Vista Terrace/Secondary Site Entrance.

Tasks undertaken in this study included the following:

1. Review FASEB's proposed development plans, the Bethesda/Chevy Chase Master Plan, previous traffic studies, and other background data.
2. A field reconnaissance of existing roadway and intersection geometrics, traffic controls, traffic signal phasings/timings, and speed limits.

## Site Access Concept

Access to the FASEB headquarters is currently provided via two driveways on southbound MD Route 355 and a single driveway on Alta Vista Terrace, as shown on Figure 4. The northern driveway on MD Route 355 provides right-in/right-out access, while the southern driveway is restricted to right-out only. The Alta Vista Terrace driveway provides access from the north or south on Alta Vista Terrace, but right turns out of the site are prohibited. A gate limiting the number of employees entering and exiting the Alta Vista Terrace driveway was installed in conjunction with the approval of the previous expansion.

FASEB and the adjacent Housing Opportunities Commission (HOC) development to the northwest are in discussions regarding potential interparcel access. This additional access point would provide an alternative location for FASEB vehicles to exit the site to Pooks Hill Road. If constructed, this access would result in a minimal redistribution of traffic from MD Route 355, but would reduce vehicular traffic through the neighborhood by providing direct access to Pooks Hill Road and northbound MD Route 355. 

## Existing Traffic Counts

Existing AM and PM peak hour traffic counts were conducted on Thursday, February 12, 2004, by Wells & Associates at the following intersections:

1. MD Route 355/Grosvenor Lane/Beach Drive,
2. MD Route 355/Pooks Hill Road,
3. MD Route 355/Alta Vista Road,
4. MD Route 355/Cedar Lane, and
5. Old Georgetown Road/Beech Avenue.

Counts of vehicles entering and exiting the site driveways were obtained from previous traffic studies and were utilized in this analysis. The results of these counts are included in Appendix B and summarized on Figure 5.

Table 3  
 FASEB Expansion  
 Site Trip Generation

Development/ Use	Amount	Units	AM Peak Hour		Total	In	PM Peak Hour		Total
			In	Out			In	Out	
Existing Headquarters Trips	117,312	S.F.	112	7	119	11	112	123	
Rate	1,000	S.F.	0.95	0.06	1.01	0.09	0.95	1.05	
Future Headquarters Trips	207,312	S.F.	198	12	210	20	198	218	
Existing Headquarters	117,312	S.F.	112	7	119	11	112	123	
Constructed Expansion	50,000	S.F.	48	3	51	5	48	53	
Future Expansion	40,000	S.F.	38	2	40	4	38	42	
Future Headquarters Trips	207,312		198	12	210	20	198	218	

Note: (1) Trip generation rate based on FASEB Headquarters Expansion LATR performed by Wells & Associates, May 7, 2002.  
 (2) Constructed expansion partially occupied on day of counts



**SUBURBAN HOSPITAL EXPANSION  
LOCAL AREA TRANSPORTATION REVIEW  
AND  
POLICY AREA MOBILITY REVIEW  
MONTGOMERY COUNTY, MARYLAND**

Prepared for:  
Suburban Hospital Healthcare System

Prepared by:  
Wells + Associates, Inc.

Martin J. Wells, P.E.  
Christopher L. Kabatt, P.E.

March 26, 2008

## INTRODUCTION

This report presents the results of a Local Area Transportation Review (LATR) and Policy Area Mobility Review (PAMR) of Suburban Hospital Healthcare System's proposal to re-develop Suburban Hospital.

Suburban Hospital generally is located on the west side of Old Georgetown Road, between McKinley Street and Southwick Street, as shown on Figure 1 and Figure 2. The Hospital property includes the entire block bounded by McKinley Street, Grant Street, Lincoln Street, and Old Georgetown Road. It includes the eastern and southern half of the block bounded by Lincoln Street, Grant Street, Southwick Street, and Old Georgetown Road.

The National Institutes of Health (NIH) are located immediately to the east, across Old Georgetown Road. The Huntington Terrace residential neighborhood is located immediately to the west, north and south.

Suburban Hospital currently consists of the 323,100 S.F. hospital building and the 17,000 S.F. Lambert Building. The main hospital building also includes 95,787 of useable cellar space. There is, therefore, currently 435,887 S.F. of useable space on campus, including the Lambert Building (i.e.,  $323,100 + 95,787 + 17,000 = 435,887$ ).

The Old Georgetown Road campus is served by 730 on-site, marked parking spaces in a three-level parking garage and surface parking lots. The parking garage contains 268 spaces and the surface parking lots contain 462 spaces. Approximately 350 off-site parking spaces are currently available to Suburban staff on a short-term basis at scattered locations.

Vehicular access to Suburban Hospital is provided by six driveways: three on Lincoln Street, two on McKinley Street, and one on Southwick Street.

Suburban Hospital Healthcare System proposes to:

- Expand the Hospital by 249,992 S.F. useable floor area, including 38,000 S.F. of physician office space and 14,395 S.F. of useable cellar space.
- Provide a total of 1,465 parking spaces on the main campus, and
- Abandon Lincoln Street as a public street between Old Georgetown Road and Grant Street.

Approximately 134,996 S.F. of the proposed expansion is required to bring the existing hospital into conformance with current healthcare standards by improving and properly sizing existing conditions and required services (i.e., the standard of care expansion). Approximately 114,996 S.F. of the proposed expansion would accommodate future growth.

Table I describes the total size of the hospital campus. In summary, the following program was used to generate vehicle trips for the Suburban Hospital Campus:

- Existing Hospital: 418,887 S.F.\*
- Hospital Expansion: 76,996 S.F.
- Physician Office Space: 38,000 S.F.

\*Includes usable cellar and demolition of the Lambert Building.

In addition, the number of trips associated with the existing 350 off-site employee parking spaces will be consolidated on-site as part of the expansion and, therefore, were included in total trip generation for the campus.

Under the proposed plans, future vehicular access would be provided by four driveways; one on Old Georgetown Road at Lincoln Street (main entrance), two on McKinley Street, and one on Southwick Street.

A conceptual graphic depicting the proposed re-development of the Suburban Hospital campus is shown on Figure 3.

This LATR and PAMR were conducted in accordance with the Maryland-National Park and Planning Commission's (M-NCPPC) adopted 2008 LATR and PAMR Guidelines, which were adopted in January 2008. The scope of this LATR was established in consultation with M-NCPPC staff. A copy of the M-NCPPC letter describing the study scope is included in Appendix A.

Tasks undertaken in this study included the following:

1. Review of the Bethesda/Chevy Chase Master Plan, Suburban Hospital Healthcare Services proposed development plans, previous traffic studies conducted in the area, and other background data.
2. A field reconnaissance of existing roadway and intersection geometrics, traffic controls, traffic signal phasings/timings, pedestrian facilities, and speed limits.
3. Meetings with M-NCPPC staff.

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Figure 1  
Site Location



Table 1  
 Suburban Hospital  
 Building Area Summary<sup>1</sup>

Building Component	Gross Floor Area (S.F.)
<b>Existing</b>	
Hospital	323,100
Lambert Building	17,000
Useable Cellar	<u>95,787</u>
Total	435,887
<b>Proposed Expansion Beyond Standard of Care</b>	
Hospital Expansion Space (including useable cellar)	76,996
Physician Office Space	<u>38,000</u>
Subtotal	114,996
<b>Subtotal</b>	
Hospital (including useable cellar)	495,883
Physician Office Space	<u>38,000</u>
Total	533,883
<b>Proposed Expansion - Standard of Care</b>	<b>134,996</b>
<b>Total</b>	
Hospital (including useable cellar)	630,879
Physician Office Space	<u>38,000</u>
Total	<u>668,879</u>

Notes: <sup>1</sup> Building area obtained from Ellerbe Becket

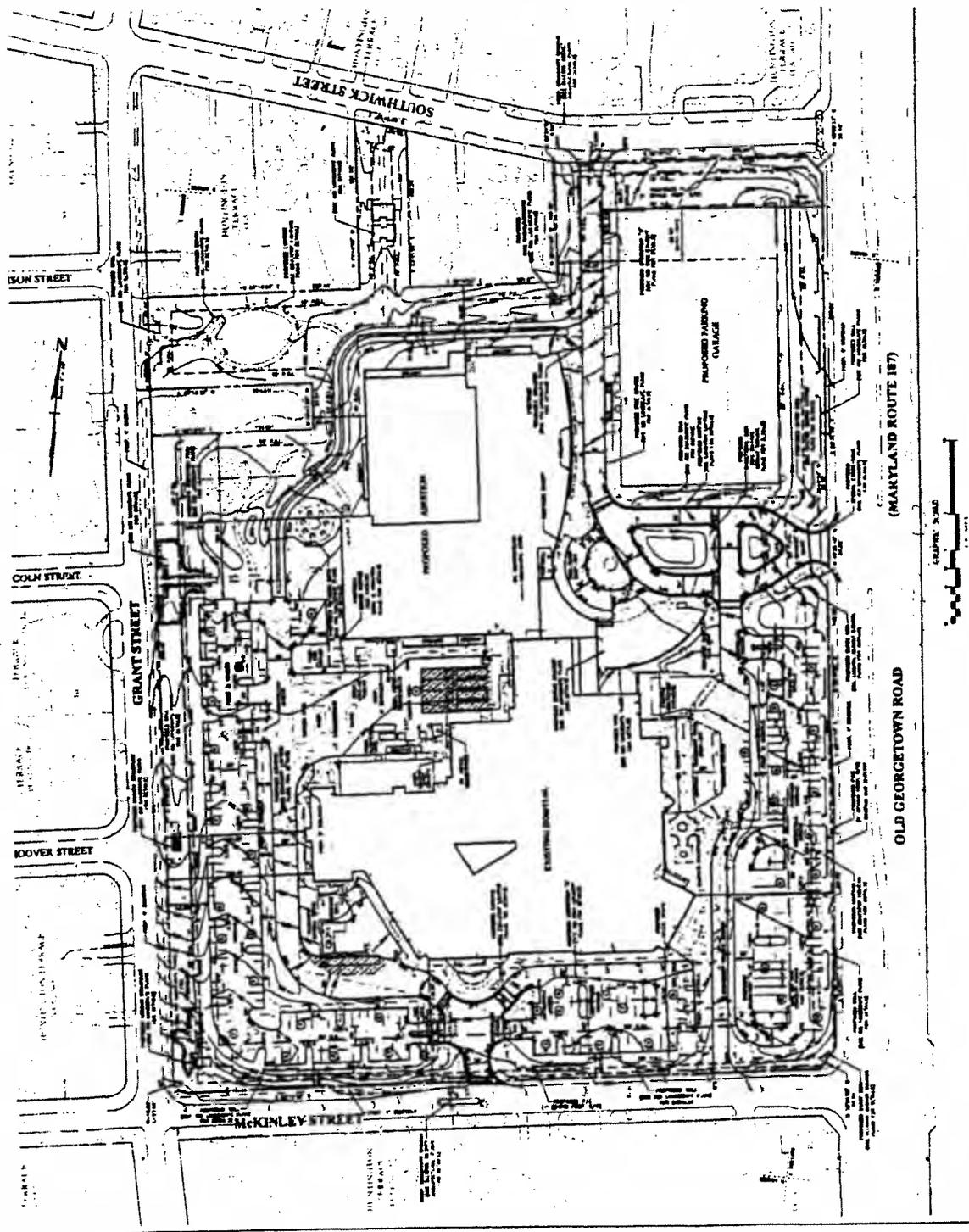


Figure 3  
Site Concept Plan

Plan Provided By:  
Rogers Consulting



Each of the other study intersections along Old Georgetown Road would operate at 80 percent or less of the 1,600 CLV standard during both the AM and PM peak hours.

The study intersections along Grant Street and Garfield Street and the driveways to Suburban Hospital would operate at 34 percent or less of the 1,600 CLV standard during both the AM and PM peak hours.

**Existing Hospital Trip Generation.** As shown in Table 4, the existing hospital generates 296 AM peak hour trips and 304 PM peak hour trips. These numbers include both driveway counts as well as survey data and existing shuttle bus data for off-site parking.

Off-site parking trip generation data were collected on Wednesday, January 10, 2007. Each staff person and visitor boarding or alighting the shuttle bus at the main campus at 8:00, 8:15, 8:30, 8:45, and at 9:00 AM were counted as AM peak hour driveway trips for the existing hospital. During the PM peak hour, the number of staff persons and visitors boarding or alighting the shuttle bus at 5:00 PM, 5:15, 5:30, 5:45, and 6:00 PM were counted as driveway trips. Surveys also captured walkers from off-site parking lots.

**Hospital Expansion Trip Generation.** As shown on Table 4, the number of additional trips that will be generated by the expansion of Suburban Hospital beyond the standard of care space and the hospital physician office space was estimated based on ITE rates.

**Total Existing and Expansion Trip Generation.** Adding the estimated hospital expansion trips to existing hospital trip generation yields an estimated 442 AM peak hour trips and 486 PM peak hour trips, as shown on Table 4.

**Trip Distribution.** The distribution of peak hour trips generated by Suburban Hospital was determined based on existing travel patterns and the Trip Distribution and Traffic Assignment Guidelines for Bethesda/Chevy Chase included in the LATR Guidelines. The distributions and the assignments of trips generated by the existing hospital are shown on Figure 10. Existing hospital trips were redistributed, locally, to reflect changes to the location of access points for designated parking areas. The redistribution of existing trips, including those from the closure of Lincoln Street, is shown on Figure 11.

**Future Traffic Forecasts.** The site-generated traffic volumes shown in Table 4 were assigned to the public road network based on the distributions shown on Figure 10. The resultant trip assignments are shown on Figure 12. These assignments were added to the background traffic volumes shown on Figure 9 and the reassigned trips shown on Figure 11 to yield the future traffic forecasts shown on Figure 13.

Table 4  
 Suburban Hospital Expansion LATR  
 Trip Generation Analysis

Land Use	Land Use Code	Size	Units	AM Peak Hour (8:00 - 9:00 AM)			PM Peak Hour (5:00 - 6:00 PM)		
				In	Out	Total	In	Out	Total
<b>Existing</b>									
Main Campus (Including Useable Cellar)		435,887	S.F.	167	86	253	91	172	263
Off-site Parking		350	Spaces	43	-	43	1	40	41
<b>Total</b>				<b>210</b>	<b>86</b>	<b>296</b>	<b>92</b>	<b>212</b>	<b>304</b>
Trips per 1,000 S.F.				0.48	0.20	0.68	0.21	0.49	0.70
<b>Future</b>									
Existing Hospital (Lambert Building Demolished, 17,000 S.F.)		418,887		210	86	296	92	212	304
Standard of Care Expansion		134,996	S.F.	-	-	-	-	-	-
Hospital Expansion <sup>1</sup> (Including Useable Cellar)		76,996	S.F.	37	15	52	16	37	54
Physician Office Space <sup>2</sup>	720	38,000	S.F.	74	20	94	35	93	128
<b>Subtotal</b>		<b>114,996</b>	<b>S.F.</b>	<b>111</b>	<b>35</b>	<b>146</b>	<b>51</b>	<b>130</b>	<b>182</b>
<b>Total</b>		<b>533,883</b>		<b>321</b>	<b>121</b>	<b>442</b>	<b>143</b>	<b>342</b>	<b>486</b>

Notes: <sup>1</sup> Based on Trip Generation 7th Edition, Institute of Transportation Engineers, Land Use Code 610.

<sup>2</sup> Based on Trip Generation 7th Edition, Institute of Transportation Engineers, Land Use Code 720.

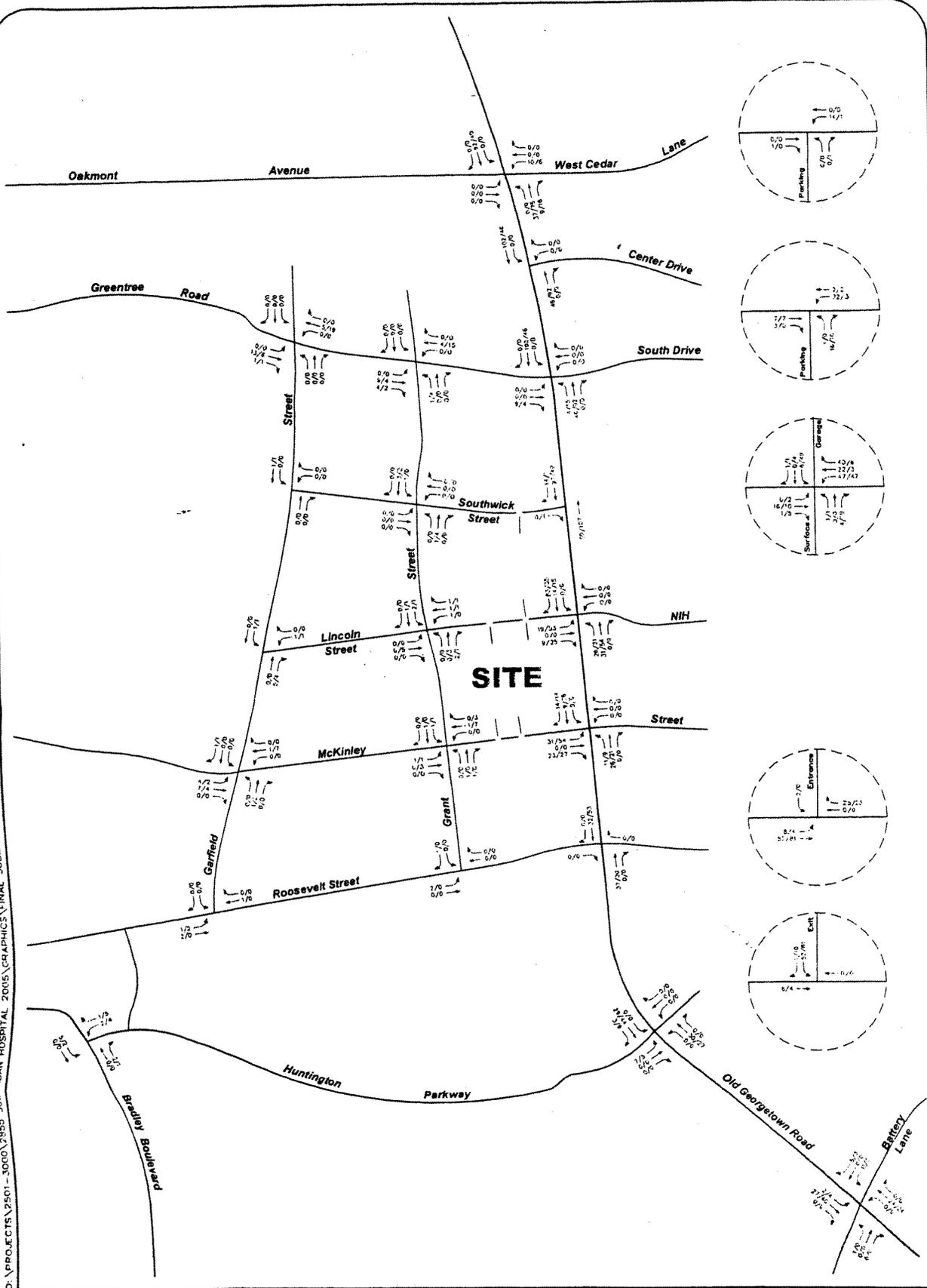


Figure 10  
Existing Suburban Hospital Trip Distributions and Assignments

ALL PEAK HOUR  
PM PEAK HOUR  
000/000

North  
Schematic

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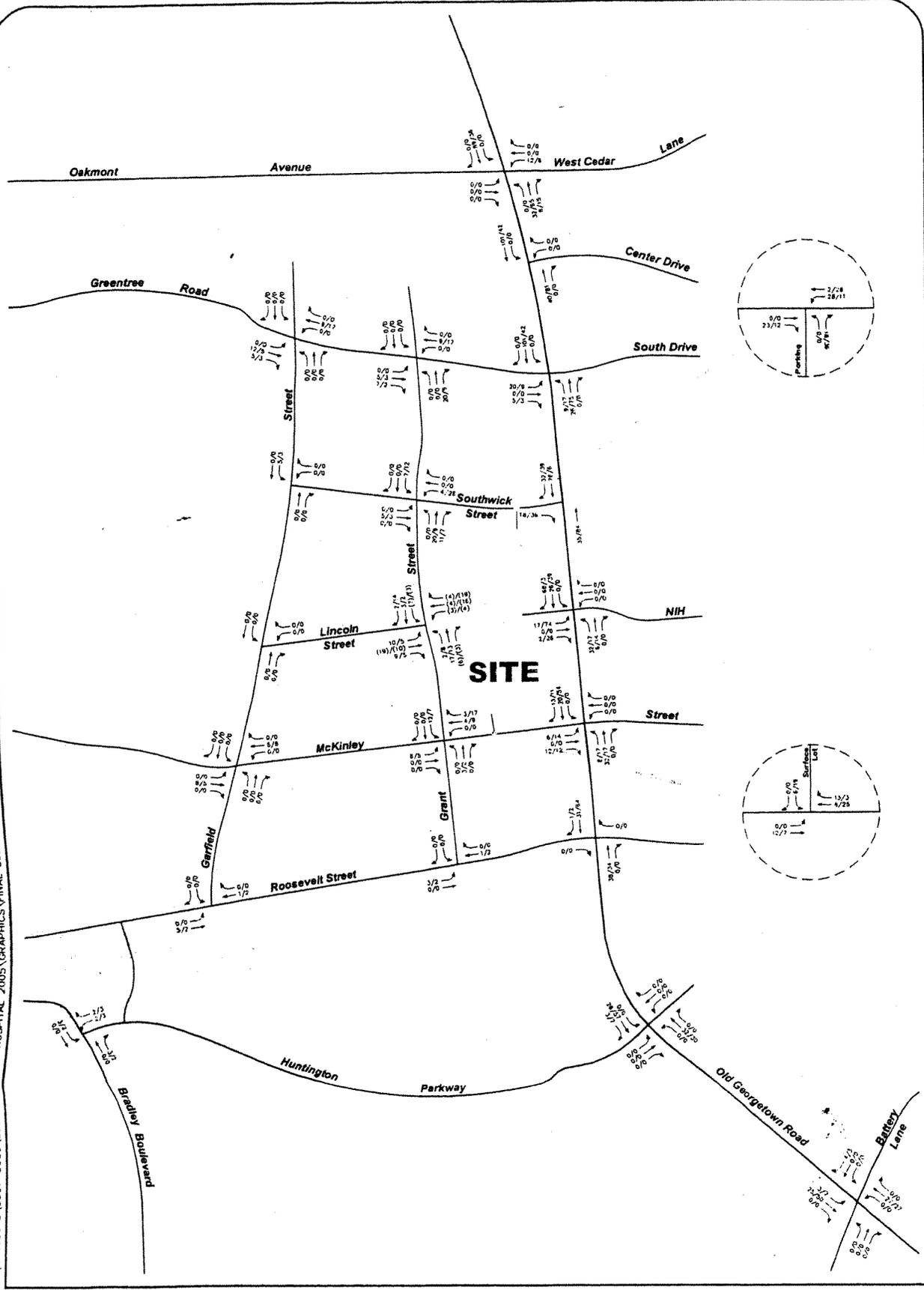


Figure 11  
Existing Suburban Hospital Trip Reassignments

AM PEAK HOUR  
PM PEAK HOUR  
000/000

North  
Schematic

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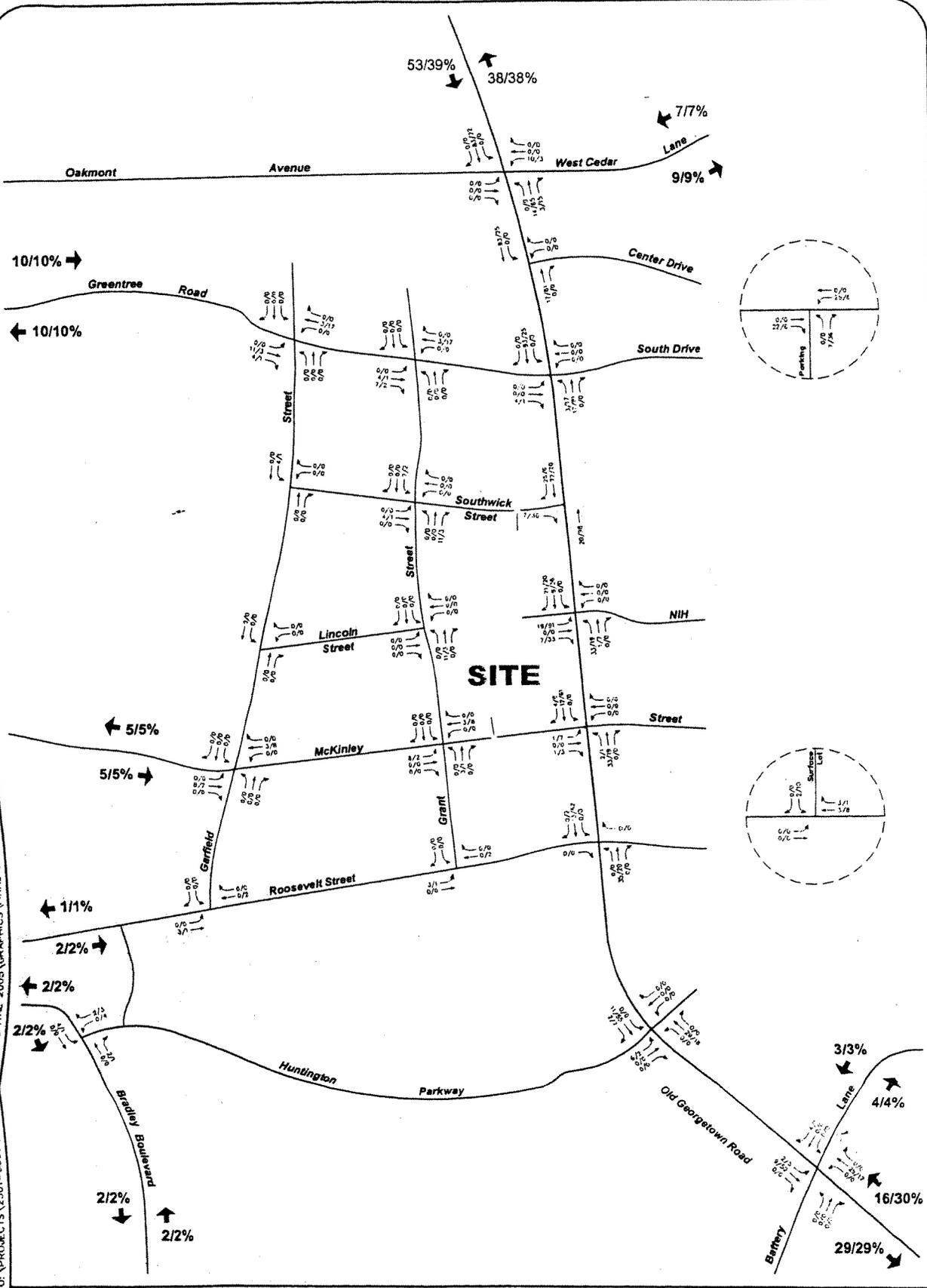


Figure 12  
 Suburban Hospital Expansion Trip Assignments &  
 Directional Distribution

ALL PEAK HOUR  
 PM PEAK HOUR  
 000/000  
 North  
 Schematic





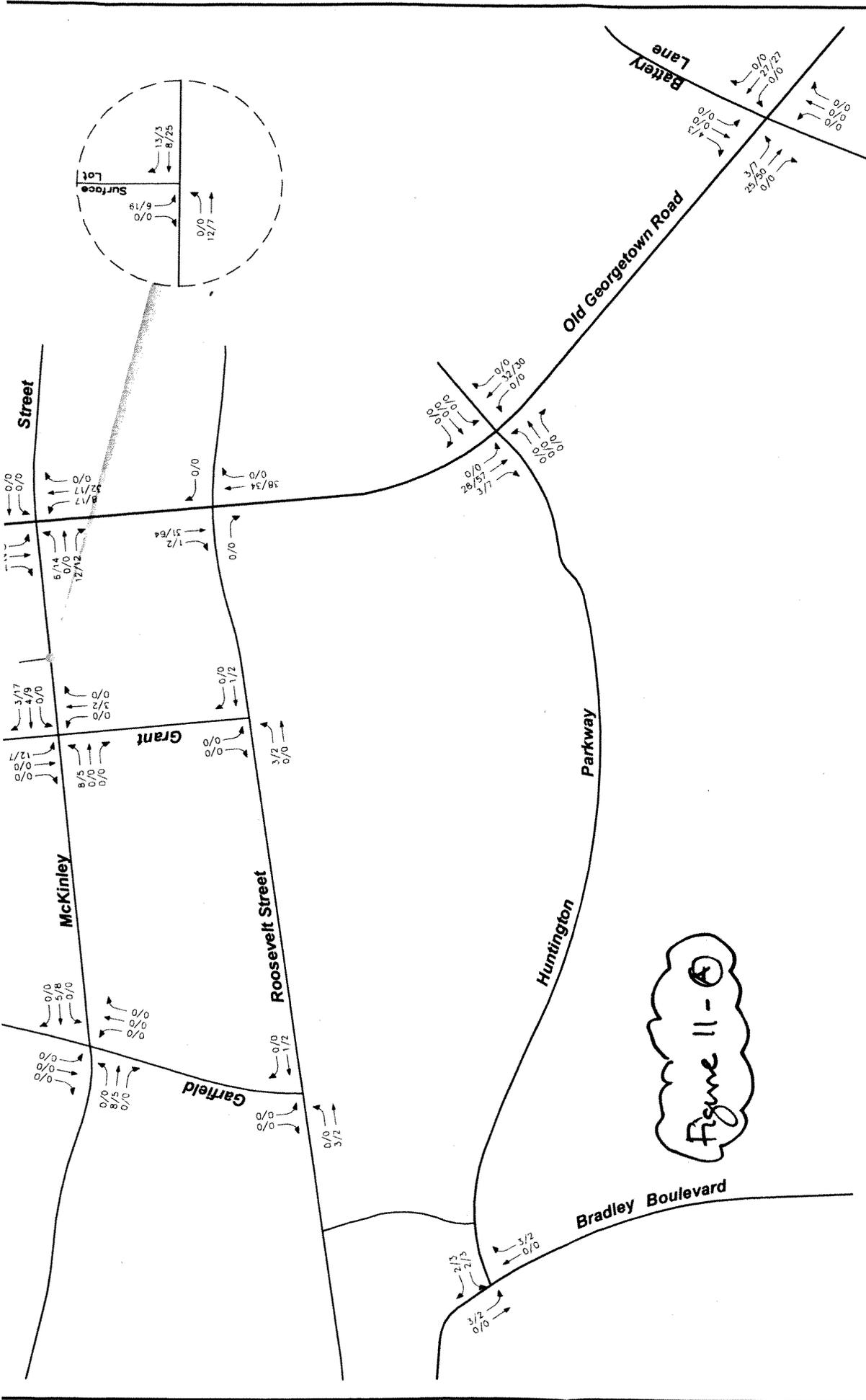


Figure 11  
Existing Suburban Hospital Trip Reassignments

AM PEAK HOUR  
000/000  
PM PEAK HOUR  
000/000

North  
Schematic





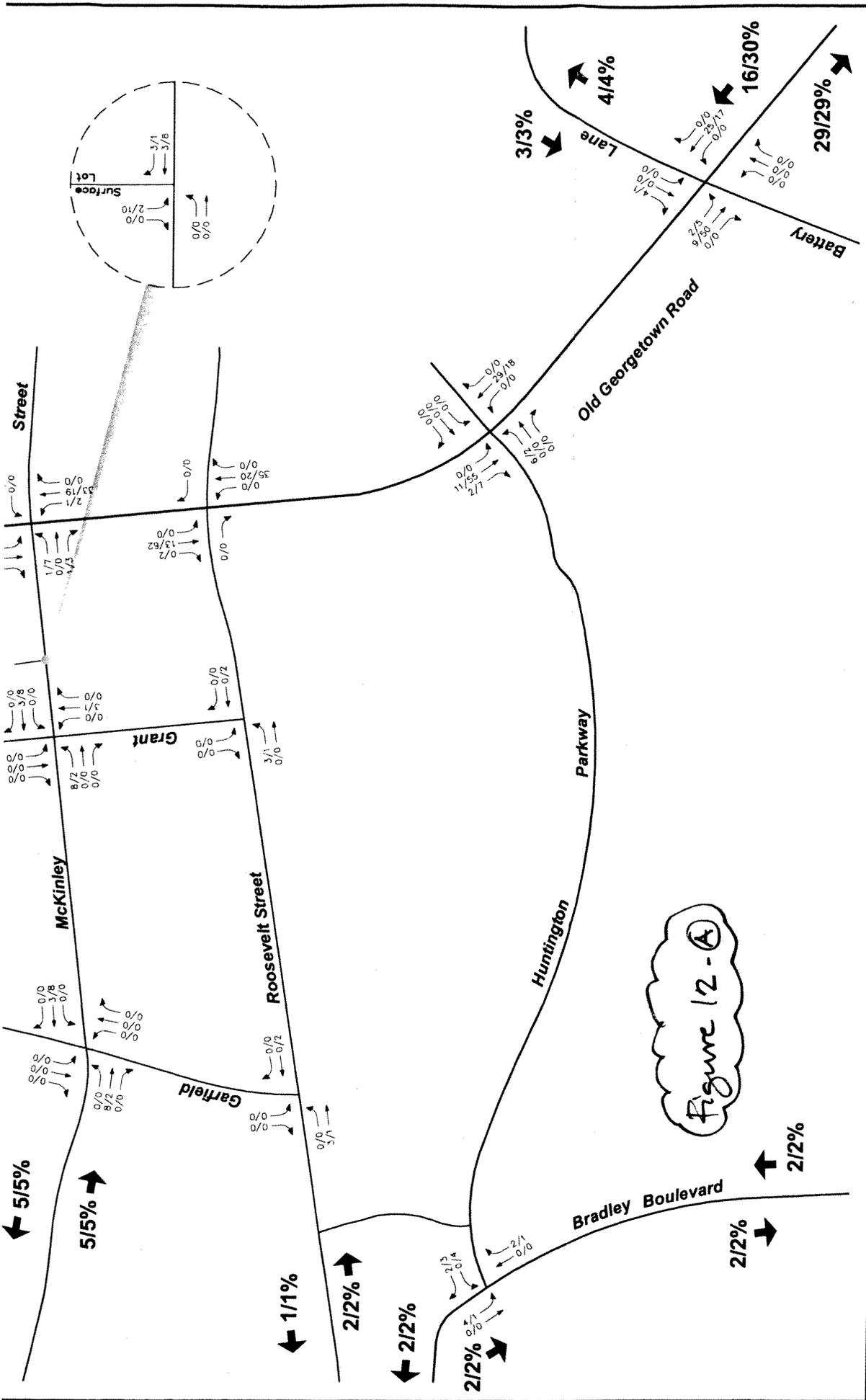
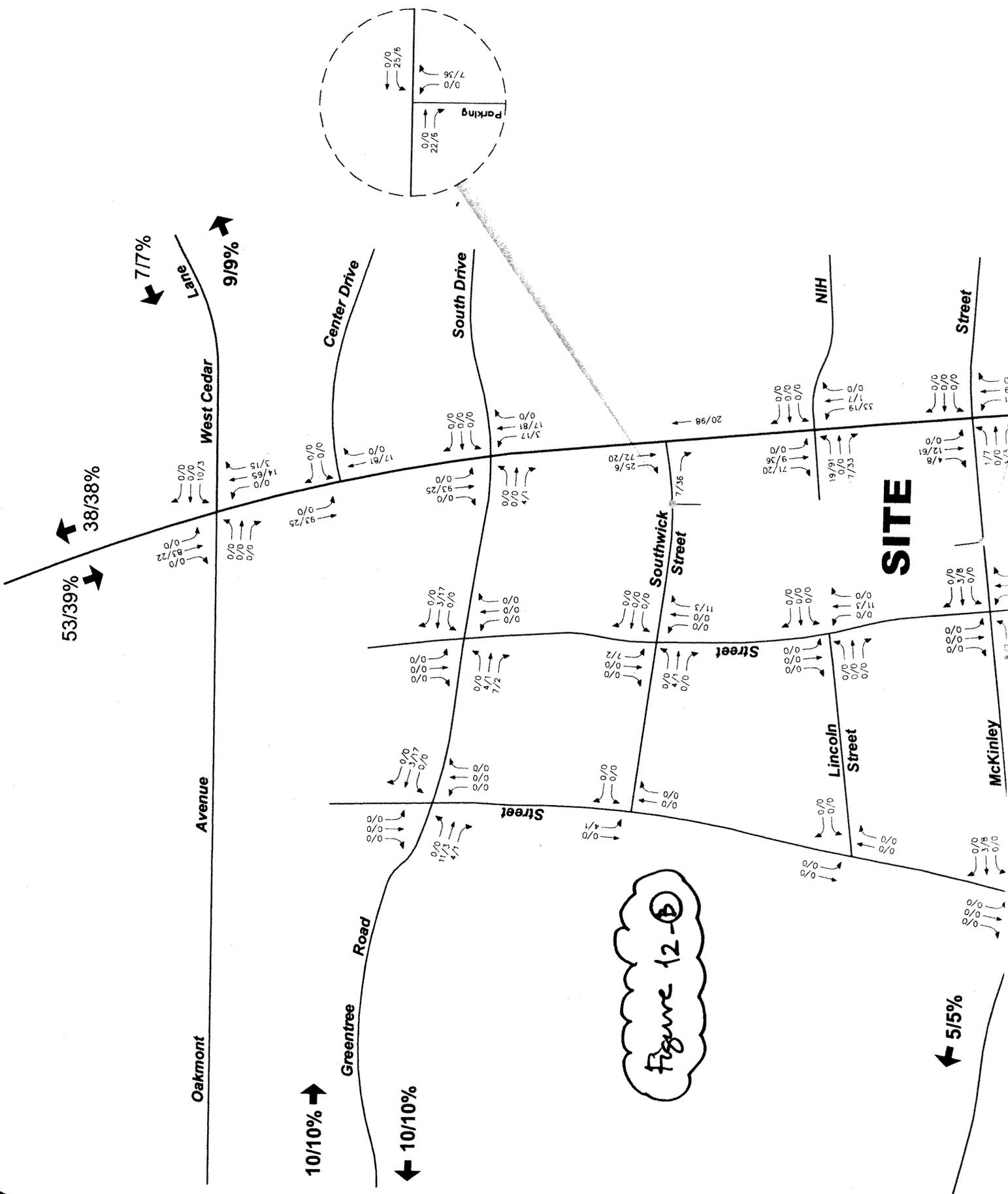


Figure 12  
 Suburban Hospital Expansion Trip Assignments &  
 Directional Distribution

AM PEAK HOUR  
 PM PEAK HOUR  
 North  
 Schematic



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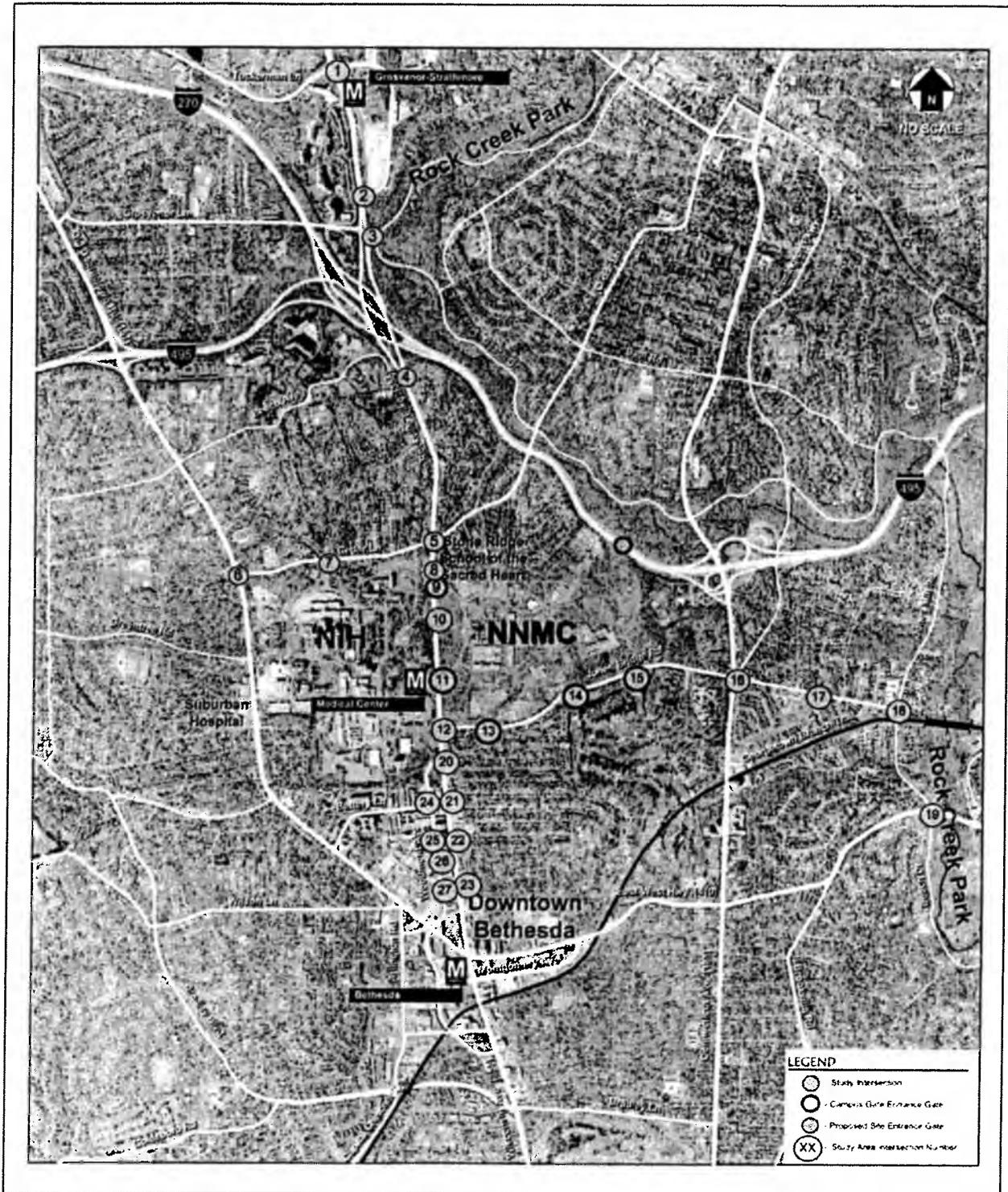


Figure 2 - Study Area Roadway Network

#### 4.0 TOTAL FUTURE CONDITIONS

The projected total future (2011) traffic conditions would result from the combination of the background traffic situation (discussed in previous section) and the additional trips generated by the BRAC/EIS Alternatives and other campus development resulting in approximately 2,500 additional employees. As noted earlier, the BRAC Action consists of two alternatives (the Preferred Alternative and Alternative II). Both alternatives currently call for approximately 2,200 employees to be accommodated at the NNMC campus by 2011. The EIS assumes approximately 2,500 additional employees as a conservative estimate to insure any additional staff determined necessary have been evaluated in the EIS, as well as to account for possible increases in staff under other ongoing and future projects not associated with BRAC being addressed under cumulative impacts. Based on these considerations, and taking a conservative approach, which allows for flexibility in the Navy employee programming, this study analyzes the potential transportation impacts of accommodating 2,500 new employees at the NNMC campus.

Additional programming information related to the two BRAC alternatives is presented in Table 11.

**Table 11 – Proposed Programming Elements**

Element	Density
	EIS Preferred Alternative and Alternative Two (2011)
<b>New Staff</b>	<b>2,200 Persons *</b>
Visitors & Patients	484,000 Persons Annually
Residential New and Renovated Space	384,000 SF (342 Units)
BRAC Medical New Space	638,000 SF
BRAC Medical Renovated Space	317,000 SF
Non-BRAC Medical/Admin. Space	114,000 SF
Non-BRAC Medical/Admin. Renovated	85,000 SF
TBI/PTSD COE	50,000 SF
Fitness Center	64,000 SF
<b>Total Space (SF)</b>	<b>1,652,000 SF</b>
Parking	2,500 Spaces

**Source:** The Louis Berger Group, Inc.

\* Approximately 2,500 additional employees is assumed as a conservative estimate to insure any additional staff determined necessary have been evaluated, as well as to account for possible increases in staff under other ongoing and future projects not associated with BRAC being addressed under cumulative impacts.

Based on information provided by NNMC staff, brief descriptions of the operational characteristics of the programming elements noted in Table 11, particularly as they pertain to external trip-making, are provided below to facilitate the trip generation analysis and discussion which follows later in this report.

- **Medical Staff.** This would comprise additional new and relocated doctors, nurses and other medical personnel from the Army and Air Force who would join the NNMC staff to support the BRAC-mandated changes. This staff would be a primary generator of additional vehicular trips accessing the NNMC.
- **Non-Medical Staff.** This would comprise additional administrative support staff whose contribution to additional traffic generated by the NNMC would be the same as the medical staff.

**Patients and Visitors.** NNMC is expected to receive approximately 484,000 patients and visitors annually due to the BRAC Actions. These would consist of the following:

- patients visiting the hospital facilities to receive medical care;
- family members and friends accompanying patients on their trips for medical appointments, as well as those coming individually to visit patients; and
- Some smaller number of visitors conducting business with the medical care and administrative organizations supporting the BRAC realignment..

Trips by patients and associated visitors are likely to have vehicular occupancies greater than one, involving families and other groups of people. Trips by all visitors are also spread across all hours (NNMC hospital appointments and care are scheduled 24 hours per day, predominantly on weekdays but including weekends). The impact from patients and visitors is discussed in the next section.

#### **4.1 Trip Generation**

The M-NCPPC Local Area Transportation Review (LATR) Guidelines stipulate that the analysis of the potential traffic impacts of planned land uses should be based on the highest one-hour (or peak hour) of the adjacent streets which occurs within the 6:30 - 9:30 AM and 4:00 - 7:00 PM periods of a typical weekday. The LATR also notes that peak hour trip estimates for planned land uses should be based on trip rates and formulas provide in Appendix A of the LATR document, if applicable. Trip rates for other land uses not included in the LATR Guidelines can be obtained from the latest edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE).<sup>2</sup> The latest edition of the ITE Manual is the 7<sup>th</sup> (2003). The User's Guide of this Manual states that the trip rates provided were derived from surveys undertaken at "suburban locations having little or no transit service, nearby pedestrian amenities or travel demand management (TDM) programs". The Guide also advises that the trip rates should be supplemented with locally derived data, when practical.

---

<sup>2</sup> "Local Area Transportation Review Guidelines", M-NCPPC, July 2004. Pages 28 & 29.

Based on the above considerations, and as advised by M-NCPPC transportation planning staff, two methodologies were considered for estimating the peak hour trip generation of the BRAC/EIS Alternatives and other development (represented by 2,500 employees for the trip projection purposes). The first methodology extrapolated the future vehicular trip generation using employee-trip ratios derived from summing the existing NNMC peak hour inbound and outbound vehicle trips, and dividing those totals by the site's employee population (8,000). The existing trips were obtained from the turning movement counts conducted at the center's five access points as part of this study.

The second methodology involved the use of trip rates and equations published by the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 7<sup>th</sup> Edition (2003). The land use types in which new staff were divided are "Hospital" (defined as any institution where medical or surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients), "Military Base" (defined as a complex that serves one division of the armed forces of the United States. It typically contains offices and training, housing, dining and recreational facilities) and "Research and Development" (facilities devoted exclusively to research and development activities. These may contain offices and light fabrication areas). Please see Appendix I for excerpts from ITE Manual with land use descriptions mentioned above.

*It may be noted that even though the trip rates used in the trip generation table for each of the above land-uses are based on the number of employees, the rates also include the trips made by patients, visitors and other users.*

A 15% reduction in trips using modes other than auto was applied to the basic trip rates, considering the following:

- The existing Transit Check Program at NNMC campus has 1,923 enrollments which constitute 24% of the total NNMC population (8000).
- According to the WMATA 2005 Development Related Ridership Survey Report, an office site located inside the Beltway would likely have a metro rail mode share of 21% and metro bus and other transit mode share of 9%. Also an office site located within ¼ mile of metro station would likely have a transit mode share of 30%. Excerpts of the survey report can be found in Appendix I.
- The Transportation Management Plan (TMP) would be implemented effectively to increase the alternative mode percentage in the NNMC traffic above the existing scenario.
- Based on discussions with M-NCPPC TPD staff a conservative rate of 15% was considered reasonable for the purposes of this study.

The locally derived and ITE rates are presented in Table 12. Table 13a compares the projected trip

estimates based on the locally derived and ITE trip rates. The data shows that, using the ITE trip rates, the projected trip estimates would be approximately 42.5% and 91% greater for the morning and afternoon peak hours, compared with using the locally derived rates.

Based on the above and directives provided by M-NCCPC staff, this study used the ITE trip methodology in evaluating the potential traffic impacts of the two BRAC/EIS Alternatives and other developments (which would result in 2,500 additional employees). It is noted that the use of the ITE trip methodology represents a conservative approach which adequately provides a factor of safety regarding the potential trips that would be generated by the additional patients and visitors.

Table 12 - Trip Generation Rates from Existing Patterns and ITE Manual

Rates (per employee)	AM Peak Hour			PM Peak Hour		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Locally Derived Rates <sup>1</sup>	0.22	0.02	0.24	0.03	0.16	0.19
Hospital (ITE Land Use Code 610) <sup>2</sup>	0.25	0.10	0.35	0.11	0.25	0.36
Military Base (ITE Land Use Code 501) <sup>2</sup>	0.25	0.25	0.50	0.295	0.295	0.59
Research & Development (ITE Land Use Code 760) <sup>2</sup>	0.35	0.06	0.41	0.04	0.37	0.41

**Source:**

1. G/SA Traffic Counts conducted at all NNMC Gates in October, 2006.
2. *Trip Generation Manual, 7th Edition*. Institute of Transportation Engineers. 2003. Note: AM Peak Hour and PM Peak Hour refer to peak hour of adjacent street traffic between, 7 - 9 am and 4 - 6 pm, respectively.

Table 13a - Peak Hour Trip Generation Based on Existing Patterns and ITE Manual

Land Use	Size	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Locally Derived Rates	2,500 Employees	558	42	600	81	394	475
<b>ITE Derived Rates</b>							
Hospital	1,000 Employees	250	100	350	110	250	360
Military Base	600 Employees	150	150	300	177	177	354
Research and Development	900 Employees	315	54	369	36	333	369
Alternative Mode Reduction	15%	(107)	(46)	(153)	(48)	(114)	(162)
	<b>Total</b>	<b>608</b>	<b>258</b>	<b>866</b>	<b>275</b>	<b>646</b>	<b>921</b>

**Source:** Same as Table 12

**Note:** The research and development category, which involves technical administration and operations, was originally selected when that was included in the alternatives. When NNMC functions being evaluated by the EIS eliminated research and development and added other functions related to medical care, including more administration, the potential substitute land uses were evaluated and found to provide equivalent or less severe traffic estimates. In addition, the administration in Research

and Development is not dissimilar from the supporting administrative functions for the BRAC realignment. This study therefore evaluates the total site trips as shown, retaining the research and development category.

NNMC estimates that the annual visitors and patients will be 484,000. The 484,000 annual patients and visitors, if assumed to come for medical care on the 260 weekdays in each year, equates to  $484,000/260$  or 1,862 additional patients/visitors daily on weekdays. Because some appointments and medical care occur on Saturday, an estimate that an additional half day each week should be considered yields a daily average of  $484,000/286$  or 1,692. So the 484,000 patients and visitors annually is 1,692 – 1,862 daily depending upon the assumption used.

The combination of land use categories in Table 13a using the ITE Trip Generation rates generates 1,880 additional trips in and a like number out each day in addition to the trips of the 2,500 employees. (see Table 13b). Using the ITE-generated trips to cover the additional patients and visitors is also very conservative however, because a large percentage of these trips are patients with accompanying family members or friends. So the 1,692-1,862 patients and visitors estimated daily for the EIS, most of which involve medical care, actually would come in significantly fewer vehicles – perhaps half the number being estimated. In addition, the visitors actually would come throughout the weekend for visits as well, although in much smaller numbers, which would further reduce the allocation to peak weekday hours.

Table 13b - Daily Trip Generation Based on Existing Patterns and ITE Manual

Land Use	Employees	Daily Trip Rate	Daily Trips		
			In	Out	Total
<b>ITE PROCEDURE</b>					
Hospital	1,000	5.20	2600	2600	5200
Military Base	600	1.78	534	534	1068
Research and Development	900	2.77	1247	1247	2494
<b>Total</b>			<b>4381</b>	<b>4381</b>	<b>8761</b>
Trips by Employees			2500	2500	5000
Trips by Visitors and Patients			1881	1881	3761
<b>NNMC ESTIMATE</b>					
Visitors and Patients per Year			484000		
Weekdays per year			260		
Average Visitors and Patients per weekday			1862		
<b>Difference ITE vs. NNMC Estimate</b>			<b>19</b>		

## 4.2 Trip Distribution

The assumed distribution for the new trips generated by additional 2,500 employees was derived from the LATR Guidelines Appendix E, Table E -1, (July 2004). However the distribution of trips at the five NNMC gates was based on existing vehicular access patterns. Figure 17 shows the percentage of inbound and outbound site trips that would utilize each of the study area intersections. Figures 19a and 19b show the projected traffic assignments.

The potential for providing access off the Capital Beltway (I-495) to the NNMC campus, via slip ramps in the eastern direction, was also analyzed with respect to the total future conditions. This potential access point would result in some redistribution of the existing and future site trips. The anticipated trip distribution pattern is illustrated in Figure 18. The resulting traffic assignment with the I-495 slip ramp access is shown in Figures 20a and 20b.

## 4.3 Total Future Traffic Forecasts

In order to calculate the total future volumes, for the access situation without the direct connection to I-495, the future background traffic volumes (Figures 16a and 16b) were combined with the assigned site trips (Figures 19a and 19b). The results are presented in Figures 21a and 21b. The total future volumes for the situation reflecting the new ramp access off I-495 were similarly derived, and the results are shown in Figure 22a and 22b.

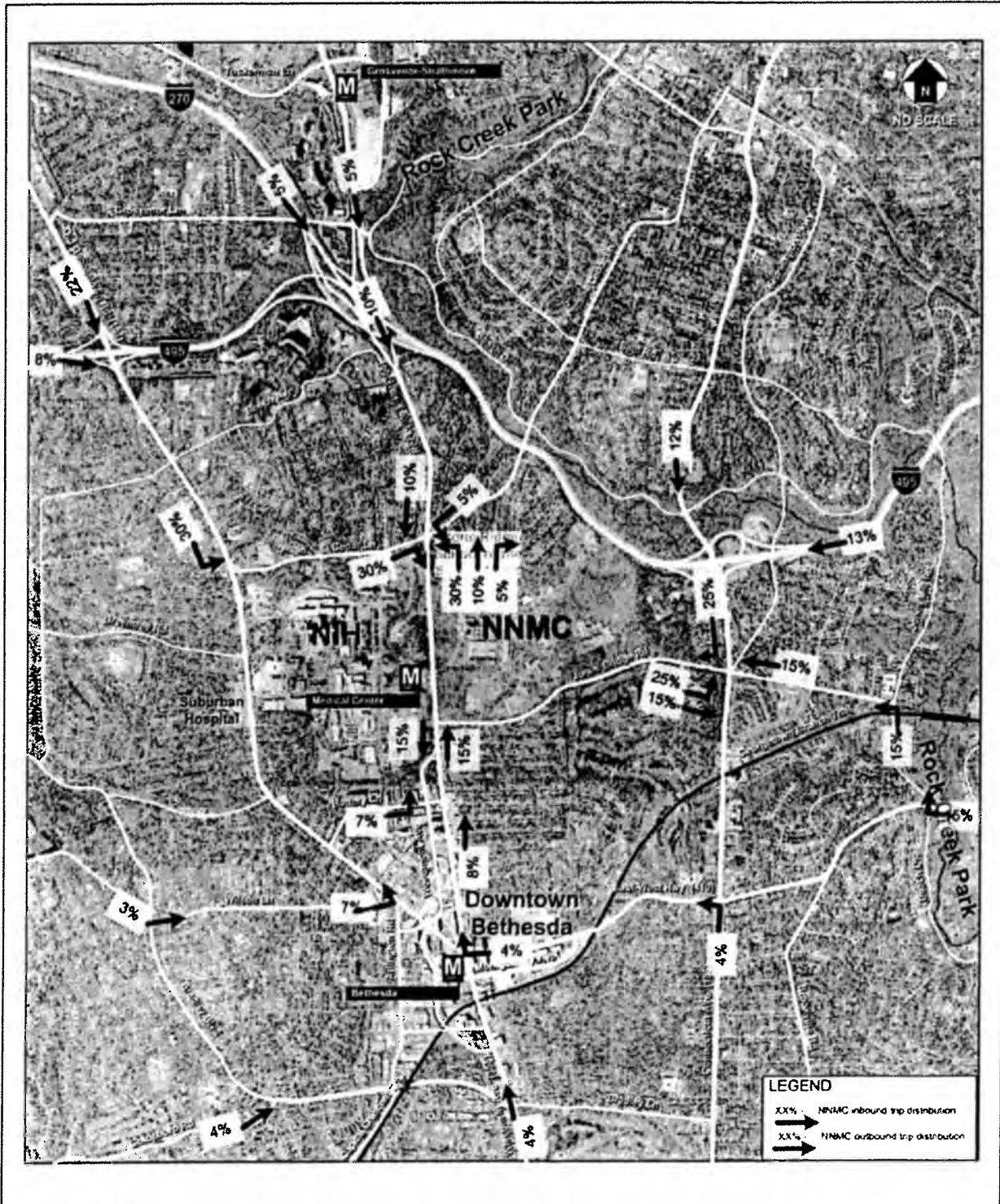


Figure 17 - Projected Site Trip Distribution Pattern



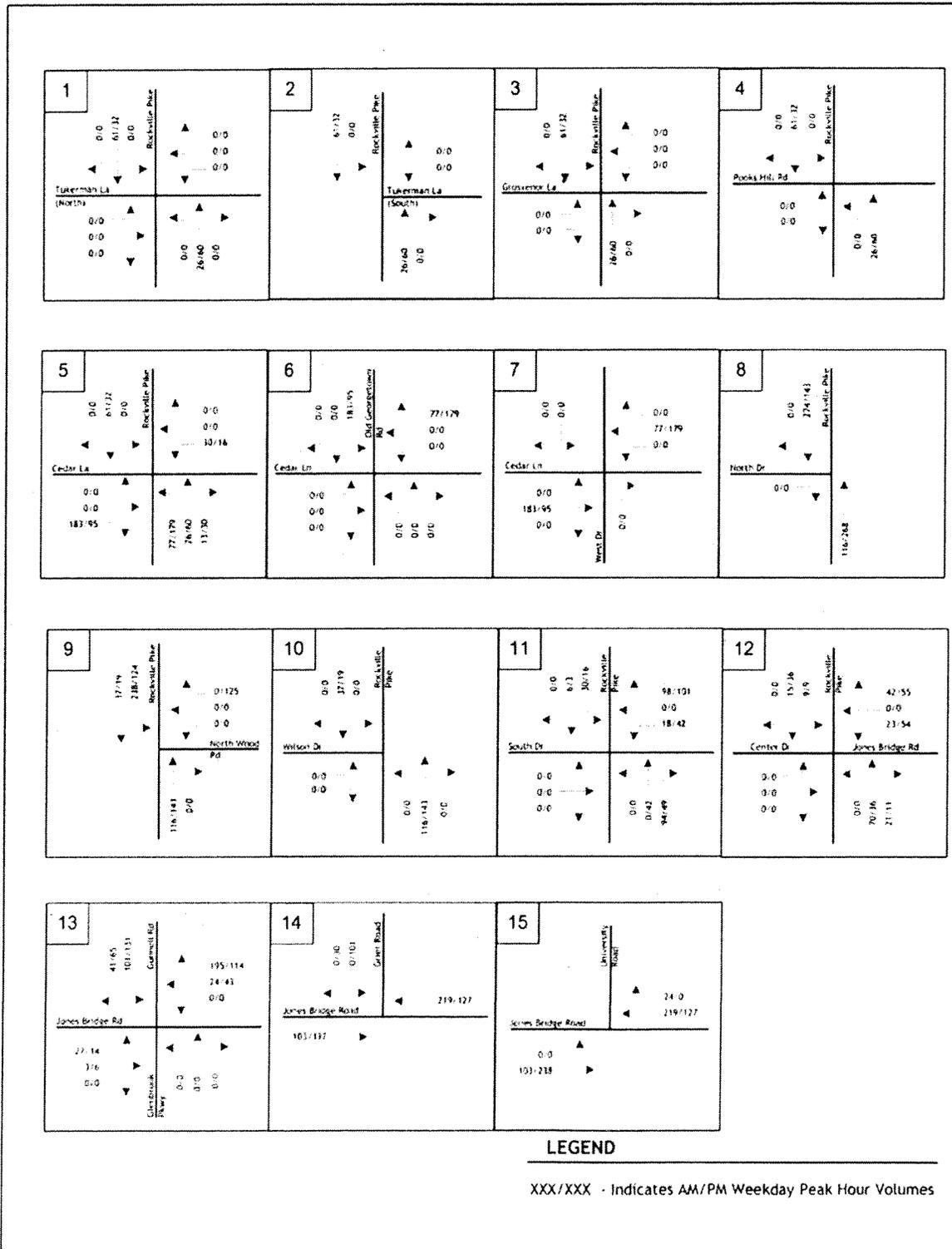
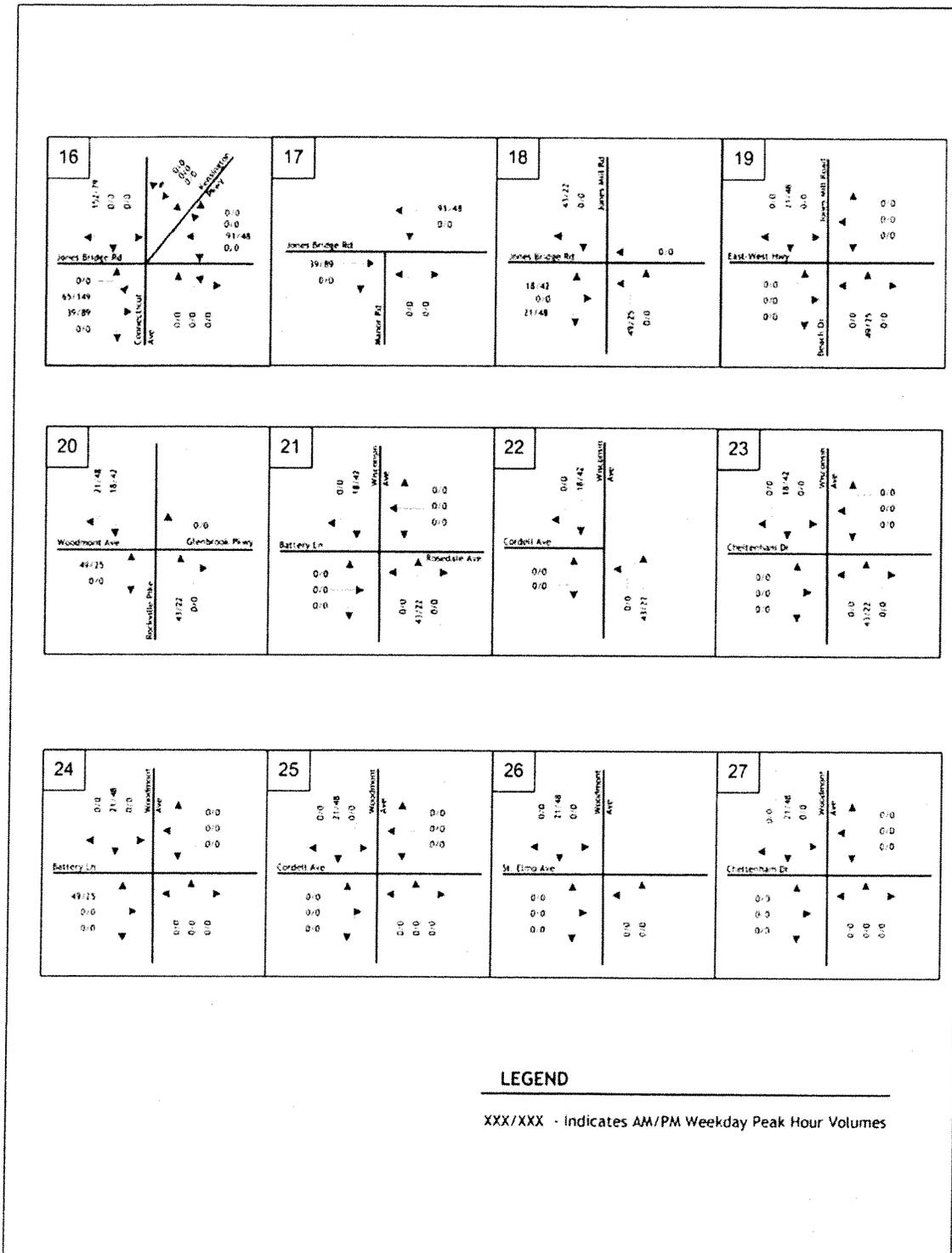


Figure 19a - Site Traffic Assignment



**LEGEND**

XXX/XXX - Indicates AM/PM Weekday Peak Hour Volumes

Figure 19b - Site Traffic Assignment

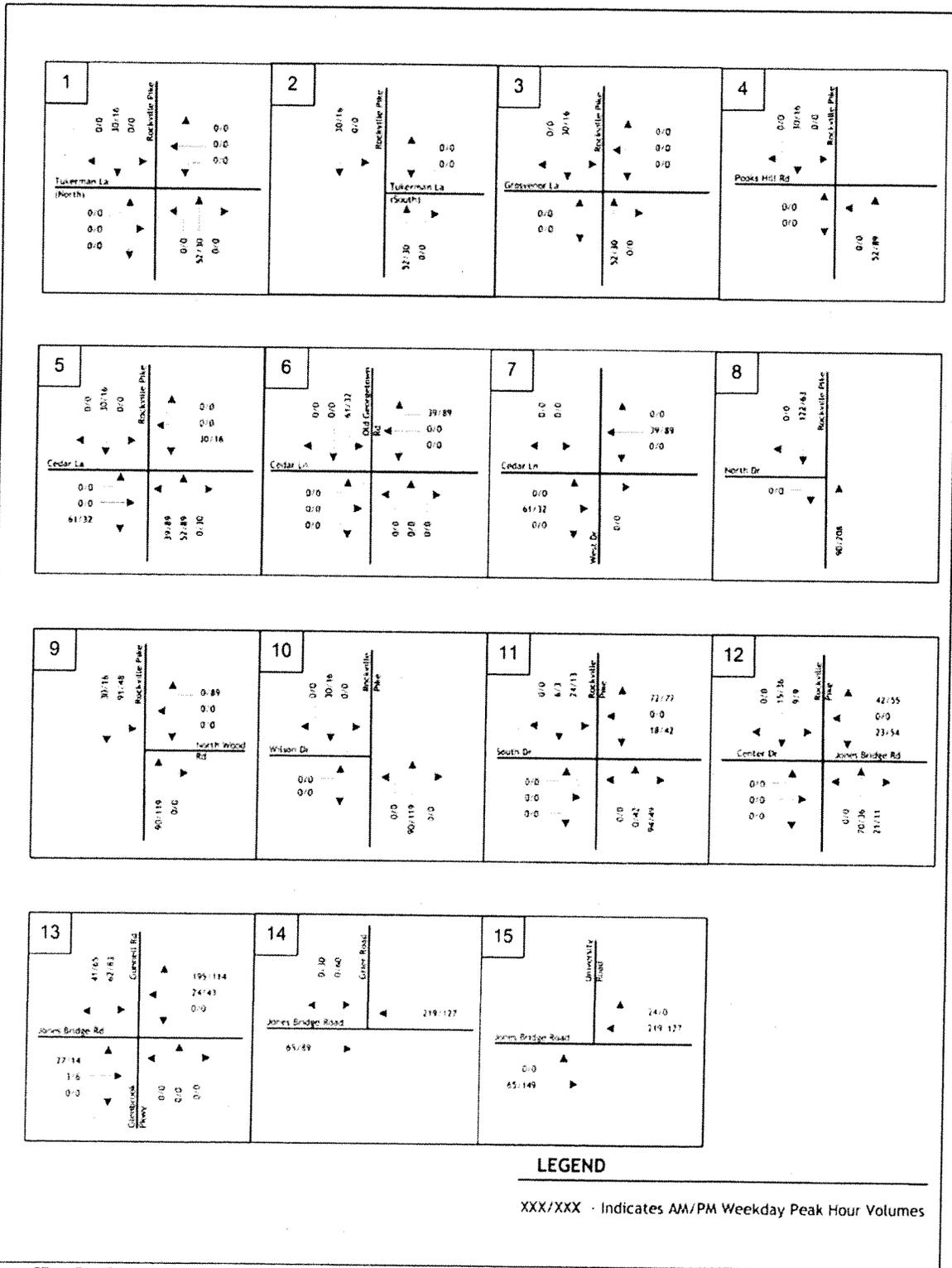


Figure 20a - Site Traffic Assignment Reflecting I-495 Access

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**Background Developments**  
**Traffic Study Scope for NSA Bethesda - Medical Facilities Development and University Expansion, Bethesda**

#	Application No.	Project Name	Location	Number of Units or SF or Other
1	12002079A	FASEB Office Addition*	Southwest quadrant of Rockville Pk and Pooks Hill Rd; north of Alta Vista Rd; access to Rockville Pk and Pooks Hill Rd	40,000 SF Office addition
2	120070750	Alta Vista @ACC	Southeast quadrant of Old Georgetown Rd and Alta Vista Rd; access to Alta Vista Rd and Camberly Ave	37 Single-Family DU's
3	--	NIH - Main Campus	East side of Old Georgetown Rd; south of West Cedar Ln	See below**
4	S-274-D	Suburban Hospital*	Southwest corner of Old Georgetown Rd and Southwick St	114,996 SF Expansion; 134,996 SF Standard of Care Expansion
5	G-909	Glen Aldon on Battery Lane	North/south sides of Battery La; West of Woodmont Ave	694 High-Rise DU's replacing 260 Mid-Rise DU's
6	820090010	Woodmont View	Northwest corner of Woodmont Ave and Battery La	46 Mid-Rise DU's, 3,200 SF Restaurant, and 1 Extended Stay Multi-Family Facility for 5 families replacing 4,200 SF General Office and 1 Single-Family DU
7	--	8300 Wisconsin Avenue	Between Wisconsin Ave and Woodmont Ave; north of Battery La	150 Room Hotel, 350 High-Rise DU's, and 50,000 SF Grocery Store
8	820110020	Woodmont Central - A	Southwest corner of Wisconsin Ave and Battery La	81,107 SF Office and 10,505 SF Retail replacing existing Gas Station (with Conv. Retail and Car Wash)
9	--	BRAC - National Navy Medical Center*	East side of Rockville Pk; north of Jones Bridge Rd	2,500 additional employees and 484,000 additional visitors annually***
10	120020200	Chevy Chase Lake East	Southeast quadrant of Connecticut Ave and Manor Rd	74,356 SF Office and 174,016 SF Retail replacing 67,009 SF Retail

SF - Square Feet; DU - Dwelling Units

\* See attached

\*\* The NIH is approved for the build-out of its Campus and has a Memorandum of Understanding (MOU) to "cap" the total number of vehicular trips in the peak direction, entering the Campus during the morning peak-hour and exiting the Campus during the evening peak-hour. The background traffic for the Campus will therefore be equivalent to the difference between the 1992 vehicle trip "cap" and the latest May 2009 driveway counts. See Table below:

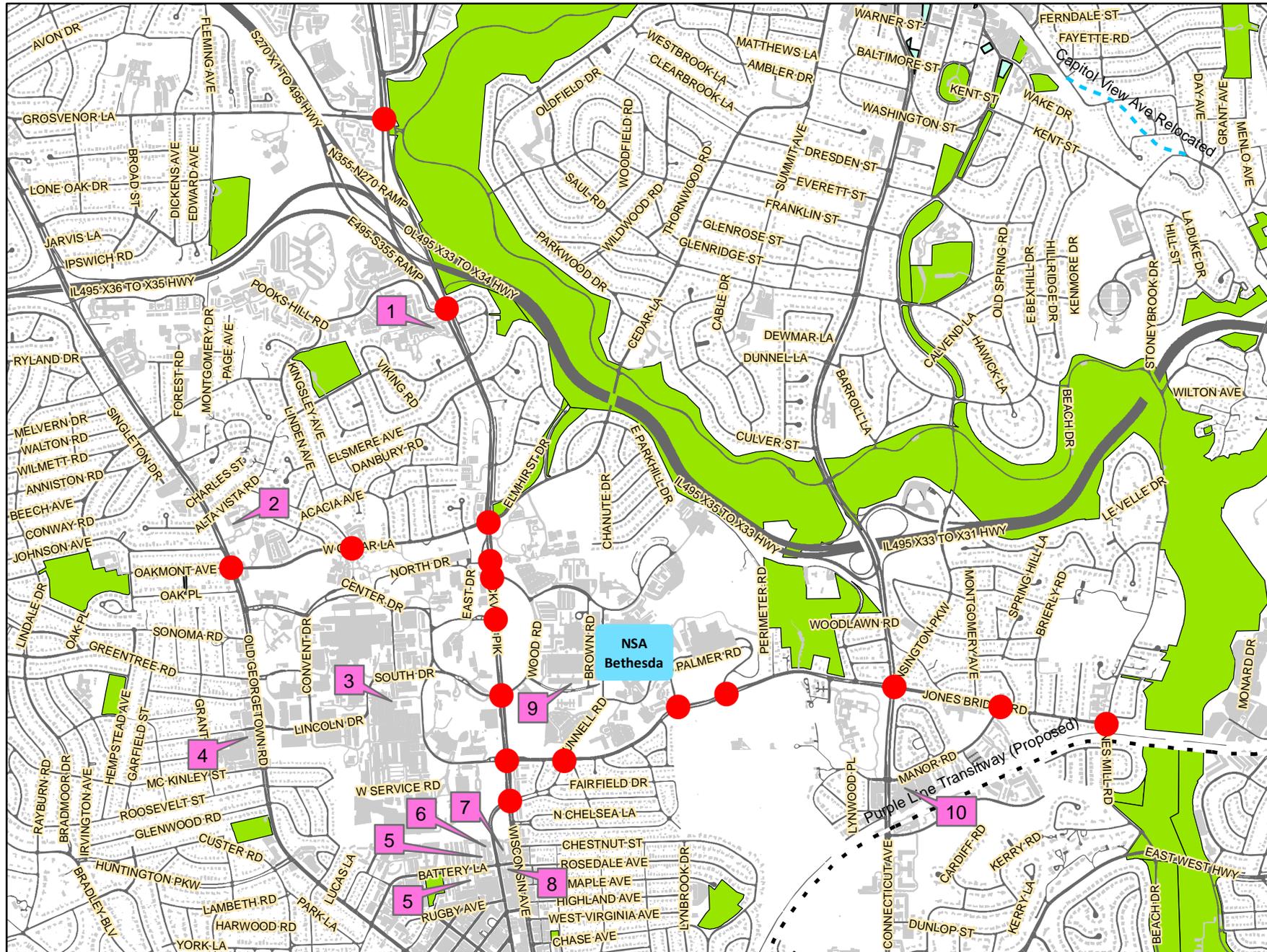
Weekday Peak Hour	1992 "Cap" or Max Trips	May 2009 Driveway Trips	Background Trips
<b>Inbound Morning</b>	<b>4,925</b>	<b>2,120</b>	<b>2,805</b>
<b>Outbound Evening</b>	<b>4,450</b>	<b>1,882</b>	<b>2,568</b>

\*\*\* Adjust as necessary

Refer to: [www.montgomerycountymd.gov/brctmpl.asp?url=/Content/EXEC/BRAC/index.asp](http://www.montgomerycountymd.gov/brctmpl.asp?url=/Content/EXEC/BRAC/index.asp) for more info on infrastructure improvements.

Refer to: [www.montgomeryplanning.org/transportation/brac/index.shtm](http://www.montgomeryplanning.org/transportation/brac/index.shtm) for more info on infrastructure improvements.

# Traffic Study Scope for NSA Bethesda-Medical Facilities Development and University Expansion



- Recommended Study Intersections
- 1 Background Developments



**Correspondence - Draft EIS**





**DEPARTMENT OF THE NAVY**  
NAVAL SUPPORT ACTIVITY BETHESDA  
8901 WISCONSIN AVENUE  
BETHESDA MARYLAND 20889-5600

IN REPLY REFER TO  
5090  
Ser N00/0272  
4 Sep 2012

William Arguto  
NEPA Team Leader  
Office of Environmental Programs  
U.S. Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION, NAVAL SUPPORT ACTIVITY BETHESDA, BETHESDA, MONTGOMERY COUNTY, MARYLAND

Dear Mr. Arguto:

The Department of Navy is pleased to provide you a copy of the Draft Environmental Impact Statement (EIS) for the Medical Facilities Development and University Expansion, Naval Support Activity (NSA) Bethesda, Bethesda, Montgomery County, Maryland. Beginning September 14, 2012, the document will be available at the following internet address:

<http://www.wrnmcc.capmed.mil/PatientVisitors/SitePages/EIS.aspx>

Representatives of the Department of Navy will conduct two public hearings for the Draft EIS to encourage full public participation in this process. Written and recorded comments will be accepted during this time.

The two hearings will be held at the Pooks Hill Marriott, 5151 Pooks Hill Road, Bethesda, Montgomery County, Maryland on:

- October 4, 2012 from 1:00 PM to 5:00 PM and
- October 11, 2012 from 5:00 PM to 9:00 PM.

Agencies and the public are also encouraged to provide written comments in addition to, or in lieu of, verbal comments at the public meetings. To be most helpful, comments should clearly describe specific issues or topics within the Draft EIS.

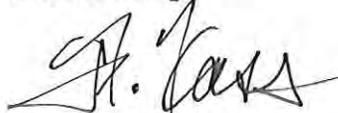
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4 Sep 2012

All comments on the Draft EIS must be postmarked or submitted electronically by midnight of October 29, 2012. Comments should be sent to:

NSA Bethesda Public Affairs Office  
Attn: Joseph Macri  
8901 Wisconsin Avenue  
Bethesda, Maryland 20889-5600  
By email address: NNMC.NSABETHESDAEIS@med.navy.mil  
By Telephone: (301) 295-1803

For requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids at the scheduled public hearings, please contact the NSA Bethesda Public Affairs Office as listed above, at least one week prior to the meetings.

Sincerely,



F. C. KASS  
Captain, Medical Corps  
U.S. Navy  
Commanding Officer

Enclosure:

Draft Environmental Impact Statement and Appendices A through E for the Medical Facilities Development and University Expansion, Naval Support Activity Bethesda, Bethesda, Montgomery County, Maryland.

Correspondence - Determination of Eligibility (DOE) and  
Programmatic Agreement





DEPARTMENT OF THE NAVY  
NAVAL SUPPORT ACTIVITY BETHESDA  
8901 WISCONSIN AVENUE  
BETHESDA MARYLAND 20889-5600

IN REPLY REFER TO

11000

Ser N4/0431

DEC 14 2012

Mr. Rodney J. Little  
State Historic Preservation Officer  
Maryland Historical Trust  
100 Community Place  
Crownsville, MD 21032-2023

Attn: Ms. Amanda Apple

Subj: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE  
MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND, DATED  
SEPTEMBER 2012

Dear Mr. Little:

On October 11, 2011, the Department of the Navy (DON) wrote to the Maryland Historical Trust (MHT) to (1) inform your agency of its intent to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA); and (2) initiate consultation under Section 106 of the National Historic Preservation Act (NHPA) to evaluate the potential environmental effects of multiple proposed actions at Naval Support Activity (NSA) Bethesda, located in Bethesda, (Montgomery County) Maryland. With the release of the Draft Environmental Impact Statement (DEIS): Medical Facilities Development and University Expansion, Naval Support Activity Bethesda on September 14, 2012, DON is now prepared to continue formal consultation in accordance with Section 106 of NHPA regarding these undertakings.

The Department of the Navy has consulted informally with Ms. Amanda Apple of your staff since October 2011 on the development and refinement of project concepts which would avoid, minimize, or mitigate adverse effects on historic properties under Section 106 of NHPA. During these informal consultations DON indicated that detailed design information for several components of the proposed undertakings, specifically the proposed underground parking garage and Medical Center Addition/Alteration (MCAA - formerly known as Building C in the hospital core), are not currently developed. Ms. Apple indicated that, given the design uncertainty of these components and their proximity to Building 1 (the historic tower), MHT would be interested in pursuing a Programmatic Agreement (PA) for these two components of the undertaking. DON feels that sufficient information on the remaining undertakings is available such that a determination of effect can be made. Please note that,

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subsequent to release of the DEIS, the Building 13 Renovations have been removed from the project and is not moving forward at this time. Therefore, a determination of effect relative to that undertaking is not included in this letter.

In a letter dated November 2, 2012 the Maryland Department of Planning, via the Maryland Clearinghouse (Application Identifier MD20120917-0666), provided the comments from the MHT stating that some of the proposed undertakings would have the potential for adverse effects on historic properties and requested additional information to continue MHT's review.

With the goal of simplifying the MHT's review process for these multi-faceted undertakings, the remainder of this letter is structured to (1) address comments received from MHT via the Maryland State Clearinghouse; (2) provide the determinations of effect for undertakings other than the underground parking garage and MCAA; and (3) inform the MHT of our intent to develop a Programmatic Agreement for the underground parking garage and MCAA components of the proposed undertakings.

#### Maryland Clearinghouse Comments

In the letter dated November 2, 2012, the MHT requested the following information:

- **Request:** A defined project Area of Potential Effect (APE)  
**Response:** The DoN regards the entire property of NSA Bethesda as the Area of Potential Effect (APE) for the Medical Facilities Development and the southeast quadrant of NSA Bethesda as the APE for the University Expansion;
- **Request:** Preliminary drawings and scope of work illustrating each undertaking  
**Response:** Detailed design information for the various components of the proposed undertakings are included on the CD attached to this letter. Where detailed design information is not yet available, DON feels sufficient information (including design parameters) is available to make a determination of effect with the exception of the underground parking garage and MCAA;
- **Request:** Copies or summaries of any views provided by consulting parties and the public  
**Response:** The National Capital Planning Commission (NCPC) has requested to be a consulting party on the Section 106 consultation process for these undertakings. DON has

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agreed, and NCPC is copied on this correspondence. NCPC formally reviewed the Draft Master Plan (including these undertakings) and the Draft EIS at their Commission meeting on November 1, 2012. A copy of the Commission Action from that meeting and additional NCPC comments are enclosed with this letter.

In addition, there has been extensive combined NEPA/Section 106 public outreach on this project, most recently in public hearings held on the afternoon of October 4, 2012 and the evening of October 11, 2012 at the Pooks Hill Marriott Hotel in Bethesda.

### **Determinations of Effect**

Table 1 below summarizes DON determinations of effect for several of the undertakings addressed in the DEIS. Supporting information can be found in the DEIS in the pages listed below. DON requests your review and concurrence that the following undertakings will either have no effect or no adverse effect on historic properties:

- Parking Garage Alternatives (H-Lot, Taylor Road Facilities, and Warehouse Area);
- Utilities Capacity and Infrastructure Improvements;
- Temporary Medical Facilities;
- Interior Renovations to Buildings 1, 3, 5, 9, and 10;
- Six Accessibility and Appearance Projects; and
- University Expansion - Alternatives 1 and 2.

For those projects determined to have "no adverse effect", particularly in the vicinity of historic structures, DON is committed to continuing consultation with the MHT and the National Capital Planning Commission (NCPC) during detailed design to ensure the avoidance of adverse effects to historic properties. Please see Figure 3-18 in the DEIS (enclosed here as Figure 1) for an overlay of project components in relation to historic properties.

Table 1. Determinations of Effect for the Proposed Undertakings

Undertaking	Description of Undertaking	Within the NPMC Historic District?	Determination of Effect	Determination in DEIS
	<b>Medical Facilities Development</b>			
H-Lot Parking Garage Alternative	Construction of a 500-space, 6-story above ground parking garage on the existing surface lot 'H' adjacent to the Navy Lodge.	No	No effect.	Pg 4-131
Taylor Road Facilities Parking Garage Alternative	Construction of a 500-space, 5-story above ground parking garage on currently existing buildings. This would require the demolition of Buildings 59, 69, and 79	Yes	No adverse effect. The DEIS identifies the current buildings as requiring DOEs; however, based on further evaluation these buildings were constructed between 1989 and 1994 and would not require further evaluation.	Pg 4-131
Warehouse Area Parking Garage Alternative	Construction of a 500-space, up to 6-story above ground parking garage in the current warehouse area. This would require demolition of Buildings 149 and 152.	No	Anticipated to be no effect. The DEIS identifies the current buildings as requiring DOEs, which are currently underway and will be submitted to the MHT for concurrence. The buildings are not anticipated to be eligible for the NRHP but this finding will be reviewed for accuracy following the outcome of the DOE.	Pg 4-131

Undertaking	Description of Undertaking	Within the NPMC Historic District?	Determination of Effect	Determination Location in DEIS
Utilities Capacity and Infrastructure	Installation of additional underground electrical feeders to Vault 249, replacement of three cooling towers and construction of an additional cooling tower, and upgrades to existing subsurface utilities systems.	Yes	No effect.	Pg 4-132
Temporary Medical Facilities	Construction of approximately 100,000 SF of temporary medical facilities on an existing parking lot (Lot G). These structures would be 1-2 story modular buildings that would be removed upon completion of the MCAA project.	Yes	No adverse effect.	Pg 4-132
Interior Renovations to Buildings 1, 3, 5, 9, and 10.	Interior renovations of the remaining hospital buildings include upgrades to patient care services, primarily focused in Buildings 9 and 10. This would not include impacts to any exterior features or modifications to the Building 1 foyer.	Yes	No adverse effect.	Pg 4-132
<b>Accessibility and Appearance Projects</b>				
North Palmer Road	Improvements to existing pedestrian pathways and landscaping around Building 11 and adjacent to the Central Tower Block (see enclosed drawings).	Yes	No effect.	Pg 4-133

Undertaking	Description of Undertaking	Within the NPMC Historic District?	Determination of Effect	Determination Location in DEIS
Courtyard	Landscape improvements along R.B. Brown Drive.	Yes	No effect.	Pg 4-133
Memorial Grove	Landscape improvements along South Palmer Road between Wood Road and R.B. Brown Drive	Yes	No effect.	Pg 4-133
Building 17 Connector	Pedestrian infrastructure and landscape improvements around Building 17.	Yes	No adverse effect.	Pg 4-133
University Entry	Landscape improvements surrounding the University Pond and entry area.	No	No effect.	Pg 4-133
Stoney Creek Trail System	Pedestrian/ADA accessibility upgrades to the existing pathway along Stoney Creek. This project has been revised subsequent to the Draft EIS to include an additional 12-ft-wide roadway from Perimeter Road to the in-stream pond on the east half of campus	Yes (portions)	No adverse effect. This project is near a potential archaeology site (MHT Site # 18M0557); however, the proposed trail system will not cause ground disturbance within this site.	Pg 4-133; concepts of the proposed additional roadway are enclosed.
<b>University Expansion</b>				
Alternative 1	Construction of an approximately 341,000 SF education/research facility and an approximately 144,000 SF, 400-space parking structure in the wooded area south of the current University campus.	No	No effect.	Pg 4-135

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Undertaking	Description of Undertaking	Within the NMC Historic District?	Determination of Effect	Determination Location in DEIS
Alternative 2	<p>Construction of an approximately 341,000 SF education/research facility and an approximately 144,000 SF, 400-space parking structure on a surface parking lot (Lot N) between the current University and the Armed Forces Radiobiology Research Institute (AFRRI). Buildings 42, 43, and 44 of the AFRRI complex are NRHP-eligible for their significance in the history of science.</p>	No	No adverse effect.	Pg 4-135

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Intent to Develop a Programmatic Agreement

As described above, the Navy does not currently have detailed design information for the proposed underground parking garage and MCAA. The Navy proposes to award a design build contract for these undertakings and therefore does not anticipate having design information anytime in the near future sufficient to make a determination of effect. Therefore, per 36 CFR 800.14(b), DON would like to notify the MHT of its intent to develop a Programmatic Agreement (PA) for these two undertakings to identify the process for consultation, review, and compliance with Section 106 of the NHPA during design development.

We appreciate the assistance of the MHT and its staff in the development of these projects with sensitivity to NSA Bethesda's historic resources as well as the importance of its mission. If you have any questions or would like to arrange a site visit, please contact Mr. William Sadlon who can be reached at (202) 685-0164 or William.Sadlon@navy.mil. Thank you again for your continuing cooperation and assistance on Section 106 reviews at NSA Bethesda.

Sincerely,



F. C. KASS

Enclosures:

- (1) Figure 1
- (2) CD containing the Draft EIS and Concept Drawings for various undertakings described in this letter
- (3) National Capital Planning Commission Action dated 1 November 2012
- (4) Additional NCPC staff comments dated 16 November 2012

Copy to:

Ms. Julie Darsie, NAVFAC Washington  
Mr. Brian Hillis, NSA Bethesda  
Mr. Jeffrey Hinkle, NCPC  
Mr. Louis Brodnitz, Advisory Council on Historic Preservation



Maryland Department of Planning  
Maryland Historical Trust

Martin O'Malley  
Governor

Anthony G. Brown  
Lt. Governor

Richard Eberhart Hall  
Secretary

Matthew J. Power  
Deputy Secretary

January 16, 2013

B.M. Vogel  
Commander, U.S. Navy  
Public Works Officer, Naval Support Activity Bethesda  
8901 Wisconsin Avenue, Bldg. 14  
Bethesda, MD 20889-5600

Re: DEIS for the Medical Facilities Development and University Expansion  
Naval Support Activity Bethesda  
Bethesda, Maryland

Dear Commander Vogel:

The Maryland Historical Trust (Trust), the State's Historic Preservation Office, received notice of the above-referenced undertakings on December 17, 2012. We are writing to offer our comments necessary to evaluate the undertakings' effects on historic properties in accordance with Section 106 of the National Historic Preservation Act.

According to the materials provided, the Navy is planning an Environmental Impact Statement (EIS) to cover multiple undertakings at Naval Support Activity Bethesda, as identified in Attachment 1. Many of the undertakings identified in the EIS are within the National Naval Medical Center Historic District (Maryland Inventory of Historic Properties number M: 35-98). The National Naval Medical Center Historic District is eligible for listing on the National Register of Historic Places. Those undertakings that are within the Historic District boundary must conform to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* in order to avoid an "adverse effect" on historic properties.

The proposed undertaking that the Trust is most alarmed about is the underground parking structure planned for the front lawn. The lawn, terrace and monumental flagpole are Paul Cret-designed landscape features that retain a high degree of integrity. This significant designed landscape in front of Building 1 is a contributing feature of the historic district and should be treated as such. The demolition of these features and the construction of an underground parking structure beneath the front lawn would constitute an **adverse effect** on historic properties.

The implementing regulations for Section 106 of the National Historic Preservation Act, 36 CFR § 800, require the Navy to develop and evaluate alternative plans that avoid, minimize, or mitigate the adverse effects of the undertaking. We recommend that Navy select one of the identified alternative locations for the parking garage that will avoid the historic structures and design the new structure in a manner consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

We look forward to working with the Navy to successfully complete the project's historic preservation review, as appropriate. If you have questions or require further assistance, please contact Amanda Apple at 410-514-7630 or [aapple@mdp.state.md.us](mailto:aapple@mdp.state.md.us). Thank you for providing us this opportunity to comment.

Sincerely,

J. Rodney Little  
Director / State Historic Preservation Officer  
Maryland Historical Trust

JRL/ARA/201206818

CC: Jeffrey Hinkle (NCPC)

Louis Brodnitz (AHP)

100 Community Place • Crownsville, Maryland 21032-2023

Telephone: 410.514.7600 • Fax: 410.987.4071 • Toll Free: 1.800.756.0119 • TTY Users: Maryland Relay

Internet: <http://mht.maryland.gov>

Attachment 1

<b>Undertaking</b>	<b>Effect Determination</b>
H-Lot Parking Garage Alternative	No Effect
Taylor Road Parking Garage Alternative	No Adverse Effect*
Warehouse Parking Garage Alternative	Until the buildings have been evaluated for the National Register no effect determination can be made at this time.
Utilities Capacity and Infrastructure	No Adverse Effect
Temporary Medical Facilities	No Adverse Effect
Interior Renovations to Buildings 1, 3, 5, 9, and 10	No Adverse Effect*
North Palmer Rd. Pathways	No Adverse Effect*
Courtyard R.B Brown Drive	No Adverse Effect
Memorial Grove	No Adverse Effect
Building 17 Connector	No Adverse Effect*
University Entry	No Effect
Stoney Creek Trail System	No Adverse Effect
University Expansion Alternative 1	No Effect
University Expansion Alternative	No Effect

\* With the understanding that continued consultation with the MD SHPO during design will be required to avoid adverse effects to historic properties.



**DEPARTMENT OF THE NAVY**  
NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON  
1314 HARWOOD STREET SE  
WASHINGTON NAVY YARD DC 20374-5018

IN REPLY REFER TO:  
5090  
Ser EV/014

FEB 1 2013

Mr. Rodney J. Little  
State Historic Preservation Officer  
Maryland Historical Trust  
100 Community Place  
Crownsville, MD 21032-2023

Attn: MS. AMANDA APPLE

SUBJECT: SHORT FORM FOR INELIGIBLE PROPERTIES: NAVAL SUPPORT  
ACTIVITY BETHESDA WAREHOUSES

Dear Mr. Little:

On December 14, 2012, the Department of the Navy (Navy) wrote to the Maryland Historical Trust (MHT) to continue formal consultation in accordance with Section 106 of the National Historic Preservation Act (NHPA) regarding undertakings evaluated in the Draft Environmental Impact Statement: Medical Facilities Development and University Expansion, Naval Support Activity Bethesda. One of the undertakings presented was the "Warehouse Area Parking Garage Alternative," which would involve demolition of the existing warehouse complex and construction of a new parking garage at its location. The warehouse complex contains buildings greater than 50 years old and has never been evaluated with regard to National Register eligibility. Therefore, the Navy's finding of "no effect" for the "Warehouse Area Parking Garage" was contingent upon the Navy's completion of and MHT's concurrence with a "Short Form for Ineligible Properties" for the warehouse complex. To that end, the Navy hereby submits the "Short Form" and finds the warehouse complex not eligible for the National Register of Historic Places. The Navy requests MHT's review of and concurrence with this finding.

5090  
Ser EV/014

If you have any questions, please contact Julie Darsie at  
(202)685.1754 or [julie.darsie@navy.mil](mailto:julie.darsie@navy.mil).

Sincerely,



THOMAS P. LEWIS  
Environmental Business Line  
Coordinator  
By direction

Enclosures: 1. Maryland Historical Trust Short Form for  
Ineligible Properties Naval Support Activity  
Bethesda Warehouses  
2. CD-Rom

**MARYLAND HISTORICAL TRUST  
SHORT FORM FOR INELIGIBLE PROPERTIES**

Property Name: Naval Support Activity Bethesda Warehouses  
 Address: Grounds Road  
 City: Bethesda Zip Code: 20889-5600 County: Montgomery  
 USGS Quadrangle(s): Kensington  
 Tax Map Parcel Number(s): \_\_\_\_\_ Tax Map Number: \_\_\_\_\_  
 Project: Medical Facilities Development Parking Garage Alternative Agency: Department of Navy  
 Agency Prepared By: NAVFAC Washington  
 Preparer's Name: Julie Darsie Date Prepared: 1/4/2013  
 Preparer's Eligibility Recommendation:  Eligibility not recommended  
*Complete if the property is a non-contributing resource to a NR district/property:*  
 Name of the District/Property: \_\_\_\_\_  
 Inventory Number: \_\_\_\_\_ Eligible:  yes Listed:  yes

Description of Property and Justification: *(Please attach map and photo)*

The Warehouse Complex stands in the northeast corner of Naval Support Activity (NSA) Bethesda (formerly the National Naval Medical Center), located in Bethesda, Montgomery County, Maryland. The Warehouse Complex is outside the boundary of the National Register-eligible National Naval Medical Center Historic District (M:35-98). Grounds Road leads from the medical buildings to the Warehouse Complex, which is at the bottom of a hill and surrounded by trees. The Warehouse Complex includes 13 buildings, 11 of which are pre-engineered, steel, Butler-type buildings ranging in date from 1949 to 1976 (see attached table for inventory). The eight buildings constructed from 1949 through the 1960s measure 100 feet by 40 feet. The three buildings constructed during the 1970s range in size from 40 feet by 40 feet to 100 feet by 100 feet. All have concrete slab foundations and rigid steel frames. The original wall and roof cladding was corrugated aluminum or galvanized steel. Many of the buildings now have replacement standing-seam roof and wall cladding. The buildings commonly feature front gable roofs, large sliding doors in the gable ends, and replacement windows. The interiors were designed to be a single open space, however many have been partitioned. Also in the Warehouse Complex are two recent buildings: Building 80, a CMU Public Works Shop constructed in 1990, and Building 226, a standing-seam metal warehouse constructed in 2010. The Warehouse Complex has served as storage and associated administrative space since its construction began in 1949.

The 1998 National Register nomination form for the National Naval Medical Center Historic District (prepared by Judith Robinson) intentionally excluded the Warehouse Complex from the Historic District boundary. However, no official determination exists for the Complex. The Warehouse Complex is not eligible for the National Register of Historic Places. It is not eligible under Criterion A because its function has been limited to ancillary storage, which has no direct association with the medical care or medical research for which the Medical Center is significant. The Warehouse Complex is not eligible under Criterion B because it is not associated with persons who made significant contributions to history. The Warehouse Complex is not eligible under Criterion C because the buildings do not embody the distinctive characteristics of any type, period, or method of construction, nor do they represent the work of a master or possess high artistic value. The Complex consists of standard, government warehouses, known in the vernacular as "Butler Buildings" because many were manufactured by the Butler

**MARYLAND HISTORICAL TRUST REVIEW**

Eligibility recommended  Eligibility not recommended

**MHT Comments:**

_____ <b>Reviewer, Office of Preservation Services</b>	_____ <b>Date</b>
_____ <b>Reviewer, National Register Program</b>	_____ <b>Date</b>

NR-ELIGIBILITY REVIEW FORM

Naval Support Activity Bethesda Warehouses

Page 2

Manufacturing Company in Kansas City, Missouri. The buildings in the Warehouse Complex were constructed beginning in 1949 and therefore cannot be classified as World War II temporary buildings. The Warehouse Complex has no association with architect Paul Cret or the material, design, or aesthetic characteristics of the National Naval Medical Center Historic District. The Warehouse Complex was not evaluated under Criterion D.

**MARYLAND HISTORICAL TRUST REVIEW**

Eligibility recommended \_\_\_\_\_ Eligibility not recommended \_\_\_\_\_

MHT Comments:

\_\_\_\_\_  
Reviewer, Office of Preservation Services

\_\_\_\_\_  
Date

\_\_\_\_\_  
Reviewer, National Register Program

\_\_\_\_\_  
Date



DEPARTMENT OF THE NAVY  
NAVAL DISTRICT WASHINGTON  
1343 DAHLGREN AVE, SE  
WASHINGTON NAVY YARD DC 20374-5171

IN REPLY REFER TO:  
5090  
Ser 00/004  
**FEB 04 2013**

Reid Nelson, Director  
Office of Federal Agency Programs  
Advisory Council on Historic Preservation  
1100 Pennsylvania Avenue NW  
Washington, DC 20004-2501

Dear Mr. Nelson:

Subj: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE  
MEDICAL FACILITIES DEVELOPMENT AND UNIVERSITY EXPANSION  
AT NAVAL SUPPORT ACTIVITY BETHESDA, BETHESDA, MARYLAND,  
DATED SEPTEMBER 2012

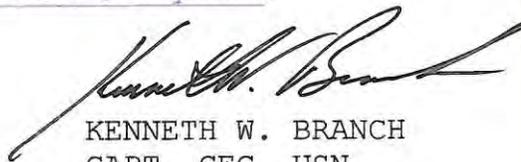
The Naval District Washington (NDW) exercises custody and control over Naval Support Activity Bethesda, Bethesda, Maryland that includes historic resources. On October 11, 2011, the Department of the Navy (DoN) wrote to the Advisory Council on Historic Preservation (ACHP) to (1) inform your agency of its intent to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA); and (2) invite the active participation of the ACHP in the Section 106 process for the undertakings evaluated in the EIS. In your reply dated November 16, 2011, the ACHP indicated their participation at that stage was not warranted but that further notification would be required in the event development of a Programmatic Agreement was determined to be necessary.

As part of this EIS, the Navy proposes to construct the Medical Center Addition/Alteration (MCAA - formerly known as Building C) in the hospital core and does not anticipate having design information anytime in the near future sufficient to make a determination of effect. Pursuant to 36 CFR 800.14 (Federal Agency Program Alternatives), the NDW proposes to develop a *Programmatic Agreement Regarding Undertakings at Naval Support Activity Bethesda* in order to address Section 106 review of this undertaking. The purpose of this letter is to inform the

Advisory Council of the intent to develop the Programmatic Agreement and invite the Council to participate.

In preparation for this endeavor, NDW has reviewed similar Programmatic Agreements executed by other states and federal agencies. The draft Programmatic Agreement will outline the protocols for the proposed MCAA, which could affect resources eligible for or listed in the National Register of Historic Places (NRHP), including the NRHP-listed Central Tower Block (Building 1). These include personnel qualifications and training, identification and evaluation of resources, management and treatment standards for resources, and administrative provisions.

NDW requests a response as to the Advisory Council's interest in participating in the consultation process of this Programmatic Agreement. Thank you in advance for your consideration. The point of contact for this PA is Julie Darsie at (202) 685-1754 or [julie.darsie@navy.mil](mailto:julie.darsie@navy.mil).



KENNETH W. BRANCH  
CAPT, CEC, USN  
By direction

Copy to: Commanding Officer, NSA Bethesda  
Amanda Apple, Maryland Historical Trust  
Jeffrey Hinkle, National Capital Planning Commission  
(NCPC)

-----Original Message-----

From: Louise Brodnitz [<mailto:lbrodnitz@achp.gov>]  
Sent: Tuesday, March 05, 2013 12:27  
To: Sadlon, William P CIV NAVFAC Washington  
Subject: RE: NSA Bethesda EIS - Underground Parking Garage Status

Thanks, I got this, and thanks for letting me know about the undeliverable. With this, I will be sending a letter stating we won't be participating.

Thanks,

Louise

-----Original Message-----

From: Sadlon, William P CIV NAVFAC Washington [<mailto:william.sadlon@navy.mil>]  
Sent: Monday, March 04, 2013 11:41 PM  
To: Louise Brodnitz  
Cc: Julie Darsie  
Subject: FW: NSA Bethesda EIS - Underground Parking Garage Status

Louise,

I had previously received an "undeliverable" reply to this e-mail, and wanted to ensure you received it along with the rest of the materials for the NSA Bethesda EIS.

V/r,  
Bill

---

Bill Sadlon  
NEPA Program Manager  
NAVFAC Washington  
(202) 685-0164

-----Original Message-----

From: Sadlon, William P CIV NAVFAC Washington  
Sent: Friday, March 01, 2013 7:49  
To: 'Louise Brodnitz'; Amanda Apple; 'Hinkle, Jeff'; Jennifer Hirsch  
([jennifer.hirsch@ncpc.gov](mailto:jennifer.hirsch@ncpc.gov))  
Cc: Darsie, Julie CIV NAVFAC Washington  
Subject: NSA Bethesda EIS - Underground Parking Garage Status

Good afternoon all,

A more formal notification can be prepared, as needed, however I wanted to update all of you on the status of the Underground Parking Garage in the NSA Bethesda EIS.

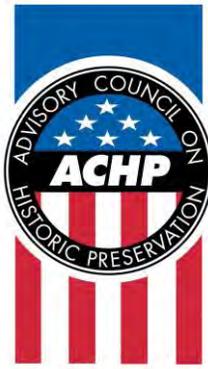
The project has been re-evaluated in light of the letter from MHT dated 16 January 2013 determining the Underground Parking Garage to be an Adverse Effect on historic properties. Moving forward, the Navy has elected to change the preferred alternative in the EIS to the H-lot Site (an above-ground garage). In the 16 January letter, MHT concurred that this project will have No Effect on historic resources. The underground garage will be retained as an alternative in the FEIS; however, it will no longer be the Preferred Alternative. This will be reflected in the FEIS and ROD. In addition, as the Underground Garage is no longer the preferred alternative, the Navy will no longer seek to execute a Programmatic Agreement (PA) for that project. A PA will still be sought for the Medical Center Addition/Alteration (Building C) undertaking – a draft will be available shortly for review.

Please let me know if I can provide further information.

V/r,  
Bill

---

Bill Sadlon  
NEPA Program Manager  
NAVFAC Washington  
(202) 685-0164



Preserving America's Heritage

March 11, 2013

Mr. Kenneth W. Branch  
Captain, Civil Engineer Corps  
Department of the Navy  
Naval District Washington  
1343 Dahlgren Avenue, SE  
Washington Navy Yard, DC 20374-5171

**REF: *Proposed Underground Parking Garage and Building C Project  
Naval Support Activity Bethesda, Montgomery County, Maryland***

Dear Captain Branch:

The Advisory Council on Historic Preservation (ACHP) recently received your notification and supporting documentation regarding the adverse effects of the referenced project on properties listed on and eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Maryland SHPO, and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the opportunity to review this undertaking. If you have any questions, please contact Louise Brodnitz at 202-606-8527, or via email at [lbrodnitz@achp.gov](mailto:lbrodnitz@achp.gov).

Sincerely,

Raymond V. Wallace  
Historic Preservation Technician  
Office of Federal Agency Programs

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Maryland Department of Planning  
Maryland Historical Trust

Martin O'Malley  
Governor

Anthony G. Brown  
Lt. Governor

April 3, 2013

Richard Eberhart Hall  
Secretary

Matthew J. Power  
Deputy Secretary

B.M. Vogel  
Commander, U.S. Navy  
Public Works Officer, Naval Support Activity Bethesda  
8901 Wisconsin Avenue, Bldg. 14  
Bethesda, MD 20889-5600

Re: Warehouse Parking Garage Alternative  
Warehouse Short Forms  
Walter Reed National Military Medical Center  
Naval Support Activity Bethesda, Maryland

Dear Commander Vogel:

The Maryland Historical Trust (MHT) received the additional information on February 8, 2013 related to the above-referenced undertaking. On behalf of the applicant, Julie Darsie provided the Trust with a Determination of Eligibility (DOE) short form for the Warehouses at Naval Support Activity Bethesda. The buildings covered in this determination of eligibility include the following Buildings 80, 147, 148, 149, 152, 153, 203, 225, 226, 239, 241, 242 and 256. We have carefully reviewed the Short DOE form and all other available information and are writing in accordance with Section 106 of the National Historic Preservation Act to provide our opinion that the proposed undertaking will have "no effect" on historic properties.

The completed Short DOE form and attachments are consistent with the *General Guidelines for Compliance Generated DOEs* and has been added to our archives for the benefit of future researchers. The Trust concurs with the preparer's recommendation that the Warehouses are not eligible for listing in the National Register of Historic Places under Criteria A, B, or C. Based on the DOE, the nature of the project, and the lack of historic integrity, it is our opinion that the proposed undertaking will not affect any properties that are eligible for listing in the National Register of Historic Places.

Thank you for providing us this opportunity to comment. We look forward to working with the Navy in the future. If you have questions or require further assistance, please contact me at 410-514-7630 or [aapple@mdp.state.md.us](mailto:aapple@mdp.state.md.us).

Sincerely,

Amanda R. Apple  
Preservation Officer, Project Review and Compliance  
Maryland Historical Trust

CC via email: Brian Hillis (NSA Bethesda)  
William Sadlon (NAVFAC Washington)

ARA/201300485

## Sadlon, William P CIV NAVFAC Washington

---

**From:** Sadlon, William P CIV NAVFAC Washington  
**Sent:** Thursday, May 23, 2013 3:23 PM  
**To:** 'Amanda Apple'  
**Cc:** Darsie, Julie CIV NAVFAC Washington  
**Subject:** NSA Bethesda Medical Center Addition/Alterations - Final PA for Signature  
**Attachments:** NSA Bethesda\_MCAA\_Final\_Programmatic Agreement.pdf

Amanda,

Attached is the Final version of the PA for signature. Please send a scanned version of Rodney's signature page. I can arrange for the original to be picked up at your office, if that is easiest.

Upon receipt Rodney's signature, I will route for NDW signature and provide you, NCPC, and ACHP with a copy of the fully-executed MOA.

Thanks again for all your help in this.

V/r,  
Bill

---

Bill Sadlon  
NEPA Program Manager  
NAVFAC Washington  
(202) 685-0164



*Maryland Department of Planning  
Maryland Historical Trust*

*Martin O'Malley  
Governor*

*Anthony G. Brown  
Lt. Governor*

*Richard Eberhart Hall  
Secretary*

*Matthew J. Power  
Deputy Secretary*

May 29, 2013

Admiral P.J. Lorge  
Department of the Navy  
Naval Facilities Engineering Command Washington  
1314 Harwood Street SE  
Washington Navy Yard, DC 20374-5018

Re: Programmatic Agreement for Medical Center Addition and Alterations  
At Naval Support Activity Bethesda  
Montgomery County, Maryland

Dear Admiral Lorge:

I am pleased to provide you with the Programmatic Agreement (PA) for the Medical Center Addition and Alterations at Naval Support Activity Bethesda. I have executed the document on behalf of the Maryland Historical Trust, the State Historic Preservation Office, and ask that it be circulated for the other signatories' signatures and then forwarded to the Advisory Council on Historic Preservation to be filed.

Thank you for your cooperation in this matter. We look forward to receiving a copy of the fully-executed PA and working with you to complete the stipulations of the agreement. If you have any questions or we may be of assistance, please contact Amanda Apple at [aapple@mdp.state.md.us](mailto:aapple@mdp.state.md.us) or 410-514-7630.

Sincerely,

J. Rodney Little  
Director / State Historic Preservation Officer  
Maryland Historical Trust

Enclosure  
JRL / ARA  
201301629

**PROGRAMMATIC AGREEMENT  
BETWEEN  
THE DEPARTMENT OF THE NAVY  
AND  
THE MARYLAND STATE HISTORIC PRESERVATION OFFICER  
REGARDING  
MEDICAL CENTER ADDITION AND ALTERATIONS  
AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND**

STATE HISTORIC PRESERVATION OFFICER



\_\_\_\_\_  
J. RODNEY LITTLE  
STATE HISTORIC PRESERVATION OFFICER  
MARYLAND HISTORICAL TRUST

5-29-13  
DATE

**PROGRAMMATIC AGREEMENT  
BETWEEN  
THE DEPARTMENT OF THE NAVY  
AND  
THE MARYLAND STATE HISTORIC PRESERVATION OFFICER  
REGARDING  
MEDICAL CENTER ADDITION AND ALTERATIONS  
AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND**

**WHEREAS**, the Commandant, Naval District Washington (Navy) proposes the Medical Center Addition and Alterations (Undertaking) at Naval Support Activity Bethesda, Maryland (NSA Bethesda), which will consist of demolition of existing Buildings 2, 4, 6, 7 and 8, construction of a single, multi-story replacement building, and interior renovations to Buildings 1, 9 and 10; and

**WHEREAS**, the Navy has defined the Undertaking's Area of Potential Effects (APE) as NSA Bethesda, which encompasses the 243-acre campus located in Montgomery County, Maryland and is shown on the map in Appendix A; and

**WHEREAS**, the APE includes Building 1, also known as the Bethesda Naval Hospital Tower (M:35-8), which is listed in the National Register of Historic Places, and the National Naval Medical Center Historic District (M:35-98), as shown in Appendix A, which includes Buildings 1, 3 and 5 as contributing resources, and which is eligible for the National Register of Historic Places; and

**WHEREAS**, Buildings 2, 4, 6, 7, 8, 9 and 10 are not individually eligible for the National Register of Historic Places and do not contribute to the National Naval Medical Center Historic District; and

**WHEREAS**, the Undertaking is one part of the larger NSA Bethesda Medical Facilities Development program, which is proposed to be initiated in September 2013, necessitating completion of Section 106, a Final Environmental Impact Statement, and a Record of Decision before that time; and

**WHEREAS**, pursuant to 36 CFR Sections 800.3 and 800.14, regulations implementing Section 106 of the National Historic Preservation Act (16 USC Section 470f), the Navy has determined that the Undertaking has the potential to cause effects on historic properties and that those effects cannot be fully determined prior to initiation of the NSA Bethesda Medical Facilities Development (MFD) program because the Undertaking's detailed design will not be completed until 2014, and the early phases of the MFD program must initiate in 2013 to meet the overall program delivery schedule. Therefore, the Navy proposes to develop alternate procedures to implement Section 106 for the Undertaking; and

**WHEREAS**, pursuant to 36 CFR Sections 800.6 and 800.14, the Navy has consulted with the Maryland State Historic Preservation Officer (SHPO) regarding the Undertaking and the development of alternate procedures; and

**WHEREAS**, pursuant to 36 CFR Sections 800.6(a)(1)(i) and 800.14(b) the Navy has invited the Advisory Council on Historic Preservation (Council) to participate in this consultation, and the Council has elected not to participate; and

**WHEREAS**, pursuant to 40 USC Section 8722(b)(1), the Navy is required to consult with the National Capital Planning Commission (NCPC) as the central planning agency for federal activities in the National Capital Region, therefore the Navy has invited the National Capital Planning Commission (NCPC) to participate in this consultation, and NCPC has agreed; and

**WHEREAS**, the Navy, in accordance with 36 CFR Section 800.2(d)(3), used the agency's procedures for public involvement under the National Environmental Policy Act (NEPA) to inform the public of the Undertaking and solicit their views on historic properties, has distributed the draft Environmental Impact Statement (EIS), and will distribute the FEIS to appropriate state and federal agencies and the public; and

**WHEREAS**, pursuant to 36 CFR Section 800.14(b), the Navy and the SHPO have developed procedures in this Programmatic Agreement to ensure that assessment of effects and development of treatment and mitigation plans for unforeseen effects to Building 1 and or the National Naval Medical Center Historic District are properly coordinated with all phases of the design and construction of the undertaking.

**NOW, THEREFORE**, the Navy and the SHPO (parties) agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account foreseen and unforeseen future effects to historic properties.

## **STIPULATIONS**

The Navy will ensure that avoidance of adverse effects to any previously identified historic properties is the preferred treatment and will utilize all feasible, prudent and practical measures to avoid, minimize or mitigate adverse effects. The Navy, in coordination with the SHPO, will ensure that the following measures are carried out:

### **Definitions:**

*Calendar Day*: A twenty-four (24) hour period of time (12:00 midnight to 12:00 midnight EDT) as described in the Gregorian Calendar, adopted by Great Britain with the American Colonies in 1752 A.D., and by the various U.S. States and Territories.

*Qualified Historic Architect*: means a person who meets the Secretary of Interior's Professional Standards (48 FR Section 44716).

*Qualified Archaeologist*: means a person who meets the Secretary of Interior's Professional Standards (48 FR Section 44716).

*Qualified Architectural Historian*: means a person who meets the Secretary of Interior's Professional Standards (48 FR Section 44716).

**I. Design Principles:** The Navy will ensure that the following measures are incorporated into the design process for the Undertaking:

- A. The Navy will ensure that Building 1 remains intact by preserving the original design, materials and workmanship on the east elevation to the maximum extent possible and by maintaining the building as a visually distinct element from the new construction. Treatment of Building 1 will be consistent with the *Secretary of the Interior's Standards for Preservation* (36 CFR Section 68).
- B. The new construction will be compatible with the National Naval Medical Center Historic District in terms of materials, features, size, scale, proportion, and massing. The design will be consistent with the standards for new construction set forth in the *Secretary of the Interior's Standards for Rehabilitation* (36 CFR Section 68).
- C. The Navy will first strive to design the new construction so as not to be visible from the front lawn or the original circular drive approaching Building 1. If program requirements preclude this, the Navy will, to the maximum extent possible, design the new construction in a way that minimizes its visibility from the front lawn and circular drive.

**II. Professional Qualification Standards:**

- A. All preservation and design related work carried out in accordance with this Agreement shall be overseen by a person or persons meeting The Secretary of the Interior's Professional Qualification Standards (48 FR Section 44716) for the appropriate discipline.
- B. The Navy will ensure that the designer is aware of and complies with the requirements of the Programmatic Agreement.

**III. Design Review Process:**

- A. The Navy will receive for review three submissions from the designer. The submissions will occur at 20%, at 35% and at 65% design. The Navy will provide the SHPO with anticipated dates of the submissions within 90 calendar days of signature of this document.
- B. The Navy will provide the SHPO with a hard copy of the 20% design. The Navy will then offer to host a site visit and review meeting with the SHPO. The SHPO will have fifteen (15) calendar days before the site visit to review the 20% design. The SHPO will submit written comments to the Navy within thirty (30) calendar days of receipt of the 20% design. The Navy will take into account and incorporate the SHPO's comments to the maximum extent possible.

- C. The Navy will provide the SHPO with a hard copy of the 35% design. The Navy will then offer to host a site visit and review meeting with the SHPO. The SHPO will have fifteen (15) calendar days before the site visit to review the 35% design. The SHPO will submit written comments to the Navy within thirty (30) calendar days of receipt of the 35% design. The Navy will take into account and incorporate the SHPO's comments to the maximum extent possible.
  - D. The Navy will provide the SHPO with a hard copy of the 65% design. The Navy will then offer to host a site visit and review meeting with the SHPO. The SHPO will have fifteen (15) calendar days before the site visit to review the 65% design. The SHPO will submit written comments to the Navy within thirty (30) calendar days of receipt of the 65% design. The Navy will take into account and incorporate the SHPO's comments to the maximum extent possible.
  - E. The Navy and the SHPO acknowledge that it is their desire and intent to ensure that the Undertaking avoids and satisfactorily minimizes the potential for adverse effects on historic properties. To meet this goal, the Navy and the SHPO will cooperatively and collaboratively work together throughout the design process to affirm that the Undertaking adheres to the principles established in the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR Section 68).
  - F. If the Navy determines that the Undertaking will have an adverse effect on historic properties, the Navy will continue consultation with the SHPO and the Council in order to minimize and mitigate the adverse effect. Minimization and mitigation measures will be settled upon through an Amendment to this Programmatic Agreement (PA) using the amendment process described in Stipulation IV.
- II. Unexpected or Unanticipated Discovery of Historic Properties:** Per 36 CFR Section 800.13(b)(3), should archaeological resources be unexpectedly encountered during implementation of the Undertaking, the Navy will stop work and make reasonable efforts to protect the resource. The Navy will have a Qualified Archaeologist visit the site to evaluate the resource. The Navy will notify the SHPO and Council within 48 hours of the discovery and will provide an assessment of the National Register eligibility of the resource and a plan to resolve adverse effects. The Navy will request responses from the SHPO and Council within 48 hours of notification. The Navy will implement the plan to resolve adverse effects and report to the SHPO and Council when actions taken to resolve adverse effects are completed.
- III. Dispute Resolution:** Should any signatory to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the Navy shall consult with such party to resolve the objection. If the Navy determines that such objection cannot be resolved, the Navy will:

- A. Forward all documentation relevant to the dispute, including the Navy's proposed resolution, to the ACHP. The Navy shall ask the ACHP to provide the Navy with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the Navy shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The Navy will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the Navy may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the Navy shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the PA, and provide them and the ACHP with a copy of such written response.
- C. The Navy's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

**IV. Amendments:**

- A. Either the Navy or SHPO may propose an amendment.
- B. The amendment process starts when one party (the Navy or the SHPO) notifies the other in writing requesting an amendment. The notification will include the proposed amendment and the reasons supporting it. The Navy and the SHPO shall consult to consider any proposed amendment.
- C. An amendment shall not take effect until it has been agreed to and executed by both the Navy and the SHPO.
- D. If an amendment cannot be agreed upon, the dispute resolution process set forth in Stipulation III will be followed.

- V. Termination:** Either party (the Navy or the SHPO) may terminate this PA in part or in whole by providing thirty (30) calendar days written notice to the other party, providing that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of full termination, the Navy and the SHPO will comply with 36 CFR Section 800 regarding individual projects included in the Undertaking. In the event only a portion of the PA is terminated, the remainder of the Stipulations will remain in effect, and the PA will be amended to reflect the change in accordance with the provisions of Stipulation IV.

**VI. Anti-Deficiency Act:**

- A. The Anti-Deficiency Act, 31 U.S.C. Section 1341, prohibits federal agencies from

incurring an obligation of funds in advance of or in excess of available appropriations. Accordingly, the Navy and the SHPO agree that any requirement for obligation of funds arising from the terms of this PA shall be subject to the availability of appropriated funds for that purpose, and that the Stipulations contained in this PA shall not be interpreted to require the obligation or expenditure of funds in violation of the Anti-Deficiency Act.

**B.** If compliance with the Anti-Deficiency Act impairs the Navy's ability to implement the Stipulations of this PA, the Navy shall consult with the SHPO. If an amendment is necessary, the provisions of Stipulation IV shall be followed.

**VII. Term of this PA:** This PA will become effective upon the last date of signature and will remain in force for six (6) years unless previously extended by the Navy and the SHPO. If the terms of this PA are not implemented prior to its expiration, and if the Navy chooses to continue with the undertaking, the Navy will re-initiate consultation in accordance with the requirements of 36 CFR Section 800.

Execution and implementation of the terms of this PA will serve as evidence of the fact that the Navy has afforded the ACHP an opportunity to comment on this Undertaking, and that the Navy has taken into account the effects of the Undertaking on historic properties.

**PROGRAMMATIC AGREEMENT  
BETWEEN  
THE DEPARTMENT OF THE NAVY  
AND  
THE MARYLAND STATE HISTORIC PRESERVATION OFFICER  
REGARDING  
MEDICAL CENTER ADDITION AND ALTERATIONS  
AT NAVAL SUPPORT ACTIVITY BETHESDA, MARYLAND**

  
\_\_\_\_\_  
ROBERT INABA  
COMPTROLLER  
NAVAL DISTRICT WASHINGTON

6/10/13  
DATE

  
\_\_\_\_\_  
P. J. LORGE  
ADMIRAL, U.S. NAVY  
COMMANDANT  
NAVAL DISTRICT WASHINGTON

17 JUN 13  
DATE

**PROGRAMMATIC AGREEMENT  
BETWEEN  
THE DEPARTMENT OF THE NAVY  
AND  
THE MARYLAND STATE HISTORIC PRESERVATION OFFICER  
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MEDICAL CENTER ADDITION AND ALTERATIONS  
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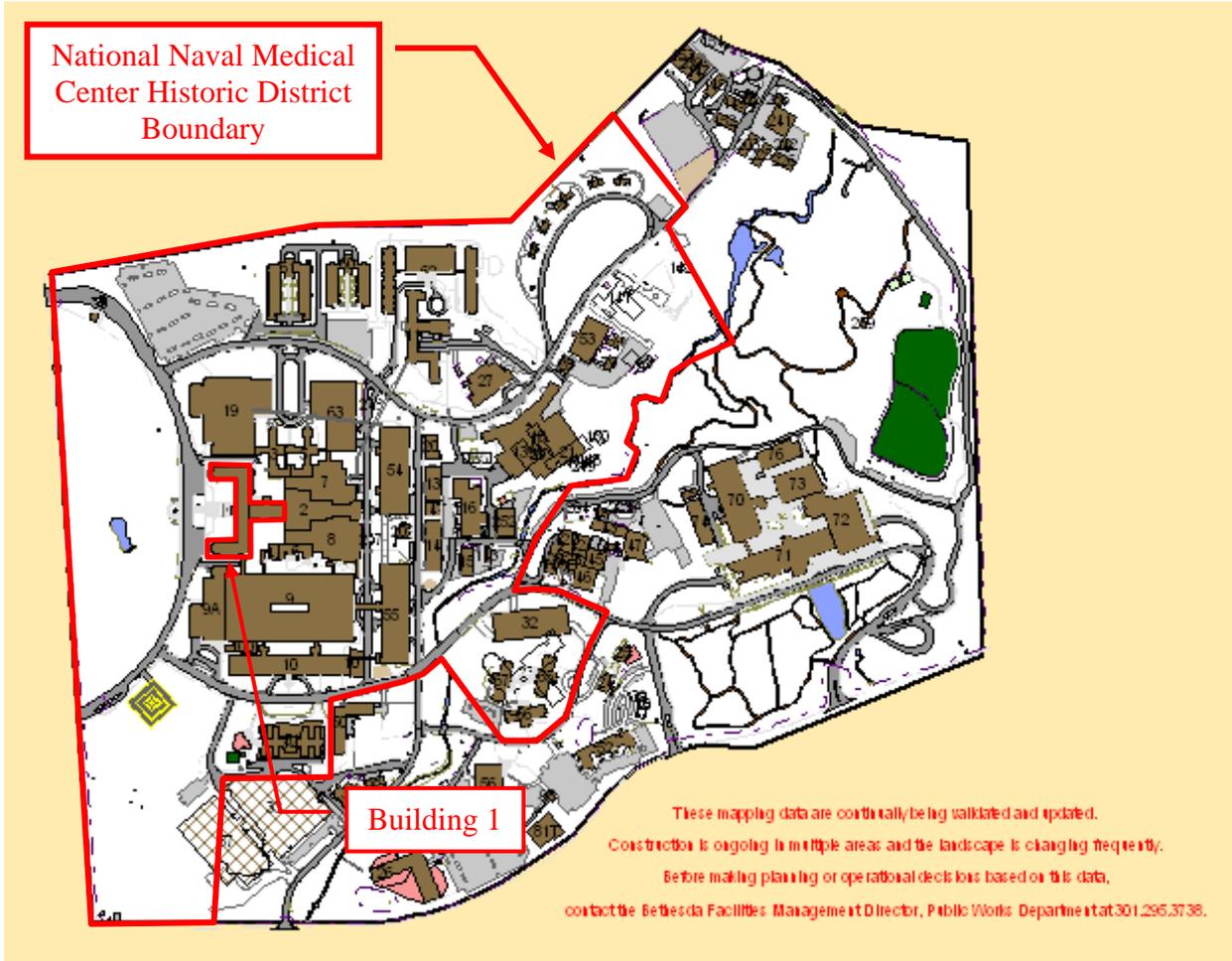
STATE HISTORIC PRESERVATION OFFICER



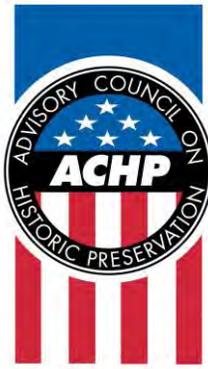
\_\_\_\_\_  
J. RODNEY LITTLE  
STATE HISTORIC PRESERVATION OFFICER  
MARYLAND HISTORICAL TRUST

5-29-13  
DATE

**Attachment A: Map of NSA Bethesda Showing Historic Properties**







Preserving America's Heritage

June 21, 2013

Mr. Kenneth W. Branch  
Captain, Civil Engineer Corps  
Department of the Navy  
Naval District Washington  
1343 Dahlgren Avenue, SE  
Washington Navy Yard, DC 20374-5171

**REF: *Proposed Medical Center Addition and Alterations Project  
Naval Support Activity Bethesda, Montgomery County, Maryland***

Dear Captain Branch:

The Advisory Council on Historic Preservation (ACHP) received the Programmatic Agreement (PA) for the above referenced project. In accordance with Section 800.6(b)(1)(iv) of the ACHP's regulations, the ACHP acknowledges receipt of the PA. The filing of the PA, and execution of its terms, completes the requirements of Section 106 of the National Historic Preservation Act and the ACHP's regulations.

We appreciate you providing us a copy of the PA and will retain it for inclusion in our records regarding this project. Should you have any questions or require additional assistance, please contact Kelly Fanizzo at 202-606-8507, or via email at [kfanizzo@achp.gov](mailto:kfanizzo@achp.gov).

Sincerely,

Raymond V. Wallace  
Historic Preservation Technician  
Office of Federal Agency Programs



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**Attachment 10: Distribution and/or Notification of  
Final EIS**

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**Attachment 10: Distribution and/or Notification of  
Final EIS**

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**List of Individuals/Community Organizations Notified of the Availability of the Final EIS**

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Tyler	Abell		Merry-Go-Round Farm Cluster
Allison	Abernathy		
Gary	Abramson	President	Kentsdale Estates Civic Assn.
Gary	Abramson	President	Preseve at Small's Nursery
Marjorie	Ackerman		
Tom	Adams		Merrimack Park Citizens Assn. Sec 1
Curtis	Adkins	President	Norbeck Grover Condominium Inc.
Avi	Adler	Co-President	Chevy Chase West Neighborhood Assn.
Bill	Adler		The Mains Homeowners Assn.
Penelope	Alberg		Whitehall Condominium Assn.
Alicia	Alexion		
Linda	Aley	President Board of Directors	Grosvenor Park III Condo.
Myers	Allen	President	Maplewood Citizens Assn.
Jon	Alterman	President	Bethesda Parkview Citizens Assn.
Laura	Alvey		
Augustus	Alzona	President	Alta Vista Gardens/North Bethesda
Shireen	Ambush	Management Agent	Cloverleaf Center Homeowners Assn. c/o Abaris Realty, Inc.
Shireen	Ambush	Property Manager	Wheaton Square East Condo. Assn. c/o Abaris Realty, Inc.
Shireen	Ambush		Castle Gate Homeowners Assn. c/o Abaris Realty, Inc.
Shireen	Ambush		Cloverleaf Center II Condominium c/o Abaris Realty, Inc.

First Name	Last Name	Title	Organization
Shireen	Ambush		Greencastle Manor Condominium Inc. c/o Abaris Realty, Inc.
Shireen	Ambush		Greencastle Manor II Condominium Inc
Shireen	Ambush		Kensington Terrace Condominium c/o Abaris Realty, Inc.
Shireen	Ambush		Homeland Village at Olney Condo. c/o Abaris Realty, Inc.
Shireen	Ambush		Montrose Woods Condo., Inc. c/o Abaris Realty, Inc.
Shireen	Ambush		Tuckerman Station Homeowners Assn. c/o Abaris Realty, Inc.
Shireen	Ambush		Fairhill Condo, Inc.
Shireen	Ambush		Rolling Spring Homeowners Assn.
Sue	Anderson	Co-President	Chevy Chase West Neighborhood Assn.
Julia	Andrews	President	Chevy Chase Park Condo. Assn.
Matthew	Andrulot		
Mohamed	Aniba		
Sharon	Antonelli	President	North Kensington News Homes Association
Laura	Araujo		
Wayne	Armchin		Potomac Glen Community Assn.
Harriet	Arshawsky	President	Grosvenor Park Cono. Citizens Assn.
Alvin	Aubinoe		Christopher Condo. c/o Aubino Mgmt.
David	Bach	President	Potomac Woods Citizens Association
Steve	Baldwin		Merrimack Park Citizens Assn. - Sec. II
Rachel	Ballard-Barbash	President	Glenmore Homeowners Assn.

First Name	Last Name	Title	Organization
Esber	Barakat		
Susanna	Barber	President	Chadsberry Homeowners Assn.
Musco	Barber		Grosvenor Park Homeowners Assn.
Lynn	Barclay		English Village Assn.
Bill	Barger		
Ginny	Barnes	President	West Montgomery County Citizens Assn.
George and Ginny	Barnes		Potomac Glen Assn.
John	Barpoulis	Treasurer	Eldwick Homes Assn.
Barbara	Barracato		Westchester Homeowners Assn. c/o Bethesda Management Company
Barbara	Barracato		Camelot Mews Homeowners Assn. c/o BMC Property Group
Christine	Beatty	President	Kenwood Forest I Condominium
Connie	Beck	President	Belvedere Neighbors Assn.
Phil	Becker	President	Kensington Crossing HOA
Al	Beer	President	South Bradley Hills Neighborhood
Walter	Behr		Town of Somerset
Traci	Bennett		Manchester Gardens Condo. Assn.
David	Berg	President	Saddlebrook Association
Ira	Berger	President	Fallsbend Homeowners Assn.
Robert	Berger		
Steven	Berkowitz		
Louis	Berlin	President	Grosvenor Square Homeowners Assn.
Richard	Berney		Kenwood Park Citizens Assn.
Rodella	Berry	Vice President	Glenfield North Association
Renate	Bever		
Peter	Beveridge	President	Byeforde-Rock Creek Highlands
Brenda	Bickel		

First Name	Last Name	Title	Organization
Geoffrey	Biddle	Town Manager	Chevy Chase Village
Paula	Bienenfeld	Planning and Development Chair	Luxmanor Citizens Assn.
Michele	Blanchi		
Dorothy	Bloomfield		Maplewood Park Place Community Assn.
Bruce	Blumberg	Property Manager	Quince Orchard Homeowners Assn. c/o Abaris Realty, Inc.
Bruce	Blumberg	Site Manager	College Square Condos
Bruce	Blumberg		Blunt Commons Townhouse HOA c/o Abaris Realty, Inc.
Bruce	Blumberg		Hadley Farms Community Assn. Inc. c/o Abaris Realty, Inc.
Bruce	Blumberg		Heritage Green Condo., Inc. c/o Abaris Realty, Inc.
Bruce	Blumberg		Middlebrook Commons Condominium c/o Abaris Realty, Inc.
Bruce	Blumberg		Monterey Condominium c/o Abaris Realty, Inc.
Bruce	Blumberg		Shady Grove Village III Condo. c/o Abaris Realty, Inc.
Bruce	Blumberg		Potomac Meadows Homeowners Assn. c/o Abaris Realty, Inc.
Bruce	Blumberg		Westchester West Condo Assn.
Pam	Blumenthal	Vice President	Woodhaven Citizens Association
Robert	Blumenthal		
Richard	Blumstein	President	Regency Estates Citizens Assn.
Pauline	Boston		
Nancy	Bowen	President	Bells Mill Civic Assn.
Marina	Bowsher	President	Brookdale Citizens Assn., Inc.

First Name	Last Name	Title	Organization
Joam	Brammer	President	Potomac Crest Condominium
John	Breckenridge	President	Kenwood House Inc.
Fernando	Bren	Facilitator	Greater Potomac Council of Presidents
John	Brennan		
Liz	Brennan		Coalition of Kensington Communities
William	Breslyn	President	Montgomery Century Condo
Brenda	Brewer	President	Lakeshore Townhomes Condominium
Jeffrey	Bridges		Grosvenor Park II Condominium c/o Polinger Shannon & Luchs
Bernie	Brill		Fallsreach Homeowners Assn.
Sara	Brodie	Property Manager	Bethesda Place Community Council, Inc. c/o Allied Realty
Sara	Brodie	Property Manager	Strathmore Place Homeowners Assn. c/o Allied Realty Corp.
Sara	Brodie		City Commons of Bethesda c/o Allied Realty
Sara	Brodie		Pooks Hill Condominium Inc. c/o Allied Realty
Sara	Brodie		Sumner Square Condo. Assn. c/o Allied Realty Corp.
Sara	Brodie		City Homes of Edgemoor HOA
Fern	Brodney	President	Treasure Oak Community Association
Lyn	Brown	Co-President	Marwood Homeowners Assn.
Stuart	Brown		Bannockburn Citizens Assn.
Alexander	Brown		
Lyn	Brown		Marwood Homeowners Assn.
Linda	Burgin	Community Liasion	Fox Hills West Citizens Assn.

First Name	Last Name	Title	Organization
Stephen	Burks		Greenwich Forest Citizens Assn.
Alfred	Burnickas		
Cynthia	Burns	President	Copenhaver Homes Corporation
Marvin	Burt	President	Avenel Community Assn.
Michael	Cabrales		
Susan	Cameron	President	Turning Creek Homeowners Assn.
Philip	Cantor	President	Fox Hills Civic Association
Albert	Capon		
Barbara	Carey		
Victoria	Cargill		Olde Coach Square Homeowners Assn.
Thomas	Carlson	President	Bristol Square Condominium
Wendy	Carrion	Manager	Chevy Chase Lake Apts.
Maxwell	Carroll		
Ehud	Caspi		
Dennis	Cassidy	President	Wickford Community Assn.
Raul	Castro		
Guy	Chamberlin		Copenhaver Homes Corporation
Amy	Chang		
J. William	Charrier	President	Normandie Farm Estates
Bette	Cherrick		
Beatrice	Chester	Vice President	Old Georgetown Village Homeowners
Ursula	Chomon		
Judith	Christensen		
Michael	Cicero		Village of Drummond
Julius	Cinque		Northern Montgomery County Alliance
Jack	Cochrane	President	Wildwood Hills Citizens Assn.
Peter	Cody	President	Somerset House, A Condominium
John	Coggins		Paint Branch Park Condominium c/o Palisades Association

First Name	Last Name	Title	Organization
John	Coggins		Palisades Assn., Inc.
Barry	Cohen	President	Palisades Citizens Assn.
Moritz	Cohen	President	Westlake Park Condo B
Barry	Cohen	President	Potomac Grant Homeowners Assn. Inc.
Bailey	Condrey, Jr.	President	Parkwood Residents Association
Sharon	Constantine		Maplewood Citizens Assn.
Bill	Conway, Jr.	President	Potomac Manor II Homeowners Assn.
Ella	Cook	President	Scotland Community Development Assn.
Marianne	Cordier	President	Falls Ridge Homeowners Assn.
Phil	Corn		Fallstone Homeowners Assn.
Suez Kehl	Corrado	President	Potomac Pond Homeowners Assn. Inc.
Tara	Corvo	President	Country Place Citizens Assn.
John	Costello		
Robert	Crowley		
Fernando	Cruz		Hispanic Alliance of Montgomery County
Carla	Cullati		
Rick	Cummings		Waterford Condominium
Brenda	Curtis-Heiken	President	Grosvenor Park Townhouse Condo.
Elizabeth	Dane		Grosvenor Park Townhouse Condominiu
Eddie	Daniel		
Herb	Davidow	President	West Spring Condominium
Hirsch	Davis	President	Bethesda Park A Condo.
Sarah	Davis	President	Carmelita Homeowners Assn.
Ann	Davis		Hamlet Citizens Assn. of Chevy Chase
Steven	Delaney		
John	DePalma		Old Georgetown Village Homeowners
Louis	DePalma		

First Name	Last Name	Title	Organization
Paula	Deschamp		
Robin	DeSilva		Bradley House Condo. Assn.
Melvin	Dickover		Strathmore Place Homeowners Assn.
Michael	Diehl	President	Fleming Park Community Assn
Alan	Dieringer		Battery Park Citizens Assn.
Gary	Digges		Forum Council of Co-Owners
Andrew	Dimond	Management Agent	Preston Place Townhouses c/o Chevy Chase Land Co.
Michael	Dittman		
Evan	Donovan		Tildenwood Homeowners Assn., Inc. c/o Abaris Realty, Inc.
Evan	Donovan		Wetherstone Homeowners Assn. c/o Abaris Realty, Inc.
Charles	Doran	President	Birckyard Road Citizens Assn.
Joyce	Doria	President	Potomac Citizens Assn.
Ann	Dorough	Board of Directors	Huntington Terrace Citizens Assn.
Cyril	Draffin	President	Deerfield-Weathered Oak Citizens
Marie	Dray		Sacks Neighborhood Council
Lynn	Dubin	President	South Tuckerman-Inverness Citizens
Thomas	Durek		Riverhill Homeowners Assn.
Seth	Edlavitch	President	Palisades Association
George	Edler	President	Rock Creek Hills HOA
Jerry	Effer		Turning Creek HOA
Alan	Ehrlich		Westlake Park Condo Assn.
Ofer	Eidelman		
Ann	Elliott		Kenwood Forest Condo. I c/o Abaris Realty, Inc.
Donna	Ely	President	Winterset Civic Assn.
Patricia	Engel	President	Devonshire East Homeowners Assn.
Marietta	Ethier		Parc Somerset Condo

First Name	Last Name	Title	Organization
Jay	Etris		Wildwood Manor Citizens Assn.
Jeffery	Evans		
Dianne	Faup		
Olivia	Fechter		Potomac Glen South HOA
Craig	Fedchock		
Alan	Feld		Willowbrook Citizens Assn.
Mark	Fernandez	Vice of Development	Chevy Chase West Neighborhood Assn.
Jose	Fernandez		
Barbara	Fichman		Sonoma Citizens Assn.
Anne	Fink		Forty Seven Twenty CC Drive Condo c/o Paul Associates Mgmt. Co.
Ann	Fink		Woodfield at Manchester Farms c/o Paul Associates, Inc.
Louis	Fireison	President	Merry-Go-Round Farm HOA
William	Fisher		Strathmore Park Condo Assn.
Bernard	Fisken	President	Village of Bethesda HOA
Beatrice	Fitch	President	Pooks Hill Square Condo Assn.
David P.	Fitch	President	Rivers Edge Homeowners Assn.
Joseph	Fitzgerald		Forty Seventh Twenty CC Condo Assn.
Sarah	Fitzpatrick	President	Fallstone Condominium
Charlie	Fleischer	President	East Gate II Homeowners Assn.
Jim	Fleshman		
James	Flood		Senecabrook Homeowners Assn.
Robert	Fogel		Broadmore Hills Community Svcs. c/o Abaris Realty, Inc.
Robert	Fogel		Glen Knoll Condominium c/o Abaris Realty, Inc.
Robert	Fogel		Fallswick Homeowners Assn., Inc. c/o Abaris Realty, Inc.

First Name	Last Name	Title	Organization
Bob	Fogel		Heritage Walk Homes Corporation c/o Abaris Realty, Inc.
Robert	Fogel		Stonecrest of Potomac Homeowners Assn. c/o Abaris Realty, Inc.
Robert	Fogel		Village Gate Homeowners Assn. c/o Abaris Realty, Inc.
Robert	Fogel		Thayer Towers Condominium Assn. c/o Abaris Realty, Inc.
Marilyn	Forrest		Bellwood Community Council, Inc.
Jacki	Frank		Potomac Glen Homeowners Assn.
Larry	Freeman	President	Potomac Pond Homeowners Assn.
Louis	French		
Allan	Fried	President	Whitley Park Condominium Assn.
Larry	Friend		Hilltop Estates Civic Assn.
Lawrence	Funt	President	East Edgemoor Property Owners
Philip	Gallas		Birnam Wood Community Assn.
Gabriele	Gandal	President	Rollingwood Citizens Assn.
Jim	Garber	President	Miraont Villas
Frederico	Garcia-Lopez		
Lois	Gargano		
Theodore	Garrett	President	Bannockburn Citizens Assn.
Michael	Garson	President	North Farm Citizens Assn.
Jerrold	Garson	President	Seven Locks Civic Assn.
Jerry	Garson	Treasurer	Regency Estates Citizens Assn.
Michael	Garson		North Farm Citizens Assn.
Alvaro	Garzon		
Diego	Gaudenzi		
Marian	Gay		
Brenda	Gehan		Potomac Crest Homeowners Assn.

First Name	Last Name	Title	Organization
	General Manager	General Manager	Parc Somerset Condo
Seal	George		Chevy Chase Crest c/o Paul Associates, Inc.
Alvin	Geske		Rock Creek Palisades Citizens Assn.
Patricia	Geuting		
Fernando	Giacomini		
Sara	Gilverston		Battery Park Citizens Assn.
Monte	Gingery	President	Potomac Falls Homeowners Assn.
Sol	Gnatt	Chairman	Northern Chevy Chase Citizens Assn.
Sol	Gnatt		Northern Chevy Chase Citizens Assn.
Gloria	Goicochea		
Bernard	Gold		
Natalie	Goldberg	President	Garrett Park Estates - White Flint
Martha	Golden	President	Willoughby of Chevy Chase
Steve	Goldhill	President	Fox Den Homeowners Assn.
Steve	Goldstein	Legislative Committee	Montrose Woods Condo., Inc.
Wayne	Goldstein		Kensington Heights Citizens Assn.
Jordan	Goldstein		Sonoma Citizens Assn.
Steven	Goldstein		
James	Goldstein		
Al	Goltz		
Vicki	Gomez	Bldg. Manager	Grosvenor Park Condo I
Teresa	Gomez		
David	Gonzalles	President	Paloma Court Homeowners
Steve	Good	Vice President	Wildwood Manor Citizens Assn.
William	Granik		
James	Graves	President	Spruce Tree Village Homeowners Assn.
Jenna	Greenstein	President	Chevy Chase Hills Civic Assn.
Jill	Greenstein		

First Name	Last Name	Title	Organization
Stefan	Grewe	President	Bethesda Overlook Homeowners Assn.
Franklin	Groff	President	Fallswood Condominium Assn.
Robert	Gross	President	Montgomery Square Citizens Assn.
Linda	Guest	Treasurer	Riverhill Homeowners Assn.
Victor	Hall		
Chad	Hamilton		
Chris	Hamlin		
Shannon	Hamm	President	Rock Creek Hills Citizens Association
Edgar	Hanley	President	Inverness Association Inc.
Karen	Harris	Site Managers Office	Old Georgetown Village Condo. Assn.
Dennis	Harris		
Joe	Haurand		
Elizabeth	Haven		Elizabeth Condominium Assn., Inc.
Neil	Hazard	President	Lake Potomac Civic Assn.
John	Heliotis	President	Clagett Farm Homeowners Assn. Inc.
Mark	Heller	President	Fallsgate Homeowners Assn.
Bonnie	Henderson	Property Manager	Spring Lake Condominium Assn. c/o CMI Mgmt. Co.
Kristopher	Herrell		Kensington Woods HOA
Steven	Heyman		Brookside Citizens Assn., Inc.
Jose	Hidalgo		
Lesley	Hildebrand		Huntington Terrace Citizens Assn.
David	Hill	President	Hungerford Civic Assn.
Jane	Hochberg		
Kristen	Hohman	President	Locust Hill Citizens Assn
Brenda	Holt	President	Al Marah Neighborhood Assn.
Nancy	Hoos		Sonoma Citizens Assn.
Michael	Horan	Board of Directors	Elizabeth Condominium Assn., Inc.

First Name	Last Name	Title	Organization
Ben	Horenberg		Potomac Towne Homeowners Assn.
Arthur	Horwtz	President	Montrose Village
Jerry	Hua		
Eddy	Huang		
Suzanne	Hudson		Garrett Park Estates-White Flint
Jim	Humphrey	Land Use Chair	Montgomery County Civic Federation
Carl	Hunt		Carleton of Chevy Chase
John	Hunter		
Joan	Hurley	Vice President	Fleming Park Community Assn
Thomas	Hutchins		Kenwood Forest Condo. II
Wallace	Hutchins		4620 North Park Condo.
Marty	Hutt		Churchhill Community Foundation
Jonathan	Isaacs	President	Huntington Parkway Citizens Assn.
Benjamin	Israel	President	Potomac Springs Civic Assn.
Miriam	Israel		Sacks Neighborhood Assn.
Ginanne	Italiano	Executive Director	Bethesda-Chevy Chase CC
Bill	Jackson	President	Kensington Ridge HOA
Karen	Jackson-Knight	President	Ken-Gar Civic Association
Henry	Jacob		Fox Chapel North Homes Assn. Inc. c/o Allied Realty Corporation
Henry	Jacob		Falls Ridge Homeowners Assn. c/o Allied Realty Corp.
Hank	Jacob		Greenhills Condo I
Henry	Jacob		Montclair Manor Homeowners Assn. c/o Allied Realty Corp.
Hank	Jacob		Timberwood on the Park c/o Allied Realty Corp.
Henry	Jacob		Bethesda Place Community Council, Inc.
Hank	Jacob		City Homes of Edgemoor HOA

First Name	Last Name	Title	Organization
Hank	Jacob		Pooks Hill Condominium Inc.
Henry	Jacob		Pooks Hill Homeowners Assn.
Henry	Jacob		Strathmore Place Homeowners Assn.
Henry	Jacob		Trophy Court Homeowners Assn.
Henry	Jacobs		Waterford Place Homeowners Assn.
Connie	Jacobson	President	Old Farm Civic Association
Jesse	James		Trophy Court Homeowners Assn.
Steven	Janowitz	Dr.	Fallsbend Homeowners Assn.
Charlotte	Joseph	President	Montrose Civic Assn.
Surinder	Juneja	President	Timberlawn South/ Tuckerman Walk HOA
Celesta	Jurkovich	Secretary	Chevy Chase West Neighborhood Assn.
Bernadine	Kalberer	President	Tuckerman Station homeowners Assn.
Karen	Kamachaitis		Penbrooke Community Assn.
Muliadi	Kamaruzzaman		
David	Kasamatsu		
Gary	Kaufman		
Linda	Kauskey		Bradley Boulevard Citizens Association
Andrew	Kavounis	Vice President	Regency Estates Citizens Assn.
Kevin	Kelley		
Earl	Kendrick	President	Woodmont Spring Condos
David	Kerlina		Potomac Woods Citizens Association
Sofdar	Khan		
Vijaykumar	Khandge		
Anne	Kilcullen	President	Hamlet Place Owner's Inc.
Susan	Kim		Pooks Hill Square Condo Assn.

First Name	Last Name	Title	Organization
Seena	King	Landscape Chairperson	Drumaldry Homes Assn.
Peter	Kirchner	President	Westlake Terrace Civic Assn.
Claude	Klee		
Gordon	Klepper	Treasurer	Fox Hills Civic Association
Kevin	Kline	Executive Secretary	Randolph Civic Assn.
Sally	Klippel		Village of North Chevy Chase
Joshua	Klotz		
Ian	Knight	President	River Falls Community Center Assn.
Patricia	Knowles-Stogoski		West Kensington Civic Assn.
Dolores	Knutson		
Judith	Koenick	President	Rock Creek Forest Citizens Assn.
Ali	Koknar	President	Stoneybrook Homeowners Assn., Inc.
Fritz	Konigshofer	President	Congressional Forest Community Assn.
Carl	Kownig	Vice President	West Bradley Citizens Assn.
George	Kozar	President	Robert's Glen Homeowners Assn.
Eric	Kraus	President	Bradley House Condo. Assn.
James	Krzyminski	President	Normandy Falls Homeowners Assn.
Steve	Kudla	President	Ashleigh Community Assn.
Eugene	Lambert	President	Somerset House II Condominium
Steven	Landsman		Cloisters Homeowners Assn. c/o Abaris Realty, Inc.
Steven	Landsman		Tildenwood Homeowners Assn., Inc.
Steven	Lanksman		Cherington Condominium
Michael	Laplaca	President of the Board	Westlake Terrace Condo. Assn.
Doris	Lavine	President	Timberlawn Homeowners Association
Suk	Lee		
Laerte	Leiroz		

First Name	Last Name	Title	Organization
Darrell	Lemke		
Mark	Lerner		
Gerry	Levenberg	President	Potomac Crest Homeowners Assn.
Patience	Levine	President	Sussex House Condominium
Adam	Levine		
Louis	Levy	President	Fallsreach Homeowners Assn.
Bill	Lewis	Vice President	Chevy Chase West Neighborhood Assn.
David	L'Heureux	President	Fallswood Civic Assn.
Erqiu	Li		
Catherine	Libert		
Ella	Lichtenberg		
Charles	Lileikis		Fallswick Homeowners Assn., Inc.
Brenda	Lizzio	Vice Chair	Elm Street-Oakridge-Lynn Civic Assn.
Ray	Longerbeam	President	Bethesda Court Condo.
Glen	Loveland	Property Manager	Westlake Terrace Condominium Assn. c/o Abaris Realty, Inc.
Glen	Loveland		Cherington Condominium c/o Abaris Realty, Inc.
Glenn	Loveland		Maplewood Park Place Comm. Assn. c/o Abaris Realty, Inc.
Kira	Lueders		Parkwood Residents Assn.
Joan	Lunney		Sonoma Citizens Assn.
Laurie	Lyons	President	Tara Citizens Assn.
Peter	MacQueen		
Herbert	Maisel		Tildenwood Homeowners Assn., Inc.
Barry	Malkin	President	Kensington Terrace Condominium
Mike	Maloney		Riviera of Chevy Chase Condo.
Quantum	Management		Luxberry Courts Condominium

First Name	Last Name	Title	Organization
Lynn	Mangione		Westlake Towers Condo. Assn.
Ms. Lucille	Mannelly	Manager	Preston Place T.H./C.C.L. Apt.
Julian	Mansfield	Village Manager	Friendship Heights Village Council
Lisa & Neal	Martin	Co-Presidents	Mazza Wood Homeowners Assn.
Hermanio	Martinez		
Jeffrey	May	President	West Bethesda Park Homeowners Assn.
Barbara	McCall		Forty Seven Twenty CC Drive Condo
Patrick	McDonough	President	Friendship Heights Village Civic Assn.
Ray	McKelvy		
Philip	McMann	Treasurer	Sonoma Citizens Assn.
Neil & Cynthia	McMullen		Kendale Neighborhood Coalition
Ronald	McNabb		Trail Riders of Today
Bob	McNeil	President	Kensington Terrace Citizens Group
James	Meister	President	Grosvenor Homeowners Association
Marc	Meltzer	President	Bentley Place Condo
Susan C.	Merryman		Chevy Chase Lake Apts.
Paul	Meyer	President	Wisconsin Condo Homeowners Assn.
Deborah	Michaels	President	Glenbrook Village Homeowners Assn.
Virginia	Miller	President	Wyngate Citizens Assn.
Andy	Miller		Vineyard Condo. Homeowners Assn.
Pam	Miller		Whittier Woods Civic Assn.
Dolores	Milmoe	President	For A Rural Montgomery (F.A.R.M)
Douglas	Milton		Promenade Towers Mutual Hsg Corp.
Steven	Mister	President	Ridgeleigh Homeowners Assn.

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Roger	Mitchell		Elm Street-Oakridge-Lynn Civic Assn.
Lloyd	Mitchell		
Susanne	Mitchell		Hamlet House Condo.
Virginia	Mitz		Somerset Citizens Assn.
Michael	Modesitt		Whitehall Condominium Association
Sheila	Moldover	President	Fox Hills West Citizens Assn.
Maria	Morasso		
Judy	Morenoff		Luxmanor Citizens Assn.
Alavan	Morris	President	Carleton of Chevey Chase A Condo.
Dr. Andrew	Muchmore	President	Spring Ridge Road Citizens Assn.
Nancy	Mudd		Marymount Citizens Assn.
John	Mullen		Hadley Farms Community Assn. c/o Abaris Realty, Inc.
Dr. Alfred	Muller	President	Friendship Village Civic Assn.
John	Murgolo		Battery Lane Tenants
Faye	Nabavian	President	Rock Creek Palisades Citizens Association
Bertram	Nagarajah		
Afshan	Nagvi		
Henry	Nalven	Administrator	Normandy Falls Homeowners Assn.
Joanna	Neal		Bradley Park Homeowners Assn.
Ray	Nightingale	President	Maryknoll Citizens Assn.
Seth	Niman		
Amalina	Nisos		
J. Thomas	Nolan		Kensington Woods Homeowners Assn.
Bernard	Norwood		Somerset House II Condominium
George	Oberlander	Acting President	Huntington Parkway Citizens Assn.
David	O'Bryon	President	City Homes of Edgemoor HOA

First Name	Last Name	Title	Organization
Kathleen	O'Connell	President	Wellington Condominium Inc.
Betty	O'Connell		
Edward	Oh		Cherrington Condominium
Karen	Olson		
Richard	O'Rorke Jr.		
Robert	Oshinsky		Heritage Walk Homes Corporation
Louis	Ostrach		
Linda	Owen	President	Bellwood Community Council, Inc.
Jim	Owens	President	Hampden Square Condominium Assn.
Kit	Pardee		Carroll Knolls and McKenny Hills Civic
Christine	Parker	Co-President	Greenwich Forest Citizens Assn.
Jeffrey	Parmet		Potomac Manors HOA, Inc.
Ellen	Passman		Clagett Farm Homeowners Assn. Inc. c/o Abaris Realty, Inc.
Eric	Peek	President	Coquelin Run Citizens Assn.
Louis	Pettey	President	Crestberry Homeowners Assn., Inc.
Jacob	Philip	President	Glen Park of Potomac
Barbara	Phillips	President	Newbridge Citizens Assn.
Marilyn	Plevin	President	Jefferson Square Homeowners Assn.
Garry	Plushnick	President	Willowbrook Cambridge Resident Assn.
David	Podolsky		Town of Chevy Chase
Ron	Polant	President	Crest of Wickford Condominium
Sue	Polis		Camelot Mews Homeowners Assn.
Brent	Polkes		Concerned Families of City Homes
Diana	Pomeranz		
Pedro	Porro	President	Spanish Speaking People of Montgomery

First Name	Last Name	Title	Organization
Benjamin	Porto	President	Kenwood Court Homes Assn., Inc.
	President/ Board of Directors		Riviera of Chevy Chase Condo.
Alan	Privot	President	East Gate III Homeowners Assn., Inc.
Margaret	Pully		Montgomery Century Condo
Elizabeth	Quinn	President	Kensington View Citizens Association
Mr. & Mrs.	Rabinovitz		
Ellen	Rader	Secretary	Sacks Neighborhood Assn.
Joy	Rafey		Sonoma Citizens Assn.
Richard	Ramsey	President	Bannockburn Civic Assn.
Thomas	Rand	President	Drumaldry Homes Association
Gerard	Raymond		
Megan	Raymond		Battery Park Citizens Assn.
Darani	Reddick		
Eric	Rees		
Edward	Reich		Georgetown Village Condominium
Alan	Remaley		
Ellen	Richomond		
Terry	Ricks	President	Birnam Wood Community Assn.
Vernon	Ricks	President	Teversall Homeowners Assn., Inc.
Sean	Ridge	President	Eldwick Homes Assn.
Alan	Ring		Palisades Assn., Inc.
Helen	Rivera		
Malcolm	Rivkin		Battery Park Citizens Association
Roxana	Rizzone	Bld. Mgmt.	Grosvenor Park Homeowners Assn.
Thomas	Robertson	Vice President	Maplewood Park Place Community Assn.
Dan	Robinson		Grosvenor Park Condo. Citizens Assn.
John	Rogers	President	Grosvenor Woods Homeowners Assn.

First Name	Last Name	Title	Organization
Richard	Rose	Vice President	Grosvenor Homeowners Assn.
Esther	Rosen	President	Devonshire Homeowners Assn. Inc.
Nelson	Rosenbaum		Bradley Hills Civic Assn.
Harvey	Rubenstein	Dr.	Potomac Station Homeowners Assn.
Kenneth	Rubinson	President	Kenwood Park Citizens Assn.
Robert	Rudnick	President	East gate IV
Susan C.	Runner		
Martin	Rush	Chairman of Community Relations Com.	Tuckerman Station Homeowners Assn.
Sasha	Russo	General Manager	Westlake Towers Condo. Assn.
David	Sacks	President	Strathmore Park Condo Assn.
Ruwan	Salgado	President	Gables on Tuckerman Condo. Assn.
Eric	Sanne		Citz. Cord. Committee on Friendship Hgts
George	Sauer		Citizens for a Better Montgomery
Michael	Saunders	President	Randolph Civic Assn.
Donna	Savage		Kensington Heights Citizens Assn.
John	Saveland		Fallsmead Homes Corp.
Steve	Sawicki	President	Edgewood/Glenwood Citizens Assn.
Stanley	Schiff		
Joy	Schindler	President	Sonoma Citizens Assn.
Raymond	Schmidt	President	North Ashburton Citizens Assn.
Jeff	Schott		
Steven	Schram	President	Goldsboro Homeowners Assn.
Maxine	Schwartzman		Oldfield Homeowners Assn.

First Name	Last Name	Title	Organization
Cathy	Segor	General Manager	Waterford Condominium
Alan	Seldin		Potomac Towne Homeowners Assn.
Bernie	Sevilla		
Larry	Shade		
Susie	Shauger		
Barbara	Shea	Property Manager	Grand Bel Manor Condo Sec. III
Barbara	Shea		Townes of North Creek Condominium c/o Shea Property Mgmt. Inc.
Shepard	Sheinkman		Edgemoor Citizens Association
Neil	Sherman		Potomac Pond Homeowners Assn.
Russell	Shew		
Amy	Shiman	President	Huntington Terrace Citizens Assn.
Antoinette	Shupp		
Stanley	Sigel		Bannockburn Co-op, Inc.
David	Silver	President	Coldspring Civic Assn.
Carol	Simon	President	Hilltop Estates Civic Assn.
Len	Simon		Edgemoor Citizens Assn.
Len	Simon		President, Edgemoor Citizens Association
Rita	Singer	President	Cloisters Homeowners Assn.
Tamara	Skiscim		
Chris	Slingerman	Co-Chairman	Marymount Citizens Assn.
Claudia	Smith	Board Member	Grosvenor Mews Condominium Assn.
Robert	Smythe	President	Sacks Neighborhood Assn.
Michael	Spalletta	President	Fallsreach and Fallsberry Civic
Jean	Sperling	Village Manager	Village of Martin's Addition
Jeff	Spiegel		Civic Assn. of River Falls
Jim	Spinner		
George	Springston	President	Burning Tree Civic Assn.
Jean	Spurling		Village of Martin's Addition

<b>First Name</b>	<b>Last Name</b>	<b>Title</b>	<b>Organization</b>
Judy	Starr	President	Inverness North Homeowners Assn., Inc.
John	Steele		Chevy Chase Hills Civic Assn.
Raffael	Stein		
Robert	Steinwustzel		Glenmore Homeowners Assn.
Tim	Stelzig		
Alan	Sterling		Bannockburn Citizens Assn.
Richard	Sternberg	President	Potomac Green Civic Association
Jacquelyn	Stevens	Acting Chair	Rock Creek Hills Residents Association
Louise	Stewart		
Matthew	Streich		
Ken	Strickland	President	Chevy Chase Valley Citizens Assn
Wesley	Stubbs		Hamlet Place Owners, Inc.
Marcia	Sullivan	President	English Village Assn.
David	Sullivan	President	Limestone Court Homeowners Assn.
Alice	Tamzarian	President	MacArthur Park Condominium! Inc.
Barbara	Tauben	President	Friendship Heights Village Civic Assn.
Steven	Teitelbaum		Battery Park Citizens Assn.
Zorita	Thomas	President	Normandy Hills Homeowners Association
Maureen	Thomas	Vice President	Sonoma Citizens Assn.
Fred	Thomas, Jr.		Congressional Forest Community Assn.
Duane	Thomson		Citizens United to Save the Circle
Marvin	Thorpe, Jr.		
John	Tiernan	President	Riverhill Homeowners Assn.
Philip	Tierney	President	Madison Park Condominium
Marc	Toplin		South Tuckerman-Inverness Citizens
Maryellen	Trautman		
Ronald	Tripp	President	Citiz. Cord. Committee on Friendship Hgts.

First Name	Last Name	Title	Organization
Jonathan	Turak	Board Member	Westlake Terrace Condominium Assn.
Jason	Umans		Riverway Homeowner's Assn.
Molly	Vacca		
Sandor	Vargyai	President	Democracy Commons HOA
Frank	Veleo		Friendship Heights Village Council
Ronald	Venezia	President	The Mains Homeowners Assn.
Anne	Venzen		Riverhill Homeowners Assn.
Marta	Vogel	President	Tilden Woods Citizens Assn.
Sandy	Vogelgesang		West Bradley Citizens Assn.
Timothy	Vogt		
William	Wallace		Jones Mill Road Citizens Assn., Inc.
Alan	Ward		Hamlet Place Owners, Inc.
Claudette	Warner-Milne		Rolling Spring Homeowners Assn. c/o Abaris Realty, Inc.
Alicia	Wattenberg		Sacks Neighborhood Assn.
Robert	Weesner	Manager	Village of North Cheby Chase
Debbie	Weinman		Woodrock Homeowners Assn., Inc.
Harold	Weiss		Wisconsin Condo Homeowners Assn.
David	Welch		
Pierre	Welsh		Civic Assn. of River Falls
Cheryl	Wetter	Secretary/ Treasurer	East Gate III Homeowners Assn., Inc.
Philip	Wexler		
Melanie	White	President	Friendship Heights Village Council
Ben	White	President	Highlands Homeowners Assn.
Tom	Whiteman	President	Hillmead Citizens Assn.
Lucy	Wilson	General Manager	Avenel Community Assn.
Miriam	Wilson		Normandy Falls Homeowners Assn.

First Name	Last Name	Title	Organization
Craig	Windham	President	Tuckerman Station Condominium
Doreen	Winkler	Bdg. Manager	Chelsea Tower Condo. Assn.
Steven	Wishnow	President	Christopher Condominium
Bob	Wisman	Vice President	Huntington Terrace Citizens Assn.
Julie	Withers		Penbrook Community Assn.
John	Wolf,Jr.	President	Edson Lane Citizens Assn.
C.J.	Wong		
Cindy	Wong		
Dennis	Wood	President	Bethesda Coalition
Keith	Woodard	President	Carderock Springs South HOA
Shawn	Woodyard	President	Hamlet Citizens Assn. of Chevy Chase
Chris	Worch	President	Walnut Woods Citizens Assn.
Bernard	Wortman		Merrimack Park Citizens Assn. Sec 1
Fred	Wright	President	Kensington Heights HOA
Robert	Wuhrman		
Katie	Wyrsh	Property Manager	Eight One Zero One (8101)
Dawn	Yardeni		East Gate II Homeowners Assoc
Donald	Yeung		
Robert	Young		
Howard	Youth		
Niki	Zaldivar	Dr.	Park View Citizens Assn
Martin	Zamula	President	Riverhill Condominium Assn.
Tony	Zapata		Wetherstone Homeowners Assn.
Tony	Zapata		Surrey Walk Homeowners Assn. Inc. c/o Abaris Realty, Inc.
Ping	Zhou		
Richard	Zierdt	President	North Bethesda Congress of Citizens
Magda	Ziver		

First Name	Last Name	Title	Organization
		Chairman	Oakmont Citizens Committee
		City Manager	Chevy Chase Village, Section III
		Manager	Georgetown Village Condominium c/o Community Mgmt. Corp.
		President	Lakeside Terrace Condo
President		President	Spring Lake Condominium Assn.
President		President	Westlake Park Condo. Assn.
		President	Wexford Homeowners Assn. Inc.
		President/Board of Directors	Riviera of Chevy Chase Condo.
		Property Manager	Kenwood Forest Condo. II
c/o Abaris Realty		Property Manager	Greens of Warther
		Property Manager	Westlake Terrace Condo A c/o Abaris Realty, Inc.
			Chevy Chase Crest Homeowners Assn. c/o Paul Associates, Inc.
			Woodfield at Manchester Farms c/o Paul Associates, Inc.
General Manager			Westlake Park Condo. B Inc.
			Castle Gate Homeowners Assn. c/o Abaris Realty, Inc.
			Amberfield Homeowners Assn. c/o Abaris Realty, Inc.
			Old Georgetown Village Condo.
			Grand Bel Manor Condominium c/o Shea Property Mgmt. Inc.
			Montclair Manor Homeowners Assn.

First Name	Last Name	Title	Organization
			Timberwood on the Park, Inc. c/o Allied RealtyCorp.
			Amberfield Homeowners Assn.
Property Manager			City Commons of Bethesda
Contact			Drummond Citizens Assn.
Property Manager			Greens of Warther
Contact			Hadley Farms Community Assn. c/o Abaris Realty, Inc.
President			Parkside Condo. Assn.
President			Randolph Civic Assn.
Property Manager			Sumner Square Condo. Assn.
Property Manager			Three Oaks Homeowners Assn.
Property Manager			Westlake Terrace Park Condo A

**List of Public Scoping Meeting and Public Hearing Attendees Notified of the Availability of the Final EIS**

**7 SEPTEMBER 2011 Scoping Meeting Attendees**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>
	Jeanette	Musil	
	Karen	Thon	Bethesda Urban District
	Joan	Kleinman	Rep. Van Hollen
	Rochelle	Follender	
	Dawn	Chaikin	
	Doris	Teplitz	Glenbrook Village
	V.L	Teplitz	Glenbrook Village
	Alex	Michaels	
	Mary R.P.	Rainey	
	Ana	Baide	Neighbor
	Sara	Loantz	The Gazette
Chairman	George	Nolfi	Wilson Lane Safety Coalition c/o Nolfi & Associates
	Robert B.	Smythe	Sack Neighborhood Assn.
	Joe	Hogan	Clark Construction
	Katie	Hughes	
	Gwen	Kaye	Whitehall Condos
	Allan	Kaye	
		Harris	
	Ed	Krauze	BRAC/ Parkview Citizens Association
	Andres	Buonanno	
	Ken	Reichard	US Senator Cardin
	Susan	Buffone	Councilmember Berliner
	Phil	Alperson	Montgomery County BRAC Coordinator

## 12 SEPTEMBER 2011 Scoping Meeting Attendees

Title	First Name	Last Name	Organization
	Deborah	Michaels	Glenbrook Village Hat
Col.	Dail	Doucette	
	Ken	Reichard	US Senator Cardin
	Susan	Petersen	NIH
	Jim	Ashe	WMATA
	Lee Ann	Weir	Lionsgate at Woomont
	Bharati	Sanghvi	Whitley Park Condominium
	Debra	Turkat	Hamlet Place Coop
	Sarah	Leming	Senator Barbara Mikulski
	Phil	Alperson	Montgomery County BRAC Coordinator
	Joseph	Trella	Governor's BRAC Subcabinet
	Sally W.	Kaplan	WMCCAB
	Jenny	Lanning	Atkins
	Jeanette	Musil	OEA
	Susan	Buffone	Council Member Berliner
	Kathy	Sessions	
	Richard	Hoye	ACT

#### 4 OCTOBER 2012 Public Hearing Attendees

Title	First Name	Last Name	Organization
	Uzair	Asadullah	MC DOT
	Julie	Woepke	MD DBED / Office of Military Affairs
	Tina	Schneider	MNCPPC
Commissioner	Edward	Reilly	Whitley Park & Maple Wood
Corporate Secretary	Helma	Goldmark	The Promenade
	Marilyn	Lipowsky	Promenade Towers
BRAC Coordinator	Phil	Alperson	Montgomery County Executives Office
B Gen	Mike	Hayes	State of MD
	Debbie	Michaels	Glenbrook Village HOA
	Jeanette	Musil	DOD - OEA
	Cherian	Eapen	M-NCPPC
	Carmen	Qalsim	
	Aaron	Kravt	BethesdaNow.com
	Liz	Essley	Washington Examiner
	Jessica	Alblamsky	The Gazette
	David	Derenick	NIH/ORF/DFP
	Andres	Buonanno	
	Maria	Morasso	
	Curtis	Barton	
	Joan	Kleinman	Rep. Van Hollen
President			Locust Hill

### 11 OCTOBER 2012 Public Hearing Attendees

Title	First Name	Last Name	Organization
	Howard	Kaplan	North Chevy Chase Village
	Condil	Eddy	
	Nancy	Eddy	
	Carl	Gentilcore	
	Dan	Schebler	DOD - OEA
	Aaron	Kraut	BethesdaNow.com
	Katie	Hughes	Clark Construction
	Phil	Alperson	Montgomery County, BRAC Coordinator, County Executive's Office
	Ana	Aguirre-Deadreis	
	Janet	Maalouf	Maplewood
	Allen	Myers	Maplewood Citizens Assoc.
	Joan	Kleinman	Van Hollen
	Jeff	Hinkle	National Capital Planning Commission
	Barbara P.	Ordway	
	Winnie	Windaver	
	Philip	Neuberg	NIH
	Marilyn	Lipowsky	
	Andres	Buonanno	
	Fred	Ordway	
	Robert	Young	

### List of Elected Officials that were sent the Final EIS

Title	First Name	Last Name
Senator	Barbara	Mikulski
Senator	Benjamin	Cardin
Congressman	Chris	Van Hollen
Governor	Martin	O'Malley
Senator	Richard S.	Madaleno, Jr.
Senator	Brian E.	Frosh
Delegate	Ariana B.	Kelly
Delegate	Susan C.	Lee

Title	First Name	Last Name
Delegate	William	Frick
Delegate	Jeffrey	Waldstreicher
Delegate	Ana Sol	Gutierrez
County Executive	Isaiah	Leggett
Councilmember	Phil	Andrews
Councilmember	Roger	Berliner
Councilmember	Nancy	Floreen
Councilmember	George	Leventhal
Councilmember	Valerie	Ervin
Councilmember	Nancy	Navarro
Councilmember	Marc	Elrich
Councilmember	Craig	Rice
Councilmember	Hans	Riemer
Town Manager	Todd	Hoffman
Mayor	David	Lublin
Village Manager	Geoffrey B.	Biddle
Board of Managers Chair	Patricia S.	Baptiste
Village Manager	Andy Leon	Harney
Village Council Chairman	Bill	Brownlee
Village Manager	Frances L.	Higgins
Council Chair	Andrew	Smith
Village Manager	Robert	Weesner
Council Chair	Adrian	Andreassi
Clerk-Treasurer	Tom	Carter
Mayor	Jeffrey Z.	Slavin
Town Administrator	Ted	Pratt
Mayor	Chris	Keller
Town Administrator	Jean	Sperling
Village Manager	Julian	Mansfield
Mayor	Melanie Rose	White
Council Chairman	Maurice	Trebach
Town Clerk	Nicole	Fraser
Mayor	Debbie	Beers
Mayor	Peter C.	Fosselman
	Jana S.	Coe

**Chambers of Commerce that were sent the Final EIS**

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Hard Copy, Both Volumes</b>
President	Kathleen	Guinan	Wheaton & Kensington Chamber of Commerce
Airport Manager	Keith	Miller	Montgomery County Airpark
President	Carol Ann	Barth	Montgomery County Civic Federation
Executive Director	Andrea	Jolly	Rockville Chamber of Commerce
Executive Director	W. Dave	Dabney	Bethesda Urban Partnership, Inc.
Chair	Leslie	Ford Weber	Greater Bethesda-Chevy Chase Chamber of Commerce
Ms.	Andrea	Jolly, Executive Director	Rockville Chamber of Commerce
Mr.	Jeff	Burton, Deputy Executive Director	Bethesda Urban Partnership, Inc.
Vice President	Carmen	Larsen	Hispanic Chamber of Commerce of MC

### Agencies and Libraries that were sent the Final EIS

Title	First Name	Last Name	Organization
Director	Kenneth B. J.	Hartman	Bethesda-Chevy Chase Regional Services Center
Chair	Nancy	Sutley	Council on Environmental Quality
Field Supervisor, Chesapeake Bay Field Office	John	Wolflin	Fish and Wildlife Service, U.S. Department of the Interior
HCD Director	Sara Anne	Daines	Housing and Community Development Office, City of Takoma Park
Planner	Bob	Rosenbush	Maryland Office of Planning
Executive Director	David	Robertson	Metropolitan Washington Council of Governments
Director	Arthur	Holmes	Montgomery County Department of Public Works and Transportation
Director	Rollin	Stanley	Montgomery County Planning Department, M-NCPPC
Executive Director	Marcel C.	Acosta	National Capital Planning Commission
Director	Daniel	Wheeland	National Institutes of Health, Office of Research Facilities
Director	Willie R.	Taylor	Office of Environmental Policy and Compliance, U.S. Department of the Interior
NEPA Team Leader	William	Arguto	Office of Environmental Programs U.S. Environmental Protection Agency
		Director	Office of Planning and Program Development, Federal Highway Administration
Chair, Board of Trustees	Eileen C.	Mayer, Esq.	Stone Ridge School of the Sacred Heart
Head of School	Catherine	Ronan Karrels	Stone Ridge School of the Sacred Heart
Environmental Protection Specialist	Denise	King	Federal Highway Administration
			Bethesda Library
			Chevy Chase Library
			Davis Library
			Kensington Park Library
			Rockville Memorial Library
			Bethesda-Chevy Chase Regional Services Center

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**APPENDIX B: AIR QUALITY ANALYSIS**

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#### **ATTACHMENT**

Attachment 1: Record of Non-Applicability

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## APPENDIX B: AIR QUALITY ANALYSIS

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This air quality applicability analysis was conducted to identify potential increases or decreases in criteria air pollutant emissions associated with the proposed construction at Naval Support Activity (NSA) Bethesda, Maryland. The project site is U.S. Environmental Protection Agency (USEPA)-designated as in moderate nonattainment for ozone, nonattainment for particulate matter (2.5 microns - PM<sub>2.5</sub>), and maintenance for carbon monoxide (CO), and is subject to the Federal conformity requirements. It is also within an ozone transport region. The purpose of the analysis is to apply the Federal General Conformity Rule established in 40 CFR, Part 93 entitled: *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule) to the Proposed Action Alternative to determine any effect on air quality.

The Federal conformity rules were established to ensure that Federal activities do not hamper local efforts to control air pollution. In particular, Section 176(c) of the Clean Air Act (CAA) prohibits federal agencies, departments, or instrumentalities from engaging in, supporting, licensing, or approving any action, in an area that is in nonattainment or maintenance of the National Ambient Air Quality Standards (NAAQS), which does not conform to an approved state or Federal implementation plan.

### 1.0 Project Description

The purpose of the Medical Facilities Development is to implement the Congressional Mandate from the 2010 National Defense Authorization Act to achieve the new statutory world-class standards for military medicine at the Walter Reed National Military Medical Center (WRNMMC) by providing enduring facilities commensurate in quality, capability, and condition with those provided by the Base Realignment and Closure (BRAC) investment. The development of the medical facilities will meet world-class medical care facility standards by correcting the existing insufficient space problem. To meet these standards, the project follows the recommendations listed in the WRNMMC Medical Facilities Master Plan that the medical facilities will provide required space in two-categories: (1) right-sizing existing departments in the existing hospital, and (2) the replacement of current structures with new construction that would meet current space and health care operational standards. In addition, the WRNMMC Medical Facilities Master Plan also proposes a parking structure to serve the medical facilities and the overall parking needs across NSA Bethesda.

The proposed action includes the construction of a 573,000-square foot (SF), medical facilities building (Building C) and an above-ground parking garage with a footprint of approximately 39,100 SF on an existing surface parking lot. Building C would be constructed in the

footprint of existing Buildings 2, 4, 6, 7, and 8, which would be demolished. Temporary medical facilities of approximately 100,000 SF would be constructed at the existing Lot G to provide uninterrupted patient services during construction of the new medical facility. In addition, internal renovations to Buildings 1, 3, 5, 9, and 10 and improvements to pedestrian pathways and landscaping would occur.

Utility upgrades associated with the Medical Facilities Development include the demolition and reconstruction of three existing cooling towers and construction of a fourth; replacement of deteriorating condensate return lines; restoration of damaged water lines; and upgrades to the capacity of the existing electrical distribution system increasing it from 31.5 mega volt-ampere (MVA) to 48 MVA.

For the medical facilities parking garage, the Navy also identified two alternative above-ground sites and one underground site. The two above-ground sites are: the warehouse area in the northeast corner of the installation and Taylor Road Facilities in the northeast area. The underground parking garage alternative is located west of Building 1.

Constructing an above-ground parking garage at the warehouse area would require demolition of Buildings 80 (public works shop), 149 (pavement and garden sheds), 152 (general purpose warehouse), 101 (pavements and garden sheds), and 99 (filling station). Constructing an above-ground garage at Taylor Road would require demolition of Buildings 28 (administrative office), 53 (Environmental Health Effects Office), and 59 (Uniformed Services University of the Health Sciences [USU] Environmental Laboratory).

The underground parking garage alternative would include an approximately 225,000 SF, 500-space underground parking garage west of Building 1. The footprint for this structure would be 101,500 SF, or 2.33 acres.

In addition, accessibility and appearance improvement projects are proposed that follow recommendations in the Accessibility Capital Improvement Plan (ACIP) in the 2011 NSA Bethesda Accessibility Plan. This plan is focused on wounded warriors, their special needs, and the staff helping them to adjust to their new challenges. Projects include the construction of North Palmer Road, a courtyard, Memorial Grove, connector to Building 17, University entry, and the Stony Creek trail system.

The purpose of the University Expansion is to address the dispersed, aging, and inefficient infrastructure that create current space and operational limitations for educational and research activities. Currently the University is dispersed between 19 off-site leased spaces in Montgomery County, Maryland, and buildings dispersed at NSA Bethesda.

The proposed University Expansion would entail the construction of a new 341,100 SF education and research building (Building F) as well as a 400-space, 144,000 SF above-ground parking structure. The proposed action includes the renovation and modernization of approximately 39,000 SF of administrative and educational space and the ground floor in university buildings A, B, and C.

Two locations for the proposed University Expansion have been presented, Alternatives 1 and 2. Under either alternative, the University Expansion would comprise an approximately 341,100 SF education and research building and an approximately 144,000 SF parking structure with 400 spaces.

Alternative 1 was identified in the 2008 NNMC Master Plan and would be located in the wooded lot east of Grier Road and south of the University campus. Under Alternative 1, Building F would be located adjacent to the parking structure. This alternative would require the clearing of approximately 2.8 acres of wooded area.

Alternative 2 would be located west of the University campus in the developed area between the University and Armed Forces Radiobiology Research Center (AFRRI). Under Alternative 2, Building F would be located on top of the parking structure.

## **2.0 Meteorology/Climate**

Temperature is a parameter used in calculations of emissions for air quality applicability. Climate at NSA Bethesda can be characterized as a humid, continental climate with a mean high temperature of 89°F in July and a mean low temperature of 25°F in January. Summers are warm with periods of high humidity and winters are cold, with periods of snow cover (City-data, nd).

## **3.0 Current Ambient Air Quality Conditions**

USEPA has classified the area of the proposed action, Montgomery County, Maryland, as in moderate nonattainment for ozone and nonattainment PM<sub>2.5</sub>. The county is also in maintenance for CO.

## **4.0 Air Quality Regulatory Requirements**

### **General Conformity Applicability Analysis**

USEPA defines ambient air in 40 CFR Part 50 as "that portion of the atmosphere, external to buildings, to which the general public has access." In compliance with the 1970 CAA and the 1977 and 1990 Clean Air Act Amendments (CAAA), USEPA promulgated NAAQS. The NAAQS were enacted for the protection of public health and welfare, allowing for an adequate margin of safety. To date, USEPA has issued NAAQS for six criteria pollutants: CO, sulfur dioxide (SO<sub>2</sub>), particulate matter (particles with a diameter less than or equal to a nominal 10 micrometers [PM<sub>10</sub>] and particles with a diameter less than or equal to

nominal 2.5 micrometers [ $PM_{2.5}$ ]), ozone ( $O_3$ ), nitrogen dioxide ( $NO_2$ ), and lead (Pb). Federal regulations designate Air-Quality Control Regions (AQCRs) in violation of the NAAQS as nonattainment areas. According to the severity of the pollution problem, nonattainment areas can be categorized as marginal, moderate, serious, severe, or extreme. USEPA has classified the Metropolitan Washington, DC area (AQCR 47), which includes Montgomery County and NSA Bethesda, as in moderate nonattainment for the 8-hour ozone NAAQS and in nonattainment for  $PM_{2.5}$ . It also has been designated as in maintenance for CO. AQCR 47 is also in the ozone transport region, which is the northeastern section of the United States where ozone is transported by air currents into the regions from other sections of the United States.

The NAAQS for ozone,  $PM_{2.5}$ , and CO are in Table 1.

**Table 1: Ambient Air Quality Standards**

Pollutant	Federal Standard	Maryland Standard
Ozone ( $O_3$ )* 8-Hour Average	0.075 ppm	0.075 ppm
Particulate Matter ( $PM_{2.5}$ )* 24-Hour Average	35 $\mu g/m^3$	35 $\mu g/m^3$
Annual Geometric Mean	15 $\mu g/m^3$	15 $\mu g/m^3$
Carbon Monoxide (CO)* 8-Hour	9 ppm	9 ppm
1-Hour	35 ppm	35 ppm

\* Federal primary and secondary standards for this pollutant are identical.

(Sources: USEPA, 2011a; MDE, 2007)

$\mu g/m^3$  - micrograms per cubic meter

ppm - parts per million

To regulate the emission levels resulting from a project, Federal actions located in non-attainment or maintenance areas are required to demonstrate compliance with the General Conformity Rule established in 40 CFR Part 93 (the Rule). The project area is located within a non-attainment area and maintenance area; therefore, a General Conformity Rule applicability analysis is warranted.

Section 93.153 of the Rule sets applicability requirements for projects subject to the Rule through establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. For projects below the *de minimis* levels, a conformity determination is not required. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to emissions that can occur during the construction and operation phases of the action.

On 11 July 2006, USEPA established *de minimis* levels for  $PM_{2.5}$ . The final rule established 100 tons per year (TPY) as the *de minimis* emission level under nonattainment for directly emitted  $PM_{2.5}$  and each

of the precursors that form it (SO<sub>2</sub>, NO<sub>x</sub>, volatile organic compounds [VOCs], and ammonia). This 100 TPY threshold applies separately to each precursor. This means that if an action's direct or indirect emissions of PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, or ammonia exceed 100 TPY, a General Conformity determination would be required. Under the current USEPA policy for addressing PM<sub>2.5</sub> precursors, only PM<sub>2.5</sub> and SO<sub>2</sub> must be evaluated in all regions. States are not required to evaluate VOC, NO<sub>x</sub>, or ammonia unless the State or USEPA make a technical demonstration that those particular emissions from sources within the State significantly contribute to PM<sub>2.5</sub> concentrations in a given nonattainment area (USEPA, 2007). Neither USEPA nor Maryland has found PM<sub>2.5</sub> problems in AQCR 47 to be caused by NO<sub>x</sub>, VOC, or ammonia. The applicability analysis does not address ammonia further, while NO<sub>x</sub> and VOC are addressed as ozone precursors.

NSA Bethesda has completed a General Conformity Rule applicability analysis in order to analyze any impact on air quality. Emissions have been estimated for the ozone precursor pollutants NO<sub>x</sub> and VOC, and PM<sub>2.5</sub> with its precursor SO<sub>2</sub>, and CO. Annual emissions for these compounds were estimated for each of the project actions (construction and operation) to determine if they would be below or above the *de minimis* levels established in the Rule. The *de minimis* for moderate ozone nonattainment and maintenance areas is 100 TPY for NO<sub>x</sub> and 50 TPY for VOC in an ozone transport region. The maintenance *de minimis* level for CO is 100 TPY.

Sources of NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, SO<sub>2</sub>, and CO associated with the proposed projects would include emissions from construction and demolition equipment, fugitive dust (PM<sub>2.5</sub>), painting of interior building surfaces, and parking spaces (VOC only), emissions from daily commuters, emissions from the expansion and additional load on the central utility plant, and additional emergency generators.

## **5.0 Conformity Applicability Analysis**

This project construction- and operations-related General Conformity analysis was performed for the proposed action at NSA Bethesda. This conformity analysis and air emissions evaluation follows the criteria regulated in *40 CFR Parts 93, Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule* (30 November 1993), as revised 5 April 2010. The emissions evaluation also follows all National Environmental Policy Act (NEPA)-related criteria regulated in *40 CFR Part 6*.

### **5.1 Construction Phase Emissions**

Construction emissions would result from the operation of heavy equipment, delivery trucks, and the painting of the building structures and parking spaces. The project would utilize a mix of heavy equipment for construction, mainly associated with preparing the site for the buildings and utility relocation.

### **5.1.1 Emissions from Heavy Equipment**

Annual emissions were calculated for various types of diesel construction vehicles using model emission rate input for the year 2013 in USEPA's *Nonroad2008a Emission Inventory Model: Diesel Construction Equipment, Montgomery County, Maryland* (USEPA, 2008). Truck emission levels were calculated using USEPA's *MOBILE6* model for conditions in summer 2012 (USEPA, 2009). The total annual emissions in TPY were determined for each vehicle based on the number of vehicles used and the number of operating hours per year. Construction of the Medical Facilities Development is estimated to begin in 2013 and be completed by 2018, and construction of the University Expansion is expected to begin in 2016 and be completed in 2017. However, a conservative approach was employed in the applicability analysis to ensure that construction scheduling would not result in higher levels of emissions than predicted.

Period 1, beginning during calendar year 2013, includes all accessibility and appearance improvement projects, installation of temporary medical facilities, electrical improvements, excavation for the Medical Facility parking garage for the underground alternative or demolition of buildings at the site of the above-ground parking alternative (the Taylor Road site has the largest demolition requirement and is assumed for the analysis), and demolition of Building 143 on the site of the proposed new utility plant. Although Period 1 is scheduled to occur over approximately 2 years, the analysis conservatively assumes all emissions occur over the same year.

Period 2, beginning during calendar year 2015, includes demolition of buildings on the site of proposed Building C and the construction of Building C, construction of the Medical Facility parking garage - either underground or above-ground, all Medical Facility renovation, demolition of three existing cooling towers and replacement construction of these plus a new fourth tower, additional upgrades to utilities (replacement of condensate return lines, repair of damaged water lines, and installation of water tanks for emergency backup), and all University Expansion actions (construction of Building F, construction of a parking structure, and renovation of space in the existing university buildings). Although Period 2 is scheduled to occur over approximately 3 years, the analysis conservatively assumes all emissions occur over the same year.

Period 3 includes the full operation of all newly constructed buildings and represents the annual emissions from the proposed action.

For both alternatives, it was assumed that:

- Delivery trucks and dump trucks would travel 50 miles per day.

- One pick-up truck would be used at each site by the foreman. It is assumed this truck would drive only within NSA Bethesda, approximately 5 miles per vehicle, per day.
- There would be a concrete batch plant on-site, contributing a negligible addition of PM<sub>2.5</sub> emissions. Concrete mixer trucks would travel within NSA Bethesda, approximately 7 miles per day.

### **Calculations for Construction Emissions**

Using the emissions factors in Table 2, construction emissions were calculated for the proposed construction at NSA Bethesda. Using the assumptions described above, the emissions in tons of NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, SO<sub>2</sub>, and CO for construction equipment emissions were calculated for each vehicle type using the appropriate equations displayed in Table 3.

Emissions factors used for construction vehicles, under all alternatives, are shown in Table 2.

**Table 2: Emissions Factors for Construction Vehicles**

Construction Vehicle Type	Emissions Factors lbs/hr-vehicle				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Front End Loader	1.406	0.107	0.098	0.044	0.520
Excavator (includes trenching)	1.207	0.095	0.091	0.044	0.658
Dozer	1.498	0.117	0.108	0.052	0.581
Vibratory Roller	1.096	0.088	0.095	0.033	0.442
Grader	1.244	0.102	0.117	0.041	0.521
Concrete Pumper Truck	3.170	0.252	0.172	0.062	0.683
Concrete Truck Mix	5.380	0.375	0.256	0.105	1.162
Concrete Truck Travel*	3.867	0.340	0.110	0.013	1.851
Crane/Manlift	2.053	0.147	0.101	0.061	1.442
Backhoe (includes trenching)	1.338	0.302	0.244	0.033	1.681
Air Compressor	1.029	0.083	0.084	0.028	0.264
Dump Truck*	6.094	0.388	0.262	0.0307	2.163
Pick-Up Truck*	0.918	0.526	0.025	0.012	4.990
Delivery Truck *	5.872	0.378	0.211	0.275	1.948

\* These units are in grams/mile/vehicle

**Table 3: Equations for Construction Emissions Calculations**

<b>Emission Source</b>	<b>Equation</b>	<b>Sample Calculation</b>
Heavy Equipment Emissions, Hourly On-Site Activities	(# of vehicle type) (Emission factor) (Total # of days in operation) (hours/day) (1 ton/2,000 lbs) = tons of air emissions	(1 grader) (1.244 lbs/hr/vehicle) (6.6 days in operation) (8 hours/day) (1 ton/2,000 lbs) = <b>0.033 tons of NO<sub>x</sub> of equipment emissions</b>
Construction Truck Emissions with Vehicle-miles	(# vehicle type) (Emission factor) (Total # of days in operation) (miles/day)(1 ton/2,000 lbs) = tons of air emissions	(1 dump truck) (6.094 grams/mile/vehicle) (1067 days)(50 miles/day)(1 lb/453.59 grams) (1 ton/2,000 lb) = <b>.0.358 tons NO<sub>x</sub> of vehicle emissions</b>

**Surface Disturbance (Fugitive PM<sub>2.5</sub>)**

The quantity of dust emissions of PM<sub>2.5</sub> from construction operations is assumed to be proportional to the days of construction activity on unpaved surfaces. The following sources for emission factors, with a capture fraction of 50 percent and silt and moisture contents of 20 percent, were used in PM<sub>2.5</sub> emission calculations for fugitive emissions (AP-42 Section 13.2; USEPA, 2006).

- The unpaved road equation 13.2.2.1 equation 1a (AP-42 Chapter 13.2.2) is used to estimate fugitive emissions for the concrete pumper truck, concrete truck mixing, crane, and pickup truck. Mileage on unpaved surface for each day of operation by vehicle type is estimated, and then multiplied by the number of construction days.
- The paved road equation 13.2.1.3 equation 2 (AP-42 Chapter 13.2.2) is used to estimate fugitive emissions for the concrete truck in travel, dump truck, and delivery truck. One mile per trip is assumed to be on dusty pavement equivalent to an industrial road or construction area.
- Front end loader and backhoe emissions combine unpaved road travel from equation 13.2.2.1 equation 1a and the dumping equation from AP-42 Chapter 11, Chapter 11.9-4.
- Dozer and vibratory roller emissions are based on the dozer equation from AP-42 Chapter 11, Table 11.9-1.
- Grader emissions are based on the grader equation from AP-42 Chapter 11, Table 11.9-1.

Resultant emission rates in lbs/day are presented in Table 4, and resultant tons of PM<sub>2.5</sub> emissions are provided in Table 5.

**Table 4: Fugitive PM<sub>2.5</sub> Emission Factors for Construction Vehicles**

Equipment/Vehicle Type	Fugitive PM <sub>2.5</sub> (lbs/day)	Equipment/Vehicle Type	Fugitive PM <sub>2.5</sub> (lbs/day)
Front End Loader	2.26	Concrete Pumper Truck	0.16
Dozer	0.73	Concrete Truck	0.28
Vibratory Roller	0.73	Dump Truck	0.19
Grader	0.02	Pick-Up Truck	0.41
Excavator	0.20	Crane	0.21
Backhoe	0.47	Delivery Truck	0.12

**Medical Facilities Development (Above-ground and Underground Parking)**

Equipment requirements were estimated for the construction activities associated with site preparation for buildings, parking, and trenching for utilities for Periods 1 and 2. Tables 5 and 6 provide the equipment assumptions and resultant total equipment emissions for Period 1 of the Medical Facilities Development for the above-ground and underground parking alternatives. It is assumed that site preparation for both parking garage options would occur in Period 1 and the actual construction of the parking garage would be in Period 2. Therefore, there are two alternative options for Period 1 for the Medical Facilities Development, and only one alternative option for Period 2, provided in Table 7. For a full description of these actions, see Section 2 of the EIS.

The analysis examines the impacts on air quality from the Medical Facilities Development with the parking garage at the Taylor Road Facilities as the representative above-ground parking garage. Because this alternative would require demolishing Buildings 28, 53, and 59, it is assumed to be the above-ground parking garage alternative site with the highest anticipated emissions of all the above-ground sites. Construction of a parking garage on H-Lot would only require demolition of the existing surface lot and therefore, would require less demolition when compared to the Taylor Road Facilities. As a result, the air quality impacts from the Medical Facilities Development with H-Lot Parking Garage would be anticipated to be less than the emissions shown in Table 5.

Construction emission calculations by period are provided in Section 5.1 of this appendix. For utility enhancements, it was assumed that all utility lines that are tied into the existing network could be accessed with minimal disturbance. For utility lines in undisturbed or minimally disturbed areas, it was assumed that trenching and disturbance would occur.

**Table 5: Total Equipment Emissions for Construction - Medical Facilities Development Above-Ground Parking, Period 1**

Construction Vehicle Type	Total Days of Operation	Total Emissions - Tons					
		NO <sub>x</sub>	VOC	Exhaust PM <sub>2.5</sub>	Fugitive PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Front End Loader	17	0.096	0.007	0.007	0.019	0.003	0.035
Dozer	6	0.036	0.003	0.003	0.002	0.001	0.014
Concrete Truck Mixing	10	0.215	0.015	0.010	0.001	0.004	0.046
Crane/Manlift	16	0.131	0.009	0.006	0.002	0.004	0.092
Backhoe	22	0.118	0.027	0.021	0.005	0.003	0.148
Air Compressor	5	0.0206	0.0017	0.0017	0.000	0.001	0.005
Dump Truck	198	0.067	0.004	0.003	0.043	0.000	0.024
Pick-Up Truck	250	0.001	0.001	0.000	0.052	0.000	0.0069
Delivery Truck	250	0.081	0.005	0.003	0.015	0.004	0.0268
<b>Total Emissions</b>		<b>0.765</b>	<b>0.073</b>	<b>0.055</b>	<b>0.140</b>	<b>0.020</b>	<b>0.399</b>

**Table 6: Total Equipment Emissions for Construction - Medical Facilities Development Underground Parking Alternative, Period 1**

Construction Vehicle Type	Total Days of Operation	Total Emissions - Tons					
		NO <sub>x</sub>	VOC	Exhaust PM <sub>2.5</sub>	Fugitive PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Front End Loader	521	2.929	0.224	0.204	0.590	0.092	1.083
Dozer	1	0.006	0.000	0.000	0.000	0.000	0.002
Concrete Truck Mixing	10	0.215	0.015	0.010	0.001	0.004	0.046
Crane/Manlift	1	0.008	0.001	0.000	0.000	0.000	0.006
Backhoe	22	0.118	0.027	0.021	0.005	0.003	0.148
Air Compressor	5	0.0206	0.0017	0.0017	0.000	0.001	0.005
Dump Truck	4,237	1.423	0.091	0.0612	0.924	0.007	0.505
Pick-Up Truck	250	0.001	0.001	0.000	0.052	0.000	0.0069
Delivery Truck	250	0.081	0.005	0.003	0.015	0.004	0.0268
<b>Total Emissions</b>		<b>4.802</b>	<b>0.365</b>	<b>0.302</b>	<b>1.588</b>	<b>0.111</b>	<b>1.831</b>

**Table 7: Total Equipment Emissions for Construction - Medical Facilities, Period 2**

Construction Vehicle Type	Total Days of Operation	Total Emissions - Tons					
		NO <sub>x</sub>	VOC	Exhaust PM <sub>2.5</sub>	Fugitive PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Front End Loader	204	1.148	0.088	0.080	0.231	0.036	0.425
Excavator	61	0.293	0.023	0.022	0.006	0.011	0.160
Dozer	9	0.055	0.004	0.004	0.003	0.002	0.021
Vibratory Roller	6	0.028	0.002	0.002	0.002	0.001	0.011
Grader	6.3	0.031	0.003	0.003	0.000	0.001	0.013
Concrete Pumper Truck	104	1.319	0.105	0.071	0.008	0.026	0.284
Concrete Truck Mixing	104	2.238	0.156	0.107	0.014	0.044	0.483
Concrete Truck Travel	104	0.003	0.000	0.000	0.014	0.000	0.001
Crane/Manlift	1126	9.332	0.670	0.461	0.119	0.277	6.555
Backhoe	79	0.422	0.095	0.077	0.019	0.010	0.531
Air Compressor	154	0.633	0.051	0.052	0.000	0.017	0.162
Dump Truck	1104	0.365	0.023	0.016	0.241	0.002	0.129
Pick-Up Truck	250	0.001	0.001	0.000	0.052	0.000	0.007
Delivery Truck	4786	1.549	0.100	0.056	0.287	0.073	0.514
<b>Total Emissions</b>		<b>17.416</b>	<b>1.321</b>	<b>0.951</b>	<b>0.997</b>	<b>0.499</b>	<b>9.297</b>

**Alternatives 1 and 2, University Expansion**

Equipment requirements were estimated for the construction activities associated with site preparation for buildings, parking, and trenching for utilities. Tables 8 and 9 provide the equipment assumptions and resultant total equipment emissions for the University Expansion Alternatives 1 and 2. For a full description of these actions, see Section 2 of the EIS.

Construction emission calculations include the construction of the University Expansion, Building F, associated parking garage, and renovations. For the analysis of the parking garage, it was assumed that the parking garage would be 3-stories, consistent with surrounding structures. All proposed projects within the University Expansion Alternatives are assumed to take place during Period 2; therefore, total emissions are provided for only one construction period, which would be expected to be from 2017 through 2018.

**Table 8: Total Equipment Emissions for Construction - University Expansion  
Alternative 1, Period 2**

Construction Vehicle Type	Total Days of Operation	Total Emissions - Tons					
		NO <sub>x</sub>	VOC	Exhaust PM <sub>2.5</sub>	Fugitive PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Front End Loader	23	0.127	0.010	0.009	0.026	0.004	0.047
Excavator	8	0.037	0.003	0.003	0.001	0.001	0.020
Dozer	11	0.066	0.005	0.005	0.004	0.002	0.026
Vibratory Roller	9	0.039	0.003	0.003	0.000	0.001	0.016
Grader	4.7	0.024	0.002	0.002	0.000	0.001	0.010
Concrete Pumper Truck	54	0.685	0.055	0.037	0.004	0.013	0.148
Concrete Truck Mixing	54	1.162	0.081	0.055	0.007	0.023	0.251
Concrete Truck Travel	54	0.002	0.000	0.000	0.007	0.000	0.001
Crane/Manlift	590	4.845	0.348	0.239	0.063	0.144	3.404
Backhoe	2	0.011	0.002	0.002	0.000	0.000	0.013
Air Compressor	9	0.035	0.003	0.003	0.000	0.001	0.000
Dump Truck	67	0.023	0.001	0.001	0.015	0.000	0.008
Pick-Up Truck	250	0.001	0.001	0.000	0.052	0.000	0.007
Delivery Truck	2527	0.818	0.053	0.029	0.151	0.038	0.271
<b>Total Emissions</b>		<b>7.874</b>	<b>0.566</b>	<b>0.389</b>	<b>0.330</b>	<b>0.229</b>	<b>4.221</b>

**Table 9: Total Equipment Emissions for Construction - University Expansion Alternative 2, Period 2**

Construction Vehicle Type	Total Days of Operation	Total Emissions - Tons					
		NO <sub>x</sub>	VOC	Exhaust PM <sub>2.5</sub>	Fugitive PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Front End Loader	13	0.071	0.005	0.005	0.014	0.002	0.026
Excavator	6	0.029	0.002	0.002	0.001	0.001	0.016
Dozer	11	0.067	0.005	0.005	0.004	0.002	0.026
Vibratory Roller	8	0.036	0.003	0.003	0.000	0.001	0.015
Grader	6.3	0.031	0.003	0.003	0.000	0.001	0.013
Concrete Pumper Truck	54	0.685	0.055	0.037	0.004	0.013	0.148
Concrete Truck Mixing	54	1.162	0.081	0.055	0.007	0.023	0.251
Concrete Truck Travel	54	0.002	0.000	0.000	0.007	0.000	0.001
Crane/Manlift	590	4.845	0.348	0.239	0.063	0.144	3.404
Backhoe	2	0.011	0.002	0.002	0.000	0.000	0.013
Air Compressor	9	0.035	0.003	0.003	0.000	0.001	0.009
Dump Truck	47	0.010	0.001	0.000	0.010	0.000	0.005
Pick-Up Truck	250	0.001	0.001	0.000	0.052	0.000	0.007
Delivery Truck	2527	0.818	0.053	0.029	0.151	0.038	0.271
<b>Total Emissions</b>		<b>7.804</b>	<b>0.562</b>	<b>0.385</b>	<b>0.315</b>	<b>0.227</b>	<b>4.205</b>

### **5.1.2 Emissions from Painting Activities**

For painting building structures, it was assumed that water-based latex paint would be used with a VOC content of 0.5 pound per gallon and 1 gallon of paint covers approximately 300 SF. Three coats of paint will be applied (one primer and two finish) to approximately 1,500,000 SF of interior surfaces in Building C on the Medical Facilities Development. Because exact room numbers are not known, a conservative estimate of three times the approximate square footage of the building was used to estimate surfaces requiring paint.

Three coats of paint will be applied (one primer and two finish) to approximately 200,000 SF of interior surfaces in Building F from the University Expansion Alternatives 1 and 2. This value assumes that 50 percent of Building F would be research areas and 50 percent would be classrooms/educational space. Research areas would have limited paint based on lesser painting surfaces and larger rooms with an approximate painting area of 20,000 SF of painting surfaces, whereas the classroom/educational area would be broken down into 50 by 50 classrooms, with 12-foot drop ceilings and four walls leading to approximately 174,000 SF of painting surfaces. Additional painting for hallways and other areas was estimated at 6,000 SF.

Painting numbers for the Medical Facilities Development and University Expansion are assumed to occur in Period 2. Total interior painting for buildings constructed over the course of each construction period would create approximate VOC emissions of:

- Medical Facilities Development interior painting = 3.750 tons VOC
- University Expansion interior painting = 0.500 ton VOC

Emissions from painting parking spaces were based on 4-inch wide stripes. It was assumed that the average parking space is 9 feet wide by 19 feet long, and every two parking spaces share a common line. Approximately 9.24 SF would be painted for every parking space. For parking spaces, it was assumed that alkyd paint would be used with a VOC content of 3 pounds per gallon and 1 gallon of paint covers approximately 200 SF. One coat of paint would be applied to the parking surfaces. Both alternatives for University Expansion would include the construction of 400 parking spaces. For the Medical Facilities Development, there would 500 spaces in the underground parking structure and 475 spaces for the above-ground parking structure alternative. For Period 2 of the Medical Facilities Development, an estimate of 500 parking spaces is used for a conservative analysis. Given these assumptions, approximate VOC emissions for painting parking spaces would be:

- Medical Facilities Development - 500 Parking Space Painting = 0.034 ton VOC
- University Expansion Alternatives, 400 Parking Space Painting = 0.028 ton VOC.

Similarly, it is expected that all painting activities for both the Medical Facilities Development and University Expansion would occur during Period 2.

### **5.1.3 Summary of Construction Emissions**

After the emissions analysis was performed for all aspects of construction, the totals were added to determine the combined annual construction emissions for Periods 1 and 2. Tables 10 through 14 summarize the results for the Proposed Action Alternatives for the Medical Facilities Development and University Expansion.

**Table 10: Total Emissions from Medical Facilities Development Construction - Underground Parking - Period 1**

Construction Activity	Total Emissions (Tons)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Use of Heavy Equipment	4.802	0.365	0.302	0.111	1.830
Fugitive Emissions			1.588		
<b>Total Emissions from Construction</b>	<b>4.8024</b>	<b>0.365</b>	<b>1.890</b>	<b>0.111</b>	<b>1.830</b>

**Table 11: Total Emissions from Medical Facilities Development Construction - Above-ground Parking - Period 1**

Construction Activity	Total Emissions (Tons)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Use of Heavy Equipment	0.765	0.073	0.055	0.020	0.399
Fugitive Emissions			0.140		
<b>Total Emissions from Construction</b>	<b>0.767</b>	<b>0.073</b>	<b>0.195</b>	<b>0.020</b>	<b>0.399</b>

**Table 12: Total Emissions from Medical Facilities Development Construction - Period 2**

Construction Activity	Total Emissions (Tons)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Use of Heavy Equipment	17.416	1.321	0.951	0.499	9.297
Fugitive Emissions			0.997		
Painting		3.784			
<b>Total Emissions from Construction</b>	<b>17.416</b>	<b>5.106</b>	<b>1.948</b>	<b>0.499</b>	<b>9.297</b>

**Table 13: Total Emissions from University Expansion Construction - Alternative 1 - Period 2**

Construction Activity	Total Emissions (Tons)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Use of Heavy Equipment	7.874	0.566	0.3891	0.229	4.221
Fugitive Emissions			0.330		
Painting		0.528			
<b>Total Emissions from Construction</b>	<b>7.874</b>	<b>1.094</b>	<b>0.720</b>	<b>0.229</b>	<b>4.221</b>

**Table 14: Total Emissions from University Expansion Construction -  
Alternative 2 - Period 2**

Construction Activity	Total Emissions (Tons)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Use of Heavy Equipment	7.804	0.562	0.385	0.227	4.205
Fugitive Emissions			0.315		
Painting		0.528			
<b>Total Emissions from Construction</b>	<b>7.804</b>	<b>1.089</b>	<b>0.699</b>	<b>0.227</b>	<b>4.205</b>

## 5.2 Operations Emissions

Greenhouse gas (GHG) emissions, while not included as part of the conformity applicability analysis, are also included as a part of the operations write up. This ensures the same assumptions for both sets of air quality analyses and provides the assumptions in one location. The GHG section of the EIS is available in Section 4.4.4.

### 5.2.1 Heating Source Emissions

Designs for the proposed facilities at NSA Bethesda have not yet been prepared; therefore, actual boiler or furnace types and sizes have not been determined. Operational heating requirements for the EIS analysis are based on the most recent *Commercial Buildings Energy Consumption Survey* (CBECS) in 2003 conducted by the Department of Energy, Energy Information Administration. Table C-30 from that document indicates that the average energy intensity for lodging buildings using natural gas is 26.4 cubic feet (CF) of gas annually per SF of floor space for educational spaces and 78.3 CF of gas annually for health care facilities (DOE, 2003). At 1,000 British Thermal Units (BTUs) per CF of gas, this equates annually to 26,400 BTUs and 78,300 BTUs annually per SF of university and medical facility space, respectively.

Space and water heating would be required for the Medical Facilities Development Building C (573,000 SF) and for the University Expansion Building F (approximately 341,000 SF). However, Building C will be replacing an existing 325,340 SF of facilities slated for demolition, removing an existing demand from the Central Utility Plant. Therefore the net increase in medical facility space would be 247,660 SF. This increase in medical and university space would require annually:

- $(247,660 \text{ SF})(78.3 \text{ CF/SF}) = 19.39 \text{ million CF natural gas}$
- $(341,000 \text{ SF})(26.4 \text{ CF/SF}) = 9.00 \text{ million CF natural gas}$

Operational heating emissions for the natural gas plant are based on USEPA's *AP-42 Fifth Edition, Compilation of Air Pollution Emission Factors Volume I, Chapter 1: Stationary Sources, Supplement E* (USEPA, 1998). The Title V permit for the central heating plant boilers restricts four of the boilers NO<sub>x</sub> emission rates to 36 lb/10<sup>6</sup> CF of

natural gas and one to 25 lb/10<sup>6</sup> CF of natural gas. These natural gas emission rates are significantly less than the 100 lb/10<sup>6</sup> CF natural gas assumed by the AP-42 manual. All new construction would be expected to be heated by the central heating plant; the greater of the permit boiler emission rates has been used in calculations.

Therefore, the following natural gas emission rates are assumed:

- NO<sub>x</sub> = 36 lb NO<sub>x</sub>/10<sup>6</sup> CF
- VOC = 5.5 lb/10<sup>6</sup> CF
- PM<sub>2.5</sub> = 7.6 lb/10<sup>6</sup> CF
- SO<sub>2</sub> = 0.6 lb/10<sup>6</sup> CF
- CO = 84 lb/10<sup>6</sup> CF
- CO<sub>2</sub> = 120,000 lb/10<sup>6</sup> CF (GHG analysis only)
- Methane = 2.3 lb/10<sup>6</sup> CF (GHG analysis only)

The resultant annual emissions are provided in Table 15.

**Table 15: Total Annual Emissions from Heating - Natural Gas**

Heating	Total Emissions (TPY)					GHGs (TPY)	
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO	CO <sub>2</sub>	CH <sub>4</sub>
Medical Facilities Development	0.349	0.053	0.074	0.006	0.814	1163.50	0.022
University Expansion (Alternatives 1 & 2)	0.162	0.025	0.034	0.003	0.025	540.14	0.010

Using the same assumptions, the total GHG emissions from natural gas heating would be 1163.50 TPY CO<sub>2</sub> and 0.022 TPY methane (Medical Facilities Development) and 540.14 TPY CO<sub>2</sub> and 0.010 TPY methane (University Expansion).

Under its Title V permit, NSA Bethesda is also allowed to use fuel oil to heat buildings. While this is not anticipated, a sensitivity analysis has been conducted to determine the total emissions that would result from burning fuel oil to heat newly constructed buildings.

For this analysis it is assumed that for full operation, NSA Bethesda would not use natural gas for the new buildings and instead would burn #2 fuel oil. Approximately 281,000 gal/year would be required; the permit allows 1.6 million gal/year to be burned at NSA Bethesda. The analysis uses the permitted emission rate for NO<sub>x</sub> and rates found in USEPA's *AP-42 Fifth Edition, Compilation of Air Pollution Emission Factors Volume I, Chapter 1: Stationary Sources, Supplement E* (USEPA, 1998) for the other pollutants. For the sulfur totals, the analysis assumes #2 oil at less than 100 million British Thermal Units

(MMBTU)/hour and a SO<sub>2</sub> percentage limit in the Title V permit (0.3 percent). The following fuel oil emission rates are assumed:

- NO<sub>x</sub> = 14.2 lb/10<sup>3</sup> gallon of oil
- VOC = 0.34 lb/10<sup>3</sup> gallon of oil
- PM<sub>2.5</sub> = 2 lb/10<sup>3</sup> gallon of oil
- SO<sub>2</sub> = 42.6 lb/10<sup>3</sup> gallon of oil
- CO = 5 lb/10<sup>3</sup> gallon of oil

Resultant heating emissions for 100-percent use of fuel oil in the proposed medical and university buildings for full operations are shown in Table 16. These emissions are provided to demonstrate that significant air quality emissions would not occur if NSA Bethesda used fuel oil. Given that all new construction would be expected to be heated by the natural gas plant, these numbers are not included in the final general conformity applicability analysis and have not been analyzed for GHG emissions.

**Table 16: Total Annual Emissions from Heating - #2 Fuel Oil**

Heating	Total Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Medical Facilities Development	1.625	0.038	0.228	4.880	0.572
University Expansion (Alternatives 1 & 2)	0.372	0.008	0.052	1.120	0.131

### **5.2.2 Generators**

Emergency generators have been identified as a requirement for the Medical Facility and for the parking garages for both the Medical Facility and University Expansion. While the exact size and number has not been determined, this air conformity applicability analysis uses reasonable estimates based on buildings and parking garages of a similar size and function. Thus their estimated emissions are included in this air conformity applicability analysis.

A final rule has been proposed by USEPA for Standards of Performance for Stationary Compression Ignition and Spark Ignition Internal Combustion Engines (USEPA, 2011b). It specifies that manufacturers must certify their 2013 and later model year emergency stationary internal combustion engines (includes generators) with a maximum engine power less than 3,700 kilowatts (kW) to the Tier 3 standards contained in 40 CFR 1042.101. The standards are for NO<sub>x</sub>+HC, PM, and CO. This analysis uses these standards and ratios of NO<sub>x</sub> to HC provided by the Nonroad Model (USEPA, 2008) and the assumption that generators will use diesel fuel containing 15 ppm sulfur and average 167 g/hp-hr of fuel. For GHG emissions, this analysis uses 42 U.S.C. 7401 -7671q (September 15, 2011) - Control of Emissions from New and In-Use Heavy Duty Highway Engines (40 CFR 1036) (USEPA, 2011c).

- $\text{NO}_x$  = 3.878 g/ brake horse power hour (bhp-hr)
- VOC = 0.313 g/bhp-hr
- $\text{PM}_{2.5}$  = 0.080 g/bhp-hr
- $\text{SO}_2$  = 0.0025 g/bhp-hr
- CO = 3.730 g/bhp-hr
- $\text{CO}_2$  = 627 g/bhp-hr
- Methane ( $\text{CH}_4$ ) = 0.10 g/bhp-hr

Two 1,005 horsepower (hp) (750 kW) generators are assumed to be the requirement for the Medical Facility Development, with an additional 402 hp (300 kW) generator for the parking garage elevators, any lighting, and security elements, regardless of whether the garage is above or below ground. For the underground parking garage, additional 402 hp backup generator capacity would also be required to operate the doors, additional lighting, ventilation, and a dewatering system.

One 402 hp generator is assumed required for the University Expansion.

Using an assumption of 300 annual hours for the emergency generators, the annual emissions of  $\text{NO}_x$ , VOC,  $\text{PM}_{2.5}$ ,  $\text{SO}_2$ , and CO were calculated and are shown in Tables 17 and 18. Generators are assumed to come online in Period 3, full operation. For the purposes of this analysis, all operational emissions are combined into one year, beginning after all construction has been completed.

**Table 17: Total Annual Emissions from Generators, Medical Facility**

Activity	Total Emissions (TPY)					GHGs (TPY)	
	$\text{NO}_x$	VOC	$\text{PM}_{2.5}$	$\text{SO}_2$	CO	$\text{CO}_2$	$\text{CH}_4$
Two 1005 hp generators, 300 annual hours each	2.578	0.208	0.053	0.002	2.479	416.76	0.066
One 402 hp generator, 300 annual hours	0.516	0.042	0.011	0.000	0.496	83.35	0.013
<b>Total - Aboveground</b>	<b>3.093</b>	<b>0.250</b>	<b>0.064</b>	<b>0.002</b>	<b>2.974</b>	<b>500.18</b>	<b>0.080</b>
Additional 402 hp generator capacity underground, 300 annual hours	0.516	0.042	0.011	0.000	0.496	83.35	0.013
<b>Total - Underground</b>	<b>3.609</b>	<b>0.291</b>	<b>0.074</b>	<b>0.002</b>	<b>2.974</b>	<b>583.47</b>	<b>0.093</b>

**Table 18: Total Annual Emissions from Generators, University Expansion**

Activity	Total Emissions (TPY)					GHGs (TPY)	
	$\text{NO}_x$	VOC	$\text{PM}_{2.5}$	$\text{SO}_2$	CO	$\text{CO}_2$	$\text{CH}_4$
One 402 hp generator, 300 annual hours	0.516	0.042	0.011	0.000	0.496	83.35	0.013

**5.2.3 Vehicle Emissions from Daily Commuters**

Vehicle emissions from commuter vehicles are based on the *MOBILE6* air modeling program, estimating the emissions per vehicle per mile traveled. The *MOBILE6* modeling program takes into account the vehicle age, average speed, and vehicle type to create average emission factors to be used in an overall analysis. The analysis assumed that the annual average temperature is 57°F. Based on this assumption, the emissions factors for PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC from average vehicles are provided in Table 19 (CO<sub>2</sub> is provided for GHG; commuter vehicles are not a main source of methane).

**Table 19: Emission Factors for Commuter Vehicles**

Pollutant	Emissions Factor - grams/mile/vehicle
NO <sub>x</sub>	0.441
VOC	1.093
PM <sub>2.5</sub>	0.011
SO <sub>2</sub>	0.0068
CO	20.12
CO <sub>2</sub> (GHG only)	386.1

The annual emissions in tons per year of NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, and SO<sub>2</sub> for commuter emissions during operations were calculated using the appropriate equations displayed in Table 20.

**Table 20: Equations for Operations Emissions Calculations**

Emission Source	Equation	Sample Calculation
Operations, Commuters	(# of vehicles) (# of trips/day) (#miles/trip) (#days/year)= #miles/year  (#miles/year) (emissions factor grams/mile) (1 lb/453.59 grams) (1 ton/2,000 lb) = TPY of Vehicle Emissions	(50 vehicles) (2 trips/day) (20 miles/trip) (240 days/year) (0.441 g/mile/vehicle) (1 lb/453.59 grams) (1 ton/2000 lbs) = <b>0.233 TPY NO<sub>x</sub></b>

Under both Alternatives, the Medical Facilities Development would add an additional 50 personnel. While there would be 220 staff incoming to NSA Bethesda due to the University Expansion, these are current USU already commuting within the airshed. Therefore, these commuters are part of existing emissions and are not included in the analysis. It is expected that commuters would travel approximately 40 miles round trip, and considering annual vacations and holidays, work 240 days per year. Based on these assumptions, the commuter vehicle emissions for the Medical Facilities Development are shown in Table 21.

Table 21: Annual Emissions from Daily Vehicle Traffic

	Total Annual Emissions - TPY					GHGs
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO	CO <sub>2</sub>
Medical Facilities Development	0.233	0.578	0.006	0.004	10.64	204.29

#### 5.2.4 Summary of Annual Operations Emissions

Annual operations emissions include emissions from heating the building space, generator emissions, and emissions from daily employee traffic. Tables 22 through 24 provide the total annual operations emissions from the Medical Facilities Development and the University Expansion. This Section includes a summary for the general conformity applicability analysis only. For the GHG summary, please see Section 4.4.4 of the EIS.

Table 22: Annual Emissions from Medical Facilities Development Operations (Above-ground Parking)

Operations Activity	Total Annual Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Heating	0.349	0.053	0.074	0.006	0.814
Commuter Traffic	0.233	0.578	0.006	0.004	10.64
Generators	3.093	0.250	0.064	0.002	2.974
<b>Total Emissions from Operations</b>	<b>3.676</b>	<b>0.881</b>	<b>0.143</b>	<b>0.011</b>	<b>14.435</b>

Table 23: Annual Emissions from Medical Facilities Development Operations (Underground Parking)

Operations Activity	Total Annual Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Heating	0.349	0.053	0.074	0.006	0.814
Commuter Traffic	0.233	0.578	0.006	0.004	10.64
Generators	3.609	0.291	0.074	0.002	3.470
<b>Total Emissions from Operations</b>	<b>4.191</b>	<b>0.923</b>	<b>0.154</b>	<b>0.012</b>	<b>14.930</b>

Table 24: Annual Emissions from University Expansion Operations (Alternatives 1 &amp; 2)

Operations Activity	Total Annual Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
Heating	0.162	0.025	0.034	0.003	0.025
Generators	0.516	0.042	0.011	0.000	0.496
<b>Total Emissions from Operations</b>	<b>0.678</b>	<b>0.066</b>	<b>0.045</b>	<b>0.003</b>	<b>0.521</b>

### 5.3 Summary of Construction and Operations Emissions

Each year's emissions were calculated by combining the total emissions for construction and operations to determine whether emissions in any year exceed the *de minimis* values presented in the following Tables 25 through 27.

**Table 25: Total Annual Emissions: Medical Facilities Development - Underground Parking - All Periods**

Construction and Operations	Total Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
<i>de minimis</i> thresholds	100	50	100	100	100
Period 1	4.802	0.365	1.890	0.111	1.830
Period 2	17.416	5.106	1.948	0.499	9.297
Period 3 (Full Operation)	4.191	0.923	0.154	0.012	14.930

**Table 26: Total Annual Emissions: Medical Facilities Development- Above-ground Parking - All Periods**

Construction and Operations	Total Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
<i>de minimis</i> thresholds	100	50	100	100	100
Period 1	0.765	0.073	0.195	0.020	0.399
Period 2	18.960	5.217	2.005	0.542	10.426
Period 3 (Full Operation)	3.676	0.881	0.143	0.011	14.435

**Table 27: Total Annual Emissions: University Expansion (Alternatives 1 & 2)**

Construction and Operations	Total Emissions (TPY)				
	NO <sub>x</sub>	VOC	PM <sub>2.5</sub>	SO <sub>2</sub>	CO
<i>de minimis</i> thresholds	100	50	100	100	100
Period 2 (Alternative 1)	7.874	1.094	0.720	0.229	4.221
Period 2 (Alternative 2)	7.804	1.089	0.699	0.227	4.205
Period 3 (Full Operation - both Alts)	0.678	0.066	0.045	0.003	0.521

For any combination of the alternatives, the combined construction and operation emissions would not exceed the *de minimis* threshold for any of the pollutants analyzed. Therefore, a conformity determination is not required. A Record of Non-Applicability has been prepared and is attached to this appendix.

## 6.0 References

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**ATTACHMENT 1: RECORD OF NON-APPLICABILITY**

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**GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY**

Project/Action

Name: Medical Facilities Development and University Expansion - NSA Bethesda

Project/Action

Point of Contact: Brian Hillis

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The General Conformity Rule applies to Federal actions occurring in regions designated as being in nonattainment for the National Ambient Air Quality Standards (NAAQS) or attainment areas subject to maintenance plans (maintenance areas). Threshold (*de minimis*) rates of emissions have been established for Federal actions with the potential to have significant air quality impacts. If a project/action located in an area designated as nonattainment or maintenance exceeds these *de minimis* levels, a general conformity analysis is required. Montgomery County is designated as a moderate ozone (8-hour) nonattainment area in an ozone transport region, and a nonattainment area for particulate matter (2.5 microns), and a maintenance area for carbon monoxide (CO) thus the NO<sub>x</sub>, VOC, PM<sub>2.5</sub>, SO<sub>2</sub>, and CO thresholds apply.

A General Conformity Analysis of this project/action is not required because maximum annual direct and indirect emissions from this project/action have been estimated as:

Medical Facilities Development (Above-ground Parking - Taylor Road Facilities) - Period 1

NO<sub>x</sub>: 0.767 TPY; VOC: 0.073 TPY; PM<sub>2.5</sub>: 0.195 tons; SO<sub>2</sub>: 0.020 TPY;  
CO: 0.399

Medical Facilities Development (Underground Parking) - Period 1

NO<sub>x</sub>: 4.802 tons per year (TPY); VOC: 0.365 TPY; PM<sub>2.5</sub>: 1.890 tons;  
SO<sub>2</sub>: 0.111 TPY; CO: 1.830

Medical Facilities Development - Period 2

NO<sub>x</sub>: 17.416 TPY; VOC: 5.106 TPY; PM<sub>2.5</sub>: 1.948 tons; SO<sub>2</sub>: 0.499 TPY;  
CO: 9.297 TPY

Medical Facilities Development - Period 3 - Full Operation  
(Underground Parking)

NO<sub>x</sub>: 4.191 TPY; VOC: 0.923 TPY; PM<sub>2.5</sub>: 0.154 tons; SO<sub>2</sub>: 0.012 TPY;  
CO: 14.930 TPY

Medical Facilities Development - Period 3 - Full Operation (Above-ground Parking)

NO<sub>x</sub>: 3.676 TPY; VOC: 0.881 TPY; PM<sub>2.5</sub>: 0.143 tons; SO<sub>2</sub>: 0.011 TPY;  
CO: 14.435 TPY

University Expansion (Alternative 1) - Period 2

NO<sub>x</sub>: 7.874 TPY; VOC: 1.094 TPY; PM<sub>2.5</sub>: 0.720 tons; SO<sub>2</sub>: 0.229 TPY;  
CO: 4.221

University Expansion (Alternative 2) - Period 2

NO<sub>x</sub>: 7.804 TPY; VOC: 1.089 TPY; PM<sub>2.5</sub>: 0.699 tons; SO<sub>2</sub>: 0.227 TPY;  
CO: 4.205

University Expansion (Alternative 2) - Period 3 - Full Operation

NO<sub>x</sub>: 0.678 TPY; VOC: 0.066 TPY; PM<sub>2.5</sub>: 0.045 tons; SO<sub>2</sub>: 0.003 TPY;  
CO: 0.521

Any combination of these alternatives is below the *de minimis* levels established in 40 CFR 93.153 (b) of:

NO<sub>x</sub>: 100 tons; VOC: 50 tons; PM<sub>2.5</sub>: 100 tons; SO<sub>2</sub>: 100 tons; CO: 100 tons

Montgomery County is in attainment for criteria pollutants NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and Pb and therefore these pollutants are not subject to conformity review.

Supporting documentation and emissions estimates can be found in Section 3.4 and 4.4 and Appendix B of the Environmental Impact Statement document.

Bevin Willis 08 March 2013

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**APPENDIX C: STATIONARY SOURCE CONSTRUCTION NOISE  
TECHNICAL REPORT**

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## **APPENDIX C: STATIONARY SOURCE CONSTRUCTION NOISE TECHNICAL REPORT**

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### **1.0 Introduction**

During construction of the proposed project, noise would be generated by (1) the movement of trucks required for the off-site disposal of construction debris and excavated materials and the on-site delivery of construction materials (mobile sources), and (2) by construction activity and the operation of construction equipment (stationary sources). This appendix describes the methodology used to estimate stationary noise at receptors near construction sites.

#### ***1.1 General Construction Stationary Source Assessment Methodology***

Identification of stationary construction equipment to be used during the construction period is the product of a multistep process that analyzed the foreseeable construction process based on proposed design concepts and available project information. First, construction activities were derived from an overall construction schedule. The duration, scheduling, and location of potential construction activities and sub-activities that would be required to fulfill the construction schedule was then deduced. Other parameters such as working hours (7:00 AM and 5:00 PM) and days (5 days per week) were defined for the analysis. From these assumptions, the types and number of pieces of construction equipment were identified and enumerated.

Although the Montgomery County Noise Ordinance is not applicable at Naval Support Activity (NSA) Bethesda, the environmental impact statement (EIS) adopted its levels as a proxy to evaluate the effects of construction noise at receptors located on the installation. The intent of the ordinance is to control noise in order to protect public health and welfare and to allow the peaceful enjoyment of property. The ordinance contains maximum noise levels that differ depending on the day of the week; lower maximum noise levels apply during weekends.

Construction tasks were assumed in order to establish the construction equipment that may be utilized for each task and the resultant estimated noise levels during the various phases of construction. In general terms these tasks included: site preparation activities such as demolition of existing structures or grading and leveling; site excavation for foundations and basements; construction of foundations and basements, including building of forms, installation of steel reinforcement, and pouring or pumping concrete; erection of steel superstructures; and installation of curtain walls. Building finishes and interior work (plumbing, electric, interior walls, etc.) are generally done after the exterior walls have been installed, and noise levels from this construction activity are normally significantly lower than noise levels from the other tasks identified here. As such,

building finishes and interior work are not considered in this analysis.

With the identification of the types and number of pieces of equipment likely to be utilized, as well as general location, duration, and time of usage, typical noise emission levels from construction tasks were estimated. Construction equipment expected to be used for each task is identified below. These noise emission levels were used as a basis to evaluate potential stationary source construction noise impacts at receptor locations in the study area.

Another essential input used to calculate construction noise levels at each noise-sensitive receptor was the Acoustical Usage Factor (AUF). This is the percentage of time that a certain piece of equipment is expected to be operated at full throttle setting while on-site during the construction. Because the construction equipment is not expected to be in operation at full power continuously, an AUF was assigned to each piece of equipment based on Federal Transit Administration (FTA) guidelines and data from similar construction projects, and included equipment expected to be utilized during construction. The "Peak Quantity" is the number of equipment pieces to be utilized during a peak construction period, such as the peak 1-hour period. The "Usage Factor" is the percentage of time that the equipment is expected to be in operation.

To capture the reasonable worst case condition in the stationary source noise assessment, the Federal Highway Administration (FHWA), Roadway Construction Noise Model (RCNM) was used to estimate sound pressure levels at sensitive receptors in the vicinity of project construction sites. Receptor buildings were evaluated based on the activity inside the building for both existing buildings on the installation and expected uses in buildings that would be occupied during the construction process. The RCNM was populated with construction equipment according to a reasonable worst case scenario where multiple pieces of construction equipment were in use concurrently.

Additionally, the RCNM was set up as if all the construction equipment was located at the perimeter of the construction sites, i.e., as close to the noise-receiving property as possible. Although this condition is unlikely, it represents the reasonable worst case scenario. The RCNM was executed for construction tasks indicated below and the modeling results are included later in this appendix.

As illustrated in the sections below, some elements of the proposed action may require noise reduction measures to achieve the adopted noise levels. Potential noise reduction measures have been identified to control airborne noise impacts. Typical measures that would be considered and implemented as appropriate include:

- Source Limits and Performance Standards to meet noise level thresholds for daytime, evening, and nighttime hours at sensitive land uses (Montgomery County Standards).
- Restricting truck travel in areas where sensitive populations are proximate to the roadway.
- Establishing noise monitoring stations for measuring noise near sensitive receptors or fence line prior to and during construction.
- Design considerations and project layout approaches including measures such as construction of temporary noise barriers, placing construction equipment farther from noise-sensitive receptors, and constructing walled enclosures/sheds around especially noisy activities such as pavement breaking.

## **2.0 Stationary Source Noise Evaluation: Medical Facilities Development**

Medical Facilities Development includes the following elements for which construction noise was evaluated:

- the demolition of five hospital buildings and construction of a single 5-story facility and associated parking garage for visitors, patients, and others;
- utility capacity upgrades;
- accessibility and appearance improvement projects; and
- temporary medical facilities to provide uninterrupted patient care during construction.

### **2.1 Building C - Site Preparation (Demolition) and Construction**

Demolition and construction activity associated with Medical Facilities Development could potentially affect noise levels within NSA Bethesda and adjacent areas. Sources of demolition and construction noise include noise emission from: vehicle movement and operation within and around the development area; the operation of equipment and machinery such as jackhammers and compressors, cranes, and front-end loaders; the loading of demolition debris onto trucks for shipment off-site; unloading and movement of construction materials and supplies; drilling or driving foundation piles; steel erection and curtain wall installation; and operation of other construction equipment on-site.

Sensitive receptors considered in the noise assessment for Building C include the inpatient population in Building 19, Building 9, and Building 9A. Due to the distances between the proposed Building C and other receptors on the campus (Buildings 50, 60, 61, 62, 65, 66, and 67), and the structures situated between the construction site and these receptors, the effects of noise generated during construction of Building C on these receptors are not expected to be significant and are not evaluated here.

For the demolition stage, buildings located on the Medical Facilities Development site (Buildings 2, 4, 6, 7, and 8) would be vacated and stripped of all internal furnishings. These activities would largely occur within the buildings with little effect on outside ambient noise levels. Once outside, these internal furnishings would be loaded onto trucks using (in a worst case scenario) front-end loaders.

Following internal contaminant removal, building shell demolition would proceed. These buildings range from between 1 and 5 stories and should not represent obvious demolition difficulties. In the case of high buildings, demolition would require the staged deconstruction of each floor. Rubble and debris would then be systematically removed and disposed off-site.

The buildings proposed for demolition have basement levels. These sub-grade structures would also be removed. Due to the proximity of other buildings, demolition activities would be performed using construction equipment with the lowest vibration levels available. Blasting techniques would not be used. Material would be removed via dump trucks and/or dumpsters that would likely stage on R.B. Brown Drive and exit the campus to Rockville Pike or Jones Bridge Road.

Removal of basement structures and excavation for the Building C foundations is expected to be one of the more noisy periods of construction in this area. Equipment for these activities may include excavators, backhoes, front-end loaders, backhoe-mounted grapples, compressors and jackhammers, and dump trucks.

Receptors adjacent to and outside the southern wall of Building 19, and the northern walls of Buildings 9 and 9A, which were estimated to be located approximately 50 feet off the perimeter of the construction site, would experience noise levels presented in Table 1.

**Table 1: Estimated Construction Noise Levels at Nearby Receptors - Building C**

Receptor	Demolition	Excavation	Foundations & Basements	Superstructure
Buildings 19, 9, & 9A	88.1 dBA	87.1 dBA	86.0 dBA	85.7 dBA

dBA = A weighted decibels

Source: LBG, 2011.

As shown in Table 1, occupants of buildings adjacent to the construction site may experience levels of noise in excess of those adopted, which states that a "person must not cause or permit noise levels from construction activity that exceed the following levels:

- (A) From 7:00 AM to 5:00 PM weekdays:
- (i) 75 A-weighted decibels (dBA) if the Maryland Department of Environmental Protection has not approved a noise-suppression plan for the activity; or

(ii) 85 dBA if the Department has approved a noise-suppression plan for the activity."

The levels shown in Table 1 are estimated levels outside of the building wall. Depending on the noise-attenuating effects of the building walls and windows, the levels within the building would be lower. Furthermore, a noise wall situated between the construction activity and the building would further mitigate noise experienced outside the construction site.

With some combination of a construction noise wall (potential 3 dBA attenuation) and the attenuating effect of the building walls and windows, construction noise would not exceed the adopted levels. Additional attenuation could be gained by actions such as vacating those rooms adjacent to the construction site or by increasing the attenuating effect of the windows by adding another window pane. In instances where buildings are historic resources, temporary soundproofing material can be installed to the interior of the windows to reduce interior noise levels.

## **2.2 *Parking Alternatives***

The EIS analyzed three above-ground and one underground alternative locations for the medical facilities parking garage.

### **2.2.1 Above-ground Parking Garage Alternatives**

**H-Lot** - Development of an above-ground parking garage at H-Lot would involve clearing the existing parking lot and trees on the site, minor excavation for foundations, building forms, installing steel reinforcement, and pouring concrete for the foundations. Equipment expected to be used for excavation and foundation work includes: backhoe, rebar bender, compactor, concrete mixer truck, concrete pump truck, bulldozer, dump truck, generator, pneumatic tools, compressor, and welder.

It is assumed that preformed concrete elements would form the bulk of the remaining structure. These elements would be trucked to the site and secured into place using a crane. Equipment expected for construction of the facility includes: backhoe, compressor, two cranes, flatbed truck, generator, man lift, pneumatic tools, welder, and pickup trucks.

This construction site is located approximately 20 feet west of the Navy Lodge residential facility and approximately 100 feet south of the Fisher Houses. The Child Care Center is located approximately 650 feet west. Additionally, off-campus residential uses are located approximately 160 feet south of the H-Lot construction site, across Jones Bridge Road. No other sensitive receptors within NSA Bethesda are in the vicinity of the site. A thin line of deciduous trees lies between the off-campus residences to the south and the site, and between H-Lot and the day care center. Although these features would

attenuate noise to some degree, they were not considered in the RCNM runs.

The RCNM was run for two stages of construction: ground preparation and foundations and installation of prefabricated structural elements. The noise generated by the two stages was estimated for the off-campus residences, the Child Care Center, the Fisher Houses, and the Navy Lodge (see Table 2).

**Table 2: Estimated Construction Noise Levels at Nearby Receptors - H-Lot**

Receptor	Ground Preparation and Foundations	Installation of Pre-Fabricated Elements
Navy Lodge	94.7 dBA	93.3 dBA
Fisher Houses	80.7 dBA	79.3 dBA
Off-Campus Residences	76.7 dBA	75.3 dBA
Child Care Center	64.5 dBA	63.1 dBA

Source: LBG, 2011

Construction of the parking facility at H-Lot would only exceed the adopted construction noise levels at the Navy Lodge. Almost 10 dBA of reduction would be needed to achieve levels identified in the ordinance. With some combination of a construction noise wall and other mitigation measures, and the attenuating effect of the building walls and windows, construction noise could be reduced to the adopted levels. Additional attenuation would be gained by vacating those rooms adjacent to the construction site, or by increasing the attenuating effect of the windows by adding another window pane or adding sound-proofing material.

**Warehouse Area** - Development of an above-ground parking garage in the warehouse area would involve clearing the existing uses on the site, minor excavation for foundations, building forms, installing steel reinforcement, and pouring concrete for the foundations. Equipment expected to be used for excavation and foundation work includes: backhoe, rebar bender, compactor, concrete mixer truck, concrete pump truck, bulldozer, dump truck, generator, pneumatic tools, compressor, and welder.

It is assumed that preformed concrete elements would form the bulk of the remaining structure. These elements would be trucked to the site and secured into place using a crane. Equipment expected for construction of the facility includes: backhoe, compressor, two cranes, flatbed truck, generator, man lift, pneumatic tools, welder, and pickup trucks.

This construction site is located approximately 190 feet southeast of private residential units along E. Parkhill Drive, and approximately

390 feet from the Flag Housing along Van Reypen Road. No other sensitive receptors within the NSA Bethesda installation are in the vicinity of the site. The warehouse area is approximately 30 feet lower in elevation than the Flag Housing to the southwest and slightly higher in elevation than the off-campus residences. A thin line of deciduous trees lies between the off-campus residences to the northeast and the site, and a line of evergreen trees lie between the site and the Flag Housing. Although these features would attenuate noise to some degree, they were not considered in the RCNM runs. The warehouses that would remain in place under this alternative are not located between the receptors and the construction site and would not mitigate construction noise at the receptors.

The RCNM was run for two stages of construction: ground preparation and foundations and installation of prefabricated structural elements. The noise generated by the two stages was estimated for both the private residences and the Flag Housing (see Table 3).

**Table 3: Estimated Construction Noise Levels at Nearby Receptors - Warehouse Area**

Receptor	Ground Preparation and Foundations	Installation of Pre-Fabricated Elements
Private Residences	75.2 dBA	73.8 dBA
Flag Housing	68.9 dBA	67.5 dBA

Source: LBG, 2011

Construction of the parking facility in the warehouse area would not exceed the adopted construction noise levels at these receptors. No significant adverse impacts are anticipated.

**Taylor Road Facilities** - Development of an above-ground parking garage at the Taylor Road Facilities would involve removing the parking lot from the site, minor excavation for foundations, building forms, installing steel reinforcement, and pouring concrete for the foundations. (For this analysis it is assumed that the existing structures on the construction site for this alternative would no longer be on the site and would not provide attenuation of adjacent construction noise. Sanctuary Hall [Wounded Warrior Transition Lodge {WWTL}] and the associated garage would be in the latter stages of construction and would provide noise attenuation between the Taylor Road Facilities and the sensitive receptors. Additionally, it is assumed that the garage would be a 5-story structure situated between Sanctuary Hall [WWTL] and the construction site). Equipment expected to be used for ground preparation and foundation work includes: backhoe, rebar bender, compactor, concrete mixer truck, concrete pump truck, bulldozer, dump truck, generator, pneumatic tools, compressor, and welder.

It is assumed that preformed concrete elements would form the bulk of the remaining structure. These elements would be trucked to the site

and secured into place using a crane. Equipment expected for construction of the facility includes: backhoe, compressor, two cranes, flatbed truck, generator, man lift, pneumatic tools, welder, and pickup trucks.

This construction site is located approximately 120 feet from the proposed Sanctuary Hall, with the proposed garage situated between the construction and Sanctuary Hall. A 10 dBA reduction was applied to the RCNM to account for the noise-shielding effect of the parking garage. Additionally, the construction site is approximately 320 feet southeast of the residences along Van Reypen Road. No other sensitive receptors within the NSA Bethesda installation are in the vicinity of the site.

The RCNM was run for two stages of construction: ground preparation and foundations and installation of prefabricated structural elements. The noise generated by the two stages was estimated for Sanctuary Hall (WWTL) and the Flag Houses along Van Reypen Road (see Table 5).

**Table 4: Estimated Construction Noise Levels at Nearby Receptors - Taylor Road Facilities**

Receptor	Ground Preparation and Foundations	Installation of Pre-Fabricated Elements
Sanctuary Hall	65.2 dBA	63.8 dBA
Admiral Houses	70.6 dBA	69.2 dBA

Source: LBG, 2011

Construction of the parking garage at the Taylor Road Facilities is not expected to exceed the adopted construction noise levels. No significant adverse noise impacts due to construction of the facility at this site are anticipated.

### **2.2.2 Underground Parking Garage Alternative**

**Underground Parking Garage** - Construction techniques to be used in the Underground Parking Garage have not been developed at this time. In order to capture a worst-case condition it is assumed that:

- o excavation for the garage would remove soil and bedrock to approximately 30 feet below the existing ground level;
- o exterior walls of the facility would be poured concrete supplied by a batching plant located on-site; and
- o precast concrete elements would comprise the inner walls, floors, and floor supports.

The RCNM was used to estimate the noise levels generated by each of these tasks. For excavation it was assumed that construction would be concurrent in three locations at the site: the northern end, the southern end, and in the center. The model was run with identical equipment in each of these locations. Equipment included in the model

included a dozer, a dump truck, an excavator, a front-end loader, and a hoe ram.

Because of the shape of the building footprint (approximately 750 feet along the north/south axis), there would be 200 or 300 feet between these machines. As such, the only receptors to experience additive effects of multiple machines would be those located directly east or west of the site. Additionally, during the later stages of excavation, when construction would occur below the surface level, receptors would be shielded from many of the noise-generating machines. The noisiest periods of construction are likely to be at the beginning of excavation and at the end of the construction, during installation or construction of the upper level of the facility. As such, a noise-attenuating factor of 5 dBA<sup>1</sup> was assigned to operation of the hoe rams (used for dislodging bedrock at the bottom of the excavation). Because construction of the foundations would occur at the bottom of the excavation, with no line-of-sight to nearby receptors, noise generated during this activity was not evaluated.

The nearest receptors to the construction area are those populations in Building 9A and Building 19, both situated approximately 80 feet distant. Any receptors located west of the site are at least 350 feet distant and across Rockville Pike. The Stone Ridge School is located more than 700 feet north of the construction site across largely open landscape offering little noise-attenuating elements. Estimated noise levels at Building 19 and Building 9A and at the Stone Ridge School are presented in Table 6.

**Table 5: Estimated Construction Noise Levels at Nearby Receptors - Underground Parking**

<b>Receptor</b>	<b>Excavation</b>	<b>Construction</b>
Buildings 19 & 9A	79.6 dBA	81.2 dBA
Stone Ridge School	62.9 dBA	64.4 dBA

Source: LBG, 2011

Construction of the Underground Parking Garage would not exceed the adopted construction noise levels at these receptors. No significant adverse impacts are anticipated.

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<sup>1</sup> FHWA Highway Noise Barrier Design Handbook, typical 5 dB(A) attenuation expected for receivers whose line-of-sight is just blocked.

### **2.3 Accessibility and Appearance Improvements**

Construction of the proposed Accessibility and Appearance Improvements would involve delivery of construction and landscaping materials and the use of light-duty construction equipment, such as forklifts, backhoes, and small hydro-static front end loaders. This work would occur throughout the campus. Noise generated by this activity would be short-term and temporary. Due to the limited duration of these projects and because of the light-duty equipment to be used, no significant adverse impacts on ambient noise conditions are anticipated.

### **2.4 Utilities**

Upgrades to utilities would require: demolition of the existing utility plant (Building 143) and construction of a new 12,900 square foot (SF) plant; demolition of three existing cooling towers and the construction of four cooling towers; and replacement of existing utility transmission lines and installation of new utility transmission line throughout the campus.

Demolition of the existing utility plant would involve techniques similar to those required for demolition of the medical facilities, described above. The new utility plant and new cooling towers would be located on or adjacent to the existing facilities, where nearby uses include campus administration and support, residential, and research. For this analysis it is assumed that demolition of the utility plant and the cooling towers would be concurrent.

Fisher Houses are located approximately 400 feet south of the construction site for the utility plant and more than 500 feet south of the new coolers. For this analysis it is assumed that both the cooling towers and the utility plant are 400 feet from the Fisher Houses. A parking garage is located between the cooling tower construction site and the Fisher Houses, and a 10 dBA reduction in noise experienced at Fisher Houses was applied to the RCNM to account for the noise-shielding effect of the parking garage. Because there is a line-of-sight connection between the utility plant construction site and Fisher Houses, this 10 dBA reduction is not applied in the model. The Armed Forces Radiobiology Research Center (AFRRI) is located approximately 150 feet east of both the utility plant and the cooling towers. A line of deciduous trees occupies land between the construction site and AFRRI, but no noise reduction was applied to the RCNM for this analysis. The expected construction noise during demolition of the utility plant and cooling towers is presented in Table 6.

Excavation for and construction of the foundations for the utility plant and cooling would involve techniques similar to those required for excavation and foundation construction of the medical facilities, described above.

**Table 6: Estimated Construction Noise Levels at Nearby Receptors - Utility Upgrades**

Receptors	Demolition	Excavation & Foundations	Superstructure Construction
Fisher Houses	70.3 dBA	68.3 dBA	68.3 dBA
AFRRI	81.6 dBA	79.9	79.1 dBA

Source: LBG, 2011

Provided that construction activity in the vicinity of AFRRI occurs between the hours of 7:00 AM and 5:00 PM on weekdays, and provided the construction contractor has a noise-suppression plan approved by Montgomery County Department of Environmental Protection, construction of the Utility Plant and new cooling towers is not expected to generate construction noise above the adopted levels. No significant adverse noise impacts due to construction of the facility at this site are anticipated. Construction occurring on weekends or after 5:00 PM on weekdays would require some combination of mitigation measures to reduce noise levels, as discussed earlier.

Upgrades to utility infrastructure throughout NSA Bethesda would also involve new trenching in some areas or exposing utility transmission lines in existing trenches in other areas. In areas where jackhammers or other loud equipment are used adjacent to sensitive receptors, it may be necessary to build a temporary noise wall between the construction site and the receptor, or otherwise attenuate excessive noise levels. No significant adverse noise impacts due to construction of the facility at this site are anticipated.

### **2.5 Temporary Medical Facilities**

Temporary medical facilities would be constructed at the existing G-Lot parking area. These structures are intended to be temporary, and would be modular, prefabricated structures placed on the existing parking areas. The modular elements would be trucked in and set in place with a mobile crane. Utility connections would involve underground electric and communications lines and connections to water and sanitary sewer lines. Trenching and installation for temporary utilities would require jackhammers, backhoes, and dump trucks.

For the analysis of potential noise impacts on receptors in the vicinity, it is assumed that trenching for temporary utilities, installation of utilities, and delivery and installation of the modular medical facilities would be concurrent, but the construction equipment would be spread across the construction site. It is also assumed that construction activity would not occur within approximately 30 feet from the edge of the asphalt surface.

Several facilities that comprise the Stone Ridge School are located approximately 20 feet north of G-Lot. Also, on-campus residential uses are located approximately 50 feet east of the lot. As such, the RCNM was run at different distances from the receptors with the following

equipment: a backhoe, compressor, jackhammer, dump truck and flatbed truck, generator, welder, tractor-trailer rig, and a crane. The results of the model run are presented in Table 7.

**Table 7: Estimated Construction Noise Levels at Nearby Receptors - Temporary Medical Facilities**

Receptor	Noise Level
Stone Ridge School	81.2 dBA
Housing East of G-Lot	79.2 dBA

Source: LBG, 2011

Construction of the temporary medical facilities is not expected to exceed the adopted construction noise levels at these receptors. No significant adverse noise impacts due to construction of the facility at this site are anticipated.

### **2.6 Internal Renovations**

Internal renovations would occur inside existing buildings and would not use heavy construction equipment. Power for hand tools would be supplied off existing electrical systems within the buildings and would not require generators. Temporary and intermittent noise from vehicles delivering construction materials and pickup trucks transporting workers are not expected to create significant noise impacts.

### **3.0 Stationary Source Noise Evaluation: University Expansion**

The proposed University Expansion would entail the construction of a new, approximately 341,000 SF educational and research building, and an approximately 144,000 SF, 400-space parking structure. Two alternative locations for the building are considered: Alternative 1 would place the University Expansion south of the existing University and east of Grier Road; Alternative 2 would place the University Expansion between the University and AFRII.

Construction for both alternatives would require similar construction equipment and techniques, and the equipment and techniques would be similar to those of the Medical Facilities Development. For either alternative, construction materials would likely be transported through Gate 5 and travel to the construction site via South Palmer Road.

#### **3.1 University Expansion - Alternative 1: Construction**

The Navy Lodge is located approximately 300 feet west of the construction site and the existing University Facilities are approximately 120 feet north of the construction site. Private residences south of Jones Bridge Road are located approximately 440 feet southwest of the construction site.

The RCNM was used to predict noise levels due to construction of the University Expansion at the location of Alternative 1 at the Navy Lodge, the existing University Facilities, and at the residences located south of Jones Bridge Road (Table 8). Although some portion of the wooded buffer between Alternative 1 and Jones Bridge Road would remain, the noise-mitigating effects of this buffer were not considered in this construction noise analysis.

**Table 8: Estimated Construction Noise Levels at Nearby Receptors - University Expansion Alternative 1**

Receptor	Excavation and Ground Preparation	Foundations & Basements	Superstructure
Navy Lodge	72.5 dBA	70.8 dBA	70.5 dBA
University Facilities	80.5 dBA	78.8 dBA	78.4 dBA
Private Residences	69.2 dBA	67.5 dBA	67.1 dBA

Source: LBG, 2011

Construction of Alternative 1 is not expected to exceed the adopted construction noise levels.

### **3.2 University Expansion - Alternative 2: Construction**

The Fisher Houses are located approximately 320 feet southwest of the construction site, and the existing Uniformed Services University Facilities are approximately 25 feet east. AFRRRI is located approximately 25 feet west of the construction site.

The RCNM was used to predict noise levels due to construction of the University Expansion at the location of Alternative 2 for receptors at the Fisher Houses, the existing University Facilities, and AFRRRI (Table 9).

**Table 9: Estimated Construction Noise Levels at Nearby Receptors - University Expansion Alternative 2**

Receptor	Excavation and Ground Preparation	Foundations & Basements	Superstructure
Fisher Houses	71.9 dBA	70.2 dBA	69.9 dBA
University Facilities	94.1 dBA	92.4 dBA	92.1 dBA
AFRRRI	94.1 dBA	92.4 dBA	92.1 dBA

Source: LBG, 2011

Without noise-attenuating measures, construction of Alternative 2 of the University Expansion would exceed the adopted construction noise levels at the western wall of the University and at AFRRRI. Noise attenuation across masonry walls is in the range of between 30 dBA and

50 dBA. However, if these walls include windows, the attenuating effect is reduced to a range of between 10 dBA and 20 dBA for single pane windows. Depending on the noise-attenuating capacity of the walls and windows of the University and AFRRRI, noise inside the buildings may also exceed identified levels. Some combination of noise-attenuating measures would be needed during periods when construction is occurring adjacent to these facilities. Possible measures to reduce noise impacts inside the building include vacating rooms adjacent to the construction activity, or the temporary placement of sound proofing material over the interior of the windows.

#### **4.0 References**

(LBG, 2011). The Louis Berger Group, Inc. Noise Modeling at NSA Bethesda for the Construction Activities Associated with the Proposed Medical Facilities Development and University Expansion. December 2011.

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1 **Attachment - RCNM Data Output**

2 Raw data output files from the RCNM are provided in the attachment to  
3 this appendix. The files are presented in the same order as the  
4 discussion above.

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# BUILDING C

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Build C Demo  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/07/2011  
Case Description: Build C - Demo

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Adjacent Receptors	Residential	56.6	56.6	56.6

Description	Impact Device	Usage (%)	Equipment			Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)			
Compressor (air)	No	40		77.7	50.0	0.0	
Crane	No	16		80.6	50.0	0.0	
Jackhammer	Yes	20		88.9	50.0	0.0	
Backhoe	No	40		77.6	50.0	0.0	
Concrete Saw	No	20		89.6	50.0	0.0	
Front End Loader	No	40		79.1	50.0	0.0	
Grapple (on backhoe)	No	40		87.0	50.0	0.0	
Dump Truck	No	40		76.5	50.0	0.0	

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	77.7	73.7
Crane	80.6	72.6
Jackhammer	88.9	81.9
Backhoe	77.6	73.6
Concrete Saw	89.6	82.6
Front End Loader	79.1	75.1
Grapple (on backhoe)	87.0	83.0
Dump Truck	76.5	72.5
Total	89.6	88.1

Build C Excavation  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/07/2011  
Case Description: Excavation Building C

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Adj. Building C	Residential	56.6	56.6	56.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50.0	0.0
Front End Loader	No	40		79.1	50.0	0.0
Excavator	No	40		80.7	50.0	0.0
Dump Truck	No	40		76.5	50.0	0.0
Compressor (air)	No	40		77.7	50.0	0.0
Jackhammer	Yes	20		88.9	50.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	50.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	77.6	73.6
Front End Loader	79.1	75.1
Excavator	80.7	76.7
Dump Truck	76.5	72.5
Compressor (air)	77.7	73.7
Jackhammer	88.9	81.9
Mounted Impact Hammer (hoe ram)	90.3	83.3
Total	90.3	87.1

Build C FoundBase  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/07/2011  
Case Description: Build C - Foundations & Basements

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Adjacent Receptors	Residential	56.6	56.6	56.6

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50.0	0.0
Compressor (air)	No	40		77.7	50.0	0.0
Compactor (ground)	No	20		83.2	50.0	0.0
Concrete Batch Plant	No	15	83.0		50.0	0.0
Bar Bender	No	20	80.0		50.0	0.0
Concrete Pump Truck	No	20		81.4	50.0	0.0
Generator	No	50		80.6	50.0	0.0
Pickup Truck	No	40		75.0	50.0	0.0
Pneumatic Tools	No	50		85.2	50.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	77.6	73.6
Compressor (air)	77.7	73.7
Compactor (ground)	83.2	76.2
Concrete Batch Plant	83.0	74.8
Bar Bender	80.0	73.0
Concrete Pump Truck	81.4	74.4
Generator	80.6	77.6
Pickup Truck	75.0	71.0
Pneumatic Tools	85.2	82.2
Total	85.2	86.0

Build C Superstructure  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/07/2011  
Case Description: Building C - Superstructure

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Adjacent Receptors	Residential	56.6	56.6	56.6

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50.0	0.0
Crane	No	16		80.6	50.0	0.0
Flat Bed Truck	No	40		74.3	50.0	0.0
Generator	No	50		80.6	50.0	0.0
Front End Loader	No	40		79.1	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Welder / Torch	No	40		74.0	50.0	0.0
Concrete Batch Plant	No	15	83.0		50.0	0.0
Pneumatic Tools	No	50		85.2	50.0	0.0
Bar Bender	No	20	80.0		50.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	77.7	73.7
Crane	80.6	72.6
Flat Bed Truck	74.3	70.3
Generator	80.6	77.6
Front End Loader	79.1	75.1
Man Lift	74.7	67.7
Welder / Torch	74.0	70.0
Concrete Batch Plant	83.0	74.8
Pneumatic Tools	85.2	82.2
Bar Bender	80.0	73.0
<b>Total</b>	<b>85.2</b>	<b>85.7</b>

**MEDICAL FACILITIES PARKING GARAGE ALTERNATIVES:**

**ABOVE-GROUND GARAGE AT H LOT**

**ABOVE-GROUND GARAGE AT WAREHOUSE AREA**

**ABOVE-GROUND GARAGE AT TAYLOR ROAD FACILITIES**

**UNDERGROUND PARKING GARAGE**

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# ABOVE-GROUND GARAGE AT H LOT

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Lot H Excavation  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/12/2011  
Case Description: Lot H Excavation

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Navy Lodge	Residential	59.2	59.2	59.2

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	20.0	0.0
Bar Bender	No	20	80.0		20.0	0.0
Compactor (ground)	No	20		83.2	20.0	0.0
Concrete Mixer Truck	No	40		78.8	20.0	0.0
Concrete Pump Truck	No	20		81.4	20.0	0.0
Dozer	No	40		81.7	20.0	0.0
Dump Truck	No	40		76.5	20.0	0.0
Generator	No	50		80.6	20.0	0.0
Pneumatic Tools	No	50		85.2	20.0	0.0
Compressor (air)	No	40		77.7	20.0	0.0
Welder / Torch	No	40		74.0	20.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	85.5	81.5
Bar Bender	88.0	81.0
Compactor (ground)	91.2	84.2
Concrete Mixer Truck	86.8	82.8
Concrete Pump Truck	89.4	82.4
Dozer	89.6	85.6
Dump Truck	84.4	80.4
Generator	88.6	85.6
Pneumatic Tools	93.1	90.1
Compressor (air)	85.6	81.6
Welder / Torch	82.0	78.0
<b>Total</b>	<b>93.1</b>	<b>94.7</b>

Lot H Excavation

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Fisher Houses	Residential	59.7	59.7	59.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	100.0	0.0
Bar Bender	No	20	80.0		100.0	0.0
Compactor (ground)	No	20		83.2	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Concrete Pump Truck	No	20		81.4	100.0	0.0
Dozer	No	40		81.7	100.0	0.0
Dump Truck	No	40		76.5	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Pneumatic Tools	No	50		85.2	100.0	0.0
Compressor (air)	No	40		77.7	100.0	0.0
Welder / Torch	No	40		74.0	100.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Backhoe	71.5	67.6
Bar Bender	74.0	67.0
Compactor (ground)	77.2	70.2
Concrete Mixer Truck	72.8	68.8
Concrete Pump Truck	75.4	68.4
Dozer	75.6	71.7
Dump Truck	70.4	66.5
Generator	74.6	71.6
Pneumatic Tools	79.2	76.1
Compressor (air)	71.6	67.7
Welder / Torch	68.0	64.0
Total	79.2	80.7

Lot H Excavation

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Off-Campus Residences	Residential	64.6	64.6	64.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	160.0	0.0
Bar Bender	No	20	80.0		160.0	0.0
Compactor (ground)	No	20		83.2	160.0	0.0
Concrete Mixer Truck	No	40		78.8	160.0	0.0
Concrete Pump Truck	No	20		81.4	160.0	0.0
Dozer	No	40		81.7	160.0	0.0
Dump Truck	No	40		76.5	160.0	0.0
Generator	No	50		80.6	160.0	0.0
Pneumatic Tools	No	50		85.2	160.0	0.0
Compressor (air)	No	40		77.7	160.0	0.0
Welder / Torch	No	40		74.0	160.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	67.5	63.5
Bar Bender	69.9	62.9
Compactor (ground)	73.1	66.1
Concrete Mixer Truck	68.7	64.7
Concrete Pump Truck	71.3	64.3
Dozer	71.6	67.6
Dump Truck	66.3	62.4
Generator	70.5	67.5
Pneumatic Tools	75.1	72.1
Compressor (air)	67.6	63.6
Welder / Torch	63.9	59.9
Total	75.1	76.7

Lot H Excavation

\*\*\*\* Receptor #4 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Child Care Center	Residential	64.6	64.6	64.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	650.0	0.0
Bar Bender	No	20	80.0		650.0	0.0
Compactor (ground)	No	20		83.2	650.0	0.0
Concrete Mixer Truck	No	40		78.8	650.0	0.0
Concrete Pump Truck	No	20		81.4	650.0	0.0
Dozer	No	40		81.7	650.0	0.0
Dump Truck	No	40		76.5	650.0	0.0
Generator	No	50		80.6	650.0	0.0
Pneumatic Tools	No	50		85.2	650.0	0.0
Compressor (air)	No	40		77.7	650.0	0.0
Welder / Torch	No	40		74.0	650.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Backhoe	55.3	51.3
Bar Bender	57.7	50.7
Compactor (ground)	61.0	54.0
Concrete Mixer Truck	56.5	52.5
Concrete Pump Truck	59.1	52.1
Dozer	59.4	55.4
Dump Truck	54.2	50.2
Generator	58.4	55.3
Pneumatic Tools	62.9	59.9
Compressor (air)	55.4	51.4
Welder / Torch	51.7	47.7
Total	62.9	64.5

Lot H Construction  
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/12/2011  
 Case Description: Lot H Construction

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Navy Lodge	Residential	59.2	59.2	59.2

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	20.0	0.0
Compressor (air)	No	40		77.7	20.0	0.0
Crane	No	16		80.6	20.0	0.0
Flat Bed Truck	No	40		74.3	20.0	0.0
Generator	No	50		80.6	20.0	0.0
Man Lift	No	20		74.7	20.0	0.0
Pneumatic Tools	No	50		85.2	20.0	0.0
Welder / Torch	No	40		74.0	20.0	0.0
Pickup Truck	No	40		75.0	20.0	0.0
Crane	No	16		80.6	20.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	85.5	81.5
Compressor (air)	85.6	81.6
Crane	88.5	80.6
Flat Bed Truck	82.2	78.2
Generator	88.6	85.6
Man Lift	82.7	75.7
Pneumatic Tools	93.1	90.1
Welder / Torch	82.0	78.0
Pickup Truck	83.0	79.0
Crane	88.5	80.6
<b>Total</b>	<b>93.1</b>	<b>93.3</b>

Lot H Construction

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Fisher Houses	Residential	59.7	59.7	59.7

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	100.0	0.0
Compressor (air)	No	40		77.7	100.0	0.0
Crane	No	16		80.6	100.0	0.0
Flat Bed Truck	No	40		74.3	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Man Lift	No	20		74.7	100.0	0.0
Pneumatic Tools	No	50		85.2	100.0	0.0
Welder / Torch	No	40		74.0	100.0	0.0
Pickup Truck	No	40		75.0	100.0	0.0
Crane	No	16		80.6	100.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	71.5	67.6
Compressor (air)	71.6	67.7
Crane	74.5	66.6
Flat Bed Truck	68.2	64.3
Generator	74.6	71.6
Man Lift	68.7	61.7
Pneumatic Tools	79.2	76.1
Welder / Torch	68.0	64.0
Pickup Truck	69.0	65.0
Crane	74.5	66.6
<b>Total</b>	<b>79.2</b>	<b>79.3</b>

Lot H Construction

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Off-Campus Residences	Residential	64.6	64.6	64.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	160.0	0.0
Compressor (air)	No	40		77.7	160.0	0.0
Crane	No	16		80.6	160.0	0.0
Flat Bed Truck	No	40		74.3	160.0	0.0
Generator	No	50		80.6	160.0	0.0
Man Lift	No	20		74.7	160.0	0.0
Pneumatic Tools	No	50		85.2	160.0	0.0
Welder / Torch	No	40		74.0	160.0	0.0
Pickup Truck	No	40		75.0	160.0	0.0
Crane	No	16		80.6	160.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	67.5	63.5
Compressor (air)	67.6	63.6
Crane	70.4	62.5
Flat Bed Truck	64.1	60.2
Generator	70.5	67.5
Man Lift	64.6	57.6
Pneumatic Tools	75.1	72.1
Welder / Torch	63.9	59.9
Pickup Truck	64.9	60.9
Crane	70.4	62.5
Total	75.1	75.3

Lot H Construction

\*\*\*\* Receptor #4 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Child Care Center	Residential	64.6	64.6	64.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	650.0	0.0
Compressor (air)	No	40		77.7	650.0	0.0
Crane	No	16		80.6	650.0	0.0
Flat Bed Truck	No	40		74.3	650.0	0.0
Generator	No	50		80.6	650.0	0.0
Man Lift	No	20		74.7	650.0	0.0
Pneumatic Tools	No	50		85.2	650.0	0.0
Welder / Torch	No	40		74.0	650.0	0.0
Pickup Truck	No	40		75.0	650.0	0.0
Crane	No	16		80.6	650.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	55.3	51.3
Compressor (air)	55.4	51.4
Crane	58.3	50.3
Flat Bed Truck	52.0	48.0
Generator	58.4	55.3
Man Lift	52.4	45.4
Pneumatic Tools	62.9	59.9
Welder / Torch	51.7	47.7
Pickup Truck	52.7	48.7
Crane	58.3	50.3
<b>Total</b>	<b>62.9</b>	<b>63.1</b>

## ABOVE-GROUND GARAGE AT WAREHOUSE AREA

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Warehouse Area Excavation  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/08/2011  
Case Description: Warehouse Excavation

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Private Residences	Residential	59.2	59.2	59.2

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	190.0	0.0
Bar Bender	No	20	80.0		190.0	0.0
Compactor (ground)	No	20		83.2	190.0	0.0
Concrete Mixer Truck	No	40		78.8	190.0	0.0
Concrete Pump Truck	No	20		81.4	190.0	0.0
Dozer	No	40		81.7	190.0	0.0
Dump Truck	No	40		76.5	190.0	0.0
Generator	No	50		80.6	190.0	0.0
Pneumatic Tools	No	50		85.2	190.0	0.0
Compressor (air)	No	40		77.7	190.0	0.0
Welder / Torch	No	40		74.0	190.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	66.0	62.0
Bar Bender	68.4	61.4
Compactor (ground)	71.6	64.6
Concrete Mixer Truck	67.2	63.2
Concrete Pump Truck	69.8	62.8
Dozer	70.1	66.1
Dump Truck	64.9	60.9
Generator	69.0	66.0
Pneumatic Tools	73.6	70.6
Compressor (air)	66.1	62.1
Welder / Torch	62.4	58.4
<b>Total</b>	<b>73.6</b>	<b>75.2</b>

Warehouse Area Excavation

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Admiral Housing	Residential	59.7	59.7	59.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	390.0	0.0
Bar Bender	No	20	80.0		390.0	0.0
Compactor (ground)	No	20		83.2	390.0	0.0
Concrete Mixer Truck	No	40		78.8	390.0	0.0
Concrete Pump Truck	No	20		81.4	390.0	0.0
Dozer	No	40		81.7	390.0	0.0
Dump Truck	No	40		76.5	390.0	0.0
Generator	No	50		80.6	390.0	0.0
Pneumatic Tools	No	50		85.2	390.0	0.0
Compressor (air)	No	40		77.7	390.0	0.0
Welder / Torch	No	40		74.0	390.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Backhoe	59.7	55.7
Bar Bender	62.2	55.2
Compactor (ground)	65.4	58.4
Concrete Mixer Truck	61.0	57.0
Concrete Pump Truck	63.6	56.6
Dozer	63.8	59.8
Dump Truck	58.6	54.6
Generator	62.8	59.8
Pneumatic Tools	67.3	64.3
Compressor (air)	59.8	55.8
Welder / Torch	56.2	52.2
Total	67.3	68.9

Warehouse Area Construction  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/08/2011  
Case Description: Warehouse Area Construction

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Private Residences	Residential	59.2	59.2	59.2

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	190.0	0.0
Compressor (air)	No	40		77.7	190.0	0.0
Crane	No	16		80.6	190.0	0.0
Flat Bed Truck	No	40		74.3	190.0	0.0
Generator	No	50		80.6	190.0	0.0
Man Lift	No	20		74.7	190.0	0.0
Pneumatic Tools	No	50		85.2	190.0	0.0
Welder / Torch	No	40		74.0	190.0	0.0
Pickup Truck	No	40		75.0	190.0	0.0
Crane	No	16		80.6	190.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	66.0	62.0
Compressor (air)	66.1	62.1
Crane	69.0	61.0
Flat Bed Truck	62.7	58.7
Generator	69.0	66.0
Man Lift	63.1	56.1
Pneumatic Tools	73.6	70.6
Welder / Torch	62.4	58.4
Pickup Truck	63.4	59.4
Crane	69.0	61.0
<b>Total</b>	<b>73.6</b>	<b>73.8</b>

Warehouse Area Construction

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Admiral Housing	Residential	59.7	59.7	59.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	390.0	0.0
Compressor (air)	No	40		77.7	390.0	0.0
Crane	No	16		80.6	390.0	0.0
Flat Bed Truck	No	40		74.3	390.0	0.0
Generator	No	50		80.6	390.0	0.0
Man Lift	No	20		74.7	390.0	0.0
Pneumatic Tools	No	50		85.2	390.0	0.0
Welder / Torch	No	40		74.0	390.0	0.0
Pickup Truck	No	40		75.0	390.0	0.0
Crane	No	16		80.6	390.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	59.7	55.7
Compressor (air)	59.8	55.8
Crane	62.7	54.7
Flat Bed Truck	56.4	52.4
Generator	62.8	59.8
Man Lift	56.9	49.9
Pneumatic Tools	67.3	64.3
Welder / Torch	56.2	52.2
Pickup Truck	57.2	53.2
Crane	62.7	54.7
<b>Total</b>	<b>67.3</b>	<b>67.5</b>

# ABOVE-GROUND GARAGE AT TAYLOR ROAD FACILITIES

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Taylor road Facilities Excavation  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/13/2011  
Case Description: Taylor Road Facilities Excavation

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Sanctuary Hall	Residential	59.2	59.2	59.2

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	190.0	10.0
Bar Bender	No	20	80.0		190.0	10.0
Compactor (ground)	No	20		83.2	190.0	10.0
Concrete Mixer Truck	No	40		78.8	190.0	10.0
Concrete Pump Truck	No	20		81.4	190.0	10.0
Dozer	No	40		81.7	190.0	10.0
Dump Truck	No	40		76.5	190.0	10.0
Generator	No	50		80.6	190.0	10.0
Pneumatic Tools	No	50		85.2	190.0	10.0
Compressor (air)	No	40		77.7	190.0	10.0
Welder / Torch	No	40		74.0	190.0	10.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	56.0	52.0
Bar Bender	58.4	51.4
Compactor (ground)	61.6	54.6
Concrete Mixer Truck	57.2	53.2
Concrete Pump Truck	59.8	52.8
Dozer	60.1	56.1
Dump Truck	54.9	50.9
Generator	59.0	56.0
Pneumatic Tools	63.6	60.6
Compressor (air)	56.1	52.1
Welder / Torch	52.4	48.4
Total	63.6	65.2

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Admiral Housing	Residential	59.7	59.7	59.7

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	320.0	0.0
Bar Bender	No	20	80.0		320.0	0.0
Compactor (ground)	No	20		83.2	320.0	0.0
Concrete Mixer Truck	No	40		78.8	320.0	0.0
Concrete Pump Truck	No	20		81.4	320.0	0.0
Dozer	No	40		81.7	320.0	0.0
Dump Truck	No	40		76.5	320.0	0.0
Generator	No	50		80.6	320.0	0.0
Pneumatic Tools	No	50		85.2	320.0	0.0
Compressor (air)	No	40		77.7	320.0	0.0
Welder / Torch	No	40		74.0	320.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	61.4	57.5
Bar Bender	63.9	56.9
Compactor (ground)	67.1	60.1
Concrete Mixer Truck	62.7	58.7
Concrete Pump Truck	65.3	58.3
Dozer	65.5	61.6
Dump Truck	60.3	56.3
Generator	64.5	61.5
Pneumatic Tools	69.1	66.0
Compressor (air)	61.5	57.6
Welder / Torch	57.9	53.9
Total	69.1	70.6

Taylor Road Facilities Construction  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/12/2011  
Case Description: Taylor Road Facilities Construction

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Sanctuary Hall	Residential	59.2	59.2	59.2

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	190.0	10.0
Compressor (air)	No	40		77.7	190.0	10.0
Crane	No	16		80.6	190.0	10.0
Flat Bed Truck	No	40		74.3	190.0	10.0
Generator	No	50		80.6	190.0	10.0
Man Lift	No	20		74.7	190.0	10.0
Pneumatic Tools	No	50		85.2	190.0	10.0
Welder / Torch	No	40		74.0	190.0	10.0
Pickup Truck	No	40		75.0	190.0	10.0
Crane	No	16		80.6	190.0	10.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	56.0	52.0
Compressor (air)	56.1	52.1
Crane	59.0	51.0
Flat Bed Truck	52.7	48.7
Generator	59.0	56.0
Man Lift	53.1	46.1
Pneumatic Tools	63.6	60.6
Welder / Torch	52.4	48.4
Pickup Truck	53.4	49.4
Crane	59.0	51.0
<b>Total</b>	<b>63.6</b>	<b>63.8</b>

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Admiral Housing	Residential	59.7	59.7	59.7

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	320.0	0.0
Compressor (air)	No	40		77.7	320.0	0.0
Crane	No	16		80.6	320.0	0.0
Flat Bed Truck	No	40		74.3	320.0	0.0
Generator	No	50		80.6	320.0	0.0
Man Lift	No	20		74.7	320.0	0.0
Pneumatic Tools	No	50		85.2	320.0	0.0
Welder / Torch	No	40		74.0	320.0	0.0
Pickup Truck	No	40		75.0	320.0	0.0
Crane	No	16		80.6	320.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	61.4	57.5
Compressor (air)	61.5	57.6
Crane	64.4	56.5
Flat Bed Truck	58.1	54.1
Generator	64.5	61.5
Man Lift	58.6	51.6
Pneumatic Tools	69.1	66.0
Welder / Torch	57.9	53.9
Pickup Truck	58.9	54.9
Crane	64.4	56.5
<b>Total</b>	<b>69.1</b>	<b>69.2</b>

PARKING GARAGE:

UNDERGROUND PARKING GARAGE

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Parking garage Excavation  
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/08/2011  
 Case Description: Underground Parking Garage Excavation

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Buildings 19 and 9A	Residential	56.6	56.6	56.6

Equipment

Description	Impact Device	Usage (%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Dozer	No	40		81.7	80.0	0.0
Dozer	No	40		81.7	400.0	0.0
Dozer	No	40		81.7	750.0	0.0
Dump Truck	No	40		76.5	80.0	0.0
Dump Truck	No	40		76.5	400.0	0.0
Dump Truck	No	40		76.5	750.0	0.0
Excavator	No	40		80.7	80.0	0.0
Excavator	No	40		80.7	400.0	0.0
Excavator	No	40		80.7	750.0	0.0
Front End Loader	No	40		79.1	80.0	0.0
Front End Loader	No	40		79.1	400.0	0.0
Front End Loader	No	40		79.1	750.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	80.0	5.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	400.0	5.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	750.0	5.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Dozer	77.6	73.6
Dozer	63.6	59.6
Dozer	58.1	54.2
Dump Truck	72.4	68.4
Dump Truck	58.4	54.4
Dump Truck	52.9	48.9
Excavator	76.6	72.6
Excavator	62.6	58.7
Excavator	57.2	53.2
Front End Loader	75.0	71.0
Front End Loader	61.0	57.1
Front End Loader	55.6	51.6
Mounted Impact Hammer (hoe ram)	81.2	74.2
Mounted Impact Hammer (hoe ram)	67.2	60.2
Mounted Impact Hammer (hoe ram)	61.8	54.8
Total	81.2	79.6

Parking garage Excavation

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Stone Ridge School	Residential	56.6	56.6	56.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	700.0	0.0
Dozer	No	40		81.7	1000.0	0.0
Dozer	No	40		81.7	1450.0	0.0
Dump Truck	No	40		76.5	700.0	0.0
Dump Truck	No	40		76.5	1000.0	0.0
Dump Truck	No	40		76.5	1450.0	0.0
Excavator	No	40		80.7	700.0	0.0
Excavator	No	40		80.7	1000.0	0.0
Excavator	No	40		80.7	1450.0	0.0
Front End Loader	No	40		79.1	700.0	0.0
Front End Loader	No	40		79.1	1000.0	0.0
Front End Loader	No	40		79.1	1450.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	700.0	5.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	1000.0	5.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	1450.0	5.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Dozer	58.7	54.8
Dozer	55.6	51.7
Dozer	52.4	48.4
Dump Truck	53.5	49.5
Dump Truck	50.4	46.5
Dump Truck	47.2	43.2
Excavator	57.8	53.8
Excavator	54.7	50.7
Excavator	51.5	47.5
Front End Loader	56.2	52.2
Front End Loader	53.1	49.1
Front End Loader	49.9	45.9
Mounted Impact Hammer (hoe ram)	62.4	55.4
Mounted Impact Hammer (hoe ram)	59.3	52.3
Mounted Impact Hammer (hoe ram)	56.0	49.0
Total	62.4	62.9

Parking garage Construction  
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/08/2011  
 Case Description: Parking Garage Construction

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Buildings 19 & 9A	Residential	56.6	56.6	56.6

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Bar Bender	No	20	80.0		80.0	0.0
Bar Bender	No	20	80.0		400.0	0.0
Bar Bender	No	20	80.0		750.0	0.0
Concrete Batch Plant	No	15	83.0		400.0	0.0
Concrete Pump Truck	No	20		81.4	80.0	0.0
Crane	No	16		80.6	750.0	0.0
Crane	No	16		80.6	80.0	0.0
Generator	No	50		80.6	80.0	0.0
Generator	No	50		80.6	400.0	0.0
Generator	No	50		80.6	750.0	0.0
Backhoe	No	40		77.6	80.0	0.0
Backhoe	No	40		77.6	400.0	0.0
Backhoe	No	40		77.6	750.0	0.0
Pneumatic Tools	No	50		85.2	80.0	0.0
Pneumatic Tools	No	50		85.2	400.0	0.0
Pneumatic Tools	No	50		85.2	750.0	0.0
Welder / Torch	No	40		74.0	80.0	0.0
Welder / Torch	No	40		74.0	400.0	0.0
Welder / Torch	No	40		74.0	750.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Bar Bender	75.9	68.9
Bar Bender	61.9	54.9
Bar Bender	56.5	49.5
Concrete Batch Plant	64.9	56.7
Concrete Pump Truck	77.3	70.3
Crane	57.0	49.1
Crane	76.5	68.5
Generator	76.5	73.5
Generator	62.6	59.6
Generator	57.1	54.1
Backhoe	73.5	69.5
Backhoe	59.5	55.5
Backhoe	54.0	50.1
Pneumatic Tools	81.1	78.1
Pneumatic Tools	67.1	64.1
Pneumatic Tools	61.7	58.6
Welder / Torch	69.9	65.9
Welder / Torch	55.9	52.0
Welder / Torch	50.5	46.5
<b>Total</b>	<b>81.1</b>	<b>81.2</b>

Parking garage Construction

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Stone Ridge School	Residential	56.6	56.6	56.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Bar Bender	No	20	80.0		700.0	0.0
Bar Bender	No	20	80.0		1000.0	0.0
Bar Bender	No	20	80.0		1450.0	0.0
Concrete Batch Plant	No	15	83.0		1000.0	0.0
Concrete Pump Truck	No	20		81.4	700.0	0.0
Crane	No	16		80.6	700.0	0.0
Crane	No	16		80.6	1450.0	0.0
Generator	No	50		80.6	700.0	0.0
Generator	No	50		80.6	1000.0	0.0
Generator	No	50		80.6	1450.0	0.0
Backhoe	No	40		77.6	700.0	0.0
Backhoe	No	40		77.6	1000.0	0.0
Backhoe	No	40		77.6	1450.0	0.0
Pneumatic Tools	No	50		85.2	700.0	0.0
Pneumatic Tools	No	50		85.2	1000.0	0.0
Pneumatic Tools	No	50		85.2	1450.0	0.0
Welder / Torch	No	40		74.0	700.0	0.0
Welder / Torch	No	40		74.0	1000.0	0.0
Welder / Torch	No	40		74.0	1450.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Bar Bender	57.1	50.1
Bar Bender	54.0	47.0
Bar Bender	50.8	43.8
Concrete Batch Plant	57.0	48.7
Concrete Pump Truck	58.5	51.5
Crane	57.6	49.7
Crane	51.3	43.3
Generator	57.7	54.7
Generator	54.6	51.6
Generator	51.4	48.4
Backhoe	54.6	50.7
Backhoe	51.5	47.6
Backhoe	48.3	44.3
Pneumatic Tools	62.3	59.2
Pneumatic Tools	59.2	56.1
Pneumatic Tools	55.9	52.9
Welder / Torch	51.1	47.1
Welder / Torch	48.0	44.0
Welder / Torch	44.8	40.8
Total	62.3	64.4

# UTILITY PLANT

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Utility Plant, Cooling Towers - Demo  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/13/2011  
Case Description: Utility Plant, Cooling Towers - Demo

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Fisher House	Residential	56.6	56.6	56.6

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40		77.7	500.0	10.0
Crane	No	16		80.6	500.0	10.0
Jackhammer	Yes	20		88.9	500.0	10.0
Backhoe	No	40		77.6	500.0	10.0
Concrete Saw	No	20		89.6	500.0	10.0
Front End Loader	No	40		79.1	500.0	10.0
Grapple (on backhoe)	No	40		87.0	500.0	10.0
Dump Truck	No	40		76.5	500.0	10.0
Compressor (air)	No	40		77.7	400.0	0.0
Crane	No	16		80.6	400.0	0.0
Jackhammer	Yes	20		88.9	400.0	0.0
Backhoe	No	40		77.6	400.0	0.0
Concrete Saw	No	20		89.6	400.0	0.0
Front End Loader	No	40		79.1	400.0	0.0
Grapple (on backhoe)	No	40		87.0	400.0	0.0
Dump Truck	No	40		76.5	400.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	47.7	43.7
Crane	50.6	42.6
Jackhammer	58.9	51.9
Backhoe	47.6	43.6
Concrete Saw	59.6	52.6
Front End Loader	49.1	45.1
Grapple (on backhoe)	57.0	53.0
Dump Truck	46.5	42.5
Compressor (air)	59.6	55.6
Crane	62.5	54.5
Jackhammer	70.8	63.8
Backhoe	59.5	55.5
Concrete Saw	71.5	64.5
Front End Loader	61.0	57.1
Grapple (on backhoe)	68.9	65.0
Dump Truck	58.4	54.4
Total	71.5	70.3

Utility Plant, Cooling Towers - Demo

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
AFRRRI	Residential	56.6	56.6	56.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	150.0	0.0
Crane	No	16		80.6	150.0	0.0
Jackhammer	Yes	20		88.9	150.0	0.0
Backhoe	No	40		77.6	150.0	0.0
Concrete Saw	No	20		89.6	150.0	0.0
Front End Loader	No	40		79.1	150.0	0.0
Grapple (on backhoe)	No	40		87.0	150.0	0.0
Dump Truck	No	40		76.5	150.0	0.0
Compressor (air)	No	40		77.7	150.0	0.0
Crane	No	16		80.6	150.0	0.0
Jackhammer	Yes	20		88.9	150.0	0.0
Backhoe	No	40		77.6	150.0	0.0
Concrete Saw	No	20		89.6	150.0	0.0
Front End Loader	No	40		79.1	150.0	0.0
Grapple (on backhoe)	No	40		87.0	150.0	0.0
Dump Truck	No	40		76.5	150.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Compressor (air)	68.1	64.1
Crane	71.0	63.0
Jackhammer	79.3	72.4
Backhoe	68.0	64.0
Concrete Saw	80.0	73.0
Front End Loader	69.6	65.6
Grapple (on backhoe)	77.5	73.5
Dump Truck	66.9	62.9
Compressor (air)	68.1	64.1
Crane	71.0	63.0
Jackhammer	79.3	72.4
Backhoe	68.0	64.0
Concrete Saw	80.0	73.0
Front End Loader	69.6	65.6
Grapple (on backhoe)	77.5	73.5
Dump Truck	66.9	62.9
Total	80.0	81.6

Utility Plant, Cooling Towers - Exc & Foundations  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/13/2011  
Case Description: Utility Plant, Cooling Towers - Exc & Foundations

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Fisher House	Residential	56.6	56.6	56.6

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	500.0	10.0
Bar Bender	No	20	80.0		500.0	10.0
Compactor (ground)	No	20		83.2	500.0	10.0
Concrete Mixer Truck	No	40		78.8	500.0	10.0
Concrete Pump Truck	No	20		81.4	500.0	10.0
Dozer	No	40		81.7	500.0	10.0
Dump Truck	No	40		76.5	500.0	10.0
Generator	No	50		80.6	500.0	10.0
Pneumatic Tools	No	50		85.2	500.0	10.0
Compressor (air)	No	40		77.7	500.0	10.0
Welder / Torch	No	40		74.0	500.0	10.0
Backhoe	No	40		77.6	400.0	0.0
Bar Bender	No	20	80.0		400.0	0.0
Compactor (ground)	No	20		83.2	400.0	0.0
Concrete Mixer Truck	No	40		78.8	400.0	0.0
Concrete Pump Truck	No	20		81.4	400.0	0.0
Dump Truck	No	40		76.5	400.0	0.0
Generator	No	50		80.6	400.0	0.0
Pneumatic Tools	No	50		85.2	400.0	0.0
Compressor (air)	No	40		77.7	400.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	47.6	43.6
Bar Bender	50.0	43.0
Compactor (ground)	53.2	46.2
Concrete Mixer Truck	48.8	44.8
Concrete Pump Truck	51.4	44.4
Dozer	51.7	47.7
Dump Truck	46.5	42.5
Generator	50.6	47.6
Pneumatic Tools	55.2	52.2
Compressor (air)	47.7	43.7
Welder / Torch	44.0	40.0
Backhoe	59.5	55.5
Bar Bender	61.9	54.9
Compactor (ground)	65.2	58.2
Concrete Mixer Truck	60.7	56.8
Concrete Pump Truck	63.3	56.3
Dump Truck	58.4	54.4
Generator	62.6	59.6
Pneumatic Tools	67.1	64.1
Compressor (air)	59.6	55.6
Total	67.1	68.3

Utility Plant, Cooling Towers - Exc & Foundations

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
AFRRI	Residential	56.6	56.6	56.6

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	150.0	0.0
Bar Bender	No	20	80.0		150.0	0.0
Compactor (ground)	No	20		83.2	150.0	0.0
Concrete Mixer Truck	No	40		78.8	150.0	0.0
Concrete Pump Truck	No	20		81.4	150.0	0.0
Dozer	No	40		81.7	150.0	0.0
Dump Truck	No	40		76.5	150.0	0.0
Generator	No	50		80.6	150.0	0.0
Pneumatic Tools	No	50		85.2	150.0	0.0
Compressor (air)	No	40		77.7	150.0	0.0
Welder / Torch	No	40		74.0	150.0	0.0
Backhoe	No	40		77.6	150.0	0.0
Bar Bender	No	20	80.0		150.0	0.0
Compactor (ground)	No	20		83.2	150.0	0.0
Concrete Mixer Truck	No	40		78.8	150.0	0.0
Concrete Pump Truck	No	20		81.4	150.0	0.0
Dump Truck	No	40		76.5	150.0	0.0
Generator	No	50		80.6	150.0	0.0
Pneumatic Tools	No	50		85.2	150.0	0.0
Compressor (air)	No	40		77.7	150.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Backhoe	68.0	64.0
Bar Bender	70.5	63.5
Compactor (ground)	73.7	66.7
Concrete Mixer Truck	69.3	65.3
Concrete Pump Truck	71.9	64.9
Dozer	72.1	68.1
Dump Truck	66.9	62.9
Generator	71.1	68.1
Pneumatic Tools	75.6	72.6
Compressor (air)	68.1	64.1
Welder / Torch	64.5	60.5
Backhoe	68.0	64.0
Bar Bender	70.5	63.5
Compactor (ground)	73.7	66.7
Concrete Mixer Truck	69.3	65.3
Concrete Pump Truck	71.9	64.9
Dump Truck	66.9	62.9
Generator	71.1	68.1
Pneumatic Tools	75.6	72.6
Compressor (air)	68.1	64.1
Total	75.6	79.9

# TEMPORARY MEDICAL FACILITIES

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Temporary Medical Facilities  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/13/2011  
Case Description: Temporary Medical

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Stone Ridge School	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	50.0	0.0
Compressor (air)	No	40		77.7	60.0	0.0
Dump Truck	No	40		76.5	70.0	0.0
Flat Bed Truck	No	40		74.3	80.0	0.0
Generator	No	50		80.6	90.0	0.0
Jackhammer	Yes	20		88.9	100.0	0.0
Welder / Torch	No	40		74.0	110.0	0.0
Tractor	No	40	84.0		120.0	0.0
Crane	No	16		80.6	130.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	77.6	73.6
Compressor (air)	76.1	72.1
Dump Truck	73.5	69.5
Flat Bed Truck	70.2	66.2
Generator	75.5	72.5
Jackhammer	82.9	75.9
Welder / Torch	67.2	63.2
Tractor	76.4	72.4
Crane	72.3	64.3
<b>Total</b>	<b>82.9</b>	<b>81.2</b>

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Housing E. of Lot G	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	75.0	0.0
Compressor (air)	No	40		77.7	80.0	0.0
Dump Truck	No	40		76.5	90.0	0.0
Flat Bed Truck	No	40		74.3	100.0	0.0
Generator	No	50		80.6	110.0	0.0
Jackhammer	Yes	20		88.9	120.0	0.0
Welder / Torch	No	40		74.0	130.0	0.0
Tractor	No	40	84.0		140.0	0.0
Crane	No	16		80.6	150.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	74.0	70.1
Compressor (air)	73.6	69.6
Dump Truck	71.3	67.4
Flat Bed Truck	68.2	64.3
Generator	73.8	70.8
Jackhammer	81.3	74.3
Welder / Torch	65.7	61.7
Tractor	75.1	71.1
Crane	71.0	63.0
<b>Total</b>	<b>81.3</b>	<b>79.2</b>

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# UNIVERSITY EXPANSION – ALTERNATIVE 1

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Uni Exp Alt 1 Excavation & Ground Prep  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/14/2011  
Case Description: Univ Expand - Alternative 1 Excavation & Ground Prep

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Navy Lodge	Residential	56.0	56.0	56.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Backhoe	No	40		77.6	300.0	0.0
Front End Loader	No	40		79.1	300.0	0.0
Excavator	No	40		80.7	300.0	0.0
Dump Truck	No	40		76.5	300.0	0.0
Compressor (air)	No	40		77.7	300.0	0.0
Jackhammer	Yes	20		88.9	300.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	300.0	0.0
Dozer	No	40		81.7	300.0	0.0
Generator	No	50		80.6	300.0	0.0
Pickup Truck	No	40		75.0	300.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	62.0	58.0
Front End Loader	63.5	59.6
Excavator	65.1	61.2
Dump Truck	60.9	56.9
Compressor (air)	62.1	58.1
Jackhammer	73.3	66.3
Mounted Impact Hammer (hoe ram)	74.7	67.7
Dozer	66.1	62.1
Generator	65.1	62.1
Pickup Truck	59.4	55.5
<b>Total</b>	<b>74.7</b>	<b>72.5</b>

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
University Facilities	Residential	56.0	56.0	56.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Backhoe	No	40		77.6	120.0	0.0
Front End Loader	No	40		79.1	120.0	0.0
Excavator	No	40		80.7	120.0	0.0
Dump Truck	No	40		76.5	120.0	0.0
Compressor (air)	No	40		77.7	120.0	0.0
Jackhammer	Yes	20		88.9	120.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	120.0	0.0
Dozer	No	40		81.7	120.0	0.0
Generator	No	50		80.6	120.0	0.0
Pickup Truck	No	40		75.0	120.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	70.0	66.0
Front End Loader	71.5	67.5
Excavator	73.1	69.1
Dump Truck	68.8	64.9
Compressor (air)	70.1	66.1
Jackhammer	81.3	74.3
Mounted Impact Hammer (hoe ram)	82.7	75.7
Dozer	74.1	70.1
Generator	73.0	70.0
Pickup Truck	67.4	63.4
<b>Total</b>	<b>82.7</b>	<b>80.5</b>

Uni Exp Alt 1 Excavation & Ground Prep

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Private Residences	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	440.0	0.0
Front End Loader	No	40		79.1	440.0	0.0
Excavator	No	40		80.7	440.0	0.0
Dump Truck	No	40		76.5	440.0	0.0
Compressor (air)	No	40		77.7	440.0	0.0
Jackhammer	Yes	20		88.9	440.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	440.0	0.0
Dozer	No	40		81.7	440.0	0.0
Generator	No	50		80.6	440.0	0.0
Pickup Truck	No	40		75.0	440.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	58.7	54.7
Front End Loader	60.2	56.2
Excavator	61.8	57.8
Dump Truck	57.6	53.6
Compressor (air)	58.8	54.8
Jackhammer	70.0	63.0
Mounted Impact Hammer (hoe ram)	71.4	64.4
Dozer	62.8	58.8
Generator	61.7	58.7
Pickup Truck	56.1	52.1
<b>Total</b>	<b>71.4</b>	<b>69.2</b>

Uni Exp Alt 1 Found & Basements  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/14/2011  
Case Description: Uni Exp Alt 1 Foundations & Basements

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Navy Lodge	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	300.0	0.0
Compressor (air)	No	40		77.7	300.0	0.0
Compactor (ground)	No	20		83.2	300.0	0.0
Concrete Mixer Truck	No	40		78.8	300.0	0.0
Bar Bender	No	20	80.0		300.0	0.0
Concrete Pump Truck	No	20		81.4	300.0	0.0
Generator	No	50		80.6	300.0	0.0
Pickup Truck	No	40		75.0	300.0	0.0
Pneumatic Tools	No	50		85.2	300.0	0.0
Crane	No	16		80.6	300.0	0.0
Pickup Truck	No	40		75.0	300.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	62.0	58.0
Compressor (air)	62.1	58.1
Compactor (ground)	67.7	60.7
Concrete Mixer Truck	63.2	59.3
Bar Bender	64.4	57.4
Concrete Pump Truck	65.8	58.8
Generator	65.1	62.1
Pickup Truck	59.4	55.5
Pneumatic Tools	69.6	66.6
Crane	65.0	57.0
Pickup Truck	59.4	55.5
<b>Total</b>	<b>69.6</b>	<b>70.8</b>

Uni Exp Al t 1 Found & Basements

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
University Facilities	Residential	56.0	56.0	56.0

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	120.0	0.0
Compressor (air)	No	40		77.7	120.0	0.0
Compactor (ground)	No	20		83.2	120.0	0.0
Concrete Mixer Truck	No	40		78.8	120.0	0.0
Bar Bender	No	20	80.0		120.0	0.0
Concrete Pump Truck	No	20		81.4	120.0	0.0
Generator	No	50		80.6	120.0	0.0
Pickup Truck	No	40		75.0	120.0	0.0
Pneumatic Tools	No	50		85.2	120.0	0.0
Crane	No	16		80.6	120.0	0.0
Pickup Truck	No	40		75.0	120.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	70.0	66.0
Compressor (air)	70.1	66.1
Compactor (ground)	75.6	68.6
Concrete Mixer Truck	71.2	67.2
Bar Bender	72.4	65.4
Concrete Pump Truck	73.8	66.8
Generator	73.0	70.0
Pickup Truck	67.4	63.4
Pneumatic Tools	77.6	74.6
Crane	72.9	65.0
Pickup Truck	67.4	63.4
Total	77.6	78.8

Uni Exp Alt 1 Found & Basements

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Private Residences	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	440.0	0.0
Compressor (air)	No	40		77.7	440.0	0.0
Compactor (ground)	No	20		83.2	440.0	0.0
Concrete Mixer Truck	No	40		78.8	440.0	0.0
Bar Bender	No	20	80.0		440.0	0.0
Concrete Pump Truck	No	20		81.4	440.0	0.0
Generator	No	50		80.6	440.0	0.0
Pickup Truck	No	40		75.0	440.0	0.0
Pneumatic Tools	No	50		85.2	440.0	0.0
Crane	No	16		80.6	440.0	0.0
Pickup Truck	No	40		75.0	440.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Backhoe	58.7	54.7
Compressor (air)	58.8	54.8
Compactor (ground)	64.3	57.4
Concrete Mixer Truck	59.9	55.9
Bar Bender	61.1	54.1
Concrete Pump Truck	62.5	55.5
Generator	61.7	58.7
Pickup Truck	56.1	52.1
Pneumatic Tools	66.3	63.3
Crane	61.7	53.7
Pickup Truck	56.1	52.1
Total	66.3	67.5

Uni Exp Alt 1 Superstructure  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/14/2011  
Case Description: Uni Exp Alt 1 - Superstructure

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Navy Lodge	Residential	56.0	56.0	56.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40		77.7	300.0	0.0
Crane	No	16		80.6	300.0	0.0
Flat Bed Truck	No	40		74.3	300.0	0.0
Generator	No	50		80.6	300.0	0.0
Front End Loader	No	40		79.1	300.0	0.0
Man Lift	No	20		74.7	300.0	0.0
Welder / Torch	No	40		74.0	300.0	0.0
Concrete Mixer Truck	No	40		78.8	300.0	0.0
Pneumatic Tools	No	50		85.2	300.0	0.0
Bar Bender	No	20	80.0		300.0	0.0
Concrete Pump Truck	No	20		81.4	300.0	0.0

Results  
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Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	62.1	58.1
Crane	65.0	57.0
Flat Bed Truck	58.7	54.7
Generator	65.1	62.1
Front End Loader	63.5	59.6
Man Lift	59.1	52.1
Welder / Torch	58.4	54.5
Concrete Mixer Truck	63.2	59.3
Pneumatic Tools	69.6	66.6
Bar Bender	64.4	57.4
Concrete Pump Truck	65.8	58.8
Total	69.6	70.5

\*\*\*\* Receptor #2 \*\*\*\* Uni Exp Alt 1 Superstructure

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
University Facilities	Residential	56.0	56.0	56.0

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	120.0	0.0
Crane	No	16		80.6	120.0	0.0
Flat Bed Truck	No	40		74.3	120.0	0.0
Generator	No	50		80.6	120.0	0.0
Front End Loader	No	40		79.1	120.0	0.0
Man Lift	No	20		74.7	120.0	0.0
Welder / Torch	No	40		74.0	120.0	0.0
Concrete Mixer Truck	No	40		78.8	120.0	0.0
Pneumatic Tools	No	50		85.2	120.0	0.0
Bar Bender	No	20	80.0		120.0	0.0
Concrete Pump Truck	No	20		81.4	120.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	70.1	66.1
Crane	72.9	65.0
Flat Bed Truck	66.6	62.7
Generator	73.0	70.0
Front End Loader	71.5	67.5
Man Lift	67.1	60.1
Welder / Torch	66.4	62.4
Concrete Mixer Truck	71.2	67.2
Pneumatic Tools	77.6	74.6
Bar Bender	72.4	65.4
Concrete Pump Truck	73.8	66.8
Total	77.6	78.4

Uni Exp Alt 1 Superstructure

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Private Residences	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	440.0	0.0
Crane	No	16		80.6	440.0	0.0
Flat Bed Truck	No	40		74.3	440.0	0.0
Generator	No	50		80.6	440.0	0.0
Front End Loader	No	40		79.1	440.0	0.0
Man Lift	No	20		74.7	440.0	0.0
Welder / Torch	No	40		74.0	440.0	0.0
Concrete Mixer Truck	No	40		78.8	440.0	0.0
Pneumatic Tools	No	50		85.2	440.0	0.0
Bar Bender	No	20	80.0		440.0	0.0
Concrete Pump Truck	No	20		81.4	440.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	58.8	54.8
Crane	61.7	53.7
Flat Bed Truck	55.4	51.4
Generator	61.7	58.7
Front End Loader	60.2	56.2
Man Lift	55.8	48.8
Welder / Torch	55.1	51.1
Concrete Mixer Truck	59.9	55.9
Pneumatic Tools	66.3	63.3
Bar Bender	61.1	54.1
Concrete Pump Truck	62.5	55.5
Total	66.3	67.1

## UNIVERSITY EXPANSION – ALTERNATIVE 2

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Uni Exp Alt 2 Excavation & Ground Prep  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/14/2011  
Case Description: Univ Expand - Alternative 2 Excavation & Ground Prep

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Fisher House	Residential	56.0	56.0	56.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Backhoe	No	40		77.6	320.0	0.0
Front End Loader	No	40		79.1	320.0	0.0
Excavator	No	40		80.7	320.0	0.0
Dump Truck	No	40		76.5	320.0	0.0
Compressor (air)	No	40		77.7	320.0	0.0
Jackhammer	Yes	20		88.9	320.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	320.0	0.0
Dozer	No	40		81.7	320.0	0.0
Generator	No	50		80.6	320.0	0.0
Pickup Truck	No	40		75.0	320.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	61.4	57.5
Front End Loader	63.0	59.0
Excavator	64.6	60.6
Dump Truck	60.3	56.3
Compressor (air)	61.5	57.6
Jackhammer	72.8	65.8
Mounted Impact Hammer (hoe ram)	74.2	67.2
Dozer	65.5	61.6
Generator	64.5	61.5
Pickup Truck	58.9	54.9
<b>Total</b>	<b>74.2</b>	<b>71.9</b>

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
University Facilities	Residential	56.0	56.0	56.0

Description	Equipment		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
	Impact Device	Usage (%)				
Backhoe	No	40		77.6	25.0	0.0
Front End Loader	No	40		79.1	25.0	0.0
Excavator	No	40		80.7	25.0	0.0
Dump Truck	No	40		76.5	25.0	0.0
Compressor (air)	No	40		77.7	25.0	0.0
Jackhammer	Yes	20		88.9	25.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	25.0	0.0
Dozer	No	40		81.7	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	83.6	79.6
Front End Loader	85.1	81.2
Excavator	86.7	82.8
Dump Truck	82.5	78.5
Compressor (air)	83.7	79.7
Jackhammer	94.9	87.9
Mounted Impact Hammer (hoe ram)	96.3	89.3
Dozer	87.7	83.7
Generator	86.7	83.6
Pickup Truck	81.0	77.0
<b>Total</b>	<b>96.3</b>	<b>94.1</b>

Uni Exp Alt 2 Excavation & Ground Prep

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
AFRR1	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	25.0	0.0
Front End Loader	No	40		79.1	25.0	0.0
Excavator	No	40		80.7	25.0	0.0
Dump Truck	No	40		76.5	25.0	0.0
Compressor (air)	No	40		77.7	25.0	0.0
Jackhammer	Yes	20		88.9	25.0	0.0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	25.0	0.0
Dozer	No	40		81.7	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	83.6	79.6
Front End Loader	85.1	81.2
Excavator	86.7	82.8
Dump Truck	82.5	78.5
Compressor (air)	83.7	79.7
Jackhammer	94.9	87.9
Mounted Impact Hammer (hoe ram)	96.3	89.3
Dozer	87.7	83.7
Generator	86.7	83.6
Pickup Truck	81.0	77.0
<b>Total</b>	<b>96.3</b>	<b>94.1</b>

Uni Exp Alt 2 Found & Basements  
 Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/14/2011  
 Case Description: Uni Exp Alt 2 Foundations & Basements

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Fisher House	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	320.0	0.0
Compressor (air)	No	40		77.7	320.0	0.0
Compactor (ground)	No	20		83.2	320.0	0.0
Concrete Mixer Truck	No	40		78.8	320.0	0.0
Bar Bender	No	20	80.0		320.0	0.0
Concrete Pump Truck	No	20		81.4	320.0	0.0
Generator	No	50		80.6	320.0	0.0
Pickup Truck	No	40		75.0	320.0	0.0
Pneumatic Tools	No	50		85.2	320.0	0.0
Crane	No	16		80.6	320.0	0.0
Pickup Truck	No	40		75.0	320.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	61.4	57.5
Compressor (air)	61.5	57.6
Compactor (ground)	67.1	60.1
Concrete Mixer Truck	62.7	58.7
Bar Bender	63.9	56.9
Concrete Pump Truck	65.3	58.3
Generator	64.5	61.5
Pickup Truck	58.9	54.9
Pneumatic Tools	69.1	66.0
Crane	64.4	56.5
Pickup Truck	58.9	54.9
<b>Total</b>	<b>69.1</b>	<b>70.2</b>

Uni Exp Alt 2 Found & Basements

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
University Facilities	Residential	56.0	56.0	56.0

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	25.0	0.0
Compressor (air)	No	40		77.7	25.0	0.0
Compactor (ground)	No	20		83.2	25.0	0.0
Concrete Mixer Truck	No	40		78.8	25.0	0.0
Bar Bender	No	20	80.0		25.0	0.0
Concrete Pump Truck	No	20		81.4	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0
Pneumatic Tools	No	50		85.2	25.0	0.0
Crane	No	16		80.6	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Backhoe	83.6	79.6
Compressor (air)	83.7	79.7
Compactor (ground)	89.3	82.3
Concrete Mixer Truck	84.8	80.8
Bar Bender	86.0	79.0
Concrete Pump Truck	87.4	80.4
Generator	86.7	83.6
Pickup Truck	81.0	77.0
Pneumatic Tools	91.2	88.2
Crane	86.6	78.6
Pickup Truck	81.0	77.0
Total	91.2	92.4

Uni Exp Alt 2 Found & Basements

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Private Residences	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	25.0	0.0
Compressor (air)	No	40		77.7	25.0	0.0
Compactor (ground)	No	20		83.2	25.0	0.0
Concrete Mixer Truck	No	40		78.8	25.0	0.0
Bar Bender	No	20	80.0		25.0	0.0
Concrete Pump Truck	No	20		81.4	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0
Pneumatic Tools	No	50		85.2	25.0	0.0
Crane	No	16		80.6	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Backhoe	83.6	79.6
Compressor (air)	83.7	79.7
Compactor (ground)	89.3	82.3
Concrete Mixer Truck	84.8	80.8
Bar Bender	86.0	79.0
Concrete Pump Truck	87.4	80.4
Generator	86.7	83.6
Pickup Truck	81.0	77.0
Pneumatic Tools	91.2	88.2
Crane	86.6	78.6
Pickup Truck	81.0	77.0
Total	91.2	92.4

Uni Exp Alt 2 Superstructure  
Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/14/2011  
Case Description: Uni Exp Alt 2 - Superstructure

\*\*\*\* Receptor #1 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Fisher House	Residential	56.0	56.0	56.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40		77.7	320.0	0.0
Crane	No	16		80.6	320.0	0.0
Flat Bed Truck	No	40		74.3	320.0	0.0
Generator	No	50		80.6	320.0	0.0
Front End Loader	No	40		79.1	320.0	0.0
Man Lift	No	20		74.7	320.0	0.0
Welder / Torch	No	40		74.0	320.0	0.0
Concrete Mixer Truck	No	40		78.8	320.0	0.0
Pneumatic Tools	No	50		85.2	320.0	0.0
Bar Bender	No	20	80.0		320.0	0.0
Concrete Pump Truck	No	20		81.4	320.0	0.0

Results

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	61.5	57.6
Crane	64.4	56.5
Flat Bed Truck	58.1	54.1
Generator	64.5	61.5
Front End Loader	63.0	59.0
Man Lift	58.6	51.6
Welder / Torch	57.9	53.9
Concrete Mixer Truck	62.7	58.7
Pneumatic Tools	69.1	66.0
Bar Bender	63.9	56.9
Concrete Pump Truck	65.3	58.3
Total	69.1	69.9

Uni Exp Alt 2 Superstructure

\*\*\*\* Receptor #2 \*\*\*\*

Description	Land Use	Baselines (dBA)		Night
		Daytime	Evening	
University Facilities	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	25.0	0.0
Crane	No	16		80.6	25.0	0.0
Flat Bed Truck	No	40		74.3	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Front End Loader	No	40		79.1	25.0	0.0
Man Lift	No	20		74.7	25.0	0.0
Welder / Torch	No	40		74.0	25.0	0.0
Concrete Mixer Truck	No	40		78.8	25.0	0.0
Pneumatic Tools	No	50		85.2	25.0	0.0
Bar Bender	No	20	80.0		25.0	0.0
Concrete Pump Truck	No	20		81.4	25.0	0.0

Results

Calculated (dBA)

Equipment	Calculated (dBA)	
	Lmax	Leq
Compressor (air)	83.7	79.7
Crane	86.6	78.6
Flat Bed Truck	80.3	76.3
Generator	86.7	83.6
Front End Loader	85.1	81.2
Man Lift	80.7	73.7
Welder / Torch	80.0	76.0
Concrete Mixer Truck	84.8	80.8
Pneumatic Tools	91.2	88.2
Bar Bender	86.0	79.0
Concrete Pump Truck	87.4	80.4
Total	91.2	92.1

Uni Exp Alt 2 Superstructure

\*\*\*\* Receptor #3 \*\*\*\*

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
AFRRI	Residential	56.0	56.0	56.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	25.0	0.0
Crane	No	16		80.6	25.0	0.0
Flat Bed Truck	No	40		74.3	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Front End Loader	No	40		79.1	25.0	0.0
Man Lift	No	20		74.7	25.0	0.0
Welder / Torch	No	40		74.0	25.0	0.0
Concrete Mixer Truck	No	40		78.8	25.0	0.0
Pneumatic Tools	No	50		85.2	25.0	0.0
Bar Bender	No	20	80.0		25.0	0.0
Concrete Pump Truck	No	20		81.4	25.0	0.0

Results

Calculated (dBA)

Equipment	Lmax	Leq
Compressor (air)	83.7	79.7
Crane	86.6	78.6
Flat Bed Truck	80.3	76.3
Generator	86.7	83.6
Front End Loader	85.1	81.2
Man Lift	80.7	73.7
Welder / Torch	80.0	76.0
Concrete Mixer Truck	84.8	80.8
Pneumatic Tools	91.2	88.2
Bar Bender	86.0	79.0
Concrete Pump Truck	87.4	80.4
Total	91.2	92.1

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**APPENDIX D: FINAL TRAFFIC STUDY**

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**FINAL TRAFFIC STUDY**

**Medical Facilities Development  
and University Expansion**

**NSA Bethesda**

**Department of the Navy**

**July 2013**

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## **Abstract**

This Naval Support Activity (NSA) Bethesda Traffic Study analyzes the traffic capacity and level of service for both existing and 2018 future conditions. The analysis of future conditions consists of determining the impacts of a 2018 No Action (No Build condition) Alternative with planned projects (external to NSA Bethesda) in place and the 2018 short-term planned/ongoing projects (internal to NSA Bethesda) plus the proposed actions (i.e., multiple Build Alternatives) for the Medical Facilities Development and University Expansion. This report provides individual analysis for each Build Alternative compared to the No Build condition as well as a summary of all Build Alternatives in a discussion section. This report concludes with a set of recommendations based upon the analysis.

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## 1.0 Introduction

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This report presents the findings of a transportation study prepared as part of the Environmental Impact Statement (EIS) for the proposed Medical Facilities Development and University Expansion at the Naval Support Activity Bethesda (NSA Bethesda). The Medical Facilities Development includes: the demolition of five hospital buildings and construction of a single 5-story facility and associated 500-space parking garage for visitors, patients, and very important persons; internal renovation of five hospital buildings; temporary medical facilities to provide uninterrupted patient care during construction; utility capacity upgrades; accessibility and appearance improvement projects; and internal and external renovations of a workshop/warehouse to office space. The University Expansion includes the construction of a new education/research facility and associated 400-space parking garage at the Uniformed Services University of the Health Sciences (USU) and the internal renovation of existing USU buildings.

NSA Bethesda is located on Rockville Pike (MD 355) north of downtown Bethesda, Maryland, and is home to the Walter Reed National Military Medical Center (WRNMMC), the USU, and several other health care support facilities for the armed services.

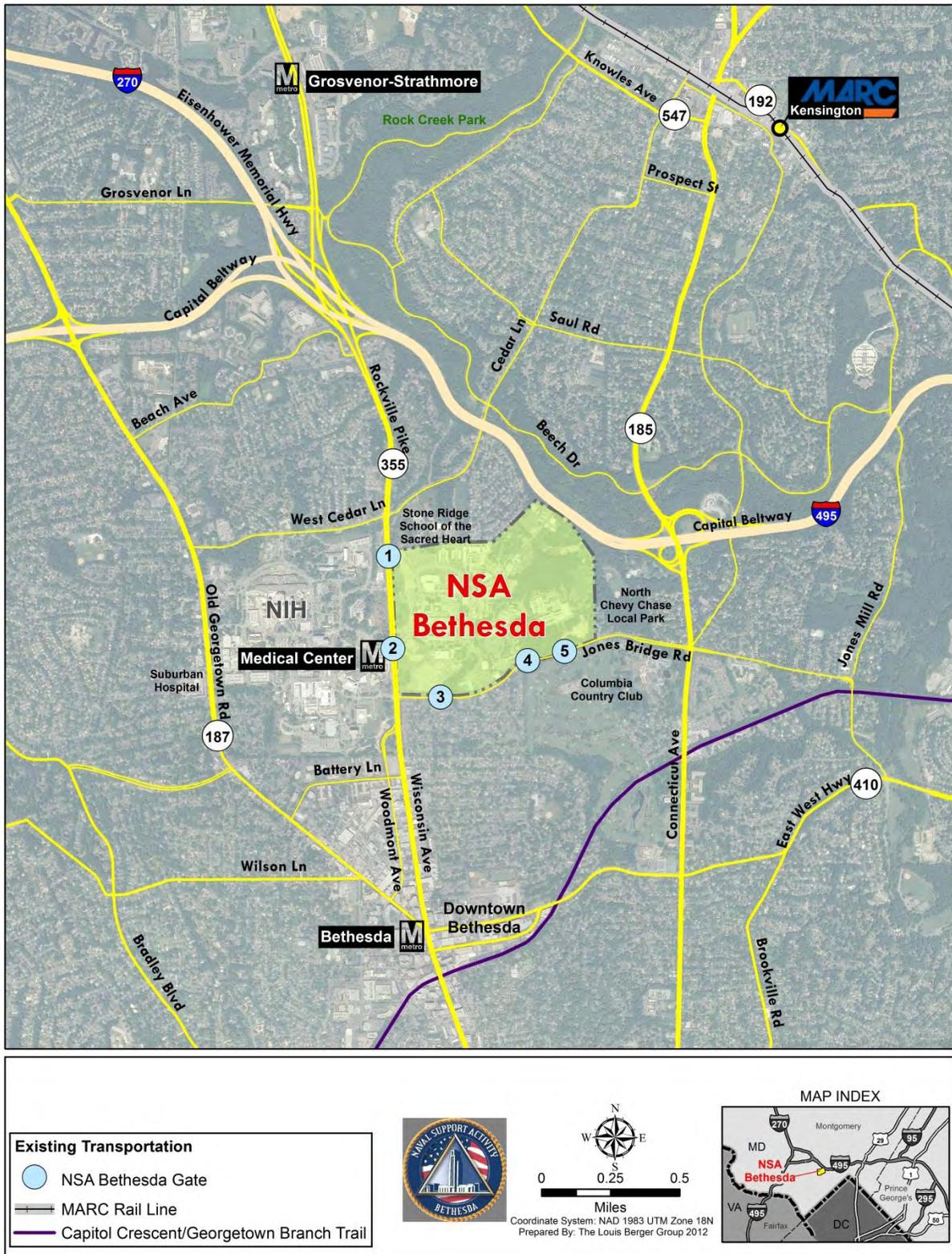
Founded in 1940, NSA Bethesda operated as the National Naval Medical Center (NNMC) until the Defense Base Closure and Realignment (BRAC) Commission recommended that the nearby Walter Reed Army Medical Center be closed and that some of its operations be merged with the NNMC to create the WRNMMC. The realignment process was formally concluded on September 15, 2011, and the WRNMMC will receive approximately 1.2 million patient visits plus other visitors annually. Of the 11,686 total personnel at NSA Bethesda, WRNMMC comprises approximately 6,800 staff members.

NSA Bethesda is surrounded by the National Institutes of Health (NIH) main campus to the west; Stone Ridge School of the Sacred Heart (a pre-K to 12 girls school) and residential uses to the north; North Chevy Chase Recreation Center, residential uses, and Rock Creek Park to the east; and Columbia Country Club, residential housing, parks, and a golf course to the south. I-495 is adjacent to the northeastern corner of the installation. Jones Bridge Road is the southern boundary and Rockville Pike forms the western boundary. The Medical Center Metro station is situated to the west directly across Rockville Pike from the South Wood Road Entrance to NSA Bethesda. Figure 1 shows the location of NSA Bethesda. NSA Bethesda is a secure site that can only be accessed via five security gates. These gates are shown in Figure 1 and are:

- Gate #1 or North Wood Road Gate (North Gate): Accessed from Rockville Pike.
- Gate #2 or South Wood Road Gate (South Gate): Accessed from Rockville Pike.
- Gate #3 or Gunnell Road Gate: Accessed from Jones Bridge Road.
- Gate #4 or Grier Road Gate: Accessed from Jones Bridge Road.
- Gate #5 or University Road Gate: Accessed from Jones Bridge Road.

The five gates are referred to as Gates #1, #2, #3, #4, and #5 in this traffic study.

Figure 1: NSA Bethesda Location and Gates



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## 2.0 Description of the Project Tasking

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The scope of work for this traffic study includes the following tasks:

- Provide engineering services necessary for the preparation of a condition assessment report of the traffic capacity and level of service (LOS) analysis as well as parking adequacy for both existing conditions and for future requirements based on the Medical Facilities Development and University Expansion.
- Provide recommendations for improvements to the installation road system based on the results of the capacity and LOS analysis of future requirements.
- Provide a list of findings, recommendations, and alternatives for each alternative.

This traffic study has seven sections to document the analysis, findings, and recommendations for NSA Bethesda.

Section 1.0 presents the introduction, study area, and the proposed actions.

Section 2.0 describes the project tasking.

Section 3.0 presents an operational analysis of existing and future conditions. Section 3.1 presents the operational analysis of the study area surrounding NSA Bethesda under existing conditions for both the internal and external roadway networks as well as non-automotive transportation modes. Section 3.2 details future background developments and NSA Bethesda's proposed actions, and presents the operational analysis under these conditions.

Section 4.0 summarizes the findings of the existing and future operational analyses.

Section 5.0 presents transportation impacts from construction activities associated with the proposed actions, including construction vehicle queuing analysis at Gate #5.

Section 6.0 presents the recommendations for minimizing transportation impacts once the proposed actions are operating.

Section 7.0 presents recommendations for minimizing transportation impacts during construction activities.

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### 3.0 Operation Analysis of Existing and Future Conditions

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The existing and projected future conditions at and around NSA Bethesda were assessed in order to determine the impacts of the proposed actions. This chapter describes the process by which the current state of transportation operations along the surrounding roadway network and within NSA Bethesda was evaluated.

This chapter discusses the existing study area roadways and installation gates, data gathering techniques, traffic operational analysis methods and results, and comparisons to 2008 traffic forecasts. To ensure the analysis complies with all state and county requirements, agreement was sought from the Maryland-National Capital Park and Planning Commission (M-NCPPC), Maryland State Highway Administration (MSHA), and Montgomery County Department of Transportation (MCDOT) on the study area, analysis methods, and future external roadway distribution of new NSA Bethesda trips. The analysis methods agreed upon for the external roadway signalized intersections followed the Montgomery County and the MSHA requirements, a signalized intersection analysis method. Another accepted traffic analysis method (an unsignalized and signalized intersection analysis method) was used for the internal roadway network because these roadway intersections are all unsignalized. This method will be reviewed by the National Capital Planning Commission (NCPC). NCPC is a federal agency responsible for reviewing federal projects in the National Capital Region under the authority of the National Capital Planning Act and nine additional Acts. Specific to this document, NCPC must consider potential environmental impacts to federal actions under the National Environmental Policy Act. To provide additional traffic operation measurements beyond the MSHA and Montgomery County requirements, this same commonly accepted traffic analysis method was also used to evaluate the external roadways.

The chapter also discusses installation trucking access, pedestrian and bicycle facilities and volumes, and transit availability. Trucking access provides an overview of which route trucks would be required to use when accessing the installation and where they might be destined once inside. In addition to motor vehicle conditions, pedestrian and bicycle facilities and volumes provide a description of the existing pedestrian and bicycle network and the current volume. Transit availability discusses the different transit options connecting the installation facilities to the local neighborhood and regional transit centers. As the installation is in an urban area (less than one mile north of downtown Bethesda), these alternative transportation modes are an important part of the transportation system serving the installation.

### **3.1 Existing Conditions**

Various data sources were used to determine the existing state of transportation operations in the vicinity of NSA Bethesda. Installation observations, the lane configuration of the internal and external roadway networks, and vehicular traffic count data were used to conduct existing conditions capacity analyses. Other collected data used to determine the existing conditions were developed from a travel time study and observations regarding the operations of the installation's access gates.

#### **3.1.1 External Roadway Conditions**

NSA Bethesda is situated just south of the Capital Beltway (I-495) in Bethesda, Maryland. The western and southern boundaries of the installation are formed by Rockville Pike and Jones Bridge Road, respectively. The remaining borders of the installation include various residential, educational, and community uses. The roadway network and external study intersections are illustrated in Figure 2.

##### **3.1.1.1 External Roadway Network**

The principal roadways in the vicinity of NSA Bethesda include the following:

##### *Rockville Pike (MD 355)*

The MSHA classifies this six-lane divided roadway as a principal arterial. An arterial is defined as a roadway serving regional traffic movements and regional land uses (e.g., medical center, shopping center, research park), traveling between cities, and connecting Interstates or other arterials to local roadways serving local land uses (e.g., residential homes, small businesses). Rockville Pike provides direct access to NSA Bethesda through Gates #1 and #2. It is oriented north-south along the western edge of the installation, connecting the installation with Washington, DC, to the south (it is called Wisconsin Avenue south of the installation) and the city of Frederick, Maryland, to the north. This roadway also provides connections to other locations throughout Montgomery County and the surrounding metropolitan area via an interchange with the Capital Beltway (I-495) and the Washington National Pike (I-270) to the north. It also provides connections to major east-west arterial roadways along other segments to the north and south of the installation. Rockville Pike is therefore a major regional and commuter route. It is also the main artery for several bus routes operated by the Washington Metropolitan Area Transit Authority (WMATA) and the Montgomery County Ride On transit systems.

Rockville Pike is heavily traveled in the vicinity of NSA Bethesda. Traffic congestion and delays occur in the southbound direction during the morning peak period, with similar conditions occurring in the northbound direction during the evening peak period. Alternating bands of stopped and slowly moving traffic were observed stretching for

several intersections in both directions from the installation along the peak direction of travel. These congested conditions are a result of high volumes of commuter traffic heading between suburban residential areas to the north of the installation and the employment centers of Bethesda-Chevy Chase and the District of Columbia to the south.

In response to increased traffic volumes along Rockville Pike, the MSHA has proposed a series of improvements throughout this corridor to improve traffic flow. The most noteworthy of these is to widen Rockville Pike to four lanes in the northbound direction between the North Wood Road installation entrance and Locust Hill Road, just north of Cedar Lane and in the southbound direction between Cedar Lane and Wilson Drive. These improvements are intended to improve traffic capacity at the Cedar Lane intersection, which is a primary location of delays.

Improvements are also planned at the intersection of Jones Bridge Road with Rockville Pike, which would widen the east leg of the intersection along Center Drive by separating the shared through/left-turn lane to an exclusive left-turn lane and revise the lane geometry along the south and west legs. These improvements are intended to improve capacity in this heavily congested area. In addition to the existing fully actuated signal at this location, The MSHA is proposing dynamic lane controls, which would convert one southbound lane to a second left-turn lane during the PM peak period only. (*Fully actuated* signals allow the signal to respond to varying traffic patterns in real time by reacting to the shifting ebb and flow of traffic along all intersection approaches, allocating green time based on traffic demand up to a maximum limit.) The proposed new signal would be able to accommodate fluctuations in traffic volume on a cycle-by-cycle (the time for a traffic signal to service each approach) basis, and the third lane from the right would switch lane assignments depending on the time of day.

#### *Capital Beltway (I-495)*

The Capital Beltway exists as a circumferential regional interstate facility around Washington, DC. In the vicinity of NSA Bethesda, I-495 runs east-west to the north of the installation with an eight-lane cross section, connecting to I-270 to the northwest and other radial arterials including Rockville Pike, Old Georgetown Road, and Connecticut Avenue in the immediate vicinity of the installation.

#### *Jones Bridge Road*

Jones Bridge Road is a four-lane divided arterial roadway, oriented east-west along the southern edge of NSA Bethesda. Jones Bridge Road provides direct access to NSA Bethesda via Gates #3, #4, and #5. The road begins at the NIH campus to the west and continues east to intersect with Connecticut Avenue. It has a posted speed limit of 40 miles per hour (mph).

*Cedar Lane*

Cedar Lane is an undivided arterial roadway that ranges between two and four lanes in width, and is oriented east-west north of NSA Bethesda. Cedar Lane is separated from NSA Bethesda by the Stone Ridge School of the Sacred Heart and therefore does not connect directly to the installation. The posted speed limit is 30 mph.

Future improvements proposed by the MSHA include the addition of several turn lanes at the intersection of Cedar Lane and Rockville Pike in order to increase the vehicle throughput at this intersection. By increasing the rate at which vehicles will be able to traverse this intersection from the east and west, more green time could be allocated to the approaches along Rockville Pike. As mentioned previously, the additional through lanes along Rockville Pike will also improve these operations.

*Connecticut Avenue (MD 185)*

Connecticut Avenue is a six-lane divided roadway and is classified as a major highway (same as an arterial) by Montgomery County. It is oriented north-south just east of NSA Bethesda, and extends from Washington, DC, to Aspen Hill, east of Rockville in Montgomery County. Connecticut Avenue has an interchange with I-495 to the northeast of NSA Bethesda. This roadway serves regional and commuter traffic and is traversed by several WMATA and Ride On bus routes. The posted speed limit is 35 mph and in sections is enforced by speed cameras.

Future improvements proposed by the MSHA at the intersection of Connecticut Avenue and Jones Bridge Road include widening of both roadways near the intersection to improve traffic flow and congestion.

*Old Georgetown Road (MD 187)*

Old Georgetown Road is a four-lane roadway that is classified as a major highway (same as an arterial) by Montgomery County and is oriented north-south to the west of Rockville Pike. Old Georgetown Road extends south from White Flint to downtown Bethesda. This roadway has interchanges with I-270 and I-495 and is traversed by several WMATA and Ride On bus routes. The posted speed limit is 40 mph.

Future improvements proposed by the MSHA at the intersection of Old Georgetown Road and West Cedar Lane include the addition or lengthening of turning lanes and the widening of travel lanes, which will improve flow through existing intersections near the NIH campus.

*Jones Mill Road*

This two-lane roadway is located east of Connecticut Avenue and classified as a primary residential street by Montgomery County. Jones Mill Road is oriented primarily north-south between I-495 and the East-West Highway and serves to connect the northern and southern sections of Beach Drive as it travels through Rock Creek Park. The posted speed is 25 mph.

*Woodmont Avenue*

This roadway has a four-lane cross-section and is classified as an arterial street with a posted speed of 25 mph. Woodmont Avenue is parallel to Rockville Pike northward from downtown Bethesda, remaining one block west of Rockville Pike before finally curving east and intersecting with that roadway one block south of Jones Bridge Road. Woodmont Avenue assists in circulating traffic between NSA Bethesda, the NIH campus, and downtown Bethesda.

**3.1.1.2 External Study Intersections**

The Montgomery County Local Area Transportation Review (LATR) Guidelines are set forth to establish a more precise and documented approach for evaluating the potential transportation-related impact for growth throughout Montgomery County, Maryland. Throughout the county, various areas are categorized based on their level of congestion and ability to accept a respective amount of additional development. The LATR assists in determining what additional development can be supported in the area and outlines the steps an applicant must take for determining the associated impact on the transportation network. Since NSA Bethesda is within Montgomery County, it will adhere to the LATR standards.

As part of the LATR evaluation, elements such as development size, trip generation, study area, adequacy of traffic flows, and other criteria are analyzed. One specific step of this evaluation is selecting a study area. As outlined in the LATR, the study area associated with a new or redeveloped parcel is directly related to the total number of new trips the development will add to the transportation network. Based on a scale provided by M-NCPPC, a total number of signalized intersections must be studied for a specific range of generated trips.

For this traffic study, the Navy initiated early coordination with the M-NCPPC, MSHA, and MCDOT to ensure that the agencies were in agreement with the methodology used in the traffic study. The intersections external to NSA Bethesda that were included in the traffic study were identified based on a preliminary site trip assignment through 17 intersections adjacent to the installation, in accordance with the M-NCPPC's LATR methodology. The Navy considered expanding this list to include additional intersections identified by the public during the scoping period; however, it was determined that the additional

intersections would not add new data to the analysis. Based on the site trip assignment and coordination with M-NCPPC, the original 17 intersections were determined to sufficiently capture any effects generated by the future proposed actions at the additional intersections requested; therefore, the additional intersections were not included. The external roadway study intersections, shown in detail in Figure 2, are:

1. Rockville Pike & Grosvenor Lane
2. Rockville Pike & Pooks Hill Road
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane
4. Locust Ave/West Drive & Cedar Lane
5. Rockville Pike & Cedar Lane
6. Rockville Pike & North Drive/School Driveway
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)
8. Rockville Pike & Wilson Drive
9. Rockville Pike & South Drive/South Wood Road (Gate #2)
10. Rockville Pike & Center Drive/Jones Bridge Road
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road
12. Grier Road (Gate #4) & Jones Bridge Road
13. University Road (Gate #5) & Jones Bridge Road
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway
15. Manor Road & Jones Bridge Road
16. Jones Bridge Road & Jones Mill Road
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway

Within the study area, intersections 7, 9, 11, 12, and 13 are the locations of security gates for NSA Bethesda.

#### **3.1.1.3 External Existing Lane Geometry and Traffic Control**

As part of the field data collected in the vicinity of NSA Bethesda, a detailed reconnaissance of the lane geometry and traffic signal timings was conducted. Several visits were made to NSA Bethesda to ensure that accurate information was collected and available for this report. Based on those field visits, the lane geometry and traffic control utilized in this study are shown on Figures 3A and 3B.

Figure 2: External Study Intersections

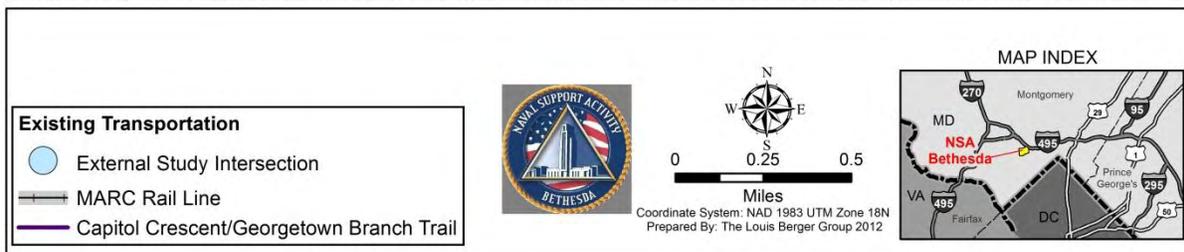
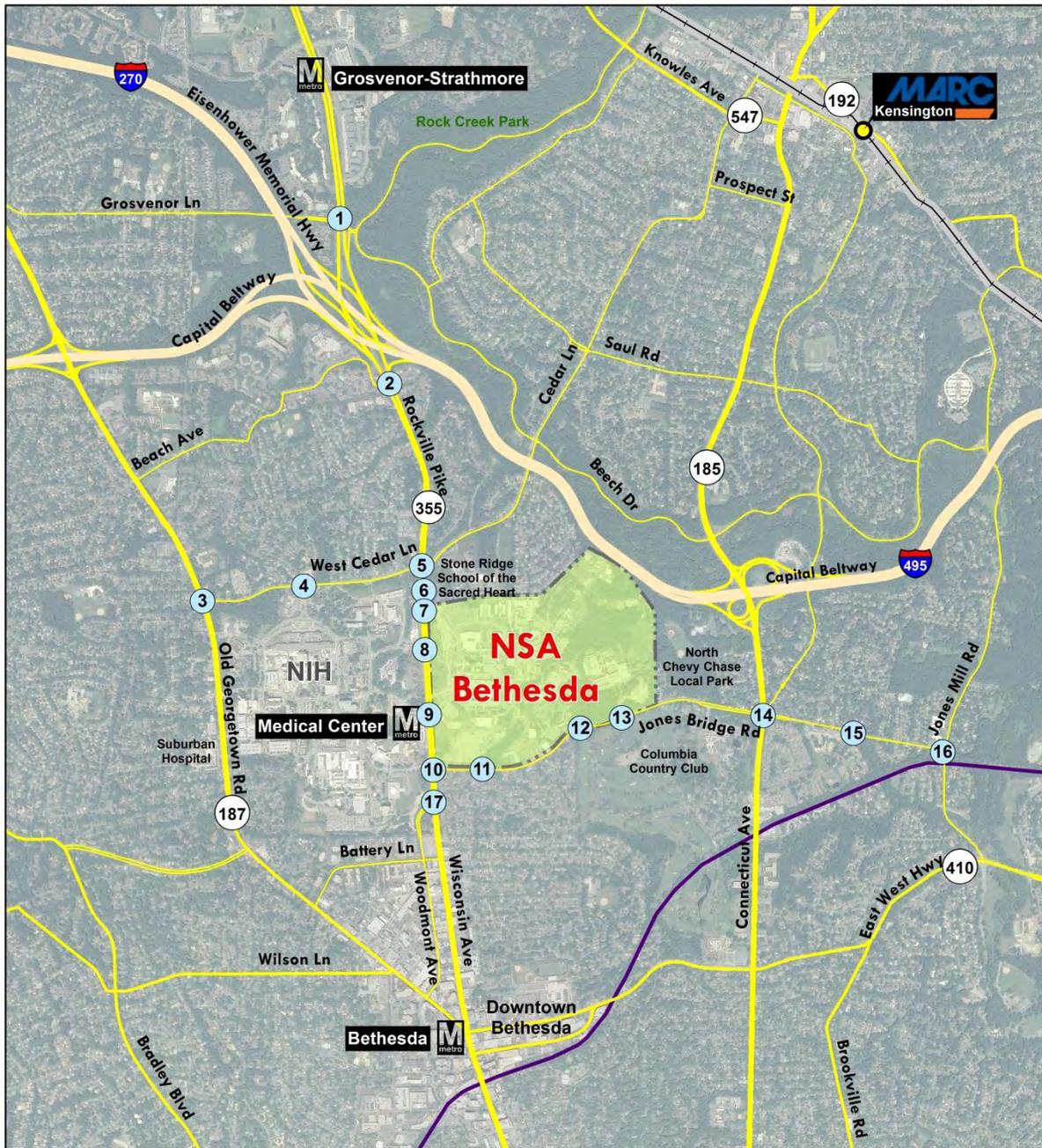


Figure 3A: External Lane Geometry and Traffic Control

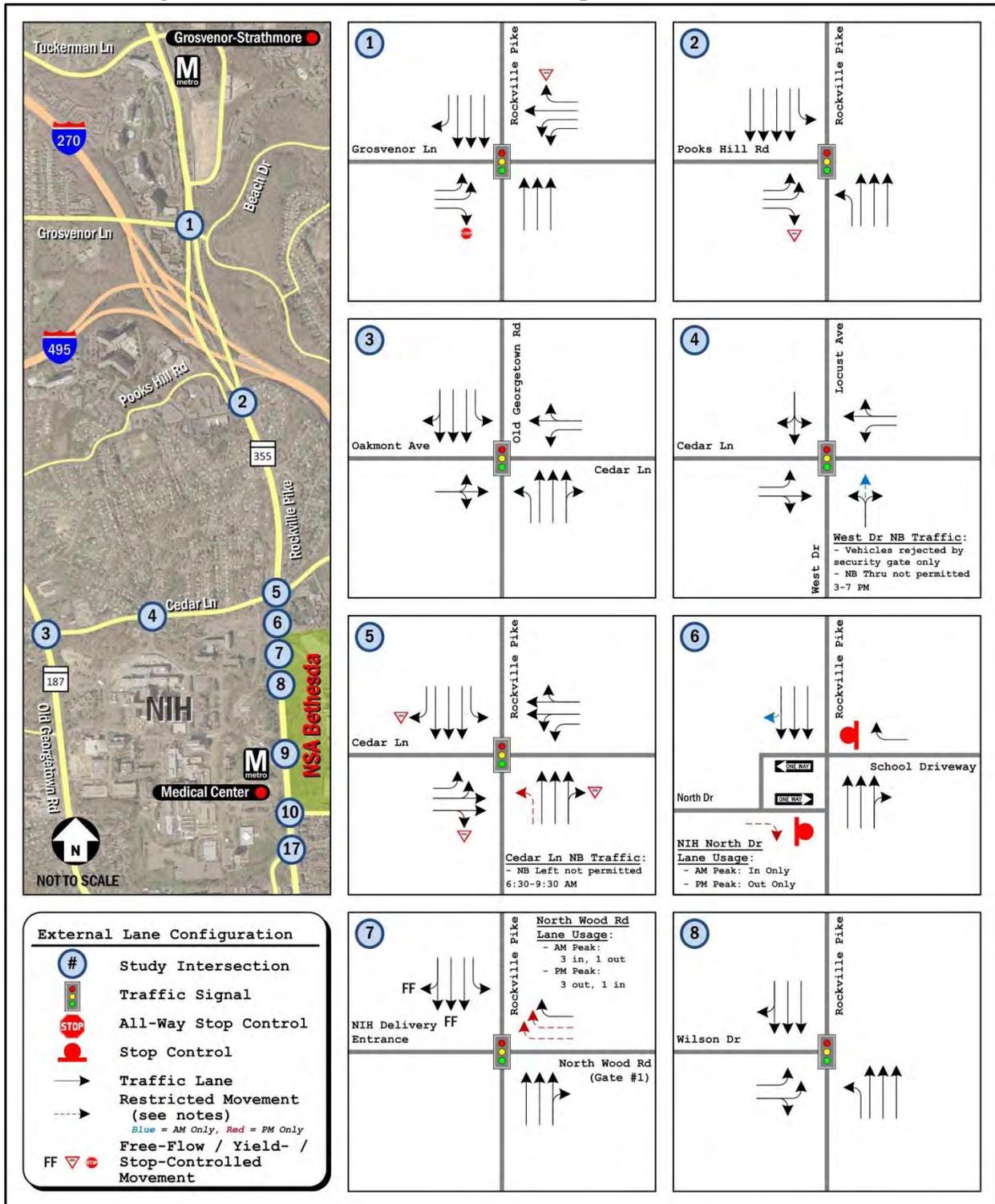
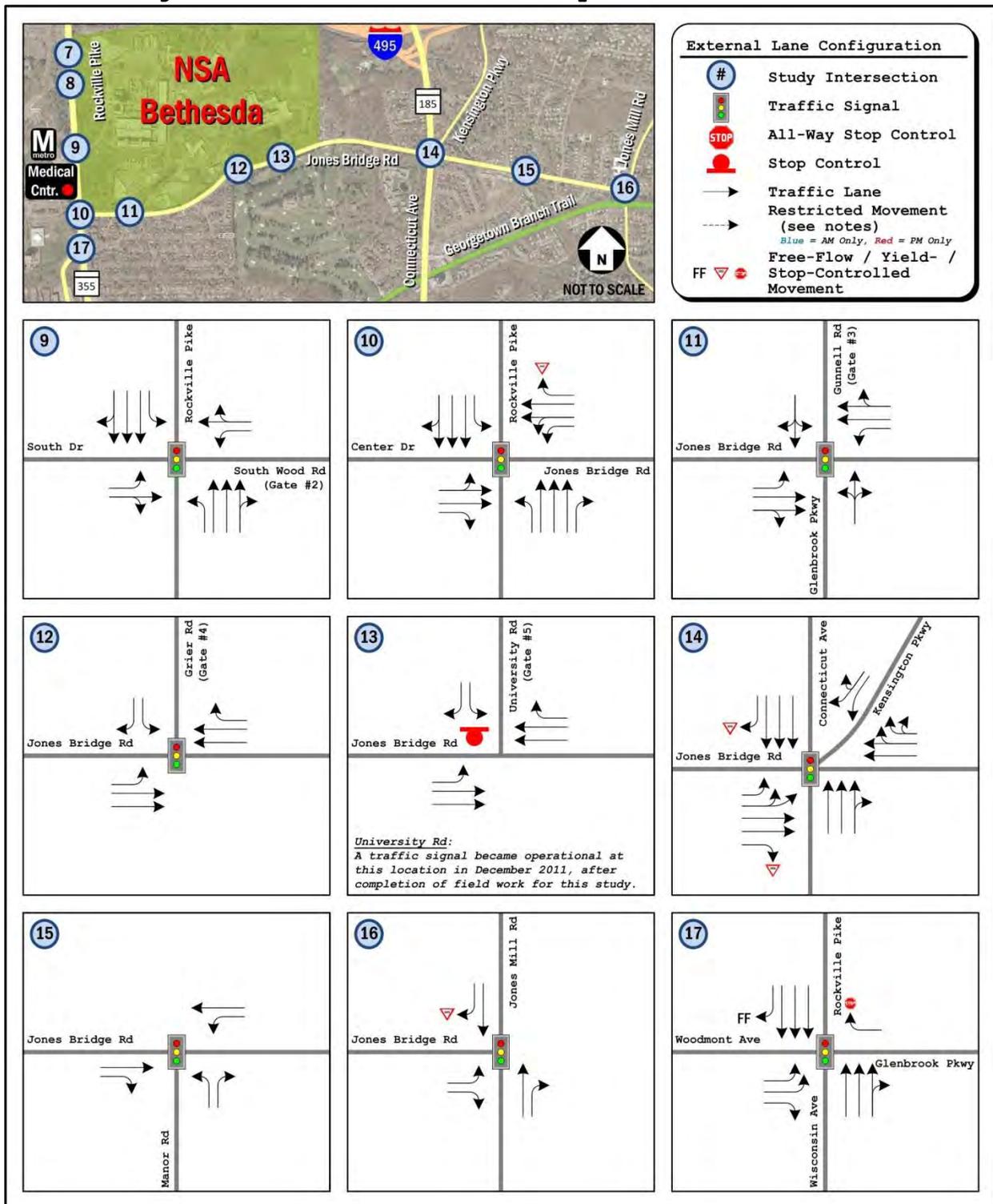


Figure 3B: External Lane Geometry and Traffic Control



While the information collected is expected to be the most accurate available, the MSHA continues to monitor the corridor and adjust signal timings to optimize the traffic flow. These modifications are not expected to have a significant impact on the phasing or lane use at the external intersections.

#### **3.1.1.4 External Existing Peak Hour Traffic Volumes**

Manual turning movement counts were collected at the 17 external intersections shown in Section 3.1.1.2 over the course of October 18, 19, 20, and 26, 2011. These days were selected so that average mid-week (Tuesday through Thursday) data could be collected and to ensure the counts were conducted after BRAC realignments at NSA Bethesda were completed. Traffic volumes were collected at 15-minute intervals at the 17 external study intersections from 5:30 AM - 9:00 AM and from 3:00 PM - 6:30 PM in order to provide a large range of data to properly identify the morning and afternoon peak hours of traffic.

In addition to manual turning movement counts, automatic traffic recorders (ATRs) were placed at eight locations throughout the study area to obtain 24-hour counts at 15-minute intervals. These counters were placed between October 18 and October 24, 2011, to provide a multiple day count history in 15-minute intervals.

Traffic count data at the 17 external study intersections were tabulated during 15-minute intervals within the AM and PM observational periods. The 1 hour periods associated with the highest volume of traffic during the AM and PM peaks are generally referred to as the peak hours. Based on the manual turning movement and ATR counts, the following conclusions can be drawn from the calculated peak hour data for NSA Bethesda:

- The traffic counts at the external intersections indicate an external intersection peak hour of 7:45 AM - 8:45 AM in the morning and 4:45 PM - 5:45 PM in the evening.
- Along Rockville Pike/Wisconsin Avenue, the AM peak hour becomes gradually later as traffic progresses southbound through the study area. This finding shows the peak flow of commuter vehicles traveling southbound, peaking at the northernmost study area intersection between 7:30 AM - 8:30 AM, adjacent to NSA Bethesda between 7:45 AM - 8:45 AM, and finally to the south of the installation between 8:00 AM - 9:00 AM.
- The AM peak hour of traffic outside NSA Bethesda Gates #1, #2, #3, and #4 occurs between 7:30 AM - 8:30 AM and 8:00 AM - 9:00 AM at all intersections. Gate #5 experienced its peak hour between 6:30 AM - 7:30 AM.
- The PM peak hour occurs in a wider range of times across the study area, varying from 3:30 PM - 4:30 PM to 5:30 PM - 6:30 PM. However, the PM peak hour generally occurs later in the day on

the major north-south commuter route of Rockville Pike/Wisconsin Avenue when compared to the side streets. This is consistent with the tendency for traffic from local area driveways to peak earlier than commuter traffic that must travel some distance to arrive in the study area.

These AM and PM external intersection peak traffic volumes are shown on Figures 4A and 4B and will be utilized for analyzing capacity across the study area.

Figure 4A: External Traffic Volumes - Existing (2011) Conditions

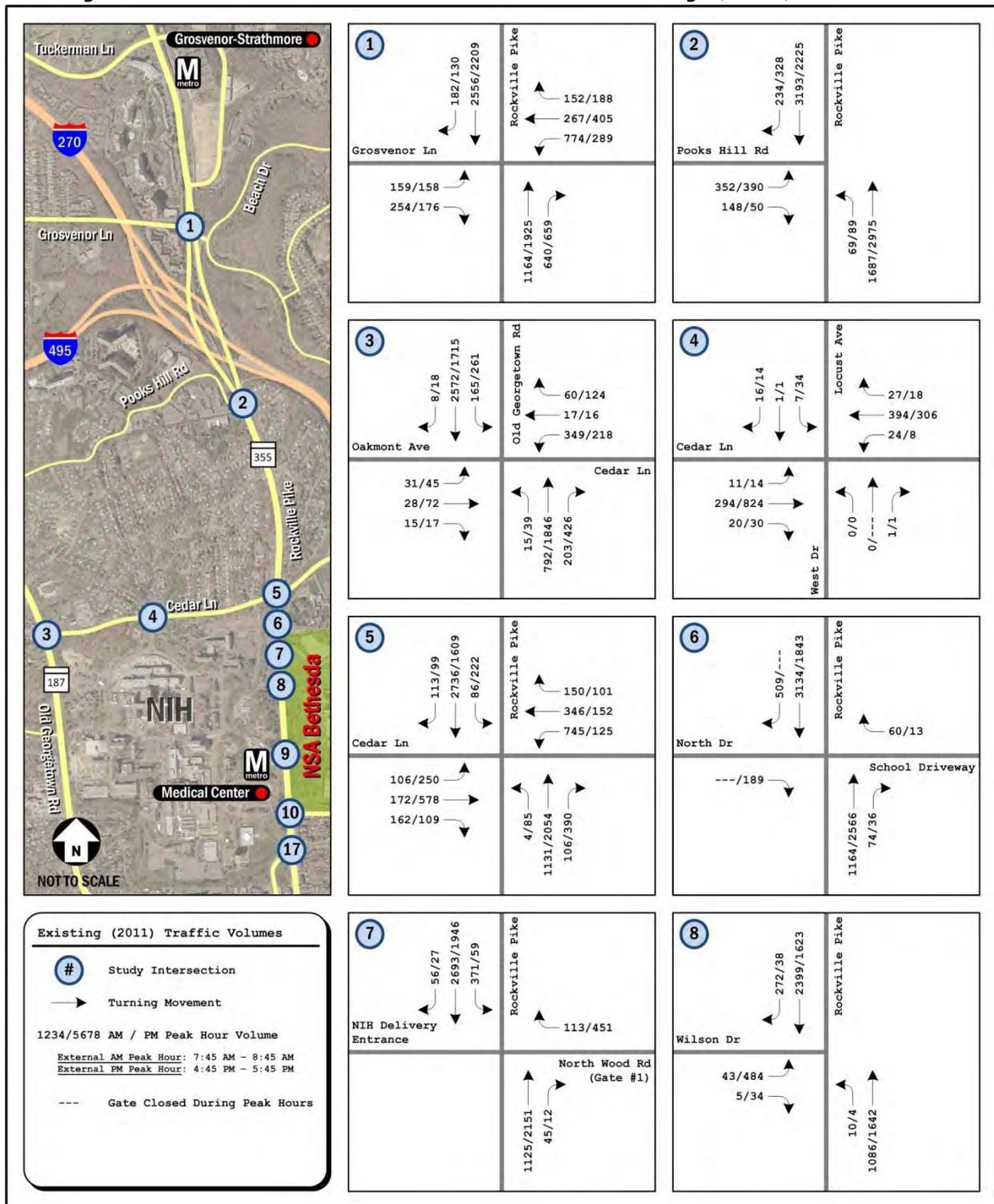
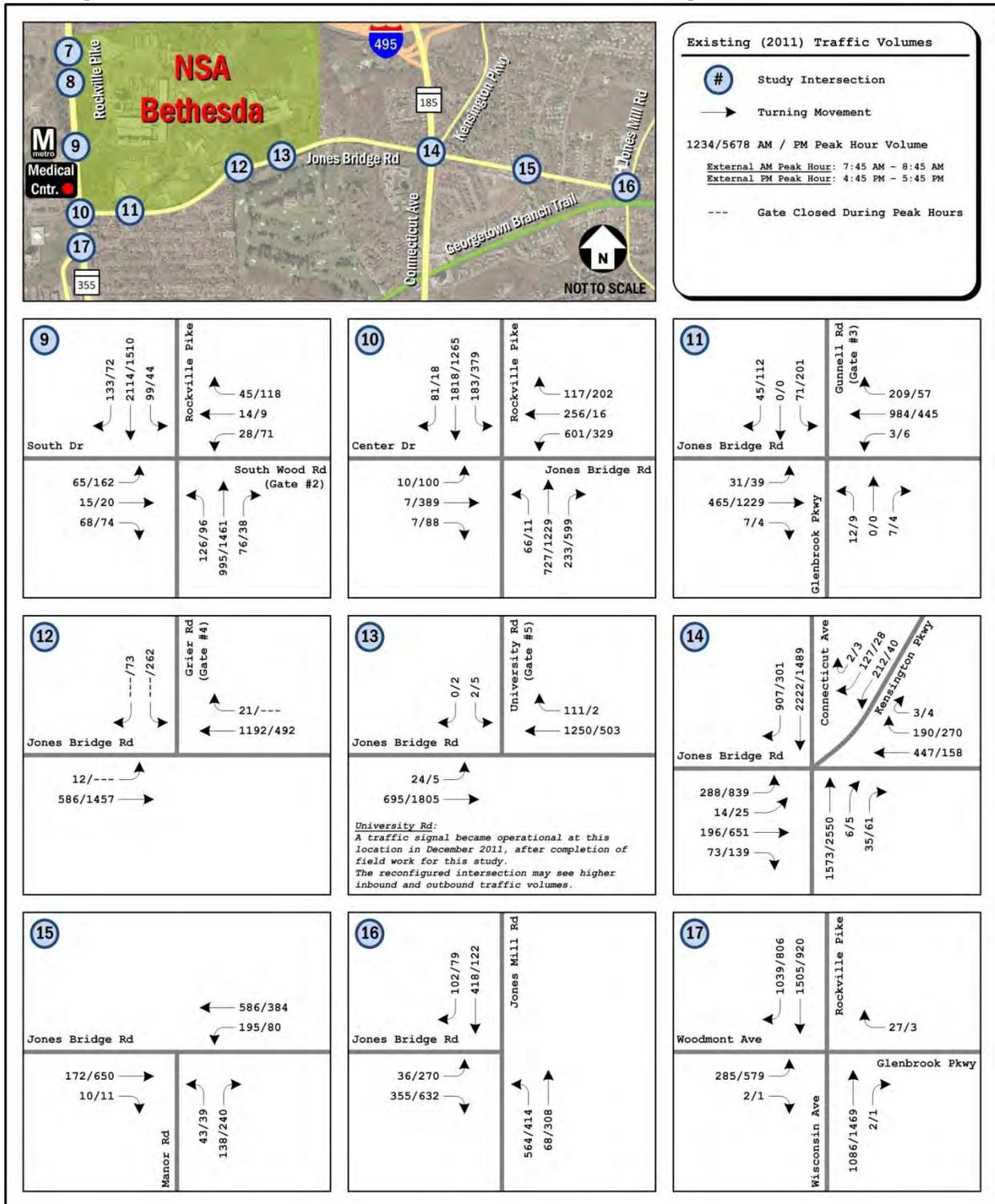


Figure 4B: External Traffic Volumes - Existing (2011) Conditions



### **3.1.1.5 External Existing Capacity Analysis**

A capacity analysis is a way of assessing the performance of an intersection or a network of intersections based on the observed traffic volumes, lane geometry, and intersection operation. By comparing these field-measured characteristics to established baselines using equations and tables published in industry-standard reference guides, an intersection can be graded based on its calculated LOS as indicated by a letter grade of A through F. These capacity analysis results use the lane utilization set forth in Figures 3A and 3B and the existing traffic volumes depicted in Figures 4A and 4B.

M-NCPPC's LATR specifies the use of the Critical Lane Volume (CLV) traffic analysis method in conducting vehicle capacity analyses within Montgomery County. While the LATR indicates that unsignalized intersections should also use the CLV method, the Highway Capacity Manual (HCM) provides a much more accurate measure for determining the operations of STOP-controlled intersections.

#### *Critical Lane Volume Method*

Capacity analyses for each of the signalized intersections for the external network were conducted following the CLV method established by M-NCPPC LATR guidelines. The CLV method is a basis for calculating the peak hour vehicular capacity of an individual intersection in isolation on the basis of its lane configuration and phasing. Similar to other means of calculating intersection capacity, the intersection capacity results are expressed in terms of the LOS, which is indicated by a letter grade of A through F.

LATR guidelines define a specific congestion standard that determines the associated threshold for each LOS letter grade based on criteria for the specific policy area within Montgomery County. This congestion standard represents the sum of critical lane volumes that the intersection can theoretically handle while remaining within the tolerable limits of delay that exist in a given policy area. In the area associated with NSA Bethesda, each study intersection in the network is associated with the LATR-defined Bethesda policy area, which establishes a CLV standard of 1,600 vehicles per hour as the threshold for LOS F. The only study intersection outside this policy area is the intersection of Rockville Pike and Grosvenor Lane, which is in the North Bethesda policy area and has a CLV standard of 1,550 vehicles per hour as the threshold for LOS F.

Given these criteria and the CLV method provided in the LATR, capacity analyses were conducted for each of the signalized intersections within the study area. The CLV results for each of the signalized intersections can be found in Table 1. According to the HCM when using the level of service ratings, LOS D or better represents stable traffic operations, while LOS E or F represents unstable traffic operations with significant delays.

**Table 1: NSA Bethesda External LOS Results (CLV Method)**

		AM Peak Hour		PM Peak Hour		M-NCPPC Threshold	
		CLV	LOS	CLV	LOS	Standard	Pass/Fail
1.	Rockville Pike & Grosvenor Lane	1,356	D	1,306	D	1,550	Pass
2.	Rockville Pike & Pooks Hill Road	1,283	C	1,308	D	1,600	Pass
3.	Old Georgetown Road & Oakmont Ave/Cedar Lane	1,396	D	1,459	E	1,600	Pass
4.	Locust Ave/West Drive & Cedar Lane	480	A	919	A	1,600	Pass
5.	Rockville Pike & Cedar Lane	1,748	F	1,613	F	1,600	Fail AM+PM
6.	Rockville Pike & North Drive/School Dwy	<i>unsignalized</i>		<i>unsignalized</i>		1,600	Pass
7.	Rockville Pike & North Wood Road (Gate #1)	804	A	967	A	1,600	Pass
8.	Rockville Pike & Wilson Drive	1,023	B	894	A	1,600	Pass
9.	Rockville Pike & South Drive/South Wood Road (Gate #2)	1,081	B	970	A	1,600	Pass
10.	Rockville Pike & Center Drive/Jones Bridge Road	1,098	B	1,287	C	1,600	Pass
11.	Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	798	A	1,040	B	1,600	Pass
12.	Grier Road (Gate #4) & Jones Bridge Road	644	A	1,034	B	1,600	Pass
13.	University Road (Gate #5) & Jones Bridge Road	<i>unsignalized</i>		<i>unsignalized</i>		1,600	Pass
14.	Connecticut Avenue & Jones Bridge Road & Kensington Pkwy	1,431	D	1,626	F	1,600	Fail PM
15.	Manor Road & Jones Bridge Road	724	A	970	A	1,600	Pass
16.	Jones Bridge Road & Jones Mill Road	1,018	B	1,024	B	1,600	Pass
17.	Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	708	A	851	A	1,600	Pass

The existing traffic capacity analysis shown above indicates that three intersections operate with a critical lane traffic volume at or above acceptable M-NCPPC threshold limits during at least some portion of the day. These three intersections are:

- Intersection #3, Old Georgetown Road & Oakmont Avenue/Cedar Lane during the PM peak hour (LOS E)
- Intersection #5, Rockville Pike & Cedar Lane during both the AM (LOS F) and PM peak hours (LOS F)
- Intersection #14, Connecticut Avenue & Jones Bridge Road & Kensington Parkway during the PM peak hour (LOS F)

The remaining study area signalized intersections currently operate at an acceptable LOS during both the AM and PM peak hours. While the three intersections listed above operate at levels beyond the acceptable range. Field observations of congestion conditions during both peak periods will be discussed in a subsequent section.

*Highway Capacity Manual Methods Using Synchro Traffic Analysis*

While the CLV method provides procedures for determining the LOS of signalized intersections as required by the LATR, the HCM method provides a secondary signalized intersection analysis. Since the HCM method provides a more accurate analysis for unsignalized intersections, especially unsignalized intersections with stop signs posted on only the minor approaches, the procedures put forth in the HCM were used as a primary analysis method to complete the unsignalized capacity analysis.

The HCM method includes additional input factors such as lane width, truck percentage, pedestrian conflicts, roadway grade, and peak hour factor (measures the four 15-minute volumes during the peak hour to determine if a peak 15-minute volume occurs or uniform volume occurs during the entire peak hour) in its calculation of the delay present at each intersection and also includes a progression factor to account for the interaction of adjacent intersections, so that the impacts of signalized progression along the Rockville Pike and Jones Bridge Road corridors can be better assessed. In this way, the HCM method is able to evaluate the capacity conditions across the entire network instead of individual intersections.

As with the CLV method, HCM techniques also express LOS conditions in terms of the letter grades A through F. However, instead of basing the LOS grade on the sum of the critical lane volumes across the entire intersection, results are then expressed as a LOS based on the average delay experienced by a vehicle at the intersection. The Synchro Traffic Analysis Software, which uses the HCM method, was used to calculate the results for the entire external network. As mentioned previously, the HCM method is used as a primary analysis method to assess the capacity of the unsignalized intersections, specifically the #6, Rockville Pike and North Drive/School Driveway, and #13, Jones Bridge Road & University Road. For all others these results are only shown by way of comparison to the CLV results.

Using this capacity analysis method, many of the study area intersections operate at acceptable levels during both the AM and PM peak hours, as shown in Tables 2A and 2B. It should also be noted that unsignalized intersections with stop signs posted on the minor approaches do not have an overall LOS assigned, as the major approaches operate freely through the intersection and therefore incur no delay. The minor approaches could experience delay caused by waiting for gaps in traffic before entering the major roadway.

As stated before, the HCM states that an overall intersection LOS D or better represents stable roadway operations, while LOS E and F represent unstable roadway operations and significant delays. The intersections that fall below the intersection LOS D threshold (LOS E or F) are:

- #1 Rockville Pike & Grosvenor Lane during the AM and PM peak hours
- #2 Rockville Pike & Pooks Hill Road during the AM peak hour
- #5 Rockville Pike & Cedar Lane during the AM and PM peak hours
- #10 Rockville Pike & Jones Bridge Road during the PM peak hour
- #13 Jones Bridge Road & University Road during the AM peak hours (southbound direction failing as two-way STOP-controlled intersections do not have an overall LOS)
- #14 Jones Bridge Road & Connecticut Avenue during the AM and PM peak hours
- #15 Jones Bridge Road & Manor Drive during the PM peak hour
- #16 Jones Bridge Road & Jones Mill Road during the AM peak hour

As the HCM method allows additional variables such as peak hour factors, pedestrian volumes, heavy vehicle percentages, and progression factors from adjacent intersections, this method will serve as a more comprehensive, system-wide network evaluation as compared to the individual intersection capacity analysis results from the CLV method. However, this method is not recognized as the preferred analysis method by the M-NCPPC and therefore will be utilized primarily for evaluating queuing and progression through the traffic network.

**Table 2A: NSA Bethesda External LOS Results (HCM Method)**

	Approach	AM Peak Hour		PM Peak Hour	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>121.0</b>	<b>F</b>	<b>122.0</b>	<b>F</b>
	Eastbound	63.9	E	59.7	E
	Westbound	32.6	C	56.0	E
	Northbound	200.7	F	150.8	F
	Southbound	44.5	D	133.1	F
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>125.1</b>	<b>F</b>	<b>44.3</b>	<b>D</b>
	Eastbound	68.7	E	79.2	E
	Northbound	11.2	B	37.0	D
	Southbound	191.9	F	47.1	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>48.6</b>	<b>D</b>	<b>54.0</b>	<b>D</b>
	Eastbound	37.3	D	43.7	D
	Westbound	248.5	F	81.7	F
	Northbound	27.5	C	81.5	F
	Southbound	17.0	B	14.8	B
4. Locust Ave/West Drive & Cedar Lane	<b>Overall</b>	<b>12.2</b>	<b>B</b>	<b>38.3</b>	<b>D</b>
	Eastbound	15.3	B	48.9	D
	Westbound	8.6	A	13.3	B
	Northbound	27.2	C	27.3	C
	Southbound	27.9	C	29.1	C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>79.3</b>	<b>E</b>	<b>89.9</b>	<b>F</b>
	Eastbound	222.1	F	158.3	F
	Westbound	125.0	F	80.1	F
	Northbound	31.0	C	96.1	F
	Southbound	59.9	E	44.3	D
6. Rockville Pike & North Drive/School Driveway	Eastbound	0.0	A	11.1	B
	Westbound	9.9	A	9.6	A
7. Rockville Pike & NIH Delivery Entrance/ North Wood Road (Gate #1)	<b>Overall</b>	<b>15.9</b>	<b>B</b>	<b>13.5</b>	<b>B</b>
	Westbound	18.5	B	66.6	E
	Northbound	50.3	D	14.7	B
	Southbound	3.1	A	0.7	A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>6.0</b>	<b>A</b>	<b>23.1</b>	<b>C</b>
	Eastbound	85.5	F	79.5	E
	Northbound	8.8	A	19.3	B
	Southbound	2.9	A	9.8	A
9. Rockville Pike & South Drive/ South Wood Road (Gate #2)	<b>Overall</b>	<b>19.8</b>	<b>B</b>	<b>21.6</b>	<b>C</b>
	Eastbound	85.8	F	95.2	F
	Westbound	69.6	E	58.9	E
	Northbound	13.6	B	8.5	A
	Southbound	15.1	B	16.4	B
10. Rockville Pike & Center Drive/ Jones Bridge Road	<b>Overall</b>	<b>40.1</b>	<b>D</b>	<b>57.5</b>	<b>E</b>
	Eastbound	84.3	F	77.8	E
	Westbound	56.5	E	104.8	F
	Northbound	32.8	C	66.0	E
	Southbound	35.4	D	24.3	C

**Table 2B: NSA Bethesda External LOS Results (HCM Method)**

	Approach	AM Peak Hour		PM Peak Hour	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.4</b>	<b>B</b>	<b>33.6</b>	<b>C</b>
	Eastbound	2.8	A	15.8	B
	Westbound	7.6	A	16.5	B
	Northbound	59.7	E	37.9	D
	Southbound	96.6	F	112.5	F
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>15.9</b>	<b>B</b>	<b>22.6</b>	<b>C</b>
	Eastbound	6.6	A	19.2	B
	Westbound	20.7	C	22.9	C
	Southbound	0.0	A	35.1	D
13. University Road (Gate #5) & Jones Bridge Road	Eastbound Left	13.5	B	8.6	A
	Southbound	75.5	F	17.6	C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>112.3</b>	<b>F</b>	<b>164.8</b>	<b>F</b>
	Eastbound	205.0	F	167.2	F
	Westbound	68.5	E	48.0	D
	Northbound	25.0	C	256.2	F
	Southbound	35.0	C	50.8	D
	Southwestbound	1,060.9	F	304.9	F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>15.2</b>	<b>B</b>	<b>73.4</b>	<b>E</b>
	Eastbound	29.1	C	134.3	F
	Westbound	12.1	B	12.1	B
	Northbound	12.7	B	14.4	B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>103.1</b>	<b>F</b>	<b>37.5</b>	<b>D</b>
	Eastbound	28.9	C	49.6	D
	Northbound	34.5	C	21.6	C
	Southbound	246.2	F	37.3	D
17. Rockville Pike/Wisconsin Avenue & Woodmont Ave/Glenbrook Parkway	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>28.8</b>	<b>C</b>
	Eastbound	72.1	E	129.9	F
	Westbound	63.0	E	57.7	E
	Northbound	4.9	A	7.4	A
	Southbound	3.6	A	6.0	A

Note: Intersections with two-way STOP-control have no overall LOS identified.

Note that the Jones Bridge Road and University Road intersection (Gate #5) was unsignalized during the existing conditions data collection and analysis time period, but is now operating with a signal.

### 3.1.1.6 External Roadway Operational Conditions

The capacity analysis results presented in Section 3.1.1.5 provide an indication of heavy volumes resulting in congestion; however, they do not reflect the full extent of this congestion and the resulting queuing that occurs along NSA Bethesda's frontage.

High vehicular volumes were observed traveling southbound in the morning and northbound in the evening along major north-south roadways like Rockville Pike/Wisconsin Avenue, Connecticut Avenue, and Old

Georgetown Road. These measurements are supported by field observations and match well with the expected commuter travel patterns in this portion of Montgomery County. However, because of high volumes in the peak direction and the lengthy distances between traffic signals along these roadways, traffic is able to disperse between the intersections. When peak direction traffic is more spread out, it becomes difficult to coordinate the traffic signals. As a result, the north-south approaches to intersections along Old Georgetown Road and Connecticut Avenue and the northern intersections along Rockville Pike within the study area experience traffic arriving in a constant stream rather than in platoons (concentrated groups). Furthermore, given the long cycle lengths (the number of seconds for the traffic signal to service all approaches) present along these corridors, the cross-streets are allocated long periods of green time, sometimes upwards of 80 seconds out of a 180-second cycle. The combination of high vehicular volumes arriving at a generally uniform rate and these long delays of traffic along the main road results in queues that develop in the peak direction.

During the AM peak hour, queues were observed in the southbound lanes of Rockville Pike stretching north past the Capital Beltway. Similarly, stopped traffic exists along Rockville Pike throughout much of the study area during the PM peak hour. At NSA Bethesda Gate #2 (located at Rockville Pike and South Wood Road), queue spillback from adjacent intersections to the north at Cedar Lane and Gate #1 (located at Rockville Pike at North Wood Road), resulted in gridlock conditions, preventing vehicles from exiting the installation in either direction along Rockville Pike. Furthermore, the presence of high pedestrian volumes crossing Rockville Pike to access the Medical Center Metro station caused conflicts with left-turning traffic exiting via Gate #2, causing further delays. When the Medical Center Pedestrian Tunnel is constructed, pedestrians would cross below grade and this conflict point would be eliminated.

Although the primary east-west connectors in this section of Montgomery County are the Capital Beltway and the East-West Highway, the heavy traffic congestion present along these two routes causes a significant number of vehicles traveling east-west to divert to Jones Bridge Road. The Capital Beltway experiences major congestion during both peak periods because of the high traffic volumes it serves, while the location of East-West Highway in downtown Bethesda adds delay and congestion due to a higher level of traffic coming from the large commercial and residential area. Therefore, drivers in the vicinity of NSA Bethesda who seek to travel north-south on Rockville Pike, Connecticut Avenue, or Beach Drive may use Jones Bridge Road as an east-west connector.

As a result of these diverted volumes, heavy traffic volumes were observed traveling eastbound along Jones Bridge Road toward Connecticut Avenue during the evening peak. Vehicles traveling along this road encountered a queue in excess of 2,000 feet. The maximum observed queue stretched from Connecticut Avenue west as far as Grier

Road (Gate #4 located at Jones Bridge Road and Grier Road), a distance of over half a mile.

In the morning, queues in the westbound direction were mostly averted because of the prohibition of northbound left turning traffic from Connecticut Avenue onto Jones Bridge Road. This restriction causes drivers to choose an alternate east-west route such as East-West Highway. As a result of these lower volumes, queues along Jones Bridge Road at the westbound approach of its intersection with Wisconsin Avenue peak are approximately 400 feet in length, which is not unusual for an intersection with a long cycle length.

While these observations provide a fairly regular pattern during a typical work day, typical peak arrival and departure patterns at NSA Bethesda occur outside of the AM and PM peak hours, respectively. This pattern will be discussed in later sections of this study.

### **3.1.1.7 Commuter Traffic Growth**

The intersection peak hour traffic counts collected in October 2011 after the completion of BRAC realignment and the volumes projected for 2011 in the 2008 NNMC BRAC EIS were compared to determine the level of growth of commuter traffic throughout the overall road network. (Note that the Jones Bridge Road and University Road intersection (Gate #5) was unsignalized during the 2011 existing conditions data collection and analysis time period, but is now operating with a signal).

As shown in Table 3, the 2008 NNMC BRAC EIS had generally projected higher traffic volume than the actual counts taken in October 2011. This can be attributed to several factors including higher non-auto ridership, economic factors, diversion to alternative routes such as Connecticut Avenue to the east or Old Georgetown Road to the west, and other external causes. On Rockville Pike between Pooks Hill Road and Woodmont Avenue, the 2008 NNMC BRAC EIS projections were higher than the 2011 counts, with an average of 16/18 percent (northbound/southbound) and 15/10 percent (northbound/southbound) for AM and PM peaks, respectively. On Jones Bridge Road corridor between Connecticut Avenue and Rockville Pike, the projections were higher than the 2011 counts, with an average of 32/21 percent (eastbound/westbound) and 13/28 percent (eastbound/westbound) for AM and PM peaks, respectively.

The exceptions are the PM peak hour traffic northbound on Rockville Pike between Pooks Hill Road and Cedar Lane and southbound between Jones Bridge Road and Woodmont Road, respectively. The peak hour traffic counted in October 2011 was 8 percent higher than the 2008 NNMC BRAC EIS projection for the northbound PM peak between Pooks Hill Road and Cedar Lane and 13 percent higher for the southbound PM peak between Jones Bridge Road and Woodmont Road.

**Table 3: Traffic Volume Growth Comparison**

Count Location	Direction	2008 BRAC EIS Predicted Future Conditions		2011 Traffic Counts		Predicted 2011 vs Actual 2011 Conditions (%)	
		AM	PM	AM	PM	AM	PM
Rockville Pike between Pooks Hill Road and Cedar Lane	Northbound	1,728	3,383	1,699	3,646	-2%	8%
	Southbound	3,539	2,134	2,911	2,011	-18%	-6%
Rockville Pike between Wilson Lane and Gate #2	Northbound	1,657	2,790	1,096	1,824	-34%	-35%
	Southbound	2,732	2,216	2,346	1,726	-14%	-22%
Rockville Pike between Gate #2 and Jones Bridge Road	Northbound	1,353	2,250	1,197	1,854	-12%	-18%
	Southbound	2,567	2,185	2,093	1,770	-18%	-19%
Rockville Pike between Jones Bridge Road and Woodmont Avenue	Northbound	1,663	2,592	1,400	2,082	-16%	-20%
	Southbound	3,289	1,686	2,650	1,911	-19%	13%
<b>Average of Rockville Pike Corridor</b>	<b>Northbound</b>	<b>1,600</b>	<b>2,754</b>	<b>1,348</b>	<b>2,352</b>	<b>-16%</b>	<b>-15%</b>
	<b>Southbound</b>	<b>3,032</b>	<b>2,055</b>	<b>2,500</b>	<b>1,855</b>	<b>-18%</b>	<b>-10%</b>
Jones Bridge Road between Gate #5 and Connecticut Avenue	Eastbound	675	2,068	528	1,692	-22%	-18%
	Westbound	1,664	656	1,361	496	-18%	-24%
Jones Bridge Road between Gate #3 and Rockville Pike	Eastbound	848	1,373	508	1,295	-40%	-6%
	Westbound	1,365	772	1,047	529	-23%	-31%
<b>Average of Jones Bridge Corridor</b>	<b>Eastbound</b>	<b>762</b>	<b>1,721</b>	<b>518</b>	<b>1,494</b>	<b>-32%</b>	<b>-13%</b>
	<b>Westbound</b>	<b>1,515</b>	<b>714</b>	<b>1,204</b>	<b>513</b>	<b>-21%</b>	<b>-28%</b>

### 3.1.2 NSA Bethesda Traffic using Rockville Pike and Jones Bridge Road

In addition to comparing the 2008 projected volumes to the 2011 volumes, the percentage of NSA Bethesda traffic using Rockville Pike and Jones Bridge Road was calculated. Using a balanced method, described below, to determine the proportion of installation versus non-installation-bound traffic for these two corridors, eight locations were evaluated. The Rockville Pike corridor included the following four locations:

1. Southbound between Cedar Lane & North Drive.
2. Southbound between South Wood Road & Jones Bridge Road.
3. Northbound between Jones Bridge Road & South Wood Road.
4. Northbound between North Drive & Cedar Lane.

The Jones Bridge Road corridor included the following four locations:

1. Eastbound between Rockville Pike & Gunnell Road.
2. Eastbound between University Road & Connecticut Avenue.
3. Westbound between Connecticut Avenue & University Road.
4. Westbound between Gunnell Road & Rockville Pike.

Since the peak hour of Rockville Pike and Jones Bridge Road occurred during a different time than the installation peak hour, the full peak periods (5:30 A.M. - 9:00 A.M. and 3:00 P.M. - 6:30 P.M.) were used for determining the percentage of NSA Bethesda traffic relative to total network volume. This time period of nearly 4 hours accounts for both the peak of the installation and provides an approximate percentage for the AM and PM periods. The percentages do not take into account installation traffic outside of the peak period. For example, the total AM peak period volume southbound along Rockville Pike between Cedar Lane and North Drive was 11,099. The total volume

entering NSA Bethesda through Gates #1 and #2 from the north was 2,455 during the same period. By dividing 2,455 by 11,099, the result would be 22.1%.

Based on the procedures discussed previously, during the AM peak period, the highest percentage of NSA Bethesda-bound traffic along these corridors occurred in the Jones Bridge Road westbound direction, between Connecticut Avenue and University Road with 41.6%. During the PM peak period, the highest percentage of NSA Bethesda-departing traffic along these corridors occurred in the Jones Bridge Road westbound direction, between Jones Bridge Road and Gunnell Road with 34.0%. At its maximum, NSA Bethesda accounted for less than 50% of the total traffic on Jones Bridge Road and approximately 25% of the total traffic on Rockville Pike.

Table 4 shows the AM and PM peak period comparison of NSA Bethesda-bound traffic and total volumes along Rockville Pike, and Table 5 shows the AM and PM peak period comparison of NSA Bethesda-bound traffic and total volumes along Jones Bridge Road.

**Table 4: AM and PM Peak Period Comparison of NSA Bethesda-bound Traffic and Total Traffic Volume along Rockville Pike**

Rockville Pike - AM Peak Period (5:30 A.M. - 9:00 A.M.)				
Volume	Rockville Pike between Cedar Lane and North Drive		Rockville Pike between Jones Bridge Road and South Wood Road	
	Northbound	Southbound	Northbound	Southbound
Total - Rockville Pike	3,035	11,099	2,725	4,898
Total - Gates #1 & #2	443	2,455	672	84
<b>Total - NSA Bethesda Contribution (%)</b>	<b>14.6%</b>	<b>22.1%</b>	<b>24.7%</b>	<b>1.7%</b>
Rockville Pike - PM Peak Period (3:00 P.M. - 6:30 P.M.)				
Volume	Rockville Pike between Cedar Lane and North Drive		Rockville Pike between Jones Bridge Road and South Wood Road	
	Northbound	Southbound	Northbound	Southbound
Total - Rockville Pike	8,266	6,073	5,135	5,466
Total - Gates #1 & #2	2,371	444	201	248
<b>Total - NSA Bethesda Contribution (%)</b>	<b>28.7%</b>	<b>7.3%</b>	<b>3.9%</b>	<b>4.5%</b>

**Table 5: AM and PM Peak Period Comparison of NSA Bethesda-bound Traffic and Total Traffic Volumes along Jones Bridge Road**

Jones Bridge Road - AM Peak Period (5:30 A.M. - 9:00 A.M.)				
Volume	Jones Bridge Road between Rockville Pike and Gunnell Road		Jones Bridge Road between Connecticut Avenue and University Road	
	Eastbound	Westbound	Eastbound	Westbound
Total - Jones Bridge Road	1,105	2,703	680	4,443
Total - Gates #3, #4, & #5	257	106	201	1,850
<b>Total - NSA Bethesda Contribution (%)</b>	<b>23.3%</b>	<b>3.9%</b>	<b>29.6%</b>	<b>41.6%</b>
Jones Bridge Road - PM Peak Period (3:00 P.M. - 6:30 P.M.)				
Volume	Jones Bridge Road between Rockville Pike and Gunnell Road		Jones Bridge Road between Connecticut Avenue and University Road	
	Eastbound	Westbound	Eastbound	Westbound
Total - Jones Bridge Road	4,385	1,869	5,513	1,677
Total - Gates #3, #4, & #5	131	635	1,731	274
<b>Total - NSA Bethesda Contribution (%)</b>	<b>3.0%</b>	<b>34.0%</b>	<b>31.4%</b>	<b>16.3%</b>

### 3.1.3 Vehicular Gate Access and Operations

NSA Bethesda has five entrances, each of which also serves as a security checkpoint. Two entrances are located along Rockville Pike (Gates #1 and #2) and the remaining three are located along Jones Bridge Road (Gates #3, #4, and #5).

The locations of these entrances (Gates #1 through #5) are shown in Figure 2, as intersections 7, 9, 11, 12, and 13, respectively. They are discussed below.

#### 3.1.3.1 Security Gate Configurations

The two entrances off Rockville Pike are connected by an internal loop road (Wood Road). The entrance at **North Wood Road (Gate #1, North Road Wood Gate)** is located just south of Cedar Lane, and is aligned with the entrance to the NIH Commercial vehicle inspections facility (CVIF). At this intersection, a half signal controls the northbound, westbound, and southbound left turn movements while allowing southbound through traffic along Rockville Pike to continue without interruption. Inbound and outbound pedestrian traffic is permitted at all times the gate is open, as is bicycle traffic via the inbound and outbound on-street bicycle lanes. This gate is configured with a total of four lanes, two of which are reversible, and operated under the following schedule as of December 2012:

- Monday through Friday, 5:00 AM - 5:30 AM: two lanes inbound, one lane outbound
- Monday through Friday, 5:31 AM - 8:00 AM: three lanes inbound, one lane outbound

- Monday through Friday, 8:01 AM - 2:00 PM: two lanes inbound, one lane outbound
- Monday through Friday, 2:01 PM - 6:00 PM: one lane inbound, three lanes outbound
- Monday through Friday, 6:01 PM - 7:00 PM: two lanes inbound, one lane outbound
- All other times: Closed

The entrance at **South Wood Road (Gate #2, South Wood Road Gate)** is the main entrance to the installation, and it is located across Rockville Pike from the NIH South Drive entrance and the WMATA Medical Center Metro station. This gate is open 24 hours, serving vehicular traffic and is the main access point for pedestrian traffic, most of which is generated by the Medical Center Metro station across Rockville Pike and its adjacent transit bus terminal. Pedestrian access is permitted 24 hours a day via a separate sidewalk checkpoint. Access for cyclists is provided along one inbound and one outbound on-street bicycle lane, which is served by the main vehicular security checkpoint. The South Gate is configured with a total of three lanes, one of which is reversible. Gate #2 operated under the following schedule as of December 2012:

- Monday through Friday, 5:00 AM - 2:00 PM: two lanes inbound, one lane outbound
- Monday through Friday, 2:01 PM - 7:00 PM: one lane inbound, two lanes outbound
- Monday through Friday, 7:01 PM - 4:59 AM: one lane inbound, one lane outbound
- Saturday and Sunday: two lanes inbound, one lane outbound

The three entrances off Jones Bridge Road are Gunnell Road (Gate #3), Grier Road (Gate #4), and University Road (Gate #5). At the time that observations were made, Gate #3 and Gate #4 were controlled by traffic signals with University Road terminating at a stop sign. However, a traffic signal has been constructed at Gate #5 and entered into operation in December 2011, following completion of the field observations conducted in support of this study.

The gate at **Gunnell Road (Gate #3, Gunnell Road Gate)** permits bicycle and pedestrian access during its operating hours, providing convenient access to downtown Bethesda and to the Jones Bridge Road bus lines from the southern portion of the installation. Gate #3 is also convenient to the installation's gas station and the Navy Exchange (NEX). This gate has recently been improved to include two inbound and two outbound lanes, a new guard house, and improved pedestrian access. During the time period that the existing conditions were collected and analyzed, this gate had one inbound and one outbound lane. Gate #3 operated under the following schedule as of December 2012:

- Monday through Friday, 5:00 AM - 7:00 PM: two lanes inbound, two lanes outbound
- All other times: Closed

The next gate to the east on Jones Bridge Road is located along **Grier Road (Gate #4, Grier Road Gate)**. This gate has recently been improved to include a new guard house, new bicycle and pedestrian access, and Grier Road upgrades. During the time period that the existing conditions were collected and analyzed, this gate handled all inbound commercial vehicles and had one inbound travel lane and one outbound travel lane, under the following schedule:

- Monday through Friday, 5:00 AM - 2:00 PM: Inbound commercial vehicle traffic only
- Monday through Friday, 2:01 PM - 3:00 PM: one lane inbound (including all commercial vehicle traffic), one lane outbound
- Monday through Friday, 3:01 PM - 6:00 PM: one lane outbound
- All other times: Closed

As of December 2012, Gate #4 operated under the following schedule:

- Monday through Friday, 3:00 PM - 6:00 PM: one lane outbound
- All other times: Closed

The easternmost gate of NSA Bethesda is located at the intersection of Jones Bridge and **University Road (Gate #5, University Road Gate)**. Gate #5 features on-street bike lanes in both the inbound and outbound directions, and these lanes integrate into the vehicular travel lanes within NSA Bethesda. The new gatehouse at Gate #5 contains one inbound and one outbound lane for privately owned vehicle (POV) use in parallel with a CVIF with two inbound lanes. Gate #5 serves as the main gate for deliveries and truck traffic during its hours of operation. At all other times, consistent with operating procedures in place today, delivery vehicles would be inspected at Gate #2, the 24-hour gate. Gate #5 operated under the following schedule as of December 2012:

- Monday through Friday, 5:00 AM - 8:00 AM: two lanes inbound for POV, two lanes for CVIF, no outbound lanes
- Monday through Friday, 8:01 AM - 6:00 PM: one lane inbound for POV, two lanes for CVIF, one lane outbound
- All other times: Closed

### **3.1.3.2 Gate Traffic Volumes**

In addition to calculating the overall intersection and external intersection peak hours throughout the study network, the peak period manual turning movement counts obtained in October 2011, were summed

at each of the five access gates with the overall gate percentage (inbound and outbound movements combined) to arrive at an overall trip generation estimate for NSA Bethesda. This value can later be compared to the typical number of staff and visitors present on-site to determine the peak hour mode split between automotive and non-automotive travel modes. The external intersection peak is defined as the hour-long period with the highest vehicular traffic across all 17 external study intersections. In contrast, the gate peak hour is the hour of maximum volume at all five access gates, which should correlate strongly with the peak hour of installation-generated trips and is typically referred to as the peak hour of the generator. It should be noted that the peak hour of NSA Bethesda was over an hour earlier than the peak hour of the adjacent street traffic during both peak periods (Table 6).

**Table 6: NSA Bethesda Gate and External Intersection Peak Hour Traffic Volumes**

Gate	Movement	Gate Peak Hour				External Intersection Peak Hour			
		AM		PM		AM		PM	
		6:00 - 7:00 AM	40%	3:45 - 4:45 PM	38%	7:45 - 8:45 AM	40%	4:45 - 5:45 PM	33%
<b>1. North Wood Road (Gate #1)</b>	Inbound	864		99		416		71	
	Outbound	75	40%	738	38%	113	40%	451	33%
<b>2. South Wood Road (Gate #2)</b>	Inbound	482		127		190		102	
	Outbound	63	23%	214	16%	87	21%	198	19%
<b>3. Gunnell Road (Gate #3)</b>	Inbound	413		126		240		96	
	Outbound	74	21%	394	24%	116	27%	313	26%
<b>4. Grier Road (Gate #4)</b>	Inbound	57		---		33		---	
	Outbound	---	2%	478	22%	---	2%	335	21%
<b>5. University Road (Gate #5)</b>	Inbound	309		8		135		7	
	Outbound	2	13%	10	1%	2	10%	7	1%
<b>Overall Traffic Volume</b>	Inbound	2,125		360		1,014		276	
	Outbound	214		1,834		318		1,304	
	<b>Total</b>	<b>2,339</b>	<b>100%</b>	<b>2,194</b>	<b>100%</b>	<b>1,332</b>	<b>100%</b>	<b>1,580</b>	<b>100%</b>

The total trips generated by NSA Bethesda during the vehicular count periods of 5:30 AM - 9:00 AM and 3:00 PM - 6:30 PM with gate percentages (inbound and outbound combined) are shown in Table 7. While these values are not critical for the transportation analysis prepared for the NSA Bethesda EIS, they do represent a large portion of the total number of trips realized on-site during an average work day. For comparison purposes, the total gate peak hour trips shown above represent between 35 and 40 percent of the total traffic for the installation during the peak periods shown on Table 7.

**Table 7: NSA Bethesda Peak Period Traffic Volumes**

Gate	Movement	Peak Period Traffic Volumes					
		AM		PM		Total	
1. North Wood Road (Gate #1)	Inbound	2,104		303		2,407	
	Outbound	295	39%	1,906	36%	2,201	38%
2. South Wood Road (Gate #2)	Inbound	1,058		414		1,472	
	Outbound	284	22%	755	19%	1,039	20%
3. Gunnell Road (Gate #3)	Inbound	1,125		374		1,499	
	Outbound	310	23%	1,172	25%	1,482	24%
4. Grier Road (Gate #4)	Inbound	156		---		156	
	Outbound	---	3%	1,155	19%	1,155	11%
5. University Road (Gate #5)	Inbound	807		31		838	
	Outbound	4	13%	40	1%	44	7%
Overall Traffic Volume	Inbound	5,250		1,122		6,372	
	Outbound	893		5,028		5,921	
	<b>Total</b>	<b>6,143</b>	<b>100%</b>	<b>6,150</b>	<b>100%</b>	<b>12,294</b>	<b>100%</b>

### 3.1.3.3 Gate Vehicle Occupancy and Classification

Following the external intersection turning movement counts described in Section 3.1.1.4, vehicle occupancy and classification counts were conducted at each NSA Bethesda gate on Tuesday, October 25, 2011. These counts provide an understanding of the means by which staff and visitors travel to NSA Bethesda. These characteristics can be used to further clarify the mode split.

#### *Vehicle Occupancy*

Vehicle occupancy data were collected at each of the gates serving NSA Bethesda to determine the number of individuals in both inbound and outbound private vehicles. This count excluded all commercial vehicles as well as transit and shuttle buses and did not count the total number of individuals in each vehicle where there were 3 or more passengers. The results of that count, as shown below in Table 8, indicate the following:

- During the AM peak hour of the entire external traffic network, 864 of the 1,047 (83 percent) total vehicles entering the installation arrived as a single occupant vehicle (SOV). This is comparable to the PM peak hour when 1,211 of the 1,436 (84 percent) total vehicles exiting the installation departed as SOVs.
- The peak hour movements associated with the outbound movement during the AM and the inbound movement during the PM also experience similar percentages; however, there were significantly fewer vehicles making these movements.
- The number of vehicles shown to enter and exit the installation during both peak periods having three or more passengers is less than 1 percent of the total installation traffic while

approximately 14 percent of the vehicles entering and exiting the installation had two individuals.

Based on the information shown in Table 8, gate traffic accessing NSA Bethesda has an average occupancy of 1.150 occupants per vehicle during the AM external intersection peak hour and 1.165 occupants per vehicle during the PM external intersection peak hour. Note that this value does not account for shuttle bus traffic and that all vehicles carrying more than three occupants are treated as having only three occupants because of the difficulty of counting passengers in large carpool vehicles.

The 2011 occupancy measurements show a slight improvement toward the objectives of the 2008 Transportation Management Plan (TMP) of the then-NNMC, which include the goal to "Increase Average Vehicle Occupancy (AVO) ratios from 1.12 to 3.0 by 2011." The measured occupancy values observed at the gate entrances from October 2011 show a slight improvement from 1.12 occupants per vehicle to 1.150-1.165 occupants per vehicle. However, it should be noted that the 2008 TMP values are based on AVO ratios, which are defined as the number of employees on the installation per vehicles parked at the installation. Therefore, a direct comparison cannot be made between the 2008 TMP-stated AVO and 2011 conditions without obtaining staffing throughout the day and parking lot occupancy.

**Table 8: NSA Bethesda Vehicle Occupancy Summary**

Travel Direction		Gate 1	Gate 2	Gate 3	Gate 4	Gate 5	All Gates		
							Vehicle trips	Person trips	2011 occupancy
Inbound 1	AM	369	141	216	13	125	864	864	
	PM	66	63	86	0	3	218	218	
Inbound 2	AM	101	34	27	0	15	177	354	
	PM	11	16	3	0	1	31	62	
Inbound 3+	AM	2	1	1	0	2	6	18	
	PM	2	0	0	0	0	2	6	
Inbound Total	AM	472	176	244	13	142	1,047	1,236	1.181
	PM	79	79	89	0	4	251	286	1.139
Outbound 1	AM	151	66	91	0	9	317	317	
	PM	493	131	300	282	5	1,211	1,211	
Outbound 2	AM	2	8	7	0	1	18	36	
	PM	90	34	40	41	2	207	414	
Outbound 3+	AM	0	0	0	0	0	0	0	
	PM	8	7	2	1	0	18	54	
Outbound Total	AM	153	74	98	0	10	335	353	1.054
	PM	591	172	342	324	7	1,436	1,679	1.169
All Traffic	AM	625	250	342	13	152	1,382	1,589	1.150
	PM	670	251	431	324	11	1,687	1,965	1.165

*Vehicle Classification*

The vehicle classification count conducted at the installation gates collected the total number of vehicles that were not classified as a private vehicle. Those included the following vehicle types: small trucks (delivery vans and small box trucks), large trucks (large box trucks and tractor trailers), transit vehicles (buses and shuttle buses), and bicycles. The results indicate that the heaviest concentrations of non-private vehicle trips were found at Gates #2 and #3, which is most likely due to their proximity to the Medical Center Metro station and to downtown Bethesda, respectively. The overall results for the entire installation are shown in Table 9.

Based on the totals below and the total number of private vehicle trips (see Table 8), it is estimated that approximately 12 percent of the AM peak hour traffic and 6 percent of the PM peak hour traffic consists of non-private vehicles.

**Table 9: NSA Bethesda Vehicle Classification Summary**

	All NSA Bethesda Gates							
	Small Trucks		Large Trucks		Transit Vehicles		Bikes	
	In	Out	In	Out	In	Out	In	Out
<b>Morning</b>								
5:30 AM	10	2	2	0	1	0	3	0
5:45 AM	6	5	1	0	1	2	5	0
6:00 AM	7	8	6	0	2	2	6	2
6:15 AM	11	2	2	1	6	8	5	0
6:30 AM	3	2	3	1	9	8	5	2
6:45 AM	2	0	4	1	8	6	7	2
7:00 AM	7	0	6	0	10	5	8	1
7:15 AM	10	1	1	1	10	9	14	0
7:30 AM	6	2	3	4	5	3	8	0
<b>7:45 AM</b>	<b>8</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>9</b>	<b>9</b>	<b>13</b>	<b>0</b>
<b>8:00 AM</b>	<b>8</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>7</b>	<b>8</b>	<b>8</b>	<b>0</b>
<b>8:15 AM</b>	<b>9</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>0</b>
<b>8:30 AM</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>0</b>
8:45 AM	3	2	0	1	6	6	1	7
<b>Evening</b>								
3:00 PM	3	12	1	8	11	4	0	7
3:15 PM	3	7	0	7	5	8	0	3
3:30 PM	3	14	1	12	4	4	1	9
3:45 PM	1	4	0	3	7	6	0	0
4:00 PM	2	3	0	3	13	2	2	10
4:15 PM	2	2	0	1	5	6	0	7
4:30 PM	1	0	0	3	8	6	1	7
<b>4:45 PM</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>5</b>	<b>0</b>	<b>8</b>
<b>5:00 PM</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>1</b>	<b>11</b>
<b>5:15 PM</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>5</b>
<b>5:30 PM</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>0</b>	<b>6</b>
5:45 PM	1	1	0	1	5	3	0	8
6:00 PM	3	1	0	3	3	8	1	4
6:15 PM	1	2	0	1	3	4	1	2

Note: The BOLD text references the external intersection AM and PM peak hour.

### **3.1.3.4 Observed Gate Operations**

Due to the secure nature of NSA Bethesda, the five security gates are the only means of ingress and egress for staff and visitors to the WRNMMC and other tenants of NSA Bethesda. The installation is staffed 24 hours a day, but experiences the majority of staff and visitor traffic during normal business hours. The peak hour for inbound traffic is during NSA Bethesda's AM peak hour (6:00 AM - 7:00 AM). All personnel entering the installation must undergo security screening, and minor queues were observed at Gates #1 and #2 for inbound traffic as a result of the screening process. However, the gate queues were generally observed to not interfere with the operation of Rockville Pike and Jones Bridge Road. In addition, recent upgrades to Gates #1

and #2 have further helped to minimize security screening related queuing on the roadways that serve the two gates (North and South Wood Roads).

Separate from the minor queues at Gates #1 and #2, queues (five to ten vehicles) were observed along the Southbound Rockville Pike left turn approach at intersection #7, Rockville Pike and North Wood Road, extending back beyond the storage lane. However, because the external intersection AM peak hour (7:45 AM - 8:45 AM) differs from the NSA Bethesda AM peak hour (6:00 AM - 7:00 AM), only queuing-related minor delays were observed along the Rockville Pike southbound through lanes during the NSA Bethesda AM peak hour (6:00 AM - 7:00 AM). At the time of data collection in October 2011, no queues were observed along Jones Bridge Road.

As is the case during the AM peak, the PM peak hour for NSA Bethesda outbound traffic differs from the external intersection PM peak hour. Outbound NSA Bethesda traffic can only exit the installation during the green time allocated to an individual signal phase at Gates #1 and #2, because a no-turn on red sign is posted at both intersection approaches. The minor nature of these approaches relative to the high volumes seen along Rockville Pike also means that these approaches allocate less green time than the main roadway through traffic movements. Therefore, even though the outbound traffic is not subject to delays from security procedures, the traffic signal controls that exist external to the installation adjacent to Gates #1 and #2 along Rockville Pike cause outbound traffic exiting the installation to experience delays.

In addition to the delays caused by signals, outbound vehicles exiting NSA Bethesda were funneled from a large number of parking facilities to a relatively small number of security gates. The resulting bottleneck effect manifested itself in outbound delays exiting at Gates #1, #2, and #4. NSA Bethesda-departing right-turning traffic at Gates #1 and #2 was observed to be impeded by heavy external to the installation traffic along Rockville Pike in the northbound direction, with NSA Bethesda-departing left-turning traffic at Gate #2 experiencing delays as a result of heavy external to the installation traffic from adjacent intersections, competing right turns from vehicles and buses exiting the NIH campus, and high pedestrian volumes at the crosswalk along the southern side of this intersection. The resulting NSA Bethesda-departing queues at Gate #2 were estimated to reach up to 600 feet or approximately 24 vehicles. Similarly, NSA Bethesda-departing queues at Gate #4 were observed to spill back onto South Palmer Road, totaling approximately 1,100 feet.

While there was a queue observed for NSA Bethesda-departing outbound traffic at Gate #4 during the PM peak hour, there was a relative lack of delay at Gates #3 and #5. NSA Bethesda-departing queues at Gate #3 were observed to be no more than 600 feet in length (24 vehicles), with no significant NSA Bethesda-departing queues at all observed at Gate #5. However, at the time that field observations were conducted,

the new traffic signal at Gate #5 had not yet been activated, so it is possible that with this new signal, drivers will divert to University Road as a way to balance the outbound traffic distribution.

The two Gates off Rockville Pike are connected by an internal loop road (Wood Road). Access to the central portion of Wood Road between North Palmer Road and South Palmer Road in front of Building 1 is restricted because of anti-terrorism and force protection measures.

#### **3.1.3.5 Internal Roadway Conditions**

In addition to the external roadway network and conditions at the security gates, conditions along NSA Bethesda's internal roadway network were also analyzed as a part of this report. NSA Bethesda serves numerous tenants and must therefore have a functional and comprehensive internal circulation network. This network, along with the 12 internal study intersections covered in this section of the report, is shown in Figure 5. All 12 internal study intersections are STOP-controlled.

#### **3.1.3.6 Internal Existing Lane Utilization**

The external roadway and internal NSA Bethesda lane geometry and traffic control were collected. Again, several visits were made to NSA Bethesda to ensure that accurate information was collected and available for this report. Based on those field visits, the lane geometry and traffic control indicated in Figure 6 was assumed for purposes of this study.

#### **3.1.3.7 Internal Existing Peak Hour Traffic Volumes**

In addition to the external intersections studied as part of the NSA Bethesda EIS, several intersections within the confines of the installation were selected to be studied as part of the future alternatives considered on the installation and are shown on Figure 5. There are a total of 12 internal study intersections and the manual turning movement counts for each of these were counted on Tuesday, October 25, 2011, consistent with the method used for the external intersections as described in Section 3.1.1.4. In addition, 19 ATR counts were obtained covering the period between October 25 and November 1, 2011, to provide 24-hour counts throughout the installation.

While the peak hours of the external intersections generally occurred from 7:45 AM - 8:45 AM and 4:45 PM - 5:45 PM, the peak hours internal to NSA Bethesda is significantly earlier at 6:00 AM - 7:00 AM and 3:45 PM - 4:45 PM. Since this period represents the worst-case scenario for traffic congestion within the installation, it was used for purposes of evaluating the internal intersections. The peak hour traffic volumes assumed for the internal intersections are shown on Figure 7.

Figure 5: Internal Study Intersections

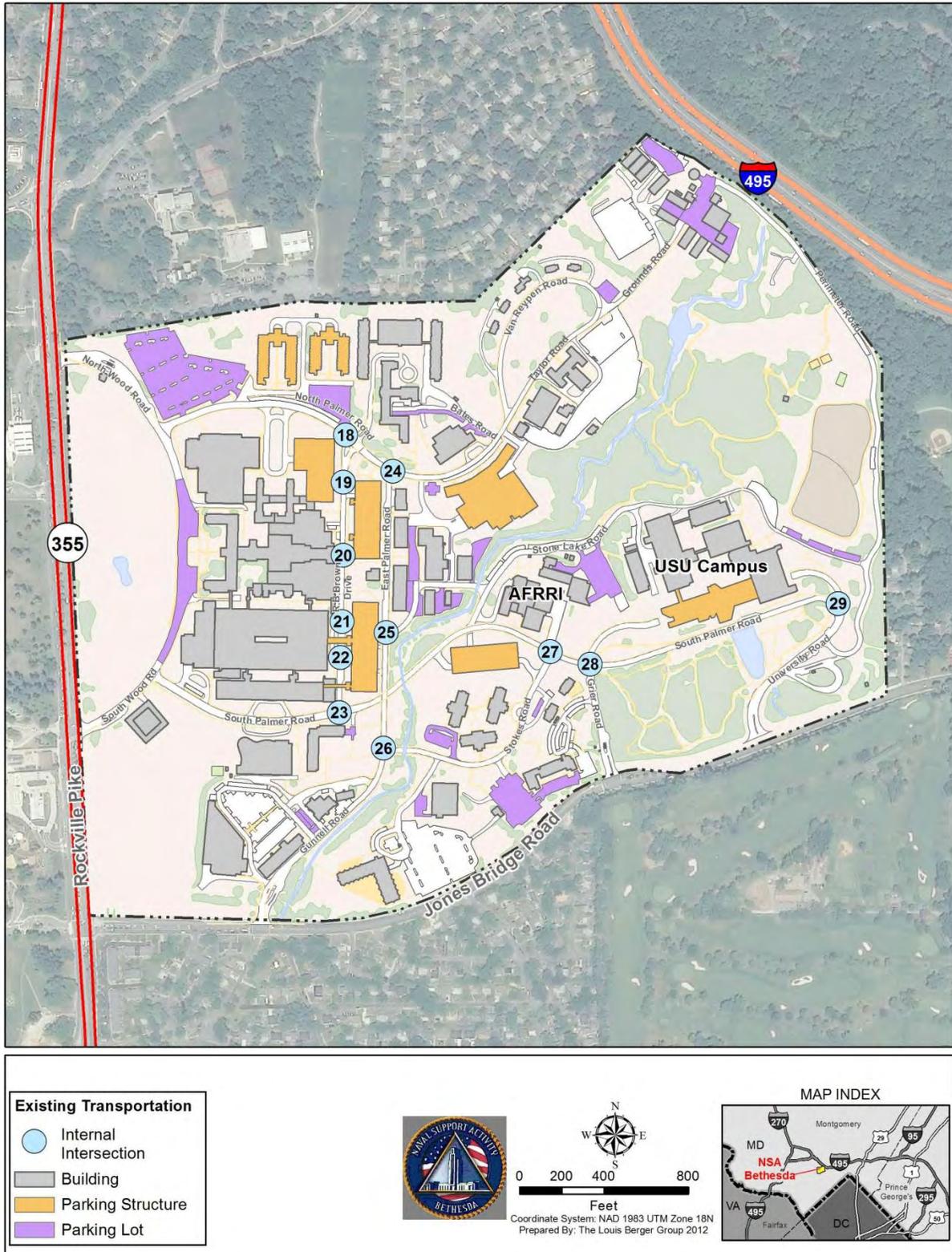


Figure 6: Internal Lane Geometry and Traffic Control

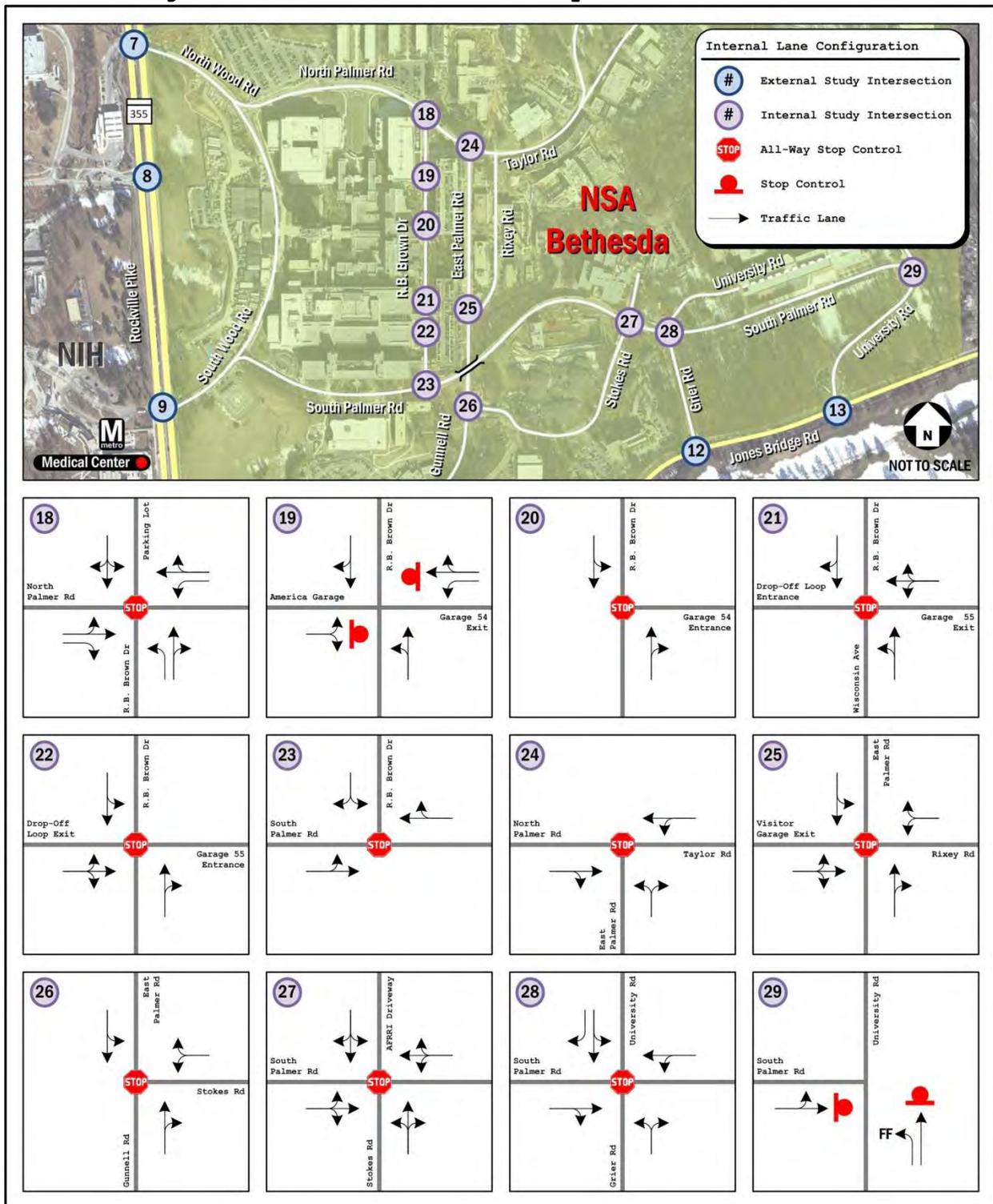
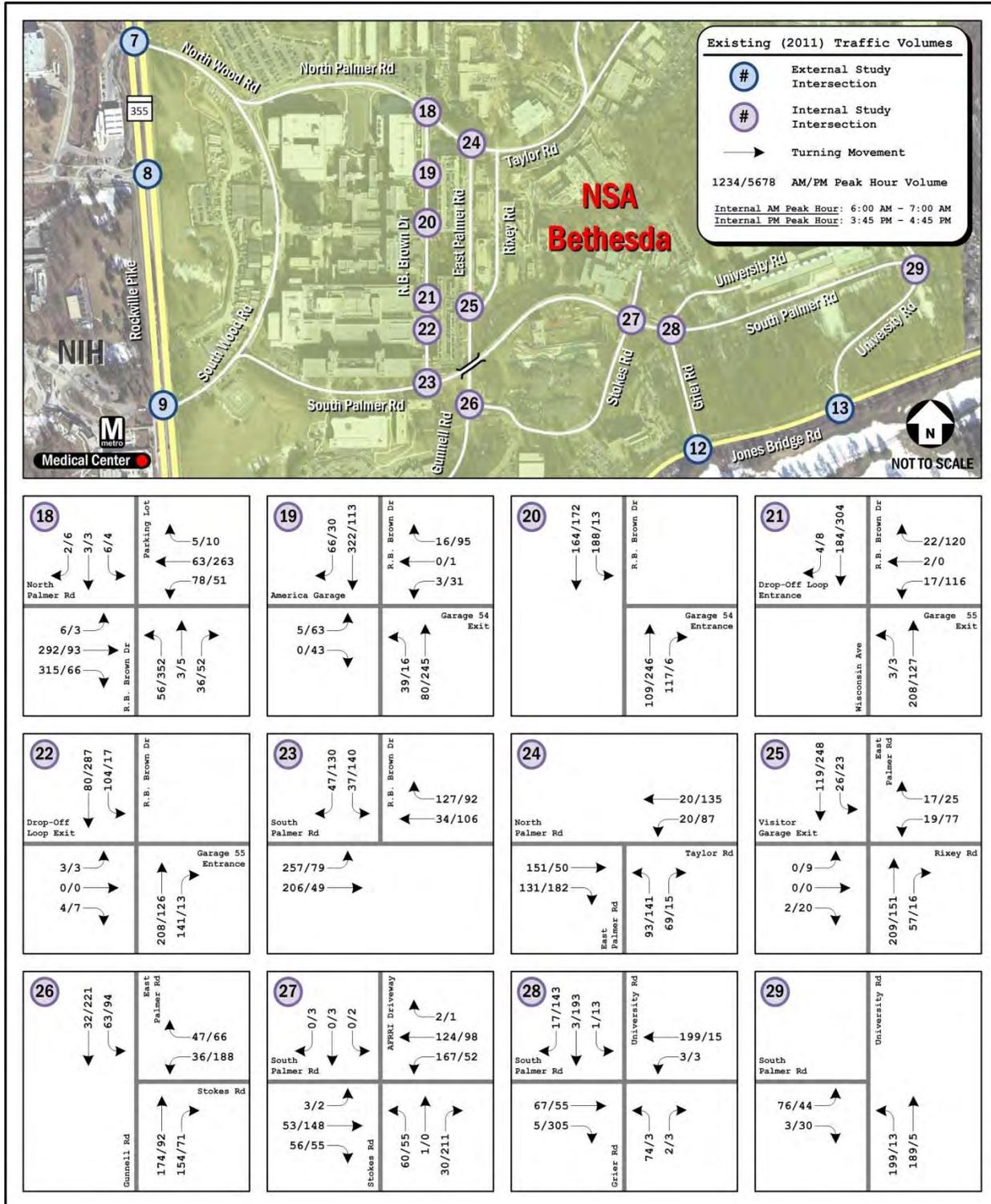


Figure 7: Internal Traffic Volumes - Existing (2011) Conditions



### **3.1.3.8 Truck Access and Circulation Patterns**

Truck access to NSA Bethesda was permitted along Grier Road (Gate #4) at the time the existing conditions were obtained, with inbound traffic at this gate restricted to commercial vehicles only between 5:00 AM and 3:00 PM, Monday through Friday, the only times that inbound traffic was permitted at this location. The truck inspection facilities are now located at the Gate #5 inspection complex, which has an overhanging shelter for inspection staff and improved security controls. Apart from this development, the location of loading facilities and the egress route for truck traffic from the installation remains the same. These loading facilities and the ingress and egress routing for trucks and other heavy vehicles are shown in Figure 8.

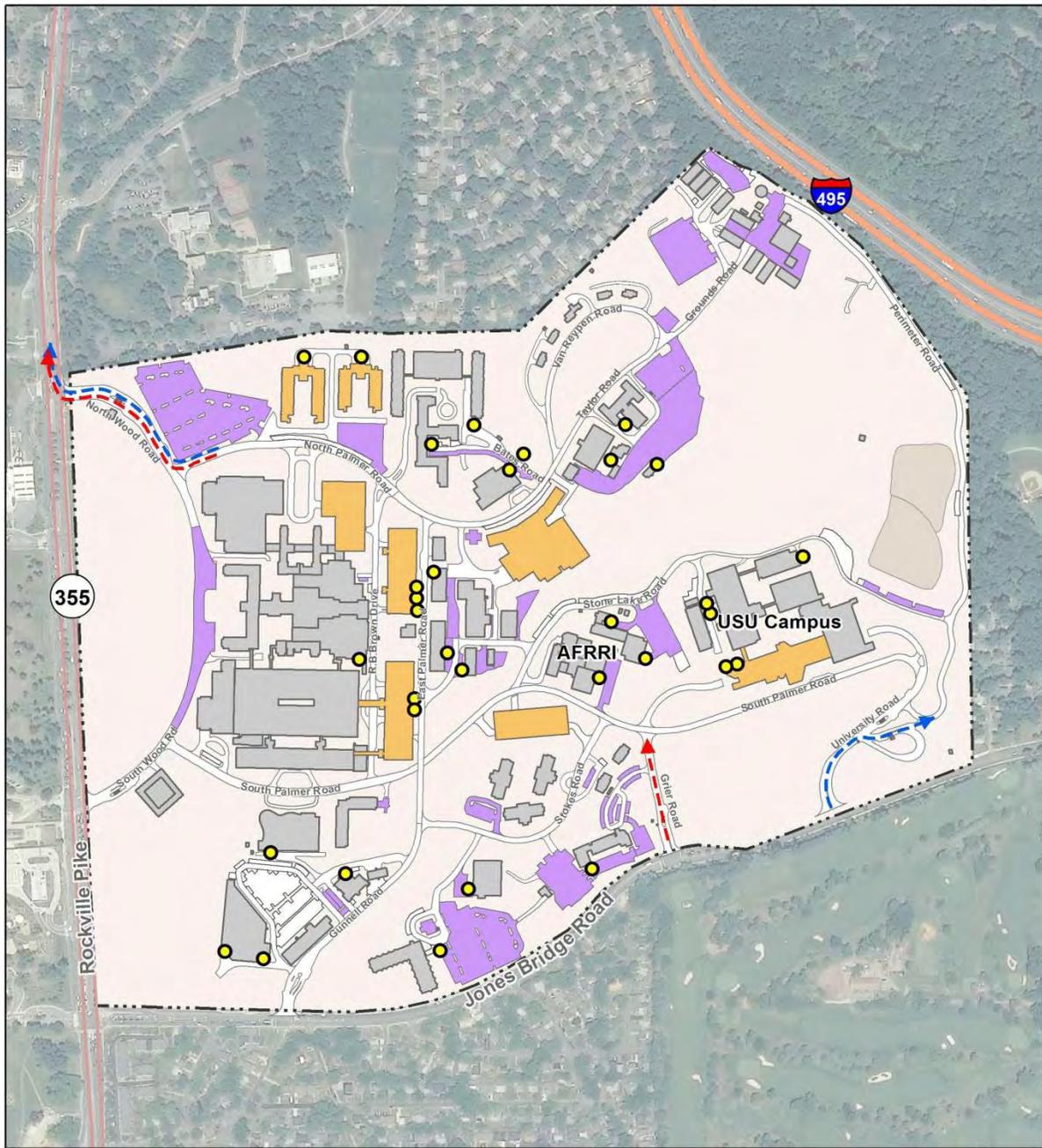
### **3.1.3.9 NSA Bethesda Internal Capacity Analysis**

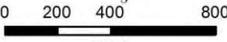
To evaluate the internal NSA Bethesda network, the study area intersections depicted in Figure 5 were analyzed utilizing the HCM method discussed in Section 3.1.1.5. These procedures, computed using Synchro Traffic Analysis software, were used because all the internal study intersections are controlled by stop signs.

Utilizing the HCM method in conjunction with the lane utilization shown on Figure 6 and the peak hour traffic volumes shown on Figure 7, it was determined that each of the internal study intersections, with one exception, currently operate at acceptable levels of service during both peak hours as shown in Table 10. The only exception is the intersection of R.B. Brown Drive with the American Garage and the staff parking garage. The exiting movements from each of the garages at this intersection currently operate beyond acceptable levels primarily due to the heavy pedestrian volume at this location. More than 900 pedestrians utilize sidewalks along R.B. Brown Drive at this intersection during the PM peak hour, which the HCM calculates to cause significant delays in traffic. Without these pedestrians, the HCM analysis would show acceptable levels.

It should be noted that field observations do not show significant levels of delay at this location. These high delay values do not match the actual delays that were observed in the field. Instead, it is likely that the computed delay values result from the fact that HCM calculation procedures give total priority to pedestrians at STOP-controlled approaches. In this case, the extremely high volume of pedestrians leaves virtually no gaps for exiting vehicles. Field observations show that the actual conditions of these approaches are more balanced, with pedestrians occasionally yielding to vehicles entering and exiting the parking facilities when they notice a queue beginning to form. This common courtesy prevents the high values of delay that were calculated using the HCM procedures from actually occurring.

**Figure 8: Truck Access and Service/Loading Facilities**



<p><b>Existing Transportation</b></p> <ul style="list-style-type: none"> <li><span style="color: yellow;">●</span> Service Vehicle Access/Loading Location</li> <li><span style="color: red;">- - - - -</span> Existing Primary Truck Routing</li> <li><span style="color: blue;">- - - - -</span> Future Truck Routing</li> <li><span style="background-color: gray; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building</li> <li><span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure</li> <li><span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot</li> </ul>		   <small>Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012</small>	<p><b>MAP INDEX</b></p> 
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**Table 10: NSA Bethesda Internal Level of Service Results**

	Approach	AM Peak Hour		PM Peak Hour	
		Approach		Approach	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS
<b>18. Parking Lot/R.B. Brown Drive &amp; North Palmer Road</b>	<b>Overall</b>	<b>10.1</b>	<b>B</b>	<b>15.5</b>	<b>C</b>
	Eastbound	9.6	A	19.2	C
	Westbound	9.0	A	9.3	A
	Northbound	10.6	B	9.3	A
	Southbound	8.6	A	14.3	B
<b>19. R.B. Brown Drive &amp; America Garage/Garage 54 Exit</b>	Eastbound	17.6	C	<sup>a</sup>	F
	Westbound	12.8	B	<sup>a</sup>	F
	Northbound Left	3.1	A	0.6	A
<b>20. R.B. Brown Drive &amp; Garage 54 Entrance</b>	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>8.8</b>	<b>A</b>
	Northbound	9.2	A	9.0	A
	Southbound	11.5	B	8.5	A
<b>21. R.B. Brown Drive &amp; Drop-Off Loop Entrance/Garage 55 Exit</b>	<b>Overall</b>	<b>9.1</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
	Westbound	8.1	A	10.9	B
	Northbound	9.4	A	9.5	A
	Southbound	8.8	A	12.3	B
<b>22. R.B. Brown Drive &amp; Drop-Off Loop Exit/Garage 55 Entrance</b>	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
	Eastbound	8.1	A	7.8	A
	Northbound	10.1	B	8.3	A
	Southbound	9.0	A	10.0	A
<b>23. R.B. Brown Drive &amp; South Palmer Road</b>	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>10.6</b>	<b>B</b>
	Eastbound	10.3	B	8.9	A
	Westbound	8.6	A	10.7	B
	Southbound	9.1	A	11.4	B
<b>24. East Palmer Road &amp; North Palmer Road/Taylor Road</b>	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>10.1</b>	<b>B</b>
	Eastbound	9.6	A	9.5	A
	Westbound	8.4	A	10.5	B
	Northbound	9.3	A	10.3	B
<b>25. East Palmer Road &amp; Visitor Garage Exit/Rixey Road</b>	<b>Overall</b>	<b>10.0</b>	<b>A</b>	<b>9.9</b>	<b>A</b>
	Eastbound	7.7	A	8.3	A
	Westbound	8.4	A	9.7	A
	Northbound	10.6	B	9.4	A
	Southbound	8.8	A	10.6	B
<b>26. East Palmer Road/Gunnell Road &amp; Stokes Road</b>	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>13.7</b>	<b>B</b>
	Westbound	8.3	A	14.5	B
	Northbound	9.2	A	10.5	B
	Southbound	8.7	A	14.7	B
<b>27. AFRRRI Dwy/Stokes Road &amp; South Palmer Road</b>	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Eastbound	8.2	A	10.1	B
	Westbound	10.4	B	10.9	B
	Northbound	8.8	A	10.7	B
	Southbound	0.0	A	8.6	A
<b>28. University Road/Grier Road &amp; South Palmer Road</b>	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>12.5</b>	<b>B</b>
	Eastbound	8.4	A	13.7	B
	Westbound	9.0	A	9.2	A
	Northbound	9.0	A	8.9	A
	Southbound	6.9	A	11.9	B
<b>29. University Road &amp; South Palmer Road</b>	Westbound	3.9	A	5.2	A
	Northbound	15.1	C	9.4	A

<sup>a</sup>HCM unsignalized intersection capacity analysis techniques result in abnormally high levels of delay at intersections with large pedestrian volumes. These conditions were not observed in the field.

### **3.1.3.10 Internal Observation Findings**

Inbound traffic arrives on installation at a relatively constant rate, and the variety of destinations on installation means that this traffic begins to disperse throughout NSA Bethesda's roadway network almost immediately after entering the installation. Because inbound traffic is dispersed throughout the installation, vehicular conditions on the internal roadway network are generally acceptable, with the only interruptions coming at STOP-controlled intersections and pedestrian crosswalks.

The only significant congestion observed on the installation was the queues of outbound traffic observed passing through the security gates during the PM peak hour and the slow-moving traffic that occasionally preceded these queues. However, as was described in Section 3.1.2.4, these queues result from the necessities of signal timing at the external intersections adjacent to the security gates and not from any particular deficiency in NSA Bethesda's internal roadway network or the gates themselves.

### **3.1.4 Pedestrian and Bicycle Facilities**

In recent years, interest in alternative travel modes in the Washington, DC, metropolitan area has grown. Factors like traffic congestion, increased health and exercise concerns, and environmental stewardship have caused a marked shift in mode share toward pedestrian and bicycle travel. An inventory of facilities at and around NSA Bethesda for use by pedestrians and cyclists was conducted in order to determine their adequacy in terms of installation access and internal maneuverability. This section also serves as the existing condition for the LATR required Pedestrian and Bicycle Impact Statement.

#### **3.1.4.1 Installation Access for Pedestrians and Cyclists**

The primary generator of pedestrian and bicycle traffic in the vicinity of NSA Bethesda is the Medical Center Metro station, located on the west side of Rockville Pike across from Gate #2. Transit facilities available at this and other regional transportation hubs will be described in further detail in Section 3.1.5. Pedestrians and cyclists traveling to NSA Bethesda from this location can use the existing crosswalks to traverse Rockville Pike before gaining access through the 24-hour Gate #2 and entering the internal roadway network. Furthermore, planned improvements at this intersection include the addition of a pedestrian tunnel beneath Rockville Pike in order to reduce conflicts between vehicles and pedestrians traveling between Medical Center Metro station and NSA Bethesda. Additional information about pedestrian and bicycle facilities along the internal roadway network are discussed in Section 3.1.3.2.

#### *External Shared-Use Trails*

Field observations performed at and around NSA Bethesda indicate that there is a population of installation staff that commutes as a

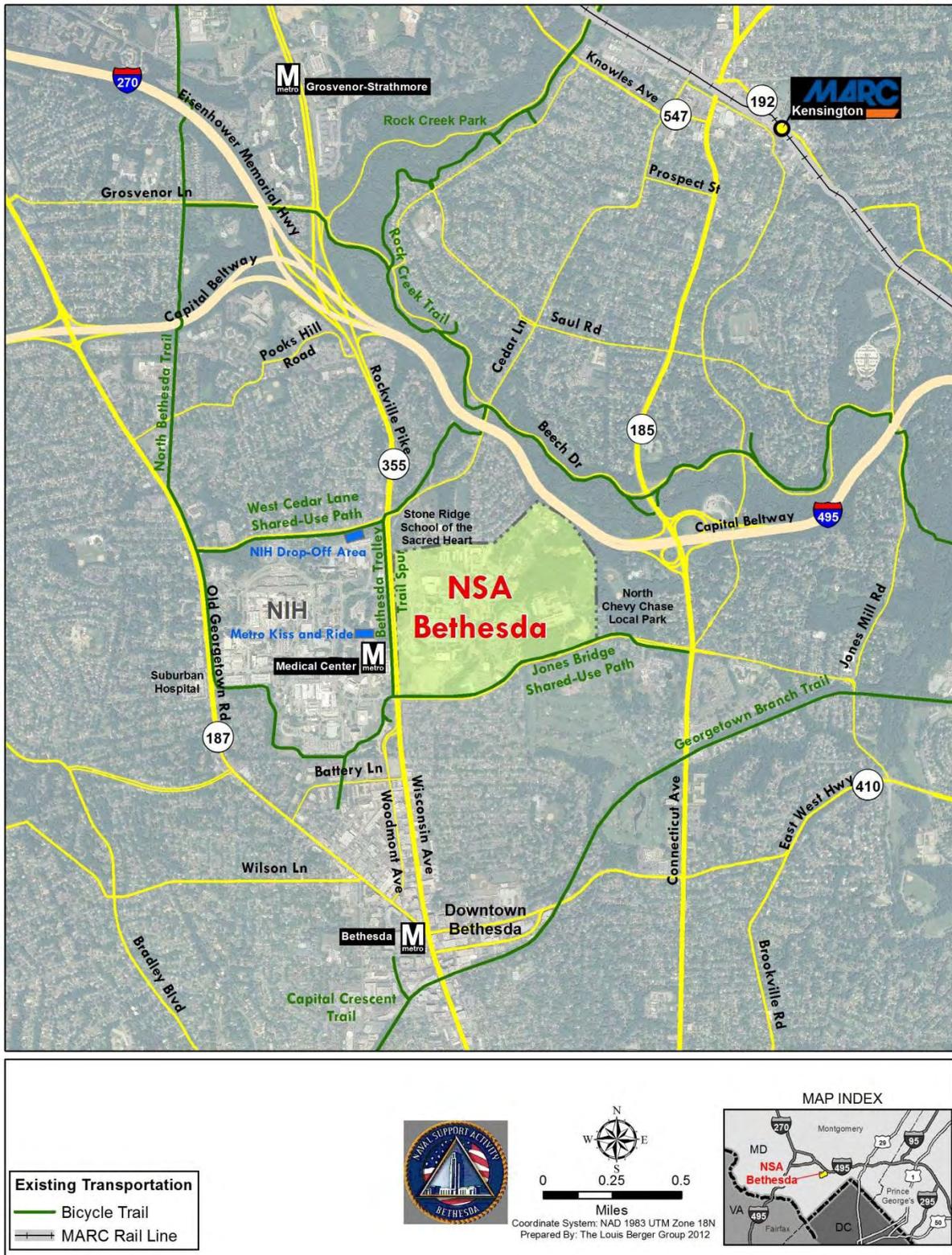
pedestrian or cyclist from the surrounding neighborhoods. These users can take advantage of a number of shared-use paths in the vicinity of the installation, including the Bethesda Trolley Trail spur that runs parallel to Rockville Pike along the western edge of NSA Bethesda. This trail, along with other regional shared-use paths and non-auto facilities, is shown in Figure 9.

The Bethesda Trolley Trail spur provides connectivity with Rock Creek and the Rock Creek Park trail network to the north as well as with the North Bethesda Trail and downtown Bethesda to the south. To the north, trail users have access to a direct and efficient path between the installation and Kensington and other residential neighborhoods, while southbound travelers from NSA Bethesda can connect to the existing pedestrian network in downtown Bethesda, only a mile away. For a cyclist this trip would take only 5 to 10 minutes from Gate #2, making this connection ideal for local commuters and installation staff.

#### *Pedestrian Drop-Off and Pick-Up Areas*

In addition to gaining access to NSA Bethesda by foot from the local street network or via the Medical Center Metro station, pedestrians also have the option to use two vehicular drop-off and pick-up areas in the vicinity of the installation. As shown in Figure 9, there exists a Kiss-and-Ride facility adjacent to the Medical Center Metro station and Gate #2, while to the north of the installation along Cedar Lane there is a drop-off loop adjacent to one of the NIH campus' pedestrian access gates. Both of these facilities provide access to pedestrians who may be members of a carpool or other ride-sharing form of transportation. For bicyclists, there are seven bicycle routes near NSA Bethesda, including the Bethesda Trolley Trail Spur and Jones Bridge Shared-use Path adjacent to the installation and Georgetown Branch Trail, West Cedar Lane Shared-use Path, Rock Creek Trail, Capital Crescent Trail, and North Bethesda Trail serving the North Bethesda region.

Figure 9: Connectivity to Local Pedestrian and Bike Facilities



### *Gate Access*

It is important to note that not all security gates at NSA Bethesda permit access by non-vehicular users. Access to the installation by pedestrians is only permitted at certain gates, as shown in the schedule below.

- Gate #1 (North Wood Road Gate): 5:00 AM - 7:00 PM
- Gate #2 (South Wood Road Gate): 24 hours
- Gate #3 (Gunnell Road Gate): 5:00 AM - 7:00 PM
- Gate #4 (Grier Road Gate): 3:00 PM - 6:00 PM
- Gate #5 (University Road Gate): 5:00 AM - 6:00 PM

Because of its proximity to the Medical Center Metro station, Gate #2 sees the majority of pedestrian traffic. Gate #2 is also the primary access point for cyclists because of its proximity to the Bethesda Trolley Trail spur along Rockville Pike. However, traffic coming to the installation from the north may use the non-auto facilities at Gate #1, and traffic coming from the east may access the installation from Gate #5, especially if their destination is the USU, which is very near to this location. Additionally, recent construction programs undertaken by the Montgomery County Department of Transportation include the addition of shared-use paths along Jones Bridge Road and Cedar Lane. These improvements further serve to connect NSA Bethesda to the surrounding neighborhoods and commercial centers.

#### **3.1.4.2 Pedestrian Infrastructure and Use**

Aside from bicycling, and the installation's shuttle system, discussed in Section 3.1.5.4, the main method of internal circulation is on foot.

### *Existing Pedestrian Infrastructure*

With the exception of some sidewalk closures in the vicinity of construction zones, the existing sidewalk network at NSA Bethesda is adequate, with curb ramps and other pedestrian amenities present at the vast majority of curb cuts and crosswalks. The current state of pedestrian facilities at NSA Bethesda is shown in Figure 10, and the current locations of curb ramps and sidewalks are shown in Figure 11. The 2011 NSA Bethesda Accessibility Plan provides recommendations toward improved pedestrian access throughout the installation, including improvements along R.B. Brown Drive, North Palmer Road, and the grade separation between East and South Palmer Roads.

### *Existing Pedestrian Volumes*

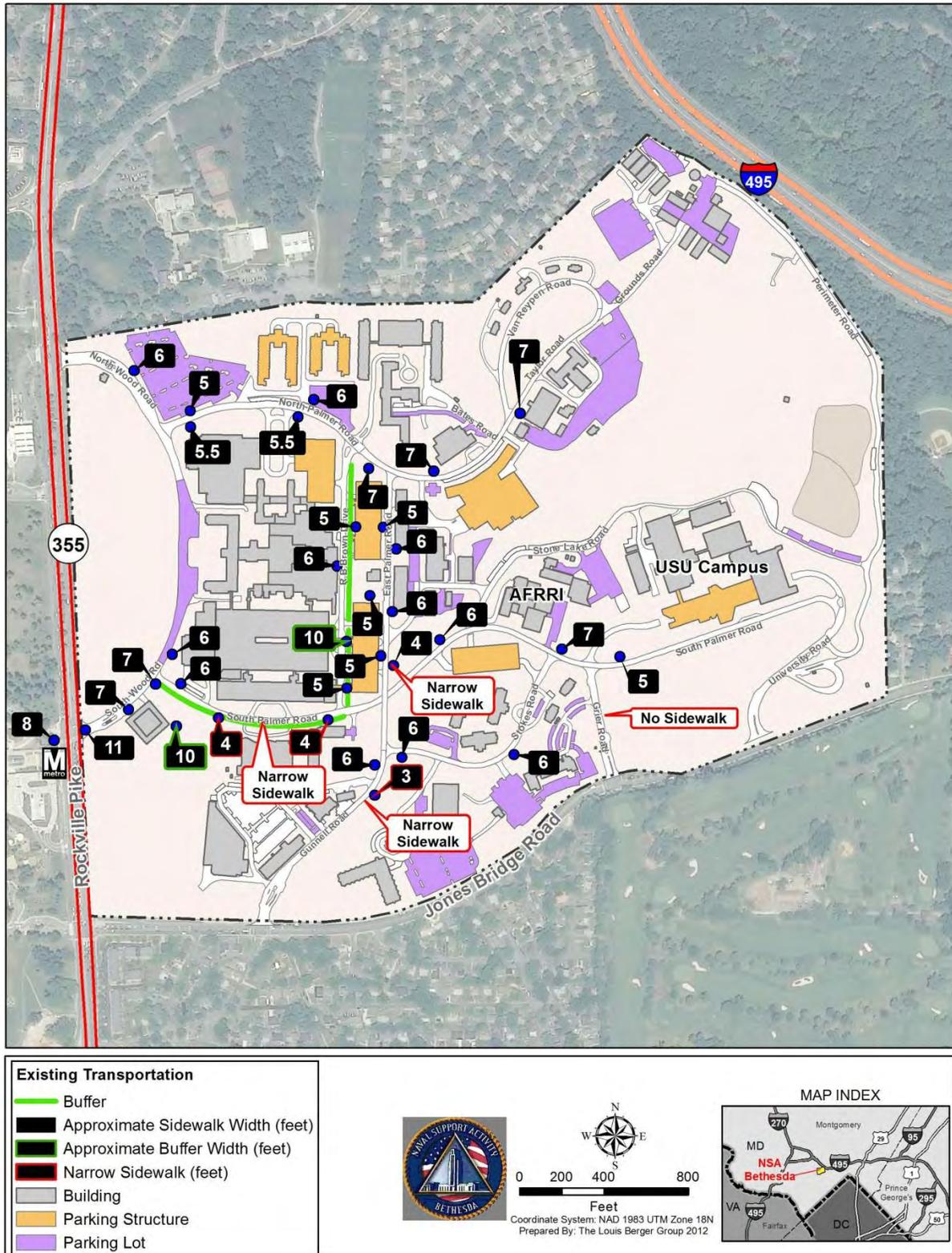
In the vicinity of NSA Bethesda, pedestrian traffic volumes vary widely. Pedestrian traffic concentrations can be found along the region's shared-use trails like the Bethesda Trolley Trail spur and near major transportation hubs like the Medical Center Metro station.

Additionally, the popularity of downtown Bethesda as a commercial, retail, and dining destination means that high pedestrian volumes were also identified along the southern edge of the installation. Pedestrian volumes along the external study network can be found in Figures 12A and 12B and reflect the external peak hour time period. Pedestrian volume counts throughout NSA Bethesda were conducted in combination with the vehicular turning movement counts. Pedestrians were observed crossing east-west at the intersection of Rockville Pike and North Wood Road, which is an intersection without a cross walk. For the counts conducted outside of NSA Bethesda, these movements were collected on October 18, 19, 20, and 26, 2011. Those movements collected internal to the installation were collected on October 25, 2011.

Pedestrian conditions within the NSA Bethesda internal study network are characterized by high traffic volumes near parking garages, the Medical Center, and USU and low traffic volumes near ancillary support facilities. Although some pedestrian bridges do exist in the vicinity of the hospital complex, the high number of pedestrians traveling between the hospital and adjacent parking facilities results in a large number of pedestrians attempting to cross the installation's roadways. This leads to delays along R.B. Brown Drive and North Palmer Road, although not to the level shown by the HCM delay calculation procedures (discussed in Section 3.1.2.10). Additionally, pedestrians accessing the installation from the nearby Medical Center Metro station create pedestrian-vehicle conflict areas along South Wood Road and South Palmer Road. During the morning, an installation security officer was observed directing traffic in this area to ensure pedestrian safety. Internal pedestrian volumes are shown in Figure 13.

Figure 13 represents data gathered in 2008 for the BRAC NNMC EIS and additional data gathered in 2012 where construction had taken place since 2008, mostly along North Palmer Road.

**Figure 10: Installation Pedestrian Facilities - Sidewalk and Buffer Widths**



**Figure 11: Installation Pedestrian Facilities - Curb Ramps and Sidewalk Locations**

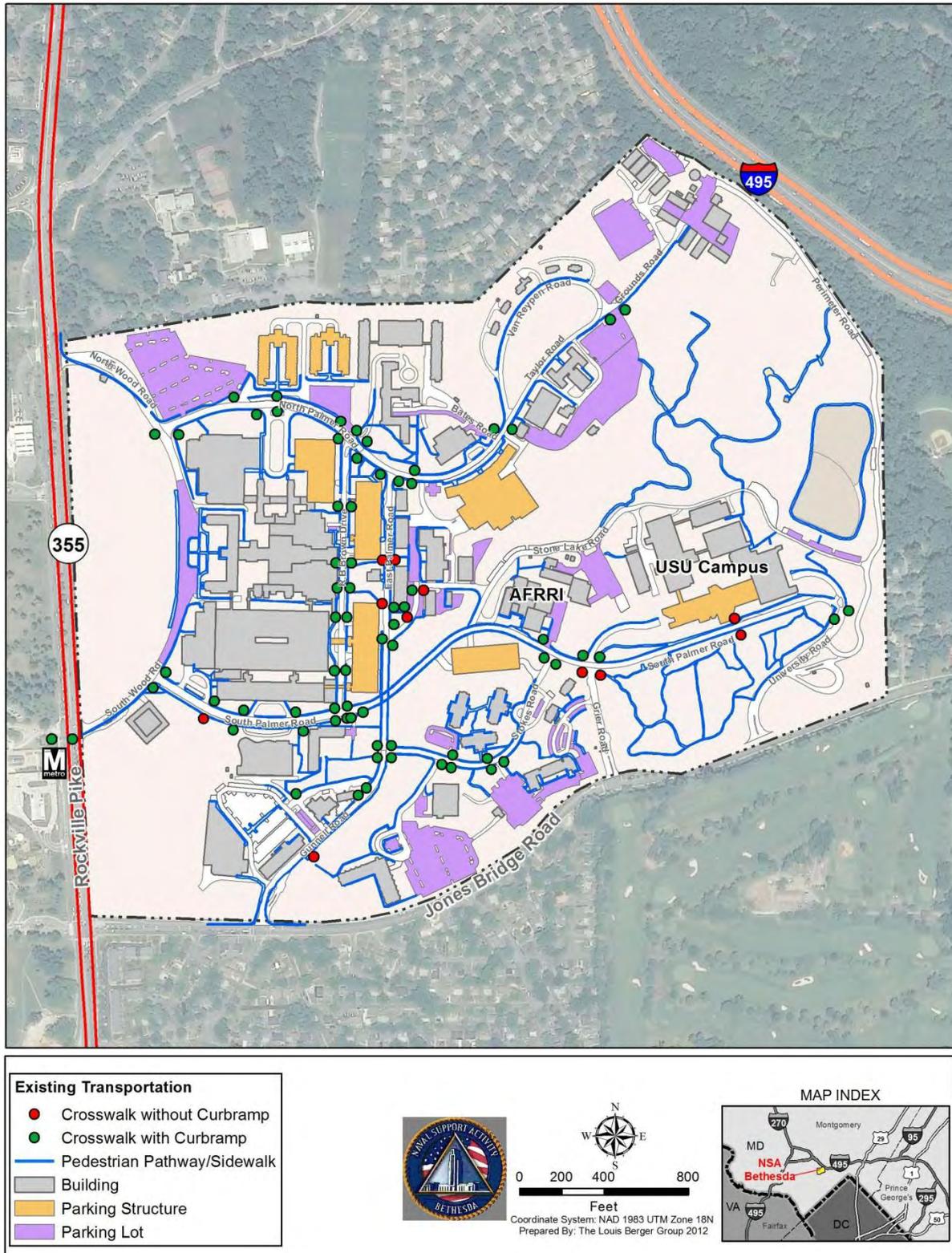


Figure 12A: External Pedestrian Volumes

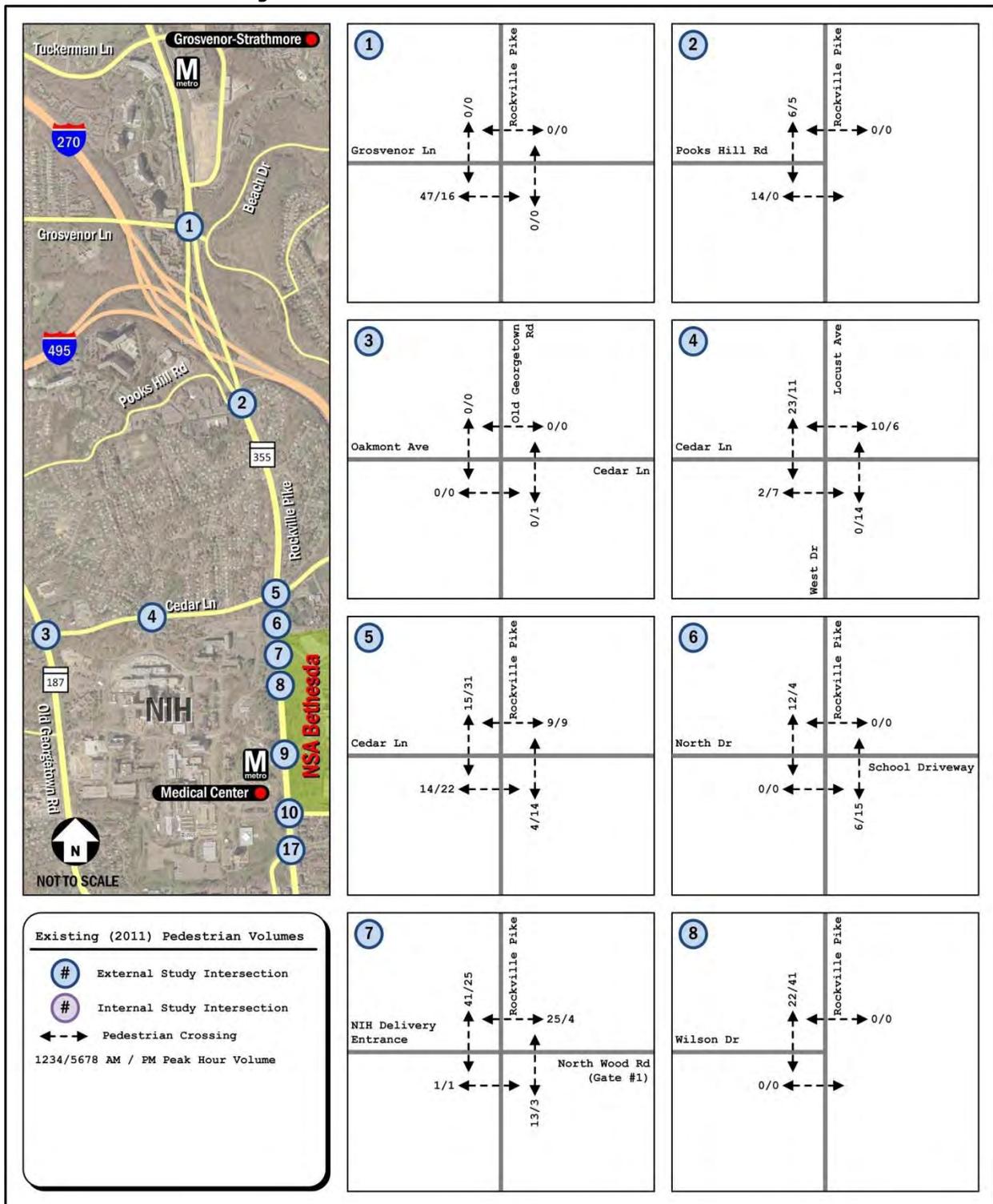
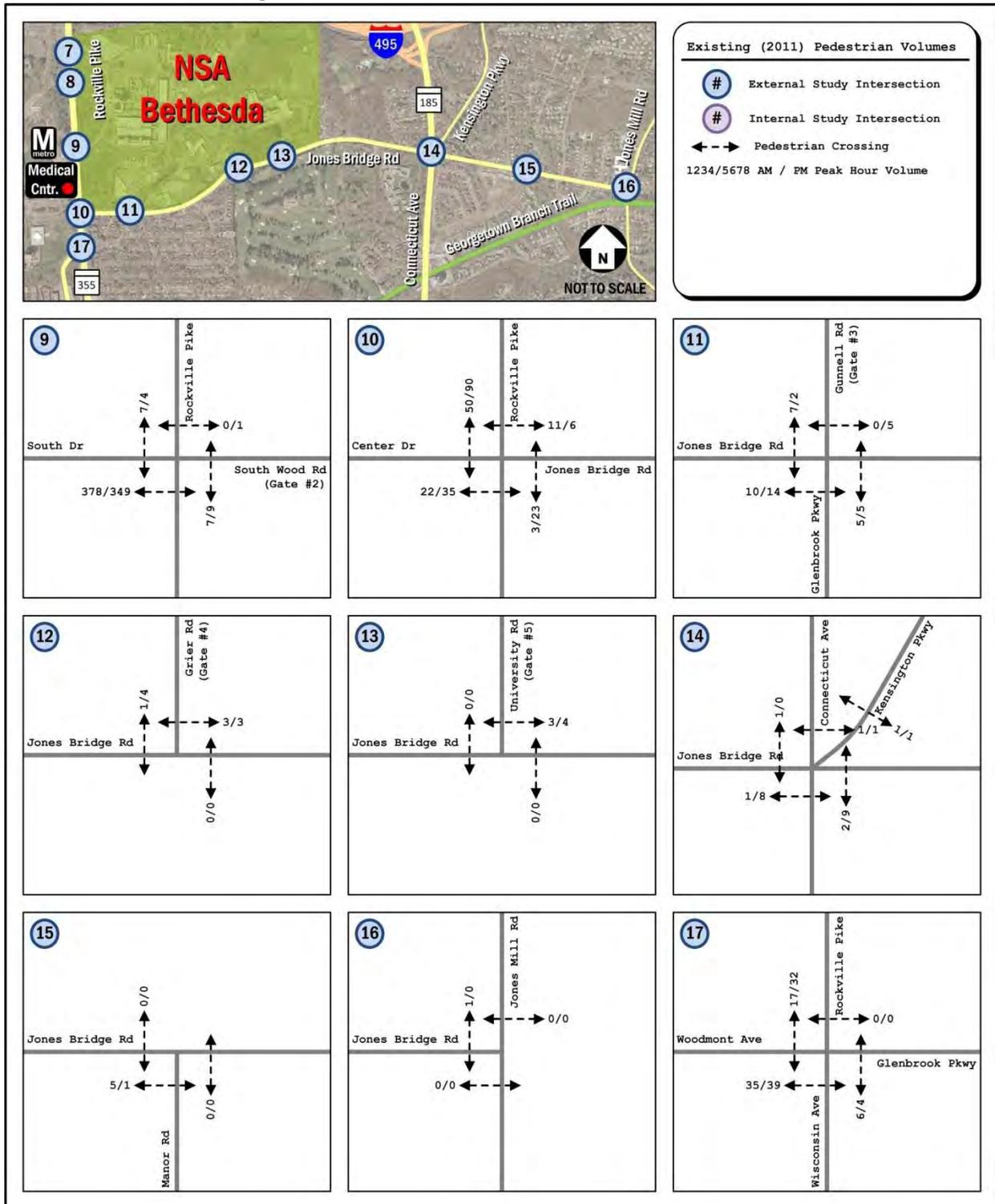


Figure 12B: External Pedestrian Volumes





### *Bicycle Facilities and Use*

The volume of bicycle traffic accessing NSA Bethesda during the study periods is shown in Table 9. This section includes a discussion of the provisions for bicycle travel and parking within NSA Bethesda and provides a more thorough breakdown of the volume of cyclists accessing the installation on a daily basis.

Despite the widespread availability of bicycle parking within NSA Bethesda, there is only a minimal amount of bicycle travel infrastructure present on the installation. Bicycle lanes exist at the entrances to the installation at Gates #1, #2, and #5, and inside the installation these bike lanes integrate with the vehicular traffic. Furthermore, as documented in Section 3.1.3.2, sidewalk widths within the installation are generally 7 feet or less, rendering these pathways too narrow to serve as shared-use facilities. Therefore, cyclists traveling throughout NSA Bethesda are confined to the roadway network. Although low speed limits along these roads reduce the danger to cyclists, the lack of separated bicycle lanes and the presence of narrow travel lane widths and steep grades in some areas significantly reduce the level of protection afforded to cyclists. Construction is complete at Gates #3 and #4, which includes new dedicated bicycle lanes.

### *Existing Bicycle Facilities*

A number of bicycle racks were observed during visits to the installation. These racks are spread out over a large area within NSA Bethesda. By cutting down the distance between bicycle parking and a cyclist's eventual destination, the attractiveness of cycling is increased. The number of bicycle storage slots seems to match the demands of their location, for example the USU, Medical facility, and residential areas racks hold more than other locations. Existing bicycle rack locations are shown in Figure 14.

### *Existing Bicycle Traffic Volumes*

Bicycle traffic volumes were collected on October 26, 2011. These volumes, shown in Table 9, were further analyzed to develop the bicycle arrival and departure distribution through the security gates as shown in Table 11. The total number of bicyclists accessing the installation during the peak periods was 32 vehicles during the AM peak hour and 31 vehicles during the PM peak hour. It should be noted that these counts were conducted in October and therefore likely show lower bicycle traffic volumes than can be expected during the traditional cycling season of April through September. Despite this, the volume of bicycles using the gates is well below the number of bicycles that were observed on NSA Bethesda during field observations, indicating that a number of bicycles are parked on-installation for internal trips only. Given the size of NSA Bethesda, some users might desire to keep a bicycle on the installation for non-commuting, internal trip purposes. Additionally, any bicycle trips generated by

the on-installation residential population would not be included in the data shown in Table 11, potentially explaining the low gate bicycle counts.

**Table 11: Bicycle Traffic Volumes at Security Gates**

		Gate 1	Gate 2	Gate 3	Gate 4	Gate 5	All Gates
<b>Inbound Total</b>	<b>AM</b>	13	8	3	0	8	<b>32</b>
	<b>PM</b>	0	1	0	0	0	<b>1</b>
<b>Outbound Total</b>	<b>AM</b>	0	0	0	0	0	<b>0</b>
	<b>PM</b>	6	12	6	3	3	<b>30</b>
<b>All Traffic</b>	<b>AM</b>	13	8	3	0	8	<b>32</b>
	<b>PM</b>	6	13	6	3	3	<b>31</b>

### 3.1.5 Availability of Transit

A number of transit services are provided in the vicinity of NSA Bethesda. Within the vicinity of the installation, service is provided by WMATA, Montgomery County's Ride On bus system, the Bethesda Circulator, and the Maryland Area Regional Commuter (MARC) operated by the Maryland Transit Administration. NSA Bethesda also operates a number of shuttles that serve the internal installation network as well as the Medical Center and Silver Spring Metrorail stations. These transit services are shown in Figure 15.

#### 3.1.5.1 WMATA Transit Services

NSA Bethesda is located across Rockville Pike from the Medical Center Metro station on the Metrorail Red Line, a transit rail service providing connection to downtown Washington and other regional destinations through an 86-station network. Like many Metro stations, Medical Center is home to a surface transit center as well that serves as a major stop and transfer hub for several WMATA and Montgomery County Ride On bus services.

This station opens at 5:00 AM on weekdays and at 7:00 AM on weekends; it closes at 12:30 AM from Sunday through Thursday, and at 3:30 AM on Friday and Saturday. The trains operate with headways of 3 to 6 minutes during the peak weekday morning and afternoon periods, and with headways of 6 to 15 minutes during the weekday off-peak periods.

According to the last full study published by WMATA in 2006, the average number of weekday entries at this station is 5,255. On average there are 425 entries and 1,040 exits in the AM peak hour and 920 entries and 270 exits during the PM peak hour, respectively.

Figure 14: Bicycle Parking Inventory

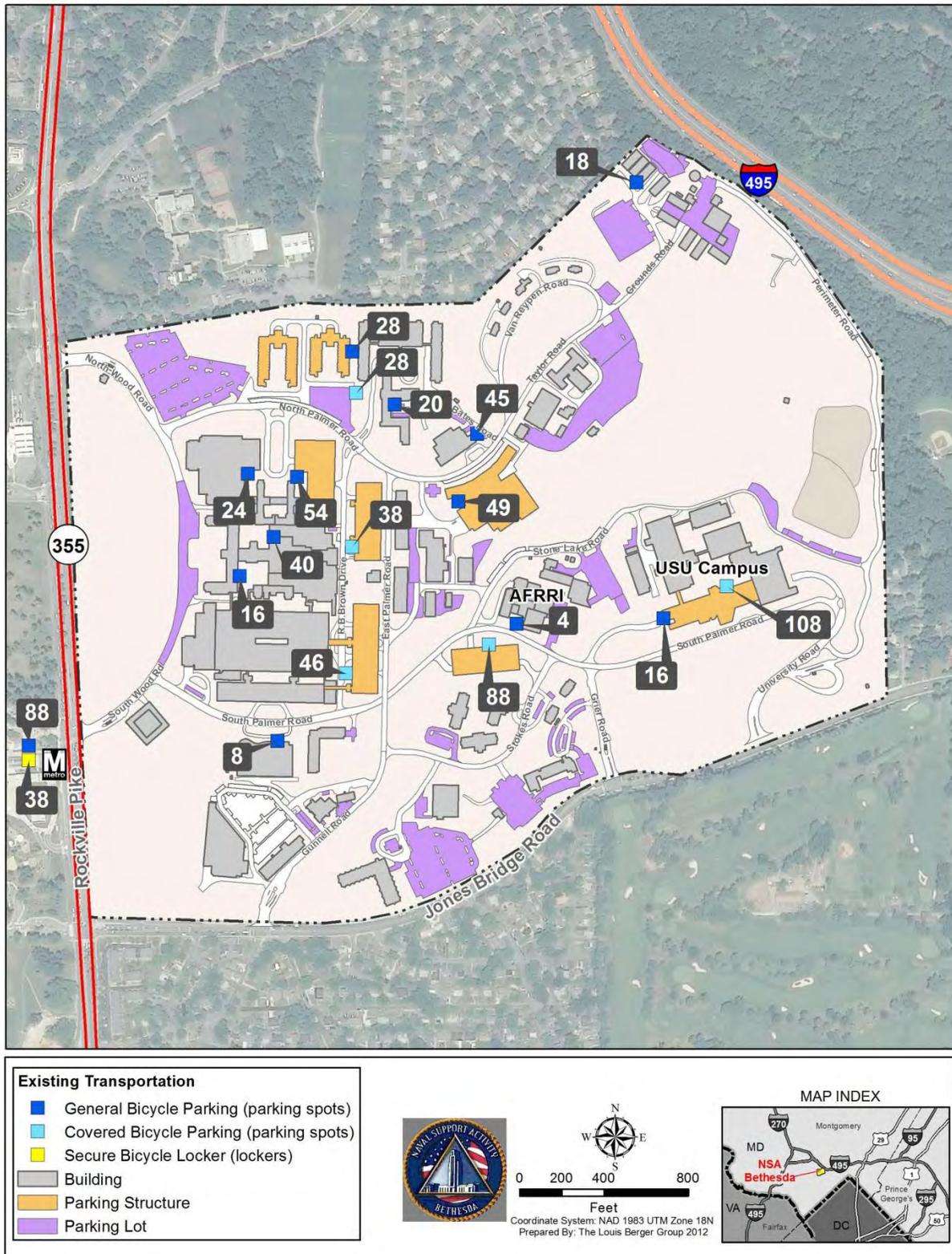


Figure 15: Local Public Transit Availability



A number of WMATA Metrobus routes also pass through the study area, including two routes that stop at the Medical Center Metro station:

*Bethesda-Silver Spring Line (Routes J1, J2, and J3)*

- Route J1 provides rush hour only service between the Silver Spring and the Medical Center Metro station via Jones Bridge Road with 30-minute headways. Routes J2 and J3 routes offer through service between the Silver Spring Metrorail station and Montgomery Mall to the northwest of NSA Bethesda with intermediate stops in the Bethesda CBD and at the Medical Center Metro station. These routes operate with 7-minute headways during peak hours and 20-minute headways during off-peak hours.

*I-270 Express (Routes J7 and J9)*

- Routes J7 and J9 comprise the I-270 Express, running between the Lakeforest Transit Center in Gaithersburg and the Bethesda Metrorail station. The only difference between the two routes is the paths taken through downtown Bethesda and Gaithersburg. The J9 bus provides service in the peak commuter direction at 10 to 20 minute headways during the peak hour and the J7 bus provides limited-stop service in the opposite direction at 20 to 30 minute headways.

### **3.1.5.2 MTA Services**

Commuter rail service is available through the MARC Brunswick Line, providing service between Union Station in downtown Washington and Martinsburg, West Virginia, or Frederick, Maryland, depending on the route. MARC runs nine trains inbound to Washington in the morning and ten trains outbound in the evening. All trains stop in Rockville about 6 miles to the north of NSA Bethesda, where a connection can be made to the Metrorail Red Line. An additional stop is located at Kensington, approximately 3 miles northeast of the installation.

MTA also operates several commuter bus lines that utilize the new Intercounty Connector (MD 200) that travels east-west across Montgomery and Prince George's counties. One of these routes, the MTA 203 Commuter Bus - Columbia to Bethesda, began operation on January 3, 2012, between the Snowden River Park and Ride in Columbia and the Medical Center Metro station adjacent to the NSA Bethesda via US 29, Intercounty Connector, and Connecticut Avenue.

### **3.1.5.3 Montgomery County Ride On Bus Services**

Montgomery County operates the Ride On bus system, which provides service along most major roadways within the county. Five Ride On routes serve the Medical Center Metro station:

- Bethesda - Medical Center (Route 30): Route 30 is a local collector route that circles through the neighborhoods around the

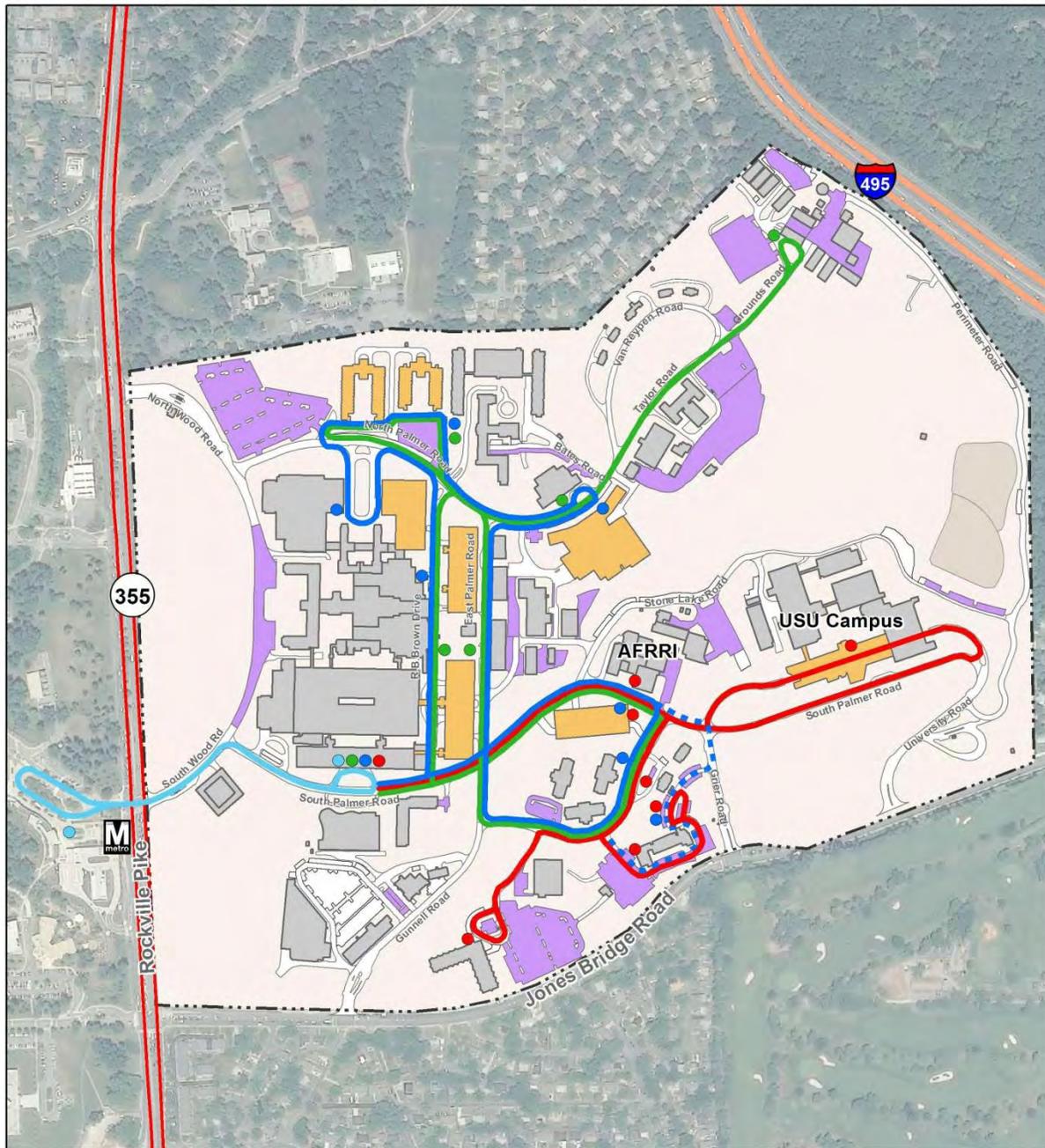
NIH campus before terminating at the Bethesda Metro Station. The service operates Monday to Friday at 30-minute headways.

- Glenmont - Medical Center (Route 33): Route 33 provides rush hour-only service to the Glenmont Metro station at 30-minute intervals via Kensington Parkway and the Kensington MARC station.
- Aspen Hill - Friendship Heights (Route 34): Route 34 provides service from Wheaton to Friendship Heights via downtown Bethesda and Wisconsin Avenue at 15-minute headways on weekdays and 30-minute headways on weekends.
- Rockville - Rockville Pike - Medical Center (Route 46): Route 46 connects NSA Bethesda with Rockville via Rockville Pike and primarily serves as a feeder to the Metro stations along this route. Weekday service provides 15-minute headways during the day and 30-minute headways in the evening. This route also provides service on weekends at less frequent intervals.
- Germantown - Bethesda EXPRESS (Route 70): Route 70 is an express service running between the Germantown Milestone park-and-ride lot and Bethesda. The bus provides limited-stop service between the Medical Center Metro station and these locations with service every 12 minutes.

#### **3.1.5.4 NSA Bethesda Shuttle Services**

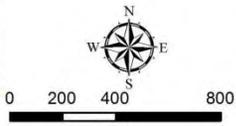
NSA Bethesda operates four shuttle bus lines. Three color-coded shuttle lines operate within the installation, with one line providing a connection between the installation and the Medical Center Metro station. The Medical Center Metro Shuttle provides service between the Medical Center Metro station and Building 10 of the installation. At Building 10, a transfer can be made to the three internal lines. The external line is a Patient Shuttle that gives priority to patients and visitors of patients of NSA Bethesda. The NSA Bethesda shuttle service as of December 2012, along with all bus stops and each line's hours of operation, is shown in Figure 16.

Figure 16: NSA Bethesda Shuttle Routes and Stops



Existing Transportation	
	Green Line Shuttle (05:30-09:00, 14:45-18:30)
	Red Line Shuttle (05:30-09:00, 14:45-18:30)
	Blue Line Shuttle (05:30-18:30)
	Blue Line Expanded Service (09:00-14:45)
	Medical Center Metro Shuttle (05:30-18:30)





0 200 400 800  
Feet  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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### 3.1.6 Travel Time and Delay Survey

Travel time runs were conducted on Tuesday, December 13, 2011, from 7:45 AM to 8:45 AM and from 4:45 PM to 5:45 PM for the morning and evening peak hours along various corridor sections of the study area. These travel time runs were performed to create a snapshot of the 2011 existing condition travel times and should not be compared to the future conditions as different roadway geometry and land use conditions will exist. According to the Institute of Transportation Engineers and the Urban Land Institute, traffic volumes in early December can be expected to be higher than the average condition, due to automobile-oriented retail shopping trips during the holiday season. In addition, all public school systems were still in session.

Table 12 provides a summary of the travel time results, while Figure 17 displays the travel time run locations. Two travel time runs were conducted throughout the area surrounding NSA Bethesda: one located along Rockville Pike between Chelsea Lane to the south and Tuckerman Lane to the north and the second along Jones Bridge Road between Rockville Pike to the west and Jones Mill Road to the east. Along Rockville Pike, travel runs were conducted in the southbound direction during the AM peak period and the northbound direction during the PM peak period to reflect the peak direction. Along Jones Bridge Road, the peak direction is in the westbound direction in the AM peak hour and the eastbound direction during the PM peak hour. For comparison purposes, the average time estimated to drive these sections was estimated by reviewing the distance and existing speed limit in order to arrive at a free-flow travel time.

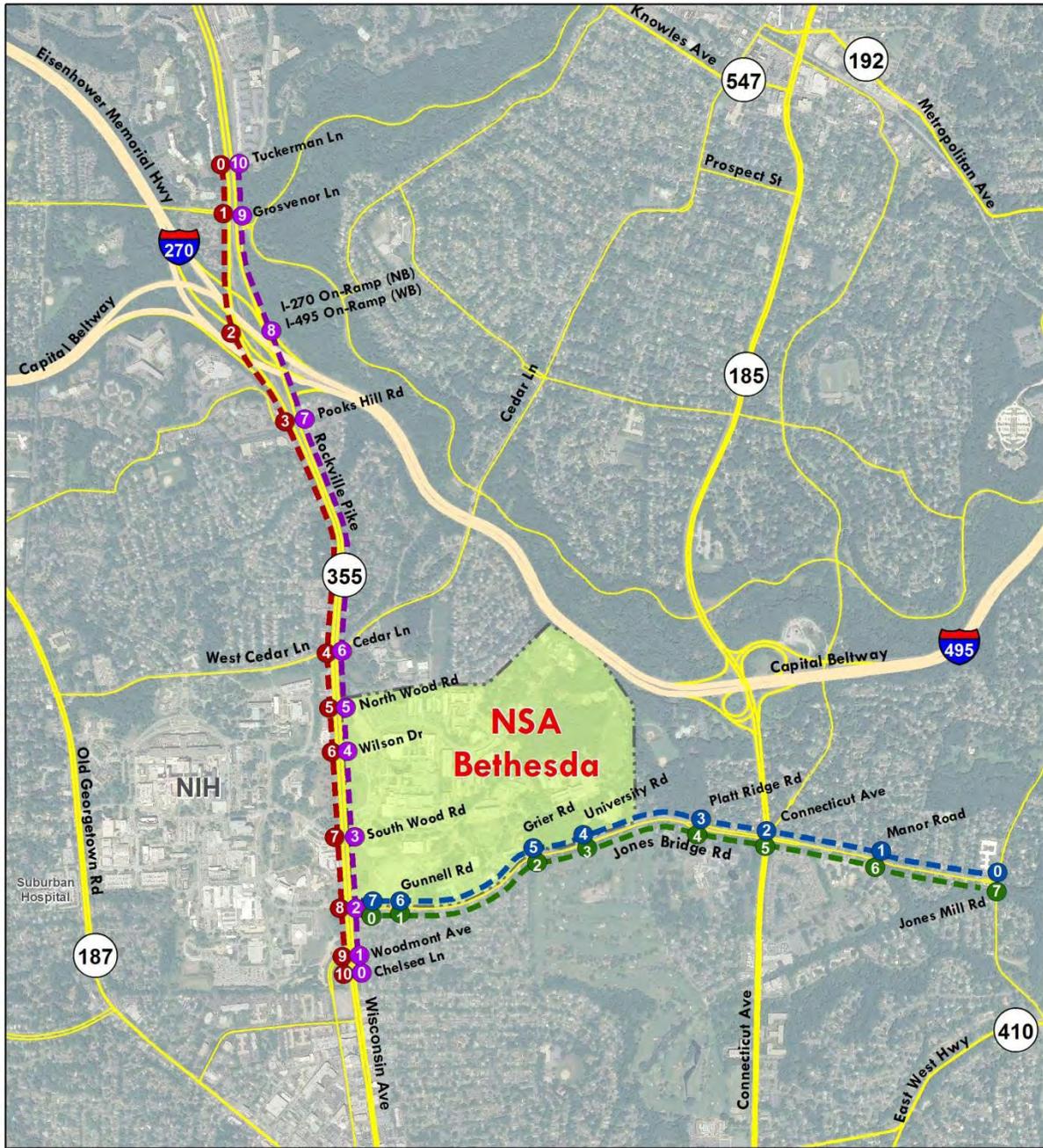
Below, Table 12 and Figures 18A through 18D represent the free flow travel time and actual travel time experienced in the peak direction of these two road sections. The green bars represent the number of seconds of delay experienced at each intersection.

The results show the northbound direction of Rockville Pike is more congested in the evening peak hour than the southbound direction of Rockville Pike in the morning peak hour. However, Jones Bridge Road is equally congested in the eastbound and westbound directions.

**Table 12: Travel Time and Delay Survey Summary**

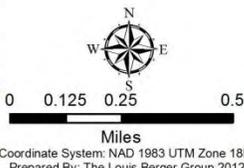
Corridor (Peak Period)	Corridor Length (mi)	Average Travel Time (mm:ss)	Average Delay (mm:ss)	Observed Speed Limit (mph)	Average Speed (mph)
Rockville Pike Southbound (AM)	2.151	12:07	08:29	35-45	10.65
Rockville Pike Northbound (PM)	2.133	14:59	11:21	25-45	8.55
Jones Bridge Road Westbound (AM)	1.719	11:36	08:29	30-35	8.89
Jones Bridge Road Eastbound (PM)	1.719	11:24	08:17	30-35	9.04

**Figure 17: Travel Time and Delay Survey Study Area and Measurement Locations**



Existing Transportation	
	Measurement Location
	Rockville Pike, Northbound
	Rockville Pike, Southbound
	Jones Bridge Road, Eastbound
	Jones Bridge Road, Westbound



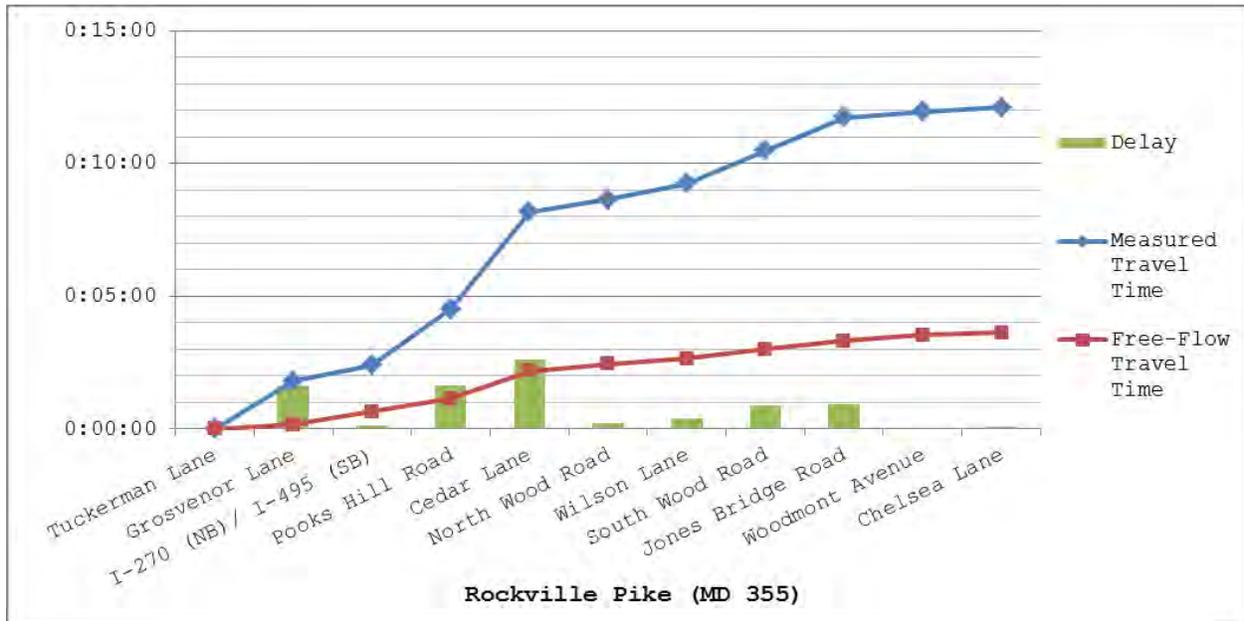


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Miles  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

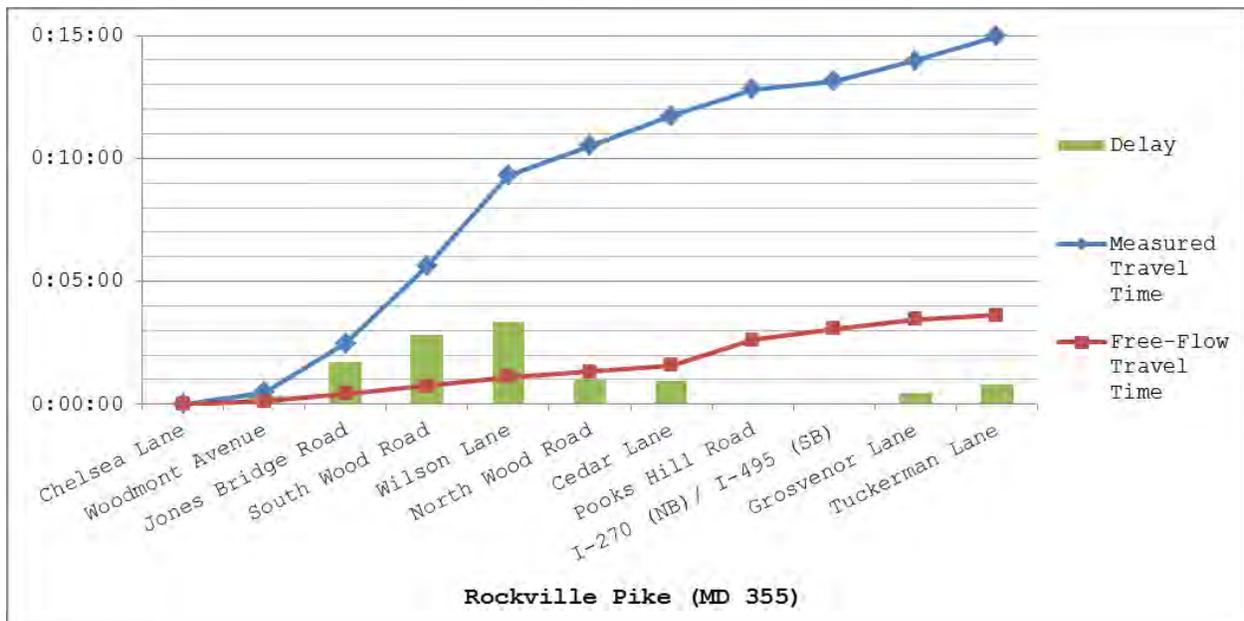
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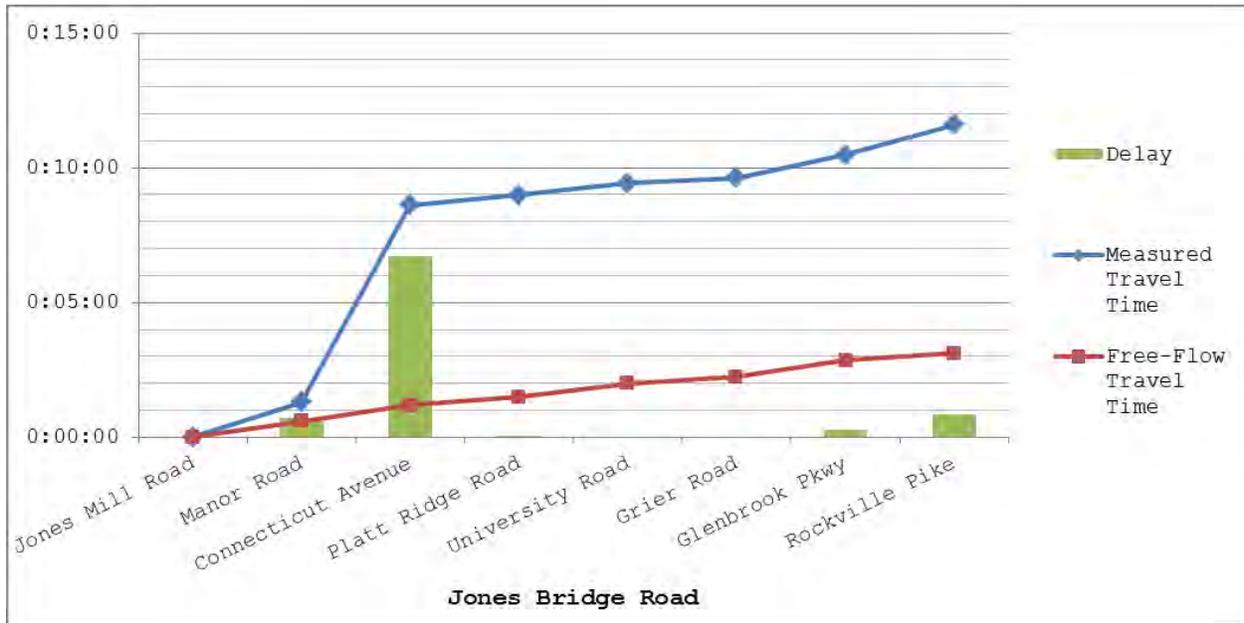
**Figure 18A: Travel Time/Delay Survey Results - Rockville Pike, Southbound AM**



**Figure 18B: Travel Time/Delay Survey Results - Rockville Pike, Northbound PM**



**Figure 18C: Travel Time/Delay Survey Results - Jones Bridge Road, Westbound AM**



**Figure 18D: Travel Time/Delay Survey Results - Jones Bridge Road, Eastbound PM**



### 3.2 Future Conditions

The collection of existing condition data and analysis of existing roadways provided the baseline for evaluating the external and internal roadways serving NSA Bethesda. The next step in determining the impact of the Medical Facilities Development and University Expansion requires the development of a No Build condition with short-term planned/ongoing projects in place but without any of the proposed actions (or any of the Build Alternatives). Once this No Build scenario is established, this report will discuss the traffic benefits and impacts of the Build Alternatives.

#### 3.2.1 *The 2018 No Build Condition Development*

The 2018 No Build condition will provide a future roadway operation base to compare the future Build Alternatives. The creation of the 2018 No Build condition consists of determining roadway improvements, land use change, and parking facility assumptions. These assumptions will directly affect the amount of traffic assigned to the external and internal roadway network. The following are the 2018 No Build condition assumption general categories:

- **External Roadway Improvements:** Roadway improvements along the key roadways serving NSA Bethesda listed in the BRAC Mobility Projects Matrix by the Montgomery County BRAC Implementation Committee (the committee is now known as Walter Reed BRAC Integration Committee).
- **External Transit Improvements:** Transit improvements that serve NSA Bethesda, helping to reduce the need to drive and park at the installation.
- **Background Developments:** Significant developments proposed in the vicinity of NSA Bethesda provided by the M-NCPPC.
- **Gate Improvements:** Intersection improvements separated from the external roadway improvement list serving the NSA Bethesda Gates #3 and #4 entrances. These improvements are completed. Improvements to Gates #1, #2, and #5 have been previously completed and are part of the baseline assessment.
- **Internal Roadway Improvements:** Roadway improvements along internal installation roadways expected to be completed by 2018.
- **Short-term Planned/Ongoing Projects:** Projects at NSA Bethesda currently under construction or expected to be completed by 2018.
- **Internal Installation Parking:** Parking facilities expected to be operational in 2018.

The next section will break down the general categories into detailed descriptions covering all seven assumption categories.

### **3.2.1.1 External Roadway Improvements**

The MSHA has approved funding the construction of several roadway improvements around NSA Bethesda. These projects include widened approaches with additional turning lanes, removal of channelized right turning bays to provide safer bicycle and pedestrian crossings, and extension of existing turning bays to reduce incidents of blocking through traffic. The MSHA and M-NCPPC were both consulted to determine the future proposed projects to include as part of the operational analysis for the No Build condition and all Build Alternatives. Each proposed project included the expected number of through and turning lanes serving each approach and the length of each lane. Figure 19 shows the external project locations. Appendix D1 contains these designs. The letter on the map coincides with the letters listed after each intersection below.

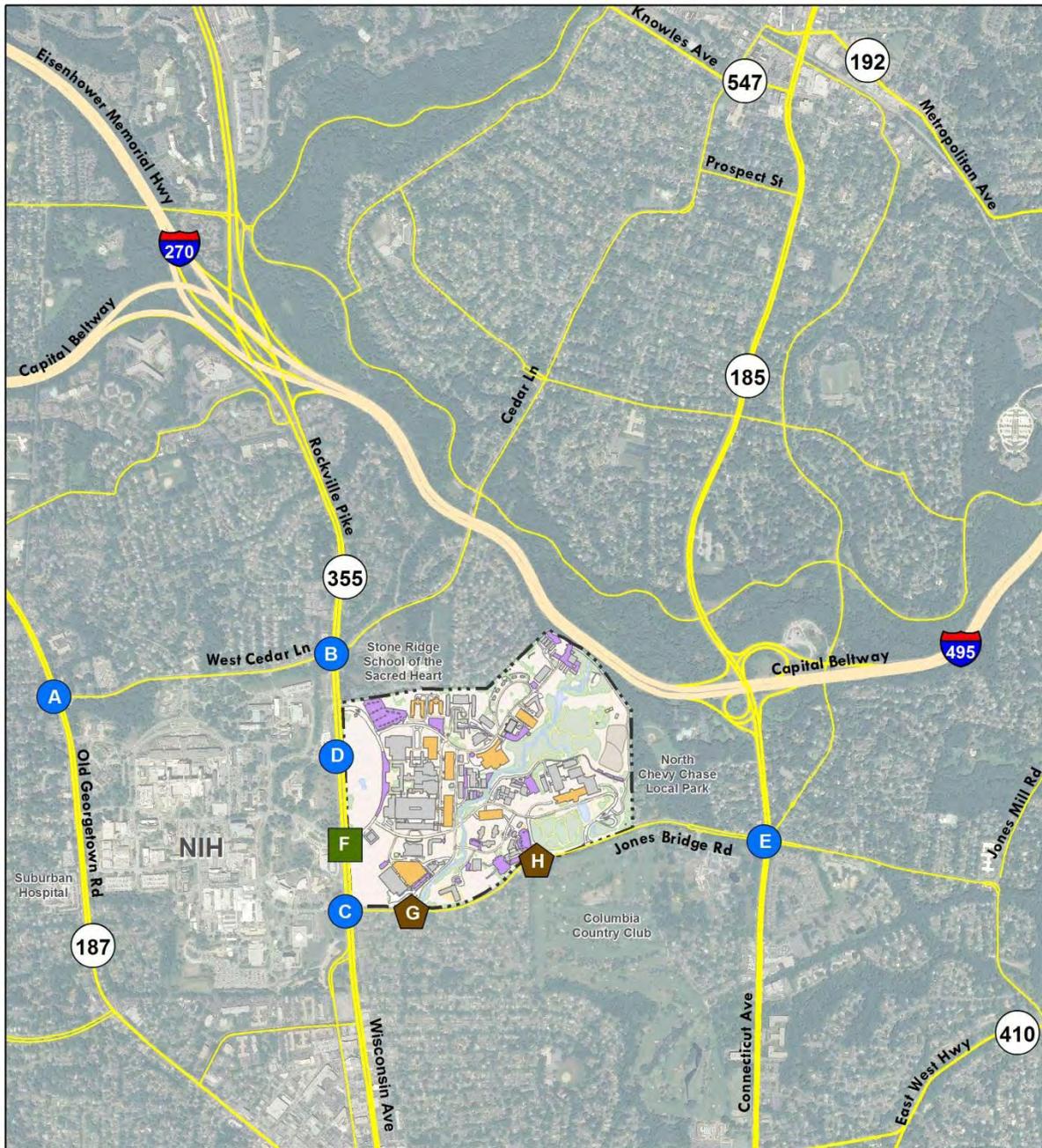
#### **Old Georgetown Road at West Cedar Lane (A):**

Cedar Lane would have an additional left-turn lane, shared with the through movement and an additional right-turn lane. Both the exclusive right- and left-turn lanes will have a total of 300 feet, an extension of 100 feet from the original left-turn lane. The northbound Old Georgetown Road approach has a new 150-foot exclusive right-turn lane, matching the existing exclusive left-turn lane. In total, two new approach lanes would be added to this intersection.

#### **Rockville Pike at West Cedar Lane (B):**

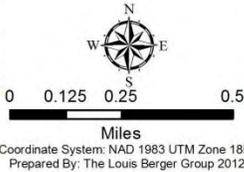
The Rockville Pike northbound approach would have a shared through/right-turn lane extending from the North Wood Road (Gate #1) intersection to Locust Hill Road. The Rockville Pike southbound approach would convert the existing 300-foot exclusive right-turn lane into a shared through/right-turn lane, with the new through lane extended to the Wilson Drive intersection. The Cedar Lane westbound approach would include a 600-foot exclusive double left-turn bay, a 150-foot extension to the existing single left-turning lane and a through lane and shared through/right-turn lane. The West Cedar Lane eastbound approach would have a 300-foot extension to the existing right-turn lane, two through lanes, and an exclusive double left-turning bay, 50-feet longer than the existing single turning lane.

Figure 19: External Project Locations



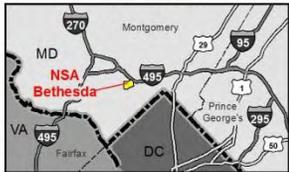
Future Transportation	
	Installation Access
	General Intersection
	Pedestrian
	Building
	Parking Structure
	Parking Lot





0 0.125 0.25 0.5  
Miles  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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**Rockville Pike at Jones Bridge Road (C):**

The Rockville Pike southbound approach would convert the third lane from the right currently operating as a southbound through lane into a second left-turn lane during the PM peak period to provide two lanes for turning left onto Jones Bridge Road during peak travel times, plus the existing left-turn lane would be extended approximately 50 feet. The Jones Bridge Road westbound approach would be reconfigured to change the existing shared through/left-turn lane into an exclusive left-turn lane extending back to the Gunnell Road intersection (Gate #3). The existing right-turn lane would remain 225 feet in length; however, the channelized right-turn bay would be removed to provide safer bicycle and pedestrian movements at the intersection. The Center Drive approach would have a separate left-turn bay, matching the 50-foot existing right-turn bay. The signal would be upgraded to include the latest vehicle detector system that would continually adjust the signal timings, based upon the vehicle demand at each roadway approach.

**Rockville Pike at Wilson Drive (D):**

The Rockville Pike southbound approach would have a new right-turn lane, extended to the Cedar Lane intersection.

**Connecticut Avenue at Jones Bridge Road (E):**

The Connecticut Avenue southbound approach would have the existing right-turn lane extended past Woodlawn Road. The Connecticut Avenue northbound approach would have a new 800-foot through lane added to the left side of the roadway. The Jones Bridge Road eastbound approach would include an exclusive double left turning bay, and shared left-turn/through movement, providing three lanes for the left-turning movement. The exclusive left-turning lanes would be more than 250-feet longer than the existing left-turning lanes, and the right-turning lane would be extended to the Platt Ridge Road intersection, a 600-foot extension. The Jones Bridge Road westbound approach would have an exclusive double right-turn bay extending more than 200-feet longer than the existing right-turn bay, with the far right lane also serving Kensington Parkway. This approach would also have a second exclusive through lane extending more than 500-feet. The existing right through lane would extend back to Montgomery Avenue.

**3.2.1.2 External Transit Improvements**

Montgomery County is constructing one transit improvement project that would directly affect the development of the 2018 No Build condition. The operational analysis for the No Build condition and all Build Alternatives would include this transit improvement. Figure 19 shows the transit project location.

**Metro Pedestrian Access/Rockville Pike Crossing Project (F):**

This project would consist of two features, the construction of a new underground tunnel under Rockville Pike connecting the east side of Rockville Pike with the west side, accessed by elevators, escalators, and stairs, and the construction of elevators on the east side of Rockville Pike that would directly connect with the Medical Center Metro station mezzanine. The Rockville Pike tunnel would eliminate the need for pedestrians to cross the roadway when walking between NSA Bethesda and NIH or the Medical Center bus stop. The new elevators connecting to the Medical Center Metro station's mezzanine would provide a direct connection between the underground Metro station and NSA Bethesda without the need to cross Rockville Pike. The current pedestrian crossing is shown in Figure 20, which averages 378 pedestrians an hour crossing during the AM peak hour.

**Figure 20: Pedestrian Crossing at Rockville Pike and Gate #2**

**3.2.1.3 Background Developments**

M-NCPPC identified 10 proposed developments to include in this study to account for background traffic growth along the external roadway network. This background traffic is important as it accounts for changes in traffic along the major roadways connecting to NSA Bethesda. Table 13 contains the list of background developments, their location, and number of units or square footage. Figure 21 shows the locations of each proposed development.

*Trip Generation*

Each proposed development will generate trips through the external roadway network that services NSA Bethesda. As required by Montgomery County's LATR, trip generation rates will be derived from the LATR trip generation rates listed in LATR Appendices A and C. Appendix A

contains trip generation rates for proposed developments located outside of the Bethesda CBD. Appendix A also includes trip reduction equations to account for potential trips using transit. Appendix C contains special peak hour trip generation rates for proposed developments within the Bethesda CBD (M-NCPDC determined that proposed projects along Rockville Pike, south of Jones Bridge Road would fall into this category). These rates account for potential trips using transit. Both LATR Appendices A and C also include directional distribution (percentage of trips entering and exiting the proposed site) for both the AM and PM peak hour.

According to LATR policy, if a trip generation rate is not available for a specific proposed development in LATR Appendix A for proposed projects outside of the Bethesda CBD or LATR Appendix C for proposed projects within the Bethesda CBD, then the latest release of the Institute of Transportation Engineers (ITE) Trip Generation Manual should be used. Peak hour trip generation rates in the ITE Trip Generation Manual also include directional distribution, but do not account for potential trips using transit in an area such as Bethesda. The manual provides suburban/rural peak hour trip generation rates; therefore, the rates would reflect a conservative estimate.

Both the LATR and ITE trip generation manuals either include within the trip generation rate or provide a pass-by percentage to avoid counting an existing trip (for example, a trip already accounted for in the existing conditions destined for a grocery store that would also stop at a proposed gas station).

To determine the net number of trips at each proposed development site, this study calculated the number of trips expected to be generated by existing developments at the site and subtracted that number from the number of trips projected to be generated by the proposed development. For sites without any existing development, this study only calculated the number of new trips. In some instances, this study projected that the proposed redevelopment would result in negative net trips because of changes in land use type, reductions in land use intensity, or some combination thereof. Since the LATR provided separate trip distribution percentages for office and residential generation rates, this study separated the peak hour trip generation for each mixed use proposed development by office, residential, and retail. Figure 21 shows the locations of background developments, while Table 14 provides the peak hour trip generation for proposed development. The detailed peak hour trip generation tables for each background development are included in Appendix D2.

**Table 13: Background Developments**

	Facility Name	Location	Dwelling Units (DU)/ Square Footage (SF)
1	FASEB Office Addition	Southwest quadrant of Rockville Pike and Pooks Hill Road; north of Alta Vista Road; access to Rockville Pike and Pooks Hill Road	40,000 SF Office addition
2	Alta Vista at ACC	Southeast quadrant of Old Georgetown Road and Alta Vista Road; access to Alta Vista Road and Camberly Ave	37 Single-Family DUs
3	NIH - Porter Neuroscience Research Lab	West side of NIH campus near Old Georgetown Road	200 vehicles per day
4	Suburban Hospital	Southwest corner of Old Georgetown Road and Southwick Street	114,996 SF Expansion; 134,996 SF Standard of Care
5	Glen Aldon on Battery Lane	North/south sides of Battery Lane; West of Woodmont Avenue	694 High-Rise DUs replacing 260 Mid-Rise DUs
6	Woodmont View	Northwest corner of Woodmont Avenue and Battery Lane	46 Mid-Rise DUs, 3,200 SF Restaurant, and 1 Extended Stay Multi-Family Facility for 5 families replacing 4,200 SF General Office and 1 Single-Family DU
7	8300 Wisconsin Avenue	Between Wisconsin Avenue and Woodmont Avenue; north of Battery Lane	150 Room Hotel, 350 High-Rise DUs, and 50,000 SF Grocery store
8	Woodmont Central - A	Southwest corner of Wisconsin Avenue and Battery Lane	81,107 SF Office and 10,505 SF Retail replacing existing Gas Station (with Conventional Retail and Car Wash
9 <sup>a</sup>	Naval Support Activity Bethesda-BRAC Integration	East side of Rockville Pike; north of Jones Bridge Road	2,500 additional employees and 484,000 additional medical center visitors annually
10	Chevy Chase Lake East	Southeast quadrant of Connecticut Ave and Manor Road	74,356 SF Office and 174,016 SF Retail replacing 67,009 SF retail

<sup>a</sup> This project is complete and reflected in the existing condition traffic volumes.

**Table 14: Proposed Background Development Peak Hour Trip Generation**

	Facility Name	Type	AM Peak Hour				PM Peak Hour			
			In	Out	Pass-by	Total	In	Out	Pass-by	Total
1	FASEB Office Addition	Office	38	2	0	40	4	38	0	42
2	Alta Vista at ACC	Residential	7	22	0	29	22	12	0	34
3	NIH - Porter Neuroscience Research Lab	Office	40	0	0	40	0	36	0	36
4	Suburban Hospital	Medical	111	35	0	146	51	130	0	182
5	Glen Aldon on Battery Lane	Residential	19	72	0	91	61	30	0	91
6	Woodmont View	Office	-5	-1	0	-6	-1	-5	0	-6
		Residential	4	16	0	20	13	7	0	21
7	8300 Wisconsin Avenue	Retail	0	2	0	2	10	5	0	15
		Residential	21	84	0	105	70	35	0	105
8	Woodmont Central - A	Retail	63	31	0	94	173	170	0	343
		Office	104	18	0	122	31	91	0	122
9 <sup>a</sup>	Naval Support Activity Bethesda-BRAC Integration	Retail	-18	-17	0	-35	-10	-8	0	-18
		N/A								
10	Chevy Chase Lake East	Office	103	15		118	22	105	0	127
		Retail	68	64	87	132	274	252	351	526

<sup>a</sup> This project is complete and reflected in the existing condition traffic volumes.

Facility 1 and 2 used rates provided by specific proposed development proponents.

Facility 3 used vehicle volumes provided by NIH.

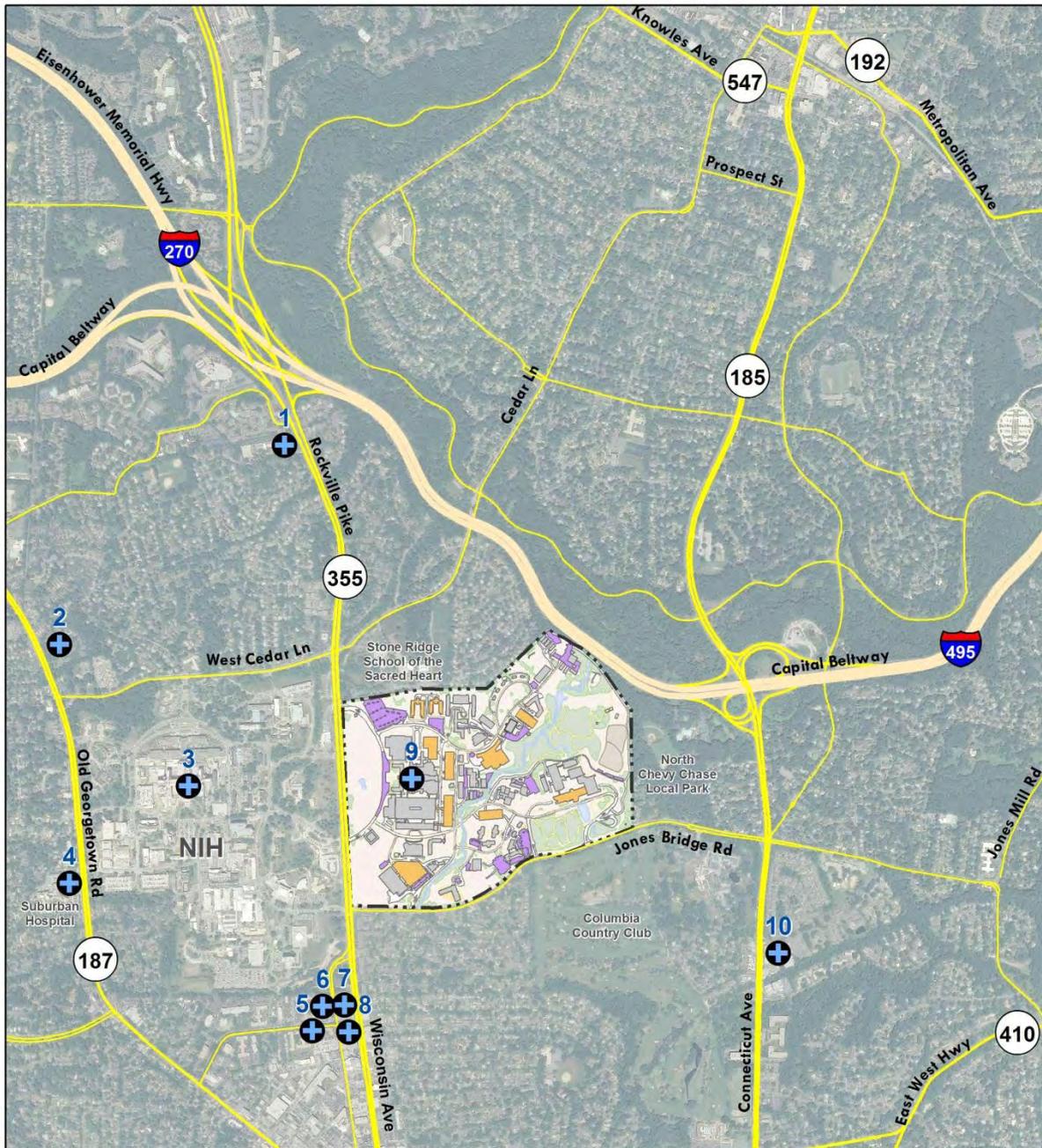
Facility 5, 7, and 8 used LATR Appendix C, Bethesda CBD trip generation rates.

Facility 6 used a combination of LATR and ITE for trip generation rates.

Facility 2 and 10 used LATR Appendix A, county-wide trip generation rates.

Facility 10 used a 40 percent pass-by percentage rate provided by M-NCPPC during a phone conversation.

Figure 21: Location of Background Developments



<p><b>Future Transportation</b></p> <ul style="list-style-type: none"> <li> Background Development</li> <li> Building</li> <li> Parking Structure</li> <li> Parking Lot</li> </ul>			<p>0 0.125 0.25 0.5 Miles Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012</p>	<p>MAP INDEX</p>
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Based on the trips projected to be generated using the LATR and ITE, the proposed background developments would produce 858 trips during the AM peak hour and 1,584 trips during the PM peak hour. These proposed developments are located throughout the project study area and would add trips to Rockville Pike, Jones Bridge Road, and West Cedar Lane. The next section will cover the distribution of these trips into the traffic network and discuss the impacts to study area roads. As these are background trips, they were added to the external roadway network such as Rockville Pike, Jones Bridge Road, Old Georgetown Road, and Connecticut Avenue, but would not enter or exit NSA Bethesda.

### *Trip Distribution*

The trip distribution for each facility is based upon area-wide percentage flows contained in LATR Appendix D and the existing roadway flows and turning movements, with the exception of the Federation of American Societies for Experimental Biology (FASEB) Office Addition and Suburban Hospital. The traffic studies for those two developments were provided by Montgomery County Planning Department/M-NCPPC and contained generation rates and distribution percentages.

The FASEB Office Addition project located on Rockville Pike near the Pooks Hill Road intersection uses the following forecasted distribution pattern for both the AM and PM peak hours: 23 percent from I-270, 21 percent from I-495 east of Rockville Pike, 19 percent from Wisconsin Avenue, 14 percent from Rockville Pike, 12 percent from I-495 west of I-270, 7 percent from Old Georgetown Road, and 4 percent from Cedar Lane.

The Suburban Hospital project located on Old Georgetown Road near the McKinley Street intersection uses the following forecasted distribution pattern for both AM and PM peak hours: 53 percent southbound and 38 percent northbound during the AM peak from Old Georgetown Road north of West Cedar Lane, 39 percent southbound and 38 percent northbound during the PM peak, 7 percent westbound and 9 percent eastbound during the both the AM and PM peak hours from West Cedar Lane.

For the retail developments, the ITE trip generation procedure for site impact analysis uses existing traffic flows along the roadway serving the site to determine which direction each trip headed when leaving or entering the site (turned left or right when entering).

For the office and residential trips, the LATR Appendix D provided the trip distribution percentages by Montgomery County superzones and from Virginia, the I-270 corridor, and Howard and Prince George's counties. To account for the number of retail trips using the Interstate, the average of the LATR Appendix D office and residential distribution percentages were used. As a result, 60 percent of all retail trips

were removed from Rockville Pike, north of Pooks Hill Road at the I-495 interchange.

The trip distribution for all background projects was developed separately and then combined to form the complete background development distribution. Figures 22A and 22B show the completed background development trip distribution.

#### **3.2.1.4 Gate Improvements**

There are five gates serving NSA Bethesda; planned improvements are completed at Gates #3 and #4, which serve Jones Bridge Road and provide access to the southern and central parts of the installation. The operational analysis for the No Build condition and all Build Alternatives would include these gate improvements. Appendix D3 shows the designs for Gates #3 and #4. Figure 19 shows the project locations. All five gates include increased accessibility for vehicles, bicycles, and pedestrians.

##### **Gate #3: Jones Bridge Road and Gunnell Road (G):**

The Gunnell Road approach to Jones Bridge Road has been expanded to have two lanes: one exclusive right turn and a shared through and left-turning lane. The gate entrance has been expanded by one lane to have two lanes entering the installation with a new guardhouse constructed, but narrowing back to one lane immediately following the first intersection serving the NEX. The upgrades include sidewalk improvements that allow safer pedestrian access.

##### **Gate #4: Jones Bridge Road and Grier Road (H):**

The Grier Road approach to Jones Bridge Road has been expanded to have two lanes: one exclusive right turn and an exclusive left-turning lane. The gate entrance remains one lane inbound with a new guardhouse constructed. The upgrades include sidewalk and bicycle lanes, allowing for safer access for pedestrians and bicyclists.

#### **3.2.1.5 Internal Roadway Improvements**

No internal roadway improvements are funded at this time; therefore, the operational analysis for the No Build condition and all Build Alternatives does not include any new internal roadway improvements.

Figure 22A: Background Development Trip Distribution

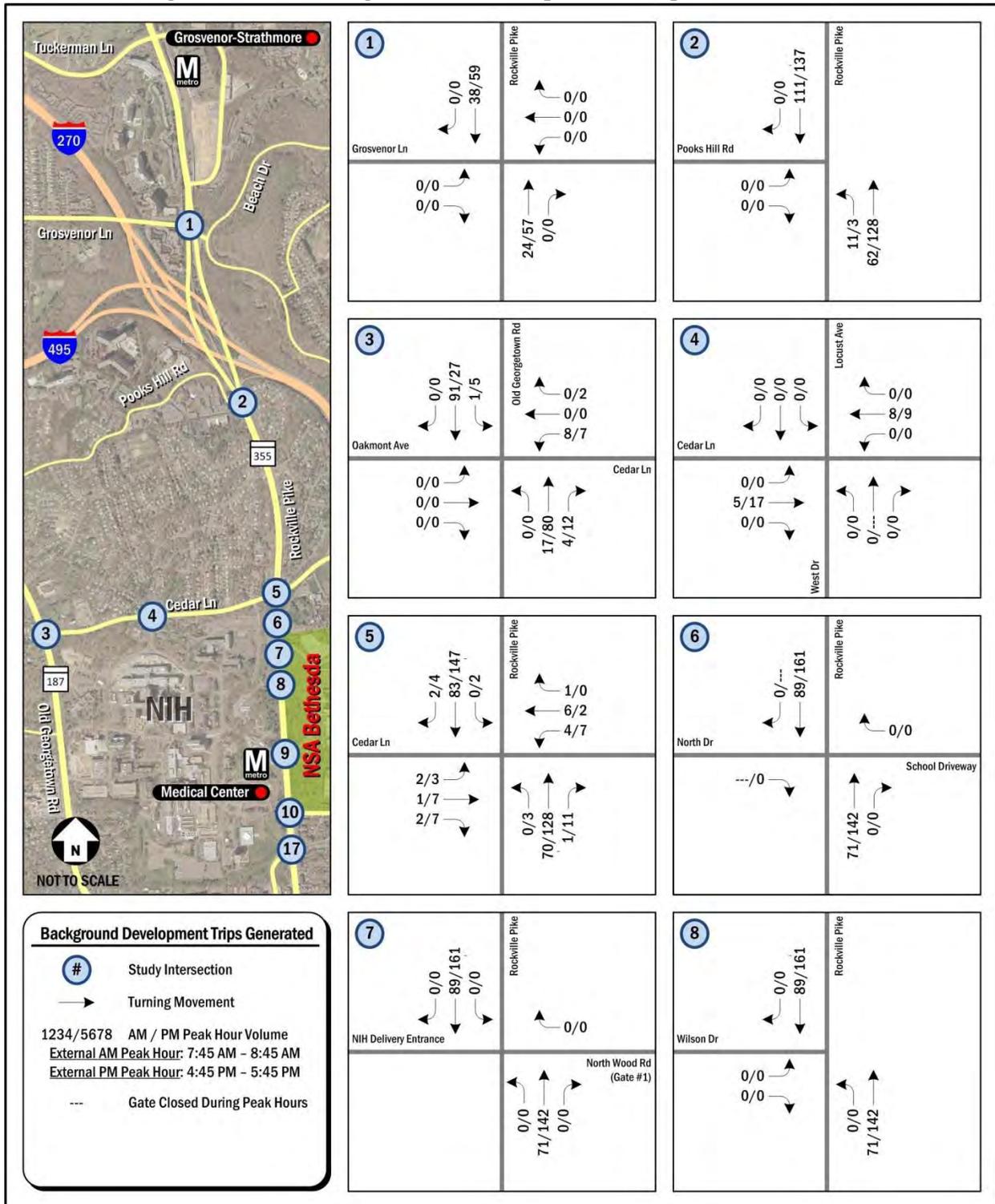
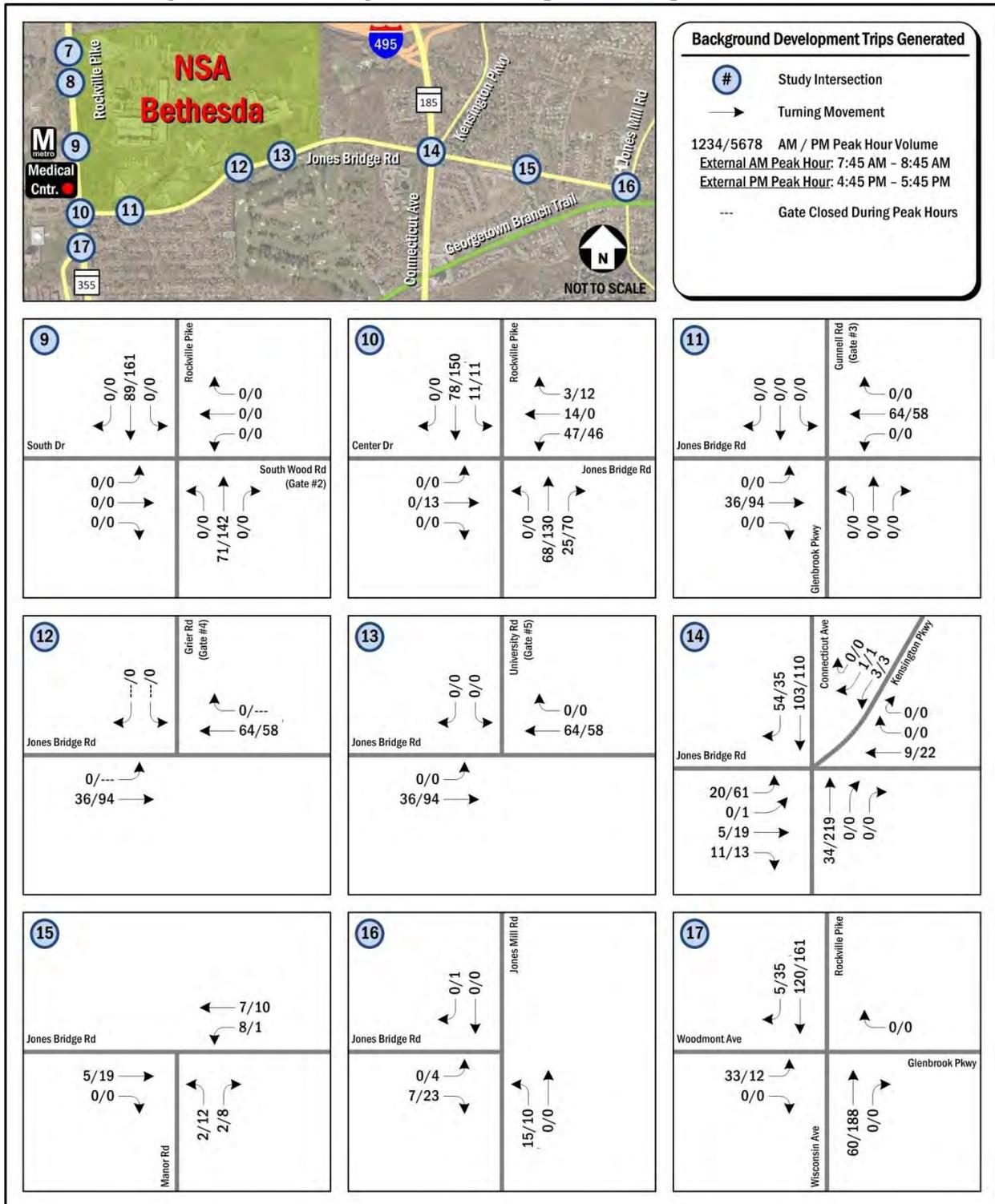


Figure 22B: Background Development Trip Distribution



### 3.2.1.6 Short-term Planned/Ongoing Projects at NSA Bethesda

The 2013 NSA Bethesda Master Plan identified short-term projects within the installation with an expected completion by 2018. In addition to short-term projects, two ongoing projects (Wounded Warrior Transition Lodge (WWTL) and Navy Lodge Expansion) are currently under construction. Each of these projects would generate new trips along the internal roadway system, the gates, and the external roadway. Table 15 contains the list of short-term planned/ongoing projects, their locations, the number of new employees, and any other independent variables provided by NSA Bethesda that describes the facility expansion (number of units, square footage, or number of children). Figure 23 shows the short-term planned/ongoing project locations at NSA Bethesda. Note that the NEX is not a short-term or ongoing project and was completed in November 2012. Since the project was still under construction during this study's data collection time period (October 2011), the study lists the NEX to ensure the No Build condition includes the trips projected to be created by this commercial land use.

**Table 15: Short-term Planned/Ongoing Projects**

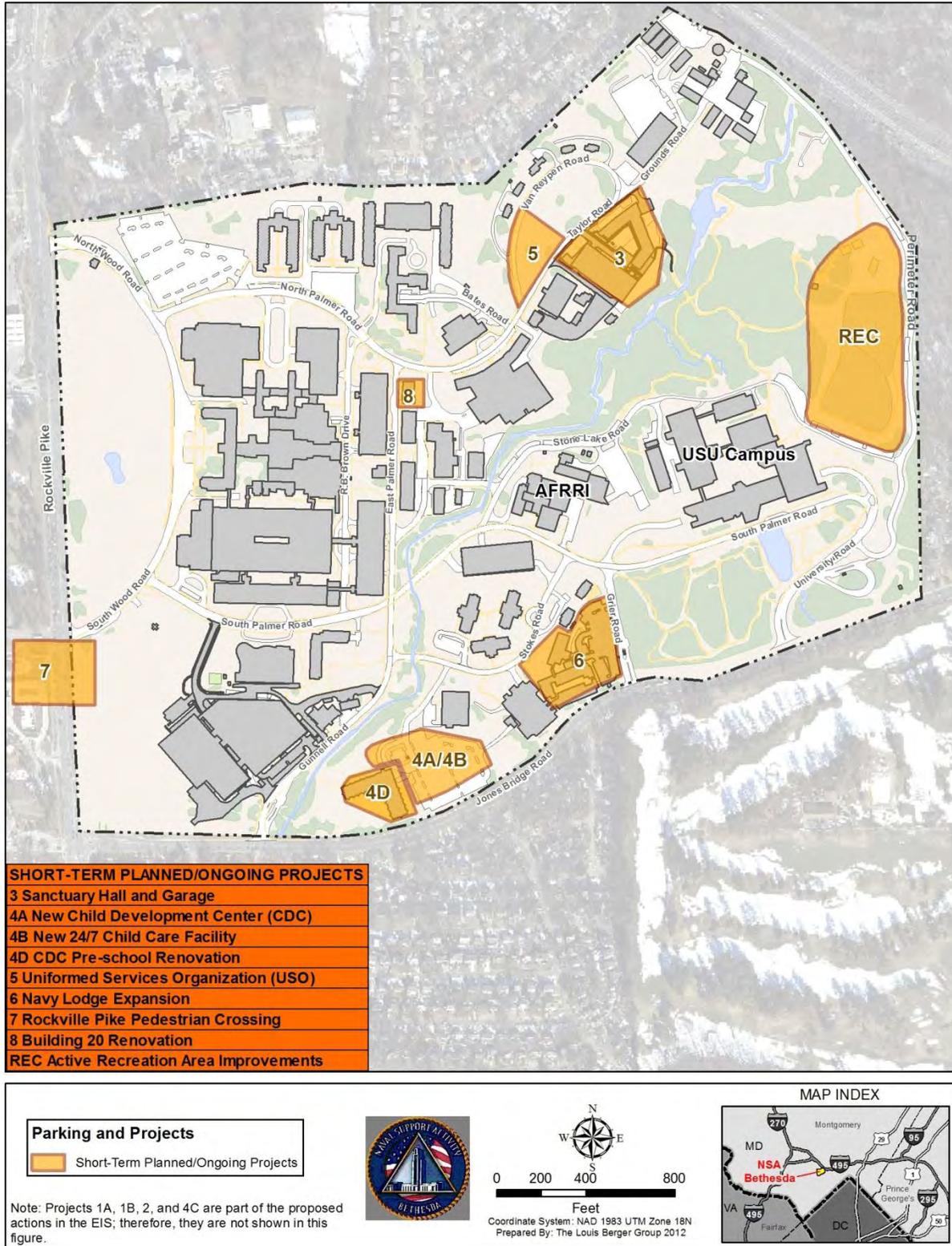
	Facility Name	Location	New Employees	Other Independent Variable
3	Sanctuary Hall (WWTL) and Parking Garage	Taylor Road, between the Fitness Center and warehouse area	14	200 beds
4	Child Development Center (CDC)	Adjacent to the existing CDC	63	326 children
5	United Service Organization (USO)	Across Taylor Road from new Sanctuary Hall	5	36,000 Square Feet
6	Navy Lodge Expansion	Along Grier Road between Gate #4 and South Palmer Road	10	64 Rooms
<sup>a</sup>	Medical Facility (Naval Dosimetry Center)	Along R.B. Brown Drive	6	N/A
<sup>b</sup>	Navy Exchange	Along Gunnell Road between Gate #3 and Stokes Road	75	101,971 square feet (additional space)
<sup>a</sup>	USU Growth	Along South Palmer Road	306	N/A
<sup>a</sup>	Federal Credit Union		5	N/A

<sup>a</sup> Project is part of the short-term planned/ongoing projects but not displayed with an assigned number on Figure 23.

<sup>b</sup> Project not part of the short-term planned/ongoing projects, however, it was under construction during the 2011 data collection and was added to ensure the traffic expected to be generated was included in the No Build condition.

Note: The Master Plan anticipates programmatic staff growth over the period of the Master Plan. While not indicated on Figure 23, it is noted on the table to include all the anticipated trip increases.

**Figure 23: Short-term Planned/Ongoing Project Locations at NSA Bethesda**



### Trip Generation

Each short-term planned/ongoing project at NSA Bethesda would generate trips in and out of the installation. Several factors affect the projected number of trips from each short-term planned/ongoing project. First, the installation's parking is limited both by space constraints and by the NCPC parking ratio policy. Second, the proximity of the Medical Center Metro station provides high frequency transit service and is located across the street from Gate #2.

Current installation data were used for determining the peak hour trip generation for the Sanctuary Hall (WWTL), Navy Lodge Expansion, and NEX at NSA Bethesda. For the remaining short-term planned/ongoing projects, the ITE peak hour trip generation rates were used to determine the total number of peak hour trips not constrained by the number of parking spaces on the installation. Those rates were then reduced by 66 percent (except the CDC where one parking space is provided per employee, which will result in a NSA Bethesda future development required to dedicate less than one space for every three employees to maintain the current installation-wide parking ratio) to reflect the one space for every three employees parking ratio required at NSA Bethesda. Table 16 shows each proposed NSA Bethesda short-term planned/ongoing project with the ITE peak hour trip generation and directional distributions. Appendix D2 contains the detailed peak hour trip generation tables.

**Table 16: Short-term Planned/Ongoing Project Peak Hour Trip Generation**

	Facility Name	Independent Variable	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
3	Sanctuary Hall (WWTL)	200 beds	25	9	34	30	28	58
4	Child Development Center (CDC)	63 staff	164	145	309	142	160	302
5	United Service Organization (USO)	5 staff	0	0	0	1	3	4
6	Navy Lodge Expansion	64 rooms	15	9	24	20	18	38
<sup>a</sup>	Naval Dosimetry Center	6 Staff	1	1	2	1	1	2
<sup>b</sup>	Navy Exchange	101,971 SF	0	0	0	34	34	68
<sup>a</sup>	USU Growth	306 Staff	60	13	73	47	53	100
<sup>a</sup>	Federal Credit Union	5 Staff	3	2	5	7	7	14

<sup>a</sup> Project is part of the short-term planned/ongoing projects but not displayed with an assigned number on Figure 23.

<sup>b</sup> Project not part of the short-term planned/ongoing projects, however, it was under construction during the 2011 data collection and was added to ensure the traffic expected to be generated was included in the No Build condition.

Based on the trips projected to be generated, the short-term planned/ongoing projects would produce 447 new trips during the AM peak hour and 586 new trips during the PM peak hour.

The six employees from the medical facility (Naval Dosimetry Center) and 306 employees from the USU Growth projections are included in the No Build condition. They are expected to be in place by 2018 whether the Medical Facilities Development and the University Expansion are constructed or not.

### **3.2.1.7 Internal Installation Parking**

Parking spaces at NSA Bethesda are located throughout the installation. There is a mixture of structured parking facilities (eight parking structures: four freestanding garages and four parking garages under buildings), parking lots, and parking available along the internal roadway network. Garages directly serve the medical facility, USU, and Building 17, with more planned to serve the Wounded Warrior complex and NEX. There is a parking structure near the center of the installation called the Multi Use Parking Structure (MUPS).

Each facility has spaces assigned to various groups of users. For example, a structured facility might have spaces reserved for ranking officers, rideshare use, American with Disabilities Act (ADA) compliant use, patients, government officials, visitors, residents, and staff. To ensure parking facilities best serve all installation missions, parking tags are assigned to staff and can only be used in specific facilities based upon the tag designation. There are four tag designations: medical facility, USU/Armed Forces Radiobiology Research Institute (AFRRI), barracks/lodging, and all others.

As part of its ongoing transportation management program, in September 2011, NSA Bethesda implemented a parking management program that controls the number of staff who can park at the installation based on the availability of staff parking spaces, including incentives for carpool usage. Employees receiving federal transit subsidies are not allowed to receive hanging tags. Patients and visitors have dedicated parking available for their use.

There are currently a total of 7,686 spaces available at NSA Bethesda, composed of 3,525 staff spaces, 2,436 patient spaces, 1,120 visitor spaces (includes parking for retail), 457 barracks/lodge spaces, and 148 government vehicle spaces. Table 17 lists the existing parking facilities with space distribution, and Figure 24 shows the existing parking facility locations.

By 2018, there would be two new parking structures added to NSA Bethesda, a new 495-space parking structure serving the retail needs of the NEX and a 470-space parking structure serving the WWTL, with approximately 326 spaces available for staff use. Two new parking lots would also be added to serve the NEX, K-Lot, and P-Lot, totaling 49 spaces. In addition, I-Lot would be reduced to 50 spaces, E-Lot would be reduced to 35 spaces, U-Lot would be increased to 95 spaces, and the lower 139-space lot in the Z-lot complex and Building 7 parking would be removed.

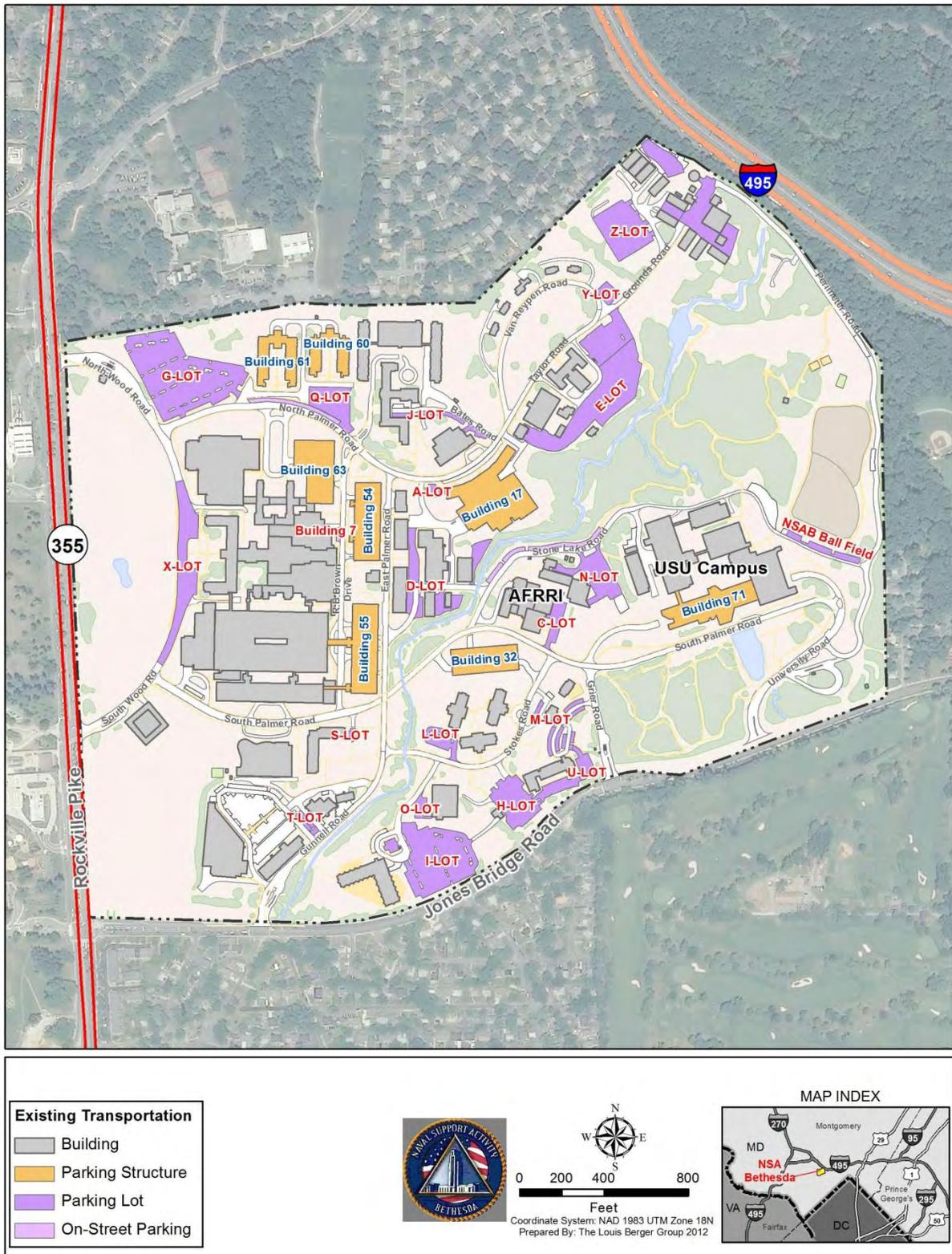
The resulting future 2018 NSA Bethesda parking facilities and their space distribution would differ from existing conditions. There would be a total of 8,112 spaces, consisting of 3,584 staff spaces, 2,286 spaces for patients, 1,512 spaces for visitors, 601 spaces for barracks/lodges, and 129 government vehicle spaces. To provide ample parking for construction, NSA Bethesda will reassign 100 staff spaces

for government use resulting in 3,484 staff and 229 government spaces. Table 18 shows the 2018 No Build condition parking facilities and space distribution. Figure 25 shows the 2018 No Build condition parking facility locations.

**Table 17: Existing Parking Facilities with Space Distribution**

<b>Surface Parking</b>	<b>Staff</b>	<b>Patient</b>	<b>Visitor/ Retail</b>	<b>Barracks/ Lodging</b>	<b>Gov' t</b>	<b>Capacity</b>
A-LOT			8			8
C-LOT	23					23
D-LOT	75					75
E-LOT	272					272
G-LOT	394				15	409
H-LOT	49	54	54	6	1	164
I-LOT		150	124		2	276
J-LOT	36		12			48
L-LOT				20		20
M-LOT			12			12
N-LOT	62					62
O-LOT		15				15
Q-LOT				80		80
S-LOT					2	2
T-LOT			23			23
U-LOT			57			57
X-LOT	19		20			39
Y-LOT					25	25
Z-LOT	60		144		28	232
Daycare			22		2	24
NSAB Ball Field			60			60
<b>Structured Parking</b>	<b>Staff</b>	<b>Patient</b>	<b>Visitor/ Retail</b>	<b>Barracks/ Lodging</b>	<b>Gov' t</b>	<b>Capacity</b>
Building 17	99	95	114	236	6	550
Building 32	82	626	470		24	1,202
Building 54	749					749
Building 55	392	533			28	953
Building 60				51		51
Building 61				64		64
Building 63		924				924
Building 71	1,117	32			2	1,151
Facilities Mgmt. Trans.					13	13
<b>On-Street Parking</b>						
R.B. Brown Drive	7					7
North Palmer Road	11	7				18
East Palmer Road	4					4
Stone Lake Road	74					74
<b>Entire Campus</b>	<b>3,525</b>	<b>2,436</b>	<b>1,120</b>	<b>457</b>	<b>148</b>	<b>7,686</b>

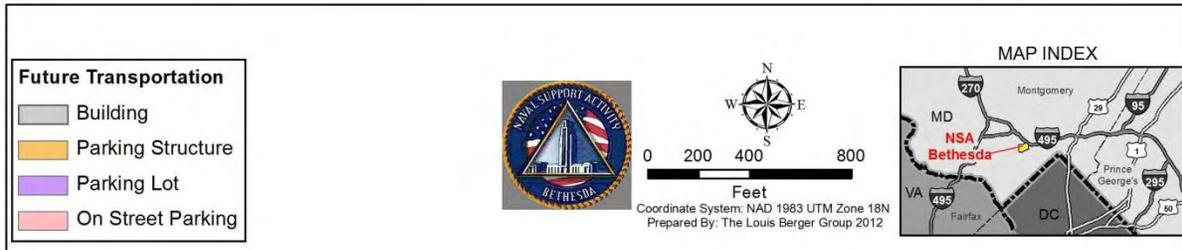
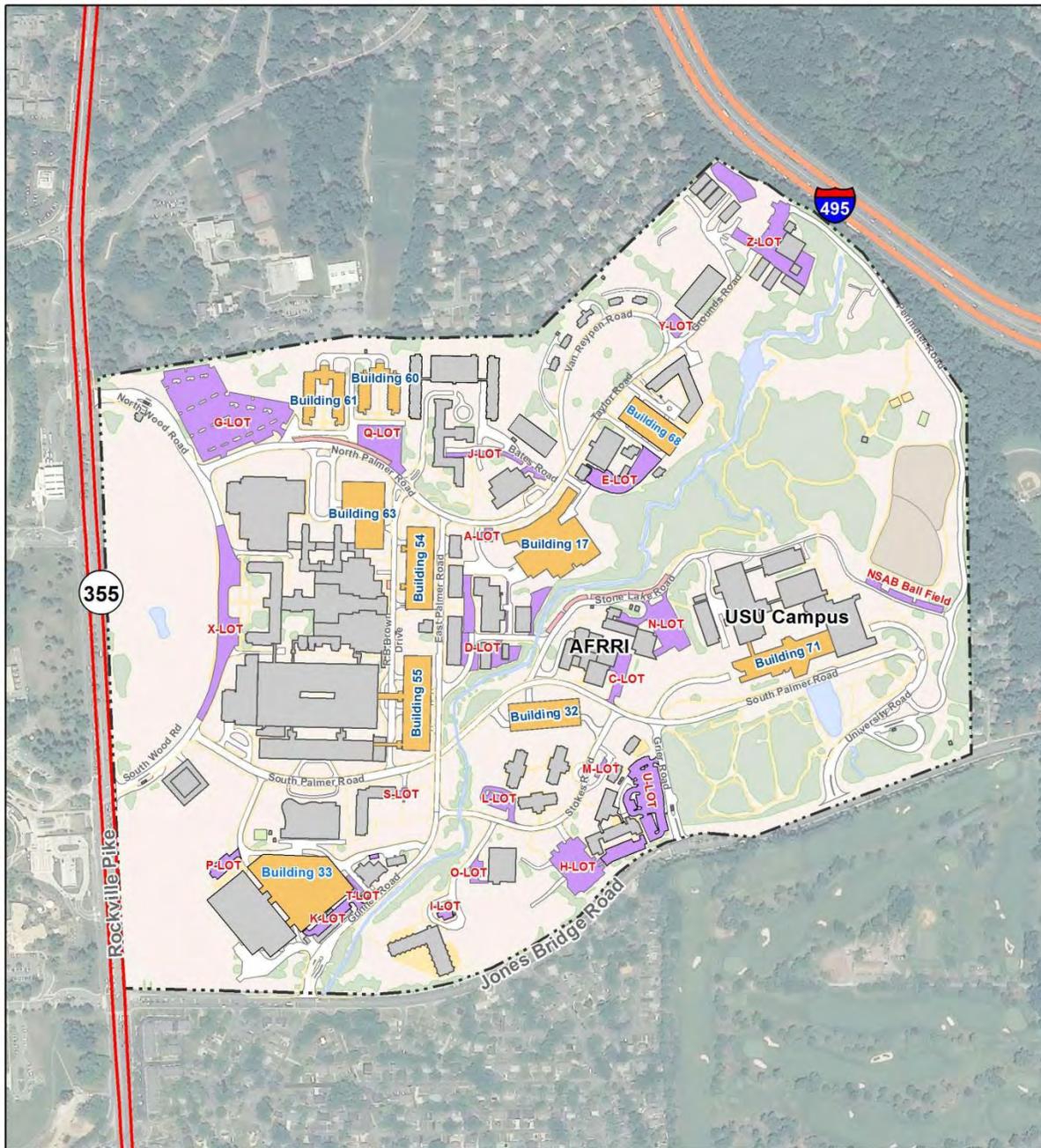
Figure 24: Existing Parking Facility Locations



**Table 18: 2018 No Build Condition Parking Facilities  
with Space Distribution**

<b>Surface Parking</b>	<b>Staff</b>	<b>Patient</b>	<b>Visitor/ Retail</b>	<b>Barracks/ Lodging</b>	<b>Gov' t</b>	<b>Capacity</b>
A-LOT			8			8
C-LOT	23					23
D-LOT	75					75
E-LOT	35					35
G-LOT	394				15	409
H-LOT	49	54	54	6	1	164
I-LOT			48		2	50
J-LOT	36		12			48
K-LOT (NEW)			25			25
L-LOT				20		20
M-LOT			12			12
N-LOT	62					62
O-LOT		15				15
P-LOT (NEW)			24			24
Q-LOT				80		80
S-LOT					2	2
T-LOT			23			23
U-LOT	6		89			95
X-LOT	19		20			39
Y-LOT					25	25
Z-LOT	24		58		11	93
NSAB Ball Field			60			60
<b>Structured Parking</b>	<b>Staff</b>	<b>Patient</b>	<b>Visitor/ Retail</b>	<b>Barracks/ Lodging</b>	<b>Gov' t</b>	<b>Capacity</b>
Building 17	99	95	114	236	6	550
Building 32	82	626	470		24	1,202
Building 33 (NEW)			495			495
Building 54	749					749
Building 55	392	533			28	953
Building 60				51		51
Building 61				64		64
Building 63		924				924
Building 68 (NEW)	326			144		470
Building 71	1,117	32			2	1,151
Facilities Mgmt. Trans.					13	13
<b>On-Street Parking</b>						
R.B. Brown Drive	7					7
North Palmer Road	11	7				18
East Palmer Road	4					4
Stone Lake Road	74					74
<b>Entire Campus</b>	<b>3,584</b>	<b>2,286</b>	<b>1,512</b>	<b>601</b>	<b>129</b>	<b>8,112</b>
<b>Construction Reassignment</b>	<b>-100</b>				<b>+100</b>	
<b>Entire Campus</b>	<b>3,484</b>	<b>2,286</b>	<b>1,512</b>	<b>601</b>	<b>229</b>	<b>8,112</b>

**Figure 25: 2018 No Build Condition Parking Facility Locations**



NSA Bethesda has 11,686 existing staff and is projected to have 12,341 staff for the No Build condition, an increase in 655 staff. Based on the comparison between the existing and No Build condition parking space inventory, there would be a net loss of 41 staff parking spaces at NSA Bethesda. There would be no parking spaces to accommodate the 655 new staff added through the short-term planned/ongoing projects. For consistency with ongoing NSA Bethesda studies, current installation data were included in the No Build condition. It is assumed that all other new staff added through the short-term planned/ongoing projects would access the installation by means other than SOVs. Table 19 contains the final No Build condition peak hour trip generation.

**Table 19: Final No Build Condition Peak Hour Trip Generation**

Facility Name	Independent Variable	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1 Sanctuary Hall (WWTL)	200 beds	25	9	34	30	28	58
<sup>a</sup> Navy Exchange	33,029 SF	0	0	0	34	34	68
6 Navy Lodge Expansion	64 Rooms	15	9	24	20	18	38

<sup>a</sup> Project not part of the short-term planned/ongoing projects, however, it was under construction during the 2011 data collection and was added to ensure the traffic expected to be generated was included in the No Build condition.

### *Trip Distribution*

The trip distribution for the short-term planned/ongoing projects follows the same distribution percentages established in the 2008 NNMC Transportation Study in support of the BRAC EIS completed in March 2008, with one exception. Through agency coordination, MSHA indicated that the 2008 NNMC Transportation Study percentage of trips destined to/from West Cedar Lane seemed inaccurate and requested that the study use the 2011 existing condition turning movement counts collected at Rockville Pike at West Cedar Lane to update the calculation. Based on the 2011 existing condition turning movement counts, the percentage of trips destined to/from West Cedar Lane was revised from 30 to 4 percent. This resulted in the trips destined to/from Rockville Pike being revised from 10 to 36 percent.

Each short-term planned/ongoing project trip was assigned the shortest path through the internal NSA Bethesda roadway network between the appropriate entrance/exit gate and the parking facility expected to handle the trip, based on the updated employee distribution percentages. Once outside NSA Bethesda, trips followed the external network, following the appropriate distribution percentage through the network. The destination parking facility selected for each new trip was based on the new or expanded parking facility expected to directly serve Sanctuary Hall (WWTL) (Building 68), Navy Lodge (U-LOT), or NEX (Building 33). Figure 26 shows the updated distribution percentages based on the 2008 NNMC Transportation study, and Figures 27A, 27B, and 27C show the short-term planned/ongoing project trip distribution.

In addition to the trip distribution for the short-term planned/ongoing projects, most of I-Lot and the 139-space lot in the Z-Lot complex will be closed by 2018. The closing of these lots will shift current users to other facilities within NSA Bethesda. Because the re-assignment of these spaces will be determined by NSA Bethesda, spaces would potentially be spread across multiple lots, and the impact would be limited to the internal network; this study did not model these movements.



Figure 27A: Short-term Planned/Ongoing Project Trip Distribution

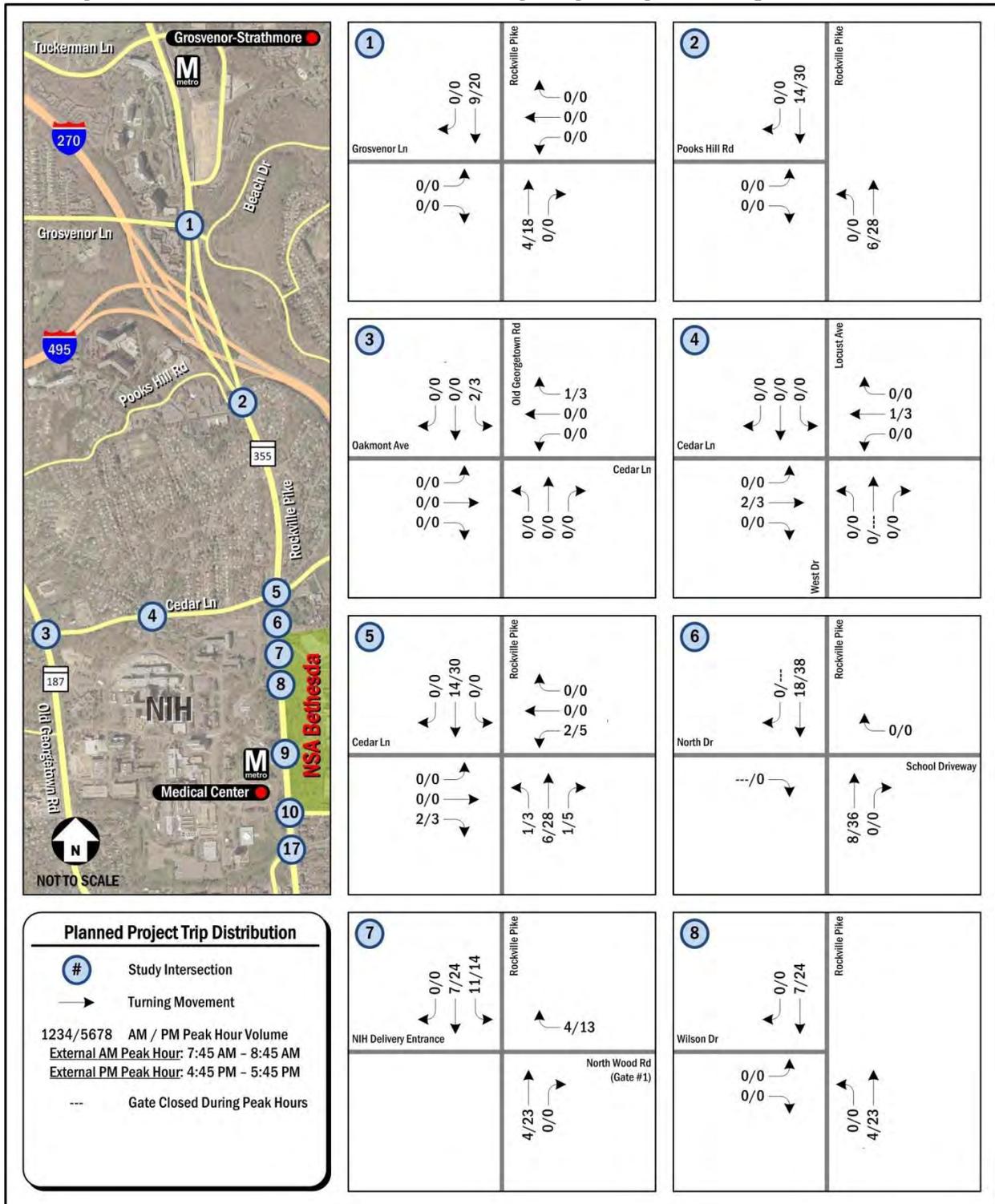


Figure 27B: Short-term Planned/Ongoing Project Trip Distribution

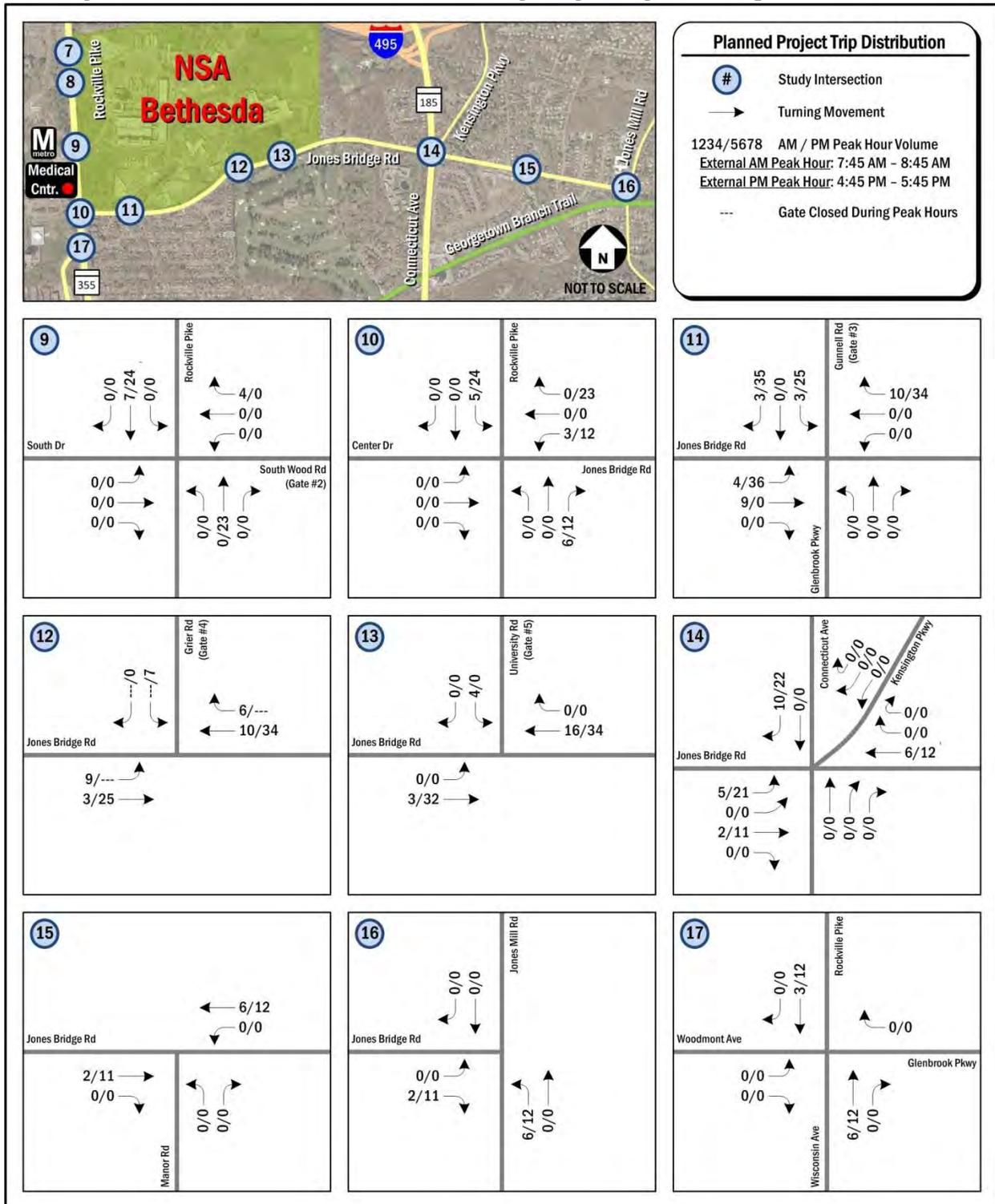
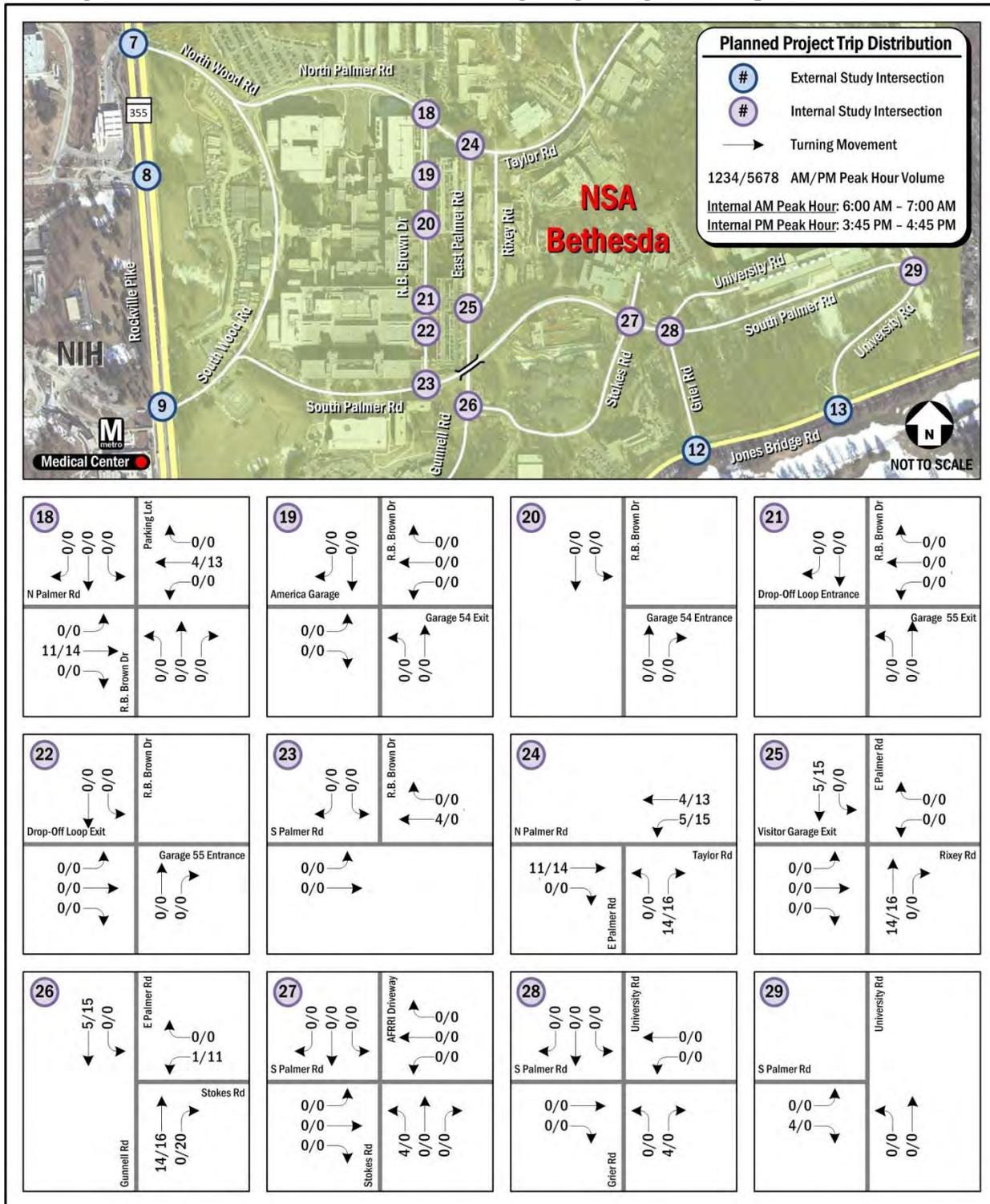


Figure 27C: Short-term Planned/Ongoing Project Trip Distribution



### **2018 No Build Condition Trip Distribution**

The 2018 No Build condition trip distribution consists of the background development (external) and short-term planned/ongoing project (internal) trips added to the 2011 existing condition turning movement volumes. This combined distribution provides the data required to conduct the No Build condition operational analysis. Figures 28A, 28B, and 28C contain the 2018 No Build condition projected turning movement counts.

#### **3.2.2 The 2018 No Build Condition Alternative Operational Analysis**

The operational analysis for the 2018 No Build condition provides a base condition, which will be compared to each Build Alternative. The analysis consists of an external intersection, external arterial, and internal intersection analysis based on the traffic flows developed in the trip distribution section.

Following the same procedure used for the existing conditions operational analysis, the traffic study used the CLV procedure to determine the intersection CLV LOS for all external signalized intersections. As a secondary means of analyzing the external intersections, the traffic study used the HCM, which provides the vehicle delay and vehicle density. Based on the vehicle delay, the HCM LOS is calculated. As the CLV method is not the most accurate analysis method when applied to unsignalized intersections, the traffic study used the HCM as a primary means of analyzing intersections for all external unsignalized intersections and all internal intersections, which are all unsignalized.

##### **3.2.2.1 External Intersection Analysis**

Following the same process as the existing conditions analysis for the external intersections, the 17 external intersections were analyzed, including nine along Rockville Pike, six along Jones Bridge Road, and two along West Cedar Lane.

The 2018 No Build condition includes all projects listed in the external roadway improvements (including the gate improvements) and the transit improvement, representing the future network. Figures 29A, 29B, and 29C show the 2018 No Build condition lane geometry and traffic control.

Figure 28A: 2018 No Build Condition Projected Turning Movement Counts

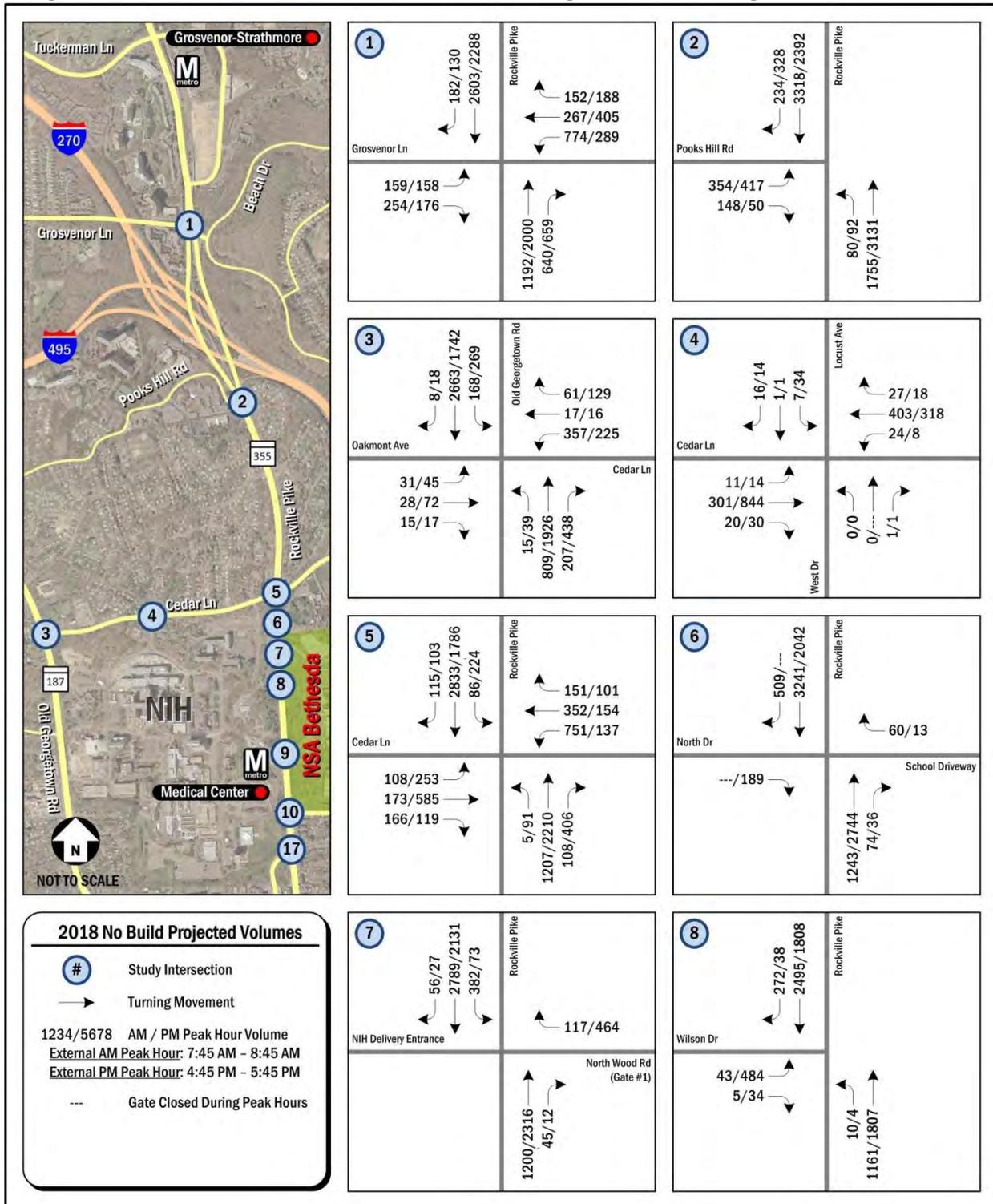


Figure 28B: 2018 No Build Condition Projected Turning Movement Counts

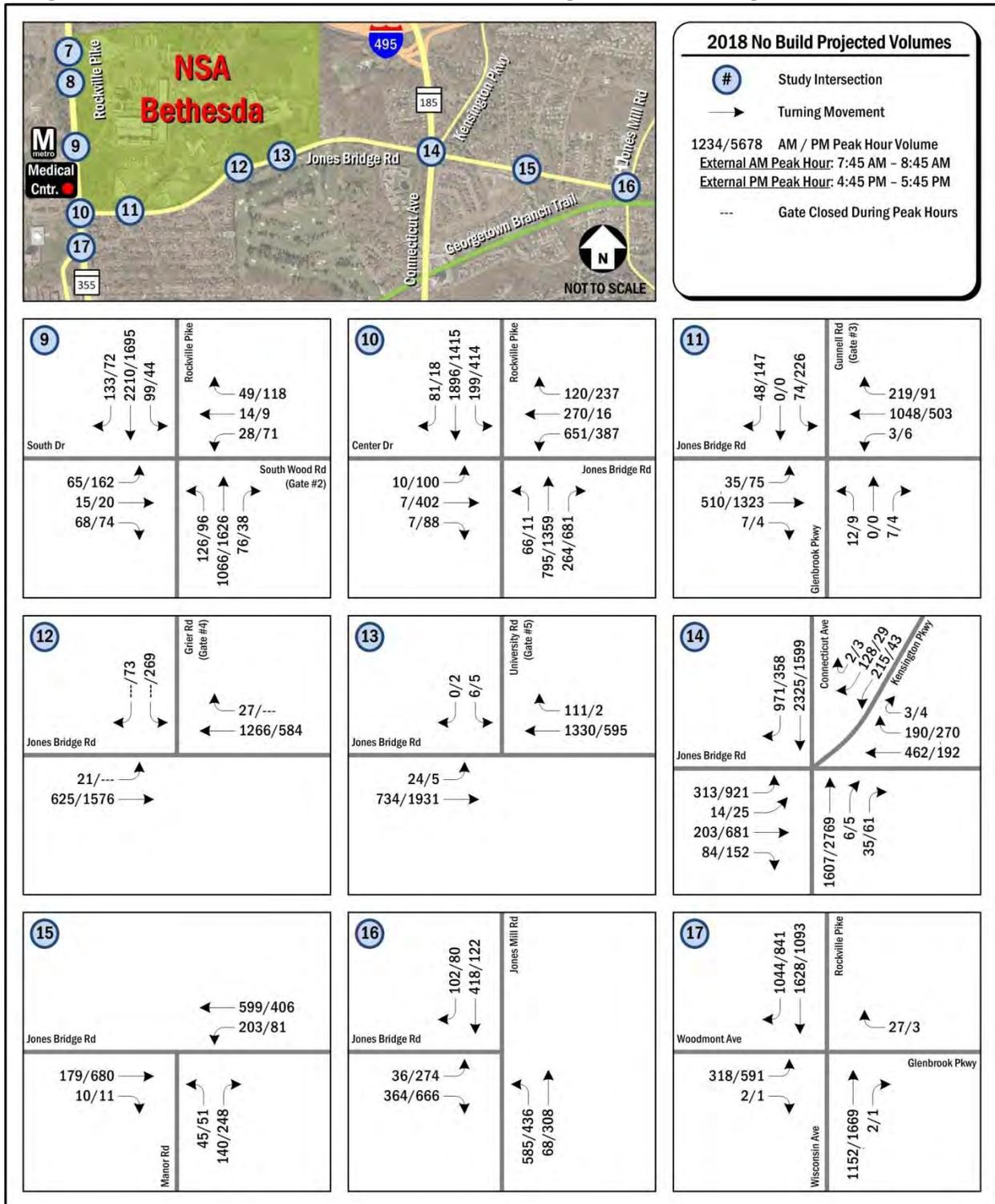


Figure 28C: 2018 No Build Condition Projected Turning Movement Counts

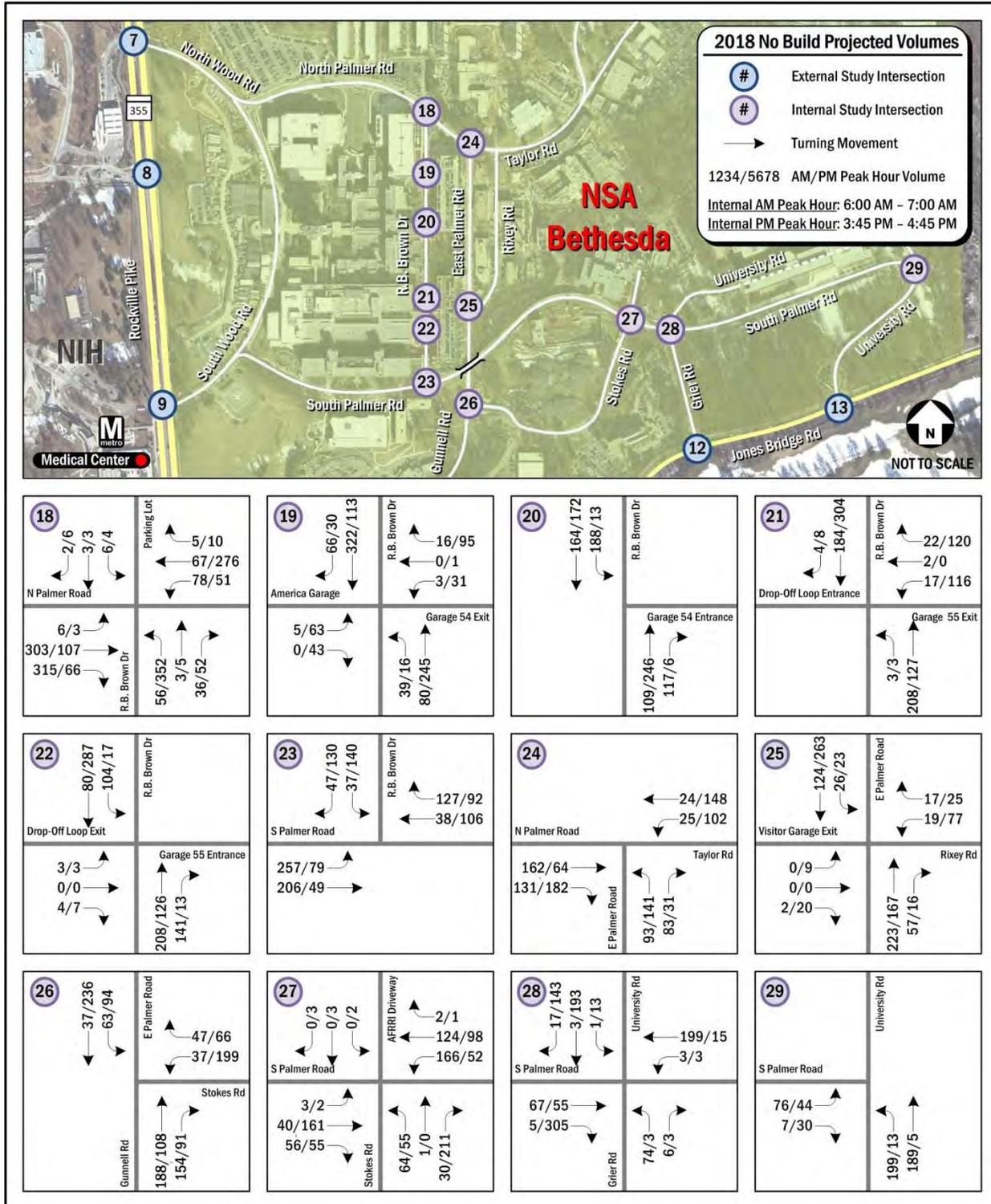


Figure 29A: 2018 No Build Condition Lane Geometry and Traffic Control

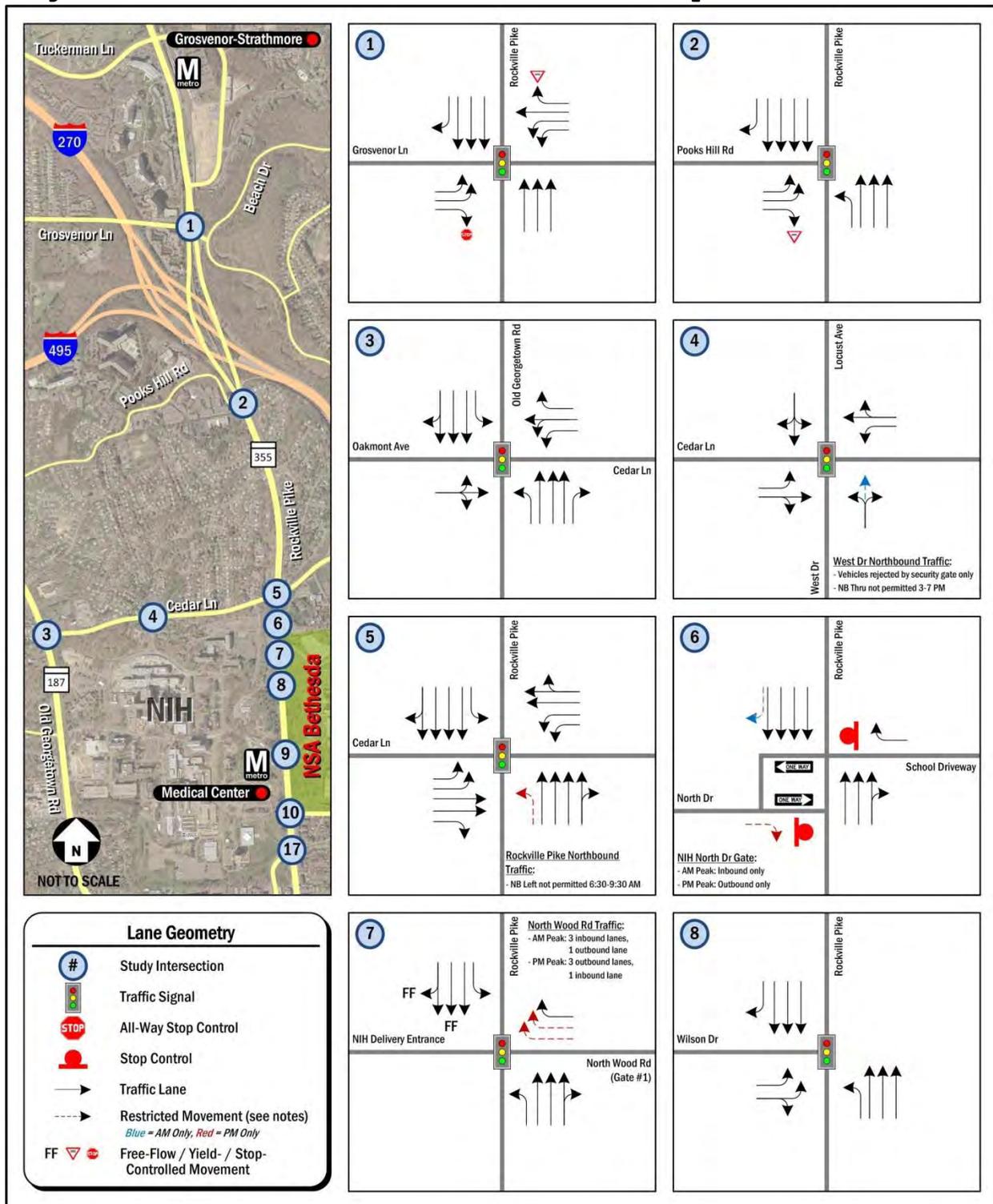


Figure 29B: 2018 No Build Condition Lane Geometry and Traffic Control

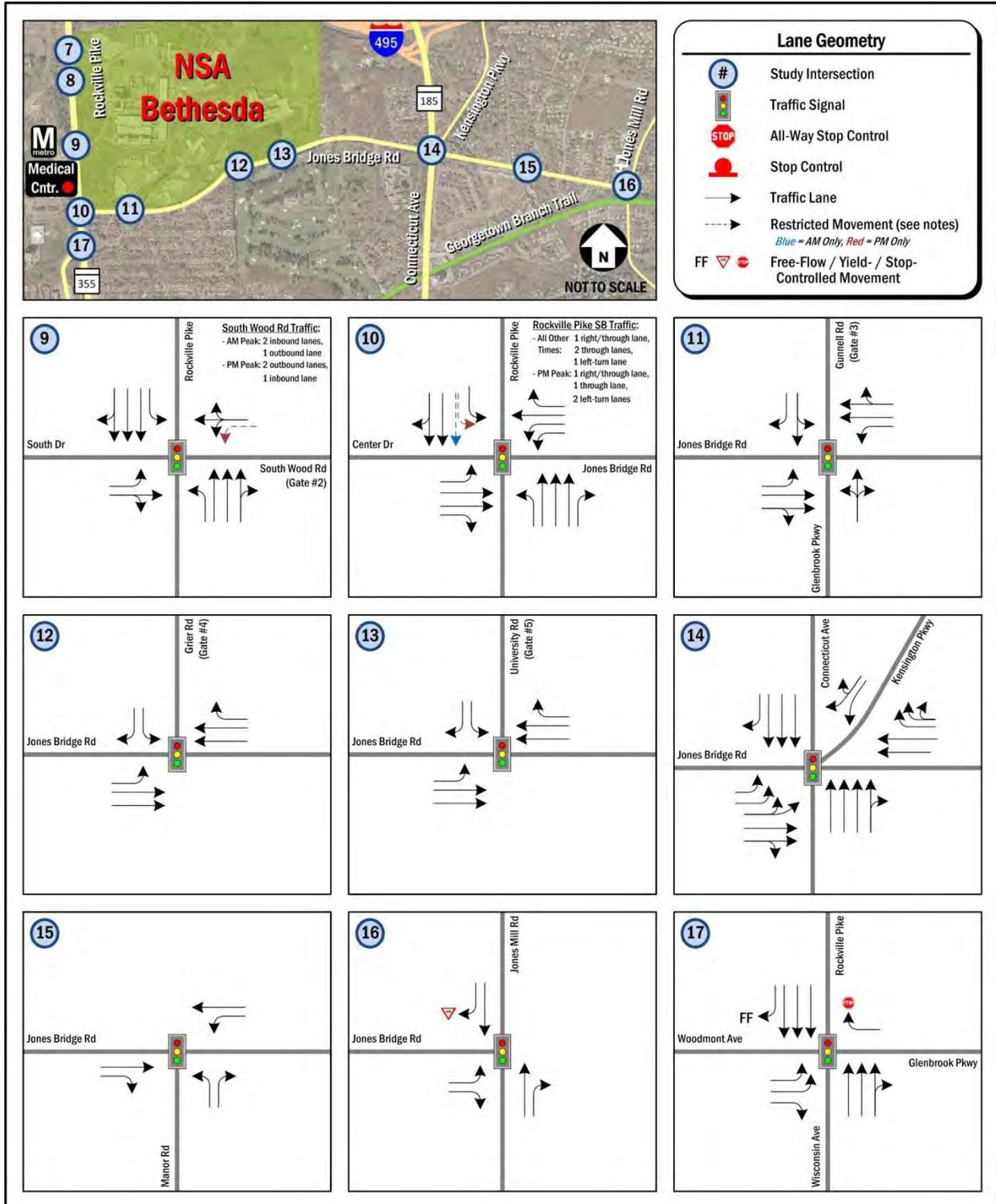
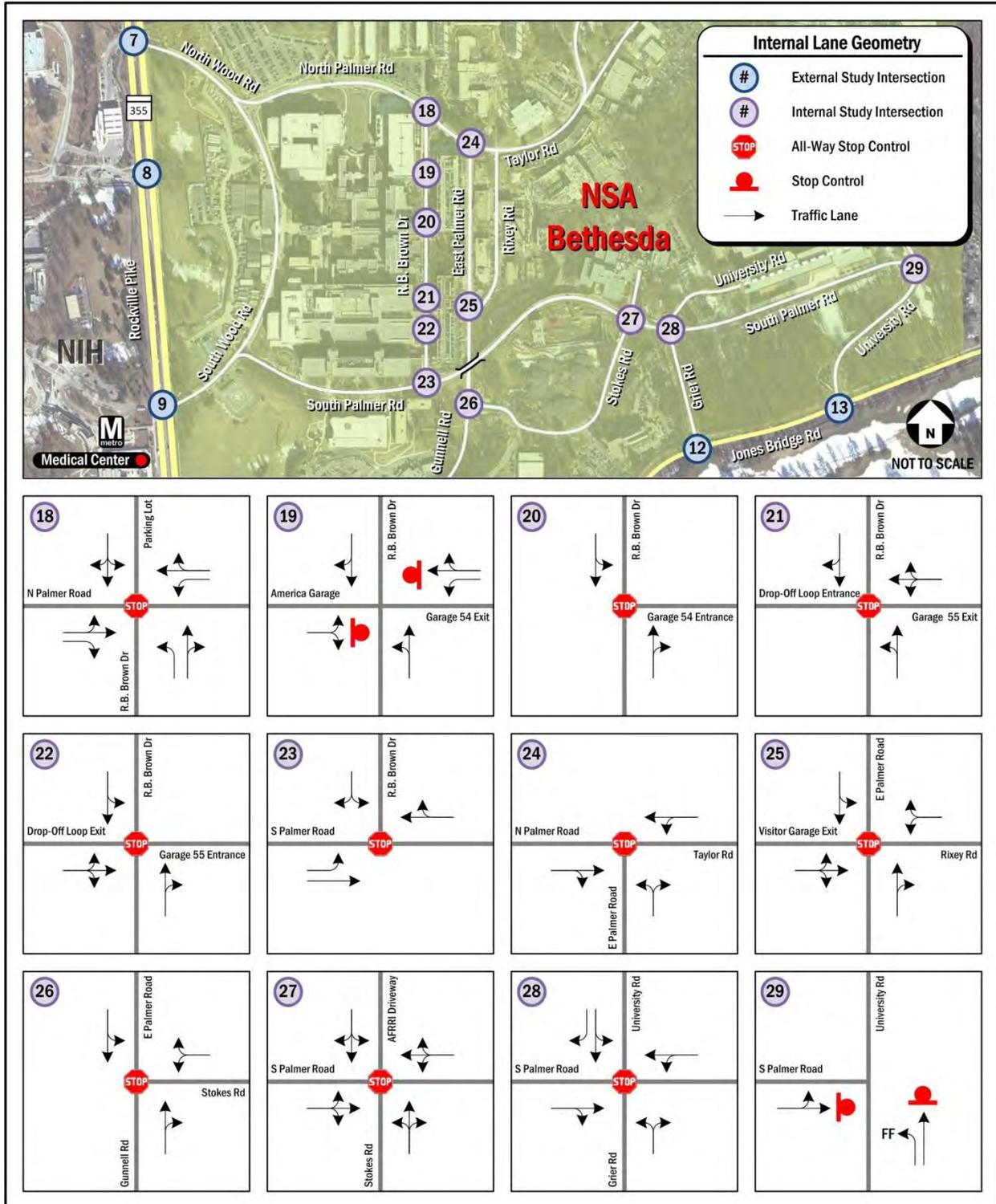


Figure 29C: 2018 No Build Condition Lane Geometry and Traffic Control



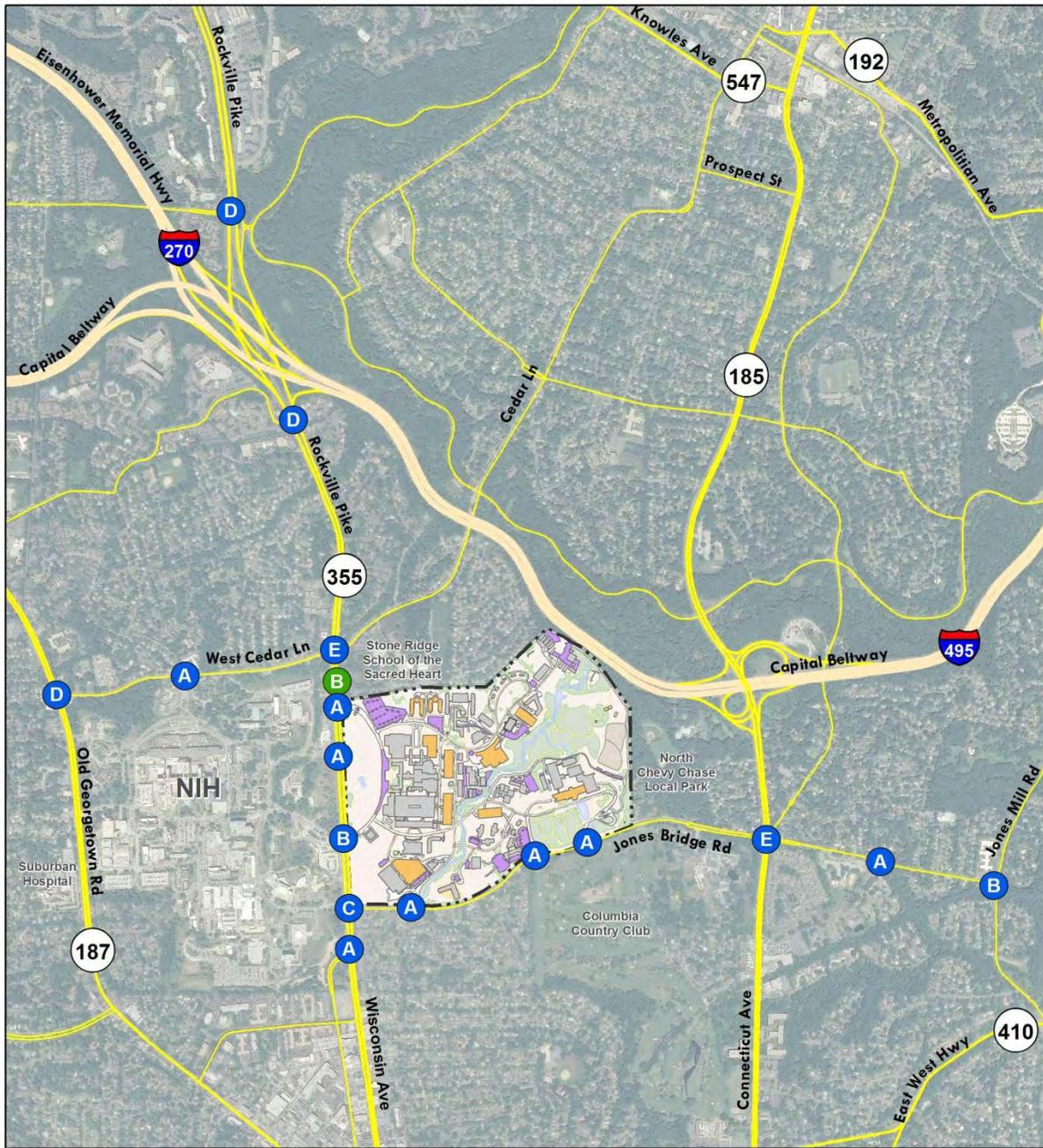
*Critical Lane Volume Analysis*

As required by M-NCPPC's LATR and MSHA, the CLV analysis was conducted for the No Build condition, which is based on calculating the total conflicting traffic volume to determine the CLV LOS (letter grade A through F). The analysis identified three intersections that would operate at LOS E. Specifically, during the AM peak hour, #5 Rockville Pike at West Cedar Lane and #14 Connecticut Avenue at Jones Bridge Road would both operate at LOS E. During the PM peak hour, #3 Old Georgetown Road at West Cedar Lane, #5 Rockville Pike at Cedar Lane, and #14 Connecticut Avenue at Jones Bridge Road would all operate at LOS E. The remaining intersections would operate at LOS D or better for the 2018 No Build condition. Table 20 shows the 2018 No Build condition CLV analysis for the external intersections. Figures 30A and 30B show the 2018 No Build condition CLV intersection LOS.

**Table 20: 2018 No Build Condition CLV Analysis for the External Intersections**

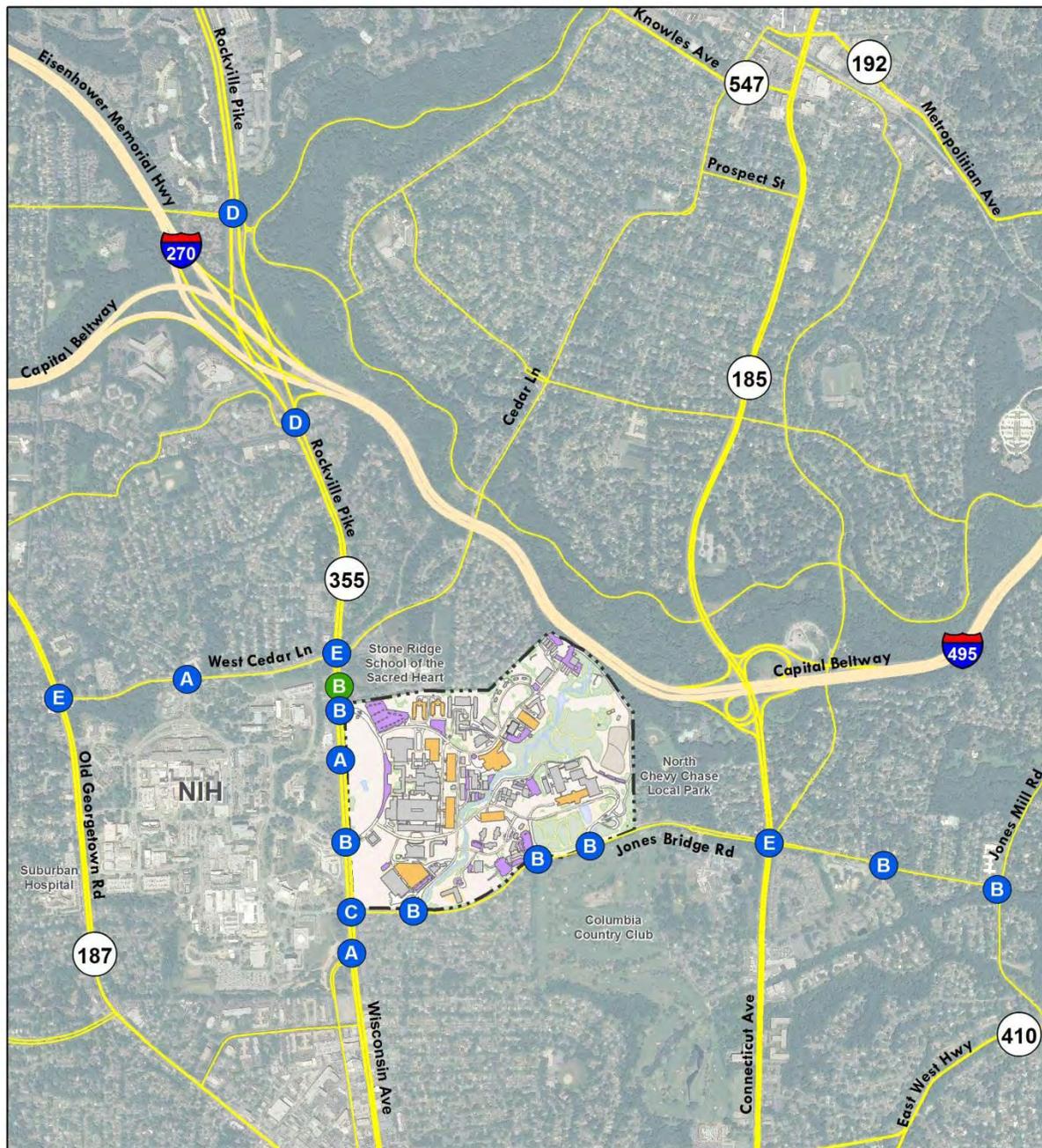
	CLV Analysis			
	AM Peak Hour		PM Peak Hour	
	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	489	A	939	A
5. Rockville Pike & Cedar Lane	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	<i>un-signalized</i>		<i>un-signalized</i>	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	843	A	1,033	B
8. Rockville Pike & Wilson Drive	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	771	A	938	A

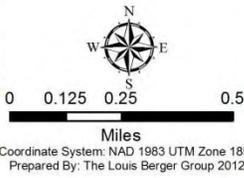
Figure 30A: 2018 AM Peak Hour No Build Condition CLV Intersection LOS



<b>Future Transportation</b>			 0 0.125 0.25 0.5 Miles Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Signalized Intersection LOS</li> <li><span style="color: green;">●</span> Unsignalized Intersection (HCM LOS for minor approaches only)</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: gray; width: 15px; height: 10px; display: inline-block;"></span> Building</li> <li><span style="background-color: orange; width: 15px; height: 10px; display: inline-block;"></span> Parking Structure</li> <li><span style="background-color: purple; width: 15px; height: 10px; display: inline-block;"></span> Parking Lot</li> </ul>			

Figure 30B: 2018 PM Peak Hour No Build Condition CLV Intersection LOS



<b>Future Transportation</b>			 <p>Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012</p>	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Signalized Intersection LOS</li> <li><span style="color: green;">●</span> Unsignalized Intersection (HCM LOS for minor approaches only)</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: gray; width: 15px; height: 10px; display: inline-block;"></span> Building</li> <li><span style="background-color: orange; width: 15px; height: 10px; display: inline-block;"></span> Parking Structure</li> <li><span style="background-color: purple; width: 15px; height: 10px; display: inline-block;"></span> Parking Lot</li> </ul>			

*Highway Capacity Manual Intersection Analysis*

The HCM was used to provide a secondary analysis using the Synchro Traffic Analysis software to determine the intersection operation. For each intersection movement and entire approach, the average delay was calculated using vehicles per second and vehicle saturation was calculated using the volume to capacity. The HCM LOS for each movement, the entire approach, and overall intersection were also calculated.

The average delay would provide the number of seconds for each vehicle to travel through each study intersection. The saturation would provide a measure of the ratio between the number of vehicles per hour and the capacity. The LOS provides an overall operational rating (A through F) for each approach and intersection, based on the average vehicle delay.

Based on the HCM analysis, all 16 signalized intersections would operate at LOS D or better during the AM peak hour. During the PM peak hour, the #1 intersection of Rockville Pike at Grosvenor Lane would operate at LOS E. All other signalized intersections would operate at LOS D or better during both peak hours. The #6 Rockville Pike at North Drive is an unsignalized intersection; the North Drive and School Driveway approaches would operate at LOS B during both peak hours. Table 21 shows the 2018 No Build condition HCM analysis for the external intersections.

*Arterial Analysis*

As required by M-NCPPC's Policy Area Mobility Review (PAMR), the No Build condition and Build Alternatives must be compared using arterial analysis to determine if the Build Alternative's arterial travel speed is significantly less than the No Build condition arterial travel speed for the main travel corridors. It is important to note that the 2011 existing condition travel times were obtained as part of a comprehensive data collection process to provide a snapshot in time of the travel operations along Rockville Pike and Jones Bridge Road. This 2011 travel time data cannot be compared to either future condition as different roadway geometry and land use will exist. To satisfy this requirement, the traffic study conducted an arterial analysis along the three main corridors covered in the study area: Rockville Pike, Jones Bridge Road, and West Cedar Lane. The study calculated the arterial speed, travel times, and LOS following the HCM arterial analysis process. The arterial LOS is a grade from A through F, based upon the total travel time between Grosvenor Lane and Woodmont Avenue along Rockville Pike, between Rockville Pike and Jones Mill Road along Jones Bridge Road, and between Old Georgetown Road and Rockville Pike along West Cedar Lane.

The travel times would be longer and speeds slower when traveling in the southbound direction during the AM peak hour along Rockville Pike,

reflecting the heavier traffic flow. Jones Bridge Road travel times and speeds would be faster during the AM peak hour, while West Cedar Lane would have slower speeds and longer travel times in the eastbound direction during both AM and PM peak hours. Tables 22 and 23 show the 2018 No Build condition AM and PM peak hour arterial analyses.

**Table 21: 2018 No Build Condition HCM Analysis for the External Intersections**

	HCM Analysis						
	Approach	AM Peak Hour			PM Peak Hour		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	125.2		F	73.7		E
	Westbound	54.4		D	79.4		E
	Northbound	12.1		B	28.6		C
	Southbound	33.1		C	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	60.6		E	67.5		E
	Northbound	9.0		A	35.5		D
	Southbound	25.0		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	23.9		C	31.9		C
	Westbound	37.7		D	37.3		D
	Northbound	13.8		B	20.2		C
	Southbound	17.9		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	19.6		B	39.7		D
	Westbound	11.8		B	7.5		A
	Northbound	14.7		B	24.8		C
	Southbound	15.1		B	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.7		E	64.6		E
	Westbound	51.7		D	108.7		F
	Northbound	16.1		B	41.3		D
	Southbound	36.6		D	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	10.9		B
	Westbound	9.7		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	21.1		C	58.6		E
	Northbound	4.4		A	2.4		A
	Southbound	2.4		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	60.7		E	61.6		E
	Northbound	8.9		A	13.9		B
	Southbound	1.3		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	63.5		E	70.0		E
	Westbound	52.1		D	45.7		D
	Northbound	6.9		A	5.7		A
	Southbound	8.3		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	60.6		E	57.9		E
	Westbound	31.1		C	65.8		E
	Northbound	29.6		C	40.7		D
	Southbound	67.6		E	38.0		D

**Table 21: 2018 No Build Condition HCM Analysis for the External Intersections (continued)**

		HCM Analysis						
		Approach	AM Peak Hour			PM Peak Hour		
			Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>	
	Eastbound	3.9		A	7.7		A	
	Westbound	4.5		A	14.0		B	
	Northbound	23.7		C	17.4		B	
	Southbound	27.1		C	27.7		C	
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>	
	Eastbound	1.7		A	14.2		B	
	Westbound	1.7		A	11.3		B	
	Southbound	0.0		A	24.7		C	
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>	
	Eastbound	1.7		A	4.3		A	
	Westbound	6.6		A	4.2		A	
	Southbound	27.0		C	27.9		C	
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>	
	Eastbound	56.0		E	55.7		E	
	Westbound	42.3		D	70.1		E	
	Northbound	20.2		C	49.1		D	
	Southbound	58.9		E	23.7		C	
	Southwestbound	82.6		F	86.4		F	
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>	
	Eastbound	19.1		B	29.0		C	
	Westbound	10.8		B	11.6		B	
	Northbound	11.6		B	21.9		C	
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>	
	Eastbound	14.8		B	19.8		B	
	Northbound	36.3		D	33.2		C	
	Southbound	47.2		D	36.7		D	
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>	
	Eastbound	48.7		D	36.6		D	
	Westbound	41.2		D	34.0		C	
	Northbound	5.4		A	20.9		C	
	Southbound	57.1		E	6.5		A	

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 22: 2018 No Build Condition AM Peak Hour Arterial Analysis**

Arterial	Direction	Travel Speed	Travel Time	LOS
Rockville Pike	Northbound	22.7	5:46	C
	Southbound	18.9	7:07	C
Jones Bridge Road	Eastbound	19.7	5:14	C
	Westbound	19.5	5:17	C
West Cedar Lane	Eastbound	14.7	2:57	D
	Westbound	16.9	2:34	D

**Table 23: 2018 No Build Condition PM Peak Hour Arterial Analysis**

Arterial	Direction	Travel Speed	Travel Time	LOS
Rockville Pike	Northbound	17.9	7:19	D
	Southbound	18.5	7:15	C
Jones Bridge Road	Eastbound	18.0	5:44	D
	Westbound	18.2	5:40	C
West Cedar Lane	Eastbound	12.3	3:31	D
	Westbound	17.4	2:30	D

### **3.2.2.2 Internal Intersection Analysis**

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal 12 intersections. According to the HCM analysis, all intersections would operate at LOS C or better. As was the case for the existing conditions, the #19 R.B. Brown Drive intersection with Building 63 (America Garage) has a very high pedestrian volume, resulting in the HCM reporting LOS F. This operation does not reflect the actual intersection operation, which would be more in line with the AM peak hour operating at LOS C or better. Table 24 shows the 2018 No Build condition internal intersection analysis, and Figures 31A and 31B show the 2018 internal intersection LOS.

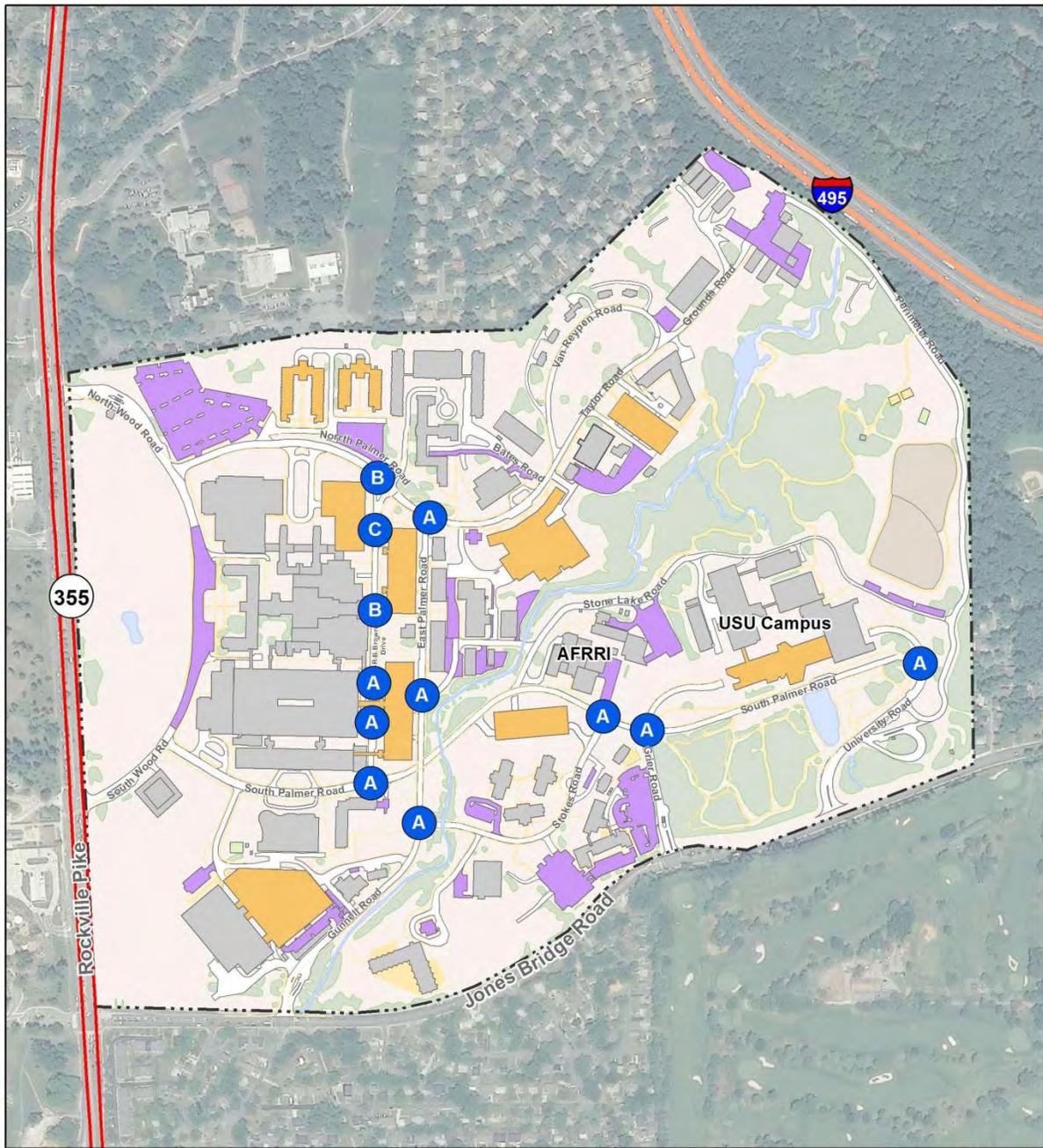
**Table 24: 2018 No Build Condition Internal Intersection Analysis**

	Approach	AM Peak Hour		PM Peak Hour	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>10.3</b>	<b>B</b>	<b>16.5</b>	<b>C</b>
	Eastbound	10.9	B	9.7	A
	Westbound	8.7	A	15.6	C
	Northbound	9.0	A	20.5	C
	Southbound	9.6	A	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	17.6	C	<sup>a</sup>	F
	Westbound	12.8	B	<sup>a</sup>	F
	Northbound Left	3.1	A	0.6	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>8.8</b>	<b>A</b>
	Northbound	9.2	A	9.0	A
	Southbound	11.5	B	8.5	A
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>9.1</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
	Westbound	8.1	A	10.9	B
	Northbound	9.4	A	9.5	A
	Southbound	8.8	A	12.3	B
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
	Eastbound	8.1	A	7.8	A
	Northbound	10.1	B	8.3	A
	Southbound	9.0	A	10.0	B
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>10.6</b>	<b>B</b>
	Eastbound	10.3	B	8.9	A
	Westbound	8.7	A	10.7	B
	Southbound	9.1	A	11.4	B
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>9.6</b>	<b>A</b>	<b>10.7</b>	<b>B</b>
	Eastbound	10.0	A	10.0	B
	Westbound	8.6	A	11.4	B
	Northbound	9.5	A	10.7	B
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>10.2</b>	<b>B</b>
	Eastbound	7.5	A	8.4	A
	Westbound	8.1	A	9.8	A
	Northbound	9.4	A	9.7	A
	Southbound	8.7	A	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>15.0</b>	<b>B</b>
	Westbound	8.6	A	16.0	C
	Northbound	10.1	B	11.5	B
	Southbound	8.9	A	16.2	C
27. AFRRRI Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>10.7</b>	<b>B</b>
	Eastbound	8.1	A	10.3	B
	Westbound	10.4	B	11.0	B
	Northbound	8.9	A	10.8	B
	Southbound	0.0	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>12.5</b>	<b>B</b>
	Eastbound	8.4	A	13.7	B
	Westbound	9.1	A	9.2	A
	Northbound	9.0	A	8.9	A
	Southbound	6.9	A	11.9	B
29. University Road & South Palmer Road	Westbound	8.0	A	7.1	A
	Northbound	7.9	A	7.1	A

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.

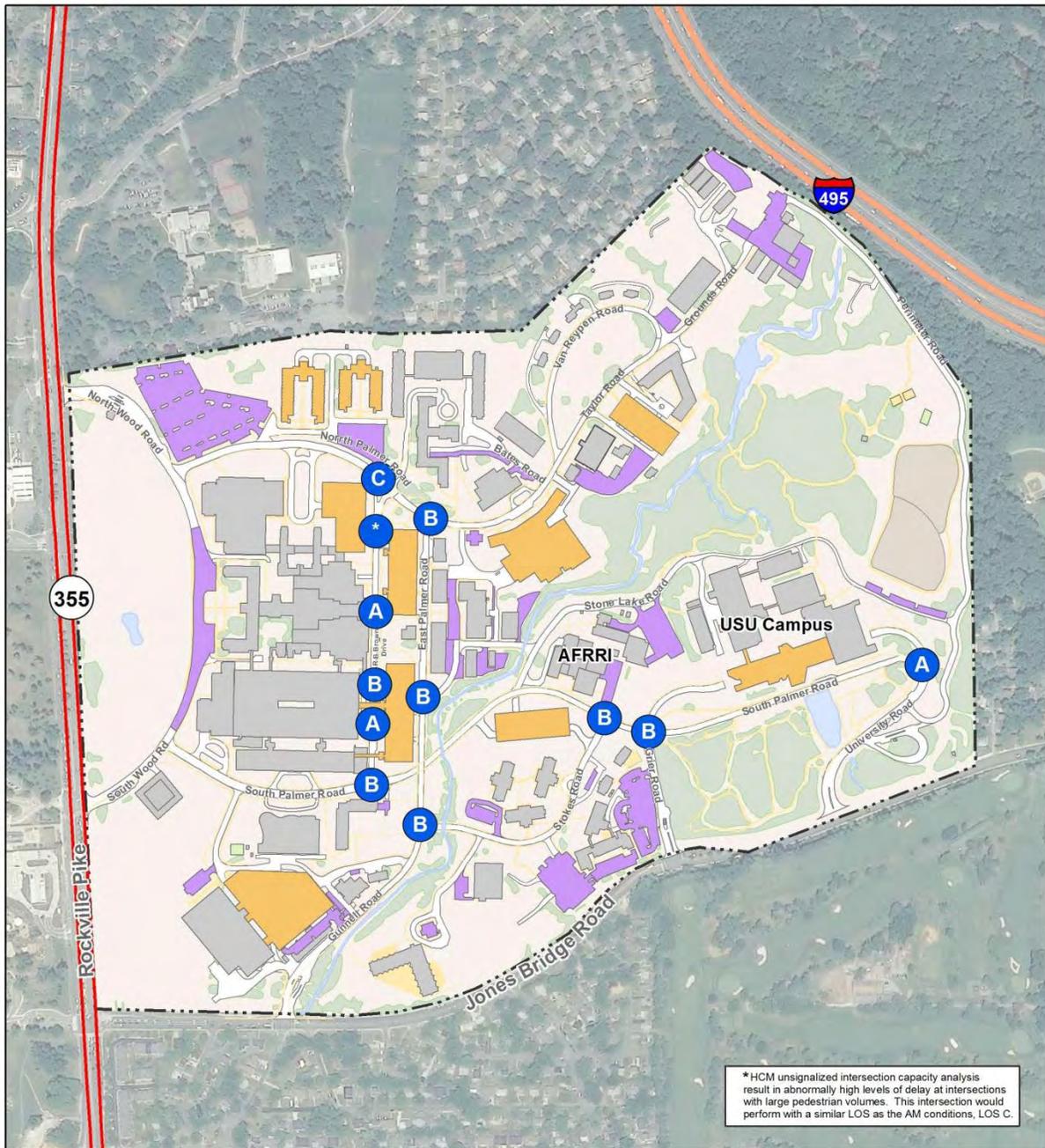
Note: Intersections with two-way STOP-control have no overall LOS identified.

Figure 31A: 2018 AM Peak Hour No Build Condition HCM Intersection LOS



<p><b>Future Transportation</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: gray; border: 1px solid black;"></span> Building</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid black;"></span> Parking Structure</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid black;"></span> Parking Lot</li> </ul>		<p>Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012</p>	<p style="text-align: center;"><b>MAP INDEX</b></p>
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Figure 31B: 2018 PM Peak Hour No Build Condition HCM Intersection LOS



<p><b>Future Transportation</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: gray; border: 1px solid black;"></span> Building</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> Parking Structure</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; border: 1px solid black;"></span> Parking Lot</li> </ul>		<p>Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012</p>	<p><b>MAP INDEX</b></p>
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### 3.2.3 2018 Build Alternative Introduction

The 2018 Build Alternatives traffic and pedestrian analysis would be based on the addition of new or changes in existing traffic patterns to access the proposed new Medical Facilities Development parking facilities and proposed new parking facilities as part of the University Expansion (Building F). Table 25 lists the proposed parking facilities and the building complexes served. Figure 32 shows the locations of the proposed parking facilities.

**Table 25: Proposed Parking Facilities**

Option Letter	Parking Facility	Building Complex Served
A	New underground parking garage with its entrance located at the North Palmer Road intersection with North Wood Road and exit located at the South Palmer Road intersection with South Wood Road	Medical facility
B	New underground parking garage with its entrance and exit located at North Palmer Road (G-Lot)	Medical facility
C	New parking garage in the industrial/warehouse area accessed from Grounds Road	Medical facility
D	New parking garage accessed from Stokes Road (H-Lot)	Medical facility
E	New parking garage accessed from Taylor Road adjacent to the proposed Wounded Warrior Transition Lodge	Medical facility
F	New parking garage accessed from Stone Lake Road (USU Alternative 2)	USU
G	New parking facility along South Palmer Road between Gates #4 and #5 (USU Alternative 1)	USU

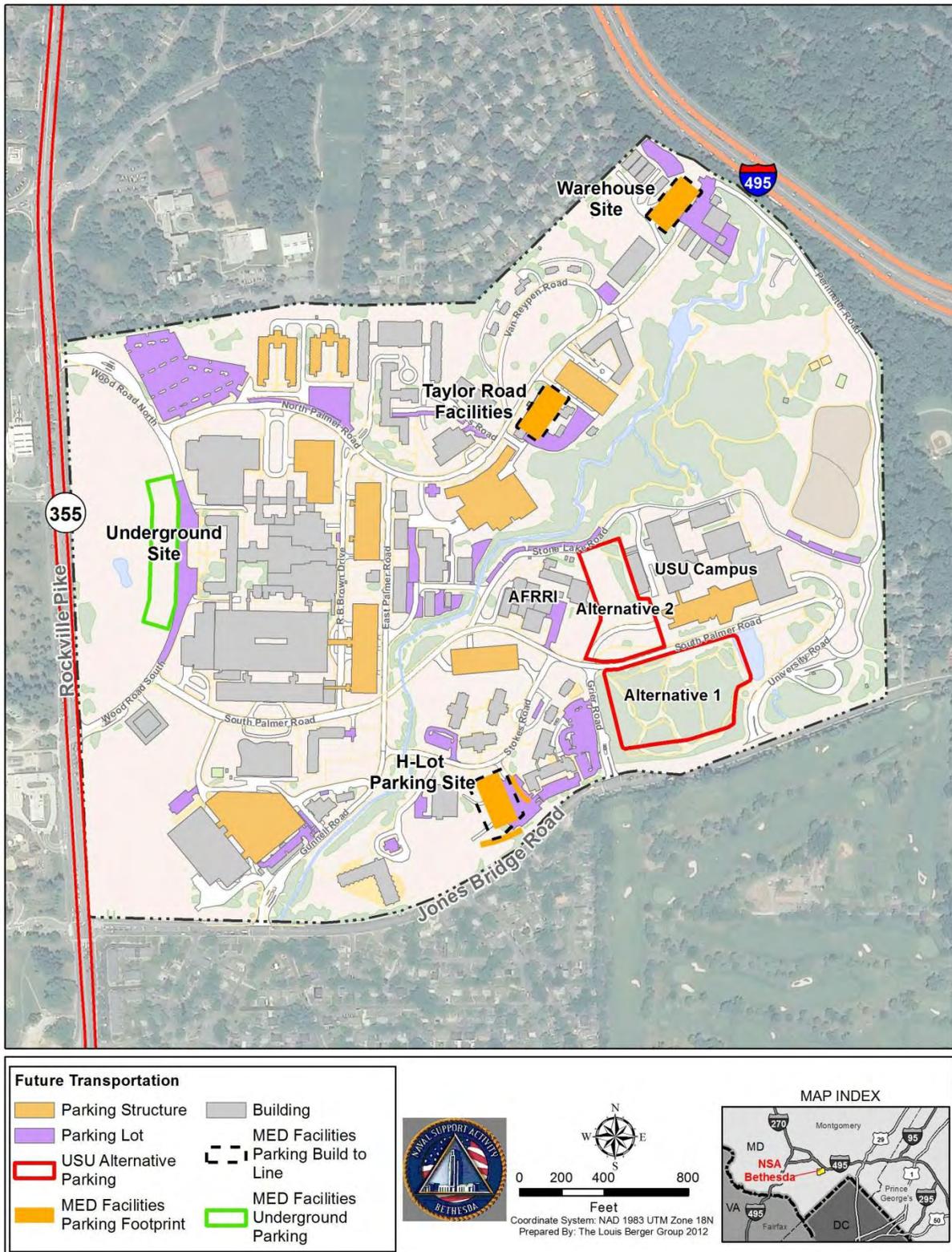
The traffic study Build Alternatives are a combination of one medical facility parking option and one USU parking facility alternative option. Since there are five medical facility proposed parking options and two USU parking options, the total number of alternatives is ten (5 Medical Facilities Development options times 2 University Expansion options). Table 26 lists the ten 2018 traffic study Build Alternatives and the 2018 No Build condition.

Each Build Alternative was analyzed based on the new vehicle trips added to the roadway system by the proposed actions and combined with the trips already represented in the No Build condition (see Sections 3.2.1.3 and 3.2.1.6). The new vehicle trips are based on the 270 new employees expected at NSA Bethesda by 2018 due to the Medical Facilities Development and University Expansion. The trips already represented in the No Build condition consist of the generated trips external to NSA Bethesda (background developments) and generated trips from NSA Bethesda short-term planned/ongoing projects. These trips would occur as a result of the 655 employees that are projected to be added to NSA Bethesda by 2018 regardless of whether the proposed action is implemented.

**Table 26: List of 2018 Traffic Study Build Alternatives**

Alternative	Combination of Proposed Parking Facilities from Table 25
No Build Condition	Use of parking facilities expected to be in place based upon the addition of eight internal installation facilities (not including the Medical Facilities Development and Building F)
1	Option A: new underground parking garage with its entrance located at the North Palmer Road intersection with North Wood Road and exit located at the South Palmer Road intersection with South Wood Road
2	Option F: new parking garage accessed from Stone Lake Road (USU Alternative 2)
3	Option B: new underground parking garage with its entrance and exit located along North Palmer Road (G-Lot) Option F: new parking garage accessed from Stone Lake Road (USU Alternative 2)
4-Preferred Alternative	Option C: new parking garage in the industrial/warehouse area accessed from Grounds Road Option F: new parking garage accessed from Stone Lake Road (USU Alternative 2)
5	Option D: new parking garage accessed from Stokes Road (H-Lot) Option F: new parking garage accessed from Stone Lake Road (USU Alternative 2)
6	Option E: new parking garage accessed from Taylor Road adjacent to the proposed Wounded Warrior Barracks Option F: new parking garage accessed from Stone Lake Road (USU Alternative 2)
7	Option A: new underground parking garage with its entrance located at the North Palmer Road intersection with North Wood Road and exit located at the South Palmer Road intersection with South Wood Road Option G: new parking facility along South Palmer Road between Gates #4 and #5 (USU Alternative 1)
8	Option B: new underground parking garage with its entrance and exit located along North Palmer Road (G-Lot) Option G: new parking facility along South Palmer Road between Gates #4 and #5 (USU Alternative 1)
9	Option C: new parking garage in the industrial/warehouse area accessed from Grounds Road Option G: new parking facility along South Palmer Road between Gates #4 and #5 (USU Alternative 1)
10	Option D: new parking garage accessed from Stokes Road (H-Lot) Option G: new parking facility along South Palmer Road between Gates #4 and #5 (USU Alternative 1)
	Option E: new parking garage accessed from Taylor Road adjacent to the proposed Wounded Warrior Barracks Option G: new parking facility along South Palmer Road between Gates #4 and #5 (USU Alternative 1)

Figure 32: Proposed Parking Facility Locations



### **3.2.4 Build Alternative 1**

This alternative would include the construction of a new underground 500-space Medical Facilities Development parking structure designated for patients, visitors, and VIPs only and the construction of a 400-space parking structure known as USU Alternative 2 designated for employees. The 500-space underground parking structure would be located between North and South Wood Roads, with the entrance located at the North Wood Road and North Palmer Road intersection and exit located at the South Wood Road and South Palmer Road intersection. Appendix D4 contains the proposed concept for this facility.

The USU Alternative 2 parking structure would replace the existing N-Lot, with the entrance located on Stone Lake Road and two exits, one serving Stone Lake Road and the other connecting to the South Palmer Road and Grier Road intersection.

#### **3.2.4.1 Trip Generation**

The trips expected to be generated for this alternative would be the same for Build Alternatives 3, 5, 6, 7, 8, 9, and 10 based on the increase in staff for the Medical Facilities Development (50 employees) and USU Expansion (220 employees) and the assumption that the new USU Alternative 2 parking structure would accommodate all of these new employees. Using the latest ITE Trip Generation Manual, the total number of trips was calculated based upon the projected number of employees expected in each facility. Existing or new staff would not be allowed to use the underground parking garage constructed under this alternative nor would existing or new staff be allowed to use the new spaces in Building 55 that may open up because patients, visitors, or VIPs may use the new underground parking garage. The existing Building 55 spaces allocated for patients, visitors, and VIPs would continue to be designated for patients, visitors, and VIPs.

NCPC maintains a parking policy of one parking space for every three employees for NSA Bethesda. There would be an estimated 12,341 staff employed at NSA Bethesda in the 2018 No Build condition. Based on the 2018 No Build condition parking matrix (Table 18), 3,484 staff parking spaces (includes a 100-space shift from staff to government vehicles to accommodate construction) would be available, which equates to a 1:3.54 parking ratio, greater than the 1:3 ratio and in compliance with NCPC parking policies. Adding the proposed new 270 employees to staff parking would result in a ratio of 1:3.25, still greater than the 1:3 ratio and in compliance with NCPC parking policies. Given this result, the trip generation would include all 270 employees. Table 27 shows the 2018 Build Alternative 1, 3, 5, 6, 7, 8, 9, and 10 peak hour trip generation.

**Table 27: 2018 Build Alternatives 1, 3, 5, 6, 7, 8, 9, and 10  
Peak Hour Trip Generation**

	Facility Name	Employees	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1	Medical Facilities Development	50 <sup>a</sup>	12	5	17	5	11	16
2	University Expansion	220 <sup>b</sup>	132	29	161	56	137	193
	Total	270	144	34	178	61	148	209

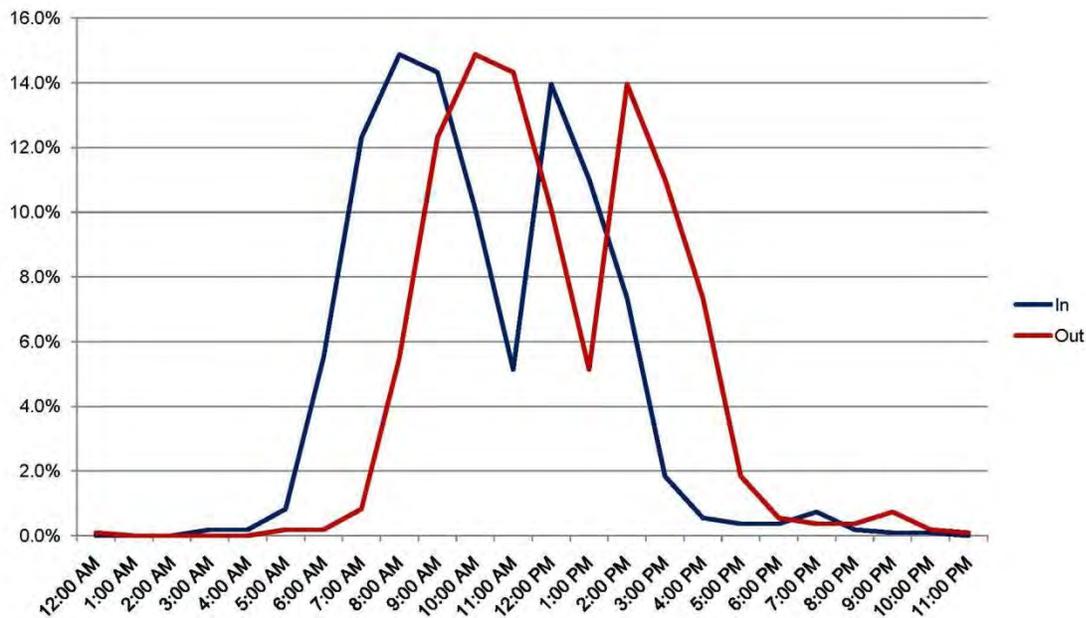
<sup>a</sup> ITE Land Use Code 610: Hospital

<sup>b</sup> ITE Land Use Code 550: University

### 3.2.4.2 Trip Distribution

The trip distribution would differ by alternative as vehicles would be assigned different paths along the internal network and to a lesser degree, the external network, depending on where the new garage facility was situated. While the actual shift in spaces would be very difficult to predict, this study will estimate the traffic effects for this alternative based on several assumptions. It is assumed that the new underground Medical Facilities Development parking structure would shift existing peak hour patient trips originating from north of NSA Bethesda using Rockville Pike. These trips would pass the new facility before reaching the existing parking structures, and patients might choose this parking facility because it would be completely protected from the elements.

Patient temporal distribution (Figure 33) is based on the 2009 total patient appointments by time of day. The proposed action is not expected to result in any additional peak-time patient trips. According to the 2008 NNMC Transportation Study, 1,862 patients enter and leave the installation each day. Using the temporal table, approximately 15 percent of patients (279 patients) arrive during the external network AM peak hour and 6 percent or 112 patients leave.

**Figure 33: 2009 Patient Temporal Distribution**

Based on the following assumptions, 126 patients would enter and 50 patients would exit the new underground parking structure during the AM peak hour:

- 45 percent of patients originate or are destined to points north using Rockville Pike (based upon 2008 NNMC Transportation Study trip distribution shown in Figure 26).
- Building 55 offers 37 percent of patient parking, while Building 63 offers 63 percent, based on a total of 1,457 total spaces in both facilities.
- 47 patients arriving at Building 55 (37 percent of 126) and 79 patients (63 percent of 126) arriving at Building 63 would be shifted to the new underground parking structure.
- 19 patients departing from Building 55 (37 percent of 50) and 31 patients (63 percent of 50) departing from Building 63 would be shifted to depart from the new underground parking structure.

Using the temporal table for the PM peak hour, approximately 0.5 percent of patients (9 patients) arrive during the external PM peak hour and 4 percent (74 patients) leave. Using the same assumptions noted previously, 4 patients would enter and 33 patients would exit the new underground parking structure during the PM peak hour.

The Alternative 1 trip distribution would consist of combining the shift in existing patient trips from Buildings 55 and 63 to the new underground parking structure and the peak hour new trips projected to

be generated from the 270 new employees. It is assumed that the existing 62-spaces in N-Lot would be relocated into the new USU Alternative 2 parking structure, resulting in a shift of 18 PM peak hour exiting trips (30 percent of N-Lot - same peak hour exiting percentage as adjacent USU parking facility) from Stone Lake Road to the new ramp connecting to the South Palmer Road at Grier Road intersection. For the purposes of evaluating the Build Alternatives, the study assumes that the trips produced by all 270 new employees would be destined to/from the new USU Alternative 2 parking facility. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking space closer to their desk than the new USU Alternative 2 parking structure, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the USU Alternative 2 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to the new parking facility while the other trip to the existing parking facility is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 2 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The distribution patterns for the shifted patient trips from Buildings 55 and 63 would continue to enter Gate #1 from Rockville Pike and proceed directly to the new underground parking facility. Patients leaving the new underground parking facility would exit through Gate #2 and turn right onto Rockville Pike northbound. The result of these new distribution patterns would remove trips from R.B. Brown Drive and North Palmer Road.

NSA Bethesda generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26). During the AM peak hour, the new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.

- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Turn left onto Stone Lake Road, turn right onto Rixey Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Turn left onto South Palmer Road, turn right onto University Road and exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Go straight onto Grier Road and exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Go straight onto Grier Road and exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 34A, 34B, and 34C show the 2018 Build Alternative 1 trip distribution.

Figure 34A: 2018 Build Alternative 1 Trip Distribution

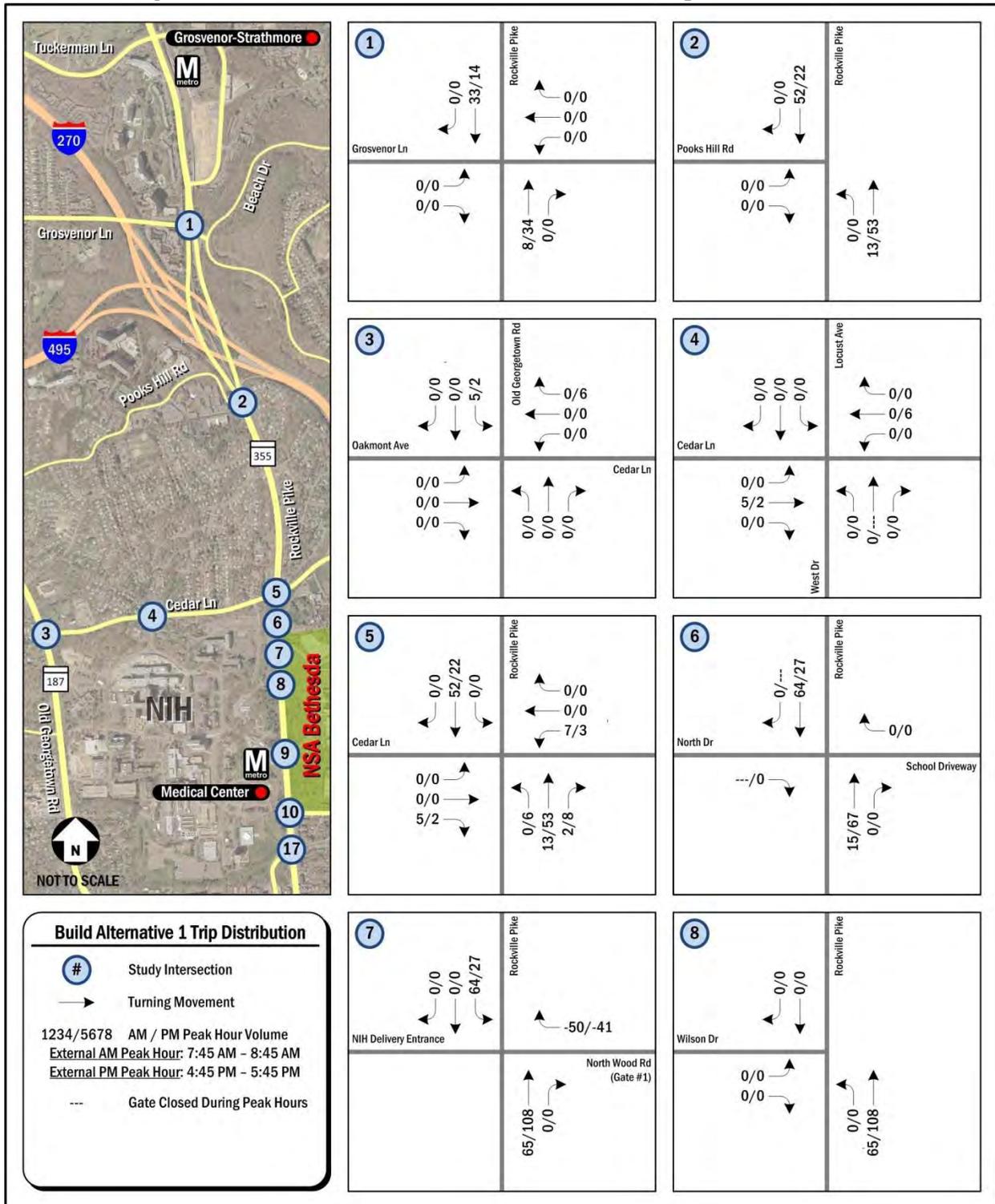


Figure 34B: 2018 Build Alternative 1 Trip Distribution

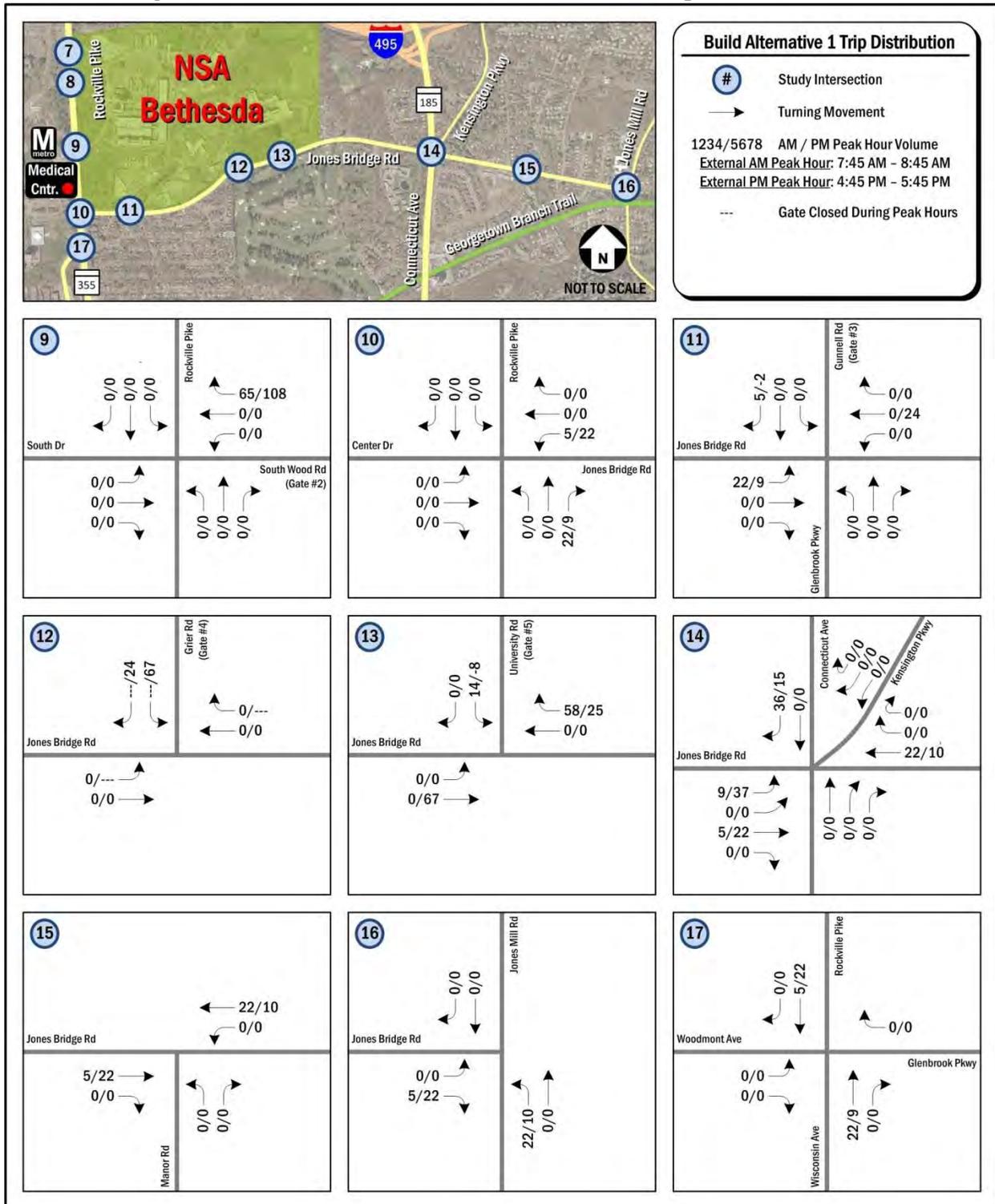
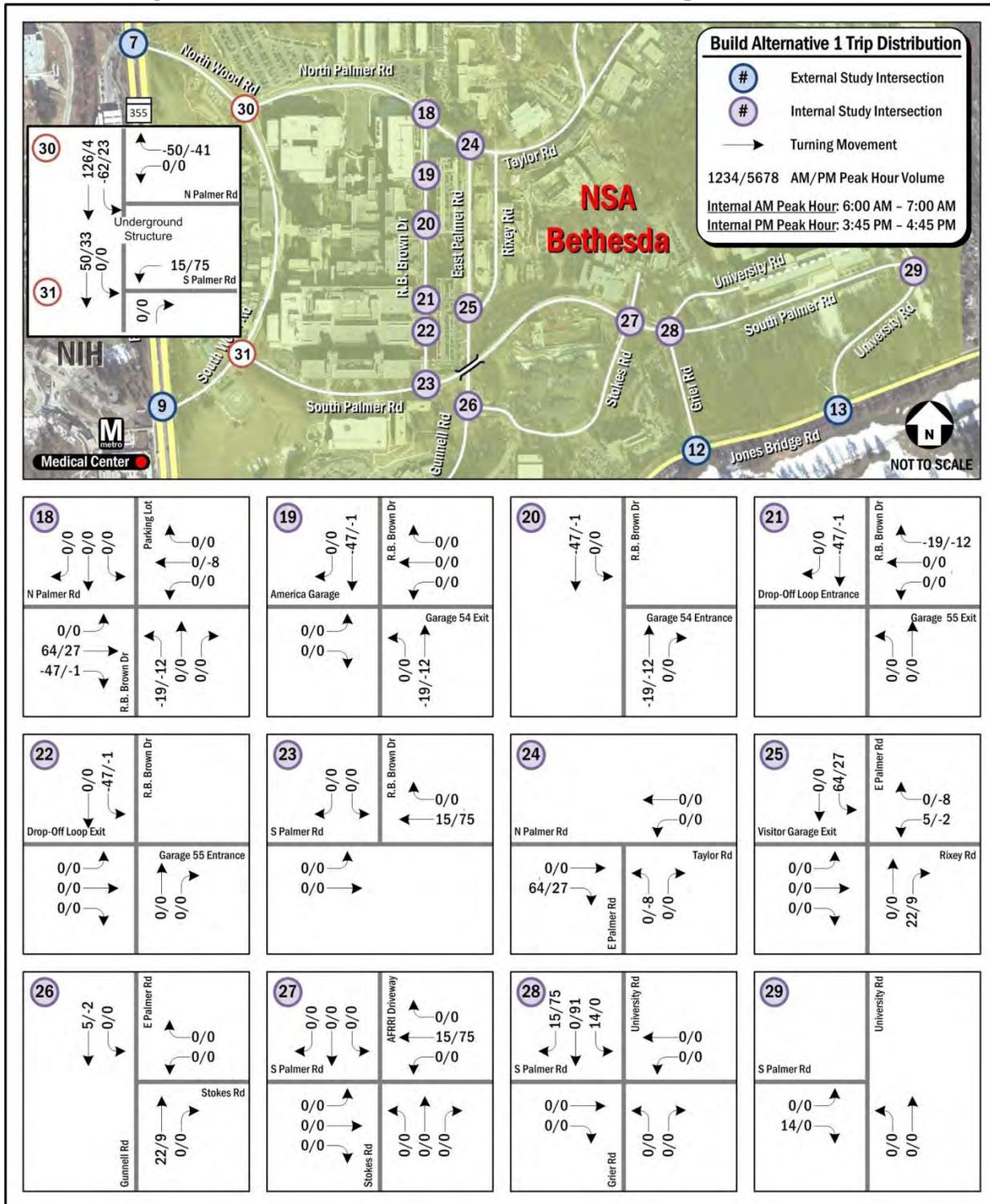


Figure 34C: 2018 Build Alternative 1 Trip Distribution



### 3.2.4.3 External Intersection Analysis

The 2018 Build Alternative 1 includes all projects listed in the No Build condition, plus the addition of a new entrance ramp connecting from North Wood Road/North Palmer Road intersection and the addition of a new exit ramp connecting to the South Wood Road/South Palmer Road intersection. The new exit ramp from the new USU Alternative 2 parking structure in N-Lot would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection.

#### *Critical Lane Volume Analysis*

As required by the MSHA and M-NCPPC's LATR, the CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. During the AM peak hour, the #9 Rockville Pike at South Wood Road (Gate #2) intersection would change from LOS B to C. During the PM peak hour, the #12 Jones Bridge Road at Grier Road (Gate #4) intersection would change from LOS B to C. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 1. Table 28 shows the 2018 Build Alternative 1 CLV analysis for the external intersections. Figures 35A and 35B show the 2018 Build Alternative 1 CLV intersection LOS.

**Table 28: 2018 Build Alternative 1 CLV External Intersection Analysis**

	Build Alternative 1				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	931	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	958	A	984	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,186	C	1,147	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,295	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	823	A	1,051	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	692	A	1,171	C	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	749	A	1,059	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

Figure 35A: 2018 AM Peak Hour Build Alternative 1 CLV Intersection LOS

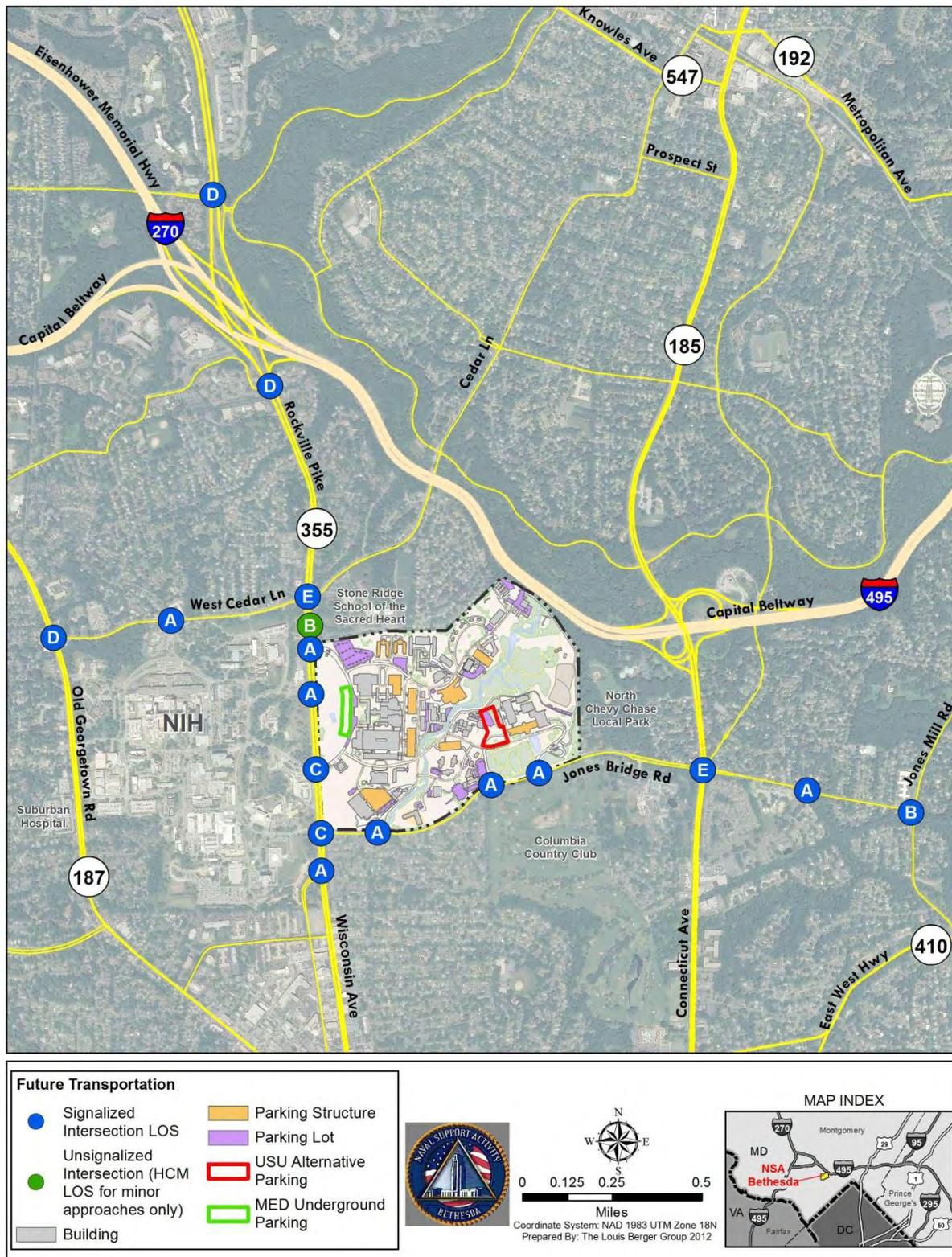
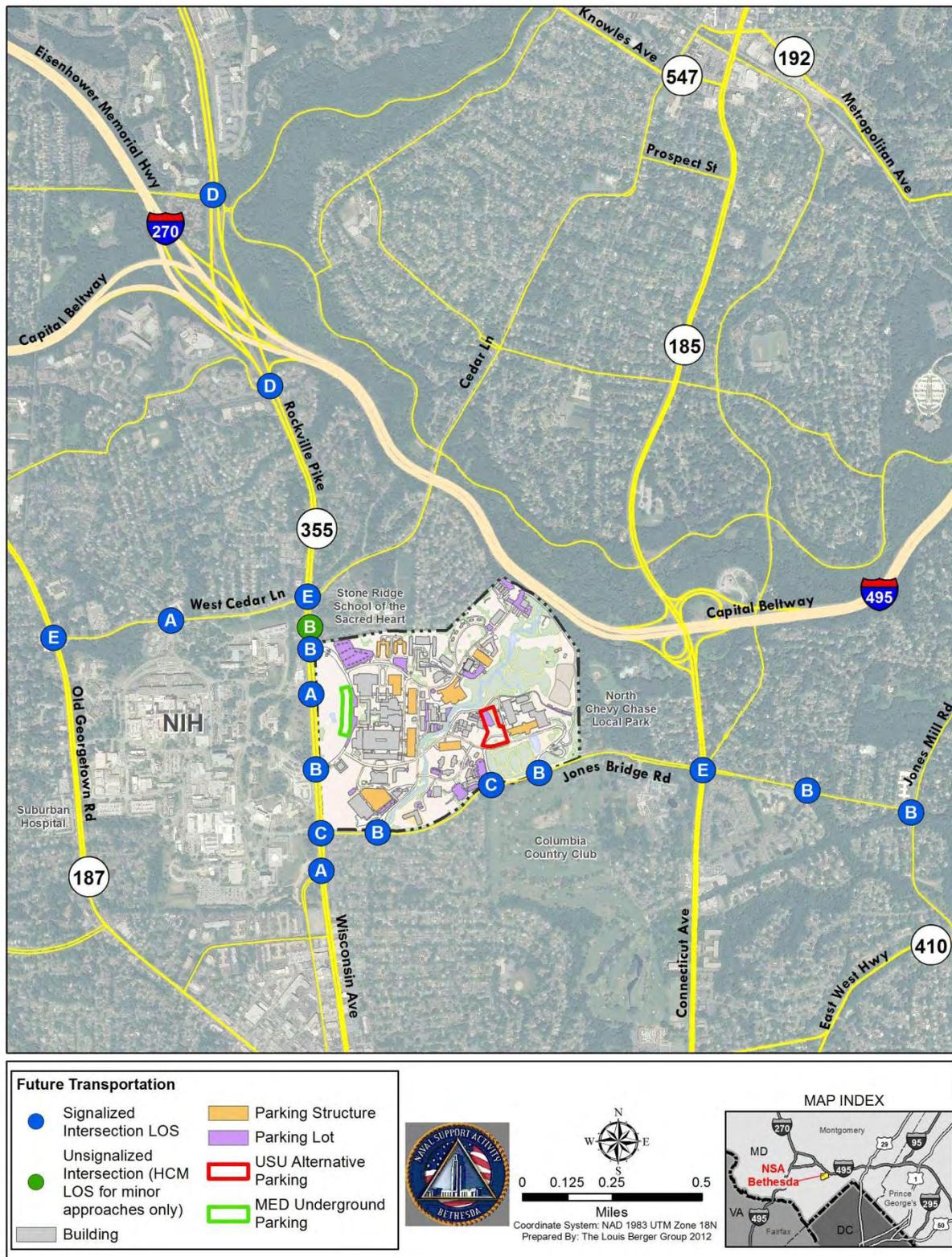


Figure 35B: 2018 PM Peak Hour Build Alternative 1 CLV Intersection LOS



*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections and to provide a measure of vehicle delay and density. When comparing Build Alternative 1 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Since the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 29A and 29B show the 2018 Build Alternative 1 HCM external AM and PM analysis.

**3.2.4.4 Arterial Analysis**

Arterial analysis was performed for the same three arterials as the No Build condition (Rockville Pike, West Cedar Lane, and Jones Bridge Road). The Montgomery County Policy Area Mobility Review-Relative Arterial Mobility (PAMR-RAM) requires a comparison of travel speeds, travel times, and resulting arterial LOS between the No Build condition and alternatives to determine the percent change. This is not a comparison between the 2011 existing and 2018 future condition.

When comparing the travel speeds between the No Build condition and Build Alternative 1, the greatest change would be a 3 percent reduction in travel speed during the AM peak hour along southbound Rockville Pike and during the PM peak hour along northbound Rockville Pike. Based on this analysis, Alternative 1 would not require PAMR-RAM external intersection mitigation. Tables 30 and 31 show the 2018 Build Alternative 1 arterial analyses.

**Table 29A: 2018 AM Peak Hour Build Alternative 1 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 1			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>39.5</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	16.4		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.6</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	15.6		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.8		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.7</b>	<b>0.69</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	20.2		C	21.1		C
	Northbound	4.7		A	4.4		A
	Southbound	2.9		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.4</b>	<b>0.59</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	11.5		B	8.9		A
	Southbound	1.3		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>14.0</b>	<b>0.78</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	88.7		F	63.5		E
	Westbound	53.4		D	52.1		D
	Northbound	7.3		A	6.9		A
	Southbound	8.4		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.5</b>	<b>0.85</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.1		C	31.1		C
	Northbound	29.6		C	29.6		C
	Southbound	71.9		E	67.6		E

**Table 29A: 2018 AM Peak Hour Build Alternative 1 HCM External Analysis  
(continued)**

		HCM Analysis					
		AM Peak Hour					
		Approach	Alternative 1			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>7.1</b>	<b>0.61</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	4.0		A	3.9		A
	Westbound	5.8		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.0		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>1.5</b>	<b>0.46</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	1.4		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.5</b>	<b>0.58</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.2		A	1.7		A
	Westbound	7.6		A	6.6		A
	Southbound	26.9		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.3		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 29B: 2018 PM Peak Hour Build Alternative 1 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 1			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.6		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>6.8</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.7		E	58.6		E
	Northbound	2.5		A	2.4		A
	Southbound	1.0		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.9</b>	<b>0.76</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.8		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>15.7</b>	<b>0.79</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	81.8		F	70.0		E
	Westbound	40.9		D	45.7		D
	Northbound	7.4		A	5.7		A
	Southbound	8.6		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>46.9</b>	<b>0.85</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	65.9		E	65.8		E
	Northbound	41.9		D	40.7		D
	Southbound	41.8		D	38.0		D

**Table 29B: 2018 PM Peak Hour Build Alternative 1 HCM External Analysis  
(continued)**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 1			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.77</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.4		A	7.7		A
	Westbound	13.9		B	14.0		B
	Northbound	17.4		B	17.4		B
	Southbound	27.8		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>18.1</b>	<b>0.96</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	16.5		B	14.2		B
	Westbound	12.3		B	11.3		B
	Southbound	30.5		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>4.5</b>	<b>0.80</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	4.6		A	4.3		A
	Westbound	4.1		A	4.2		A
	Southbound	26.2		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.2</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.6		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.7		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 30: 2018 AM Peak Hour Build Alternative 1 Arterial Analysis**

Arterial	Direction	Alt 1			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.2	5:53	C	22.7	5:46	C	2%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.6	5:15	C	19.7	5:14	C	1%
	Westbound	19.2	5:22	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 31: 2018 PM Peak Hour Build Alternative 1 Arterial Analysis**

Arterial	Direction	Alt 1			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:32	D	17.9	7:19	D	3%
	Southbound	18.1	7:25	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.7	5:50	D	18.0	5:44	D	2%
	Westbound	18.2	5:40	C	18.2	5:40	C	0%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

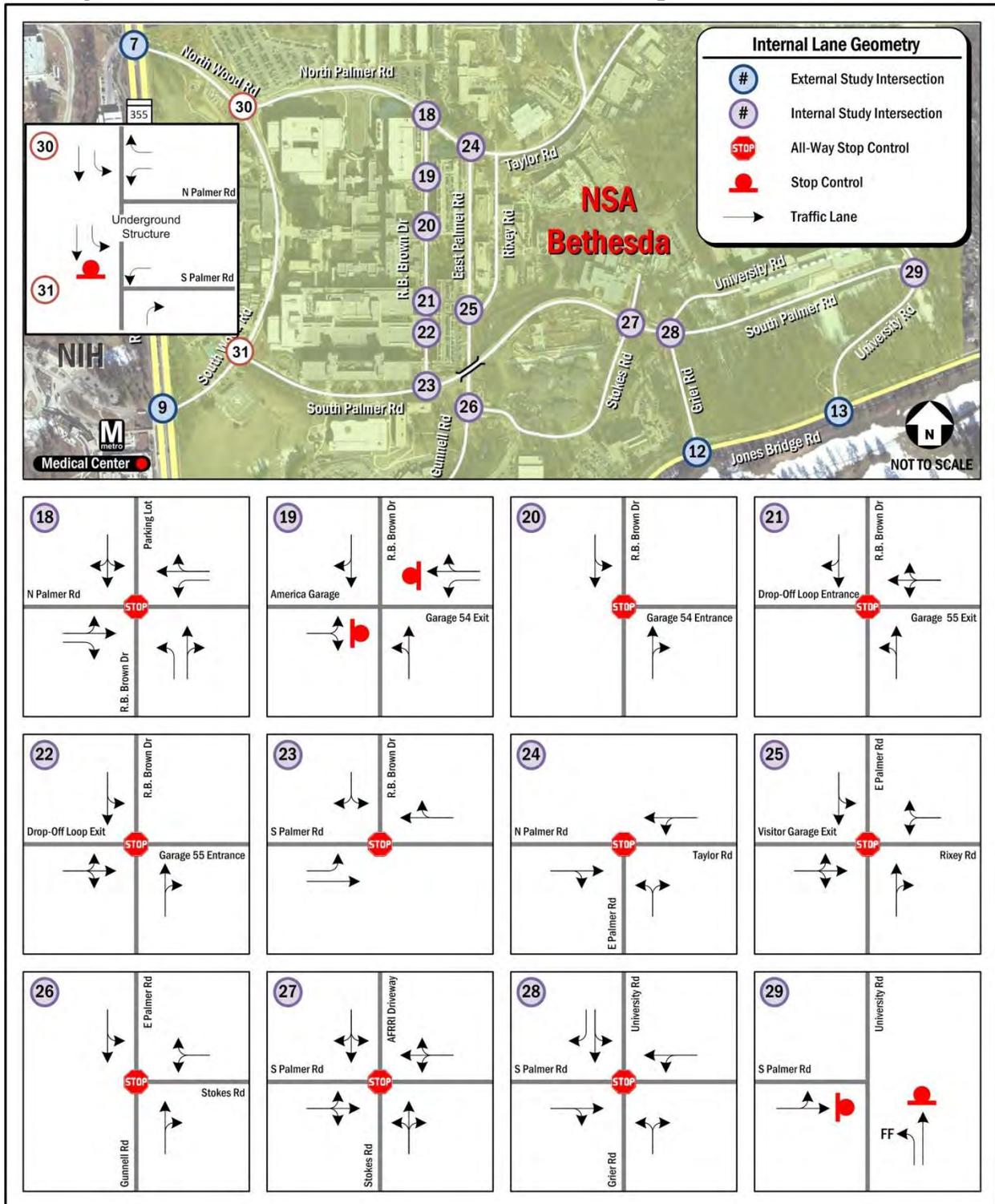
### **3.2.4.5 Internal Intersection Analysis**

This alternative includes the addition of a new entrance ramp connecting from the North Wood Road/North Palmer Road intersection and the addition of a new exit ramp connecting to the South Wood Road/South Palmer Road intersection. The addition of a new exit ramp from the new USU Alternative 2 parking structure in N-Lot would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection. Figure 36 shows the lane geometry and traffic control for Build Alternative 1.

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. The notable changes between Alternative 1 and the No Build condition would be the #26 East Palmer Road at Stokes Road and #28 South Palmer Road at Grier Road intersections changing from LOS B to C. The #28 intersection change would be the result of the new trips exiting the new USU Alternative 2 parking structure and heading toward Gates #2 and #4. The #26 intersection change would be due to the No Build condition average vehicle delay calculated just under the LOS B to C threshold. Any increase in the average vehicle delay would result in a lower LOS. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 32A and 32B show the 2018 Build Alternative 1

internal intersection analysis; Figures 37A and 37B show the 2018 Build Alternative 1 internal intersection LOS.

Figure 36: Build Alternative 1 Lane Geometry and Traffic Control



**Table 32A: 2018 AM Peak Hour Build Alternative 1 Internal Intersection Analysis**

	Approach	AM Peak Hour			
		Build Alt. 1		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>11.0</b>	<b>B</b>	<b>10.3</b>	<b>B</b>
	Eastbound	11.9	B	10.9	B
	Westbound	8.6	A	8.7	A
	Northbound	8.7	A	9.0	A
	Southbound	9.6	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	16.1	C	17.6	C
	Westbound	12.3	B	12.8	B
	Northbound Left	3.5	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.7	A	9.2	A
	Southbound	10.5	B	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.8</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	8.2	A	8.1	A
	Northbound	9.2	A	9.4	A
	Southbound	8.2	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.9	A	8.1	A
	Northbound	9.9	A	10.1	B
	Southbound	8.5	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
	Eastbound	10.3	B	10.3	B
	Westbound	8.9	A	8.7	A
	Southbound	9.2	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>10.3</b>	<b>B</b>	<b>9.6</b>	<b>A</b>
	Eastbound	10.9	B	10.0	A
	Westbound	8.7	A	8.6	A
	Northbound	9.8	A	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	7.7	A	7.5	A
	Westbound	8.5	A	8.1	A
	Northbound	9.8	A	9.4	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.7	A	8.6	A
	Northbound	10.5	B	10.1	B
	Southbound	9.0	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Eastbound	8.1	A	8.1	A
	Westbound	10.6	B	10.4	B
	Northbound	8.9	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>8.8</b>	<b>A</b>	<b>8.7</b>	<b>A</b>
	Eastbound	8.6	A	8.4	A
	Westbound	9.3	A	9.1	A
	Northbound	9.1	A	9.0	A
	Southbound	7.3	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	8.0	A	7.9	A
31. South Wood Road & South Palmer Road <sup>a</sup>	Southbound	9.2	A	-	-

<sup>a</sup> Intersection added to analyze the effects of a new exit ramp from the proposed underground parking structure.

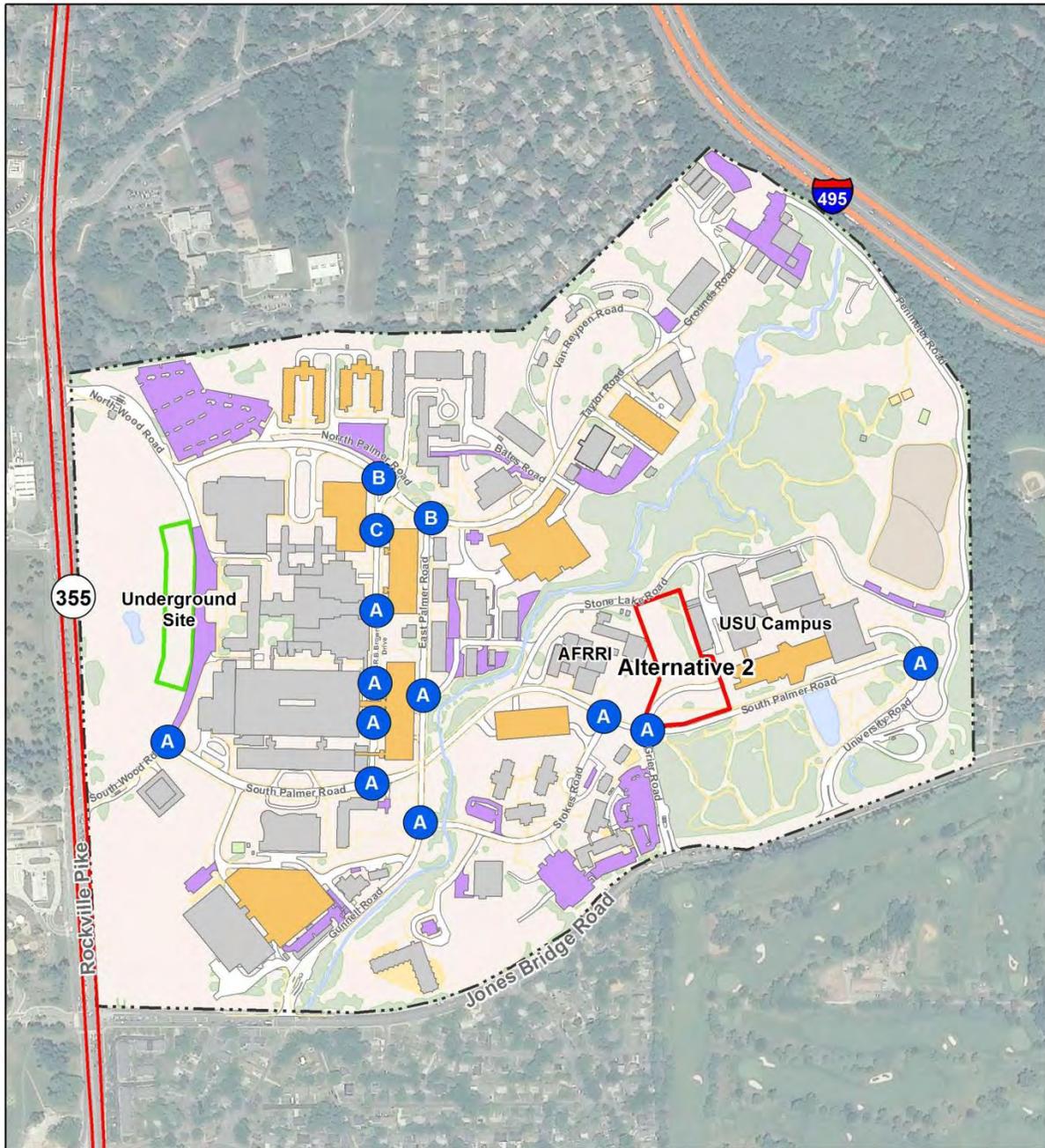
**Table 32B: 2018 PM Peak Hour Build Alternative 1 Internal Intersection Analysis**

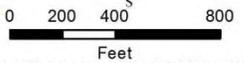
		PM Peak Hour				
		Approach	Build Alt. 1		No Build	
			Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>15.9</b>	<b>C</b>	<b>16.5</b>	<b>C</b>	
	Eastbound	9.6	A	9.7	A	
	Westbound	15.4	C	15.6	C	
	Northbound	19.3	C	20.5	C	
	Southbound	10.0	A	10.0	B	
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F	
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F	
	Northbound Left	0.6	A	0.6	A	
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>8.8</b>	<b>A</b>	
	Northbound	8.9	A	9.0	A	
	Southbound	8.5	A	8.5	A	
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>11.1</b>	<b>B</b>	<b>11.3</b>	<b>B</b>	
	Westbound	10.7	B	10.9	B	
	Northbound	9.4	A	9.5	A	
	Southbound	12.1	B	12.3	B	
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>9.4</b>	<b>A</b>	
	Eastbound	7.8	A	7.8	A	
	Northbound	8.2	A	8.3	A	
	Southbound	10.0	A	10.0	B	
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>12.2</b>	<b>B</b>	<b>10.6</b>	<b>B</b>	
	Eastbound	9.2	A	8.9	A	
	Westbound	13.6	B	10.7	B	
	Southbound	12.3	B	11.4	B	
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>10.8</b>	<b>B</b>	<b>10.7</b>	<b>B</b>	
	Eastbound	10.4	B	10.0	B	
	Westbound	11.4	B	11.4	B	
	Northbound	10.7	B	10.7	B	
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>10.2</b>	<b>B</b>	
	Eastbound	8.5	A	8.4	A	
	Westbound	9.9	A	9.8	A	
	Northbound	9.8	A	9.7	A	
	Southbound	11.5	B	11.0	B	
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>15.1</b>	<b>C</b>	<b>15.0</b>	<b>B</b>	
	Westbound	16.1	C	16.0	C	
	Northbound	11.8	B	11.5	B	
	Southbound	16.3	C	16.2	C	
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>12.5</b>	<b>B</b>	<b>10.7</b>	<b>B</b>	
	Eastbound	10.9	B	10.3	B	
	Westbound	14.1	B	11.0	B	
	Northbound	11.8	B	10.8	B	
	Southbound	9.1	A	8.6	A	
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>17.9</b>	<b>C</b>	<b>12.5</b>	<b>B</b>	
	Eastbound	15.9	C	13.7	B	
	Westbound	9.7	A	9.2	A	
	Northbound	9.2	A	8.9	A	
	Southbound	19.3	C	11.9	B	
29. University Road & South Palmer Road	Westbound	7.1	A	7.1	A	
	Northbound	7.1	A	7.1	A	
31. South Wood Road & South Palmer Road <sup>b</sup>	Southbound	10.2	B	-	-	

<sup>a</sup> HCM unsignalized intersection capacity analysis results in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.

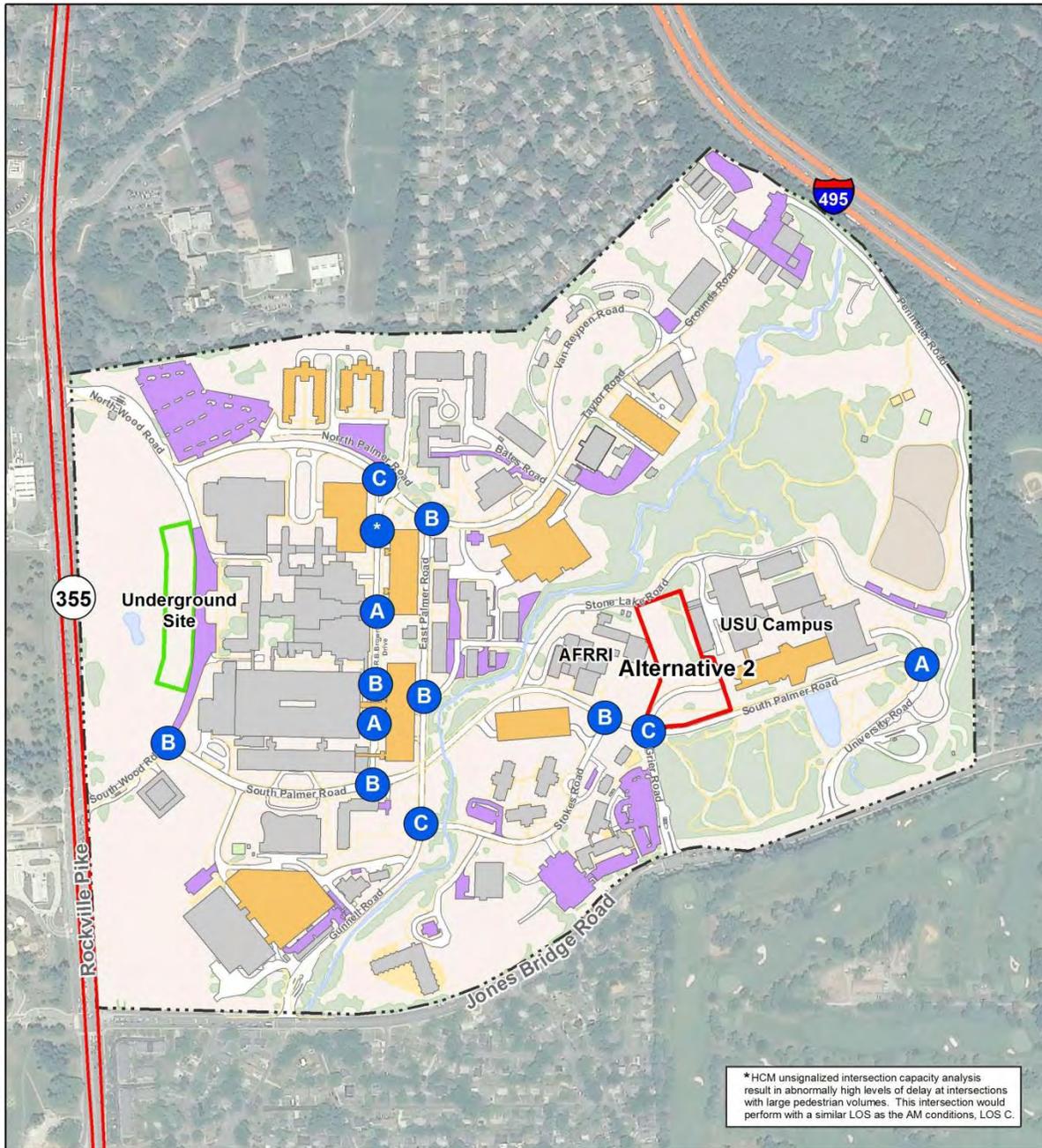
<sup>b</sup> Intersection added to analyze the effects of a new exit ramp from the proposed underground parking structure. Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 37A: 2018 AM Peak Hour Build Alternative 1 Internal Intersection LOS**



<b>Future Transportation</b>			  Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: gray; border: 1px solid gray;"></span> Building</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid gray;"></span> Parking Structure</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid gray;"></span> Parking Lot</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span> USU Alternative Parking</li> <li><span style="border: 2px solid green; display: inline-block; width: 20px; height: 10px;"></span> MED Underground Parking</li> </ul>			

**Figure 37B: 2018 PM Peak Hour Build Alternative 1 Internal Intersection LOS**



<b>Future Transportation</b>			 0 200 400 800 Feet Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: gray; border: 1px solid gray;"></span> Building</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid gray;"></span> Parking Structure</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid gray;"></span> Parking Lot</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span> USU Alternative Parking</li> <li><span style="border: 2px solid green; display: inline-block; width: 20px; height: 10px;"></span> MED Underground Parking</li> </ul>			

#### **3.2.4.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new underground parking structure would be located next to the main Medical Building with no significant impacts expected as pedestrians would be able to walk directly into Building 1 without crossing any roadways.

The new USU Alternative 2 parking structure would be placed next to the USU campus. Therefore, the only new pedestrian activity that would cross roadways would be the Medical Building Development trips (50 new employees) with pedestrians crossing at two intersections, the South Palmer Road at Stokes Road and South Palmer Road at R.B. Brown Drive. This would result in 17 new pedestrian trips during the AM peak hour and 16 new pedestrian trips during the PM peak hour (see Table 27). These pedestrian trips are included in the internal HCM analysis in Tables 32A and 32B. The two intersections that would experience increased pedestrian activity as a result of Alternative 1 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 32A and 32B.

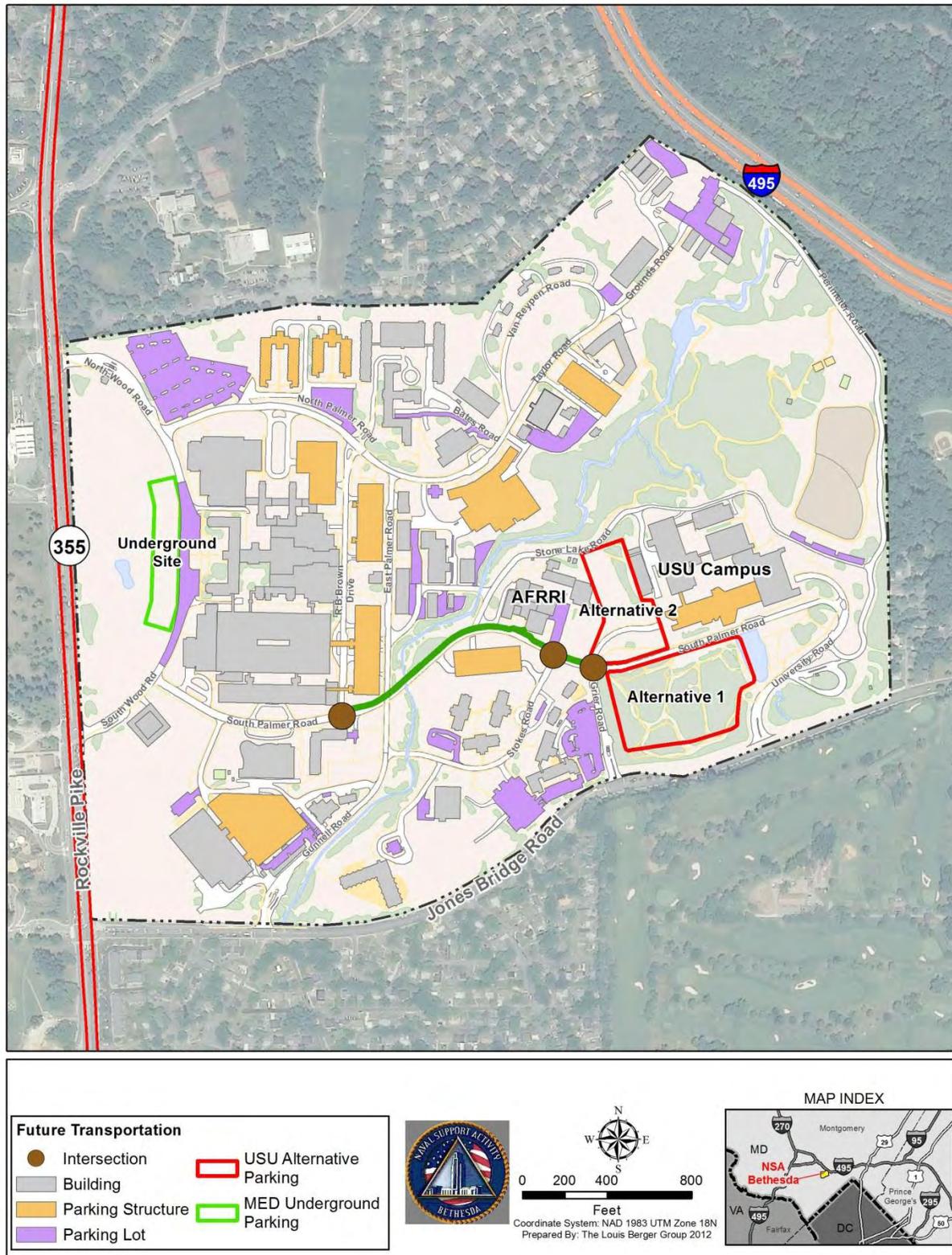
Existing 5-foot plus sidewalks connect the new parking structure serving Building F with the Medical Buildings via South Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the projected peak hour trip generation, adequate existing sidewalks serving these pedestrian trips, and no significant vehicle LOS impacts due to the increased pedestrians, this alternative would have no significant pedestrian or bicycle impacts. Figure 38 shows the 2018 Build Alternatives 1,2,6, and 7 sidewalk connections.

#### **3.2.5 Build Alternative 2**

This alternative would include the construction of a new underground 500-space Medical Facilities Development parking structure designated for patients, visitors, and VIPs only and the construction of a 400-space parking structure known as USU Alternative 2 designated for employees. The 500-space underground parking structure would be located between North and South Wood Roads, with the entrance and exit located in the existing G-Lot, which would result in a permanent loss of spaces; all access would be provided from North Palmer Road. Appendix D4 contains the proposed concept for this facility.

The new USU Alternative 2 parking structure would replace the existing N-Lot, with the entrance located on Stone Lake Road and two exits, one serving Stone Lake Road and the other connecting to the South Palmer Road and Grier Road intersection.

Figure 38: 2018 Build Alternatives 1,2,6, and 7 Sidewalk Connections



### 3.2.5.1 Trip Generation

The trips expected to be generated for this alternative would differ from Alternative 1 because the staff spaces lost in G-Lot would be relocated to the new USU Alternative 2 parking structure, thus reducing the net number of available spaces in this structure from 400 to 256, the result of 62 spaces transferred from N-Lot and 82 spaces from G-lot. Table 33 shows the 2018 Build Alternative 2 peak hour trip generation.

**Table 33: 2018 Build Alternative 2 Peak Hour Trip Generation**

	Facility Name	Employees	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1	Medical Facilities Development	47 <sup>a</sup>	11	4	15	5	11	16
2	University Expansion	209 <sup>b</sup>	125	27	152	53	131	184
	Total	256	136	31	167	58	142	200

<sup>a</sup> ITE Land Use Code 610: Hospital

<sup>b</sup> ITE Land Use Code 550: University

### 3.2.5.2 Trip Distribution

The same assumptions from Alternative 1 (see Section 3.2.4.2) would apply regarding the shift in existing patient trips from Buildings 55 and 63 to the new underground parking structure. Additionally, the same assumptions would apply for all new staff trips destined for the new USU Alternative 2 parking structure.

This alternative would include an additional shift over Alternative 1: the relocation of 82 staff spaces from G-Lot to the new USU Alternative 2 parking structure to make room for the new entrance and exit ramps serving the new underground parking facility. To determine this additional staff shift, the following assumptions were used:

- All existing staff spaces lost in G-Lot would be placed in another facility at the installation.
- Based on the proximity of G-Lot to Gate #1, all G-Lot users originate from the north along Rockville Pike.
- Building 54 houses just under double the number of parking spaces as G-Lot.
- Entering and exiting peak hour volumes from Building 54 would provide a reasonable starting point to calculate G-Lot peak hour use.
- G-Lot would lose 20 percent of its spaces.

Based on these assumptions, shifts in staff trips from G-Lot were calculated as follows: 305 staff enter Building 54 during the AM peak hour. Reducing that number by half, or 153, and then further reducing

that number by 80 percent would result in 31 relocated inbound AM peak hour staff trips to the new 400-space parking facility. Following the same process, there would be 2 outbound trips also during the AM peak hour. For the PM peak hour, there would be 2 inbound and 13 outbound staff trips.

The Build Alternative 2 trip distribution would consist of combining the shift in existing patient trips from Buildings 55 and 63 to the new underground parking structure, the shift in existing staff trips from G-Lot to the new USU Alternative 2 parking structure, and the peak hour new trips projected to be generated from the 256 new employees. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking space closer to their desk than the new USU Alternative 2 parking structure, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the USU Alternative 2 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to the new parking facilities while the other trip to the existing parking facility is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 2 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

As is the case in Alternative 1, it is assumed that the existing 62-space N-Lot would be relocated into the new USU Alternative 2 parking structure, resulting in a shift of 18 PM peak hour exiting trips (30 percent of N-Lot - same peak hour exiting percentage as adjacent USU parking facility) from Stone Lake Road to the new ramp connecting to the South Palmer Road at Grier Road intersection.

The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26). The distribution patterns for the shifted patient trips from Buildings 55 and 63 would continue to enter Gate #1 from Rockville Pike and proceed directly to the new underground parking facility through G-Lot. Patients leaving the new underground parking facility would exit through G-Lot, turn right onto North Palmer Road, turn right onto North Wood Road, exit through Gate #1, and turn right onto Rockville Pike. The result of these new distribution patterns would remove trips from R.B. Brown Drive and North Palmer Road, east of G-Lot.

During the AM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Turn left onto Stone Lake Road, turn right onto Rixey Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Turn left onto South Palmer Road, turn right onto University Road and exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Go straight onto Grier Road and exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.

- To the east: Go straight onto Grier Road and exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 39A, 39B, and 39C show the 2018 Build Alternative 2 trip distribution.

Figure 39A: 2018 Build Alternative 2 Trip Distribution

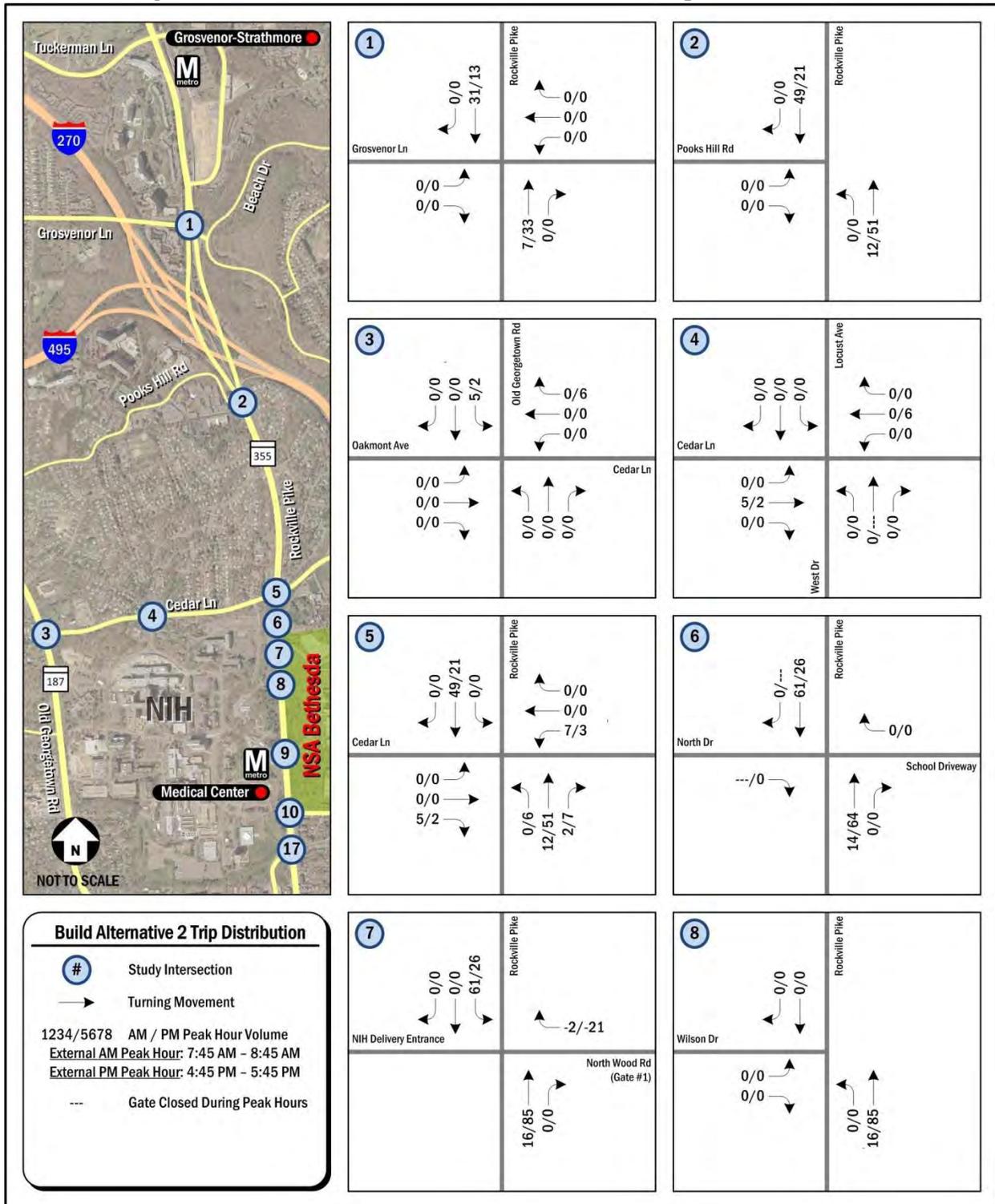


Figure 39B: 2018 Build Alternative 2 Trip Distribution

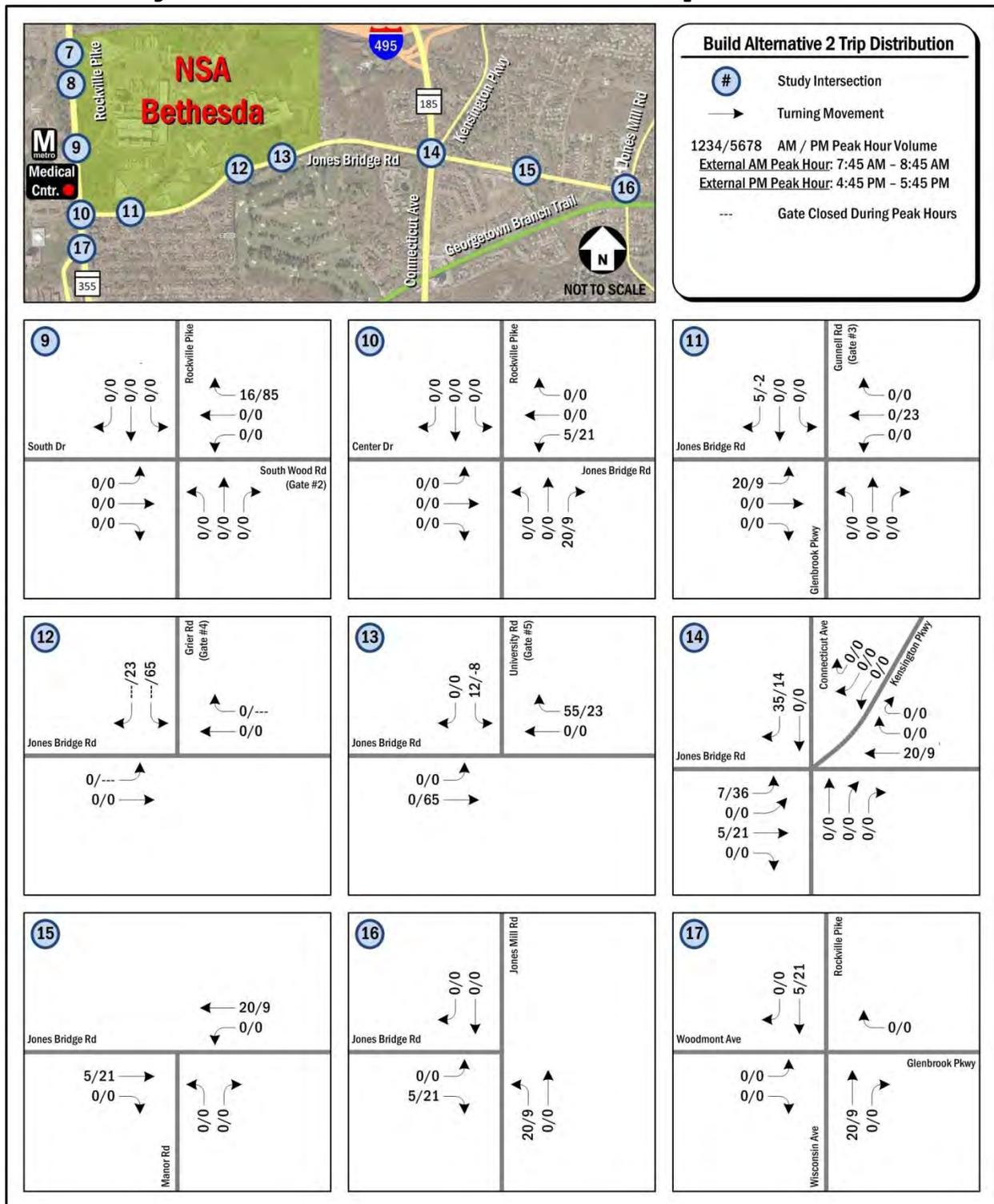
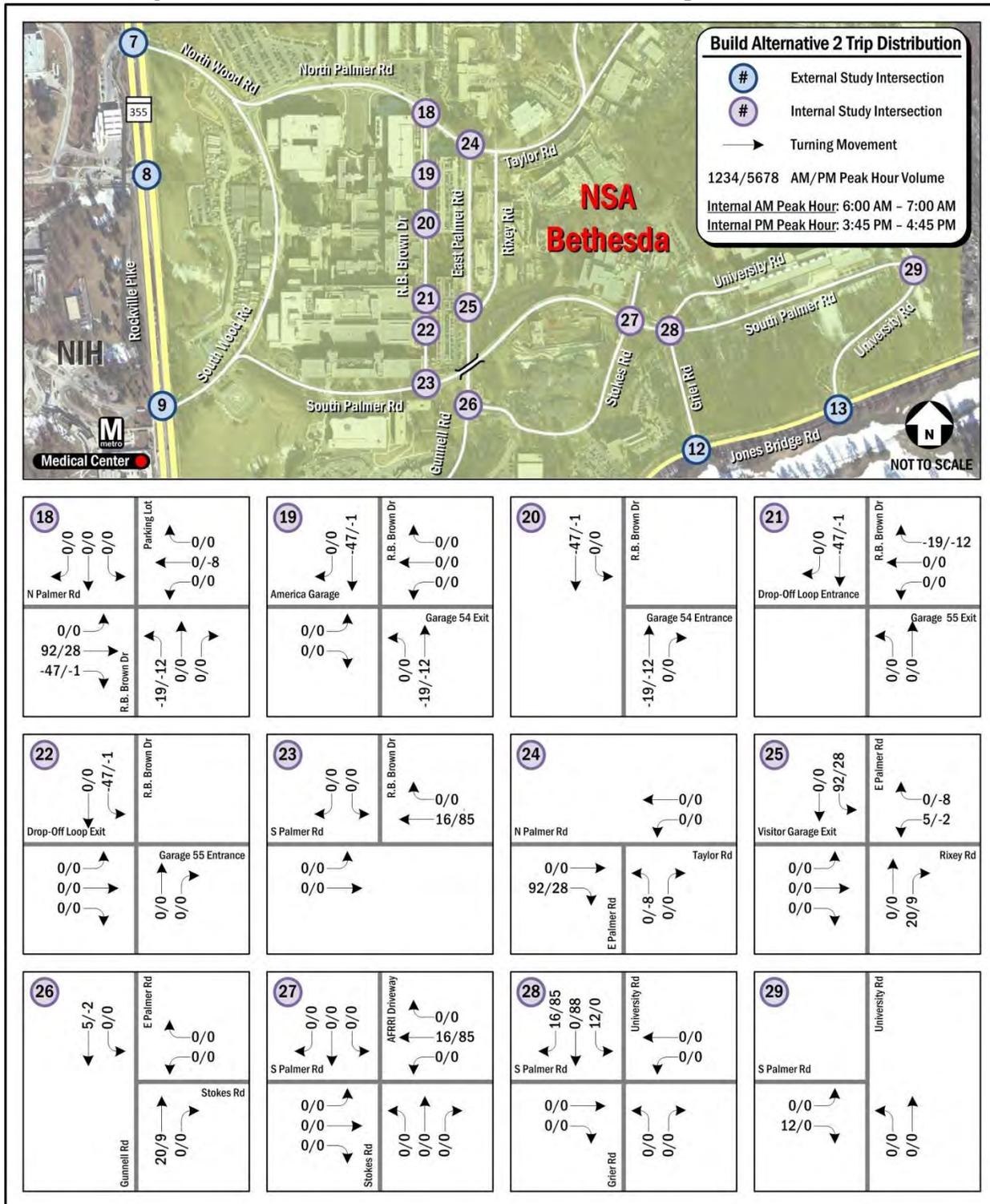


Figure 39C: 2018 Build Alternative 2 Trip Distribution



### 3.2.5.3 External Intersection Analysis

The 2018 Build Alternative 2 includes all projects listed in the No Build condition, plus the addition of a new entrance and exit ramp connecting from G-Lot to the new underground parking facility. The new exit ramp from the new USU Alternative 2 parking structure in N-Lot would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection.

#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, the #12 Jones Bridge Road at Grier Road (Gate #4) intersection would change from LOS B to C during the PM peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 2. Table 34 shows the 2018 Build Alternative 2 CLV external analysis. Figures 40A and 40B show the 2018 Build Alternative 2 CLV intersection LOS.

**Table 34: 2018 Build Alternative 2 CLV External Intersection Analysis**

	Build Alternative 2				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,340	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,358	D	1,398	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,553	E	1,471	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	910	A	1,057	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	958	A	975	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,137	B	1,124	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,294	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	821	A	1,051	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	692	A	1,169	C	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	747	A	1,058	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,504	E	1,556	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	759	A	1,030	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,059	B	1,083	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

Figure 40A: 2018 AM Peak Hour Build Alternative 2 CLV Intersection LOS

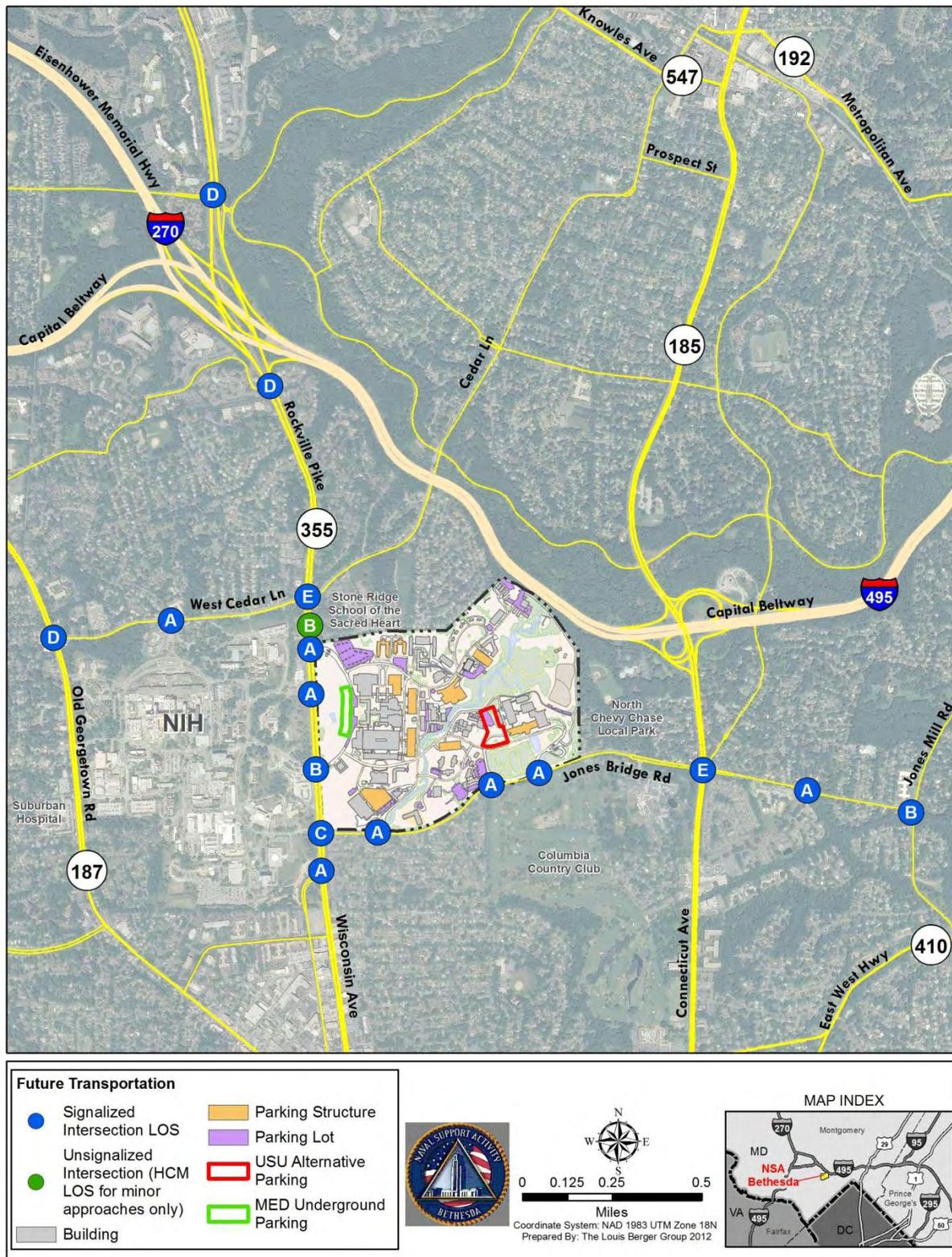
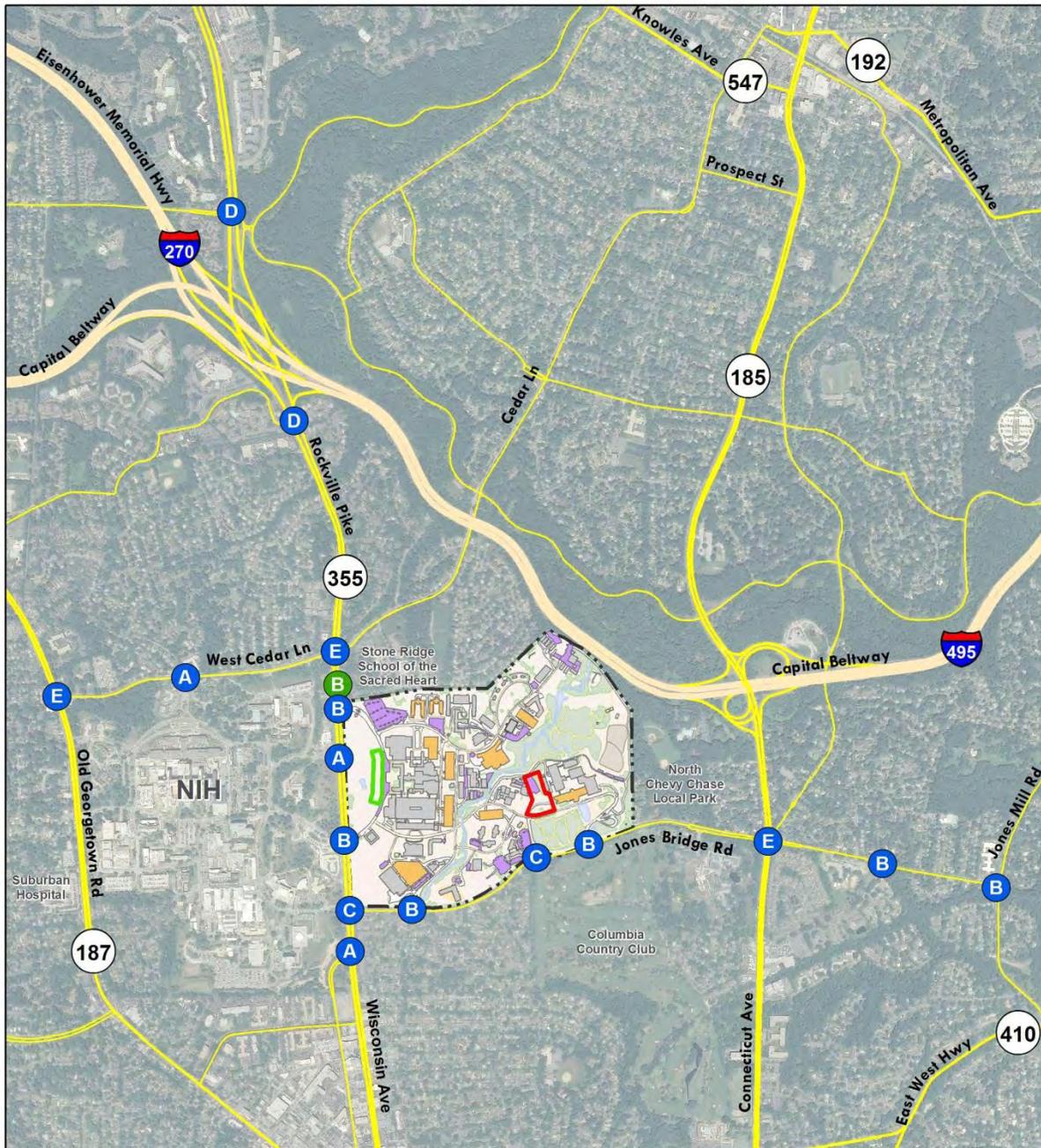
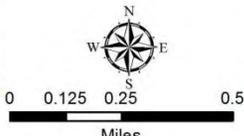


Figure 40B: 2018 PM Peak Hour Build Alternative 2 CLV Intersection LOS



Future Transportation	
<span style="color: blue;">●</span> Signalized Intersection LOS	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure
<span style="color: green;">●</span> Unsignalized Intersection (HCM LOS for minor approaches only)	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot
<span style="border: 1px solid gray; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
	<span style="border: 2px solid green; display: inline-block; width: 15px; height: 10px;"></span> MED Underground Parking





Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

MAP INDEX



*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 2 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Since the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 35A and 35B show the 2018 Build Alternative 2 HCM external analysis.

**3.2.5.4 Arterial Analysis**

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change in travel speed between the No Build condition and Build Alternative 2 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and along northbound Rockville Pike during the PM peak hour. Based on this analysis, Alternative 2 would not require PAMR-RAM external intersection mitigation. Tables 36 and 37 show the 2018 Build arterial analyses.

**Table 35A: 2018 AM Peak Hour Build Alternative 2 HCM External Analysis**

	HCM Analysis		AM Peak Hour				
	Approach	Alternative 2			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>41.7</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	12.1		B	12.1		B
	Southbound	35.8		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>25.8</b>	<b>0.89</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	8.7		A	9.0		A
	Southbound	29.7		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.7</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	16.0		B	16.1		B
	Southbound	38.9		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.8</b>	<b>0.69</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	21.1		C	21.1		C
	Northbound	4.4		A	4.4		A
	Southbound	2.9		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>4.8</b>	<b>0.59</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	9.6		A	8.9		A
	Southbound	1.3		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.1</b>	<b>0.74</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	67.5		E	63.5		E
	Westbound	52.7		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.2		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.7</b>	<b>0.85</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.1		C	31.1		C
	Northbound	29.7		C	29.6		C
	Southbound	72.3		E	67.6		E

**Table 35A: 2018 AM Peak Hour Build Alternative 2 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 2			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>7.0</b>	<b>0.61</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	4.0		A	3.9		A
	Westbound	5.8		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.0		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>1.5</b>	<b>0.46</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	1.5		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.3</b>	<b>0.57</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.1		A	1.7		A
	Westbound	7.5		A	6.6		A
	Southbound	26.8		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.0</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	58.7		E	56.0		E
	Westbound	44.6		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.0		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.5		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.0		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.4		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 35B: 2018 PM Peak Hour Build Alternative 2 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 2			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.1		C	28.6		C
	Southbound	65.2		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>38.9</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.3		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.2</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.1		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>7.1</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.6		E	58.6		E
	Northbound	2.6		A	2.4		A
	Southbound	1.0		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.8</b>	<b>0.76</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.4		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>15.1</b>	<b>0.77</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	82.0		F	70.0		E
	Westbound	42.0		D	45.7		D
	Northbound	7.1		A	5.7		A
	Southbound	7.6		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>46.5</b>	<b>0.85</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	65.9		E	65.8		E
	Northbound	41.7		D	40.7		D
	Southbound	41.0		D	38.0		D

**Table 35B: 2018 PM Peak Hour Build Alternative 2 HCM External Analysis  
(continued)**

	HCM Analysis	PM Peak Hour						
		Approach	Alternative 2			No Build		
			Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.1</b>	<b>0.77</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>	
	Eastbound	7.4		A	7.7		A	
	Westbound	14.3		B	14.0		B	
	Northbound	17.4		B	17.4		B	
	Southbound	27.8		C	27.7		C	
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>18.0</b>	<b>0.96</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>	
	Eastbound	16.3		B	14.2		B	
	Westbound	12.3		B	11.3		B	
	Southbound	30.6		C	24.7		C	
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>4.5</b>	<b>0.80</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>	
	Eastbound	4.6		A	4.3		A	
	Westbound	4.1		A	4.2		A	
	Southbound	26.2		C	27.9		C	
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>	
	Eastbound	61.4		E	55.7		E	
	Westbound	69.7		E	70.1		E	
	Northbound	49.1		D	49.1		D	
	Southbound	23.7		C	23.7		C	
	Southwestbound	86.4		F	86.4		F	
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>	
	Eastbound	32.0		C	29.0		C	
	Westbound	12.1		B	11.6		B	
	Northbound	21.9		C	21.9		C	
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>	
	Eastbound	19.9		B	19.8		B	
	Northbound	33.4		C	33.2		C	
	Southbound	36.7		D	36.7		D	
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.2</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>	
	Eastbound	36.6		D	36.6		D	
	Westbound	34.5		C	34.0		C	
	Northbound	21.0		C	20.9		C	
	Southbound	6.6		A	6.5		A	

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 36: 2018 AM Peak Hour Build Alternative 2 Arterial Analysis**

Arterial	Direction	Alt 2			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.6	5:47	C	22.7	5:46	C	0%
	Southbound	18.3	7:22	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.6	5:15	C	19.7	5:14	C	1%
	Westbound	19.2	5:22	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 37: 2018 PM Peak Hour Build Alternative 2 Arterial Analysis**

Arterial	Direction	Alt 2			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:31	D	17.9	7:19	D	3%
	Southbound	18.2	7:24	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.7	5:50	D	18.0	5:44	D	2%
	Westbound	18.2	5:40	C	18.2	5:40	C	0%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### 3.2.5.5 Internal Intersection Analysis

This alternative includes the addition of a new exit ramp from the New USU parking facility in N-Lot and would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection.

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. Similar to Alternative 1, the #26 East Palmer Road at Stokes Road and #28 South Palmer Road at Grier Road intersections would change from LOS B to C. The #28 intersection change would result from the new trips exiting the new USU Alternative 2 parking structure and heading toward Gates #2 and #4. The #26 intersection change would be due to the No Build condition average vehicle delay calculated just under the LOS B to C threshold. Any increase in the average vehicle delay would result in a lower LOS. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 38A and 38B show the 2018 Build Alternative 2 internal intersection analysis and Figures 41A and 41B show the 2018 Build Alternative 2 internal intersection LOS.

**Table 38A: 2018 AM Peak Hour Build Alternative 2 Internal Intersection Analysis**

	Approach	AM Peak Hour			
		Build Alt. 2		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>11.8</b>	<b>B</b>	<b>10.3</b>	<b>B</b>
	Eastbound	12.9	B	10.9	B
	Westbound	8.7	A	8.7	A
	Northbound	8.8	A	9.0	A
	Southbound	9.7	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	16.1	C	17.6	C
	Westbound	12.3	B	12.8	B
	Northbound Left	3.5	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.7	A	9.2	A
	Southbound	10.5	B	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.8</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	8.2	A	8.1	A
	Northbound	9.2	A	9.4	A
	Southbound	8.2	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.9	A	8.1	A
	Northbound	9.9	A	10.1	B
	Southbound	8.5	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
	Eastbound	10.3	B	10.3	B
	Westbound	8.9	A	8.7	A
	Southbound	9.2	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>10.7</b>	<b>B</b>	<b>9.6</b>	<b>A</b>
	Eastbound	11.4	B	10.0	A
	Westbound	8.8	A	8.6	A
	Northbound	10.0	A	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.9</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	7.8	A	7.5	A
	Westbound	8.6	A	8.1	A
	Northbound	9.9	A	9.4	A
	Southbound	10.2	B	8.7	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.7	A	8.6	A
	Northbound	10.4	B	10.1	B
	Southbound	9.0	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Eastbound	8.1	A	8.1	A
	Westbound	10.6	B	10.4	B
	Northbound	8.9	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>8.8</b>	<b>A</b>	<b>8.7</b>	<b>A</b>
	Eastbound	8.6	A	8.4	A
	Westbound	9.3	A	9.1	A
	Northbound	9.1	A	9.0	A
	Southbound	7.3	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	8.0	A	7.9	A

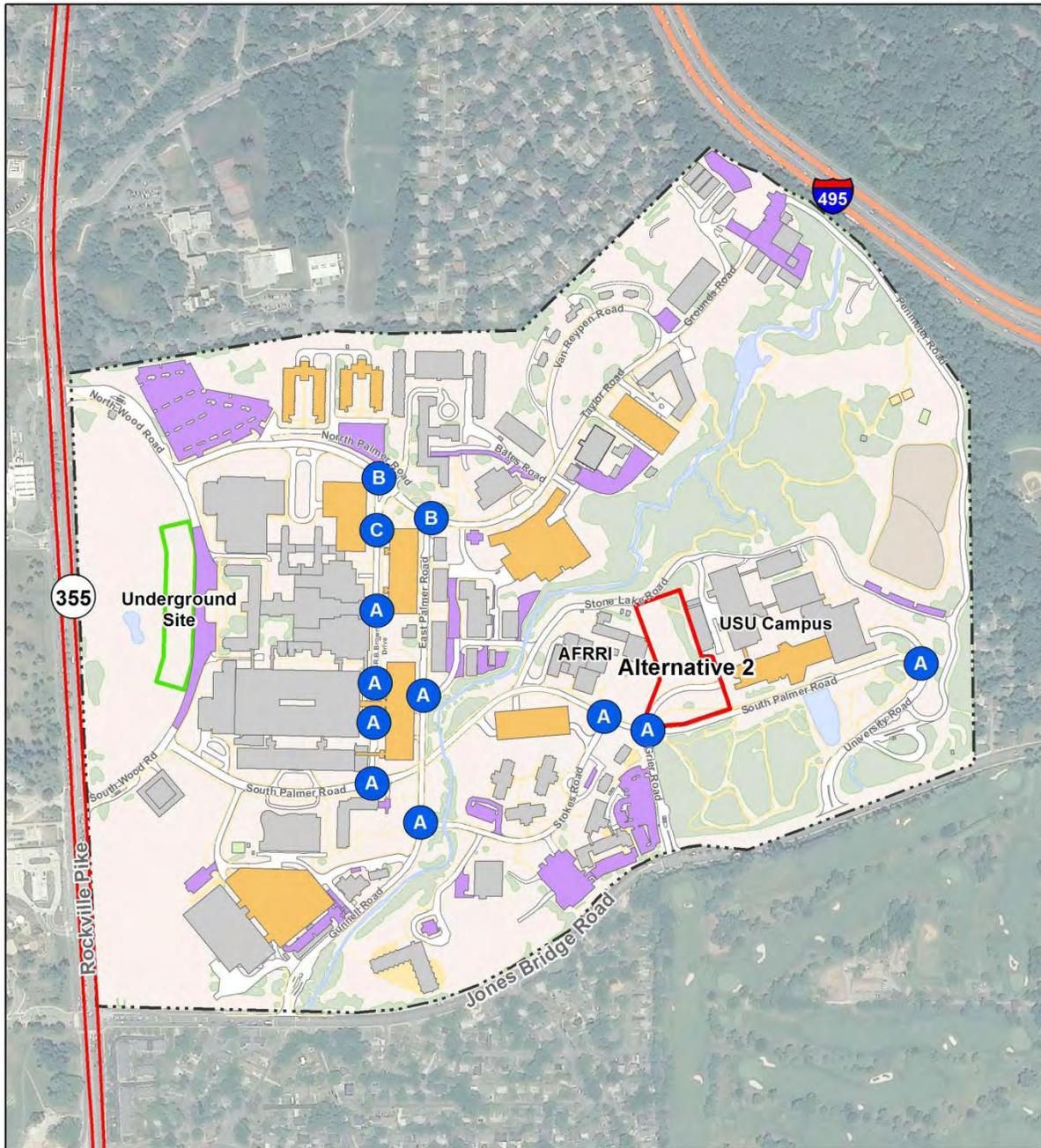
**Table 38B: 2018 PM Peak Hour Build Alternative 2 Internal Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 2		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>15.9</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	10.1	B	9.7	A
	Westbound	15.2	C	15.6	C
	Northbound	19.7	C	20.5	C
	Southbound	10.1	B	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.6	A	0.6	A
	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.9	A	9.0	A
	Southbound	8.5	A	8.5	A
	<b>Overall</b>	<b>11.1</b>	<b>B</b>	<b>11.3</b>	<b>B</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	10.7	B	10.9	B
	Northbound	9.4	A	9.5	A
	Southbound	12.1	B	12.3	B
	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.8	A	7.8	A
	Northbound	8.2	A	8.3	A
	Southbound	10.0	A	10.0	B
	<b>Overall</b>	<b>12.5</b>	<b>B</b>	<b>10.6</b>	<b>B</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	9.2	A	8.9	A
	Westbound	14.1	B	10.7	B
	Southbound	12.4	B	11.4	B
	<b>Overall</b>	<b>10.8</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	10.4	B	10.0	B
	Westbound	11.4	B	11.4	B
	Northbound	10.7	B	10.7	B
	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	8.5	A	8.4	A
	Westbound	9.9	A	9.8	A
	Northbound	9.8	A	9.7	A
	Southbound	11.5	B	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>15.1</b>	<b>C</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.1	C	16.0	C
	Northbound	11.8	B	11.5	B
	Southbound	16.3	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>12.8</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	10.9	B	10.3	B
	Westbound	14.8	B	11.0	B
	Northbound	11.9	B	10.8	B
	Southbound	9.1	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>17.7</b>	<b>C</b>	<b>12.5</b>	<b>B</b>
	Eastbound	15.9	C	13.7	B
	Westbound	9.7	A	9.2	A
	Northbound	9.2	A	8.9	A
	Southbound	19.0	C	11.9	B
29. University Road & South Palmer Road	Westbound	7.1	A	7.1	A
	Northbound	7.1	A	7.1	A

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 41A: 2018 AM Peak Hour Build Alternative 2 Internal Intersection LOS**



Future Transportation	
<span style="color: blue;">●</span> Unsignalized Intersection LOS	<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
<span style="background-color: gray; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px;"></span> MED Underground Parking
<span style="background-color: orange; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure	
<span style="background-color: purple; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot	





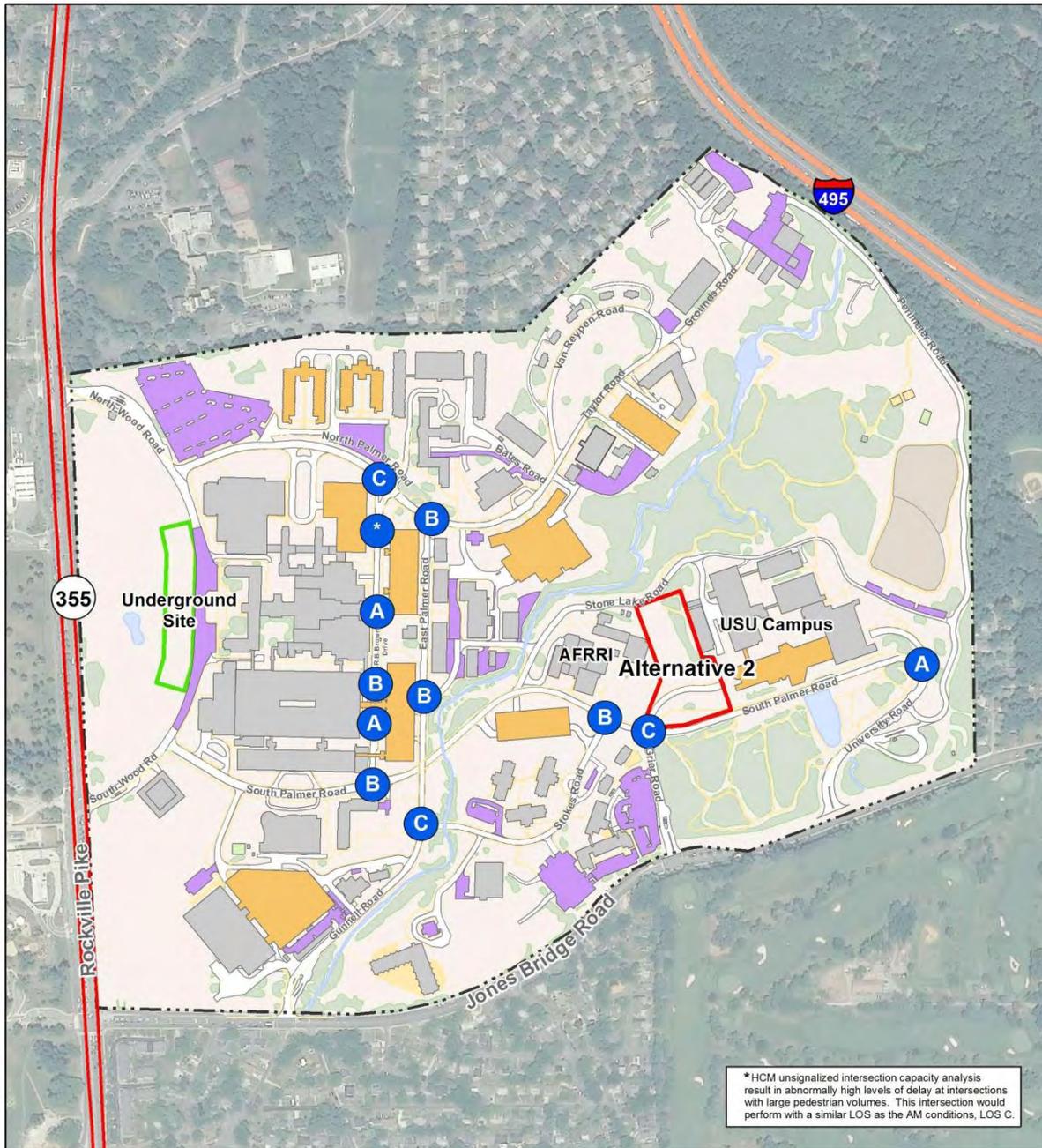
0 200 400 800  
Feet

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

MAP INDEX



**Figure 41B: 2018 PM Peak Hour Build Alternative 2 Internal Intersection LOS**



<b>Future Transportation</b>				<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="background-color: gray; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building</li> <li><span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure</li> <li><span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span> USU Alternative Parking</li> <li><span style="border: 2px solid green; display: inline-block; width: 20px; height: 10px;"></span> MED Underground Parking</li> </ul>			

### **3.2.5.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new underground parking structure would be located next to the main Medical Building with no significant impacts expected as pedestrians would be able to walk directly into the building without crossing any roadways.

The new USU Alternative 2 parking structure would be placed next to the USU campus. Therefore, the new pedestrian activity created from these trips would cross roadways on the way to the Medical Building (47 new employees plus the G-Lot shifted staff) with pedestrians crossing at two intersections, the South Palmer Road at Stokes Road and South Palmer Road at R.B. Brown Drive. This would result in 48 new pedestrian trips during the AM peak hour and 31 new pedestrian trips during the PM peak hour. These pedestrian trips are included in the internal HCM analysis in Tables 38A and 38B. The two intersections that would experience increased pedestrian activity as a result of Alternative 2 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 38A and 38B.

Existing 5-foot plus sidewalks connect the new parking structure serving Building F with the Medical Buildings via South Palmer Road. Any other new pedestrian or bicycle activity generated from the 14 employees not included in the original Alternative 2 peak hour trip generation would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the No Build condition, including the existing bicycle racks and sidewalks, this alternative would have no pedestrian or bicycle impacts. Figure 38 shows the sidewalk connections for this Build Alternative.

### **3.2.6 Build Alternative 3**

This alternative would include the construction of a new 500-space Medical Facilities Development parking structure in the industrial/warehouse area and the construction of a 400-space parking structure known as USU Alternative 2. The 500-space parking structure would be located north of Grounds Road, adjacent to the existing Z-Lot, with the entrance and exit ramps connecting to Grounds Road. The footprint for the proposed industrial/warehouse area parking facility would impact approximately 17 spaces in the existing Z-Lot.

The new USU Alternative 2 parking structure would replace the existing N-Lot, with the entrance located on Stone Lake Road and two exits, one serving Stone Lake Road and the other connecting to the South Palmer Road and Grier Road intersection.

### **3.2.6.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

### **3.2.6.2 Trip Distribution**

Since the combined 500 parking spaces in Buildings 54 and 55 would be re-designated from employee use to patients, VIPs, and visitors only, some of the existing staff trips would shift from Buildings 54 and 55 to the new Medical Facilities Development parking structure in the industrial/warehouse area and the new USU Alternative 2 parking structure in N-Lot. These new parking structures would be designated for staff parking. The new staff trips expected to be generated from the Medical Facilities Development and Building F would be destined for the new USU Alternative 2 parking structure in N-Lot.

Since 500 new parking spaces must be made available for patients, visitors, and VIPs, and 17 spaces from Z-lot would be shifted to the new warehouse facility, 483 staff spaces would be moved to the new warehouse facility (392 from Building 55 and 91 from Building 54), thus filling the facility to capacity (17 Z-Lot spaces plus 483 spaces). The remaining 17 staff spaces that must be relocated to provide 500 new patient spaces would come from Building 54 and would be moved to the new USU Alternative 2 parking structure in N-Lot.

To determine the number of peak hour staff trips that would be shifted to the new warehouse parking structure, the study uses the following assumptions:

- All existing staff spaces that are removed from one facility would be placed in another facility at the installation.
- Staff would continue to have set patterns and drive to the closest available parking facility to their desk, based upon their daily arrival time. If they arrive later in the morning, they would automatically drive to the warehouse parking facility.
- The percentage of spaces reassigned to patient parking in Building 54 would be 14 percent, the percentage of staff spaces (108) relocated compared to the total spaces housed in the structure (749).
- The number of AM and PM peak trips shifted from Building 54 would be 14 percent of the peak hour trips currently using the facility.
- Based on the patient temporal distribution (Figure 33), 15 percent of patients arrive during the AM peak hour and 6 percent leave during the same period, while 0.5 percent would arrive during the PM peak hour and 4 percent leave.

- The percentage of staff entering and exiting Building 55 during the peak hours would be the inverse of the patient percentages (85 percent/94 percent during the AM peak hour and 99.5 percent/96 percent during the PM peak hour). It is assumed that VIPs and visitors mainly arrive and depart outside of the peak hours to avoid the traffic. The small number that might arrive during the peak hour would have a negligible effect on traffic operations.
- The 17 spaces lost to staff from the proposed industrial/warehouse area parking facility footprint in the Z-lot would be shifted to the new warehouse parking facility.

Based on these assumptions, the number of trips shifted from Building 54 during the AM peak hour would be 43 staff inbound (14 percent of 305 (2018 No Build AM peak hour vehicles entering Building 54)) and 3 staff outbound (14 percent of 19 (2018 No Build AM peak hour vehicles exiting Building 54)). For the PM peak, 3 staff inbound (14 percent of 19 (2018 No Build PM peak hour vehicles entering Building 54)) and 18 staff outbound (14 percent of 126 (2018 No Build PM peak hour vehicles exiting Building 54)) would be shifted. In Building 55, the staff shifted would be based on the fifth bullet on the preceding page, resulting in 208 inbound (85 percent of 245 (2018 No Build AM peak hour vehicles entering Building 55)) and 39 outbound (94 percent of 41 (2018 No Build AM peak hour vehicles exiting Building 55)) during the AM peak hour and 30 inbound (99.5 percent of 30 (2018 No Build PM peak hour vehicles exiting Building 55)) and 227 outbound (96 percent of 236 (2018 No Build PM peak hour vehicles exiting Building 55)) during the PM peak hour. Table 39 shows the trip distribution shift between Buildings 54 and 55 to the proposed warehouse parking structure.

**Table 39: Number of Existing Trips Shifted from Buildings 54 and 55**

	Facility Name	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1	Building 54	43	3	46	3	18	21
2	Building 55	208	39	247	30	227	257
	Total	251	42	293	33	245	278

The assumed split between the two new parking structures would be 3 percent (17 spaces impacted in the Z-Lot divided by the 500 total spaces relocated from a combination of Buildings 54 and 55) of the trips from Buildings 54 and 55 headed to the USU Alternative 2 parking structure in N-Lot and 97 percent (the remaining percentage after applying the 3 percent previously discussed) headed to the new parking structure in the warehouse area. Table 40 shows the trip distribution from both Buildings 54 and 55 to the proposed parking structures in the warehouse area and N-Lots.

**Table 40: Number of Existing Trips Shifted to the Proposed Parking Structures in the Warehouse Area and USU Alternative 2**

	Facility Name	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1	Warehouse Structure (97%)	243	41	284	32	238	270
2	USU Alternative 2 Structure (3%)	8	1	9	1	7	8
	Total	251	42	293	33	245	278

The Build Alternative 3 trip distribution would consist of combining the shift in existing staff trips from Buildings 54 and 55 to both new parking structures, and the peak hour new trips projected to be generated from the 270 new employees destined for the new USU Alternative 2 parking structure. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking spot at Buildings 54 or 55, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the new Medical Facilities Development parking structure or USU Alternative 2 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to Buildings 54 or 55 is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 2 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

As assumed in the previous alternatives, the existing 62-space N-Lot would be relocated into the new USU Alternative 2 parking structure, resulting in a shift of 18 PM peak hour exiting trips (30 percent of N-Lot - same peak hour exiting percentage as adjacent USU parking facility) from Stone Lake Road to the new ramp connecting to the South Palmer Road at Grier Road intersection. In addition, the existing 17-spaces in Z-Lot would be relocated into the new warehouse facility, resulting in no additional trips added or removed.

The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26). The distribution patterns for the shifted staff trips from Buildings 54 and 55 would follow these paths:

- From the north: Continue past R.B. Brown Drive on North Palmer Road, then continue onto Taylor Road/Grounds Road.

- To the north: Turn right onto Grounds Road/Taylor Road, then continue straight on North Palmer Road past R.B. Brown Drive.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, and turn right onto Taylor Road/Grounds Road.
- To the south: Turn right onto Grounds Road/Taylor Road, then turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and follow through to Grounds Road.
- To the east: Turn left onto Grounds Road, follow onto Perimeter Road, then turn left onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

The result of these new distribution patterns would remove trips from R.B. Brown Drive and South Palmer Road, and Rockville Pike between South Wood Road and Jones Bridge Road.

During the AM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Turn left onto Stone Lake Road, turn right onto Rixey Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.

- To the east: Turn left onto South Palmer Road, turn right onto University Road and exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Go straight onto Grier Road and exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Go straight onto Grier Road and exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 42A, 42B, and 42C show the 2018 Build Alternative 3 trip distribution.

Figure 42A: 2018 Build Alternative 3 Trip Distribution

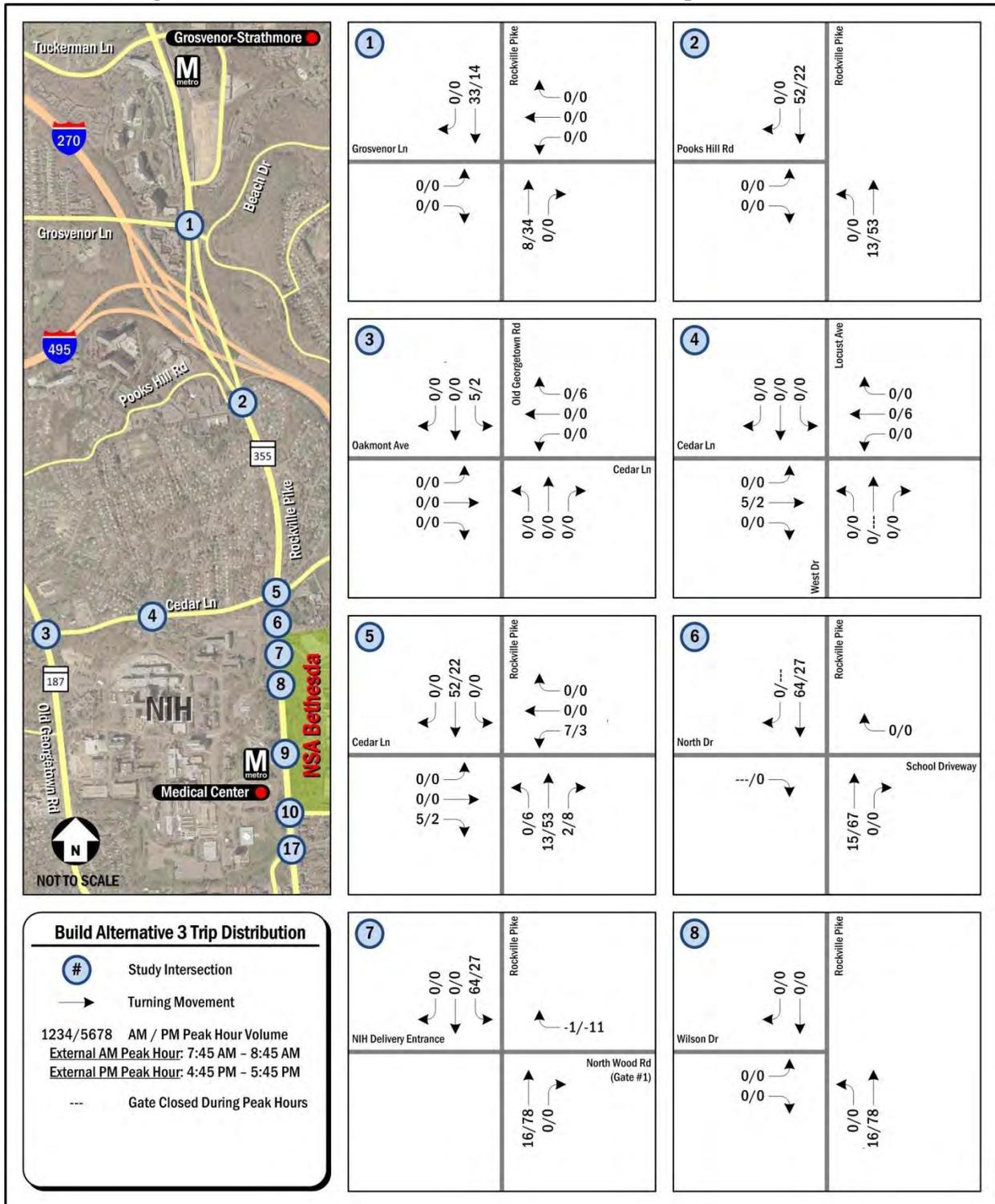


Figure 42B: 2018 Build Alternative 3 Trip Distribution

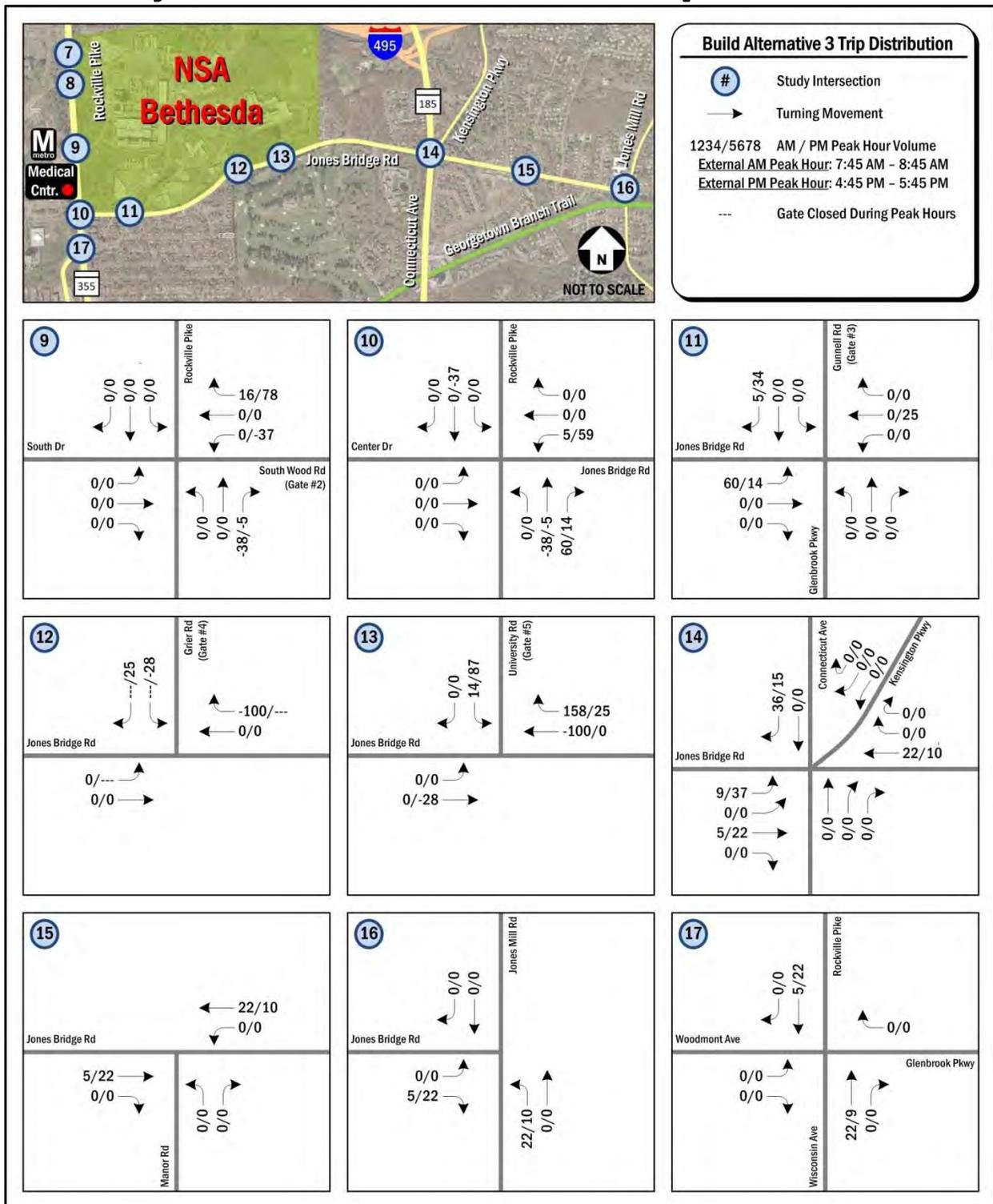
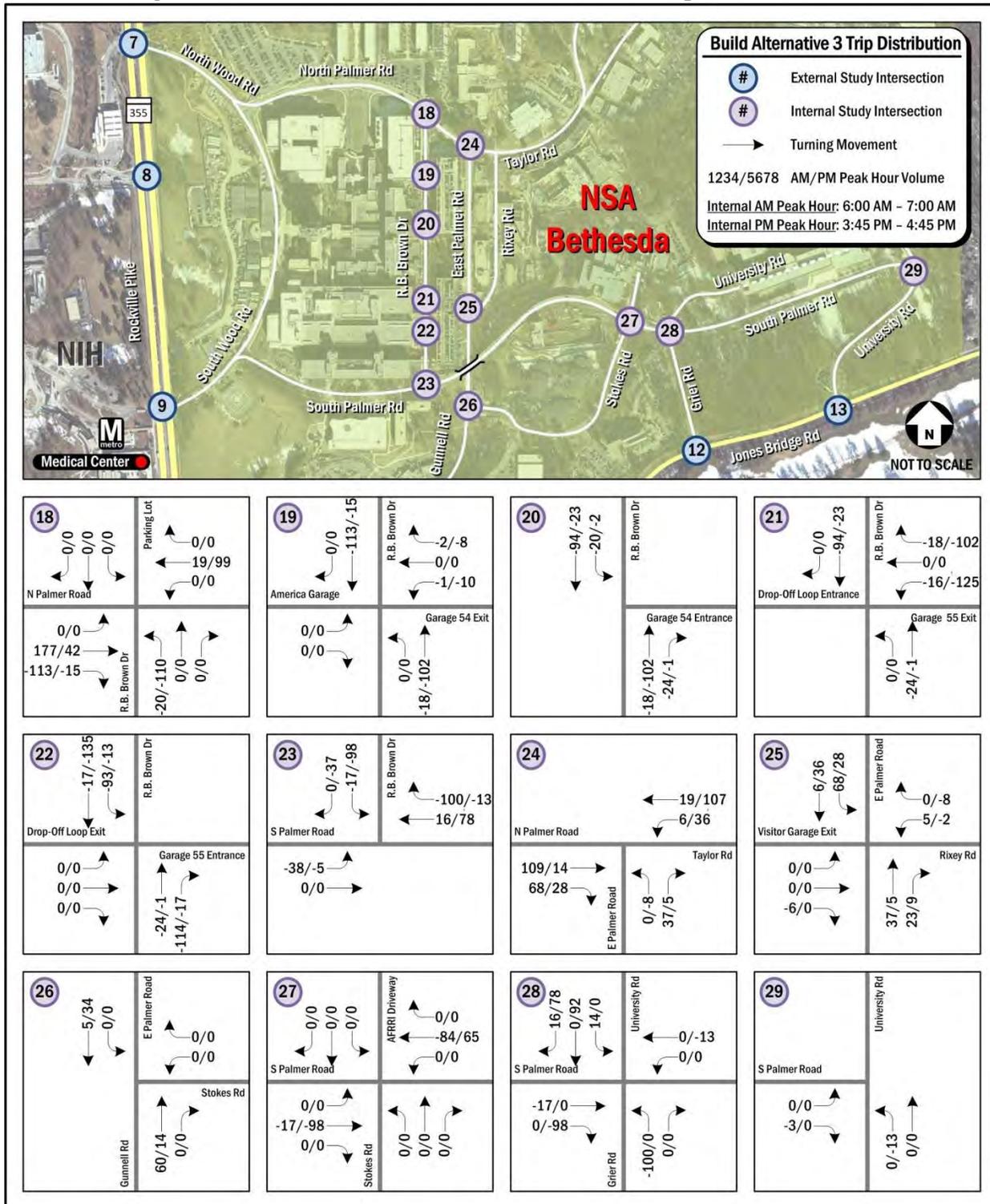


Figure 42C: 2018 Build Alternative 3 Trip Distribution



### **3.2.6.3 External Intersection Analysis**

The 2018 Build Alternative 3 includes all projects listed in the No Build condition. The addition of a new exit ramp from the new USU Alternative 2 parking structure in N-Lot would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection. Figure 29C shows the 2018 Build Alternatives 2 through 5 and 7 through 10 internal lane utilization and traffic control.

#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, there would no changes in LOS between the Alternative 3 and the No Build condition for either peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 3. Table 41 shows the 2018 Build Alternative 3 CLV analysis for the external intersection compared to the No Build condition. Figures 43A and 43B show the 2018 Build Alternative 3 CLV intersection LOS.

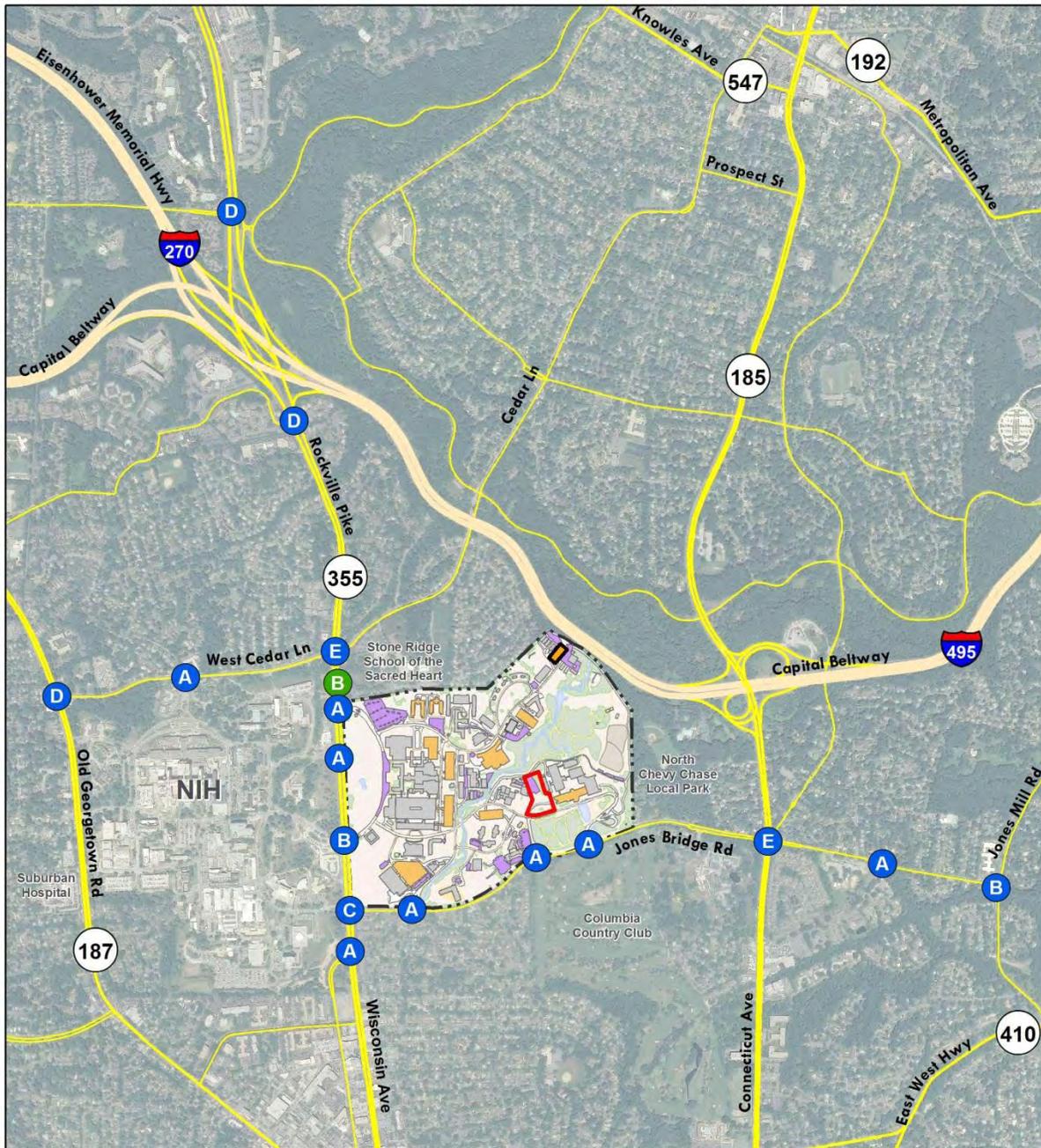
**Table 41: 2018 Build Alternative 3 CLV External Analysis**

	Build Alternative 3				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	<i>un-signalized</i>		<i>un-signalized</i>		<i>un-signalized</i>		<i>un-signalized</i>	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	913	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	958	A	972	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,137	B	1,117	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,295	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	861	A	1,056	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	692	A	1,076	B	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	696	A	1,112	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

### Highway Capacity Manual Intersection Analysis

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 3 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Since the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 42A and 42B show the 2018 Build Alternative 3 HCM external analysis.

Figure 43A: 2018 AM Peak Hour Build Alternative 3 CLV Intersection LOS



Future Transportation	
<span style="color: blue;">●</span> Signalized Intersection LOS	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure
<span style="color: green;">●</span> Unsignalized Intersection (HCM LOS for minor approaches only)	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot
<span style="background-color: gray; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
	<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> MED Facilities
	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Footprint





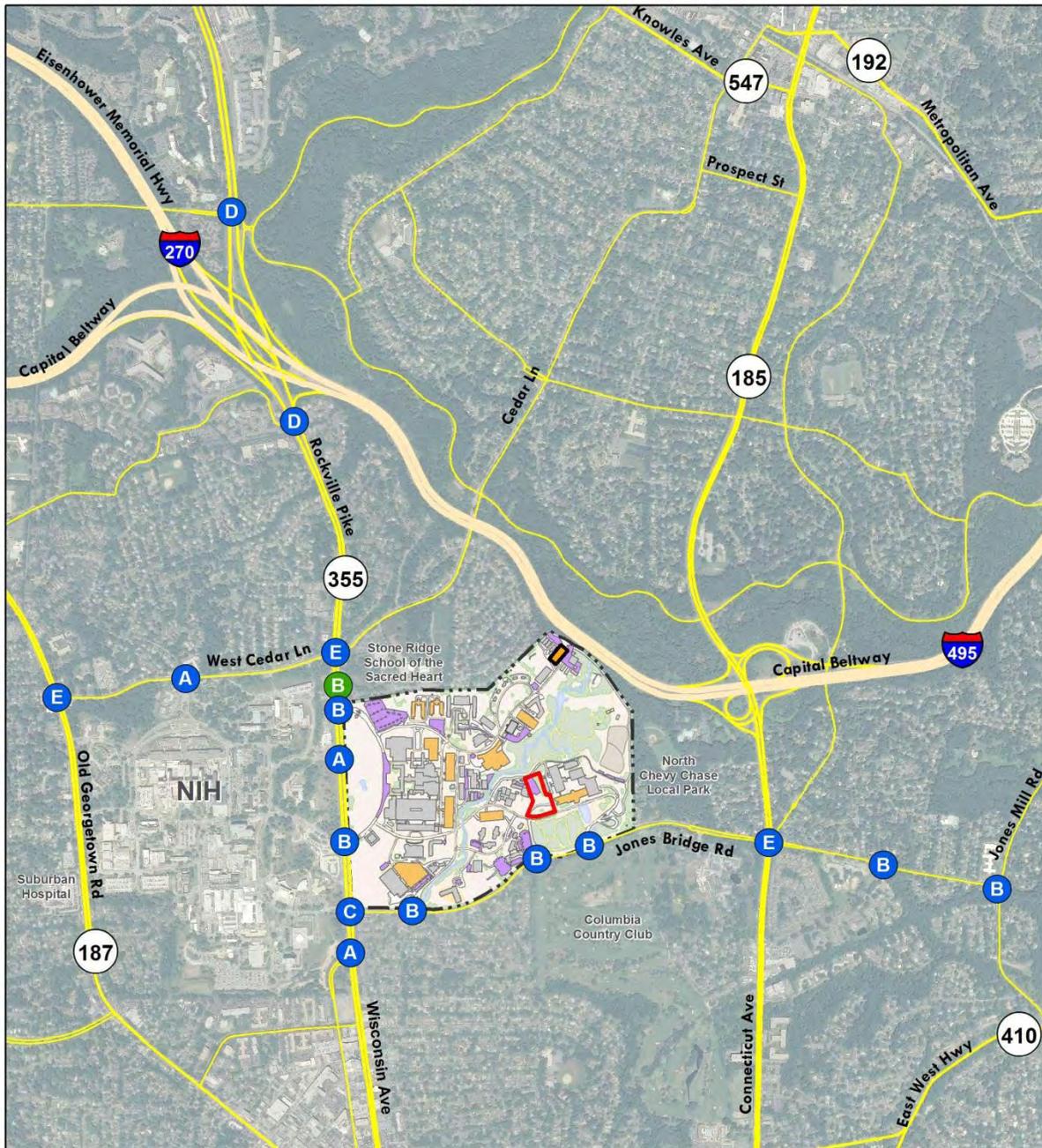
0 0.125 0.25 0.5  
Miles

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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Figure 43B: 2018 PM Peak Hour Build Alternative 3 CLV Intersection LOS



Future Transportation	
● Signalized Intersection LOS	■ Parking Structure
● Unsignalized Intersection (HCM LOS for minor approaches only)	■ Parking Lot
■ Building	■ USU Alternative Parking
	■ MED Facilities
	■ Parking Footprint

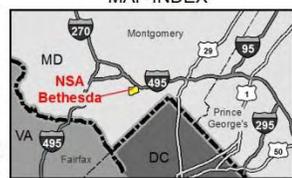




0 0.125 0.25 0.5  
Miles

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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**Table 42A: 2018 AM Peak Hour Build Alternative 3 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 3			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>41.8</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	12.1		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.8</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	16.1		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.9</b>	<b>0.69</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	21.1		C	21.1		C
	Northbound	4.7		A	4.4		A
	Southbound	2.9		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>4.9</b>	<b>0.59</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	9.9		A	8.9		A
	Southbound	1.3		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.2</b>	<b>0.74</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	67.5		E	63.5		E
	Westbound	52.7		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.2		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.3</b>	<b>0.84</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.0		C	31.1		C
	Northbound	28.4		C	29.6		C
	Southbound	72.2		E	67.6		E

**Table 42A: 2018 AM Peak Hour Build Alternative 3 HCM External Analysis  
(continued)**

		HCM Analysis					
		AM Peak Hour					
		Approach	Alternative 3			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>7.6</b>	<b>0.63</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	5.1		A	3.9		A
	Westbound	6.3		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.0		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>1.6</b>	<b>0.46</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	1.5		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.1</b>	<b>0.54</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.1		A	1.7		A
	Westbound	7.0		A	6.6		A
	Southbound	26.9		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.4		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 42B: 2018 PM Peak Hour Build Alternative 3 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 3			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.5		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>7.2</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.6		E	58.6		E
	Northbound	2.7		A	2.4		A
	Southbound	1.0		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.7</b>	<b>0.75</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.2		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>14.6</b>	<b>0.76</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	83.7		F	70.0		E
	Westbound	42.2		D	45.7		D
	Northbound	6.8		A	5.7		A
	Southbound	7.2		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.1</b>	<b>0.86</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	64.8		E	65.8		E
	Northbound	42.6		D	40.7		D
	Southbound	41.8		D	38.0		D

**Table 42B: 2018 PM Peak Hour Build Alternative 3 HCM External Analysis  
(continued)**

		HCM Analysis					
		PM Peak Hour					
		Approach	Alternative 3			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.5		A	7.7		A
	Westbound	14.4		B	14.0		B
	Northbound	17.3		B	17.4		B
	Southbound	26.7		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>14.1</b>	<b>0.88</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	13.4		B	14.2		B
	Westbound	11.0		B	11.3		B
	Southbound	21.8		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>8.6</b>	<b>0.81</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	8.4		A	4.3		A
	Westbound	6.5		A	4.2		A
	Southbound	26.5		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.3</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.5		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.9		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

### 3.2.6.4 Arterial Analysis

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 3 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and both northbound Rockville Pike and

eastbound Jones Bridge Road during the PM peak hour. Based on this analysis, Alternative 3 would not require PAMR-RAM external intersection mitigation. Tables 43 and 44 show the 2018 Build Alternative 3 arterial analyses.

**Table 43: 2018 AM Peak Hour Build Alternative 3 Arterial Analysis**

Arterial	Direction	Alt 3			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.6	5:47	C	22.7	5:46	C	0%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.7	5:14	C	19.7	5:14	C	0%
	Westbound	19.2	5:22	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 44: 2018 PM Peak Hour Build Alternative 3 Arterial Analysis**

Arterial	Direction	Alt 3			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:31	D	17.9	7:19	D	3%
	Southbound	18.2	7:24	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.5	5:54	D	18.0	5:44	D	3%
	Westbound	18.0	5:44	D	18.2	5:40	C	1%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### **3.2.6.5 Internal Intersection Analysis**

This alternative includes the addition of a new exit ramp from the new USU parking facility in N-Lot and would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection.

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. For this alternative, intersection #18 R.B. Brown Drive at North Palmer Road would change from LOS B to C during the AM peak hour, reflecting the increased trips headed to the warehouse facility from Gate #1 and intersection #19 R.B. Brown Drive at America Garage eastbound approach would change from LOS C to D, reflecting the increase in pedestrian traffic crossing at this intersection, walking between the Medical Center and warehouse parking facility. During the PM peak hour, intersection #26 East Palmer Road at Stokes Road would change from LOS B to C, due to increased trips from the warehouse facility heading to Gate #3. Based on this analysis, there would be no significant impact to the internal roadway

intersections for this alternative. Tables 45A and 45B show the 2018 Build Alternative 3 internal intersection analysis compared to the No Build condition, and Figure 44A and 44B shows the 2018 Build Alternative 3 internal intersection LOS.

**Table 45A: 2018 AM Peak Hour Build Alternative 3 Internal Intersection Analysis**

	Approach	AM Peak Hour			
		Build Alt. 3		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>15.9</b>	<b>C</b>	<b>10.3</b>	<b>B</b>
	Eastbound	18.7	C	10.9	B
	Westbound	8.8	A	8.7	A
	Northbound	8.9	A	9.0	A
	Southbound	9.8	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	25.9	D	17.6	C
	Westbound	16.2	C	12.8	B
	Northbound Left	3.4	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.4	A	9.2	A
	Southbound	9.4	A	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.3</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	7.4	A	8.1	A
	Northbound	8.6	A	9.4	A
	Southbound	7.7	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.2</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.5	A	8.1	A
	Northbound	8.5	A	10.1	B
	Southbound	7.7	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.1</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
	Eastbound	9.4	A	10.3	B
	Westbound	8.1	A	8.7	A
	Southbound	8.4	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>13.8</b>	<b>B</b>	<b>9.6</b>	<b>A</b>
	Eastbound	15.9	C	10.0	A
	Westbound	9.7	A	8.6	A
	Northbound	11.5	B	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>10.1</b>	<b>B</b>	<b>9.0</b>	<b>A</b>
	Eastbound	0.0	A	7.5	A
	Westbound	8.6	A	8.1	A
	Northbound	10.5	B	9.4	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>10.4</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.8	A	8.6	A
	Northbound	11.3	B	10.1	B
	Southbound	9.1	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Eastbound	7.7	A	8.1	A
	Westbound	9.2	A	10.4	B
	Northbound	8.5	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.7</b>	<b>A</b>
	Eastbound	7.9	A	8.4	A
	Westbound	8.7	A	9.1	A
	Northbound	7.3	A	9.0	A
	Southbound	7.0	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	7.9	A	7.9	A

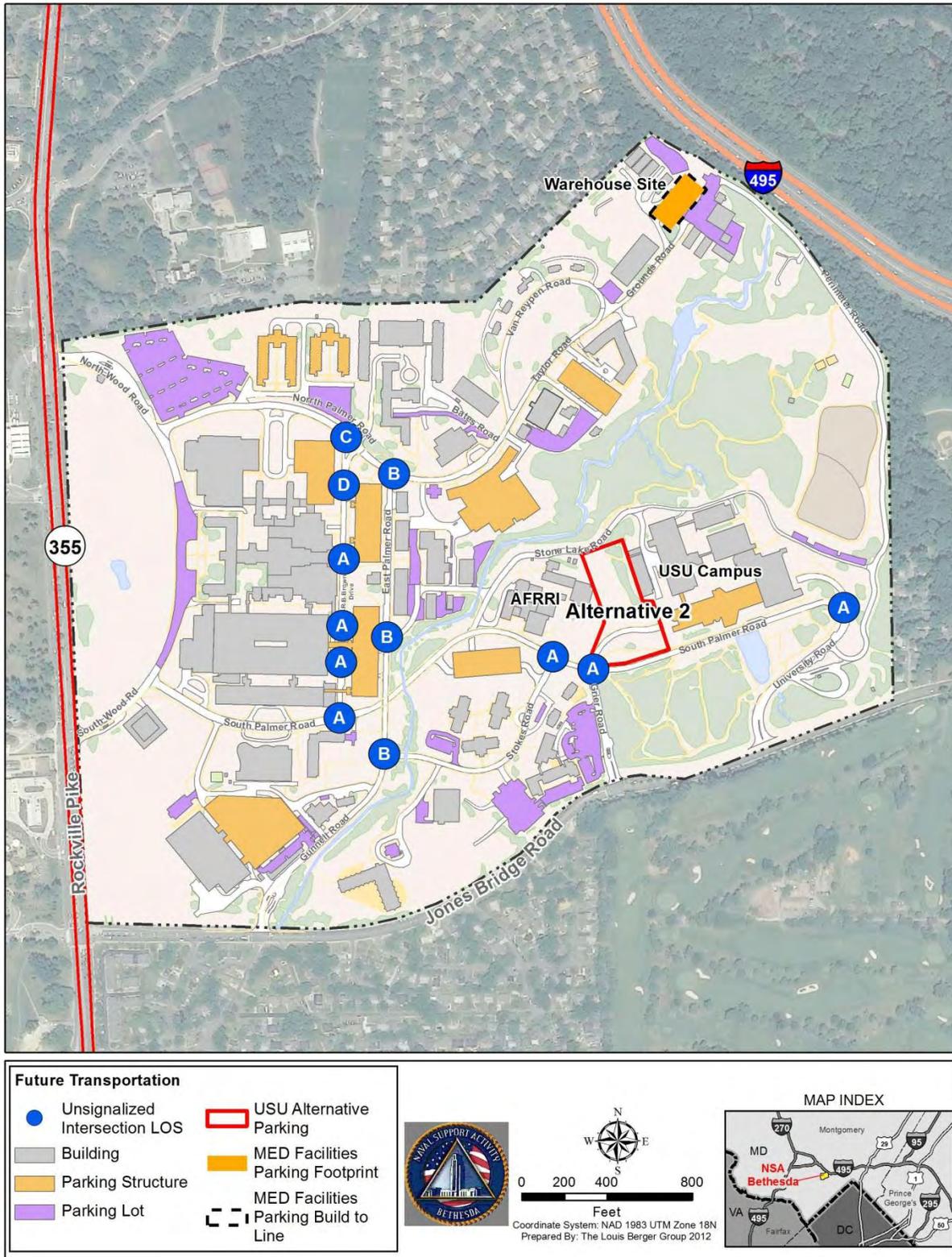
**Table 45B: 2018 PM Peak Hour Build Alternative 3 Internal Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 3		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>17.0</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	10.1	B	9.7	A
	Westbound	21.9	C	15.6	C
	Northbound	14.3	B	20.5	C
	Southbound	10.2	B	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.9	A	0.6	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
	Northbound	8.0	A	9.0	A
	Southbound	8.2	A	8.5	A
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>9.2</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
	Westbound	8.0	A	10.9	B
	Northbound	8.3	A	9.5	A
	Southbound	9.7	A	12.3	B
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
	Eastbound	7.4	A	7.8	A
	Northbound	8.0	A	8.3	A
	Southbound	8.2	A	10.0	B
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>10.0</b>	<b>B</b>	<b>10.6</b>	<b>B</b>
	Eastbound	8.2	A	8.9	A
	Westbound	11.2	B	10.7	B
	Southbound	9.1	A	11.4	B
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>14.4</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	11.7	B	10.0	B
	Westbound	17.5	C	11.4	B
	Northbound	11.9	B	10.7	B
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>11.1</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
	Eastbound	8.7	A	8.4	A
	Westbound	10.1	B	9.8	A
	Northbound	10.0	B	9.7	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>16.5</b>	<b>C</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.9	C	16.0	C
	Northbound	12.2	B	11.5	B
	Southbound	18.8	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>11.3</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	9.0	A	10.3	B
	Westbound	12.7	B	11.0	B
	Northbound	10.8	B	10.8	B
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>14.9</b>	<b>B</b>	<b>12.5</b>	<b>B</b>
	Eastbound	12.0	B	13.7	B
	Westbound	9.3	A	9.2	A
	Northbound	8.7	A	8.9	A
29. University Road & South Palmer Road	Southbound	16.2	C	11.9	B
	Westbound	7.1	A	7.1	A
	Northbound	6.2	A	7.1	A

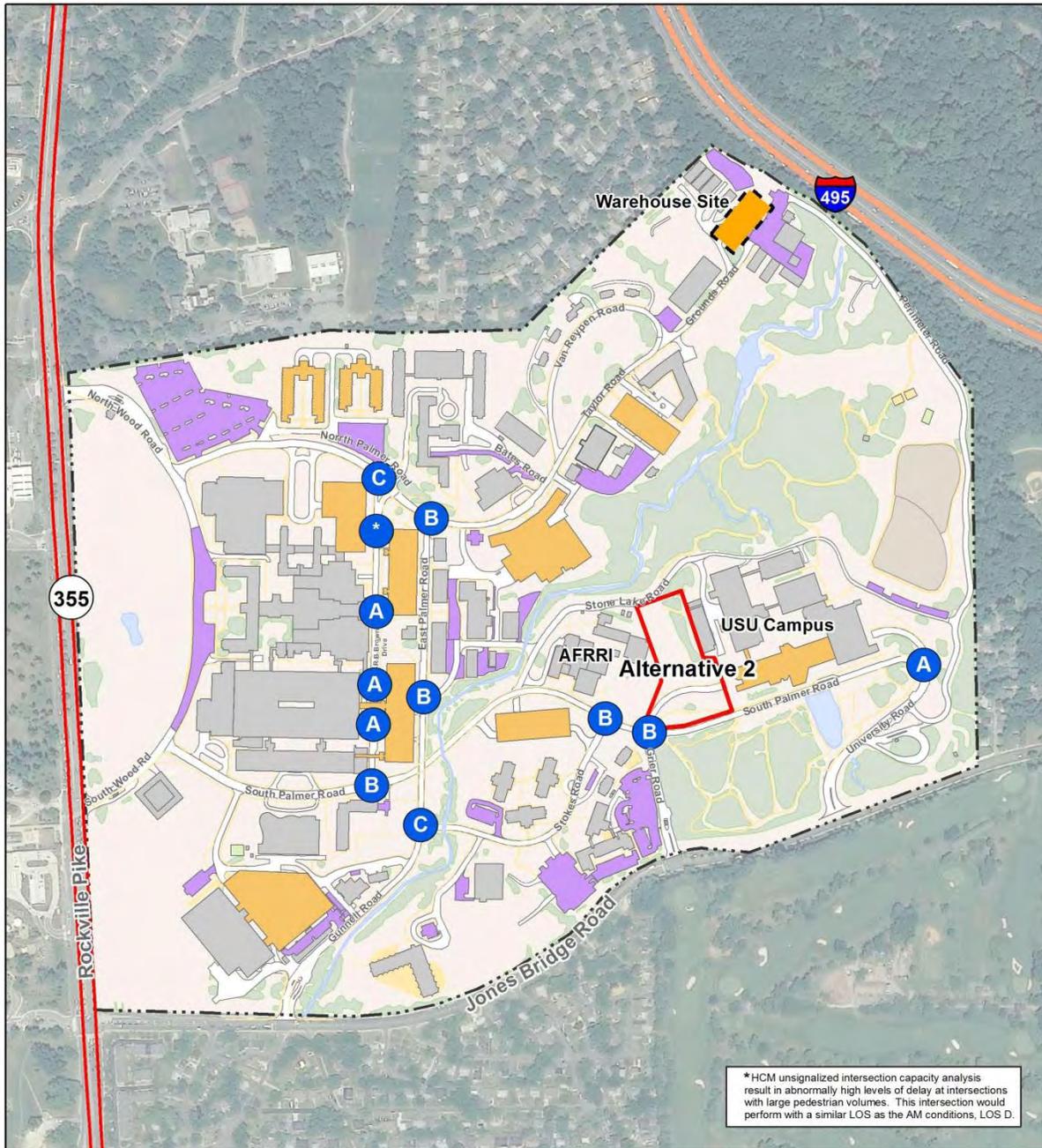
<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS D.

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 44A: 2018 AM Peak Hour Build Alternative 3 Internal Intersection LOS**



**Figure 44B: 2018 PM Peak Hour Build Alternative 3 Internal Intersection LOS**



**Future Transportation**

- Unsignalized Intersection LOS
- Building
- Parking Structure
- Parking Lot
- USU Alternative Parking
- MED Facilities Parking Footprint
- MED Facilities Parking Build to Line



0 200 400 800  
Feet  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012



### **3.2.6.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new Medical Facilities Development parking structure would be located off of Grounds Road in the industrial/warehouse area of NSA Bethesda. Therefore, new pedestrian trips would be created between the parking structure and Medical Buildings, crossing at two intersections, East Palmer Road at North Palmer Road and R.B. Brown Drive at the America Garage. Specifically, there would be 284 pedestrian trips during the AM peak hour and 270 pedestrian trips during the PM peak hour.

The new USU Alternative 2 parking structure would be placed next to the USU campus. Therefore, the only new pedestrian activity that would cross roadways would be the Medical Building Development trips (50 new employees plus trips shifting from Buildings 54 and 55) with pedestrians crossing at two intersections, the South Palmer Road at Stokes Road and South Palmer Road at R.B. Brown Drive. This would result in 26 new pedestrian trips during the AM peak hour and 24 new pedestrian trips during the PM peak hour. Both the Medical Facilities Development and Building F parking structure trips were included in the internal HCM analysis in Tables 45A and 45B. The four intersections that would experience increased pedestrian activity as a result of Alternative 3 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 45A and 45B.

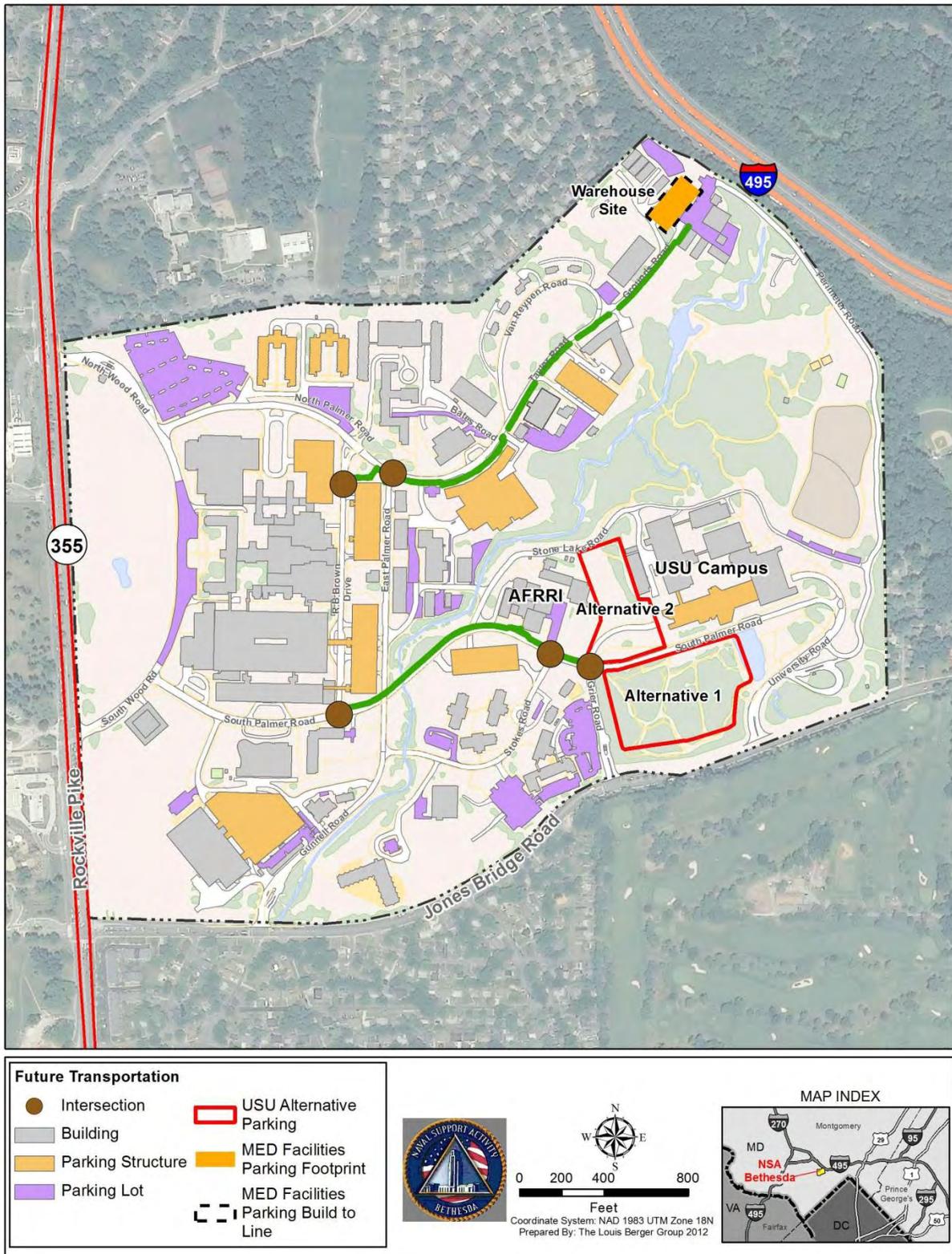
Existing 5-foot plus sidewalks connect both new parking structures with the Medical Buildings via South Palmer Road or Grounds Road/Taylor Road/North Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the peak hour projected trip generation and adequate existing sidewalks serving these pedestrian trips, this alternative would have no significant pedestrian or bicycle impacts. Figure 45 shows the 2018 Build Alternatives 3 and 8 sidewalk connections.

### **3.2.7 Build Alternative 4 (Preferred Alternative)**

This alternative would include the construction of a new 500-space Medical Facilities Development parking structure replacing H-Lot and the construction of a 400-space parking structure known as USU Alternative 2. The 500-space parking structure would be located in the existing H-Lot next to the Navy Lodge, with the entrance and exit ramps connecting to Stokes Road.

The new USU Alternative 2 parking structure would replace the existing N-Lot, with the entrance located on Stone Lake Road and two exits, one serving Stone Lake Road and the other connecting to the South Palmer Road and Grier Road intersection.

Figure 45: 2018 Build Alternatives 3 and 8 Sidewalk Connections



### 3.2.7.1 Trip Generation

Since the combined 500 parking spaces in Buildings 54 and 55 would be re-designated from employee use to patients, VIPs, and visitors only, some of the existing staff trips would shift from Buildings 54 and 55 to the new Medical Facilities Development parking structure in H-Lot and the new USU Alternative 2 parking structure in N-Lot. These new parking structures would be designated for staff parking. The peak hour trip generation for this alternative would differ from the previous alternatives because there would only be 228 parking spaces available for new staff in the new USU Alternative 2 parking structure. This would occur because the new 500-space Medical Facilities Development parking structure would need to accommodate the 110 lost spaces in H-Lot. After adjusting for the 110 spaces, the new H-Lot 500-space structure would be able to accommodate 390 more staff.

As described in Section 3.2.7.2, 500 staff would be displaced from Buildings 54 and 55, thus 110 staff vehicles (500-390) would need to relocate to the new USU Alternative 2 parking structure. The new USU Alternative 2 parking structure must also accommodate the 62 spaces in the existing N-Lot that would be eliminated by construction, thus leaving only 228 spaces for new employees in the new USU Alternative 2 parking structure. As a result, only 228 new staff parking permits would be distributed if Alternative 4 is selected. Table 46 shows the 2018 Build Alternative 4 peak hour trip generation.

**Table 46: 2018 Build Alternative 4 Peak Hour Trip Generation**

	Facility Name	Employees	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1	Medical Facilities Development	42 <sup>a</sup>	10	4	14	4	10	14
2	University Expansion	186 <sup>b</sup>	111	24	135	47	116	163
	Total	228	121	28	149	51	126	177

<sup>a</sup>ITE Land Use Code 610: Hospital

<sup>b</sup>ITE Land Use Code 550: University

### 3.2.7.2 Trip Distribution

Because 500 new parking spaces must be made available for patients, visitors, and VIPs, 390 staff spaces would be displaced from Building 55 and would be expected to shift to the new H-Lot facility, thus filling the facility to capacity. The remaining 110 staff spaces that must be relocated would come from a combination of Building 54 (108 spaces) and Building 55 (2 spaces) and would be expected to shift to the new USU Alternative 2 parking structure in N-Lot.

The Alternative 4 assumptions would be similar to Alternative 3, listed below:

- All existing staff spaces that would be removed from one facility would be accommodated in another facility at the installation.

- Staff would continue to have set patterns and drive to the closest available parking facility to their desk, based upon their daily arrival time. If they arrive later in the morning, they would automatically drive to the new H-Lot parking facility.
- The percentage of spaces reassigned to patient parking in Building 54 would be 14 percent, the percentage of staff spaces (108) relocated compared to the total spaces housed in the structure (749).
- The number of AM and PM peak trips shifted would be 14 percent of the peak hour trips currently using the facility.
- Based on the patient temporal distribution (Figure 33), 15 percent of patients would arrive during the AM peak hour and 6 percent leave during the same period, while 0.5 percent would arrive during the PM peak hour and 4 percent leave.
- The percentage of staff entering and exiting Building 55 during the peak hours would be the inverse of the patient percentages (85 percent/94 percent during the AM peak hour and 99.5 percent/96 percent during the PM peak hour). It is assumed that VIPs and visitors mainly would arrive and depart outside of the peak hours to avoid the traffic. The small number that might arrive during the peak hour would have a negligible effect on traffic operations.

Based on these assumptions, there would be the same number of trips removed from the network along R.B. Brown Drive as in Alternative 3, reflecting the change in travel for staff. The assumed split between the two new parking structures would be 22 percent (110 impacted spaces in H-Lot divided by the 500 total shifted spaces) of the trips from Buildings 54 and 55 headed to the new USU Alternative 2 parking structure in N-Lot and 78 percent (the remaining percentage after applying the 22 percent previously discussed) headed to the new parking structure in H-Lot. Table 47 shows the trip distribution from both Buildings 54 and 55 to the proposed parking structures in H- and N-Lots.

**Table 47: Shift in Existing Trips to the Proposed Parking Structures in H- and N-Lots**

	Facility Name	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1	H-Lot Structure (78%)	196	33	229	26	191	217
2	N-Lot Structure (22%)	55	9	64	7	54	61
	Total	251	42	293	33	245	278

The Build Alternative 4 trip distribution would consist of combining the shift in existing staff trips from Buildings 54 and 55 to the new

parking structures and the peak hour new trips projected to be generated from the 228 new employees. It is assumed that the existing 62-space N-Lot would be relocated into the new USU Alternative 2 parking facility, resulting in a shift of 18 PM peak hour exiting trips (30 percent of N-Lot - same peak hour exiting percentage as adjacent USU parking facility) from Stone Lake Road to the new ramp connecting to the South Palmer Road at Grier Road intersection. It is also assumed that existing trips to the 110-space H-Lot would be relocated into the new 500-space parking facility at the same location, resulting in no additional trips added or removed. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking spot at Buildings 54 or 55, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the new Medical Facilities Development parking structure or USU Alternative 2 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to Buildings 54 or 55 is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 2 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The internal installation generated or shifted trips follow the updated trip distribution pattern based on the 2008 NNMC Transportation Study (Figure 26). The distribution patterns for the shifted staff trips from Buildings 54 and 55 would follow these paths:

- From the north: Turn left onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, and turn right onto Stokes Road.
- To the north: Turn left onto Stokes Road, turn left onto Gunnell Road, exit through Gate #3, turn right into Jones Bridge Road, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, and turn right onto Stokes Road.
- To the south: Turn left onto Stokes Road, turn left onto Gunnell Road, exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike southbound.

- From the east (AM peak hour): Turn right onto Grier Road, enter through Gate #4, turn left onto South Palmer Road, and turn left onto Stokes Road.
- From the east (PM peak hour): Turn right onto University Road, enter through Gate #5, turn left onto South Palmer Road, and turn left onto Stokes Road.
- To the east (AM peak hour): Turn right onto Stokes Road, turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.
- To the east (PM peak hour): Turn right onto Stokes Road, turn right onto South Palmer Road, turn right onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

The result of these new distribution patterns would remove trips from R.B. Brown Drive and South Palmer Road (west of Stokes Road) and North Palmer Road.

During the AM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Turn left onto Stone Lake Road, turn right onto Rixey Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Jones Bridge Road.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Turn left onto South Palmer Road, turn right onto University Road and exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Go straight onto Grier Road and exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Go straight onto Grier Road and exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 46A, 46B, and 46C show the 2018 Build Alternative 4 trip distribution.

Figure 46A: 2018 Build Alternative 4 Trip Distribution

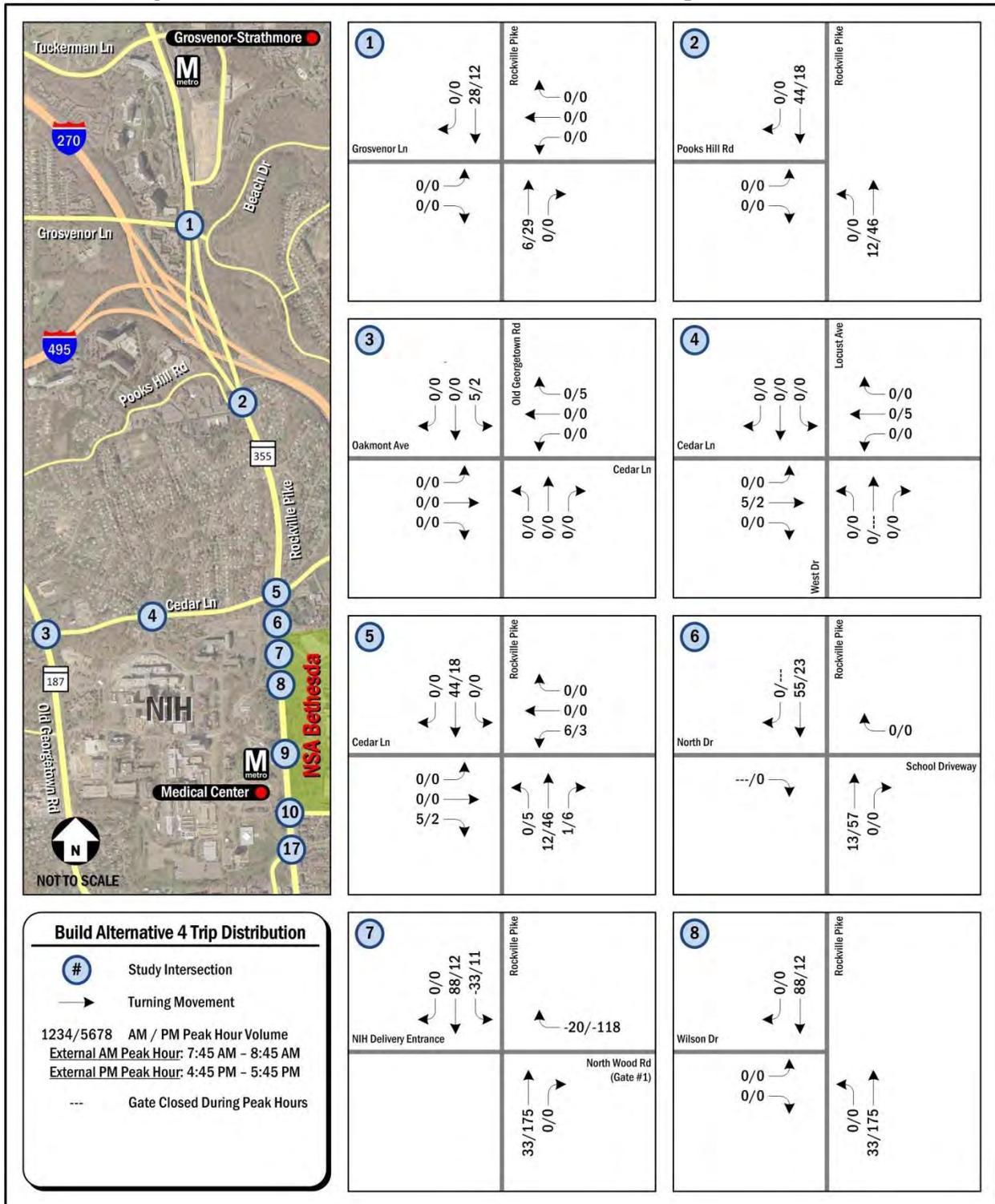


Figure 46B: 2018 Build Alternative 4 Trip Distribution

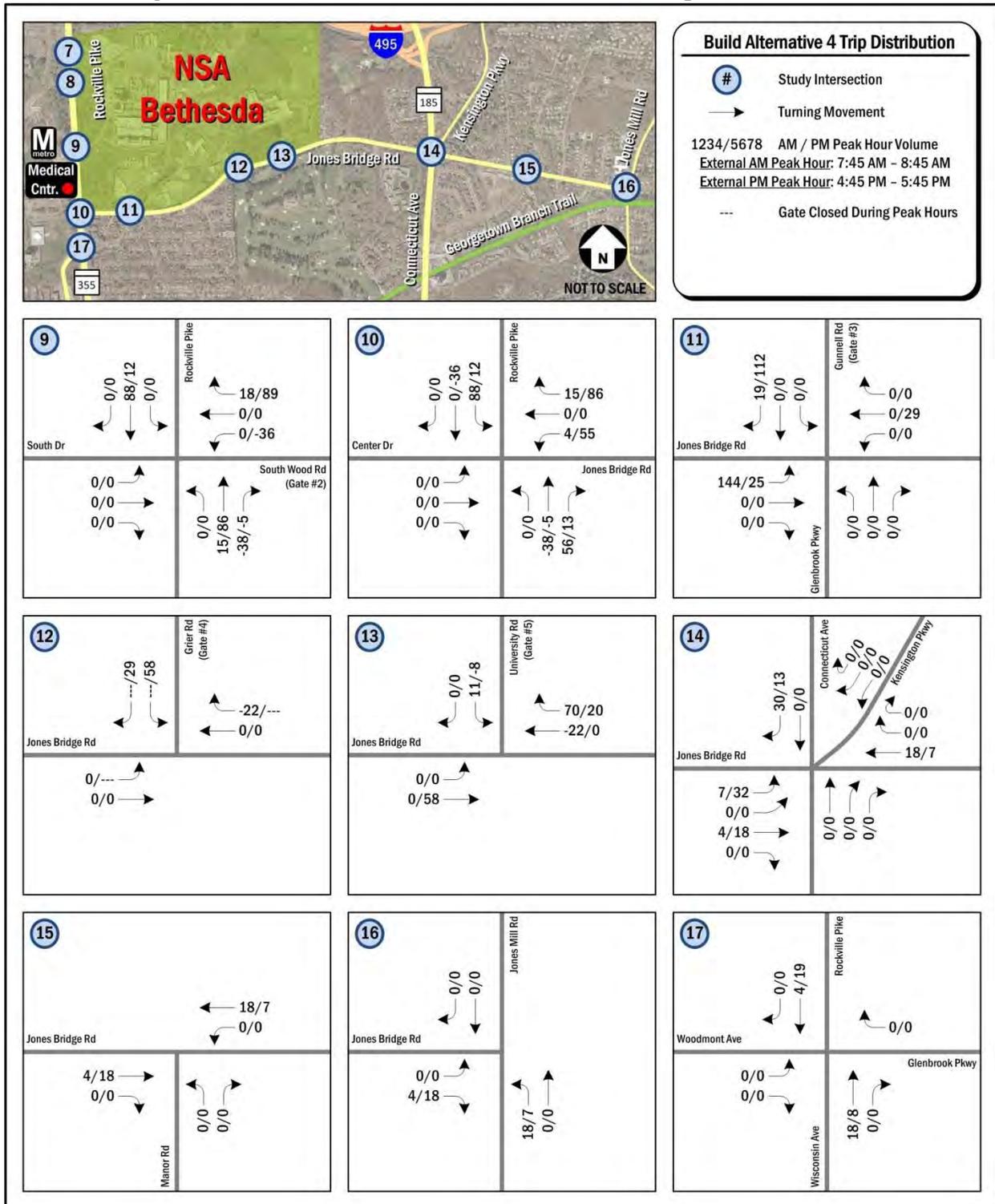
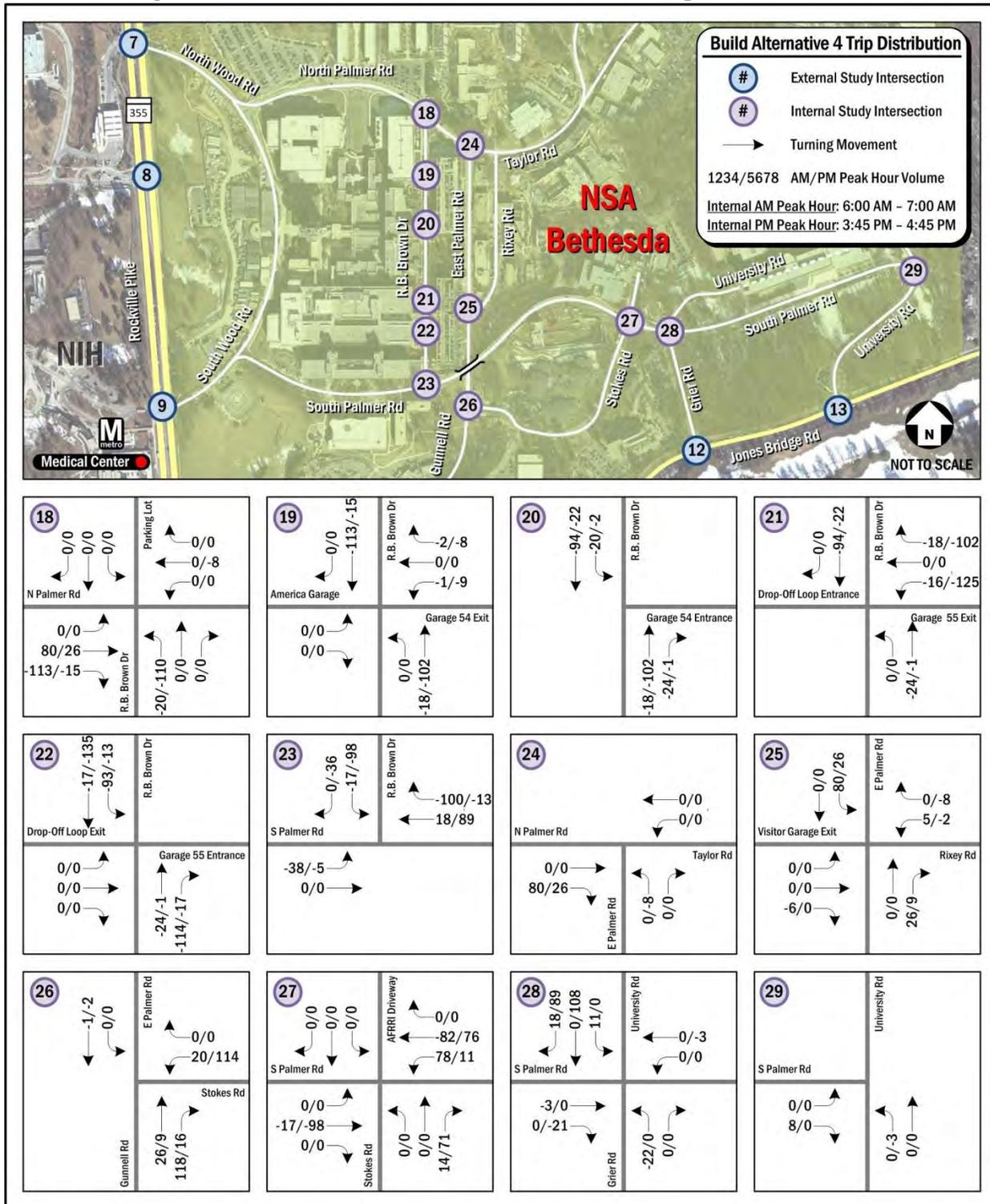


Figure 46C: 2018 Build Alternative 4 Trip Distribution



### **3.2.7.3 External Intersection Analysis**

The 2018 Build Alternative 4 includes all projects listed in the No Build condition. The addition of a new exit ramp from the New USU Alternative 2 parking structure in N-Lot would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection. Figure 29C shows the 2018 Build Alternatives 2 through 5 and 7 through 10 internal lane utilization and traffic control.

#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. During the AM peak hour, intersection #9 Rockville Pike at South Wood Road (Gate #2) would change from LOS B to C. During the PM peak hour, intersection #8 Rockville Pike at Wilson Drive would change from LOS A to B, and #12 Jones Bridge Road at Grier Road (Gate #4) would change from LOS B to C. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 4. Table 48 shows the 2018 Build Alternative 4 CLV analysis for the external intersection compared to the No Build condition. Figures 47A and 47B show the 2018 Build Alternative 4 CLV LOS.

**Table 48: 2018 Build Alternative 4 CLV External Intersection Analysis**

	Build Alternative 4				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,383	D	1,340	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,357	D	1,396	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,551	E	1,469	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	<i>un-signalized</i>		<i>un-signalized</i>		<i>un-signalized</i>		<i>un-signalized</i>	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	822	A	1,054	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	991	A	1,008	B	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,171	C	1,132	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,154	C	1,300	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	945	A	1,067	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	692	A	1,162	C	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	734	A	1,054	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,503	E	1,554	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	757	A	1,027	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,057	B	1,080	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	941	A	771	A	938	A

Figure 47A: 2018 AM Peak Hour Build Alternative 4 CLV Intersection LOS

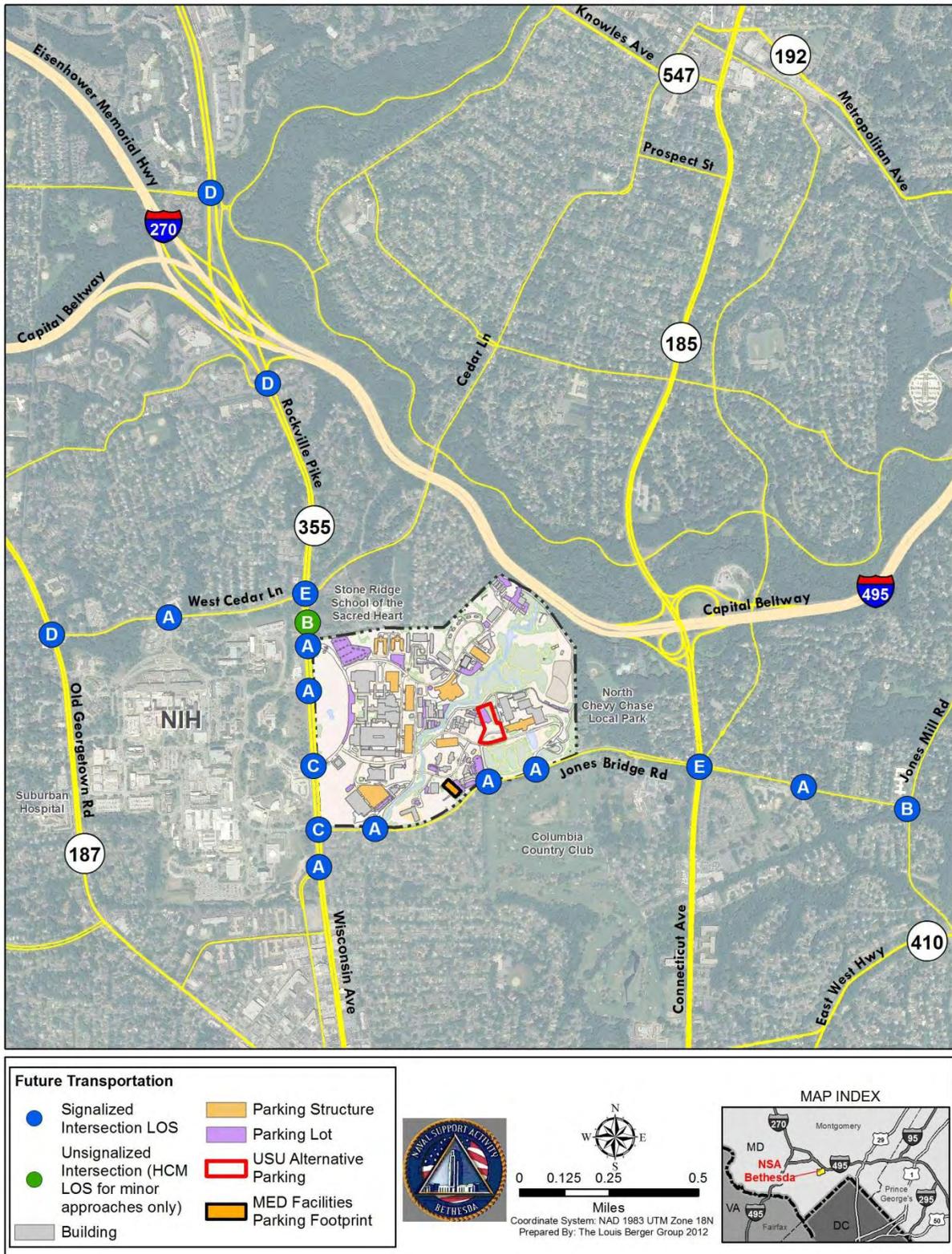
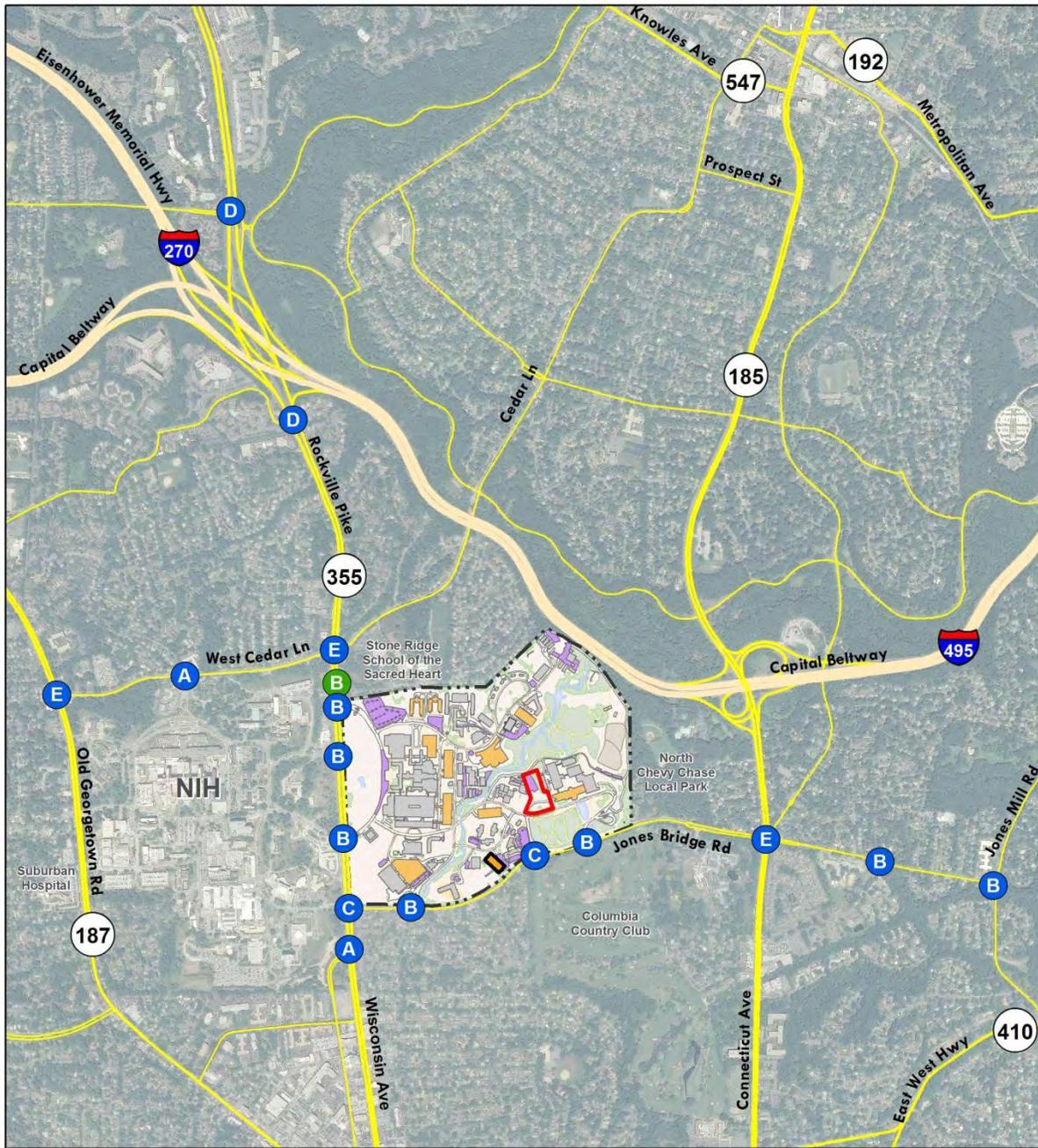


Figure 47B: 2018 PM Peak Hour Build Alternative 4 CLV Intersection LOS



Future Transportation	
● Signalized Intersection LOS	■ Parking Structure
● Unsignalized Intersection (HCM LOS for minor approaches only)	■ Parking Lot
■ Building	■ USU Alternative Parking
	■ MED Facilities
	■ Parking Footprint





0 0.125 0.25 0.5  
Miles

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

MAP INDEX



*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 4 with the No Build condition, the AM and PM peak hours did not experience any change in LOS using the HCM analysis. Because the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 49A and 49B show the 2018 Build Alternative 4 HCM external analysis.

**3.2.7.4 Arterial Analysis**

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 4 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and along northbound Rockville Pike during the PM peak hour. Based on this analysis, Alternative 4 would not require PAMR-RAM external intersection mitigation. Tables 50 and 51 show the 2018 Build Alternative 4 arterial analyses.

**Table 49A: 2018 AM Peak Hour Build Alternative 4 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 4			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>41.6</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	12.1		B	12.1		B
	Southbound	35.6		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.6</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.0		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.5</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.3		D	51.7		D
	Northbound	15.7		B	16.1		B
	Southbound	38.7		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.1</b>	<b>0.71</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	20.7		C	21.1		C
	Northbound	4.1		A	4.4		A
	Southbound	2.1		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.3</b>	<b>0.61</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	11.4		B	8.9		A
	Southbound	1.4		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.5</b>	<b>0.76</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	67.7		E	63.5		E
	Westbound	52.8		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.8		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.3</b>	<b>0.84</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	29.8		C	31.1		C
	Northbound	28.4		C	29.6		C
	Southbound	69.4		E	67.6		E

**Table 49A: 2018 AM Peak Hour Build Alternative 4 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 4			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>9.7</b>	<b>0.68</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	7.1		A	3.9		A
	Westbound	8.6		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	26.8		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>1.6</b>	<b>0.46</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.9		A	1.7		A
	Westbound	1.5		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.0</b>	<b>0.56</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	1.9		A	1.7		A
	Westbound	7.2		A	6.6		A
	Southbound	26.9		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>50.6</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	58.8		E	56.0		E
	Westbound	44.3		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	62.2		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.8</b>	<b>0.61</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.4		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.8</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	37.8		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.0</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.1		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 49B: 2018 PM Peak Hour Build Alternative 4 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 4			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.2</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.1		C	28.6		C
	Southbound	65.1		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>38.6</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	39.8		D	35.5		D
	Southbound	31.5		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.4</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.8		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.7		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>5.7</b>	<b>0.72</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	61.0		E	58.6		E
	Northbound	1.6		A	2.4		A
	Southbound	0.9		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>16.1</b>	<b>0.78</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	16.3		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>15.1</b>	<b>0.78</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	83.0		F	70.0		E
	Westbound	41.7		D	45.7		D
	Northbound	7.7		A	5.7		A
	Southbound	8.0		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.0</b>	<b>0.86</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	68.3		E	65.8		E
	Northbound	42.4		D	40.7		D
	Southbound	42.1		D	38.0		D

**Table 49B: 2018 PM Peak Hour Build Alternative 4 HCM External Analysis  
(continued)**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 4			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.4</b>	<b>0.77</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.4		A	7.7		A
	Westbound	14.6		B	14.0		B
	Northbound	17.1		B	17.4		B
	Southbound	25.8		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>17.6</b>	<b>0.95</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	16.2		B	14.2		B
	Westbound	12.2		B	11.3		B
	Southbound	29.0		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>4.4</b>	<b>0.80</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	4.5		A	4.3		A
	Westbound	4.1		A	4.2		A
	Southbound	26.2		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.2</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	60.7		E	55.7		E
	Westbound	69.8		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.6</b>	<b>0.79</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	31.4		C	29.0		C
	Westbound	12.0		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.4		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.3</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.4		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.8		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 50: 2018 AM Peak Hour Build Alternative 4 Arterial Analysis**

Arterial	Direction	Alt 4			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.6	5:47	C	22.7	5:46	C	0%
	Southbound	18.4	7:18	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.7	5:14	C	19.7	5:14	C	0%
	Westbound	19.1	5:23	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 51: 2018 PM Peak Hour Build Alternative 4 Arterial Analysis**

Arterial	Direction	Alt 4			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:32	D	17.9	7:19	D	3%
	Southbound	18.2	7:24	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.7	5:49	D	18.0	5:44	D	2%
	Westbound	18.0	5:44	D	18.2	5:40	C	1%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### 3.2.7.5 Internal Intersection Analysis

This alternative includes the addition of a new exit ramp from the New USU parking facility in N-Lot and would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection.

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. For this alternative, there were no significant changes in LOS during the AM peak hour. During the PM peak hour, intersection #26 East Palmer Road at Stokes Road would change from LOS B to D, reflecting the increase in traffic to and from the new Medical Facilities Development parking facility in H-Lot on the way to Gate #3, and #28 South Palmer Road at Grier Road intersection would change from LOS B to C, reflecting the new trips exiting the new USU Alternative 2 parking structure and heading toward Gates #2 and #4. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative because there would be no failing LOS. Tables 52A and 52B show the 2018 Build Alternative 4 internal intersection analysis, and Figures 48A and 48B show the 2018 Build Alternative 4 internal intersection LOS.

**Table 52A: 2018 AM Peak Hour Build Alternative 4 Internal Intersection Analysis**

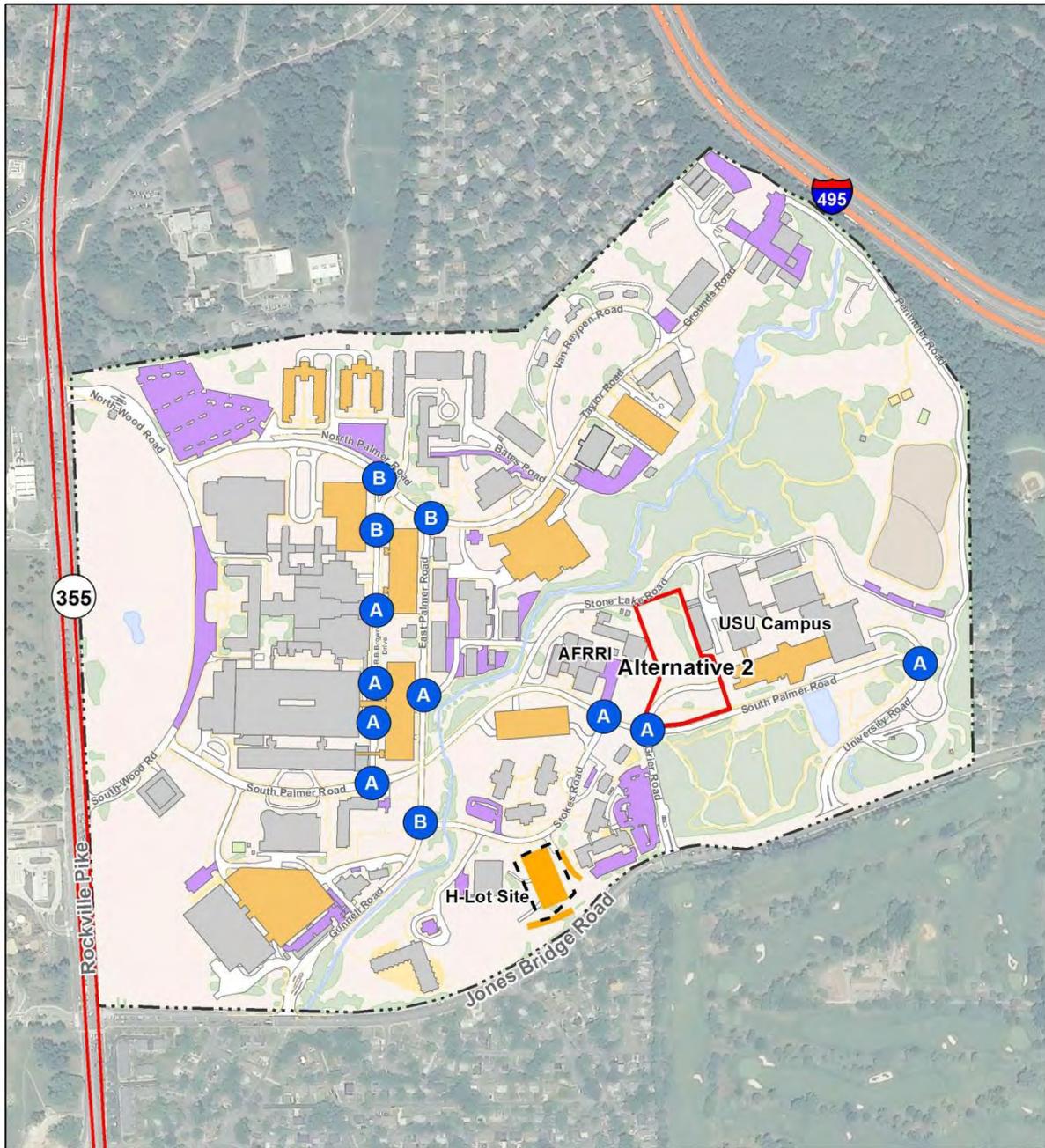
	Approach	AM Peak Hour			
		Build Alt. 4		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>11.3</b>	<b>B</b>	<b>10.3</b>	<b>B</b>
	Eastbound	12.5	B	10.9	B
	Westbound	8.5	A	8.7	A
	Northbound	8.6	A	9.0	A
	Southbound	9.6	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	14.7	B	17.6	C
	Westbound	11.6	B	12.8	B
	Northbound Left	3.4	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.4	A	9.2	A
	Southbound	9.4	A	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.3</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	7.4	A	8.1	A
	Northbound	8.6	A	9.4	A
	Southbound	7.7	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.2</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.5	A	8.1	A
	Northbound	8.5	A	10.1	B
	Southbound	7.7	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.1</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
	Eastbound	9.4	A	10.3	B
	Westbound	8.1	A	8.7	A
	Southbound	8.4	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>9.6</b>	<b>A</b>
	Eastbound	11.2	B	10.0	A
	Westbound	8.7	A	8.6	A
	Northbound	9.9	A	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	0.0	A	7.5	A
	Westbound	8.5	A	8.1	A
	Northbound	9.9	A	9.4	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>11.9</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Westbound	9.4	A	8.6	A
	Northbound	13.2	B	10.1	B
	Southbound	9.3	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>9.6</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Eastbound	7.9	A	8.1	A
	Westbound	10.5	B	10.4	B
	Northbound	8.9	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>8.6</b>	<b>A</b>	<b>8.7</b>	<b>A</b>
	Eastbound	8.4	A	8.4	A
	Westbound	9.1	A	9.1	A
	Northbound	8.7	A	9.0	A
	Southbound	7.2	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	7.9	A	7.9	A

**Table 52B: 2018 PM Peak Hour Build Alternative 4 Internal Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 4		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>12.3</b>	<b>B</b>	<b>16.5</b>	<b>C</b>
	Eastbound	9.4	A	9.7	A
	Westbound	13.3	B	15.6	C
	Northbound	13.0	B	20.5	C
	Southbound	9.7	A	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.9	A	0.6	A
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.0	A	9.0	A
	Southbound	8.2	A	8.5	A
	<b>Overall</b>	<b>9.2</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	8.0	A	10.9	B
	Northbound	8.3	A	9.5	A
	Southbound	9.8	A	12.3	B
	<b>Overall</b>	<b>8.0</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.3	A	7.8	A
	Northbound	8.0	A	8.3	A
	Southbound	8.2	A	10.0	B
	<b>Overall</b>	<b>10.3</b>	<b>B</b>	<b>10.6</b>	<b>B</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	8.3	A	8.9	A
	Westbound	11.6	B	10.7	B
	Southbound	9.1	A	11.4	B
	<b>Overall</b>	<b>10.8</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	10.3	B	10.0	B
	Westbound	11.4	B	11.4	B
	Northbound	10.7	B	10.7	B
	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	8.5	A	8.4	A
	Westbound	9.9	A	9.8	A
	Northbound	9.8	A	9.7	A
	Southbound	11.5	B	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>26.6</b>	<b>D</b>	<b>15.0</b>	<b>B</b>
	Westbound	36.8	E	16.0	C
	Northbound	14.5	B	11.5	B
	Southbound	21.2	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>13.3</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	9.6	A	10.3	B
	Westbound	15.0	C	11.0	B
	Northbound	12.9	B	10.8	B
	Southbound	9.0	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>18.8</b>	<b>C</b>	<b>12.5</b>	<b>B</b>
	Eastbound	15.1	C	13.7	B
	Westbound	9.7	A	9.2	A
	Northbound	9.2	A	8.9	A
	Southbound	20.9	C	11.9	B
29. University Road & South Palmer Road	Westbound	7.1	A	7.1	A
	Northbound	7.0	A	7.1	A

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.  
 Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 48A: 2018 AM Peak Hour Build Alternative 4 Internal Intersection LOS**

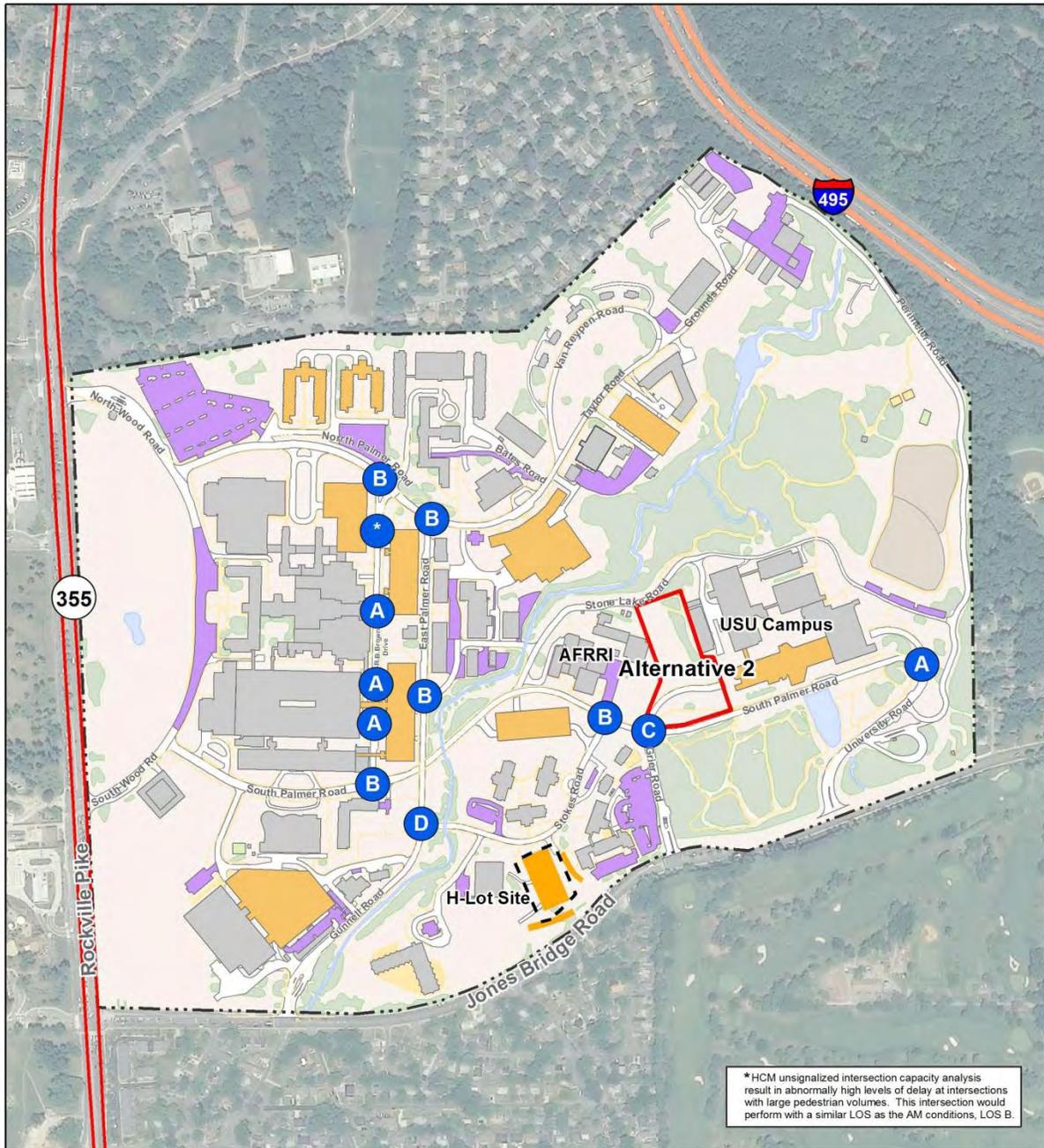


Future Transportation	
	Unsignalized Intersection LOS
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Facilities Parking Footprint
	MED Facilities Parking Build to Line

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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**Figure 48B: 2018 PM Peak Hour Build Alternative 4 Internal Intersection LOS**



Future Transportation	
	Unsignalized Intersection LOS
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Facilities Parking Footprint
	MED Facilities Parking Build to Line

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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### **3.2.7.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new Medical Facilities Development parking structure would be located off of Stokes Road in the Navy Lodge area of NSA Bethesda; therefore, new pedestrian trips would be created between the parking structure and Medical Buildings, crossing at two intersections, R.B. Brown Drive at South Palmer Road and East Palmer Road at Stokes Road. Specifically, there would be 229 pedestrian trips during the AM peak hour and 217 pedestrian trips during the PM peak hour.

The new USU Alternative 2 parking structure would be placed next to the USU campus. Therefore, new pedestrian activity would cross roadways on the way to the Medical Building based on 42 new employees and 125 shifted staff trips (formerly parking at Buildings 54 and 55) crossing at two intersections, the South Palmer Road at Stokes Road and South Palmer Road at R. B. Brown Drive. This would result in 78 and 75 new pedestrian trips during the AM peak hour and PM peak hour, respectively. Both the Medical Facilities Development and Building F parking structure trips were included in the internal HCM analysis in Tables 52A and 52B. The three intersections that would experience increased pedestrian activity as a result of Alternative 4 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 52A and 52B.

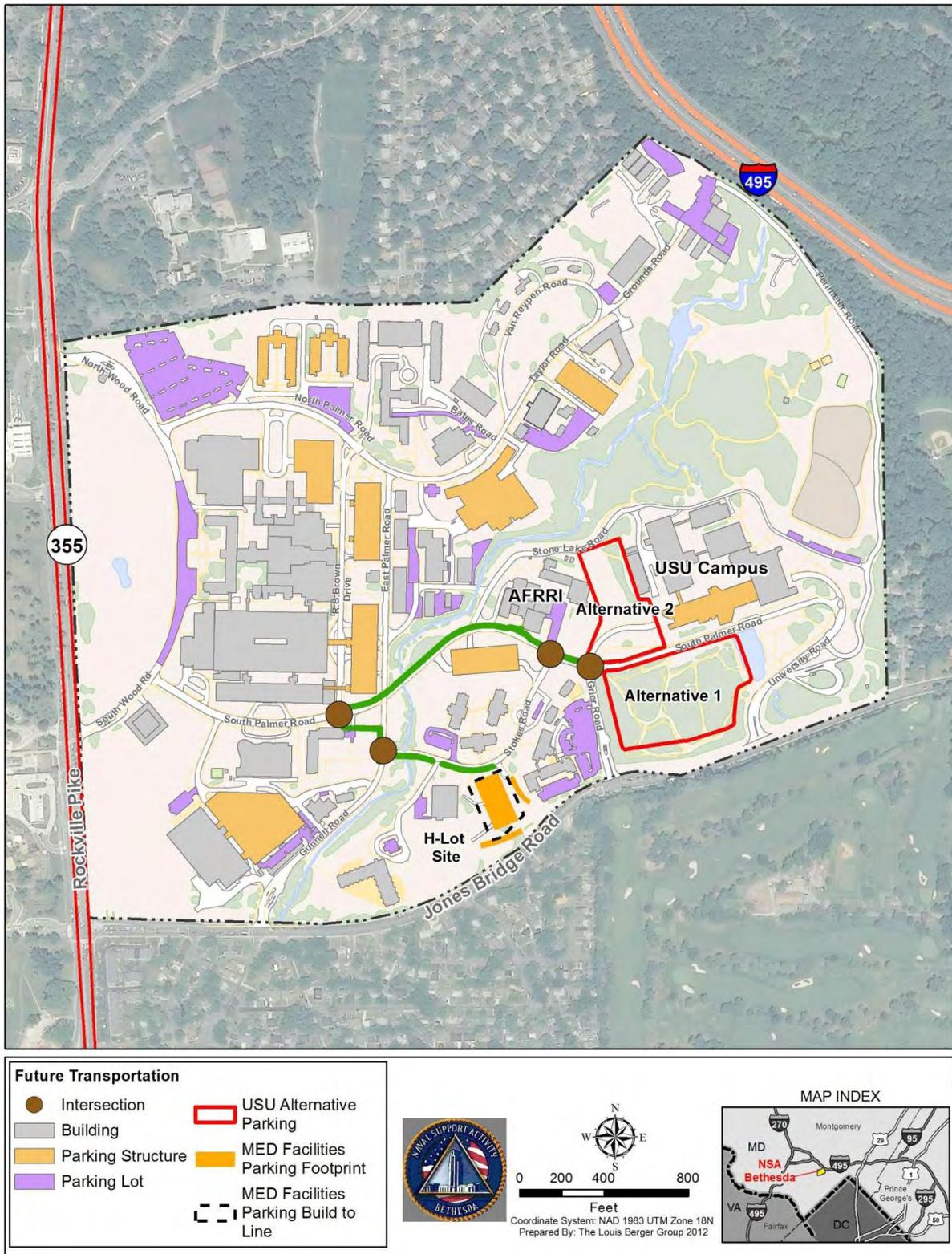
Existing 5-foot plus sidewalks connect both new parking structures with the Medical Buildings via South Palmer Road and Stokes Road. Any other new pedestrian or bicycle activity generated from the 42 employees not included in the original Alternative 4 peak hour trip generation would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the No Build condition including the existing bicycle racks and sidewalks, this alternative would have no significant pedestrian or bicycle impacts. Figure 49 shows the 2018 Build Alternatives 4 and 9 sidewalk connections.

### **3.2.8 Build Alternative 5**

This alternative would include the construction of a new 500-space Medical Facilities Development parking structure in the Taylor Road Facilities and the construction of a 400-space parking structure known as USU Alternative 2. The 500-space parking structure would be located next to the planned Sanctuary Hall (WWTL) parking facility along Taylor Road, with the entrance and exit ramps connecting to Taylor Road.

The new USU Alternative 2 parking structure would replace the existing N-Lot, with the entrance located on Stone Lake Road and two exits, one serving Stone Lake Road and the other connecting to the South Palmer Road and Grier Road intersection.

Figure 49: 2018 Build Alternatives 4 and 9 Sidewalk Connections



### **3.2.8.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

### **3.2.8.2 Trip Distribution**

Since the combined 500 parking spaces in Buildings 54 and 55 would be re-designated from employee use to patients, VIPs, and visitors only, some of the existing staff trips would shift from Buildings 54 and 55 to the new Medical Facilities Development parking structure in the Taylor Road facilities and the new USU Alternative 2 parking structure in N-Lot. These new parking structures would be designated for staff parking. The new staff trips expected to be generated from the Medical Facilities Development and Building F would be destined for the new USU Alternative 2 parking structure in N-Lot.

Because 500 new parking spaces must be made available for patients, visitors, and VIPs, 392 spaces would come from Building 55 and 108 spaces from Building 54. To determine the number of staff trips that would be shifted to the Taylor Road facilities, the study used the following assumptions:

- All existing staff spaces that are removed from one facility would be placed in another facility at the installation.
- Staff would continue to have set patterns and drive to the closest available parking facility to their desk, based upon their daily arrival time. If they arrive later in the morning, they would automatically drive to the warehouse parking facility.
- The number of spaces reassigned to patient parking in Building 54 would be 14 percent, the percentage of staff spaces (108) relocated compared to the total spaces in the structure (749).
- The number of AM and PM peak trips shifted would be 14 percent of the peak hour trips currently using the facility.
- Based on the patient temporal distribution (Figure 33), 15 percent of patients would arrive during the AM peak hour and 6 percent would leave during the same period, while 0.5 percent would arrive during the PM peak hour and 4 percent would leave.
- The percentage of staff entering and exiting Building 55 during the peak hours would be the inverse of the patient percentages (85 percent/94 percent during the AM peak hour and 99.5 percent/96 percent during the PM peak hour). It is assumed that VIPs and visitors mainly would arrive and depart outside of the peak hours to avoid the traffic. The small number that might arrive during the peak hour would have a negligible effect on traffic operations.

Based on these assumptions, the number of trips shifted from Building 54 during the AM peak hour would be 43 staff (14 percent of 305 inbound (2018 No Build AM peak hour vehicles entering Building 54)) and three staff outbound (14 percent of 19(2018 No Build AM peak hour vehicles exiting Building 54)). For the PM peak, three staff inbound (14 percent of 19 (2018 No Build PM peak hour vehicles entering Building 54))and 18 outbound (14 percent of 126(2018 No Build PM peak hour vehicles existing Building 54)) would be shifted. In Building 55, the staff shifted would be based on the fifth bullet above, resulting in 208 inbound (85 percent of 245(2018 No Build AM peak hour vehicles entering Building 55)) and 39 outbound (94 percent of 41(2018 No Build AM peak hour vehicles exiting Building 55)) during the AM peak hour and 30 inbound (99.5 percent of 30(2018 No Build PM peak hour vehicles entering Building 55)) and 227 outbound (96 percent of 236(2018 No Build PM peak hour vehicles exiting Building 55)) during the PM peak hour. Table 53 shows the trip distribution shift between Buildings 54 and 55 to the proposed Taylor Road facilities parking structure.

**Table 53: Shift in Existing Trips from Buildings 54 and 55 to the Proposed Taylor Road Facilities Parking Structure**

	Facility Name	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1	Building 54	43	3	46	3	18	21
2	Building 55	208	39	247	30	227	257
	Total	251	42	293	33	245	278

The Build Alternative 5 trip distribution would consist of combining the shift in existing staff trips from Buildings 54 and 55 to the new parking structures and the peak hour new trips projected to be generated from the 270 new employees. It is assumed that the existing 62-space N-Lot would be relocated into the new USU Alternative 2 parking facility, resulting in a shift of 18 (30 percent of N-Lot - same peak hour exiting percentage as adjacent USU parking facility) PM peak hour exiting trips from Stone Lake Road to the new ramp connecting to the South Palmer Road at Grier Road intersection. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking spot at Buildings 54 or 55, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the new Medical Facilities Development parking structure or USU Alternative 2 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to Buildings 54 or 55 is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 2 parking structure as "new trips" rather than explaining

it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26). The distribution patterns for the shifted staff trips from Buildings 54 and 55 would follow these paths:

- From the north: Continue past R.B. Brown Drive on North Palmer Road then continue onto Taylor Road.
- To the north: Turn left into Taylor Road, then continue straight on North Palmer Road past R.B. Brown Drive.
- From the south: Turn right Enter through Gate #3, follow Gunnell Road to East Palmer Road, and turn right onto Taylor Road.
- To the south: Turn left onto Taylor Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, and turn right onto Jones Bridge Road.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and follow through to Grounds Road Taylor Road.
- To the east: Turn right onto Taylor Road/Grounds Road, follow onto Perimeter Road, turn left onto University Road, exit though Gate #5, and turn left onto Jones Bridge Road.

The result of these new distribution patterns would remove trips from R.B. Brown Drive and South Palmer Road.

During the AM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.

- To the south: Turn left onto Stone Lake Road, turn right onto Rixey Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Turn left onto South Palmer Road, turn right onto University Road and exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 2 parking structure would follow these paths:

- From the north: Turn left onto North Wood Road, enter through Gate #1, turn left onto North Palmer Road, turn right onto East Palmer Road, turn left onto Rixey Road, and turn left onto Stone Lake Road.
- To the north: Turn right onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Rixey Road, and turn left onto Stone Lake Road.
- To the south: Go straight onto Grier Road and exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and turn left onto Stone Lake Road.
- To the east: Go straight onto Grier Road and exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 50A, 50B, and 50C show trip distribution for 2018 Build Alternative 5.

Figure 50A: 2018 Build Alternative 5 Trip Distribution

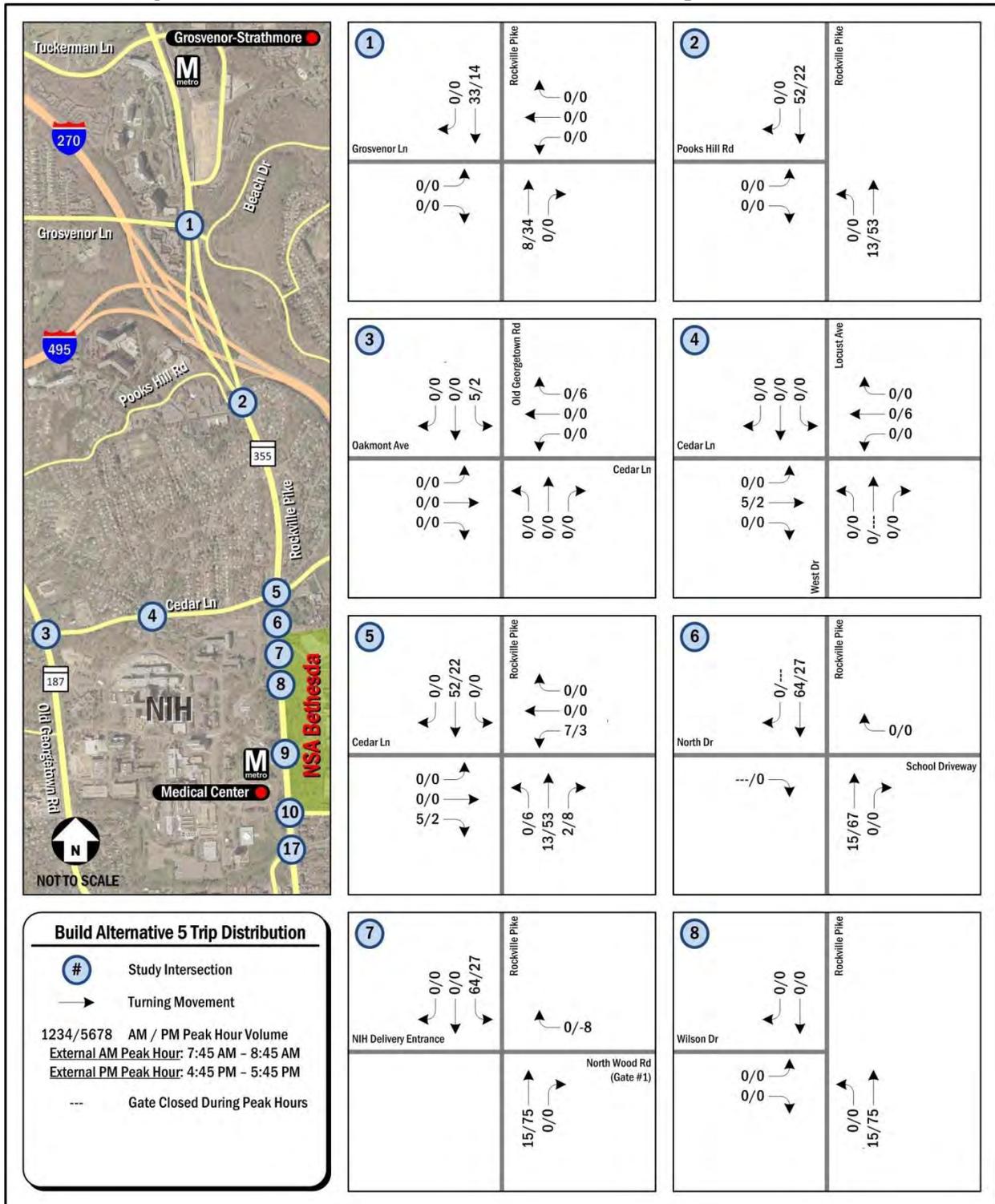


Figure 50B: 2018 Build Alternative 5 Trip Distribution

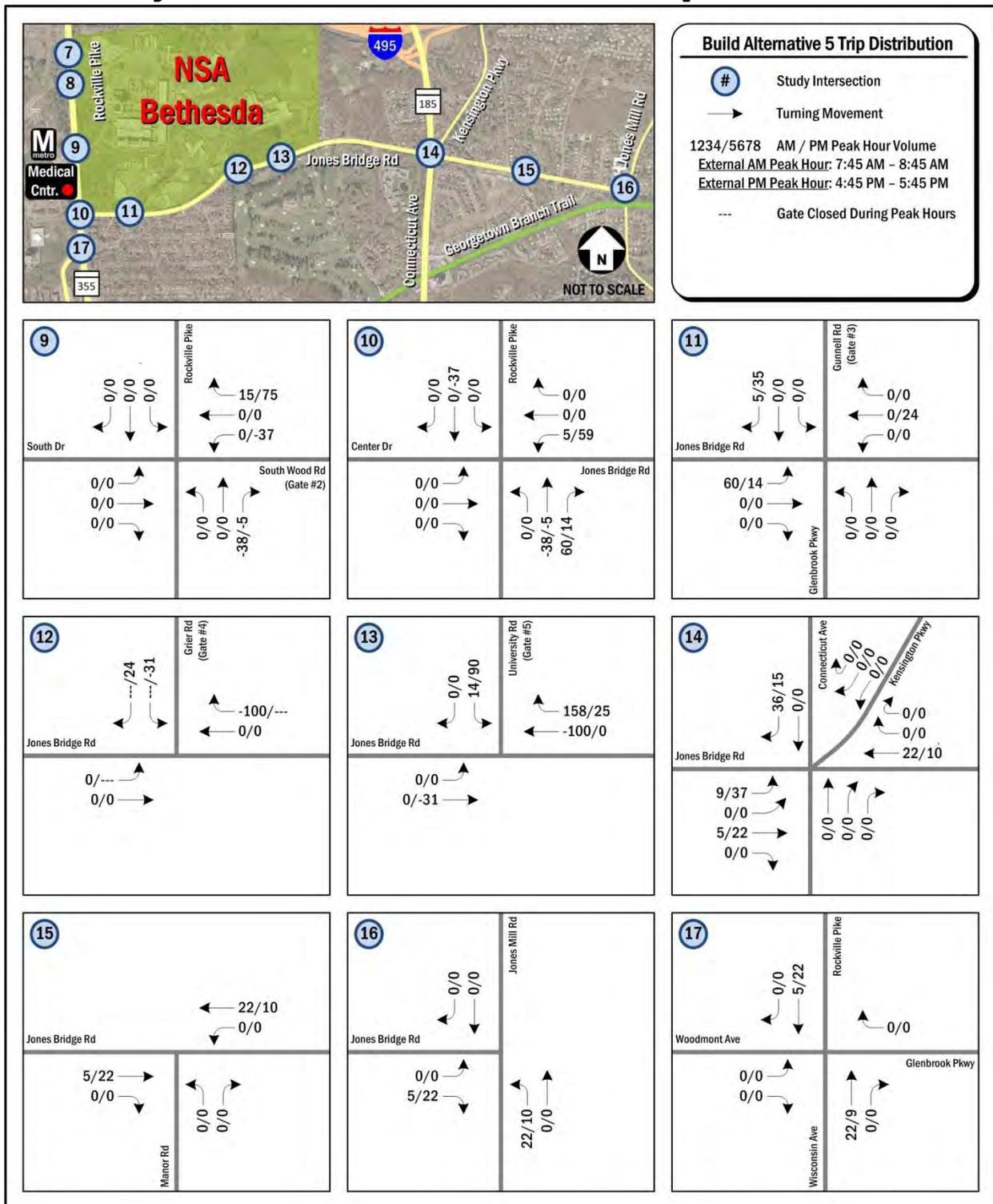
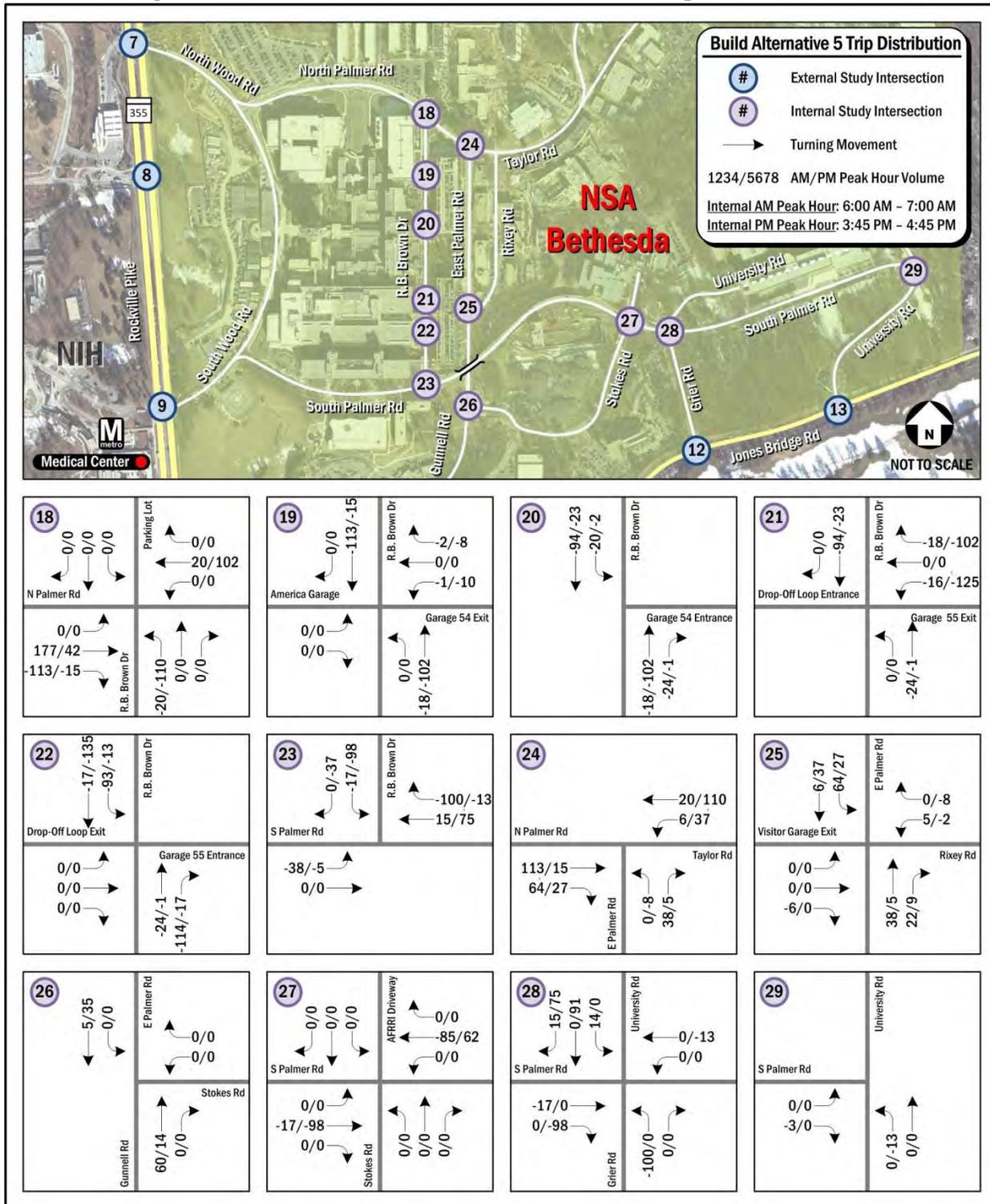


Figure 50C: 2018 Build Alternative 5 Trip Distribution



### 3.2.8.3 External Intersection Analysis

The 2018 Build Alternative 5 includes all projects listed in the No Build condition. The addition of a new exit ramp from the New USU Alternative 2 parking structure in N-Lot would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection. Figure 29C shows the 2018 Build Alternatives 2 through 5 and 7 through 10 internal lane utilization and traffic control.

#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, there would be no change between Build Alternative 5 and the No Build condition. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 5. Table 54 shows the 2018 Build Alternative 5 CLV external analysis. Figures 51A and 51B show the 2018 Build Alternative 5 CLV intersection LOS.

**Table 54: Build Alternative 5 CLV External Analysis**

	Build Alternative 5				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	912	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	958	A	971	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,136	B	1,114	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,295	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	861	A	1,056	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	692	A	1,073	B	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	696	A	1,102	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 5 with the No Build condition, the AM or PM peak hours did not experience any change in LOS. Because the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a comparison to the No Build condition for the intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 55A and 55B show the 2018 Build Alternative 5 HCM external analysis.

Figure 51A: 2018 AM Peak Hour Build Alternative 5 CLV Intersection LOS

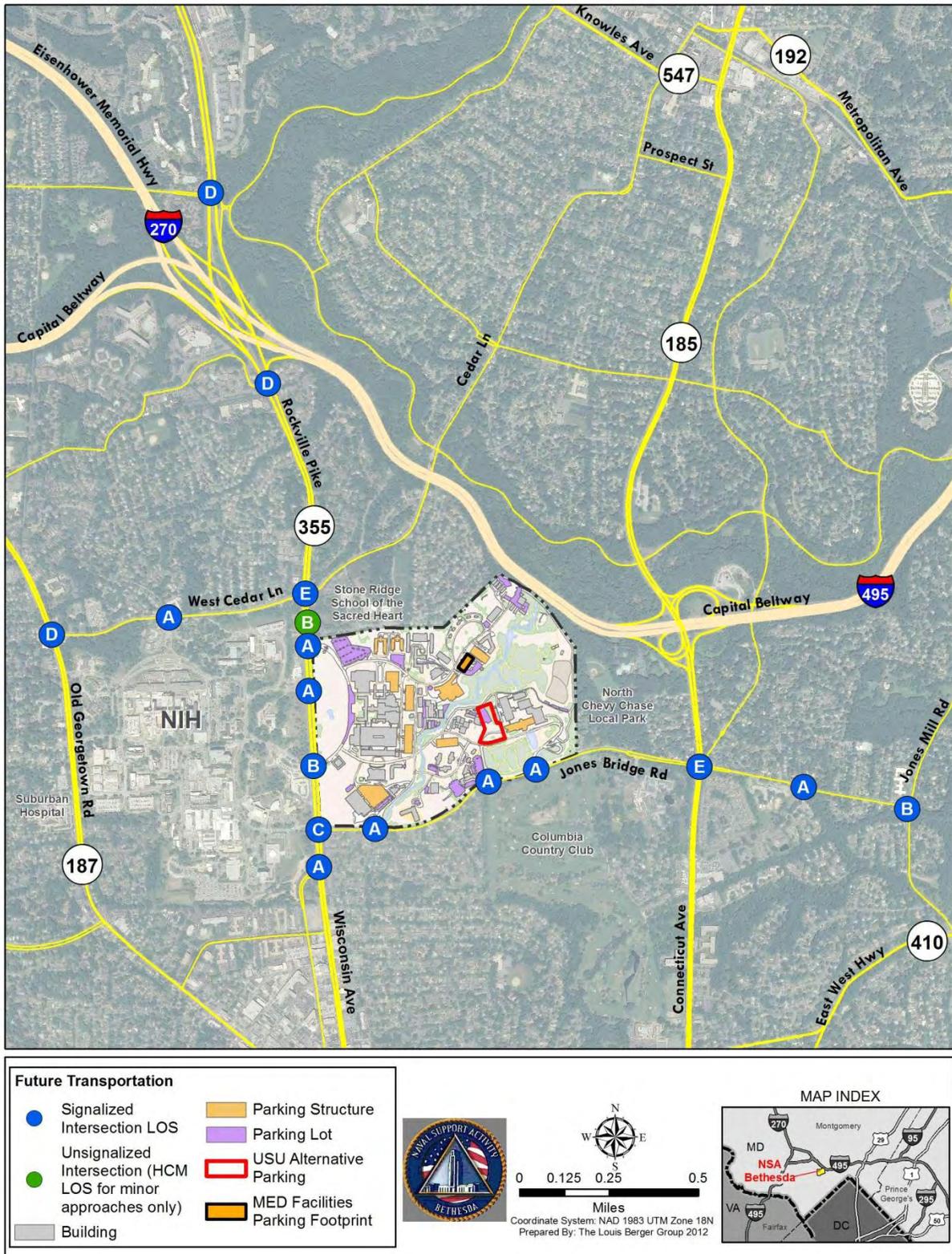
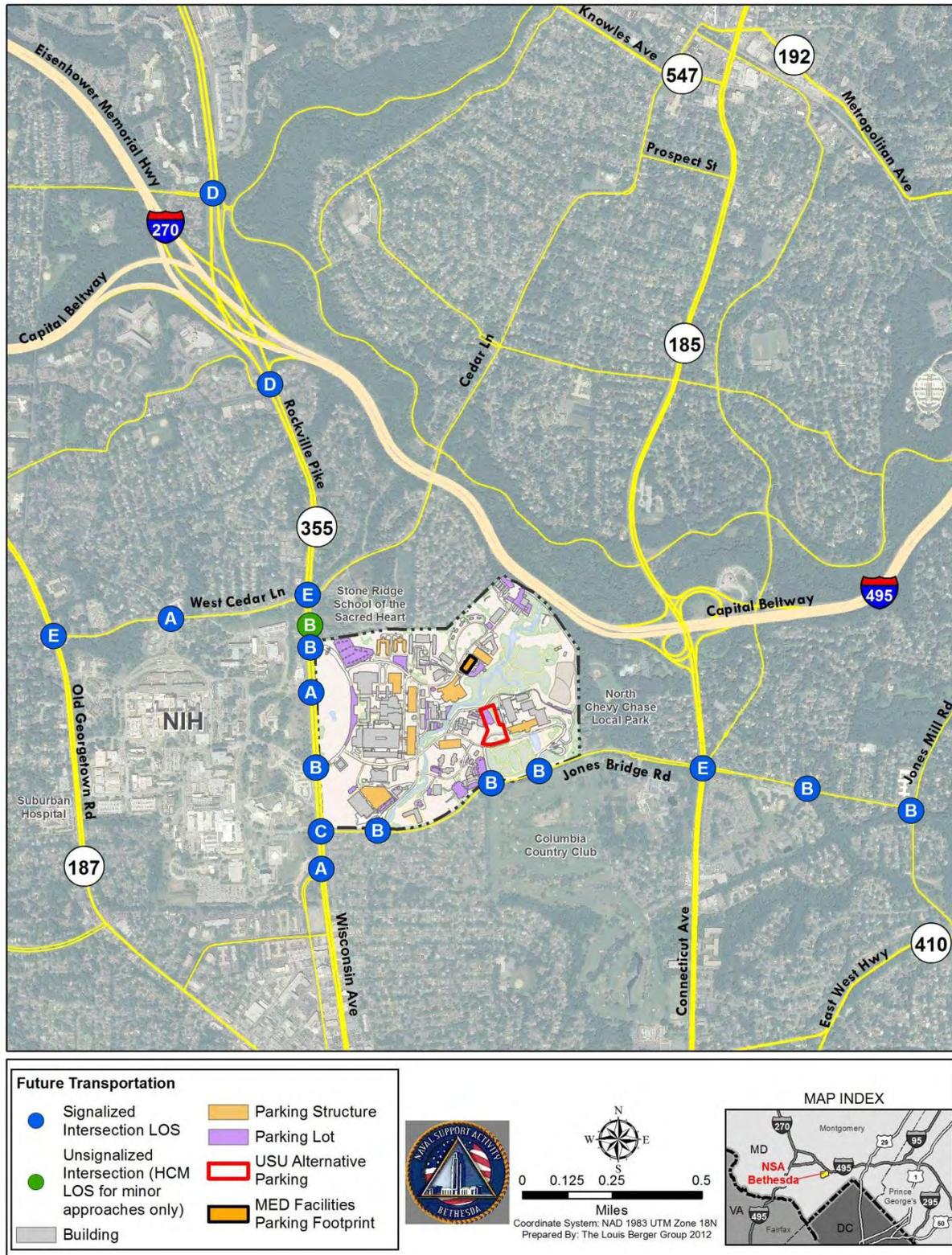


Figure 51B: 2018 PM Peak Hour Build Alternative 5 CLV Intersection LOS



**Table 55A: 2018 AM Peak Hour Build Alternative 5 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 5			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>41.8</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	12.1		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.8</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	16.1		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.9</b>	<b>0.69</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	21.1		C	21.1		C
	Northbound	4.6		A	4.4		A
	Southbound	2.9		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>4.8</b>	<b>0.59</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	9.8		A	8.9		A
	Southbound	1.3		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.1</b>	<b>0.74</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	66.9		E	63.5		E
	Westbound	52.6		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.2		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.3</b>	<b>0.84</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.0		C	31.1		C
	Northbound	28.4		C	29.6		C
	Southbound	72.2		E	67.6		E

**Table 55A: AM Peak Hour 2018 Build Alternative 5 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 5			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>7.6</b>	<b>0.63</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	5.1		A	3.9		A
	Westbound	6.3		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.0		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>1.6</b>	<b>0.46</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	1.5		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.1</b>	<b>0.54</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.1		A	1.7		A
	Westbound	7.0		A	6.6		A
	Southbound	26.9		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.4		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 55B: 2018 PM Peak Hour Build Alternative 5 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 5			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.5		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>7.3</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.7		E	58.6		E
	Northbound	2.7		A	2.4		A
	Southbound	1.0		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.7</b>	<b>0.75</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.2		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>14.4</b>	<b>0.76</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	82.7		F	70.0		E
	Westbound	42.3		D	45.7		D
	Northbound	6.8		A	5.7		A
	Southbound	7.1		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.1</b>	<b>0.86</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	64.8		E	65.8		E
	Northbound	42.6		D	40.7		D
	Southbound	41.7		D	38.0		D

**Table 55B: 2018 PM Peak Hour Build Alternative 5 HCM External Analysis  
(continued)**

		HCM Analysis					
		PM Peak Hour					
		Approach	Alternative 5			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.5		A	7.7		A
	Westbound	14.4		B	14.0		B
	Northbound	17.3		B	17.4		B
	Southbound	26.7		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>14.0</b>	<b>0.88</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	13.3		B	14.2		B
	Westbound	10.9		B	11.3		B
	Southbound	21.8		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>8.7</b>	<b>0.81</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	8.5		A	4.3		A
	Westbound	6.6		A	4.2		A
	Southbound	26.6		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.3</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.5		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.9		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

### 3.2.8.4 Arterial Analysis

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 5 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and northbound Rockville Pike and eastbound

Jones Bridge Road during the PM peak hour. Based on this analysis, Alternative 5 would not require PAMR-RAM external intersection mitigation. Tables 56 and 57 show the 2018 Build Alternative 5 arterial analyses.

**Table 56: 2018 AM Peak Hour Build Alternative 5 Arterial Analysis**

Arterial	Direction	Alt 5			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.6	5:47	C	22.7	5:46	C	0%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.7	5:14	C	19.7	5:14	C	0%
	Westbound	19.2	5:22	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 57: 2018 PM Peak Hour Build Alternative 5 Arterial Analysis**

Arterial	Direction	Alt 5			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:31	D	17.9	7:19	D	3%
	Southbound	18.2	7:23	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.5	5:54	D	18.0	5:44	D	3%
	Westbound	18.0	5:44	D	18.2	5:40	C	1%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### **3.2.8.5 Internal Intersection Analysis**

This alternative includes adding a new exit ramp from the New USU Alternative 2 parking facility in N-Lot and would add more trips to the existing ramp connecting to South Palmer Road at Grier Road intersection.

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. For this alternative, intersection #18 R.B. Brown Drive at North Palmer Road would change from LOS B to C during the AM peak hour, reflecting the increased trips headed to the Taylor Road facilities from Gate #1 and intersection #19 R.B. Brown Drive at America Garage eastbound approach would change from LOS C to D, reflecting the increase in pedestrian traffic crossing at this intersection walking between the Medical Center and Taylor Road facilities parking facility.

During the PM peak hour #26 East Palmer Road at Stokes Road intersection would change from LOS B to C, due to the increased trips from the Taylor Road facilities heading to Gate #3. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 58A and 58B show the 2018 Build Alternative 5 internal intersection analysis, and Figures 52A and 52B show the 2018 Build Alternative 5 internal intersection LOS.

**Table 58A: 2018 AM Peak Hour Build Alternative 5 Internal Intersection Analysis**

		AM Peak Hour				
		Approach	Build Alt. 5		No Build	
			Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>15.9</b>	<b>C</b>	<b>10.3</b>	<b>B</b>	
	Eastbound	18.7	C	10.9	B	
	Westbound	8.8	A	8.7	A	
	Northbound	8.9	A	9.0	A	
	Southbound	9.8	A	9.6	A	
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	26.5	D	17.6	C	
	Westbound	16.4	C	12.8	B	
	Northbound Left	3.4	A	3.1	A	
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>10.5</b>	<b>B</b>	
	Northbound	8.4	A	9.2	A	
	Southbound	9.4	A	11.5	B	
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.3</b>	<b>A</b>	<b>9.1</b>	<b>A</b>	
	Westbound	7.4	A	8.1	A	
	Northbound	8.6	A	9.4	A	
	Southbound	7.7	A	8.8	A	
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.2</b>	<b>A</b>	<b>9.7</b>	<b>A</b>	
	Eastbound	7.5	A	8.1	A	
	Northbound	8.5	A	10.1	B	
23. R.B. Brown Drive & South Palmer Road	Southbound	7.7	A	9.0	A	
	<b>Overall</b>	<b>9.1</b>	<b>A</b>	<b>9.8</b>	<b>A</b>	
	Eastbound	9.4	A	10.3	B	
24. East Palmer Road & North Palmer Road/Taylor Road	Westbound	8.1	A	8.7	A	
	Southbound	8.4	A	9.1	A	
	<b>Overall</b>	<b>13.8</b>	<b>B</b>	<b>9.6</b>	<b>A</b>	
	Eastbound	16.0	C	10.0	A	
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Westbound	9.7	A	8.6	A	
	Northbound	11.5	B	9.5	A	
	<b>Overall</b>	<b>10.1</b>	<b>B</b>	<b>9.0</b>	<b>A</b>	
	Eastbound	0.0	A	7.5	A	
26. East Palmer Road/Gunnell Road & Stokes Road	Westbound	8.6	A	8.1	A	
	Northbound	10.5	B	9.4	A	
	Southbound	9.9	A	8.7	A	
	<b>Overall</b>	<b>10.4</b>	<b>B</b>	<b>9.5</b>	<b>A</b>	
	Westbound	8.8	A	8.6	A	
27. AFRRI Driveway/Stokes Road & South Palmer Road	Northbound	11.3	B	10.1	B	
	Southbound	9.1	A	8.9	A	
	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>9.5</b>	<b>A</b>	
	Eastbound	7.7	A	8.1	A	
	Westbound	9.2	A	10.4	B	
28. University Road/Grier Road & South Palmer Road	Northbound	8.5	A	8.9	A	
	Southbound	0.0	A	0.0	A	
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.7</b>	<b>A</b>	
	Eastbound	7.9	A	8.4	A	
	Westbound	8.7	A	9.1	A	
29. University Road & South Palmer Road	Northbound	7.3	A	9.0	A	
	Southbound	7.0	A	6.9	A	
	Westbound	8.0	A	8.0	A	
	Northbound	7.9	A	7.9	A	

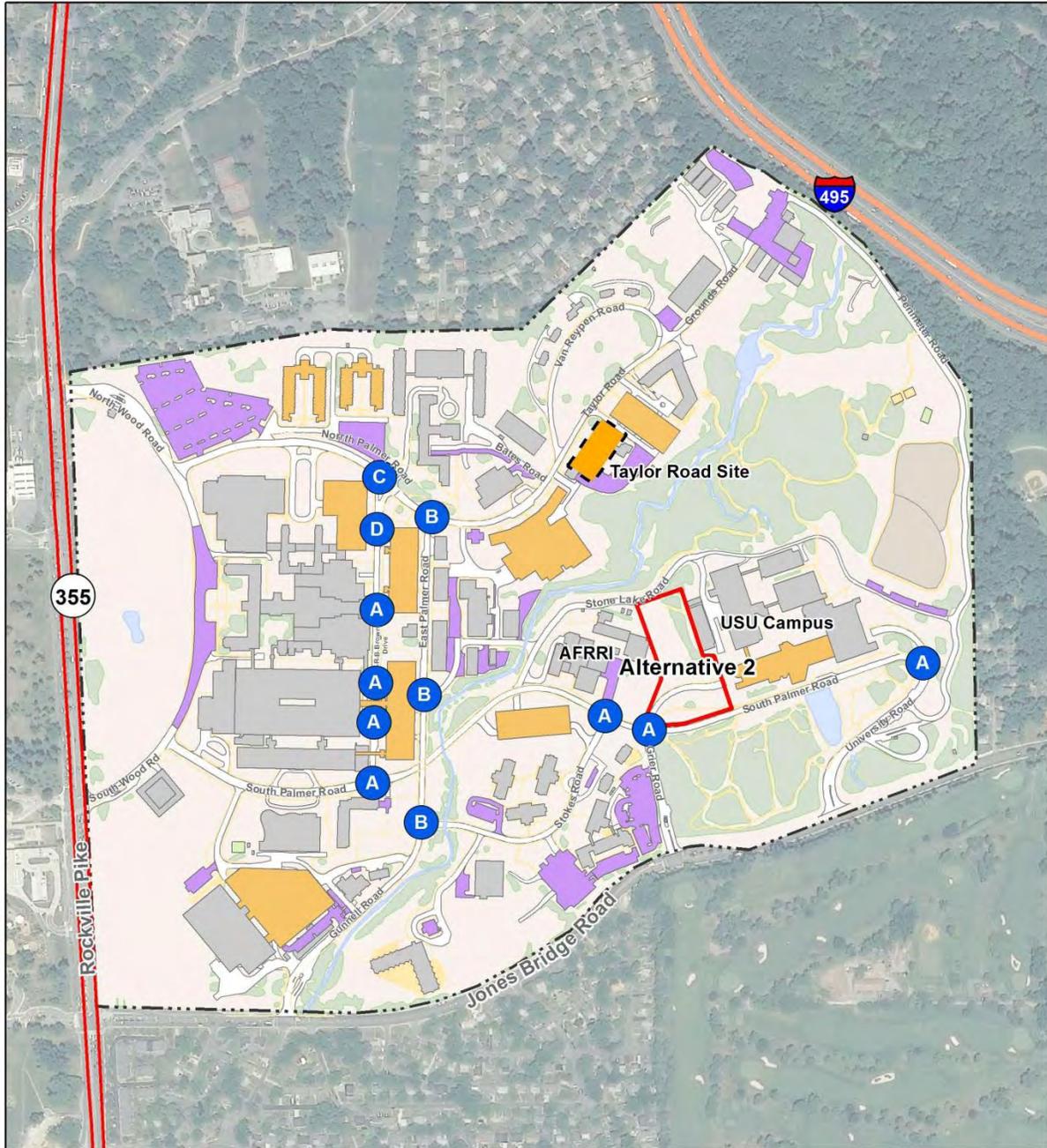
**Table 58B: 2018 PM Peak Hour Build Alternative 5 Internal Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 5		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>17.2</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	10.1	B	9.7	A
	Westbound	22.3	C	15.6	C
	Northbound	14.3	B	20.5	C
	Southbound	10.2	B	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.9	A	0.6	A
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.0	A	9.0	A
	Southbound	8.2	A	8.5	A
	<b>Overall</b>	<b>9.2</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	8.0	A	10.9	B
	Northbound	8.3	A	9.5	A
	Southbound	9.7	A	12.3	B
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.4	A	7.8	A
	Northbound	8.0	A	8.3	A
	Southbound	8.2	A	10.0	B
	<b>Overall</b>	<b>10.0</b>	<b>A</b>	<b>10.6</b>	<b>B</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	8.2	A	8.9	A
	Westbound	11.2	B	10.7	B
	Southbound	9.1	A	11.4	B
	<b>Overall</b>	<b>14.6</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	11.8	B	10.0	B
	Westbound	17.8	C	11.4	B
	Northbound	11.9	B	10.7	B
	<b>Overall</b>	<b>12.9</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	8.9	A	8.4	A
	Westbound	10.5	B	9.8	A
	Northbound	10.3	B	9.7	A
	Southbound	15.3	C	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>16.6</b>	<b>C</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.9	C	16.0	C
	Northbound	12.2	B	11.5	B
	Southbound	18.9	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>11.3</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	9.0	A	10.3	B
	Westbound	12.6	B	11.0	B
	Northbound	10.8	B	10.8	B
	Southbound	8.6	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>14.8</b>	<b>B</b>	<b>12.5</b>	<b>B</b>
	Eastbound	12.0	B	13.7	B
	Westbound	9.3	A	9.2	A
	Northbound	8.7	A	8.9	A
	Southbound	16.1	C	11.9	B
29. University Road & South Palmer Road	Westbound	7.1	A	7.1	A
	Northbound	6.2	A	7.1	A

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS D.

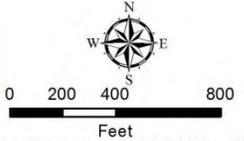
Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 52A: 2018 AM Peak Hour Build Alternative 5 Internal Intersection LOS**



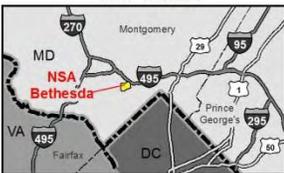
Future Transportation	
	Unsignalized Intersection LOS
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Facilities Parking Footprint
	MED Facilities Parking Build to Line



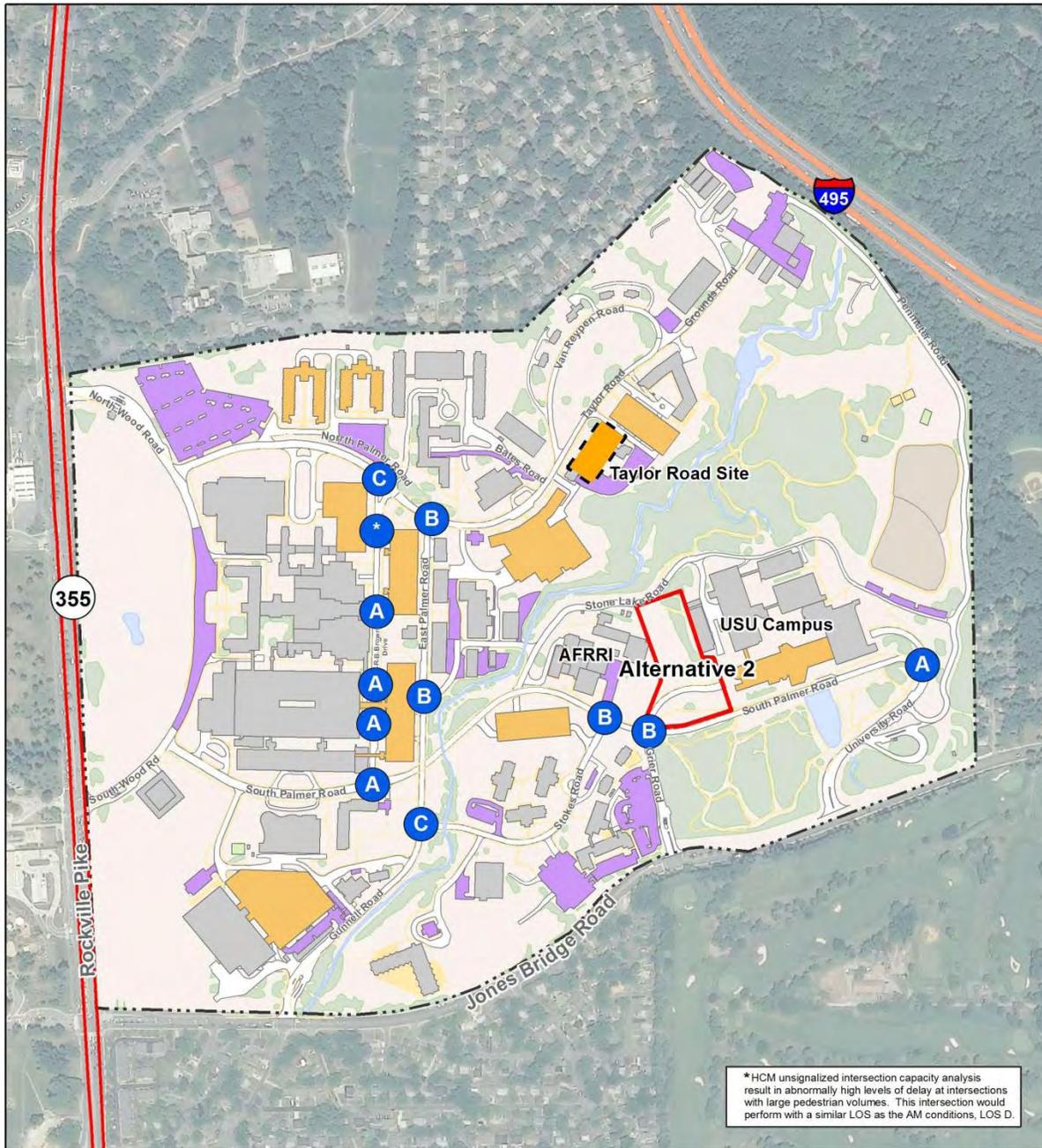


Coordinate System: NAD 1983 UTM Zone 18N  
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**Figure 52B: 2018 PM Peak Hour Build Alternative 5 Internal Intersection LOS**



\*HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS D.

Future Transportation	
	Unsignalized Intersection LOS
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Facilities Parking Footprint
	MED Facilities Parking Build to Line





0 200 400 800  
Feet

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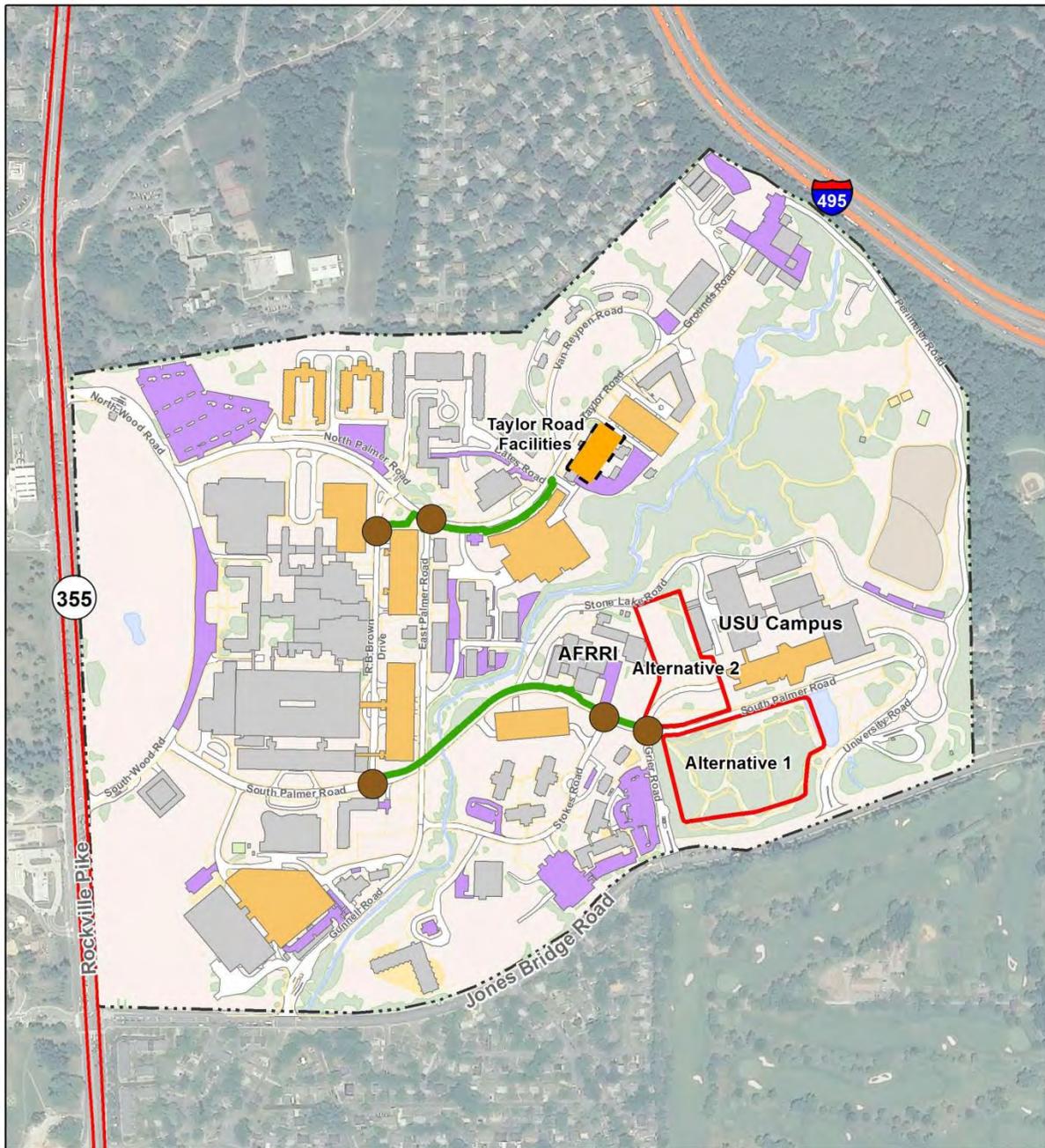
### **3.2.8.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new Medical Facilities Development parking structure would be located off of Taylor Road in the Taylor Road Facilities of NSA Bethesda; therefore, new pedestrian trips would be created between the parking structure and Medical Buildings crossing at two intersections, East Palmer Road at North Palmer Road and R.B. Brown Drive at the America Garage. Specifically, there would be 293 pedestrian trips during the AM peak hour and 278 pedestrian trips during the PM peak hour.

The new USU Alternative 2 parking structure would be placed next to the USU campus. The only new pedestrian activity that would cross roadways would be the Medical Building Development trips (50 new employees) with pedestrians crossing at two intersections, South Palmer Road at Stokes Road and South Palmer Road at R.B. Brown Drive. This would result in 17 and 16 new pedestrian trips during the AM peak hour and PM peak hour, respectively. Both the Medical Facilities Development and Building F parking structure trips were included in the internal HCM analysis in Tables 58A and 58B. The four intersections that would experience increased pedestrian activity as a result of Alternative 5 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 45A and 45B.

Existing 5-foot plus sidewalks connect both new parking structures with the Medical Buildings via South Palmer Road or Taylor Road/North Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the projected peak hour trip generation and adequate existing sidewalks serving these pedestrian trips, this alternative would have no significant pedestrian or bicycle impacts. Figure 53 shows the 2018 Build Alternatives 5 and 10 sidewalk connections.

Figure 53: 2018 Build Alternatives 5 and 10 Sidewalk Connections



Future Transportation	
	Intersection
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Facilities Parking Footprint
	MED Facilities Parking Build to Line

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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### **3.2.9 Build Alternative 6**

This alternative would include the construction of a new underground 500-space Medical Facilities Development parking structure designated for patients, visitors, and VIPs only and the construction of a 400-space parking structure known as USU Alternative 1 designated for employees. The 500-space underground parking structure would be located between North and South Wood Roads, with the entrance located at the North Wood Road and North Palmer Road intersection and exit located at the South Wood Road and South Palmer Road intersection. Appendix D4 contains the proposed concept for this facility.

The new USU Alternative 1 parking structure would be located across from the USU campus, south of South Palmer Road, with the entrance and exit ramps connecting to South Palmer Road.

#### **3.2.9.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

#### **3.2.9.2 Trip Distribution**

The trip distribution for this alternative would be based upon the same assumptions described in Alternative 1 (Section 3.2.4.2) with regard to patient trip shifts between Building 55 and the new underground parking facility. Since the new USU Alternative 1 parking structure would be located south of South Palmer Road instead of the current N-Lot location, it would not affect any existing or future planned parking facility; therefore, no other shifting trips would occur.

The Build Alternative 6 trip distribution would consist of combining the shift in existing patient trips from Building 55 to the new underground parking structure and the peak hour new trips projected to be generated from the 270 new employees destined for the new USU Alternative 1 parking structure. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking space closer to their desk than the new USU Alternative 1 parking structure, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the USU Alternative 1 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to the existing parking facility is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 1 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the

breakout could vary each day and does not affect the modeling process as the trips are all captured.

The internal installation generated or shifted trips follow the updated trip distribution pattern based off the 2008 NNMC Transportation Study (Figure 26)

The distribution patterns for the shifted patient trips from Buildings 55 and 63 would continue to enter Gate #1 from Rockville Pike and proceed directly to the new underground parking facility. Patients leaving the new underground parking facility would exit through Gate #2 and turn right onto Rockville Pike northbound. The result of these new distribution patterns would remove trips from R.B. Brown Drive and North Palmer Road.

During the AM peak hour, new staff trips to/from the USU Alternative 1 parking structure would follow the following paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the south: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the east: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 1 parking structure would follow the following paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.

- From the south: Turn right onto Jones Bridge Road, turn left onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the south: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the east: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 54A, 54B, and 54C show the 2018 Build Alternative 6 trip distribution.

Figure 54A: 2018 Build Alternative 6 Trip Distribution

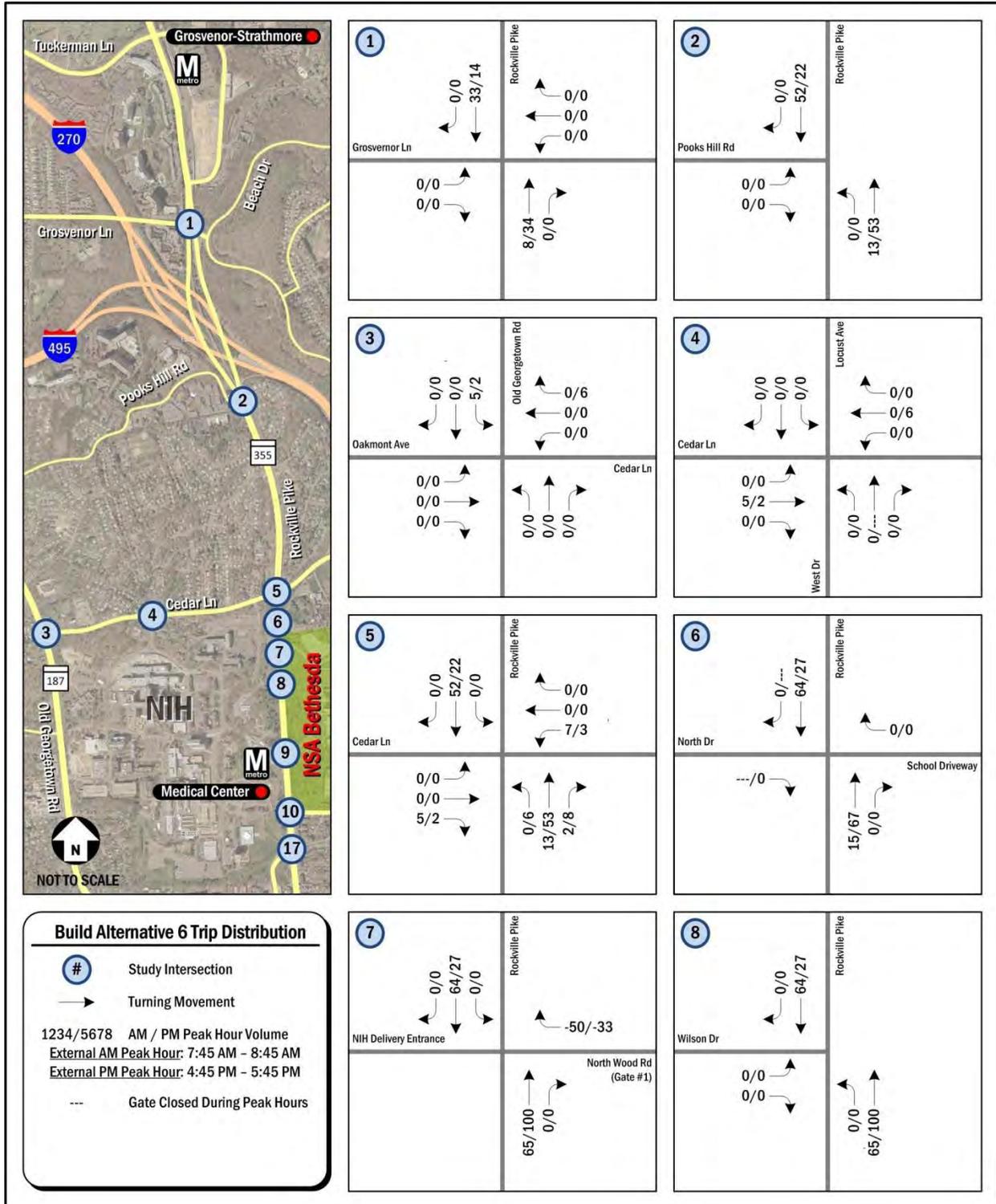


Figure 54B: 2018 Build Alternative 6 Trip Distribution

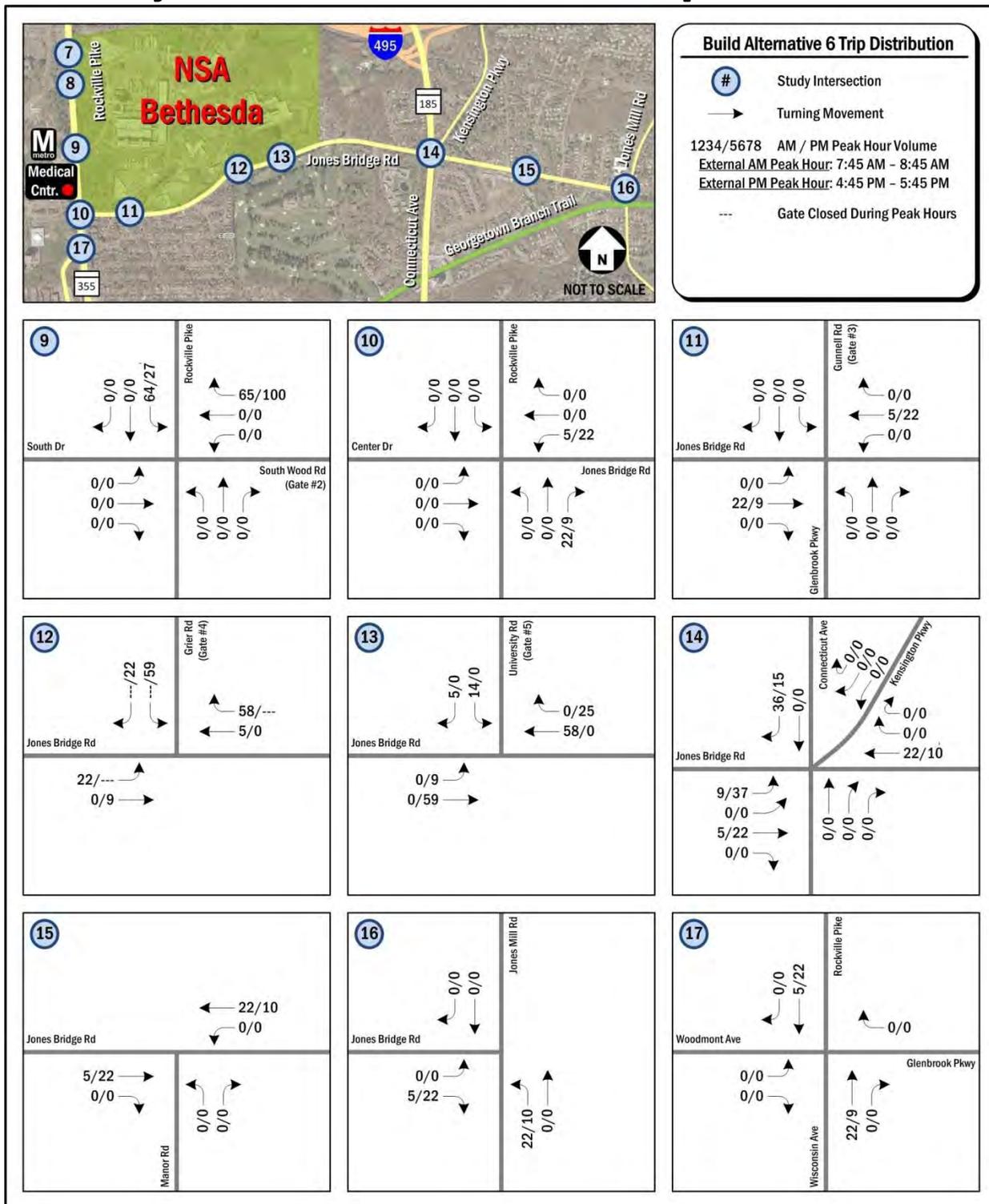
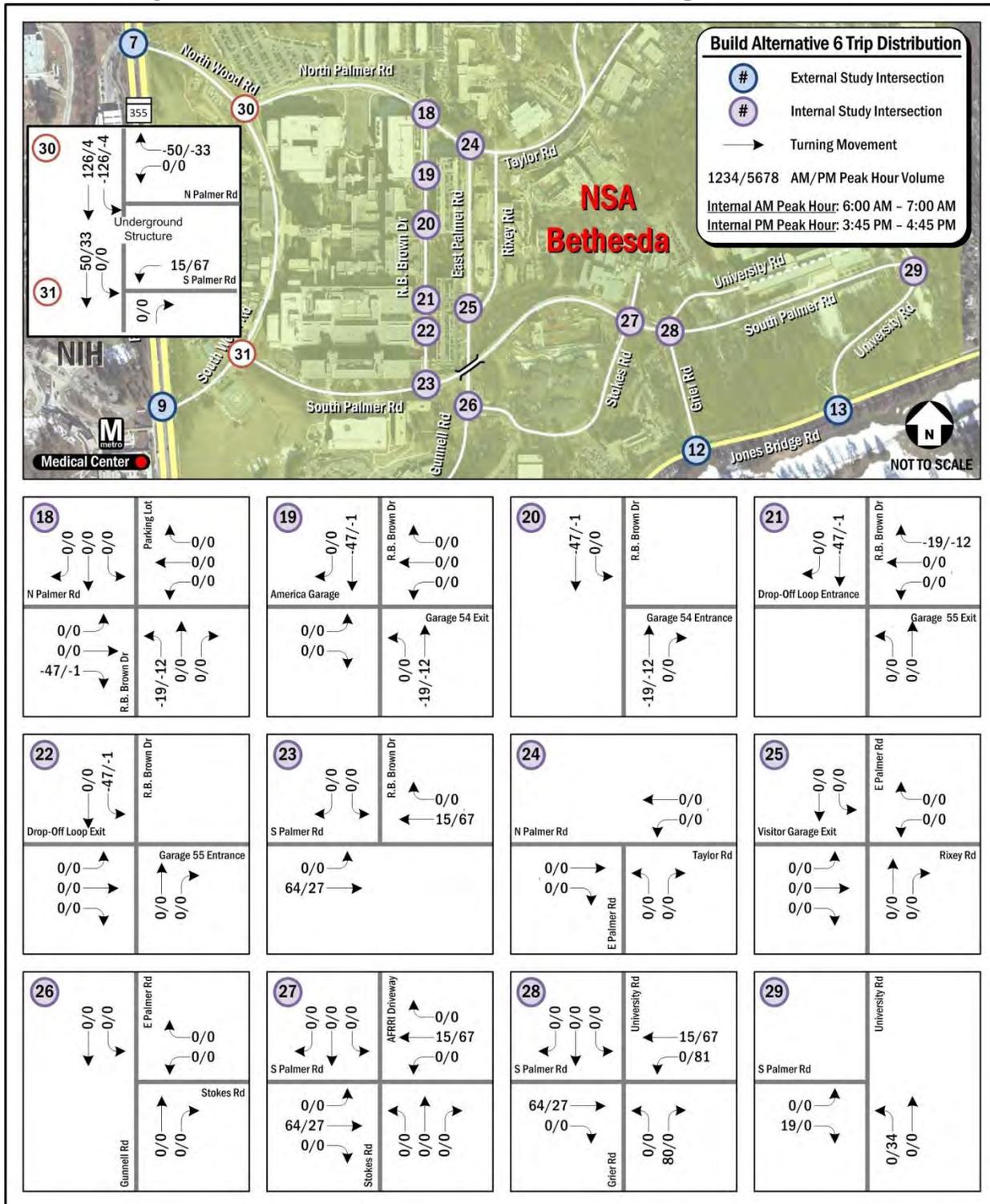


Figure 54C: 2018 Build Alternative 6 Trip Distribution



### 3.2.9.3 External Intersection Analysis

The 2018 Build Alternative 6 includes all projects listed in the No Build condition, plus the addition of a new entrance ramp connecting from North Wood Road/North Palmer Road intersection and the addition of a new exit ramp connecting to the South Wood Road/South Palmer Road intersection. Figure 36 shows the 2018 Build Alternatives 1 and 6 internal lane utilization and traffic control.

#### *Critical Lane Volume Analysis*

According to the analysis, the #9 Rockville Pike at South Wood Road (Gate #2) intersection would change from LOS B to C during the AM peak hour and #12 Jones Bridge Road at Grier Road (Gate #4) intersection would change from LOS B to C during the PM peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 6. Table 59 shows the 2018 Build Alternative 6 CLV analysis for the external intersection compared to the No Build condition. Figures 55A and 55B show the 2018 Build Alternative 6 CLV intersection LOS.

**Table 59: 2018 Build Alternative 6 CLV External Analysis**

	Build Alternative 6				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	867	A	1,057	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	982	A	981	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,223	C	1,139	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,261	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	803	A	1,047	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	717	A	1,168	C	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	780	A	1,060	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

Figure 55A: 2018 AM Peak Hour Build Alternative 6 CLV Intersection LOS

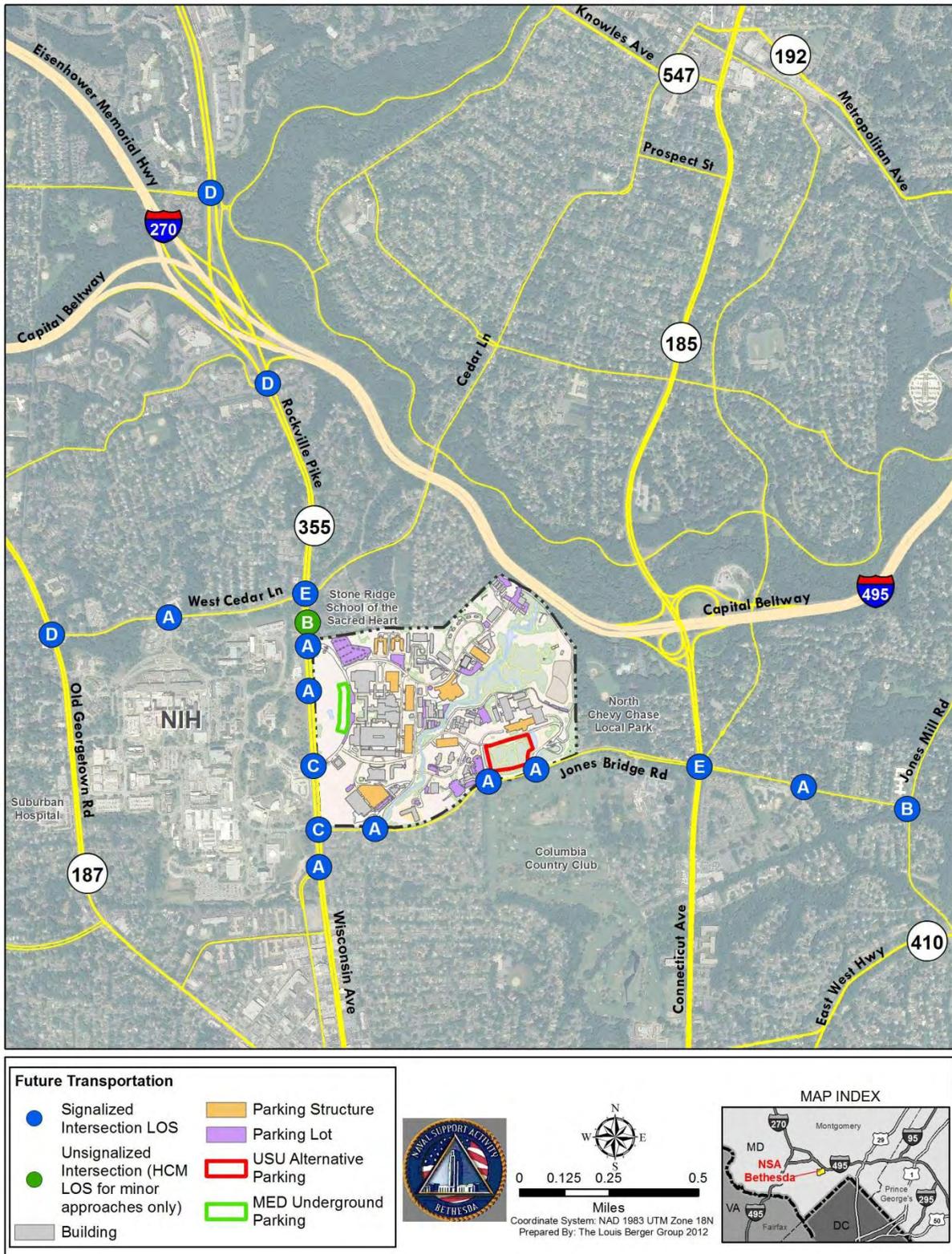
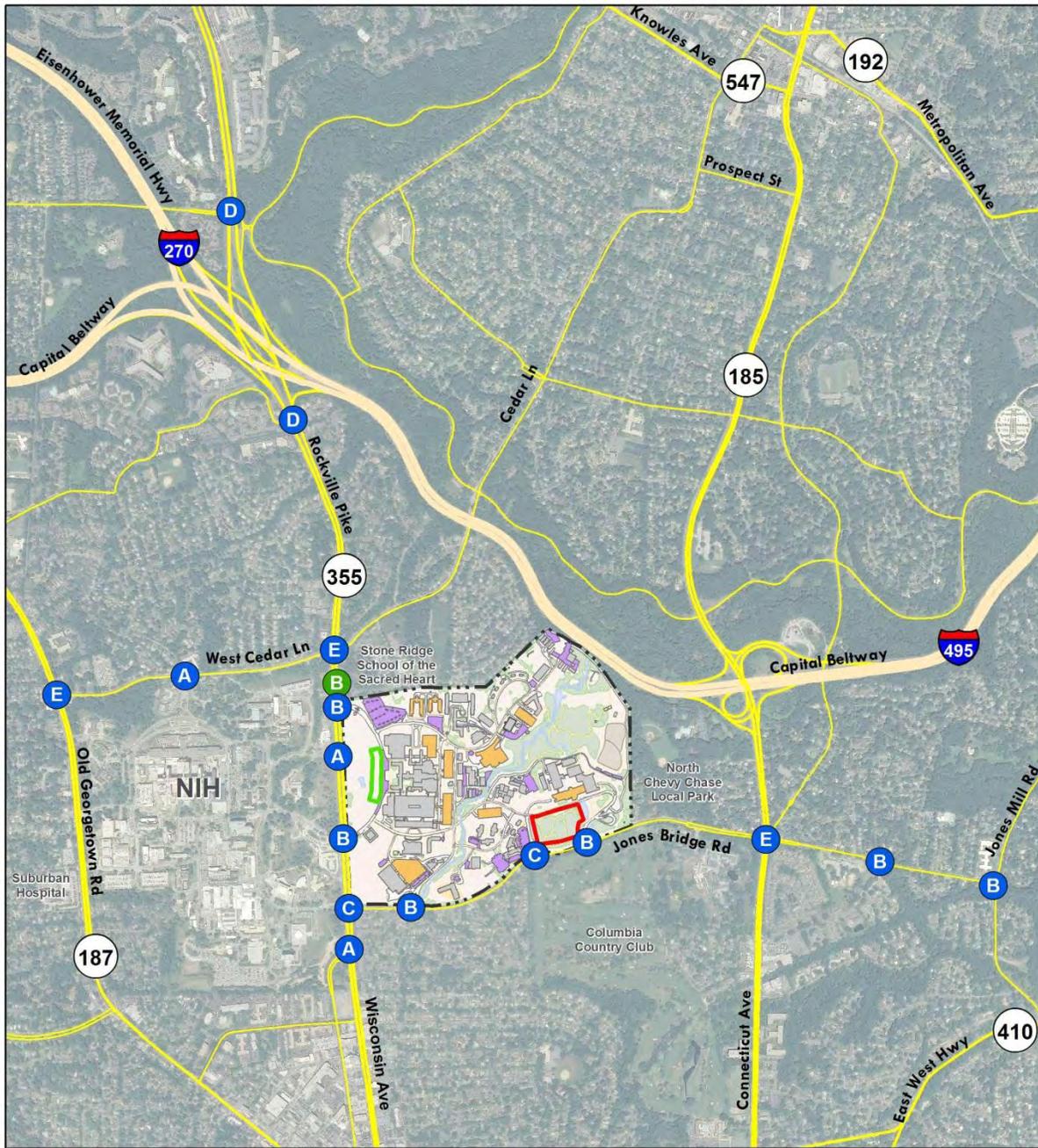
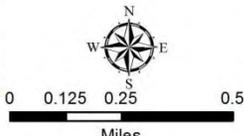


Figure 55B: 2018 PM Peak Hour Build Alternative 6 CLV Intersection LOS



Future Transportation	
● Signalized Intersection LOS	■ Parking Structure
● Unsignalized Intersection (HCM LOS for minor approaches only)	■ Parking Lot
■ Building	■ USU Alternative Parking
	■ MED Underground Parking





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*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 6 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Since the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for the intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 60A and 60B show the 2018 Build Alternative 6 HCM external analysis.

**Table 60A: 2018 AM Peak Hour Build Alternative 6 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 6			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>39.5</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	16.4		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.6</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	15.3		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.8		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.1</b>	<b>0.70</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	20.2		C	21.1		C
	Northbound	4.2		A	4.4		A
	Southbound	2.3		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.7</b>	<b>0.61</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	12.4		B	8.9		A
	Southbound	1.4		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>14.1</b>	<b>0.78</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	88.7		F	63.5		E
	Westbound	53.4		D	52.1		D
	Northbound	7.2		A	6.9		A
	Southbound	8.6		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.6</b>	<b>0.85</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.2		C	31.1		C
	Northbound	29.6		C	29.6		C
	Southbound	71.9		E	67.6		E

**Table 60A: 2018 AM Peak Hour Build Alternative 6 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 6			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>6.2</b>	<b>0.61</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	3.9		A	3.9		A
	Westbound	4.6		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.1		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>2.0</b>	<b>0.47</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	2.1		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.9</b>	<b>0.60</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.2		A	1.7		A
	Westbound	8.1		A	6.6		A
	Southbound	26.4		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.0		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.3		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 60B: 2018 PM Peak Hour Build Alternative 6 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 6			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.5		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.6		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>6.8</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	59.1		E	58.6		E
	Northbound	2.4		A	2.4		A
	Southbound	0.7		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.7</b>	<b>0.76</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.5		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>15.8</b>	<b>0.78</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	83.3		F	70.0		E
	Westbound	41.4		D	45.7		D
	Northbound	7.4		A	5.7		A
	Southbound	8.9		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>46.7</b>	<b>0.85</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	65.7		E	65.8		E
	Northbound	41.9		D	40.7		D
	Southbound	41.4		D	38.0		D

**Table 60B: 2018 PM Peak Hour Build Alternative 6 HCM External Analysis (continued)**

		HCM Analysis					
		PM Peak Hour					
		Approach	Alternative 6			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.1</b>	<b>0.78</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.5		A	7.7		A
	Westbound	14.2		B	14.0		B
	Northbound	17.4		B	17.4		B
	Southbound	27.7		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>17.8</b>	<b>0.96</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	16.5		B	14.2		B
	Westbound	12.2		B	11.3		B
	Southbound	29.4		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>4.7</b>	<b>0.80</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	4.7		A	4.3		A
	Westbound	4.1		A	4.2		A
	Southbound	27.9		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.2</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	35.0		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.7		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

### 3.2.9.4 Arterial Analysis

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 6 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and along northbound Rockville Pike during the

PM peak hour. Based on this analysis, Alternative 6 would not require PAMR-RAM external intersection mitigation. Tables 61 and 62 show the 2018 Build Alternative 6 arterial analyses.

**Table 61: 2018 AM Peak Hour Build Alternative 6 Arterial Analysis**

Arterial	Direction	Alt 6			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.2	5:53	C	22.7	5:46	C	2%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.6	5:15	C	19.7	5:14	C	1%
	Westbound	19.2	5:23	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 62: 2018 PM Peak Hour Build Alternative 6 Arterial Analysis**

Arterial	Direction	Alt 6			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:32	D	17.9	7:19	D	3%
	Southbound	18.1	7:25	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.7	5:51	D	18.0	5:44	D	2%
	Westbound	18.2	5:40	C	18.2	5:40	C	0%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### **3.2.9.5 Internal Intersection Analysis**

This alternative includes the addition of a new entrance ramp connecting from North Wood Road/North Palmer Road intersection and the addition of a new exit ramp connecting to the South Wood Road/South Palmer Road intersection.

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. The only notable change between Alternative 6 and the No Build condition would be the #28 South Palmer Road at Grier Road intersection changing from LOS B to C, resulting from the new trips exiting the new USU Alternative 1 parking structure and heading toward Gates #2 and #4. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 63A and 63B show the 2018 Build Alternative 6 internal intersection analysis and Figures 56A and 56B show the 2018 Build Alternative 6 internal intersection LOS.

**Table 63A: 2018 AM Peak Hour Build Alternative 6 Internal Intersection Analysis**

	Approach	AM Peak Hour			
		Build Alt. 6		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>10.3</b>	<b>B</b>
	Eastbound	10.3	B	10.9	B
	Westbound	8.5	A	8.7	A
	Northbound	8.5	A	9.0	A
	Southbound	9.5	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	16.1	C	17.6	C
	Westbound	12.3	B	12.8	B
	Northbound Left	3.5	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.7	A	9.2	A
	Southbound	10.5	B	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.8</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	8.2	A	8.1	A
	Northbound	9.2	A	9.4	A
	Southbound	8.2	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.9	A	8.1	A
	Northbound	9.9	A	10.1	B
	Southbound	8.5	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>10.2</b>	<b>B</b>	<b>9.8</b>	<b>A</b>
	Eastbound	10.8	B	10.3	B
	Westbound	9.0	A	8.7	A
	Southbound	9.3	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>9.6</b>	<b>A</b>	<b>9.6</b>	<b>A</b>
	Eastbound	10.0	A	10.0	A
	Westbound	8.6	A	8.6	A
	Northbound	9.5	A	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	7.5	A	7.5	A
	Westbound	8.1	A	8.1	A
	Northbound	9.4	A	9.4	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.6	A	8.6	A
	Northbound	10.1	B	10.1	B
	Southbound	8.9	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>10.0</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Eastbound	9.0	A	8.1	A
	Westbound	11.0	B	10.4	B
	Northbound	9.2	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>10.3</b>	<b>B</b>	<b>8.7</b>	<b>A</b>
	Eastbound	10.4	B	8.4	A
	Westbound	10.3	B	9.1	A
	Northbound	10.6	B	9.0	A
	Southbound	7.5	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	8.0	A	7.9	A
31. South Wood Road & South Palmer Road <sup>a</sup>	Southbound	9.2	A	-	-

<sup>a</sup> Intersection added to analyze the effects of a new exit ramp from the proposed underground parking structure.

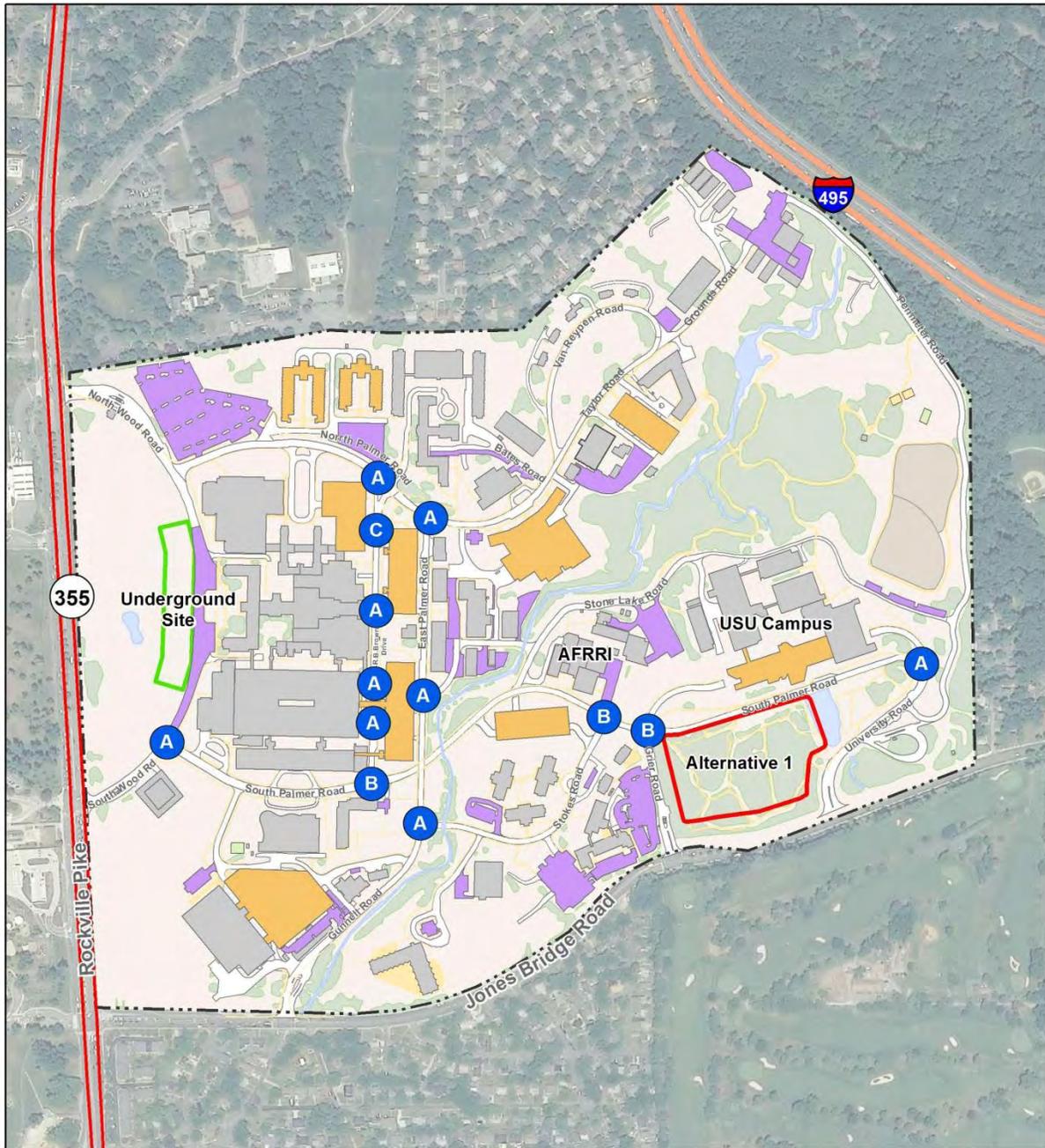
**Table 63B: 2018 PM Peak Hour Build Alternative 6 Internal Intersection Analysis**

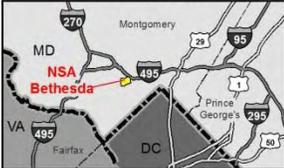
	Approach	PM Peak Hour			
		Build Alt. 6		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>15.9</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	9.6	A	9.7	A
	Westbound	15.4	C	15.6	C
	Northbound	19.3	C	20.5	C
	Southbound	10.0	A	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	*	F	*	F
	Westbound	*	F	*	F
	Northbound Left	0.6	A	0.6	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
	Northbound	8.9	A	9.0	A
	Southbound	8.5	A	8.5	A
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>11.1</b>	<b>B</b>	<b>11.3</b>	<b>B</b>
	Westbound	10.7	B	10.9	B
	Northbound	9.4	A	9.5	A
	Southbound	12.1	B	12.3	B
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
	Eastbound	7.8	A	7.8	A
	Northbound	8.2	A	8.3	A
	Southbound	10.0	A	10.0	B
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>12.1</b>	<b>B</b>	<b>10.6</b>	<b>B</b>
	Eastbound	9.3	A	8.9	A
	Westbound	13.5	B	10.7	B
	Southbound	12.5	B	11.4	B
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>10.7</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	10.0	B	10.0	B
	Westbound	11.4	B	11.4	B
	Northbound	10.7	B	10.7	B
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>10.2</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
	Eastbound	8.4	A	8.4	A
	Westbound	9.8	A	9.8	A
	Northbound	9.7	A	9.7	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>15.0</b>	<b>B</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.0	C	16.0	C
	Northbound	11.5	B	11.5	B
	Southbound	16.2	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>12.5</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	11.4	B	10.3	B
	Westbound	13.9	B	11.0	B
	Northbound	11.9	B	10.8	B
	Southbound	9.1	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>16.0</b>	<b>C</b>	<b>12.5</b>	<b>B</b>
	Eastbound	18.9	C	13.7	B
	Westbound	13.2	B	9.2	A
	Northbound	10.1	B	8.9	A
	Southbound	14.8	B	11.9	B
29. University Road & South Palmer Road	Westbound	7.3	A	7.1	A
	Northbound	7.6	A	7.1	A
31. South Wood Road & South Palmer Road <sup>b</sup>	Southbound	10.1	B	-	-

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.

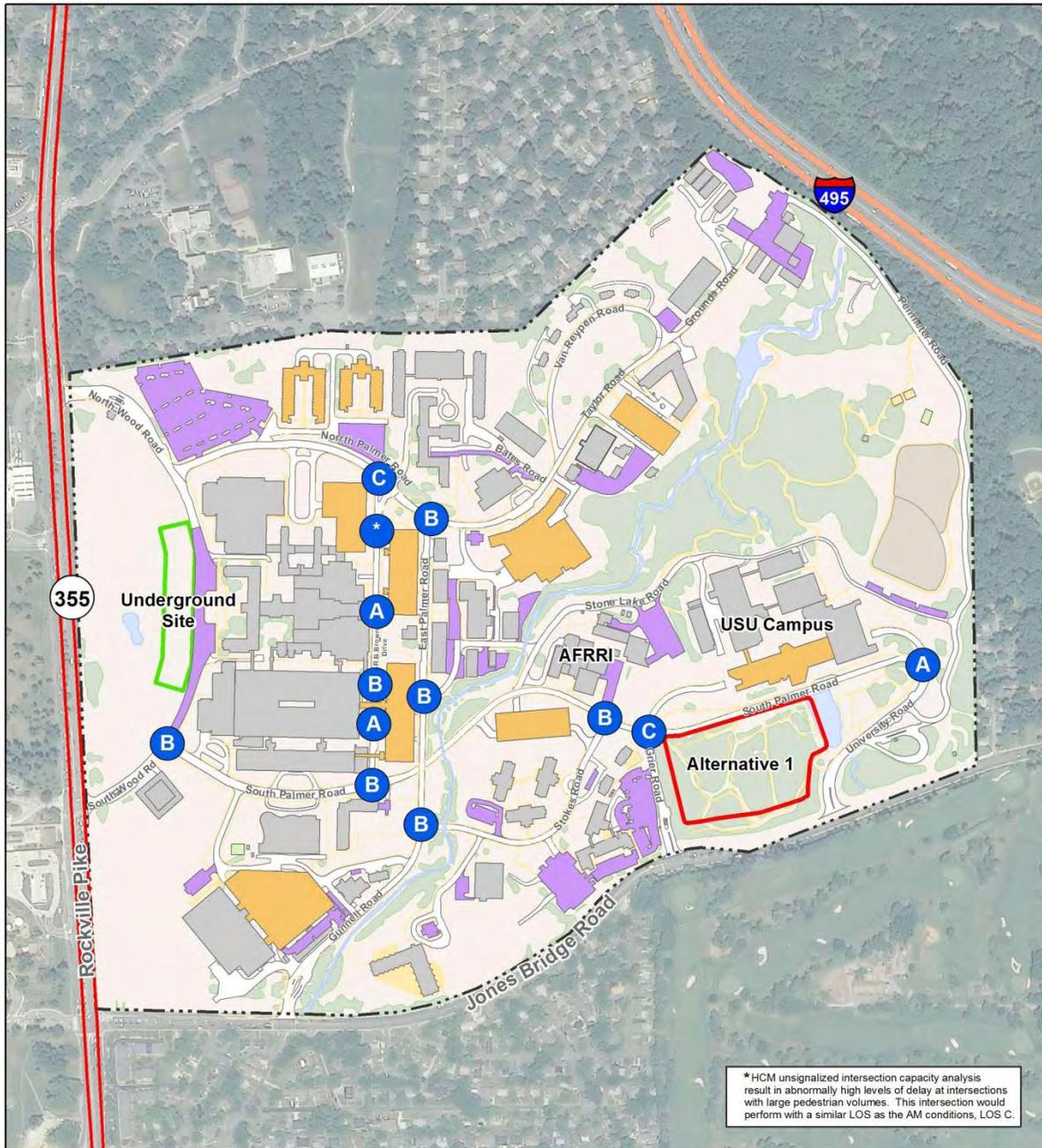
<sup>b</sup> Intersection added to analyze the effects of a new exit ramp from the proposed underground parking structure. Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 56A: 2018 AM Peak Hour Build Alternative 6 Internal Intersection LOS**



<b>Future Transportation</b>			 0 200 400 800 Feet Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: gray; border: 1px solid gray;"></span> Building</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid gray;"></span> Parking Structure</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid gray;"></span> Parking Lot</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span> USU Alternative Parking</li> <li><span style="border: 2px solid green; display: inline-block; width: 20px; height: 10px;"></span> MED Underground Parking</li> </ul>			

**Figure 56B: 2018 PM Peak Hour Build Alternative 6 Internal Intersection LOS**



<b>Future Transportation</b>			 Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: gray; border: 1px solid gray;"></span> Building</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid gray;"></span> Parking Structure</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid gray;"></span> Parking Lot</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span> USU Alternative Parking</li> <li><span style="border: 2px solid green; display: inline-block; width: 20px; height: 10px;"></span> MED Underground Parking</li> </ul>			

### **3.2.9.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new underground parking structure would be located next to the main Medical Building with no significant impacts expected as pedestrians would be able to walk directly into Building 1 without crossing any roadways.

The new USU Alternative 1 parking structure would be placed across the street from the USU campus. Therefore, the new pedestrian activity would cross at three intersections, South Palmer Road at Grier Road, South Palmer Road at Stokes Road, and South Palmer Road at R.B. Brown Drive. New pedestrian trips would also be created between the proposed parking structure and USU. Since the location of a new crossing has not been identified, these pedestrian trips were added to the South Palmer Road at Grier Road intersection. For the Medical Development, this would result in 17 new pedestrian trips during the AM peak hour and 16 new pedestrian trips during the PM peak hour. For the University Expansion, this would result in 161 new pedestrian trips during the AM peak hour and 193 new pedestrian trips during the PM peak hour.

The Medical Building and USU destined pedestrian trips are included in the internal HCM analysis in Tables 63A and 63B. The three intersections that would experience increased pedestrian activity as a result of Alternative 6 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 63A and 63B.

Existing 5-foot plus sidewalks connect the new parking structure serving Building F with the Medical Buildings via South Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the projected peak hour trip generation and adequate existing sidewalks serving these pedestrian trips, this alternative would have no significant pedestrian or bicycle impacts. Figure 38 shows the sidewalk connections for this Build Alternative.

### **3.2.10 Build Alternative 7**

This alternative would include the construction of a new underground 500-space Medical Facilities Development parking structure designated for patients, visitors, and VIPs only and the construction of a 400-space parking structure known as USU Alternative 1 designated for employees. The 500-space underground parking structure would be located between North and South Wood Roads, with the entrance and exit located in the existing G-Lot, with access from North Palmer Road. Appendix D4 contains the proposed concept for this facility.

The new USU Alternative 1 parking structure would be located across from the USU campus, south of South Palmer Road, with the entrance and exit ramps connecting to South Palmer Road.

#### **3.2.10.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

#### **3.2.10.2 Trip Distribution**

The trip distribution for this alternative would be the same as Alternative 6 (see Section 3.2.9.2), with the 20 percent of G-Lot staff shifted to the new USU parking structure south of the USU campus along South Palmer Road instead of the current N-Lot location. The patient shift assumptions would be the same as Alternative 1 (see Section 3.2.4.2), and the G-Lot shifts would be the same as Alternative 2 (see Section 3.2.5.2).

The Build Alternative 7 trip distribution would consist of combining the shift in existing patient trips from Building 55 to the new underground parking structure, the shift in existing staff trips from G-Lot to the new USU Alternative 1 parking structure, and the peak hour new trips projected to be generated from the 270 new employees destined for the new USU Alternative 1 parking structure. The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26). Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking space closer to their desk than the new USU Alternative 1 parking structure, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the USU Alternative 1 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to the existing parking facility is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 1 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The distribution patterns for the shifted patient trips from Buildings 55 and 63 would continue to enter Gate #1 from Rockville Pike and proceed directly to the new underground parking facility through G-Lot. Patients leaving the new underground parking facility would exit through G-Lot, turn right onto North Palmer Road, turn right onto North Wood Road, exit through Gate #1, and turn right onto Rockville

Pike. The result of these new distribution patterns would remove trips from R.B. Brown Drive and North Palmer Road, east of G-Lot.

During the AM peak hour, new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the south: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the east: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the south: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, and turn left onto South Palmer Road.

- To the east: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 57A, 57B, and 57C show the 2018 Build Alternative 7 trip distribution.

Figure 57A: 2018 Build Alternative 7 Trip Distribution

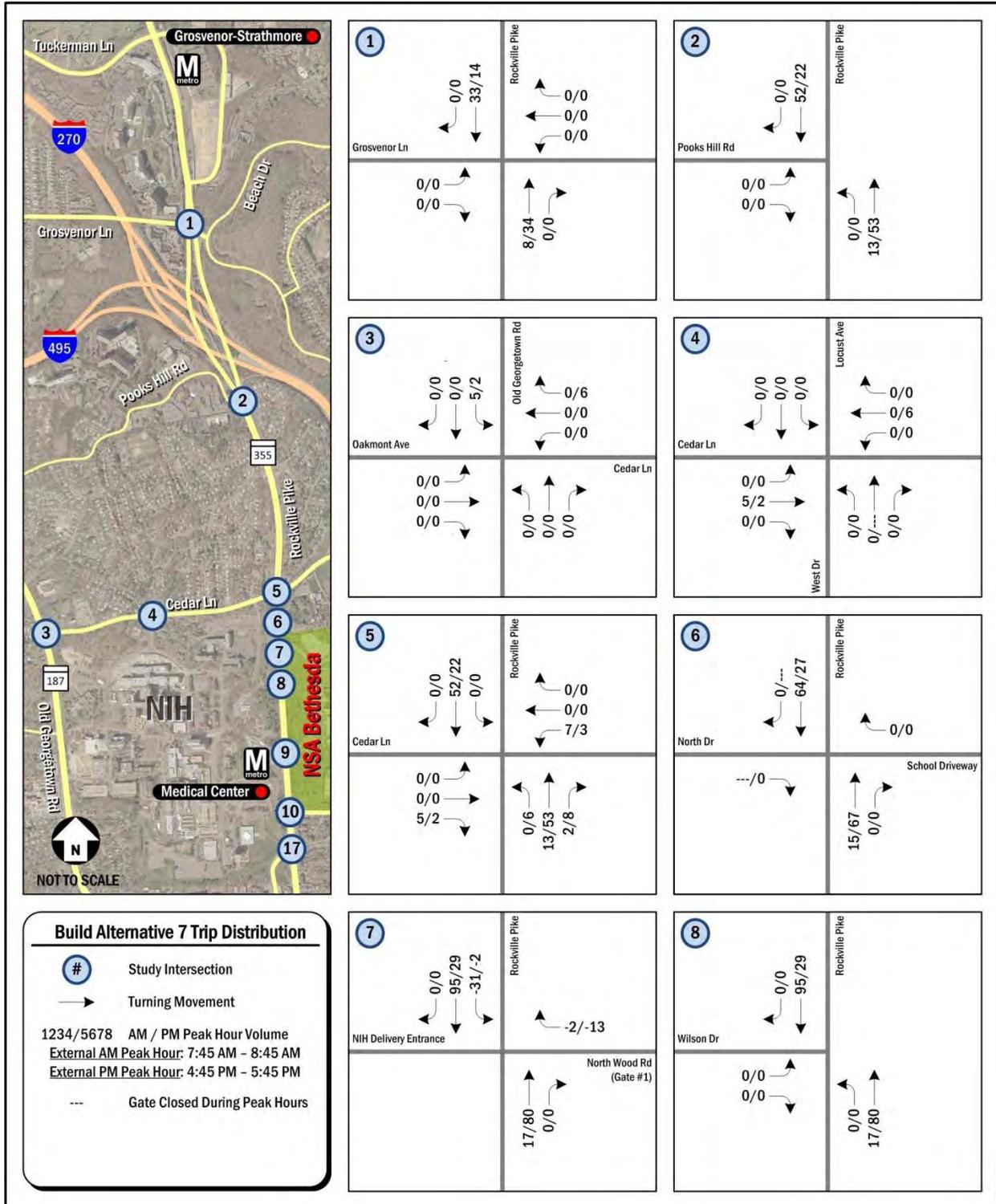


Figure 57B: 2018 Build Alternative 7 Trip Distribution

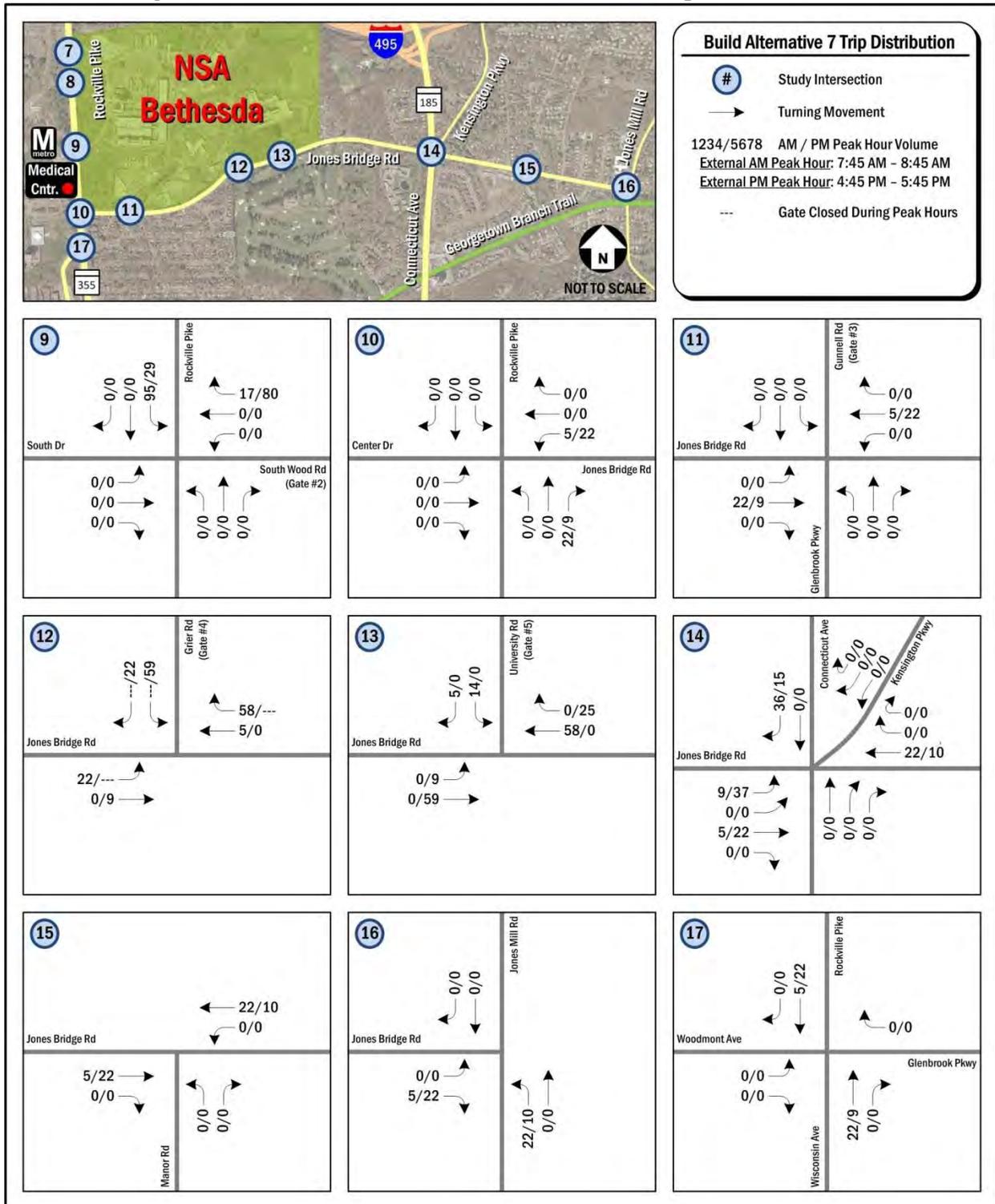
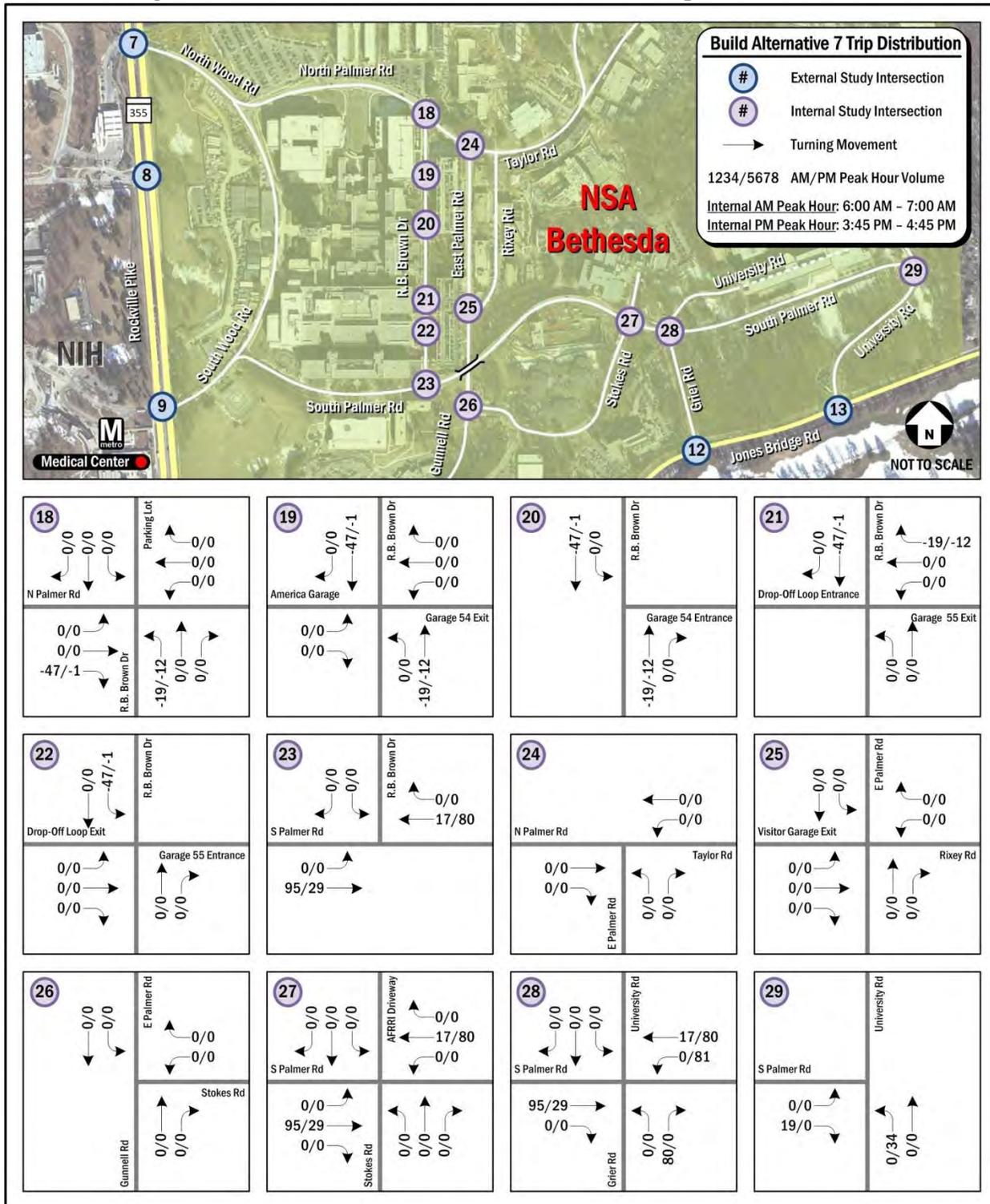


Figure 57C: 2018 Build Alternative 7 Trip Distribution



### 3.2.10.3 External Intersection Analysis

The 2018 Build Alternative 7 includes all projects listed in the No Build condition, plus the addition of a new entrance and exit ramp connecting from G-Lot to the new underground parking facility. Figure 29C shows the 2018 Build Alternative 2 through 5 and 6 through 10 internal lane utilization and traffic control.

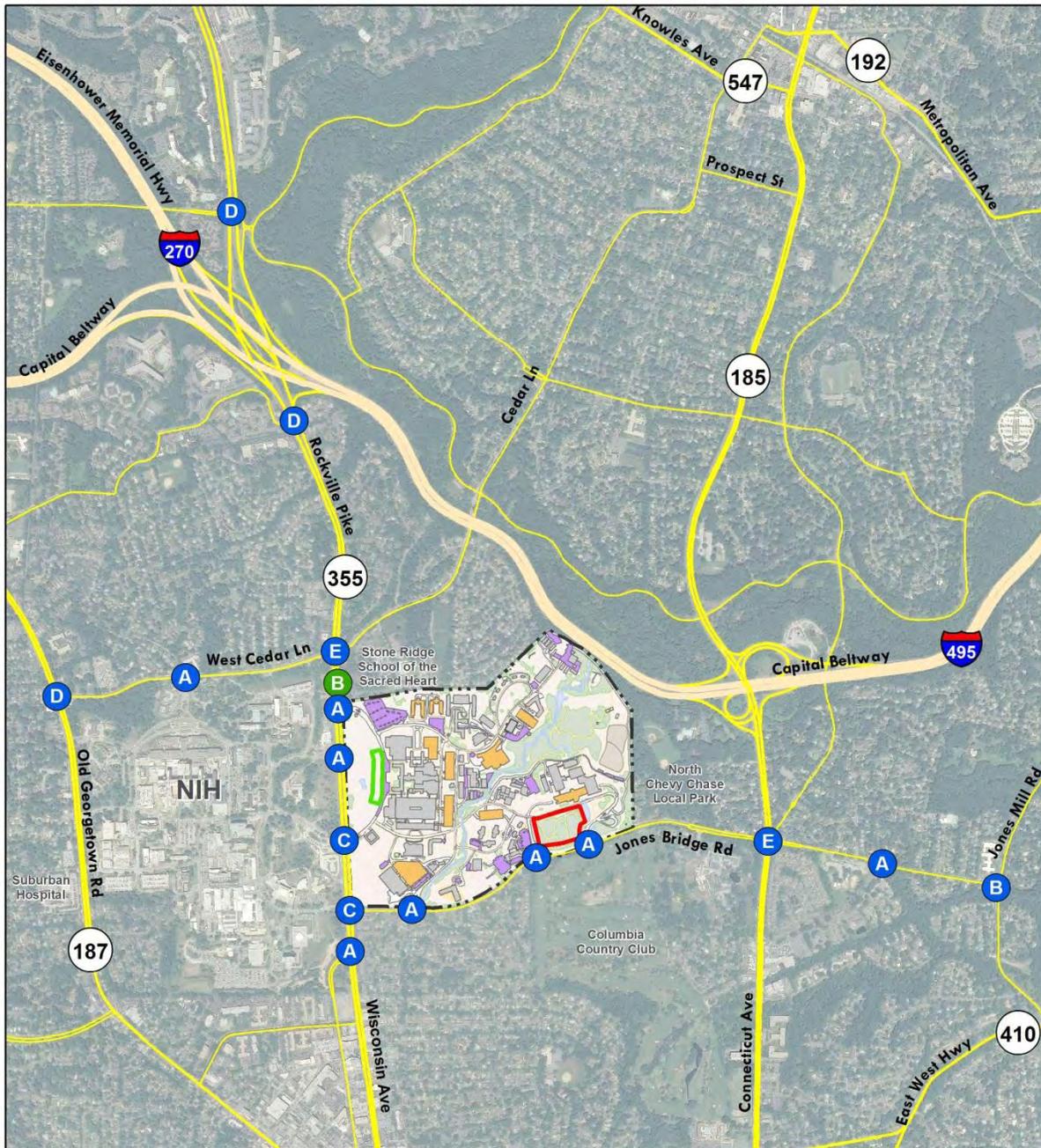
#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, the #9 Rockville Pike at South Wood Road (Gate #2) intersection would change from LOS B to C during the AM peak hour. Intersection #12 Jones Bridge Road at Grier Road (Gate #4) would change from LOS B to C during the PM peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 7. Table 64 shows the 2018 Build Alternative 7 CLV external analysis. Figures 58A and 58B show the 2018 Build Alternative 7 CLV intersection LOS.

**Table 64: 2018 Build Alternative 7 CLV External Analysis**

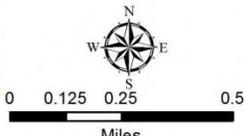
	Build Alternative 7				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	818	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	993	A	973	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,206	C	1,119	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,295	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	803	A	1,042	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	717	A	1,168	C	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	780	A	1,060	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

Figure 58A: 2018 AM Peak Hour Build Alternative 7 CLV Intersection LOS



Future Transportation	
● Signalized Intersection LOS	■ Parking Structure
● Unsignalized Intersection (HCM LOS for minor approaches only)	■ Parking Lot
■ Building	■ USU Alternative Parking
	■ MED Underground Parking



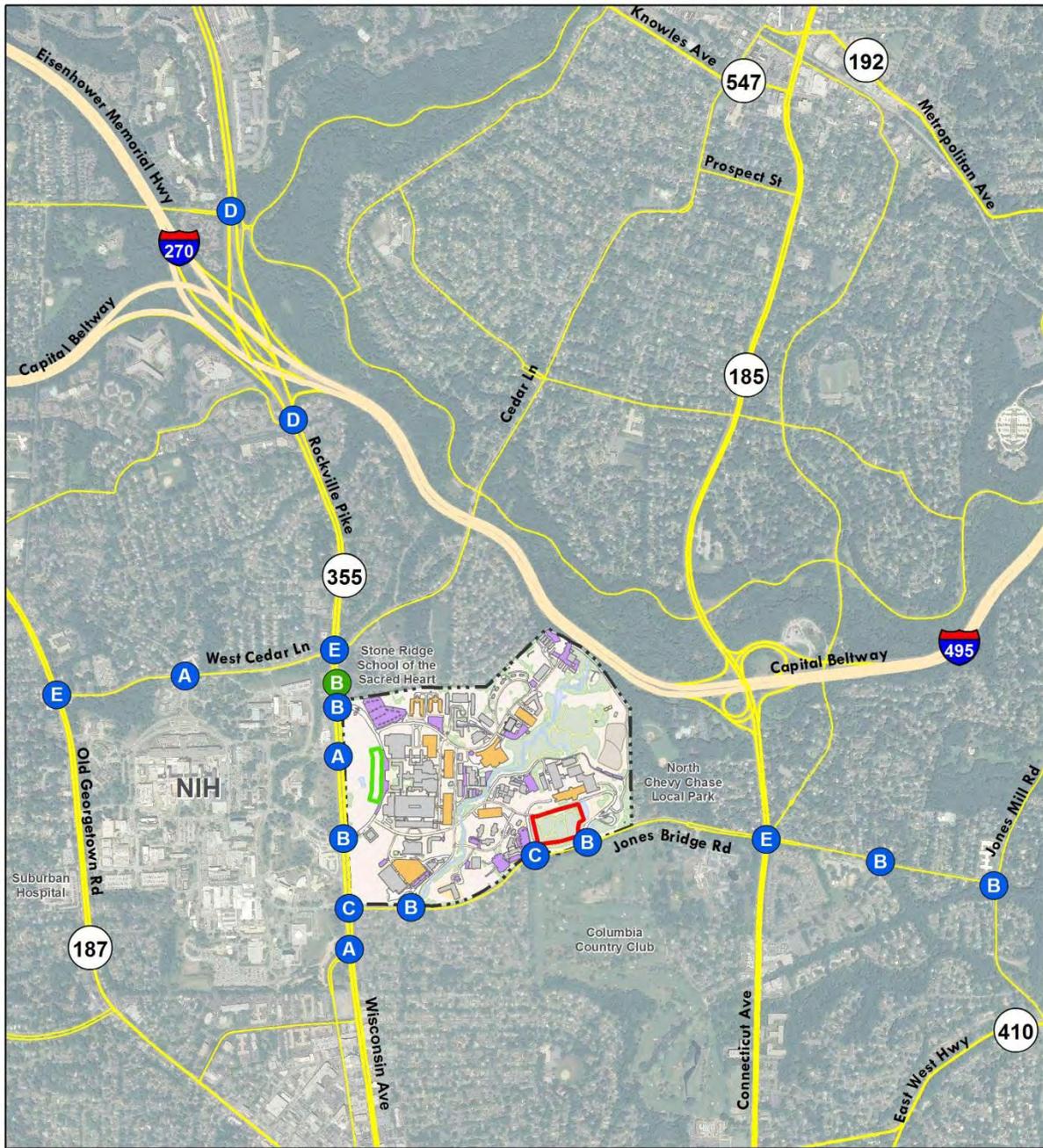


Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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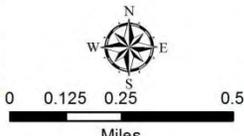


Figure 58B: 2018 PM Peak Hour Build Alternative 7 CLV Intersection LOS



Future Transportation	
<span style="color: blue;">●</span> Signalized Intersection LOS	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure
<span style="color: green;">●</span> Unsignalized (HCM) LOS for minor approaches only	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot
<span style="background-color: grey; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
	<span style="border: 2px solid green; display: inline-block; width: 15px; height: 10px;"></span> MED Underground Parking





Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 7 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Because the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 65A and 65B show the 2018 Build Alternative 7 HCM external analysis.

**Table 65A: 2018 AM Peak Hour Build Alternative 7 HCM External Analysis**

	HCM Analysis		AM Peak Hour				
	Approach	Alternative 7			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>39.5</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	16.4		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.7</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	15.8		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.1</b>	<b>0.71</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	21.1		C	21.1		C
	Northbound	3.8		A	4.4		A
	Southbound	2.1		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.1</b>	<b>0.62</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	10.6		B	8.9		A
	Southbound	1.4		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.4</b>	<b>0.74</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	67.7		E	63.5		E
	Westbound	52.7		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.7		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.7</b>	<b>0.85</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.2		C	31.1		C
	Northbound	29.6		C	29.6		C
	Southbound	72.2		E	67.6		E

**Table 65A: 2018 AM Peak Hour Build Alternative 7 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 7			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>6.2</b>	<b>0.61</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	3.9		A	3.9		A
	Westbound	4.6		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.1		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>2.0</b>	<b>0.47</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	2.1		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.9</b>	<b>0.60</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.2		A	1.7		A
	Westbound	8.1		A	6.6		A
	Southbound	26.4		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.3		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 65B: 2018 PM Peak Hour Build Alternative 7 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 7			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.1</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.9		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.5		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>7.0</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.9		E	58.6		E
	Northbound	2.6		A	2.4		A
	Southbound	0.7		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.6</b>	<b>0.76</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.2		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>15.2</b>	<b>0.76</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	82.4		F	70.0		E
	Westbound	42.4		D	45.7		D
	Northbound	7.0		A	5.7		A
	Southbound	8.0		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>46.6</b>	<b>0.85</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	65.7		E	65.8		E
	Northbound	41.9		D	40.7		D
	Southbound	41.1		D	38.0		D

**Table 65B: 2018 PM Peak Hour Build Alternative 7 HCM External Analysis (continued)**

		HCM Analysis					
		PM Peak Hour					
		Approach	Alternative 7			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.1</b>	<b>0.77</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.5		A	7.7		A
	Westbound	14.2		B	14.0		B
	Northbound	17.4		B	17.4		B
	Southbound	27.7		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>17.8</b>	<b>0.96</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	16.5		B	14.2		B
	Westbound	12.2		B	11.3		B
	Southbound	29.4		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>4.7</b>	<b>0.80</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	4.7		A	4.3		A
	Westbound	4.1		A	4.2		A
	Southbound	27.9		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.2</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.6		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.6		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

#### 3.2.10.4 Arterial Analysis

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 7 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and along northbound Rockville Pike during the

PM peak hour. Based on this analysis, Alternative 7 would not require PAMR-RAM external intersection mitigation. Tables 66 and 67 show the 2018 Build Alternative 7 arterial analyses.

**Table 66: 2018 AM Peak Hour Build Alternative 7 Arterial Analysis**

Arterial	Direction	Alt 7			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.3	5:51	C	22.7	5:46	C	2%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.6	5:15	C	19.7	5:14	C	1%
	Westbound	19.2	5:23	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 67: 2018 PM Peak Hour Build Alternative 7 Arterial Analysis**

Arterial	Direction	Alt 7			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:31	D	17.9	7:19	D	3%
	Southbound	18.2	7:24	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.7	5:50	D	18.0	5:44	D	2%
	Westbound	18.2	5:40	C	18.2	5:40	C	0%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### **3.2.10.5 Internal Intersection Analysis**

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. The only notable change between Alternative 7 and the No Build condition would be at the #28 South Palmer Road at Grier Road intersection changing from LOS B to C, resulting from the new trips exiting the new USU Alternative 1 parking structure and heading toward Gates #2 and #4. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 68A and 68B show the 2018 Build Alternative 7 internal intersection analysis, and Figures 59A and 59B show the 2018 Build Alternative 7 internal intersection LOS.

**Table 68A: 2018 AM Peak Hour Build Alternative 7 Internal Intersection Analysis**

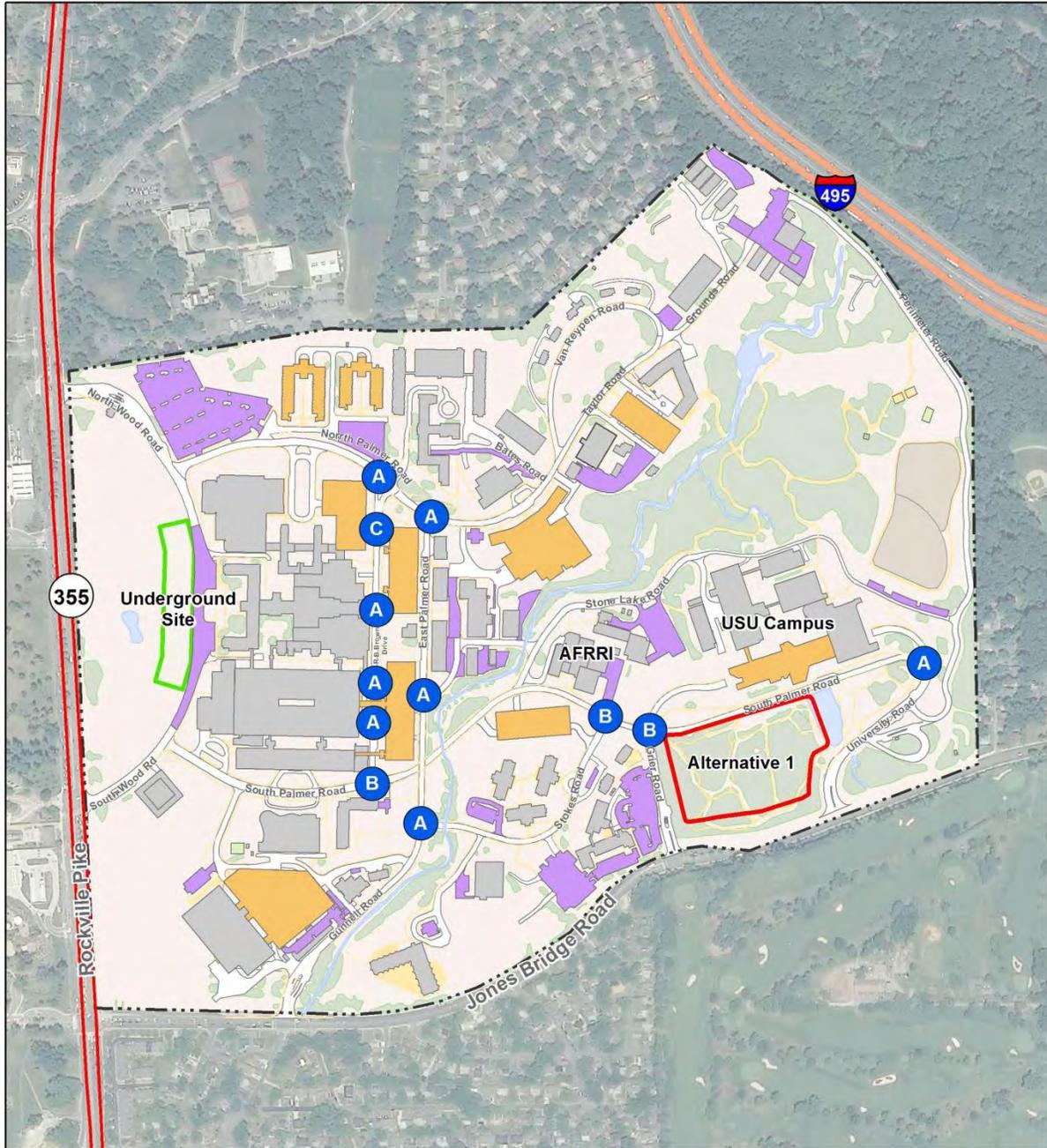
	Approach	AM Peak Hour			
		Build Alt. 7		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>9.8</b>	<b>A</b>	<b>10.3</b>	<b>B</b>
	Eastbound	10.3	B	10.9	B
	Westbound	8.5	A	8.7	A
	Northbound	8.6	A	9.0	A
	Southbound	9.5	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	16.1	C	17.6	C
	Westbound	12.3	B	12.8	B
	Northbound Left	3.5	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.7	A	9.2	A
	Southbound	10.5	B	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.8</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	8.2	A	8.1	A
	Northbound	9.2	A	9.4	A
	Southbound	8.2	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.9	A	8.1	A
	Northbound	9.9	A	10.1	B
	Southbound	8.5	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>10.5</b>	<b>B</b>	<b>9.8</b>	<b>A</b>
	Eastbound	11.2	B	10.3	B
	Westbound	9.1	A	8.7	A
	Southbound	9.4	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>9.6</b>	<b>A</b>	<b>9.6</b>	<b>A</b>
	Eastbound	10.0	A	10.0	A
	Westbound	8.6	A	8.6	A
	Northbound	9.5	A	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	7.5	A	7.5	A
	Westbound	8.1	A	8.1	A
	Northbound	9.4	A	9.4	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.6	A	8.6	A
	Northbound	10.1	B	10.1	B
	Southbound	8.9	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>10.3</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Eastbound	9.6	A	8.1	A
	Westbound	11.2	B	10.4	B
	Northbound	9.3	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>10.9</b>	<b>B</b>	<b>8.7</b>	<b>A</b>
	Eastbound	11.5	B	8.4	A
	Westbound	10.5	B	9.1	A
	Northbound	10.9	B	9.0	A
	Southbound	7.7	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	8.0	A	7.9	A

**Table 68B: 2018 PM Peak Hour Build Build Alternative 7 Internal Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 7		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>15.9</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	9.6	A	9.7	A
	Westbound	15.4	C	15.6	C
	Northbound	19.3	C	20.5	C
	Southbound	10.0	A	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.6	A	0.6	A
	<b>Overall</b>	<b>8.7</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.9	A	9.0	A
	Southbound	8.5	A	8.5	A
	<b>Overall</b>	<b>11.1</b>	<b>B</b>	<b>11.3</b>	<b>B</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	10.7	B	10.9	B
	Northbound	9.4	A	9.5	A
	Southbound	12.1	B	12.3	B
	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.8	A	7.8	A
	Northbound	8.2	A	8.3	A
	Southbound	10.0	A	10.0	B
	<b>Overall</b>	<b>12.5</b>	<b>B</b>	<b>10.6</b>	<b>B</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	9.3	A	8.9	A
	Westbound	14.1	B	10.7	B
	Southbound	12.6	B	11.4	B
	<b>Overall</b>	<b>10.7</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	10.0	B	10.0	B
	Westbound	11.4	B	11.4	B
	Northbound	10.7	B	10.7	B
	<b>Overall</b>	<b>10.2</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	8.4	A	8.4	A
	Westbound	9.8	A	9.8	A
	Northbound	9.7	A	9.7	A
	Southbound	11.0	B	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>15.0</b>	<b>B</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.0	C	16.0	C
	Northbound	11.5	B	11.5	B
	Southbound	16.2	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>13.0</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	11.6	B	10.3	B
	Westbound	14.8	B	11.0	B
	Northbound	12.1	B	10.8	B
	Southbound	9.2	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>16.4</b>	<b>C</b>	<b>12.5</b>	<b>B</b>
	Eastbound	19.5	C	13.7	B
	Westbound	13.8	B	9.2	A
	Northbound	10.2	B	8.9	A
	Southbound	15.1	C	11.9	B
29. University Road & South Palmer Road	Westbound	7.3	A	7.1	A
	Northbound	7.6	A	7.1	A

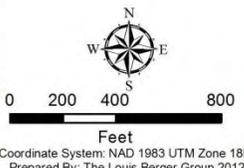
<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.  
 Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 59A: 2018 AM Peak Hour Build Alternative 7 Internal Intersection LOS**



Future Transportation	
<span style="color: blue;">●</span> Unsignalized Intersection LOS	<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
<span style="background-color: gray; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px;"></span> MED Underground Parking
<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot



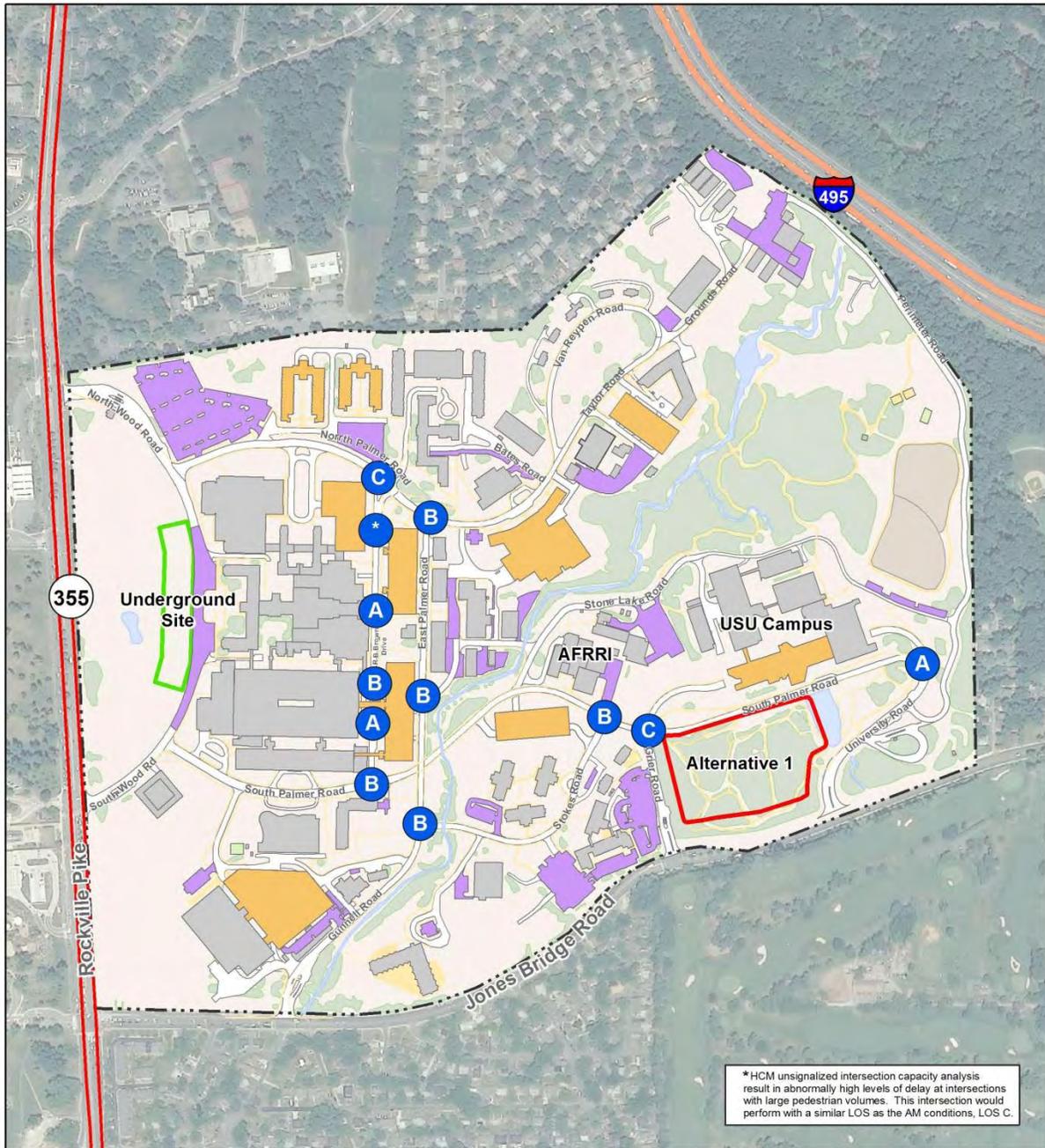


Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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**Figure 59B: 2018 PM Peak Hour Build Alternative 7 Internal Intersection LOS**



\*HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.

Future Transportation	
	Unsignalized Intersection LOS
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Underground Parking





0 200 400 800  
Feet

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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### **3.2.10.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new underground parking structure would be located next to the main Medical Building with no significant impacts expected because pedestrians would be able to walk directly into the building without crossing any roadways.

The new USU Alternative 1 parking structure would be placed across the street from the USU campus. Therefore, the new pedestrian activity would cross at three intersections: South Palmer Road at Grier Road, South Palmer Road at Stokes Road, and South Palmer Road at R.B. Brown Drive. New pedestrian trips would also be created between the proposed parking structure and USU. Since the location of a new crossing has not been identified, these pedestrian trips were added to the South Palmer Road at Grier Road intersection. For the Medical Development, this would result in 48 new pedestrian trips during the AM peak hour and 31 new pedestrian trips during the PM peak hour, which includes staff shifted from G-Lot. For the USU Expansion, this would result in 154 new pedestrian trips during the AM peak hour and 184 new pedestrian trips during the PM peak hour.

The Medical Building and USU destined pedestrian trips are included in the internal HCM analysis in Tables 68A and 68B. The three intersections that would experience increased pedestrian activity as a result of Alternative 7 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 68A and 68B.

Existing 5-foot plus sidewalks connect the new parking structure serving Building F with the Medical Buildings via South Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the projected peak hour trip generation and adequate existing sidewalks serving these pedestrian trips, this alternative would have no significant pedestrian or bicycle impacts. Figure 38 shows the sidewalk connections for this Build Alternative.

### **3.2.11 Build Alternative 8**

This alternative would include the construction of a new 500-space Medical Facilities Development parking structure in the industrial/warehouse area and the construction of a 400-space parking structure known as USU Alternative 1. The 500-space parking structure would be located north of Grounds Road, adjacent to the existing Z-Lot, with the entrance and exit ramps connecting to Grounds Road. The footprint for the proposed industrial/warehouse area parking facility would impact approximately 17 spaces in the existing Z-Lot.

The new USU Alternative 1 parking structure would be located across from the USU campus, south of South Palmer Road, with the entrance and exit ramps connecting to South Palmer Road.

#### **3.2.11.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

#### **3.2.11.2 Trip Distribution**

The trip distribution for this alternative would be similar to Alternative 3 (see Section 3.2.6.2), except the new trips would be destined to the new USU Alternative 1 parking structure south of the USU campus along South Palmer Road instead of the current N-Lot location. Since the combined 500 parking spaces in Buildings 54 and 55 would be re-designated from employee use to patients, VIPs, and visitors only, some of the existing staff trips would shift from Buildings 54 and 55 to the new Medical Facilities Development parking structure in the industrial/warehouse area and the new USU Alternative 1 parking structure. These new parking structures would be designated for staff parking. The new staff trips expected to be generated from the Medical Facilities Development and Building F would be destined for the new USU Alternative 1 parking structure.

The Build Alternative 8 trip distribution would consist of combining the shift in existing staff trips from Buildings 54 and 55 to the new warehouse site parking structure, and the peak hour new trips projected to be generated from the 270 new employees destined for the new USU Alternative 1 parking structure. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking spot at Buildings 54 or 55, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the new Medical Facilities Development parking structure or USU Alternative 1 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to Buildings 54 or 55 is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 1 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26).

The distribution patterns for the shifted staff trips from Buildings 54 and 55 would follow these paths:

- From the north: Continue past R.B. Brown Drive on North Palmer Road then continue onto Taylor Road/Grounds Road.
- To the north: Turn right onto Grounds Road/Taylor Road, then continue straight on North Palmer Road past R.B. Brown Drive.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, and turn right onto Taylor Road/Grounds Road.
- To the south: Turn right onto Grounds Road/Taylor Road, then turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and follow through to Grounds Road.
- To the east: Turn left onto Grounds Road, Follow onto Perimeter Road, then turn left onto University Road, exit though Gate #5, and turn left onto Jones Bridge Road.

The result of these new distribution patterns would remove trips from R.B. Brown Drive and South Palmer Road and Rockville Pike between South Wood Road and Jones Bridge Road.

During the AM peak hour, new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the south: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.

- To the east: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the south: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the east: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 60A, 60B, and 60C show the 2018 Build Alternative 8 trip distribution.

Figure 60A: 2018 Build Alternative 8 Trip Distribution

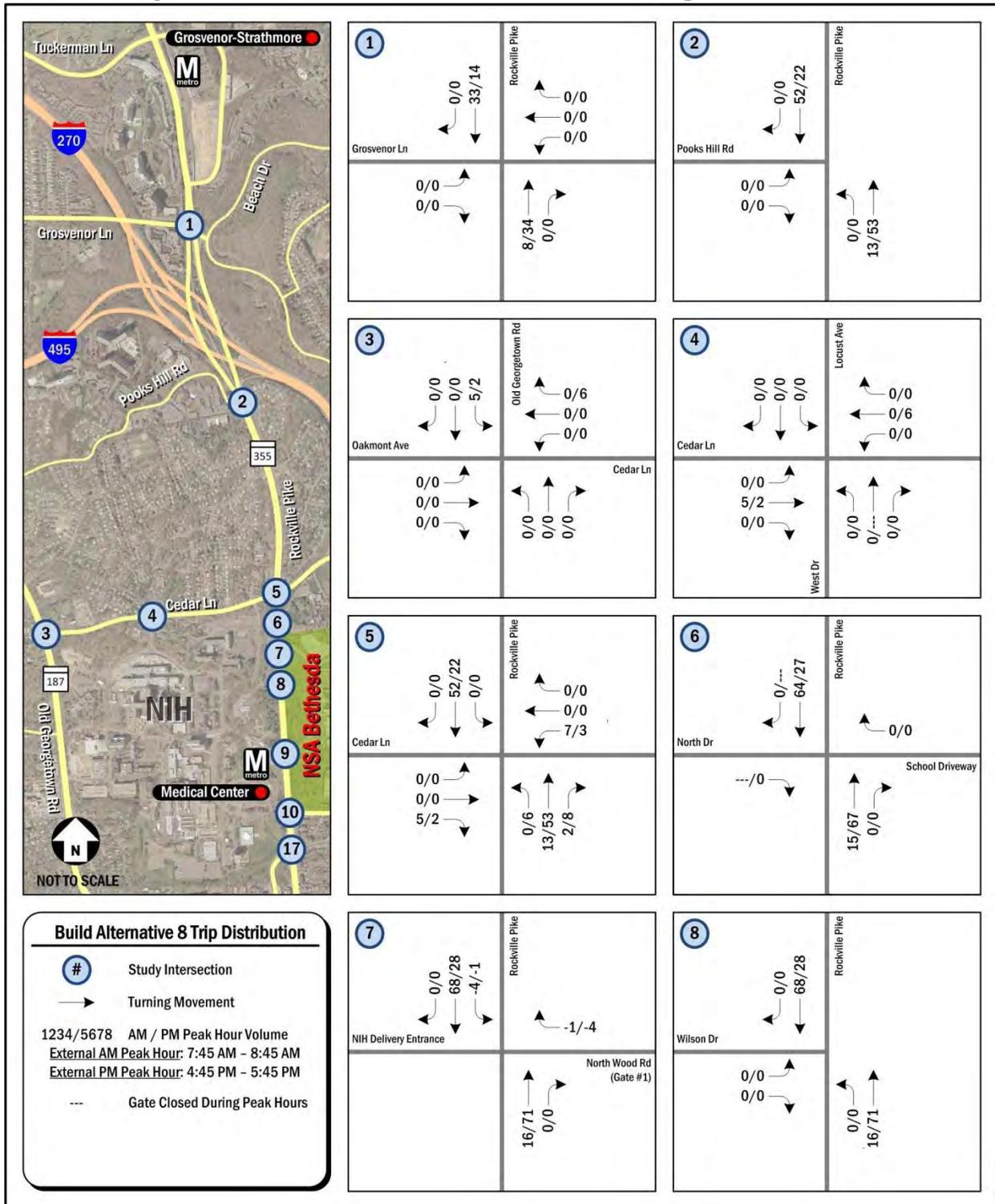


Figure 60B: 2018 Build Alternative 8 Trip Distribution

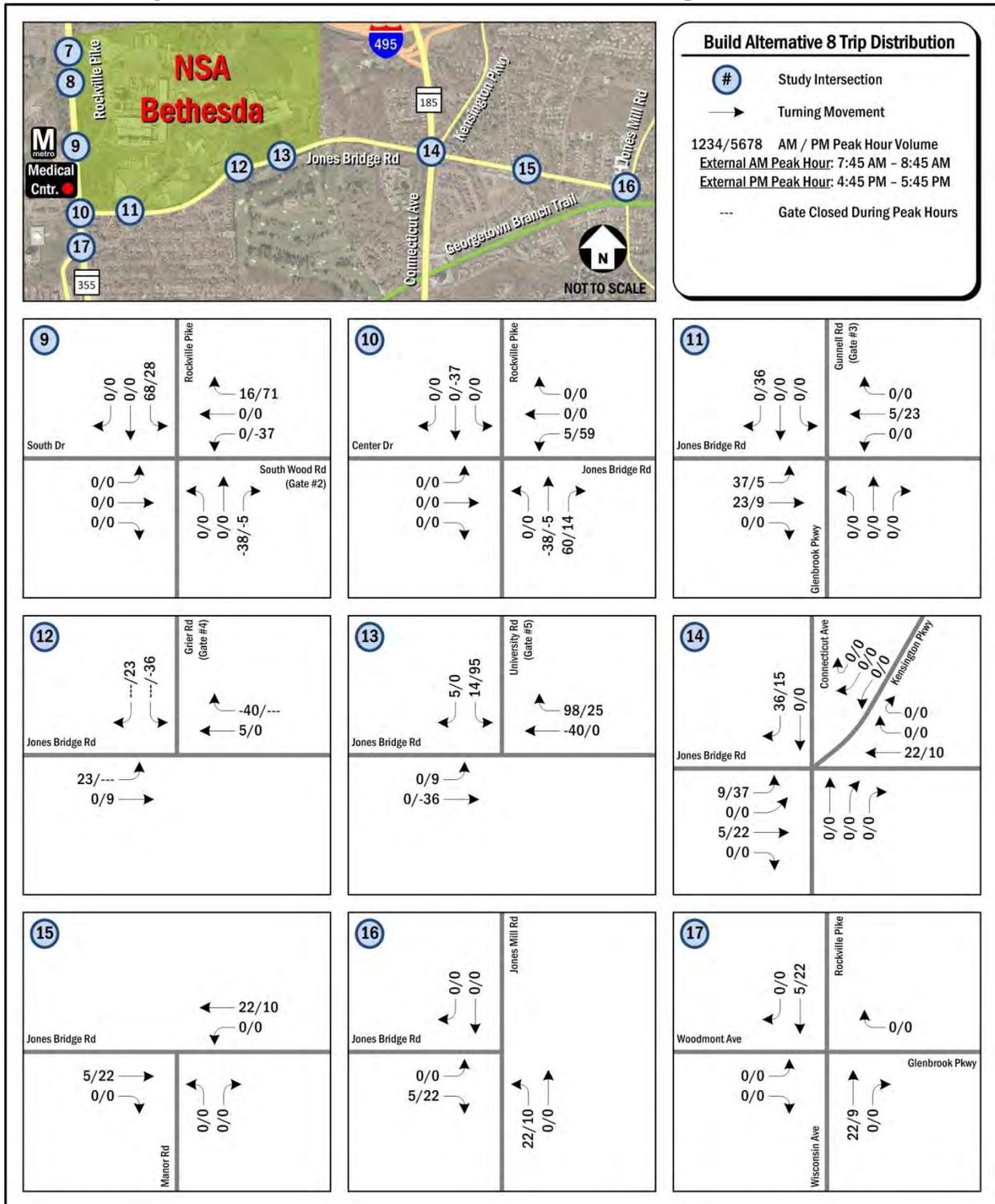
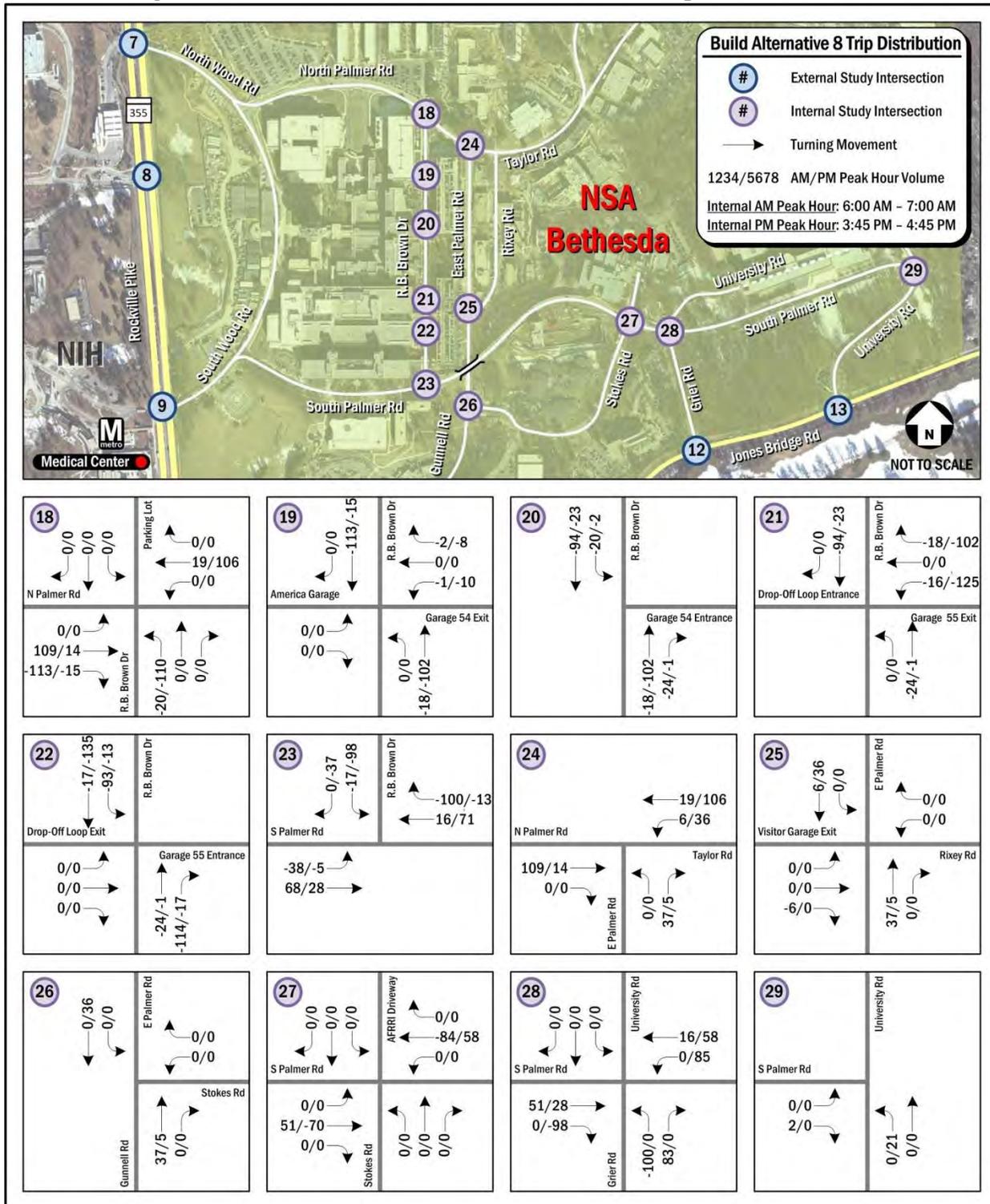


Figure 60C: 2018 Build Alternative 8 Trip Distribution



### 3.2.11.3 External Intersection Analysis

The 2018 Build Alternative 8 includes all projects listed in the No Build condition. Figure 29C shows 2018 Build Alternatives 2 through 5 and 7 through 10 internal lane utilization and traffic control.

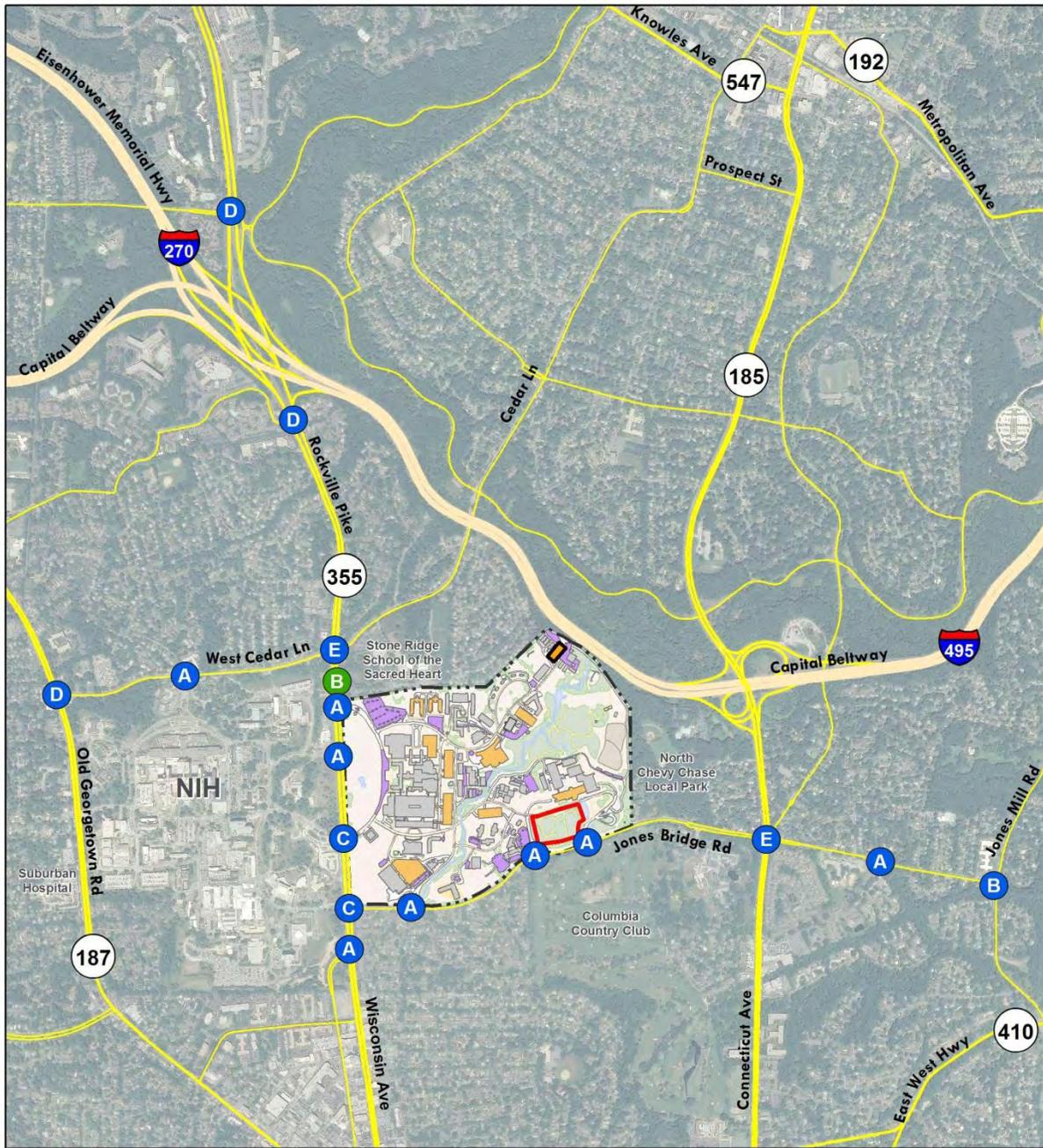
#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, the #9 Rockville Pike at South Wood Road (Gate #2) intersection would change from LOS B to C during the AM peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 8. Table 69 shows the 2018 Build Alternative 8 CLV external analysis. Figures 61A and 61B show the 2018 Build Alternative 8 CLV intersection LOS.

**Table 69: 2018 Build Alternative 8 CLV External Analysis**

	Build Alternative 8				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,552	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	845	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	983	A	970	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,178	C	1,110	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,295	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	840	A	1,052	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	718	A	1,073	B	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	728	A	1,104	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

Figure 61A: 2018 AM Peak Hour Build Alternative 8 CLV Intersection LOS



Future Transportation	
<span style="color: blue;">●</span> Signalized Intersection LOS	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure
<span style="color: green;">●</span> Unsignalized (HCM) LOS for minor approaches only	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot
<span style="background-color: gray; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
	<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> MED Facilities
	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Footprint





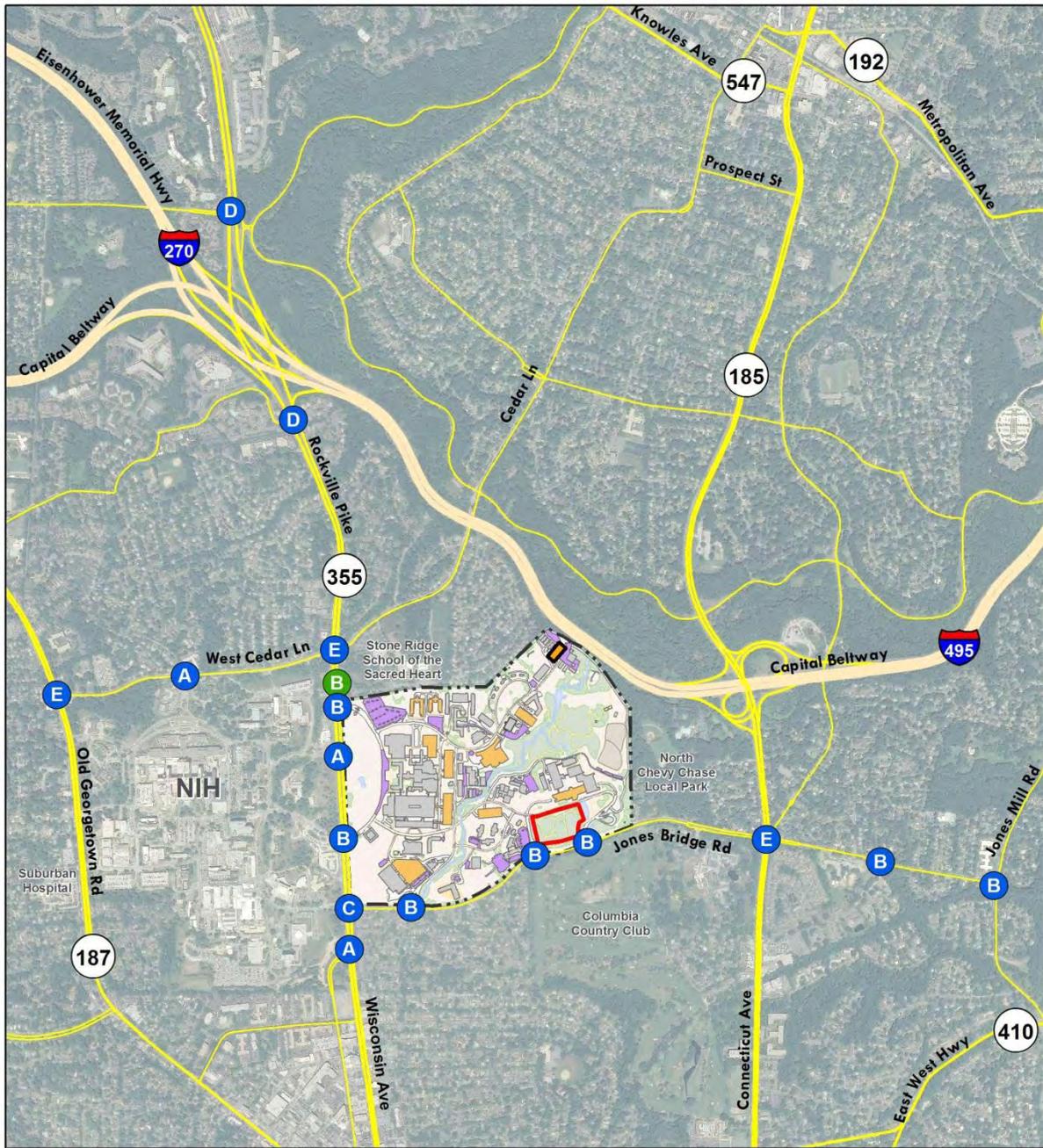
0 0.125 0.25 0.5  
Miles

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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Figure 61B: 2018 PM Peak Hour Build Alternative 8 CLV Intersection LOS



Future Transportation	
<span style="color: blue;">●</span> Signalized Intersection LOS	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure
<span style="color: green;">●</span> Unsignalized (HCM) LOS for minor approaches only	<span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot
<span style="background-color: gray; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Building	<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> USU Alternative Parking
	<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> MED Facilities
	<span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parking Footprint

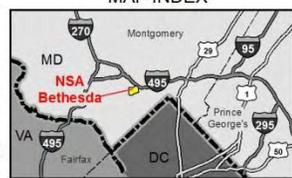




0 0.125 0.25 0.5  
Miles

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 8 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Because the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 70A and 70B show the 2018 Build Alternative 8 HCM external analysis.

**Table 70A: 2018 AM Peak Hour Build Alternative 8 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 8			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>39.5</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	16.4		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.6</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.0		D	51.7		D
	Northbound	15.9		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.3</b>	<b>0.70</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	21.1		C	21.1		C
	Northbound	4.1		A	4.4		A
	Southbound	2.3		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.1</b>	<b>0.61</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	10.7		B	8.9		A
	Southbound	1.4		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.2</b>	<b>0.74</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	67.5		E	63.5		E
	Westbound	52.7		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.4		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.2</b>	<b>0.84</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.0		C	31.1		C
	Northbound	28.4		C	29.6		C
	Southbound	72.1		E	67.6		E

**Table 70A: 2018 AM Peak Hour Build Alternative 8 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 8			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>7.2</b>	<b>0.62</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	4.5		A	3.9		A
	Westbound	5.9		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.1		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>2.0</b>	<b>0.47</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	2.1		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.4</b>	<b>0.56</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.1		A	1.7		A
	Westbound	7.3		A	6.6		A
	Southbound	26.4		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.4		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 70B: 2018 PM Peak Hour Build Alternative 8 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 8			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.5		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>7.2</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.5		E	58.6		E
	Northbound	2.7		A	2.4		A
	Southbound	0.7		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.5</b>	<b>0.76</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	15.0		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>14.5</b>	<b>0.76</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	82.1		F	70.0		E
	Westbound	42.4		D	45.7		D
	Northbound	6.8		A	5.7		A
	Southbound	7.6		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.1</b>	<b>0.86</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	64.8		E	65.8		E
	Northbound	42.6		D	40.7		D
	Southbound	41.6		D	38.0		D

**Table 70B: 2018 PM Peak Hour Build Alternative 8 HCM External Analysis (continued)**

		HCM Analysis					
		PM Peak Hour					
		Approach	Alternative 8			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.2</b>	<b>0.78</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.6		A	7.7		A
	Westbound	14.3		B	14.0		B
	Northbound	17.3		B	17.4		B
	Southbound	26.7		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>13.9</b>	<b>0.88</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	13.3		B	14.2		B
	Westbound	10.9		B	11.3		B
	Southbound	21.5		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>8.9</b>	<b>0.81</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	8.7		A	4.3		A
	Westbound	6.7		A	4.2		A
	Southbound	26.7		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.3</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.6		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.9		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

#### 3.2.11.4 Arterial Analysis

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 8 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and along northbound Rockville Pike and

eastbound Jones Bridge Road during the PM peak hour. Based on this analysis, Alternative 8 would not require PAMR-RAM external intersection mitigation. Tables 71 and 72 show the 2018 Build Alternative 8 arterial analyses.

**Table 71: 2018 AM Peak Hour Build Alternative 8 Arterial Analysis**

Arterial	Direction	Alt 8			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.3	5:52	C	22.7	5:46	C	2%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.7	5:14	C	19.7	5:14	C	0%
	Westbound	19.2	5:23	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 72: 2018 PM Peak Hour Build Alternative 8 Arterial Analysis**

Arterial	Direction	Alt 8			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:31	D	17.9	7:19	D	3%
	Southbound	18.2	7:23	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.5	5:54	D	18.0	5:44	D	3%
	Westbound	18.0	5:45	D	18.2	5:40	C	1%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### **3.2.11.5 Internal Intersection Analysis**

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. During the AM peak hour, intersection #19 R.B. Brown Drive at America Garage eastbound approach would change from LOS C to D, reflecting the increase in pedestrian traffic crossing at this intersection, walking between the Medical Center and warehouse parking facility. During the PM peak hour, the #26 South Palmer Road at Stokes Road intersection would change from LOS B to C, resulting from the shifted trips exiting the new warehouse site parking structure and heading toward Gate #3. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 73A and 73B show the 2018 Build Alternative 8 internal intersection analysis compared to the No Build condition. Figures 62A and 62B show the 2018 Build Alternative 8 internal intersection LOS.

**Table 73A: 2018 AM Peak Hour Build Alternative 8 Internal Intersection Analysis**

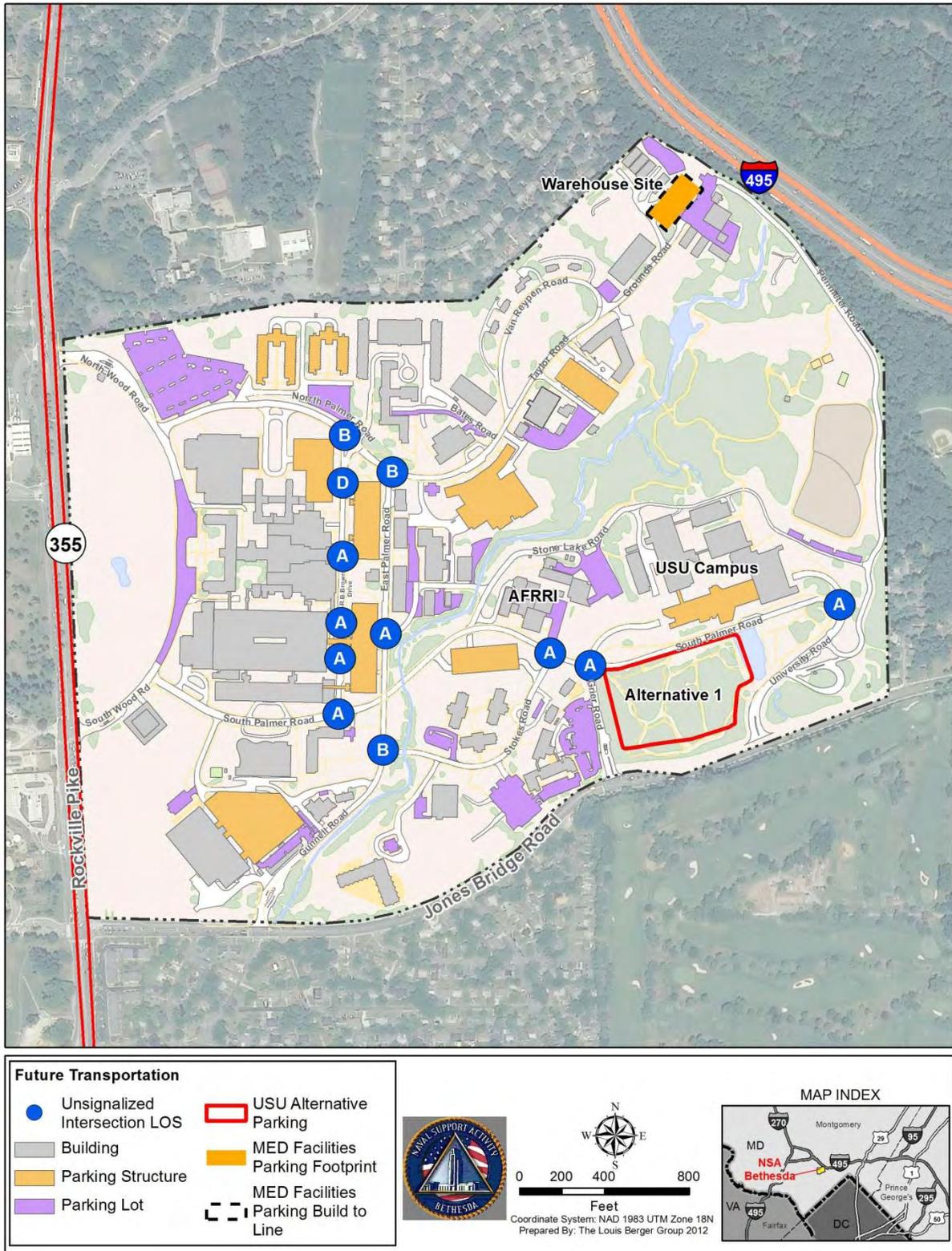
	Approach	AM Peak Hour			
		Build Alt. 8		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>12.4</b>	<b>B</b>	<b>10.3</b>	<b>B</b>
	Eastbound	13.9	B	10.9	B
	Westbound	8.7	A	8.7	A
	Northbound	8.7	A	9.0	A
	Southbound	9.7	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	25.9	D	17.6	C
	Westbound	16.2	C	12.8	B
	Northbound Left	3.4	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.4	A	9.2	A
	Southbound	9.4	A	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.3</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	7.4	A	8.1	A
	Northbound	8.6	A	9.4	A
	Southbound	7.7	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.2</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.5	A	8.1	A
	Northbound	8.5	A	10.1	B
	Southbound	7.7	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
	Eastbound	10.1	B	10.3	B
	Westbound	8.3	A	8.7	A
	Southbound	8.9	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>12.0</b>	<b>B</b>	<b>9.6</b>	<b>A</b>
	Eastbound	13.4	B	10.0	A
	Westbound	9.5	A	8.6	A
	Northbound	11.0	B	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	0.0	A	7.5	A
	Westbound	8.2	A	8.1	A
	Northbound	9.9	A	9.4	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>10.0</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.7	A	8.6	A
	Northbound	10.7	B	10.1	B
	Southbound	9.0	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Eastbound	8.6	A	8.1	A
	Westbound	9.5	A	10.4	B
	Northbound	8.8	A	8.9	A
28. University Road/Grier Road & South Palmer Road	Southbound	0.0	A	0.0	A
	<b>Overall</b>	<b>9.1</b>	<b>A</b>	<b>8.7</b>	<b>A</b>
	Eastbound	9.4	A	8.4	A
	Westbound	9.5	A	9.1	A
	Northbound	8.4	A	9.0	A
29. University Road & South Palmer Road	Southbound	7.2	A	6.9	A
	Westbound	8.0	A	8.0	A
	Northbound	7.9	A	7.9	A

**Table 73B: 2018 AM Peak Hour Build Alternative 8 Internal Intersection Analysis**

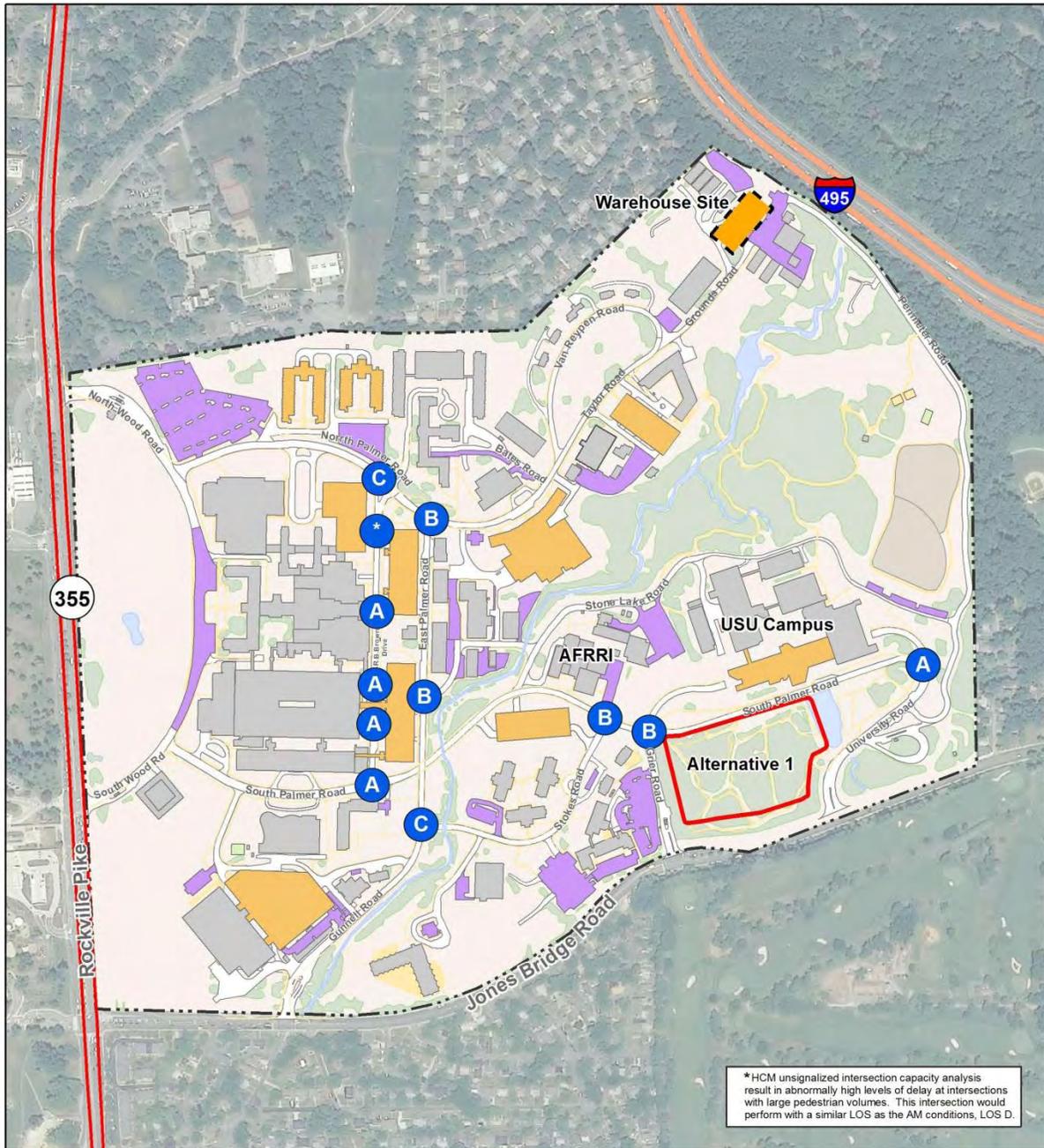
	Approach	Build Alt. 8		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>17.2</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	9.5	A	9.7	A
	Westbound	22.1	C	15.6	C
	Northbound	14.1	B	20.5	C
	Southbound	10.1	B	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.9	A	0.6	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
	Northbound	8.0	A	9.0	A
	Southbound	8.2	A	8.5	A
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>9.2</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
	Westbound	8.0	A	10.9	B
	Northbound	8.3	A	9.5	A
	Southbound	9.7	A	12.3	B
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
	Eastbound	7.4	A	7.8	A
	Northbound	8.0	A	8.3	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.9</b>	<b>A</b>	<b>10.6</b>	<b>B</b>
	Eastbound	8.3	A	8.9	A
	Westbound	11.2	B	10.7	B
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>14.3</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	11.2	B	10.0	B
	Westbound	17.4	C	11.4	B
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>10.7</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
	Eastbound	8.6	A	8.4	A
	Westbound	10.1	B	9.8	A
	Northbound	9.9	A	9.7	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>16.4</b>	<b>C</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.7	C	16.0	C
	Northbound	11.9	B	11.5	B
	Southbound	18.8	C	16.2	C
27. AFRRI Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>11.3</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	9.5	A	10.3	B
	Westbound	12.6	B	11.0	B
	Northbound	10.9	B	10.8	B
	Southbound	8.7	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>13.2</b>	<b>B</b>	<b>12.5</b>	<b>B</b>
	Eastbound	13.5	B	13.7	B
	Westbound	12.3	B	9.2	A
	Northbound	9.5	A	8.9	A
	Southbound	13.4	B	11.9	B
29. University Road & South Palmer Road	Westbound	7.2	A	7.1	A
	Northbound	7.5	A	7.1	A

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS D.  
 Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 62A: 2018 AM Peak Hour Build Alternative 8 Internal Intersection LOS**



**Figure 62B: 2018 PM Peak Hour Build Alternative 8 Internal Intersection LOS**



Future Transportation	
Unsignalized Intersection LOS	USU Alternative Parking
Building	MED Facilities Parking Footprint
Parking Structure	MED Facilities Parking Build to Line
Parking Lot	





0 200 400 800  
Feet

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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### **3.2.11.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new Medical Facilities Development parking structure would be located off of Grounds Road in the warehouse/industrial area of NSA Bethesda. Therefore, new pedestrian trips would be created between the parking structure and Medical Buildings, crossing at two intersections, East Palmer Road at North Palmer Road and R.B. Brown Drive at the America Garage. Specifically, there would be 284 pedestrian trips during the AM peak hour and 270 pedestrian trips during the PM peak hour.

The new USU Alternative 1 parking structure would be placed across the street from the USU campus. New pedestrian trips would be created between the proposed parking structure and Medical Buildings with pedestrians crossing at three intersections, South Palmer Road at Grier Road, South Palmer Road at Stokes Road, and South Palmer Road at R.B Brown Drive. New pedestrian trips would also be created between the proposed parking structure and USU. Since the location of a new crossing has not been identified, these pedestrian trips were added to the South Palmer Road at Grier Road intersection. For the Medical Development, this would result in 26 new pedestrian trips during the AM peak hour and 24 new pedestrian trips during the PM peak hour, which includes the shifted Z-Lot trips. For the USU Expansion, this would result in 152 new pedestrian trips during the AM peak hour and 184 new pedestrian trips during the PM peak hour.

The Medical Building and USU destined pedestrian trips are included in the internal HCM analysis in Tables 73A and 73B. The five intersections that would experience increased pedestrian activity as a result of Alternative 8 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 73A and 73B.

Existing 5-foot plus sidewalks connect both new parking structures with the Medical Buildings via South Palmer Road or Grounds Road/Taylor Road/North Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the projected peak hour trip generation and adequate existing sidewalks serving these pedestrian trips, this alternative would have no significant pedestrian or bicycle impacts. Figure 45 shows the sidewalk connections for this Build Alternative.

### **3.2.12 Build Alternative 9**

This alternative would include the construction of a new 500-space Medical Facilities Development parking structure replacing H-Lot and the construction of a 400-space parking structure known as USU Alternative 1. The 500-space parking structure would be located in the

existing H-Lot next to the Navy Lodge, with the entrance and exit ramps connecting to Stokes Road.

The new USU Alternative 1 parking structure would be located across from the USU campus, south of South Palmer Road, with the entrance and exit ramps connecting to South Palmer Road.

#### **3.2.12.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

#### **3.2.12.2 Trip Distribution**

The trip distribution for this alternative would follow the same assumptions discussed in Alternative 4 (see Section 3.2.7.2), except the new trips would be destined to the new USU Alternative 1 parking structure south of the USU campus along South Palmer Road instead of the current N-Lot location. Since the combined 500 parking spaces in Buildings 54 and 55 would be re-designated from employee use to patients, VIPs, and visitors only, some of the existing staff trips would shift from Buildings 54 and 55 to the new Medical Facilities Development parking structure in H-Lot and the new USU Alternative 1 parking structure. These new parking structures would be designated for staff parking. The new staff trips expected to be generated from the Medical Facilities Development and Building F would be destined for the new USU Alternative 1 parking structure. The shifted trips from Buildings 54 and 55 would distribute between the two new parking facilities the same as Build Alternative 4 (Table 46), with 22 percent (110 impacted spaces in H-Lot divided by the 500 total shifted spaces) of trips shifted to the new USU Alternative 1 parking structure and 78 percent (the remaining percentage after applying the 22 percent previously discussed) of trips shifted to the new parking structure located in H-Lot.

The Build Alternative 9 trip distribution would consist of combining the shift in existing staff trips from Buildings 54 and 55 to both new parking structures, and the peak hour new trips projected to be generated from the 236 new employees, destined for the new USU Alternative 1 parking structure. It is also assumed that the 110-space H-Lot would be relocated into the new 500-space parking structure, resulting in no trips added or removed. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking spot at Buildings 54 or 55, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the new Medical Facilities Development parking structure or USU Alternative 1 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other

trip to Buildings 54 or 55 is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 1 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26).

The distribution patterns for the shifted staff trips from Buildings 54 and 55 would follow these paths:

- From the north: Turn left onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Stokes Road.
- To the north: Turn left onto Stokes Road, turn left onto Gunnell Road, exit through Gate #3, turn right into Jones Bridge Road, turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Gunnell Road, enter through Gate #3, turn right onto Stokes Road.
- To the south: Turn left onto Stokes Road, turn left onto Gunnell Road, exit through Gate #3, turn right onto Jones Bridge Road, turn left onto Rockville Pike southbound.
- From the east (AM peak hour): Turn right onto Grier Road, enter through Gate #4, turn left onto South Palmer Road, turn left onto Stokes Road.
- From the east (PM peak hour): Turn right onto University Road, enter through Gate #5, turn left onto South Palmer Road, turn left onto Stokes Road.
- To the east (AM peak hour): Turn right onto Stokes Road, turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.
- To the east (PM peak hour): Turn right onto Stokes Road, turn right onto South Palmer Road, turn right onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

The result of these new distribution patterns would remove trips from R.B. Brown Drive and South Palmer Road (west of Stokes Road) and North Palmer Road.

During the AM peak hour, the new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the south: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the east: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, the new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the south: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the east: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 63A, 63B, and 63C show the 2018 Build Alternative 9 trip distribution.

Figure 63A: 2018 Build Alternative 9 Trip Distribution

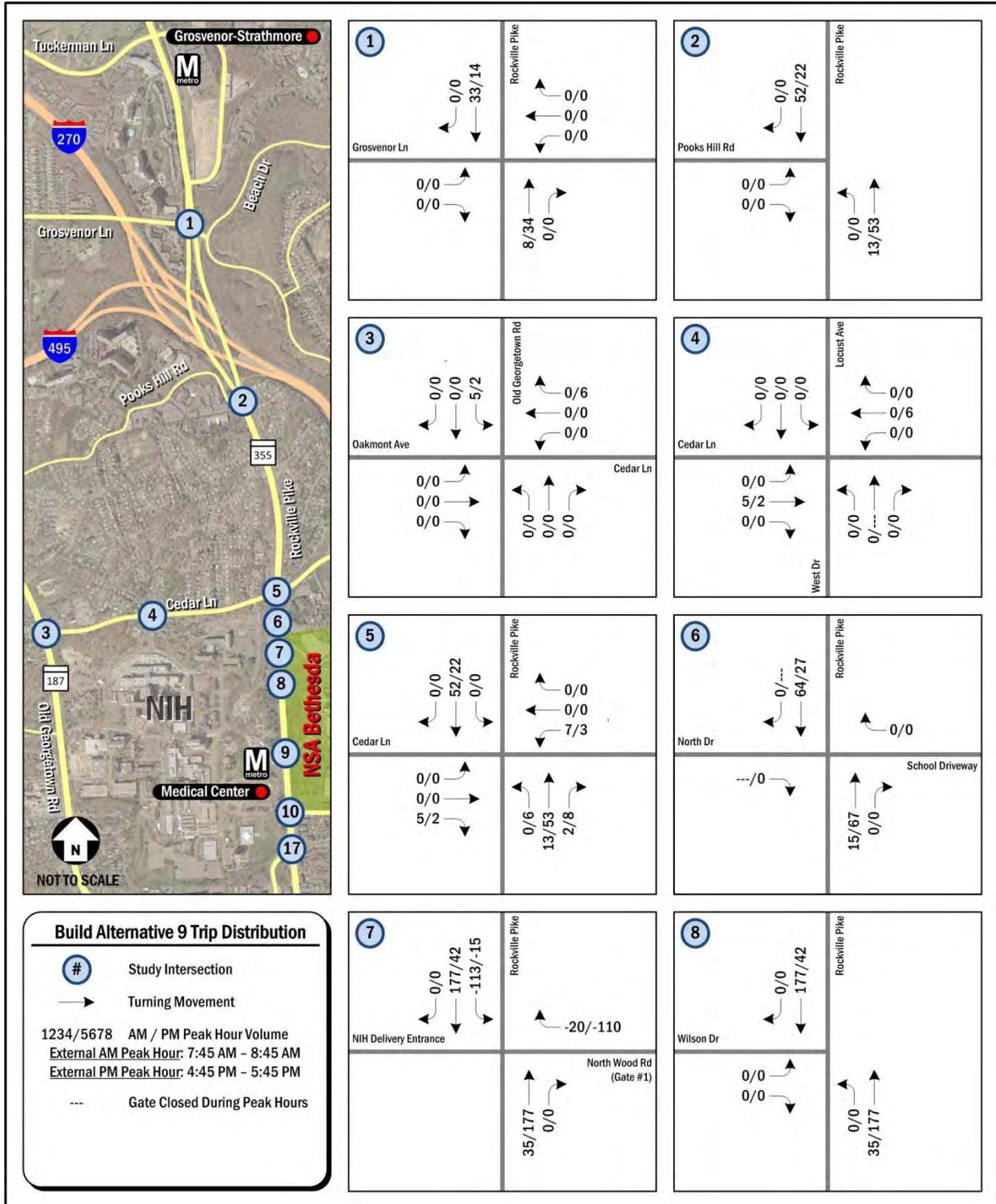


Figure 63B: 2018 Build Alternative 9 Trip Distribution

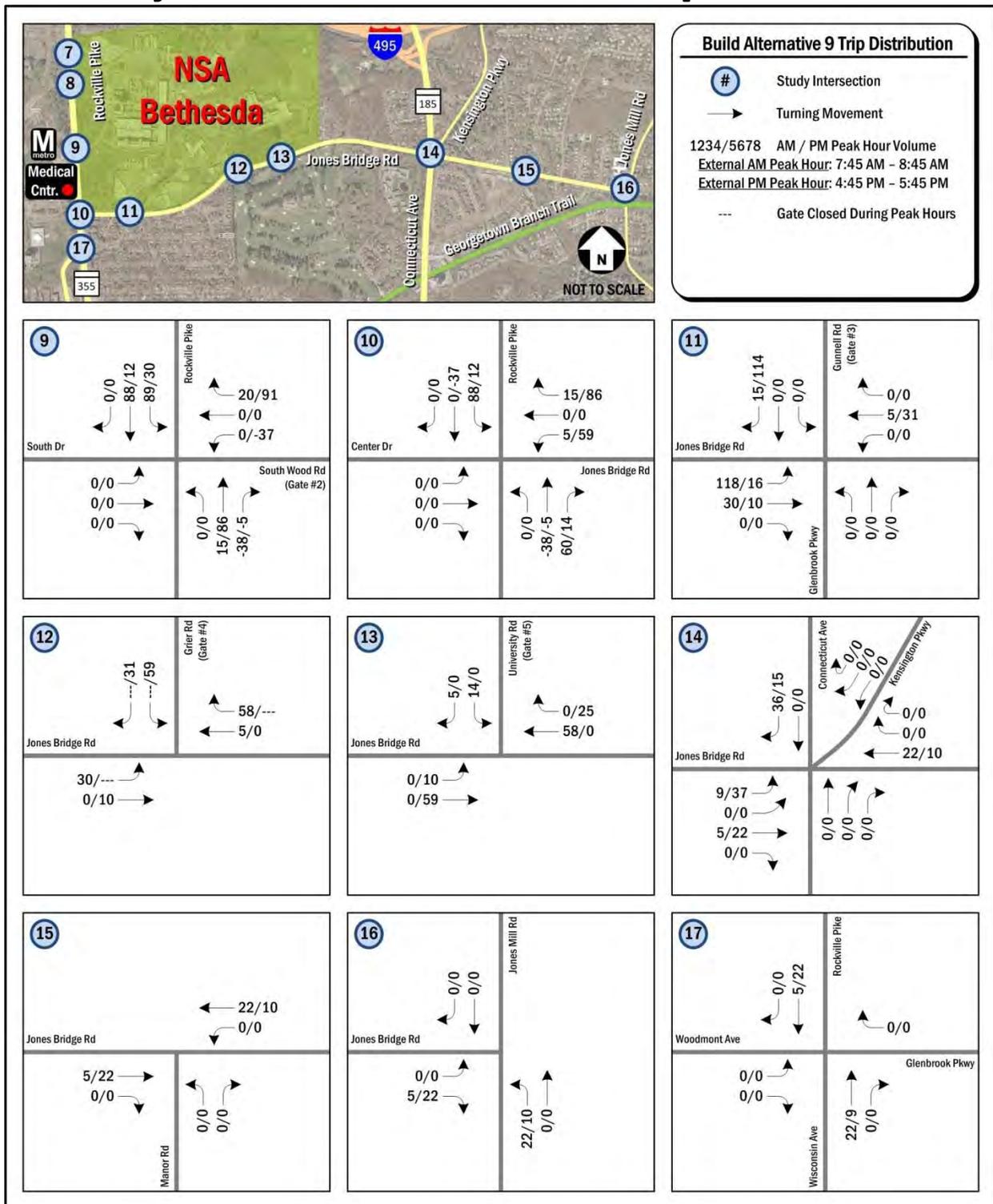
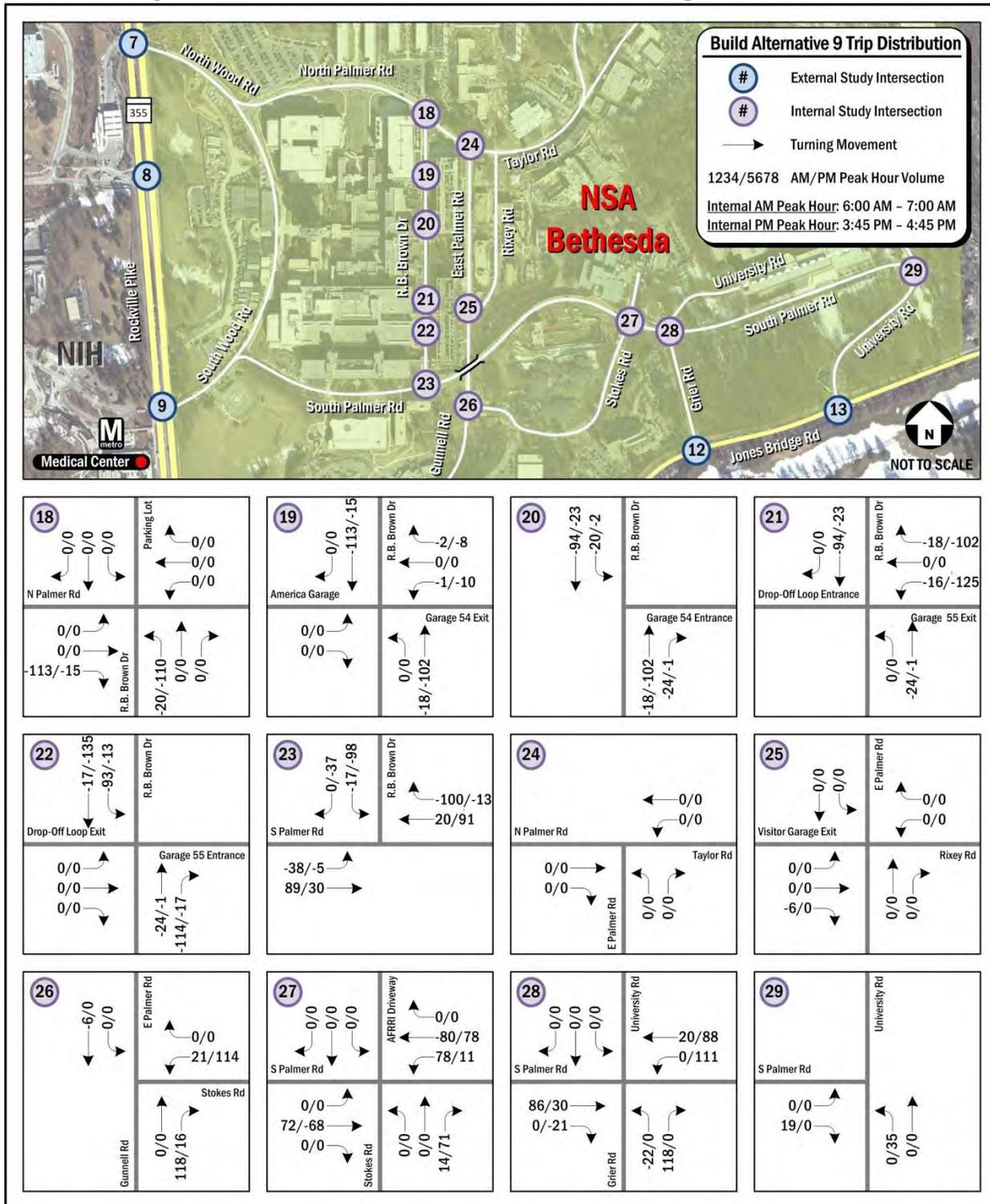


Figure 63C: 2018 Build Alternative 9 Trip Distribution



### **3.2.12.3 External Intersection Analysis**

The 2018 Build Alternative 9 includes all projects listed in the No Build condition. Figure 29C shows the 2018 Build Alternatives 2 through 5 and 7 through 10 internal lane utilization and traffic control.

#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, intersection #8 Rockville Pike at Wilson Drive would change from LOS A to B, and #9 Rockville Pike at South Wood Road (Gate #2) would change from LOS B to C during the AM peak hour. The #8 Rockville Pike at Wilson Drive intersection would change from LOS A to B, #10 Rockville Pike at Jones Bridge Road would change from LOS C to D, and #12 Jones Bridge Road at Grier Road (Gate #4) would change from LOS B to C during the PM peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 9. Table 74 shows the 2018 Build Alternative 9 CLV external analysis. Figures 64A and 64B show the 2018 Build Alternative 9 CLV intersection LOS.

**Table 74: 2018 Build Alternative 9 CLV External Analysis**

	Build Alternative 9				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,384	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	<i>un-signalized</i>		<i>un-signalized</i>		<i>un-signalized</i>		<i>un-signalized</i>	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	743	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	1,001	B	1,009	B	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,235	C	1,134	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,302	D	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	921	A	1,064	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	725	A	1,169	C	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	780	A	1,060	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

Figure 64A: 2018 AM Peak Hour Build Alternative 9 CLV Intersection LOS

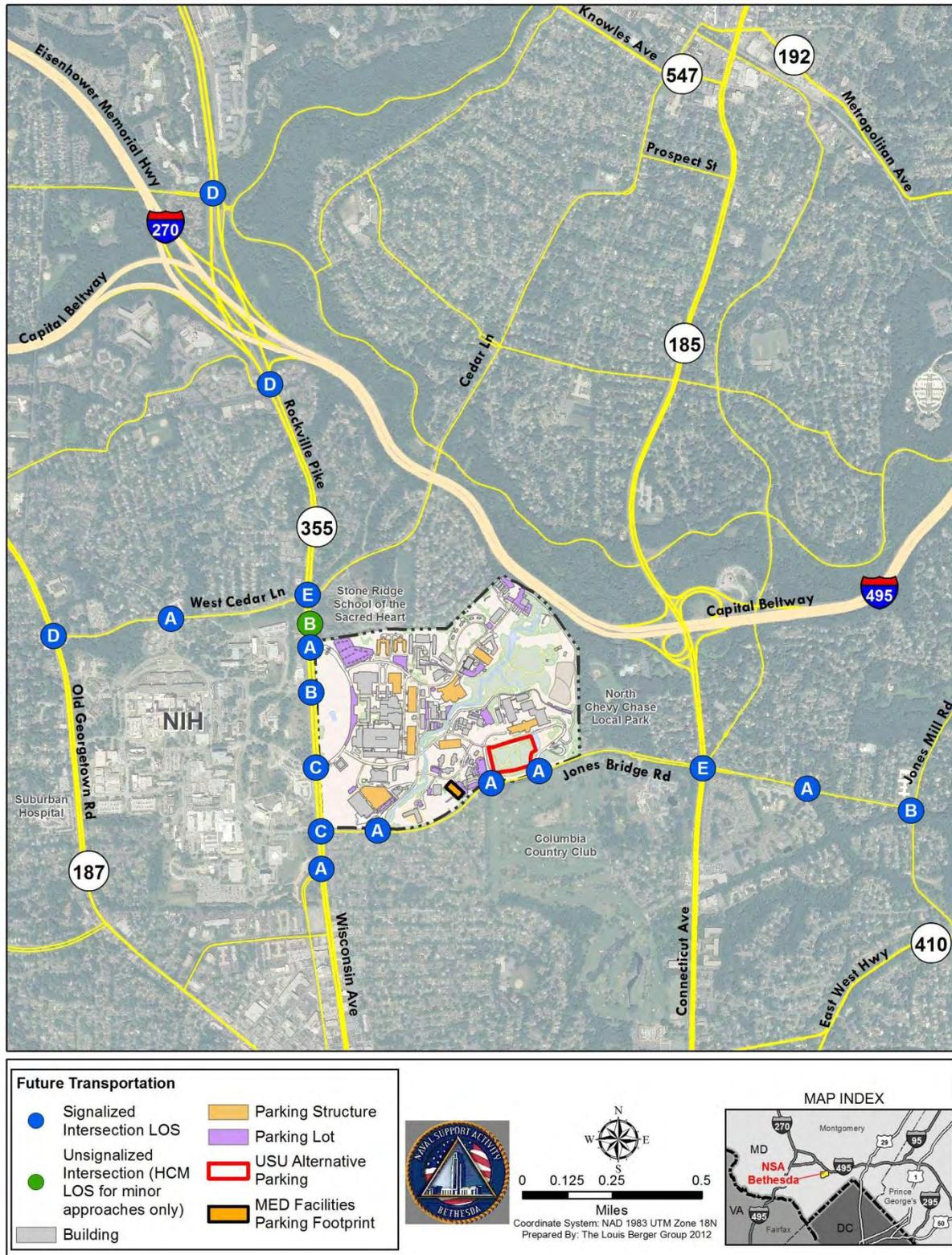
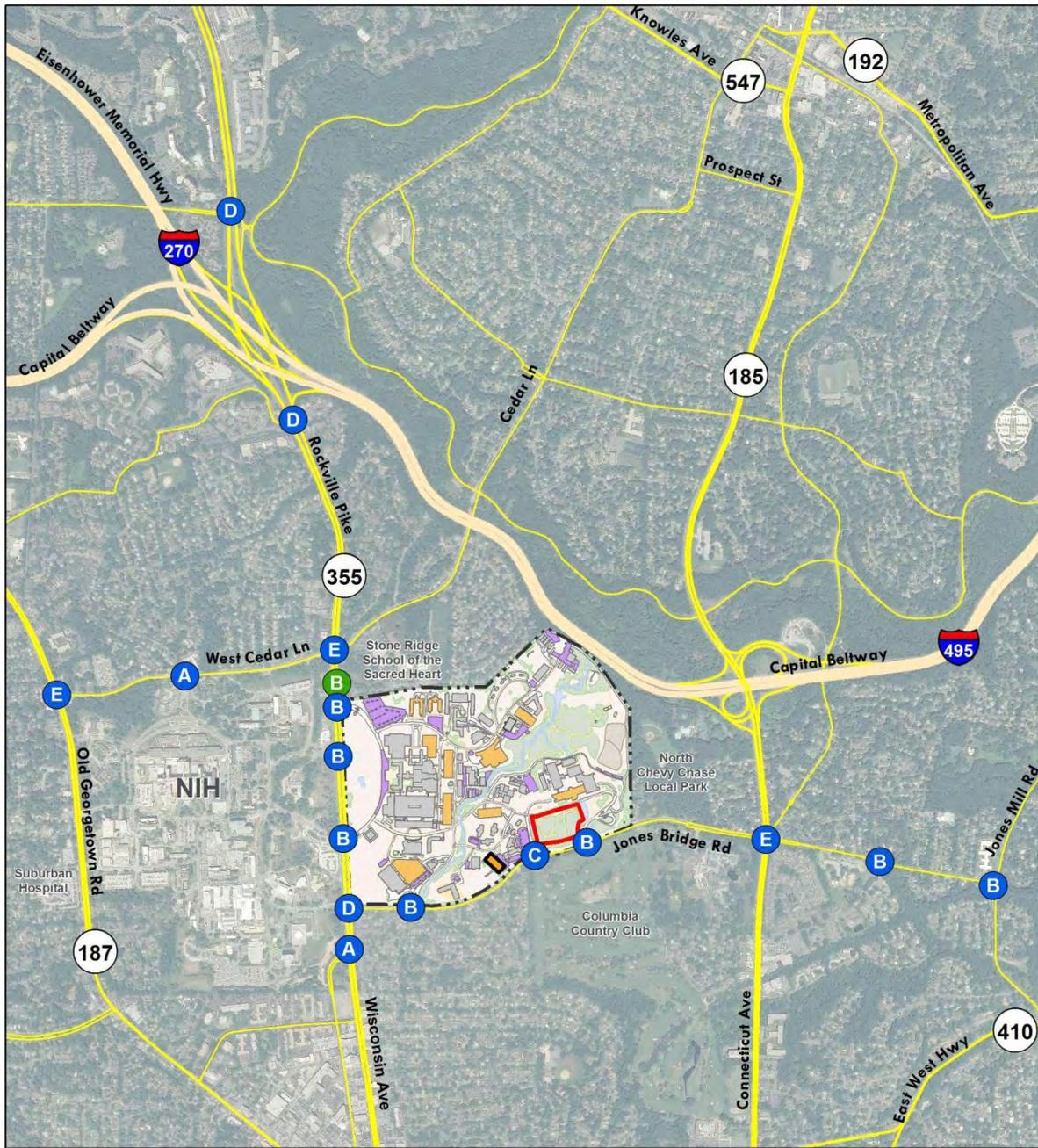


Figure 64B: 2018 PM Peak Hour Build Alternative 9 CLV Intersection LOS



Future Transportation	
● Signalized Intersection LOS	■ Parking Structure
● Unsignalized Intersection (HCM LOS for minor approaches only)	■ Parking Lot
■ Building	■ USU Alternative Parking
	■ MED Facilities
	■ Parking Footprint





0 0.125 0.25 0.5  
Miles

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 9 with the No Build condition, the AM and PM peak hours did not experience any change in LOS. Because the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for intersection #6 Rockville Pike at North Drive/School Driveway, which showed no significant impacts. Tables 75A and 75B show the 2018 Build Alternative 9 HCM analysis for the external intersections compared to the No Build condition.

**Table 75A: 2018 AM Peak Hour Build Alternative 9 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 9			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>39.5</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	16.4		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.7</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	15.7		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>2.6</b>	<b>0.72</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	20.7		C	21.1		C
	Northbound	3.9		A	4.4		A
	Southbound	1.6		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.4</b>	<b>0.62</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	11.6		B	8.9		A
	Southbound	1.4		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.7</b>	<b>0.76</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	68.8		E	63.5		E
	Westbound	52.8		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	9.2		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.8</b>	<b>0.84</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.0		C	31.1		C
	Northbound	28.4		C	29.6		C
	Southbound	70.4		E	67.6		E

**Table 75A: 2018 AM Peak Hour Build Alternative 9 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 9			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>8.8</b>	<b>0.67</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	6.2		A	3.9		A
	Westbound	7.6		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	26.9		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>2.0</b>	<b>0.47</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.9		A	1.7		A
	Westbound	2.1		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.9</b>	<b>0.60</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.1		A	1.7		A
	Westbound	8.1		A	6.6		A
	Southbound	26.4		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.1</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.3		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 75B: 2018 PM Peak Hour Build Alternative 9 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 9			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.6</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	46.3		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.7		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>5.6</b>	<b>0.72</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	61.6		E	58.6		E
	Northbound	1.6		A	2.4		A
	Southbound	0.6		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>16.0</b>	<b>0.78</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	16.2		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>15.4</b>	<b>0.78</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	80.7		F	70.0		E
	Westbound	41.4		D	45.7		D
	Northbound	7.9		A	5.7		A
	Southbound	8.8		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.3</b>	<b>0.86</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	69.1		E	65.8		E
	Northbound	42.7		D	40.7		D
	Southbound	42.3		D	38.0		D

**Table 75B: 2018 PM Peak Hour Build Alternative 9 HCM External Analysis (continued)**

		HCM Analysis					
		PM Peak Hour					
		Approach	Alternative 9			No Build	
Approach Delay (s/veh)	Volume/Capacity		LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.5</b>	<b>0.78</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>
	Eastbound	7.5		A	7.7		A
	Westbound	14.6		B	14.0		B
	Northbound	17.1		B	17.4		B
	Southbound	25.9		C	27.7		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>17.8</b>	<b>0.96</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>
	Eastbound	16.5		B	14.2		B
	Westbound	12.2		B	11.3		B
	Southbound	29.1		C	24.7		C
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>4.7</b>	<b>0.80</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>
	Eastbound	4.8		A	4.3		A
	Westbound	4.1		A	4.2		A
	Southbound	27.9		C	27.9		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>
	Eastbound	61.5		E	55.7		E
	Westbound	69.7		E	70.1		E
	Northbound	49.1		D	49.1		D
	Southbound	23.7		C	23.7		C
	Southwestbound	86.4		F	86.4		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>
	Eastbound	32.1		C	29.0		C
	Westbound	12.1		B	11.6		B
	Northbound	21.9		C	21.9		C
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>
	Eastbound	19.9		B	19.8		B
	Northbound	33.5		C	33.2		C
	Southbound	36.7		D	36.7		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.3</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>
	Eastbound	36.6		D	36.6		D
	Westbound	34.5		C	34.0		C
	Northbound	21.0		C	20.9		C
	Southbound	6.9		A	6.5		A

Note: Intersections with two-way STOP-control have no overall LOS identified.

### 3.2.12.4 Arterial Analysis

An arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 9 would be a 3 percent reduction in travel speed along southbound Rockville Pike and westbound Jones Bridge Road during the AM peak hour and along

northbound Rockville Pike during the PM peak hour. Based on this analysis, Alternative 9 would not require PAMR-RAM external intersection mitigation. Tables 76 and 77 show the 2018 Build Alternative 9 arterial analyses.

**Table 76: 2018 AM Peak Hour Build Alternative 9 Arterial Analysis**

Arterial	Direction	Alt 9			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.3	5:52	C	22.7	5:46	C	2%
	Southbound	18.4	7:20	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.6	5:15	C	19.7	5:14	C	1%
	Westbound	19.0	5:25	C	19.5	5:17	C	3%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 77: 2018 PM Peak Hour Build Alternative 9 Arterial Analysis**

Arterial	Direction	Alt 9			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.3	7:33	D	17.9	7:19	D	3%
	Southbound	18.1	7:25	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.7	5:50	D	18.0	5:44	D	2%
	Westbound	18.0	5:44	D	18.2	5:40	C	1%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

### **3.2.12.5 Internal Intersection Analysis**

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. For this alternative, there were no significant changes in LOS during the AM peak hour. During the PM peak hour, intersection #26 East Palmer Road at Stokes Road would change from LOS B to D, reflecting the increase in traffic to and from the new parking structure in H-Lot on the way to Gate #3, and #28 South Palmer Road at Grier Road intersection would change from LOS B to C, reflecting the new trips exiting the new USU Alternative 1 parking structure and heading to Gates #2 or #4. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative because there would be no failing LOS. Tables 78A and 78B show the 2018 Build Alternative 9 internal intersection analysis compared to the No Build condition. Figures 65A and 65B show the 2018 Build Alternative 9 internal intersection LOS.

**Table 78A: 2018 AM Peak Hour Build Alternative 9 Internal HCM  
Intersection Analysis**

	Approach	AM Peak Hour			
		Build Alt. 9		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>9.6</b>	<b>A</b>	<b>10.3</b>	<b>B</b>
	Eastbound	10.2	B	10.9	B
	Westbound	8.4	A	8.7	A
	Northbound	8.4	A	9.0	A
	Southbound	9.4	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	14.7	B	17.6	C
	Westbound	11.6	B	12.8	B
	Northbound Left	3.4	A	3.1	A
20. R.B. Brown Drive & Garage 54 Entrance	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
	Northbound	8.4	A	9.2	A
	Southbound	9.4	A	11.5	B
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	<b>Overall</b>	<b>8.3</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
	Westbound	7.4	A	8.1	A
	Northbound	8.6	A	9.4	A
	Southbound	7.7	A	8.8	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	<b>Overall</b>	<b>8.2</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
	Eastbound	7.5	A	8.1	A
	Northbound	8.5	A	10.1	B
	Southbound	7.7	A	9.0	A
23. R.B. Brown Drive & South Palmer Road	<b>Overall</b>	<b>9.7</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
	Eastbound	10.2	B	10.3	B
	Westbound	8.2	A	8.7	A
	Southbound	8.6	A	9.1	A
24. East Palmer Road & North Palmer Road/Taylor Road	<b>Overall</b>	<b>9.6</b>	<b>A</b>	<b>9.6</b>	<b>A</b>
	Eastbound	10.0	A	10.0	A
	Westbound	8.6	A	8.6	A
	Northbound	9.5	A	9.5	A
25. East Palmer Road & Visitor Garage Exit/Rixey Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
	Eastbound	0.0	A	7.5	A
	Westbound	8.1	A	8.1	A
	Northbound	9.3	A	9.4	A
	Southbound	8.7	A	8.7	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>11.2</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Westbound	9.3	A	8.6	A
	Northbound	12.3	B	10.1	B
	Southbound	9.2	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>10.1</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Eastbound	9.2	A	8.1	A
	Westbound	11.0	B	10.4	B
	Northbound	9.3	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>10.9</b>	<b>B</b>	<b>8.7</b>	<b>A</b>
	Eastbound	11.3	B	8.4	A
	Westbound	10.6	B	9.1	A
	Northbound	11.0	B	9.0	A
	Southbound	7.7	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	8.0	A	7.9	A

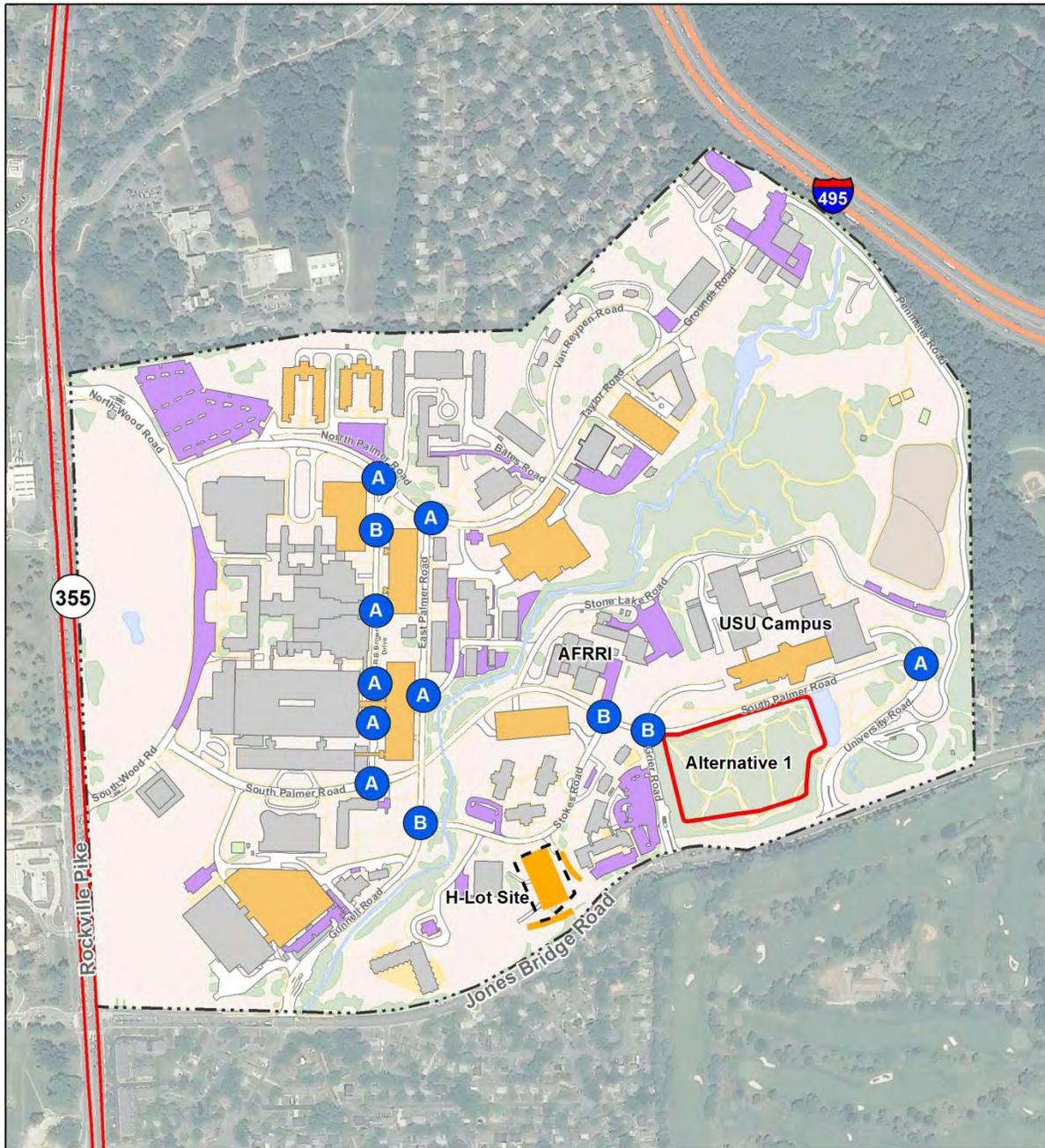
**Table 78B: 2018 PM Peak Hour Build Alternative 9 Internal HCM  
Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 9		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>12.3</b>	<b>B</b>	<b>16.5</b>	<b>C</b>
	Eastbound	8.9	A	9.7	A
	Westbound	13.5	B	15.6	C
	Northbound	12.9	B	20.5	C
	Southbound	9.6	A	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.9	A	0.6	A
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.0	A	9.0	A
	Southbound	8.2	A	8.5	A
	<b>Overall</b>	<b>9.2</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	8.0	A	10.9	B
	Northbound	8.3	A	9.5	A
	Southbound	9.7	A	12.3	B
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.4	A	7.8	A
	Northbound	8.0	A	8.3	A
	Southbound	8.2	A	10.0	B
	<b>Overall</b>	<b>10.4</b>	<b>B</b>	<b>10.6</b>	<b>B</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	8.4	A	8.9	A
	Westbound	11.8	B	10.7	B
	Southbound	9.3	A	11.4	B
	<b>Overall</b>	<b>10.7</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	10.0	B	10.0	B
	Westbound	11.4	B	11.4	B
	Northbound	10.7	B	10.7	B
	<b>Overall</b>	<b>10.2</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	8.4	A	8.4	A
	Westbound	9.8	A	9.8	A
	Northbound	9.7	A	9.7	A
	Southbound	11.0	B	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>26.2</b>	<b>D</b>	<b>15.0</b>	<b>B</b>
	Westbound	36.1	E	16.0	C
	Northbound	14.0	B	11.5	B
	Southbound	21.1	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>13.8</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	10.2	B	10.3	B
	Westbound	15.7	C	11.0	B
	Northbound	13.5	B	10.8	B
	Southbound	9.1	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>16.7</b>	<b>C</b>	<b>12.5</b>	<b>B</b>
	Eastbound	19.0	C	13.7	B
	Westbound	15.7	C	9.2	A
	Northbound	10.4	B	8.9	A
	Southbound	15.6	C	11.9	B
29. University Road & South Palmer Road	Westbound	7.3	A	7.1	A
	Northbound	7.7	A	7.1	A

<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C.

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 65A: 2018 AM Peak Hour Build Alternative 9 Internal Intersection LOS**

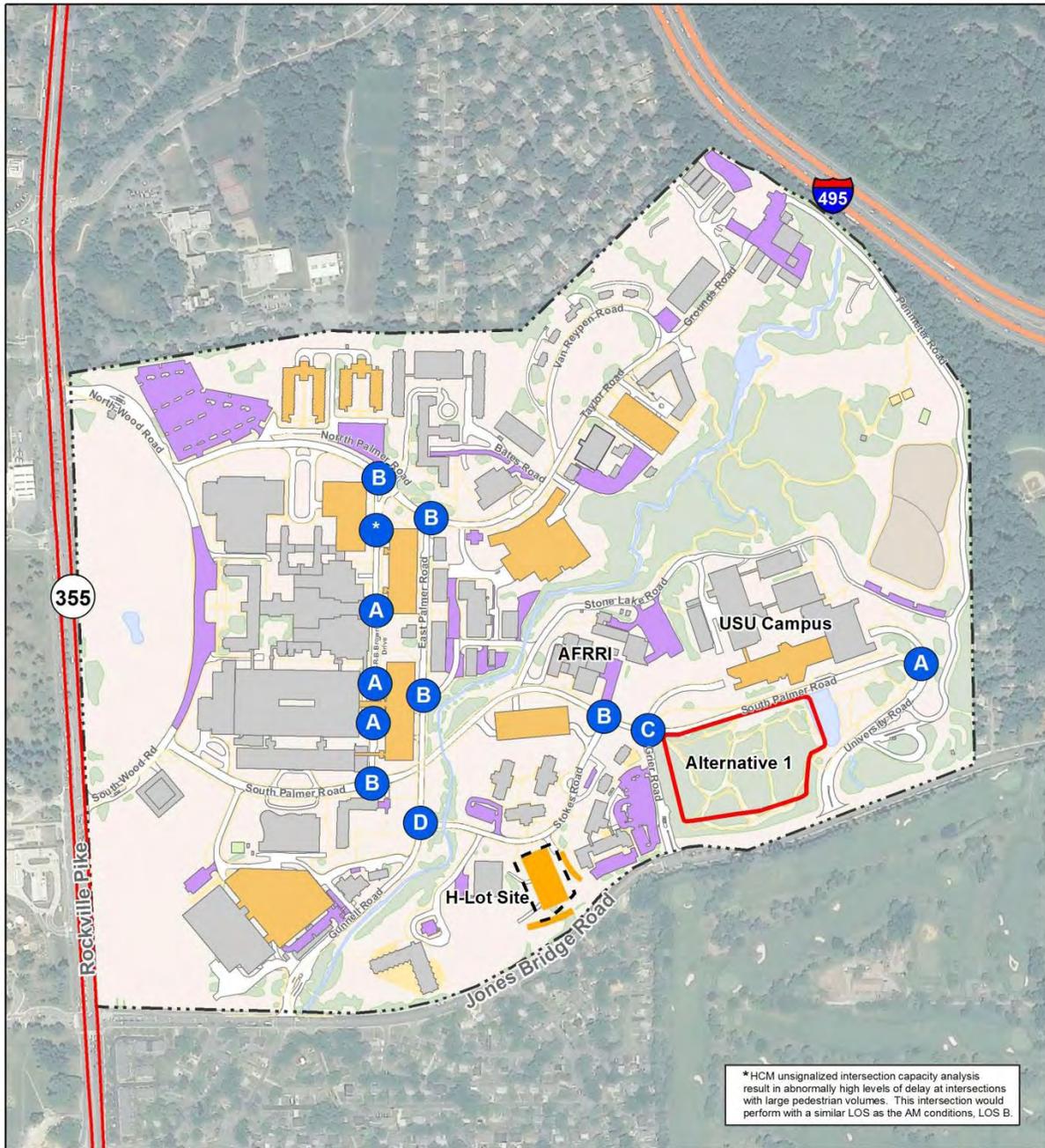


Future Transportation	
	Unsignalized Intersection LOS
	Building
	Parking Structure
	Parking Lot
	USU Alternative Parking
	MED Facilities Parking Footprint
	MED Facilities Parking Build to Line

Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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**Figure 65B: 2018 PM Peak Hour Build Alternative 9 Internal Intersection LOS**



\*HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS B.

<b>Future Transportation</b>			 0 200 400 800 Feet Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012	<b>MAP INDEX</b> 
<ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Unsignalized Intersection LOS</li> <li><span style="background-color: gray; border: 1px solid gray; display: inline-block; width: 15px; height: 10px;"></span> Building</li> <li><span style="background-color: orange; border: 1px solid orange; display: inline-block; width: 15px; height: 10px;"></span> Parking Structure</li> <li><span style="background-color: purple; border: 1px solid purple; display: inline-block; width: 15px; height: 10px;"></span> Parking Lot</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span> USU Alternative Parking</li> <li><span style="background-color: yellow; border: 1px solid yellow; display: inline-block; width: 15px; height: 10px;"></span> MED Facilities Parking Footprint</li> <li><span style="border: 1px dashed black; display: inline-block; width: 15px; height: 10px;"></span> MED Facilities Parking Build to Line</li> </ul>			

### **3.2.12.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new Medical Facilities Development parking structure would be located off of Stokes Road in the Navy Lodge area of NSA Bethesda; therefore, new pedestrian trips would be created between the parking structure and Medical Buildings, crossing at two intersections, R.B. Brown Drive at South Palmer Road and East Palmer Road at Stokes Road. Specifically, there would be 229 pedestrian trips during the AM peak hour and 217 pedestrian trips during the PM peak hour.

The new USU Alternative 1 parking structure would be placed across the street from the USU campus. New pedestrian trips would be created between the proposed parking structure and Medical Buildings with pedestrians crossing at three intersections, South Palmer Road at Grier Road, South Palmer Road at Stokes Road, and South Palmer Road at R.B. Brown Drive. New pedestrian trips would also be created between the proposed parking structure and USU. Since the location of a new crossing has not been identified, these pedestrian trips were added to the South Palmer Road at Grier Road intersection. For the Medical Development, this would result in 85 new pedestrian trips during the AM peak hour and 77 new pedestrian trips during the PM peak hour. For the USU Expansion, this would result in 161 new pedestrian trips during the AM peak hour and 193 new pedestrian trips during the PM peak hour.

The Medical Building and USU destined pedestrian trips are included in the internal HCM analysis in Tables 78A and 78B. The four intersections that would experience increased pedestrian activity as a result of Alternative 9 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 78A and 78B.

Existing 5-foot plus sidewalks connect both new parking structures with the Medical Buildings via South Palmer Road and Stokes Road. Any other new pedestrian or bicycle activity generated from the 34 employees not included in the original Alternative 9 peak hour trip generation would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the No Build condition including the existing bicycle racks and sidewalks, this alternative would have no pedestrian or bicycle impacts. Figure 49 shows the sidewalk connections for this Build Alternative.

### **3.2.13 Build Alternative 10**

This alternative would include the construction of a new 500-space Medical Facilities Development parking structure in the Taylor Road Facilities and the construction of a 400-space parking structure known as USU Alternative 1. The 500-space parking structure would be located next to the planned Sanctuary Hall (WWTL) parking facility along

Taylor Road, with the entrance and exit ramps connecting to Taylor Road.

The new USU Alternative 1 parking structure would be located across from the USU campus, south of South Palmer Road, with entrance and exit ramps connecting to South Palmer Road.

### **3.2.13.1 Trip Generation**

The trips expected to be generated for this alternative would be the same as Alternative 1; see Section 3.2.4.1.

### **3.2.13.2 Trip Distribution**

The trip distribution for this alternative would be similar to Alternative 5 (see Section 3.2.8.2), except the new trips would be destined to the new USU Alternative 1 parking structure south of the USU campus along South Palmer Road instead of the current N-Lot location. Since the combined 500 parking spaces in Buildings 54 and 55 would be re-designated from employee use to patients, VIPs, and visitors only, some of the existing staff trips would shift from Buildings 54 and 55 to the new Medical Facilities Development parking structure in the Taylor Road facilities and the new USU Alternative 1 parking structure. These new parking structures would be designated for staff parking. The new staff trips expected to be generated from the Medical Facilities Development and Building F would be destined for the new USU Alternative 1 parking structure.

The Build Alternative 10 trip distribution would consist of combining the shift in existing staff trips from Buildings 54 and 55 to the new Taylor Road facilities parking structure and the peak hour new trips projected to be generated from the 270 new employees destined for the new USU Alternative 1 parking structure. Note that NSA Bethesda parking availability is based on a first come, first serve basis, with staff parking designated to specific areas only. A new staff trip may arrive early in the morning and find a parking spot at Buildings 54 or 55, thus bumping an existing staff member to another parking facility. If that existing staff member arrives during the external AM peak hour, most likely they would be required to park at the new Medical Facilities Development parking structure or USU Alternative 1 parking structure. Whether a trip arriving at NSA Bethesda during the external peak hour is a "new" trip or "existing" trip bumped out of their traditional parking structure, the traffic model captures the trip traveling to one of the new parking facilities while the other trip to Buildings 54 or 55 is already reflected in the No Build condition turning movement volumes. To keep the rationale simple, this report labels the trips destined to the new USU Alternative 1 parking structure as "new trips" rather than explaining it in terms of how many "new" versus "existing" trips because the breakout could vary each day and does not affect the modeling process as the trips are all captured.

The internal installation generated or shifted trips follow the updated trip distribution pattern based upon the 2008 NNMC Transportation Study (Figure 26). The distribution patterns for the shifted staff trips from Buildings 54 and 55 would follow these paths:

- From the north: Continue past R.B. Brown Drive on North Palmer Road then continue onto Taylor Road.
- To the north: Turn left into Taylor Road, then continue straight on North Palmer Road past R.B. Brown Drive.
- From the south: Turn right Enter through Gate #3, follow Gunnell Road to East Palmer Road, and turn right onto Taylor Road.
- To the south: Turn left onto Taylor Road, turn left onto East Palmer Road, follow to Gunnell Road and exit through Gate #3, and turn right onto Jones Bridge Road.
- From the east: Turn right onto University Road, enter through Gate #5, turn right onto Perimeter Road, and follow through to Grounds Road Taylor Road.
- To the east: Turn right onto Taylor Road/Grounds Road, follow onto Perimeter Road, turn left onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

The result of these new distribution patterns would remove trips from R.B. Brown Drive and South Palmer Road.

During the AM peak hour, the new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.
- To the south: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto Grier Road, enter through Gate #4, and turn right onto South Palmer Road.

- To the east: Turn right onto South Palmer Road, turn right onto University Road, exit through Gate #5, and turn left onto Jones Bridge Road.

During the PM peak hour, the new staff trips to/from the USU Alternative 1 parking structure would follow these paths:

- From the north: Turn left onto South Wood Road, enter through Gate #2, and turn right onto South Palmer Road.
- To the north: Turn left onto South Palmer Road, turn left onto South Wood Road, exit through Gate #2, and turn right onto Rockville Pike northbound.
- From the south: Turn right onto Jones Bridge Road, turn left onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the south: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, turn right onto Jones Bridge Road, and turn left onto Rockville Pike.
- From the east: Turn right onto University Road, enter through Gate #5, and turn left onto South Palmer Road.
- To the east: Turn left onto South Palmer Road, turn left onto Grier Road, exit through Gate #4, and turn left onto Jones Bridge Road.

Figures 66A, 66B, and 66C show the 2018 Build Alternative 10 trip distribution.

Figure 66A: 2018 Build Alternative 10 Trip Distribution

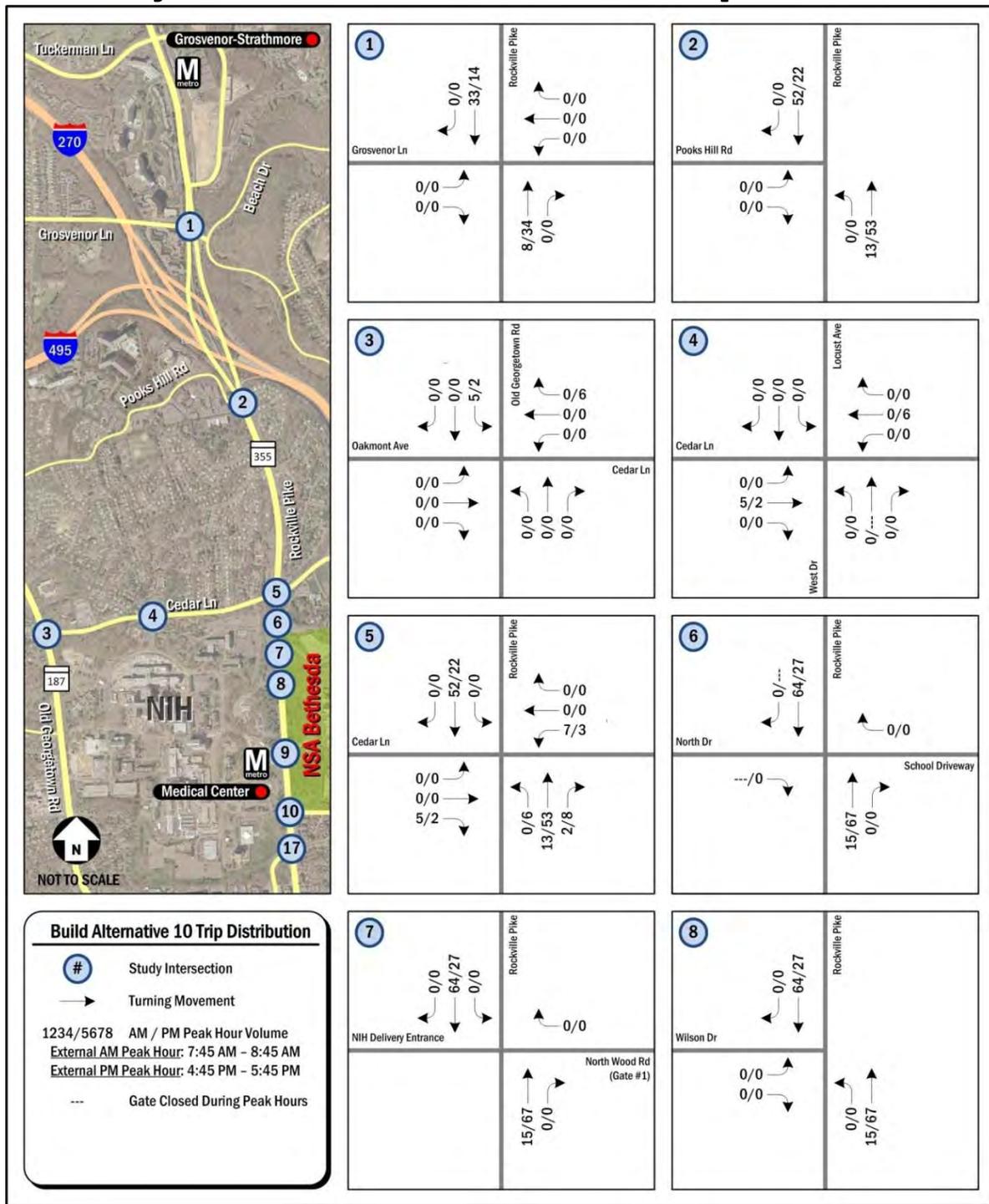


Figure 66B: 2018 Build Alternative 10 Trip Distribution

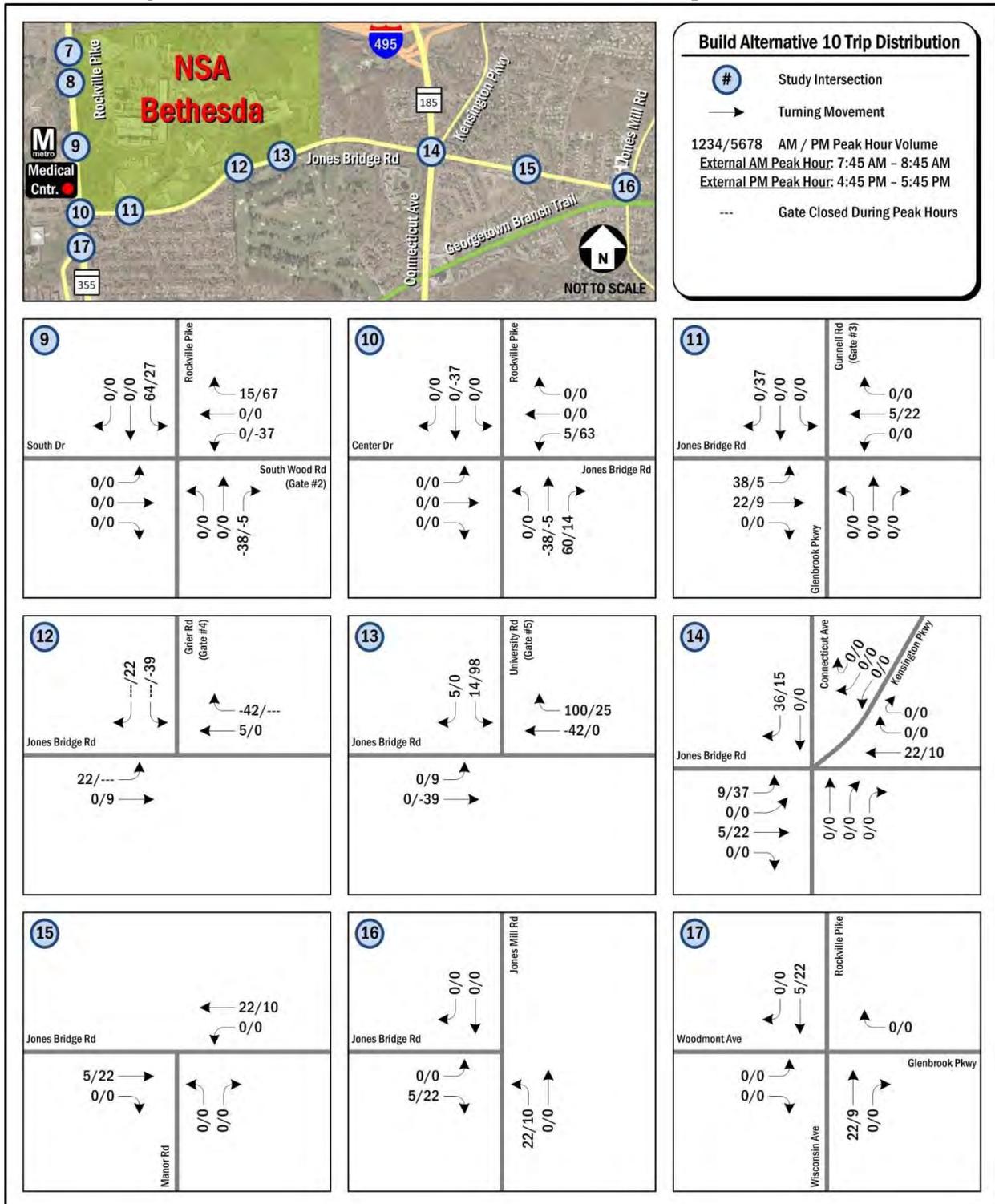
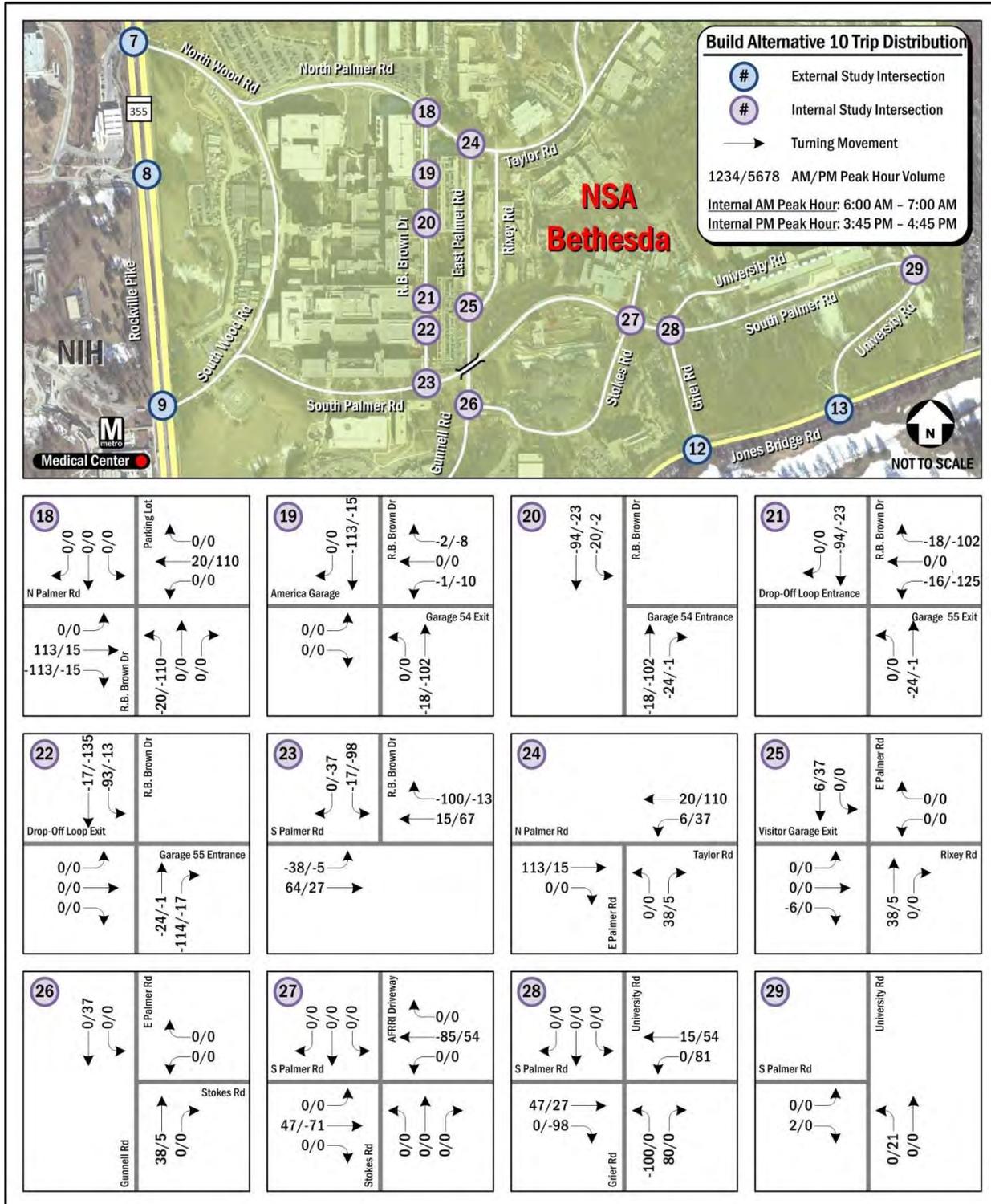


Figure 66C: 2018 Build Alternative 10 Trip Distribution



### 3.2.13.3 External Intersection Analysis

The 2018 Build Alternative 10 includes all projects listed in the No Build condition. Figure 29C shows the 2018 Build Alternatives 2 through 5 and 7 through 10 internal lane utilization and traffic control.

#### *Critical Lane Volume Analysis*

The CLV analysis was conducted for the 16 external signalized intersections to compare to the No Build condition. According to the analysis, the #9 Rockville Pike at South Wood Road (Gate #2) intersection would change from LOS B to C during the AM peak hour. Based on these results, the external signalized intersections would have no significant traffic impacts from implementing Alternative 10. Table 79 shows the 2018 Build Alternative 10 CLV external analysis. Figures 67A and 67B show the 2018 Build Alternative 10 CLV intersection LOS.

**Table 79: 2018 Build Alternative 10 CLV External Analysis**

	Build Alternative 10				No Build			
	AM Peak Hr.		PM Peak Hr.		AM Peak Hr.		PM Peak Hr.	
	CLV	LOS	CLV	LOS	CLV	LOS	CLV	LOS
1. Rockville Pike & Grosvenor Lane	1,385	D	1,341	D	1,373	D	1,336	D
2. Rockville Pike & Pooks Hill Road	1,359	D	1,399	D	1,343	D	1,379	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	1,437	D	1,538	E	1,437	D	1,536	E
4. Locust Avenue/West Drive & Cedar Lane	465	A	941	A	489	A	939	A
5. Rockville Pike & Cedar Lane	1,554	E	1,472	E	1,529	E	1,454	E
6. Rockville Pike & North Drive/School Driveway	un-signalized		un-signalized		un-signalized		un-signalized	
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	848	A	1,058	B	843	A	1,033	B
8. Rockville Pike & Wilson Drive	982	A	968	A	958	A	948	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	1,174	C	1,106	B	1,121	B	1,039	B
10. Rockville Pike & Center Drive/Jones Bridge Road	1,155	C	1,295	C	1,152	C	1,283	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	841	A	1,052	B	801	A	1,024	B
12. Grier Road (Gate #4) & Jones Bridge Road	717	A	1,070	B	692	A	1,104	B
13. University Road (Gate #5) & Jones Bridge Road	727	A	1,106	B	729	A	1,023	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	1,507	E	1,557	E	1,490	E	1,537	E
15. Manor Road & Jones Bridge Road	761	A	1,031	B	739	A	1,009	B
16. Jones Bridge Road & Jones Mill Road	1,061	B	1,084	B	1,039	B	1,062	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	773	A	942	A	771	A	938	A

*Highway Capacity Manual Intersection Analysis*

The HCM analysis was conducted as a secondary comparison to the CLV analysis between the No Build condition and Build Alternatives for the external intersections. When comparing Build Alternative 10 with the No Build condition, the AM and PM peak hours did not experience a change in LOS. Because the CLV process was not used to evaluate unsignalized intersections, HCM analysis was used to provide a No Build condition comparison for the #6 Rockville Pike at North Drive/School Driveway intersection, which showed no significant impacts. Tables 80A and 80B show the 2018 Build Alternative 10 HCM analysis for the external intersections compared to the No Build condition.

Figure 67A:2018 AM Peak Hour Build Alternative 10 CLV Intersection LOS

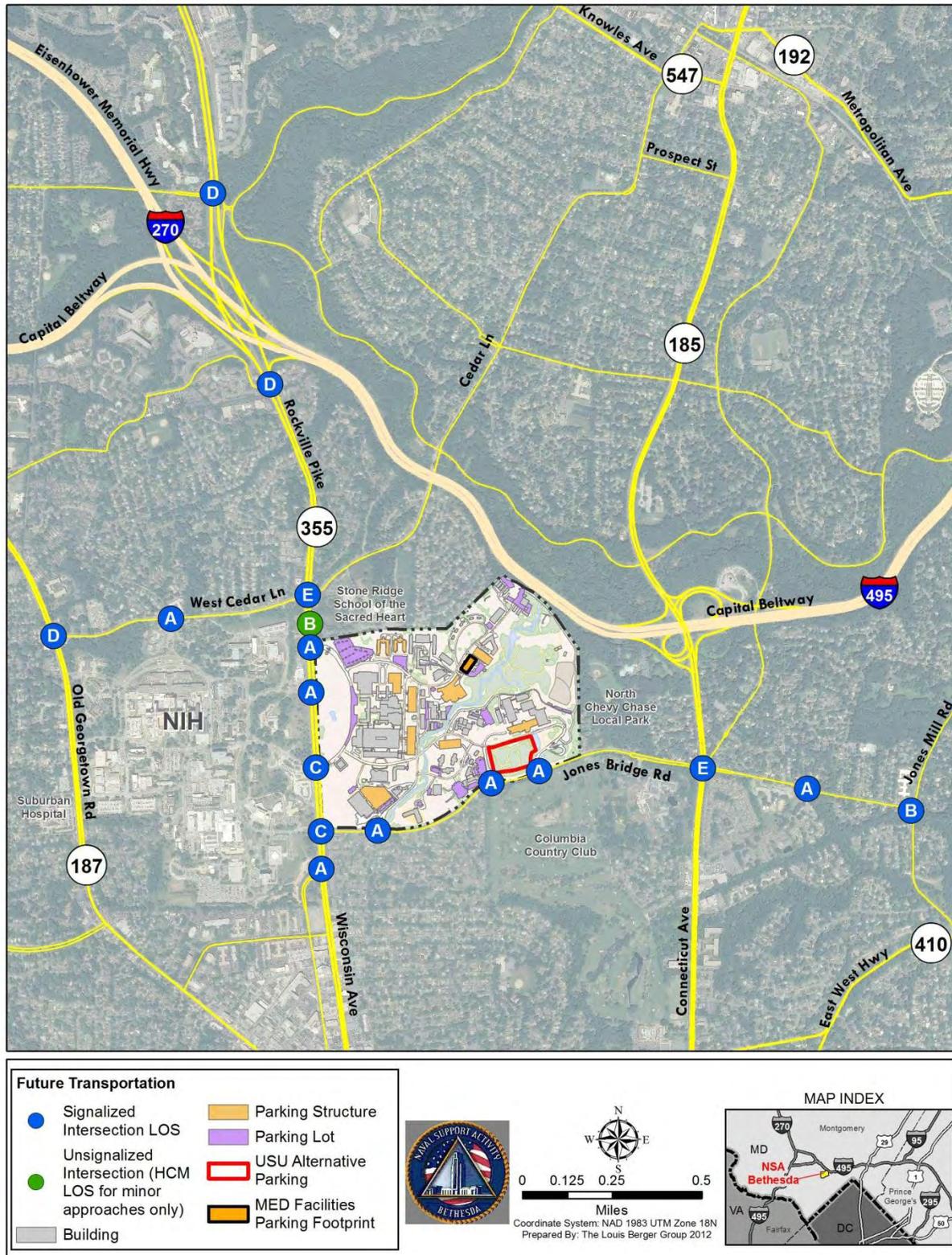
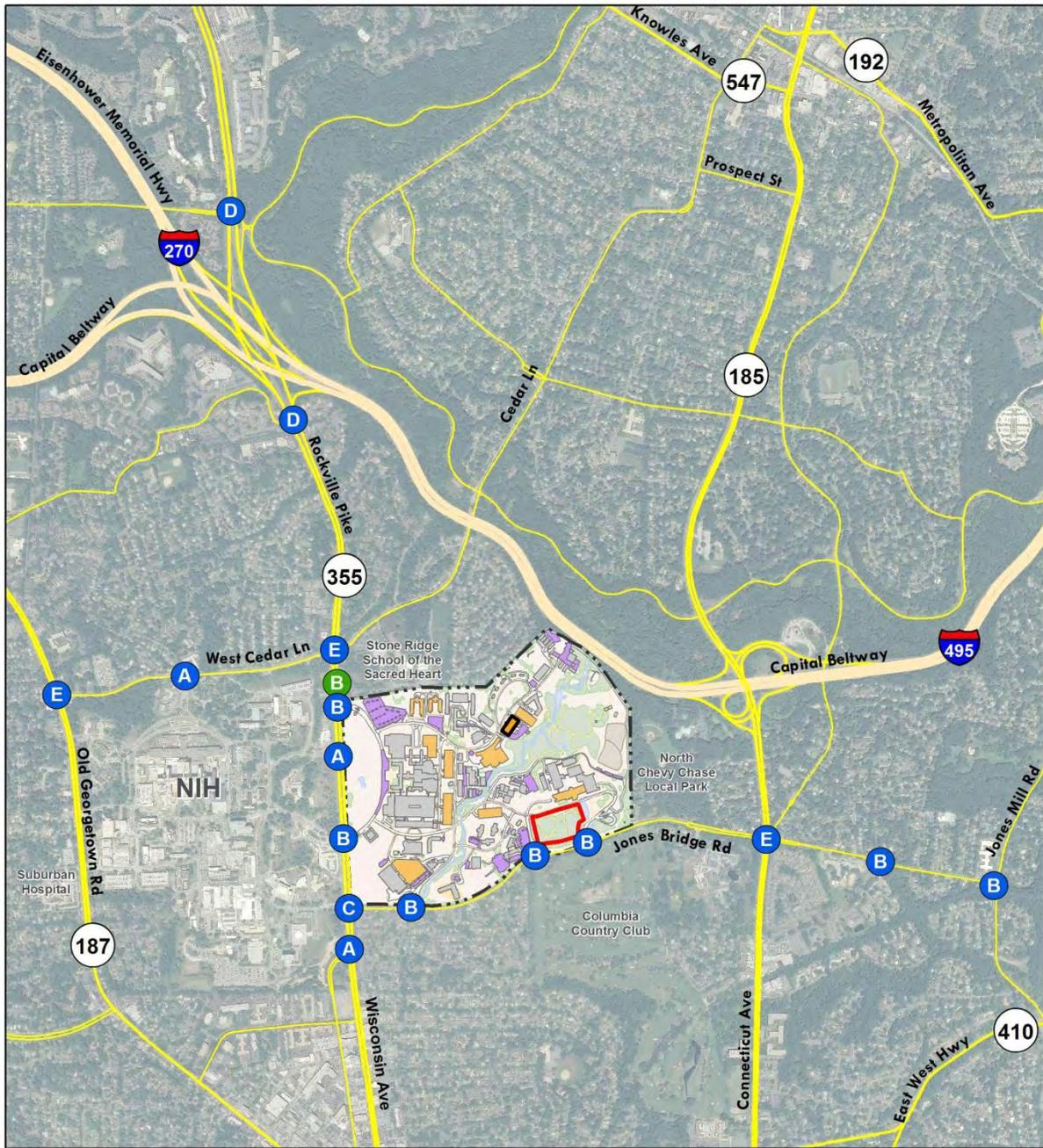
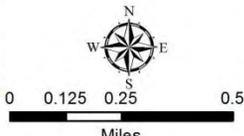


Figure 67B:2018 PM Peak Hour Build Alternative 10 CLV Intersection LOS



Future Transportation	
● Signalized Intersection LOS	■ Parking Structure
● Unsignalized Intersection (HCM LOS for minor approaches only)	■ Parking Lot
■ Building	■ USU Alternative Parking
	■ MED Facilities
	■ Parking Footprint





Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

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**Table 80A:2018 AM Peak Hour Build Alternative 10 HCM External Analysis**

	HCM Analysis						
	AM Peak Hour						
	Approach	Alternative 10			No Build		
Approach Delay (s/veh)		Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS	
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>39.5</b>	<b>1.03</b>	<b>D</b>	<b>40.4</b>	<b>1.02</b>	<b>D</b>
	Eastbound	125.2		F	125.2		F
	Westbound	54.4		D	54.4		D
	Northbound	16.4		B	12.1		B
	Southbound	36.0		D	33.1		C
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>23.7</b>	<b>0.88</b>	<b>C</b>	<b>23.1</b>	<b>0.87</b>	<b>C</b>
	Eastbound	60.6		E	60.6		E
	Northbound	9.0		A	9.0		A
	Southbound	26.2		C	25.0		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>	<b>19.5</b>	<b>0.95</b>	<b>B</b>
	Eastbound	23.9		C	23.9		C
	Westbound	37.7		D	37.7		D
	Northbound	13.8		B	13.8		B
	Southbound	17.9		B	17.9		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>15.3</b>	<b>0.39</b>	<b>B</b>	<b>15.2</b>	<b>0.38</b>	<b>B</b>
	Eastbound	19.8		B	19.6		B
	Westbound	11.8		B	11.8		B
	Northbound	14.7		B	14.7		B
	Southbound	15.1		B	15.1		B
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>38.7</b>	<b>0.94</b>	<b>D</b>	<b>37.3</b>	<b>0.93</b>	<b>D</b>
	Eastbound	63.0		E	61.7		E
	Westbound	52.4		D	51.7		D
	Northbound	16.0		B	16.1		B
	Southbound	39.1		D	36.6		D
6. Rockville Pike & North Drive/School Driveway	Eastbound	11.8		B	11.8		B
	Westbound	9.7		A	9.7		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>3.3</b>	<b>0.70</b>	<b>A</b>	<b>3.5</b>	<b>0.69</b>	<b>A</b>
	Westbound	21.1		C	21.1		C
	Northbound	4.1		A	4.4		A
	Southbound	2.3		A	2.4		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>5.1</b>	<b>0.61</b>	<b>A</b>	<b>4.6</b>	<b>0.59</b>	<b>A</b>
	Eastbound	60.7		E	60.7		E
	Northbound	10.7		B	8.9		A
	Southbound	1.4		A	1.3		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>12.2</b>	<b>0.74</b>	<b>B</b>	<b>11.8</b>	<b>0.74</b>	<b>B</b>
	Eastbound	66.9		E	63.5		E
	Westbound	52.6		D	52.1		D
	Northbound	6.9		A	6.9		A
	Southbound	8.3		A	8.3		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>48.2</b>	<b>0.84</b>	<b>D</b>	<b>47.0</b>	<b>0.84</b>	<b>D</b>
	Eastbound	60.6		E	60.6		E
	Westbound	30.0		C	31.1		C
	Northbound	28.4		C	29.6		C
	Southbound	72.1		E	67.6		E

**Table 80A:2018 AM Peak Hour Build Alternative 10 HCM External Analysis  
(continued)**

		HCM Analysis					
		Alternative 10			No Build		
		Approach	Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>7.2</b>	<b>0.62</b>	<b>A</b>	<b>6.2</b>	<b>0.60</b>	<b>A</b>
	Eastbound	4.5		A	3.9		A
	Westbound	5.9		A	4.5		A
	Northbound	23.7		C	23.7		C
	Southbound	27.1		C	27.1		C
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>2.0</b>	<b>0.47</b>	<b>A</b>	<b>1.7</b>	<b>0.46</b>	<b>A</b>
	Eastbound	1.7		A	1.7		A
	Westbound	2.1		A	1.7		A
	Southbound	0.0		A	0.0		A
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>6.4</b>	<b>0.56</b>	<b>A</b>	<b>5.1</b>	<b>0.54</b>	<b>A</b>
	Eastbound	2.1		A	1.7		A
	Westbound	7.3		A	6.6		A
	Southbound	26.4		C	27.0		C
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>51.2</b>	<b>1.11</b>	<b>D</b>	<b>48.5</b>	<b>1.08</b>	<b>D</b>
	Eastbound	59.9		E	56.0		E
	Westbound	44.8		D	42.3		D
	Northbound	20.2		C	20.2		C
	Southbound	63.1		E	58.9		E
	Southwestbound	82.6		F	82.6		F
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>12.9</b>	<b>0.62</b>	<b>B</b>	<b>12.4</b>	<b>0.60</b>	<b>B</b>
	Eastbound	19.2		B	19.1		B
	Westbound	11.6		B	10.8		B
	Northbound	11.6		B	11.6		B
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>34.9</b>	<b>0.77</b>	<b>C</b>	<b>34.2</b>	<b>0.76</b>	<b>C</b>
	Eastbound	14.8		B	14.8		B
	Northbound	38.2		D	36.3		D
	Southbound	47.2		D	47.2		D
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>	<b>42.2</b>	<b>0.71</b>	<b>D</b>
	Eastbound	48.7		D	48.7		D
	Westbound	41.2		D	41.2		D
	Northbound	5.5		A	5.4		A
	Southbound	57.5		E	57.1		E

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Table 80B:2018 PM Peak Hour Build Alternative 10 HCM External Analysis**

	HCM Analysis		PM Peak Hour				
	Approach	Alternative 10			No Build		
		Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
1. Rockville Pike & Grosvenor Lane	<b>Overall</b>	<b>56.3</b>	<b>1.03</b>	<b>E</b>	<b>55.2</b>	<b>1.03</b>	<b>E</b>
	Eastbound	73.7		E	73.7		E
	Westbound	79.4		E	79.4		E
	Northbound	29.2		C	28.6		C
	Southbound	65.3		E	63.1		E
2. Rockville Pike & Pooks Hill Road	<b>Overall</b>	<b>39.0</b>	<b>1.08</b>	<b>D</b>	<b>36.3</b>	<b>1.07</b>	<b>D</b>
	Eastbound	67.5		E	67.5		E
	Northbound	40.5		D	35.5		D
	Southbound	31.6		C	31.3		C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	<b>Overall</b>	<b>19.2</b>	<b>0.89</b>	<b>B</b>	<b>19.1</b>	<b>0.89</b>	<b>B</b>
	Eastbound	31.9		C	31.9		C
	Westbound	37.2		D	37.3		D
	Northbound	20.2		C	20.2		C
	Southbound	13.3		B	13.1		B
4. Locust Avenue/West Drive & Cedar Lane	<b>Overall</b>	<b>30.5</b>	<b>0.72</b>	<b>C</b>	<b>30.3</b>	<b>0.72</b>	<b>C</b>
	Eastbound	40.1		D	39.7		D
	Westbound	7.5		A	7.5		A
	Northbound	24.8		C	24.8		C
	Southbound	26.7		C	26.7		C
5. Rockville Pike & Cedar Lane	<b>Overall</b>	<b>49.3</b>	<b>1.00</b>	<b>D</b>	<b>47.6</b>	<b>1.00</b>	<b>D</b>
	Eastbound	64.6		E	64.6		E
	Westbound	108.8		F	108.7		F
	Northbound	45.5		D	41.3		D
	Southbound	33.3		C	33.2		C
6. Rockville Pike & North Drive/School Driveway	Eastbound	10.9		B	10.9		B
	Westbound	9.9		A	9.8		A
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	<b>Overall</b>	<b>7.2</b>	<b>0.73</b>	<b>A</b>	<b>7.2</b>	<b>0.72</b>	<b>A</b>
	Westbound	58.6		E	58.6		E
	Northbound	2.7		A	2.4		A
	Southbound	0.7		A	0.7		A
8. Rockville Pike & Wilson Drive	<b>Overall</b>	<b>15.5</b>	<b>0.75</b>	<b>B</b>	<b>15.1</b>	<b>0.74</b>	<b>B</b>
	Eastbound	61.6		E	61.6		E
	Northbound	14.9		B	13.9		B
	Southbound	3.8		A	3.8		A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	<b>Overall</b>	<b>14.4</b>	<b>0.75</b>	<b>B</b>	<b>12.0</b>	<b>0.69</b>	<b>B</b>
	Eastbound	81.1		F	70.0		E
	Westbound	42.5		D	45.7		D
	Northbound	6.7		A	5.7		A
	Southbound	7.5		A	5.0		A
10. Rockville Pike & Center Drive/Jones Bridge Road	<b>Overall</b>	<b>47.0</b>	<b>0.86</b>	<b>D</b>	<b>44.9</b>	<b>0.83</b>	<b>D</b>
	Eastbound	57.9		E	57.9		E
	Westbound	64.8		E	65.8		E
	Northbound	42.6		D	40.7		D
	Southbound	41.5		D	38.0		D

**Table 80B:2018 PM Peak Hour Build Alternative 10 HCM External Analysis  
(continued)**

	HCM Analysis	PM Peak Hour						
		Approach	Alternative 10			No Build		
			Approach Delay (s/veh)	Volume/Capacity	LOS	Approach Delay (s/veh)	Volume/Capacity	LOS
11. Gunnell Rd (Gate #3)/ Glenbrook Parkway & Jones Bridge Road	<b>Overall</b>	<b>13.2</b>	<b>0.78</b>	<b>B</b>	<b>13.2</b>	<b>0.77</b>	<b>B</b>	
	Eastbound	7.6		A	7.7		A	
	Westbound	14.3		B	14.0		B	
	Northbound	17.3		B	17.4		B	
	Southbound	26.7		C	27.7		C	
12. Grier Road (Gate #4) & Jones Bridge Road	<b>Overall</b>	<b>13.8</b>	<b>0.88</b>	<b>B</b>	<b>15.1</b>	<b>0.91</b>	<b>B</b>	
	Eastbound	13.1		B	14.2		B	
	Westbound	10.8		B	11.3		B	
	Southbound	21.4		C	24.7		C	
13. University Road (Gate #5) & Jones Bridge Road	<b>Overall</b>	<b>9.0</b>	<b>0.81</b>	<b>A</b>	<b>4.4</b>	<b>0.78</b>	<b>A</b>	
	Eastbound	8.7		A	4.3		A	
	Westbound	6.7		A	4.2		A	
	Southbound	26.8		C	27.9		C	
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	<b>Overall</b>	<b>47.4</b>	<b>1.00</b>	<b>D</b>	<b>45.9</b>	<b>1.00</b>	<b>D</b>	
	Eastbound	61.5		E	55.7		E	
	Westbound	69.7		E	70.1		E	
	Northbound	49.1		D	49.1		D	
	Southbound	23.7		C	23.7		C	
	Southwestbound	86.4		F	86.4		F	
15. Manor Road & Jones Bridge Road	<b>Overall</b>	<b>23.9</b>	<b>0.80</b>	<b>C</b>	<b>22.2</b>	<b>0.78</b>	<b>C</b>	
	Eastbound	32.1		C	29.0		C	
	Westbound	12.1		B	11.6		B	
	Northbound	21.9		C	21.9		C	
16. Jones Bridge Road & Jones Mill Road	<b>Overall</b>	<b>26.9</b>	<b>0.61</b>	<b>C</b>	<b>26.8</b>	<b>0.60</b>	<b>C</b>	
	Eastbound	19.9		B	19.8		B	
	Northbound	33.5		C	33.2		C	
	Southbound	36.7		D	36.7		D	
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	<b>Overall</b>	<b>17.3</b>	<b>0.64</b>	<b>B</b>	<b>17.1</b>	<b>0.64</b>	<b>B</b>	
	Eastbound	36.6		D	36.6		D	
	Westbound	34.6		C	34.0		C	
	Northbound	21.0		C	20.9		C	
	Southbound	6.9		A	6.5		A	

Note: Intersections with two-way STOP-control have no overall LOS identified.

#### 3.2.13.4 Arterial Analysis

Arterial analysis was performed for Rockville Pike, West Cedar Lane, and Jones Bridge Road, comparing the alternative to the No Build condition. As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The greatest change between the No Build condition and Build Alternative 10 would be a 3 percent reduction in travel speed along southbound Rockville Pike during the AM peak hour and along northbound Rockville Pike and

eastbound Jones Bridge Road during the PM peak hour. Based on this analysis, Alternative 10 would not require PAMR-RAM external intersection mitigation. Tables 81 and 82 show the 2018 Build Alternative 10 arterial analyses.

**Table 81: 2018 AM Peak Hour Build Alternative 10 Arterial Analysis**

Arterial	Direction	Alt 10			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	22.3	5:52	C	22.7	5:46	C	2%
	Southbound	18.4	7:19	C	18.9	7:07	C	3%
Jones Bridge Road	Eastbound	19.7	5:14	C	19.7	5:14	C	0%
	Westbound	19.2	5:23	C	19.5	5:17	C	2%
West Cedar Lane	Eastbound	14.6	2:58	D	14.7	2:57	D	1%
	Westbound	16.9	2:34	D	16.9	2:34	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**Table 82: 2018 PM Peak Hour Build Alternative 10 Arterial Analysis**

Arterial	Direction	Alt 10			No Build			% Dif
		Travel Speed	Travel Time	LOS	Travel Speed	Travel Time	LOS	
Rockville Pike	Northbound	17.4	7:31	D	17.9	7:19	D	3%
	Southbound	18.2	7:23	C	18.5	7:15	C	2%
Jones Bridge Road	Eastbound	17.5	5:54	D	18.0	5:44	D	3%
	Westbound	18.0	5:44	D	18.2	5:40	C	1%
West Cedar Lane	Eastbound	12.3	3:31	D	12.3	3:31	D	0%
	Westbound	17.4	2:30	D	17.4	2:30	D	0%

Note: As required by PAMR-RAM, this comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition.

**3.2.13.5 Internal Intersection Analysis**

The internal intersection analysis follows the same process as the HCM analysis performed for the external conditions, focusing on the internal intersections. During the AM peak hour, #19 R.B. Brown Drive at America Garage intersection eastbound approach would change from LOS C to D, reflecting the increase in pedestrian traffic crossing at this intersection, walking between the Medical Center and warehouse parking facility. During the PM peak hour, #26 South Palmer Road at Stokes Road intersection would change from LOS B to C, resulting from the staff shifted trips exiting the new Taylor Road facilities parking structure and heading toward Gates #1 and #3. Based on this analysis, there would be no significant impact to the internal roadway intersections for this alternative. Tables 83A and 83B show the 2018 Build Alternative 10 internal HCM analysis, and Figures 68A and 68B show the 2018 Build Alternative 10 internal intersection LOS.

**Table 83A:2018 AM Peak Hour Build Alternative 10 Internal HCM  
Intersection Analysis**

	Approach	AM Peak Hour			
		Build Alt. 10		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>12.5</b>	<b>B</b>	<b>10.3</b>	<b>B</b>
	Eastbound	14.1	B	10.9	B
	Westbound	8.7	A	8.7	A
	Northbound	8.7	A	9.0	A
	Southbound	9.7	A	9.6	A
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	26.5	D	17.6	C
	Westbound	16.4	C	12.8	B
	Northbound Left	3.4	A	3.1	A
	<b>Overall</b>	<b>8.9</b>	<b>A</b>	<b>10.5</b>	<b>B</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.4	A	9.2	A
	Southbound	9.4	A	11.5	B
	<b>Overall</b>	<b>8.3</b>	<b>A</b>	<b>9.1</b>	<b>A</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	7.4	A	8.1	A
	Northbound	8.6	A	9.4	A
	Southbound	7.7	A	8.8	A
	<b>Overall</b>	<b>8.2</b>	<b>A</b>	<b>9.7</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.5	A	8.1	A
	Northbound	8.5	A	10.1	B
	Southbound	7.7	A	9.0	A
	<b>Overall</b>	<b>9.5</b>	<b>A</b>	<b>9.8</b>	<b>A</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	9.8	A	10.3	B
	Westbound	7.8	A	8.7	A
	Southbound	8.5	A	9.1	A
	<b>Overall</b>	<b>12.2</b>	<b>B</b>	<b>9.6</b>	<b>A</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	13.6	B	10.0	A
	Westbound	9.5	A	8.6	A
	Northbound	11.0	B	9.5	A
	<b>Overall</b>	<b>9.4</b>	<b>A</b>	<b>9.0</b>	<b>A</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	0.0	A	7.5	A
	Westbound	8.2	A	8.1	A
	Northbound	9.9	A	9.4	A
	Southbound	8.8	A	8.7	A
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>10.0</b>	<b>B</b>	<b>9.5</b>	<b>A</b>
	Westbound	8.7	A	8.6	A
	Northbound	10.8	B	10.1	B
	Southbound	9.0	A	8.9	A
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>9.5</b>	<b>A</b>
	Eastbound	8.5	A	8.1	A
	Westbound	9.4	A	10.4	B
	Northbound	8.8	A	8.9	A
	Southbound	0.0	A	0.0	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>9.0</b>	<b>A</b>	<b>8.7</b>	<b>A</b>
	Eastbound	9.3	A	8.4	A
	Westbound	9.4	A	9.1	A
	Northbound	8.4	A	9.0	A
	Southbound	7.1	A	6.9	A
29. University Road & South Palmer Road	Westbound	8.0	A	8.0	A
	Northbound	7.9	A	7.9	A

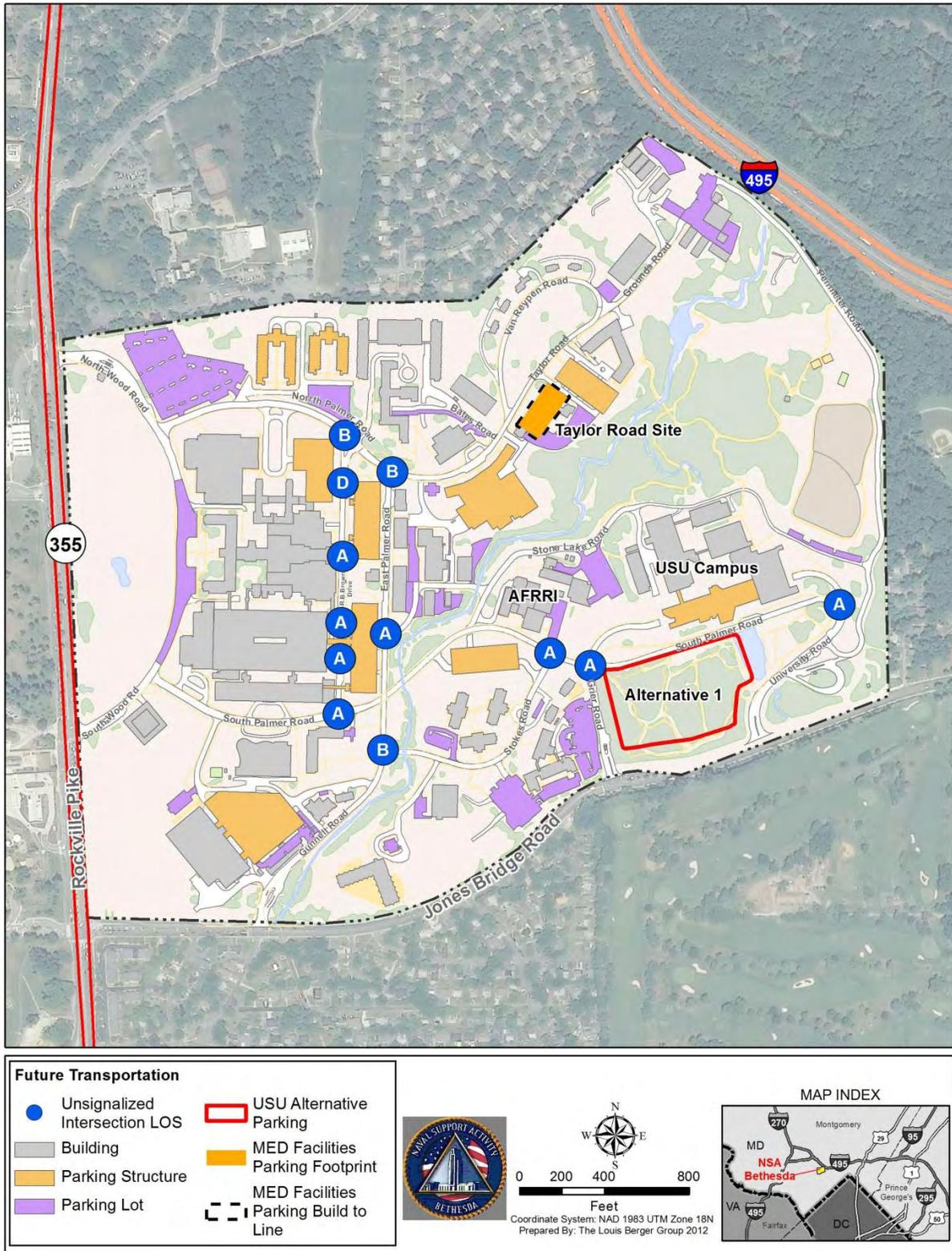
**Table 83B:2018 PM Peak Hour Build Alternative 10 Internal HCM  
Intersection Analysis**

	Approach	PM Peak Hour			
		Build Alt. 10		No Build	
		Approach Delay (s/veh)	LOS	Approach Delay (s/veh)	LOS
18. Parking Lot/R.B. Brown Drive & North Palmer Road	<b>Overall</b>	<b>17.6</b>	<b>C</b>	<b>16.5</b>	<b>C</b>
	Eastbound	9.6	A	9.7	A
	Westbound	22.7	C	15.6	C
	Northbound	14.1	B	20.5	C
	Southbound	10.1	B	10.0	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	Eastbound	<sup>a</sup>	F	<sup>a</sup>	F
	Westbound	<sup>a</sup>	F	<sup>a</sup>	F
	Northbound Left	0.9	A	0.6	A
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>8.8</b>	<b>A</b>
20. R.B. Brown Drive & Garage 54 Entrance	Northbound	8.0	A	9.0	A
	Southbound	8.2	A	8.5	A
	<b>Overall</b>	<b>9.2</b>	<b>A</b>	<b>11.3</b>	<b>B</b>
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	Westbound	8.0	A	10.9	B
	Northbound	8.3	A	9.5	A
	Southbound	9.7	A	12.3	B
	<b>Overall</b>	<b>8.1</b>	<b>A</b>	<b>9.4</b>	<b>A</b>
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	Eastbound	7.4	A	7.8	A
	Northbound	8.0	A	8.3	A
	Southbound	8.2	A	10.0	B
	<b>Overall</b>	<b>9.9</b>	<b>A</b>	<b>10.6</b>	<b>B</b>
23. R.B. Brown Drive & South Palmer Road	Eastbound	8.3	A	8.9	A
	Westbound	11.1	B	10.7	B
	Southbound	9.2	A	11.4	B
	<b>Overall</b>	<b>14.7</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
24. East Palmer Road & North Palmer Road/Taylor Road	Eastbound	11.3	B	10.0	B
	Westbound	18.0	C	11.4	B
	Northbound	12.0	B	10.7	B
	<b>Overall</b>	<b>10.8</b>	<b>B</b>	<b>10.2</b>	<b>B</b>
25. East Palmer Road & Visitor Garage Exit/Rixey Road	Eastbound	8.6	A	8.4	A
	Westbound	10.1	B	9.8	A
	Northbound	9.9	A	9.7	A
	Southbound	11.9	B	11.0	B
26. East Palmer Road/Gunnell Road & Stokes Road	<b>Overall</b>	<b>16.5</b>	<b>C</b>	<b>15.0</b>	<b>B</b>
	Westbound	16.7	C	16.0	C
	Northbound	11.9	B	11.5	B
	Southbound	18.9	C	16.2	C
27. AFRR I Driveway/Stokes Road & South Palmer Road	<b>Overall</b>	<b>11.2</b>	<b>B</b>	<b>10.7</b>	<b>B</b>
	Eastbound	9.4	A	10.3	B
	Westbound	12.5	B	11.0	B
	Northbound	10.9	B	10.8	B
	Southbound	8.7	A	8.6	A
28. University Road/Grier Road & South Palmer Road	<b>Overall</b>	<b>13.0</b>	<b>B</b>	<b>12.5</b>	<b>B</b>
	Eastbound	13.4	B	13.7	B
	Westbound	12.1	B	9.2	A
	Northbound	9.5	A	8.9	A
	Southbound	13.2	B	11.9	B
29. University Road & South Palmer Road	Westbound	7.2	A	7.1	A
	Northbound	7.5	A	7.1	A

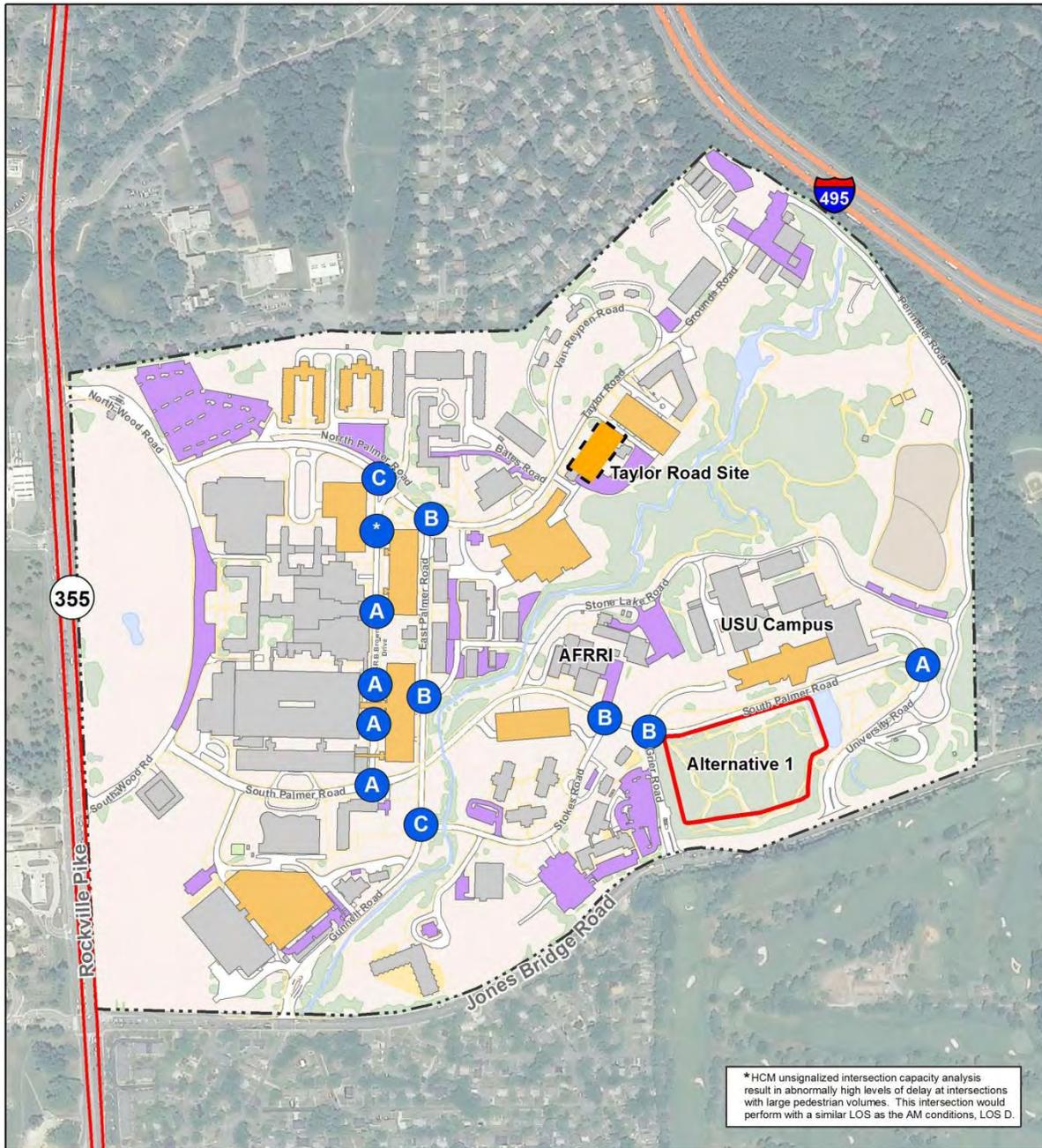
<sup>a</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS D.

Note: Intersections with two-way STOP-control have no overall LOS identified.

**Figure 68A: 2018 AM Peak Hour Build Alternative 10 Internal Intersection LOS**



**Figure 68B: 2018 PM Peak Hour Build Alternative 10 Internal Intersection LOS**



**Future Transportation**

- Unsignalized Intersection LOS
- Building
- Parking Structure
- Parking Lot
- USU Alternative Parking
- MED Facilities Parking Footprint
- MED Facilities Parking Build to Line



0 200 400 800  
Feet  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012



### **3.2.13.6 Bicycle and Pedestrian Impacts**

This alternative would include the placement of two new parking structures, resulting in increased pedestrian activity between the parking structures and destination buildings. The new Medical Facilities Development parking structure would be located off of Taylor Road in the Taylor Road Facilities of NSA Bethesda; therefore, new pedestrian trips would be created between the parking structure and Medical Buildings, crossing at two intersections, East Palmer Road at North Palmer Road and R.B. Brown Drive at the America Garage. Specifically, there would be 293 pedestrian trips during the AM peak hour and 278 pedestrian trips during the PM peak hour.

The new USU Alternative 1 parking structure would be placed across the street from the USU campus. New pedestrian trips would be created between the proposed parking structure and Medical Buildings with pedestrians crossing at three intersections, South Palmer Road at Grier Road, South Palmer Road at Stokes Road, and South Palmer Road at R.B. Brown Drive. New pedestrian trips would also be created between the proposed parking structure and USU. Since the location of a new crossing has not been identified, these pedestrian trips were added to the South Palmer Road at Grier Road intersection. For the Medical Development, this would result in 17 new pedestrian trips during the AM peak hour and 16 new pedestrian trips during the PM peak hour. For the USU Expansion, this would result in 161 new pedestrian trips during the AM peak hour and 193 new pedestrian trips during the PM peak hour.

The Medical Building and USU destined pedestrian trips are included in the internal HCM analysis. The five intersections that would experience increased pedestrian activity as a result of Alternative 10 would continue to perform at the same overall LOS in both peak hours as calculated in Tables 83A and 83B.

Existing 5-foot plus sidewalks connect both new parking structures with the Medical Buildings via South Palmer Road or Grounds Road/Taylor Road/North Palmer Road. Any other new pedestrian or bicycle activity would be able to use the new Metro tunnel connecting the Medical Center Metro station with the Gate #2 entrance or park their bicycle at any of the four bike storage racks serving the Medical Facility or two racks serving the USU. Based on the 270 new employees included in the projected peak hour trip generation and adequate existing sidewalks serving these pedestrian trips, this alternative would have no significant pedestrian or bicycle impacts. Figure 53 shows the sidewalk connections for this Build Alternative

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## 4.0 Discussion of 2018 Condition Findings

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This study focused on the external intersections and arterials, internal intersections and gate counts, internal parking, and bicycle/pedestrian impacts. Together, these systems provide an overall examination of the potential impacts of implementing any of the 10 proposed 2018 Build Alternatives to NSA Bethesda and nearby arterials.

### 4.1 External Intersection Summary

MSHA and M-NCPPC require the CLV analysis to determine intersection operations for all external signalized intersections. Because the CLV method analyzes each intersection in isolation and is intended for signalized intersections, the study also included the HCM analysis as a secondary analysis method (see Section 3.1.1.5 for a discussion of the CLV and HCM methods). Based on the average vehicle delay, the HCM analysis determines the LOS, which follows the same lettering as the CLV, but is calculated differently from the CLV and should not be compared to the CLV LOS. The HCM was used as a primary analysis method for the one external unsignalized intersection. For each intersection, the differences between the projected 2018 No Build condition and the given Build Alternative were measured.

For each Build Alternative, 16 external signalized intersections, plus 1 unsignalized intersection were analyzed. The 17 intersections covered three arterials, Rockville Pike, Jones Bridge Road, and West Cedar Lane.

#### 4.1.1 Critical Lane Volume Analysis

Based on the AM peak hour CLV analysis, the LOS of several intersections would change; however, it is important to note that no intersections would change to a failing LOS under any Build Alternatives. Build Alternative 9 would change from LOS A to B at the #8 Rockville Pike at Wilson Drive intersection. This would reflect the combination of new staff trips originating from the north and entering the installation at Gate #2 destined for the new USU Alternative 1 parking structure, and shifted staff trips originating from the north entering the installation at Gate #3 destined for the new parking structure in H-Lot. The #9 Rockville Pike at South Wood Road (Gate #2) intersection would change from LOS B to C for Build Alternatives 1, 4, and 6 through 10. Build Alternative 1 would include a shift in exiting patient trips from Gate #1 to Gate #2 using the new underground parking structure, thus an increase of traffic at intersection #9. Build Alternatives 4 and 9 would include new staff trips originating from the north entering Gate #3, destined for the new parking structure in H-Lot. Build Alternatives 6 through 10 would include new staff trips originating from the north entering Gate #2, destined for the new USU Alternative 1 parking structure. The LOS for all other

external intersections would not change as a result of the proposed actions. Table 84 shows the AM peak hour CLV summary.

**Table 84: AM Peak Hour CLV Summary**

Critical Lane Volume - LOS	NB	Alternatives									
		1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1. Rockville Pike & Grosvenor Lane	D	D	D	D	D	D	D	D	D	D	D
2. Rockville Pike & Pooks Hill Road	D	D	D	D	D	D	D	D	D	D	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	D	D	D	D	D	D	D	D	D	D	D
4. Locust Avenue/West Drive & Cedar Lane	A	A	A	A	A	A	A	A	A	A	A
5. Rockville Pike & Cedar Lane	E	E	E	E	E	E	E	E	E	E	E
6. Rockville Pike & North Drive/School Driveway <sup>b</sup>											
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	A	A	A	A	A	A	A	A	A	A	A
8. Rockville Pike & Wilson Drive	A	A	A	A	A	A	A	A	A	B	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	B	C	B	B	C	B	C	C	C	C	C
10. Rockville Pike & Center Drive/Jones Bridge Road	C	C	C	C	C	C	C	C	C	C	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
12. Grier Road (Gate #4) & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
13. University Road (Gate #5) & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	E	E	E	E	E	E	E	E	E	E	E
15. Manor Road & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
16. Jones Bridge Road & Jones Mill Road	B	B	B	B	B	B	B	B	B	B	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	A	A	A	A	A	A	A	A	A	A	A

<sup>a</sup> Preferred Alternative

<sup>b</sup> HCM used to calculate this unsignalized intersection.

Based on the PM peak hour CLV analysis, the LOS at several intersections would change; however, it is important to note that no intersections would change to a failing LOS. The #8 Rockville Pike at Wilson Drive intersection would change from LOS A to B for Build Alternatives 4 and 9, due to the increase in traffic passing through this intersection from both Gate #3, originating from the new H-Lot parking structure, and from Gate #2, originating from the new USU alternative parking structures. The #10 Rockville Pike at Jones Bridge Road intersection would change from LOS C to D for Build Alternative 9, due to the increase in traffic passing through this intersection from Gate #3, originating from the new H-Lot parking structure. The #12 Jones Bridge Road at Grier Road (Gate #4) intersection would change from LOS B to C for Build Alternatives 1, 2, 4, 6, 7, and 9, reflecting the new staff trips exiting through Gate #4, originating at the new USU parking structures. The LOS for all other external

intersections would not change as a result of the proposed actions. Table 85 shows the PM peak hour CLV summary.

**Table 85: PM Peak Hour CLV Summary**

Critical Lane Volume - LOS	NB	Alternatives									
		1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1. Rockville Pike & Grosvenor Lane	D	D	D	D	D	D	D	D	D	D	D
2. Rockville Pike & Pooks Hill Road	D	D	D	D	D	D	D	D	D	D	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	E	E	E	E	E	E	E	E	E	E	E
4. Locust Avenue/West Drive & Cedar Lane	A	A	A	A	A	A	A	A	A	A	A
5. Rockville Pike & Cedar Lane	E	E	E	E	E	E	E	E	E	E	E
6. Rockville Pike & North Drive/School Driveway <sup>b</sup>											
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	B	B	B	B	B	B	B	B	B	B	B
8. Rockville Pike & Wilson Drive	A	A	A	A	B	A	A	A	A	B	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	B	B	B	B	B	B	B	B	B	B	B
10. Rockville Pike & Center Drive/Jones Bridge Road	C	C	C	C	C	C	C	C	C	D	C
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	B	B	B	B	B	B	B	B	B	B	B
12. Grier Road (Gate #4) & Jones Bridge Road	B	C	C	B	C	B	C	C	B	C	B
13. University Road (Gate #5) & Jones Bridge Road	B	B	B	B	B	B	B	B	B	B	B
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	E	E	E	E	E	E	E	E	E	E	E
15. Manor Road & Jones Bridge Road	B	B	B	B	B	B	B	B	B	B	B
16. Jones Bridge Road & Jones Mill Road	B	B	B	B	B	B	B	B	B	B	B
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	A	A	A	A	A	A	A	A	A	A	A

<sup>a</sup> Preferred Alternative

<sup>b</sup> HCM used to calculate this unsignalized intersection.

#### 4.1.2 Highway Capacity Manual Analysis

Based on HCM analysis conducted for the AM peak hour, the LOS of the external signalized intersections would not change. Table 86 shows the AM peak hour HCM summary.

**Table 86: AM Peak Hour HCM Summary**

Highway Capacity Manual - LOS	NB	Alternatives									
		1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1. Rockville Pike & Grosvenor Lane	D	D	D	D	D	D	D	D	D	D	D
2. Rockville Pike & Pooks Hill Road	C	C	C	C	C	C	C	C	C	C	C
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	B	B	B	B	B	B	B	B	B	B	B
4. Locust Avenue/West Drive & Cedar Lane	B	B	B	B	B	B	B	B	B	B	B
5. Rockville Pike & Cedar Lane	D	D	D	D	D	D	D	D	D	D	D
6. Rockville Pike & North Drive/School Driveway <sup>b</sup>	B	B	B	B	B	B	B	B	B	B	B
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	A	A	A	A	A	A	A	A	A	A	A
8. Rockville Pike & Wilson Drive	A	A	A	A	A	A	A	A	A	A	A
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	B	B	B	B	B	B	B	B	B	B	B
10. Rockville Pike & Center Drive/Jones Bridge Road	D	D	D	D	D	D	D	D	D	D	D
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
12. Grier Road (Gate #4) & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
13. University Road (Gate #5) & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	D	D	D	D	D	D	D	D	D	D	D
15. Manor Road & Jones Bridge Road	B	B	B	B	B	B	B	B	B	B	B
16. Jones Bridge Road & Jones Mill Road	C	C	C	C	C	C	C	C	C	C	C
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	D	D	D	D	D	D	D	D	D	D	D

<sup>a</sup> Preferred Alternative<sup>b</sup> Intersection LOS reflects the North Drive and School Driveway approaches only.

Based on the HCM analysis conducted for the PM peak hour, the LOS of the external intersections would not change. Table 87 shows the PM peak hour HCM summary.

The #6 Rockville Pike at North Drive intersection is unsignalized; therefore, the CLV analysis was not used to determine the operation. In this case, the HCM analysis was used as a primary analysis method for the intersection. Based on the HCM analysis, the minor approaches at this intersection would operate with the same LOS between the No Build condition and Build Alternatives (LOS B for North Drive and School Driveway approaches) during both peak hours.

**Table 87: PM Peak Hour HCM Summary**

Highway Capacity Manual - LOS	NB	Alternatives									
		1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1. Rockville Pike & Grosvenor Lane	E	E	E	E	E	E	E	E	E	E	E
2. Rockville Pike & Pooks Hill Road	D	D	D	D	D	D	D	D	D	D	D
3. Old Georgetown Road & Oakmont Avenue/Cedar Lane	B	B	B	B	B	B	B	B	B	B	B
4. Locust Avenue/West Drive & Cedar Lane	C	C	C	C	C	C	C	C	C	C	C
5. Rockville Pike & Cedar Lane	D	D	D	D	D	D	D	D	D	D	D
6. Rockville Pike & North Drive/School Driveway <sup>b</sup>	B	B	B	B	B	B	B	B	B	B	B
7. Rockville Pike & NIH Delivery Entrance/North Wood Road (Gate #1)	A	A	A	A	A	A	A	A	A	A	A
8. Rockville Pike & Wilson Drive	B	B	B	B	B	B	B	B	B	B	B
9. Rockville Pike & South Drive/South Wood Road (Gate #2)	B	B	B	B	B	B	B	<b>B</b>	B	B	B
10. Rockville Pike & Center Drive/Jones Bridge Road	D	D	D	D	D	D	D	D	D	D	D
11. Gunnell Road (Gate #3)/Glenbrook Parkway & Jones Bridge Road	B	B	B	B	B	B	B	B	B	B	B
12. Grier Road (Gate #4) & Jones Bridge Road	B	B	B	B	B	B	B	B	B	B	B
13. University Road (Gate #5) & Jones Bridge Road	A	A	A	A	A	A	A	A	A	A	A
14. Connecticut Avenue & Jones Bridge Road & Kensington Parkway	D	D	D	D	D	D	D	D	D	D	D
15. Manor Road & Jones Bridge Road	C	C	C	C	C	C	C	C	C	C	C
16. Jones Bridge Road & Jones Mill Road	C	C	C	C	C	C	C	C	C	C	C
17. Rockville Pike/Wisconsin Avenue & Woodmont Avenue/Glenbrook Parkway	B	B	B	B	B	B	B	B	B	B	B

<sup>a</sup> Preferred Alternative

<sup>b</sup> Intersection LOS reflects the North Drive and School Driveway approaches only.

For all Build Alternatives, all intersections would have a small change in the average vehicle delay and vehicle saturation; however, the change was not significant enough to cause the HCM-calculated LOS to change. Based on this summary and in-depth analysis, while there would be some delay associated with overall future conditions in the region (mostly associated with No Build condition background developments), no intersections would change LOS grades. Therefore, there would be no significant impact to the external roadway intersections from the Build Alternatives in this EIS.

#### 4.2 Arterial Analysis Summary

The arterial analysis was performed as a requirement for M-NCPPC's Policy Area Mobility Review for Rockville Pike, Jones Bridge Road, and West Cedar Lane. This comparison is between the 2018 No Build and 2018 Build conditions only and is not a comparison between the 2011 existing and 2018 future condition. The analysis consisted of calculating the travel speed, travel time, and arterial LOS from one end of the corridor to the other along the three corridors and

comparing the travel speed between the No Build condition and Build Alternatives.

Based on the AM peak hour arterial analysis, the greatest difference in travel speeds between the No Build condition and Build Alternatives would be 3 percent for all Build Alternatives. All 10 Build Alternatives would experience a 3 percent reduction in travel speeds along southbound Rockville Pike. Only Build Alternative 9 would additionally experience a 3 percent reduction in travel speeds along westbound Jones Bridge Road, resulting from a shift in travel from Gate #1 to Gate #3 from north of the installation using Rockville Pike and Jones Bridge Road to access the new Medical Facilities Development parking facility located in H-Lot. The shift in trips would add more traffic to intersection #10 (Rockville Pike at Jones Bridge Road) and #11 (Rockville Pike and Gunnell Road) along Jones Bridge Road, thus extending the green times to accommodate the increased vehicle turning movements and delaying the Jones Bridge Road westbound approaches to these intersections. Table 88 shows the AM peak hour arterial summary.

**Table 88: AM Peak Hour Arterial Summary**

Arterial Analysis - Percent Difference from No Build Travel Speed			Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1.	Rockville Pike	Northbound	2%	0%	0%	0%	0%	2%	2%	2%	2%	2%
		Southbound	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
2.	Jones Bridge Road	Eastbound	1%	1%	0%	0%	0%	1%	1%	0%	1%	0%
		Westbound	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%
3.	West Cedar Lane	Eastbound	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
		Westbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

<sup>a</sup> Preferred Alternative

Based on the PM peak hour arterial analysis, the greatest difference in travel speeds between the No Build condition and Build Alternatives would be 3 percent for all Build Alternatives along Rockville Pike northbound. This reflects the increase in traffic exiting through Gate #2 from the new USU parking structure sites and heading north toward the Capital Beltway or I-270. In addition, there would be a 3 percent reduction in travel speeds for Build Alternatives 3, 5, 8, and 10 along eastbound Jones Bridge Road. This reflects the Build Alternatives with the greatest amount of new or shifted trips exiting through Gates #4 and #5 heading east toward Connecticut Avenue. The higher the volume exiting through these gates heading east on Jones Bridge Road, the longer the delay for the Jones Bridge Road traffic traveling between Rockville Pike and Connecticut Avenue at #12 Jones Bridge Road at Grier Road and #13 Jones Bridge Road at University Road intersections. Table 89 shows the PM peak hour arterial summary.

**Table 89: PM Peak Hour Arterial Summary**

Arterial Analysis - Percent Difference from No Build Travel Speed		Alternatives									
		1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1.	Rockville Pike Northbound	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
	Rockville Pike Southbound	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
2.	Jones Bridge Road Eastbound	2%	2%	3%	2%	3%	2%	2%	3%	2%	3%
	Jones Bridge Road Westbound	0%	0%	1%	1%	1%	0%	0%	2%	1%	2%
3.	West Cedar Lane Eastbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	West Cedar Lane Westbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

<sup>a</sup> Preferred Alternative

In addition, the travel speeds, travel times, and arterial LOS were also compared between the No Build condition and Build Alternatives with the summaries shown in Tables 90 through 95. The AM and PM peak hour Build Alternative travel speeds would differ from the No Build condition by less than 1 mph (Tables 90 and 91), while the travel times would differ from the No Build condition by a maximum of 15 seconds (Tables 92 and 93). Together, these slight differences would result in a change in arterial LOS from LOS C to D in Build Alternatives 3-5 and 8-10 along westbound Jones Bridge Road (tables 94 and 95). These changes would be the result of more vehicles exiting the installation through Gate #3 (Build Alternatives 4 and 9) or Gates #4 or #5 (Build Alternatives 3, 5, 8, and 10), thus increasing the amount of time the traffic signals service the exiting gate traffic rather than westbound Jones Bridge Road. After evaluating the three arterials, there would be no significant impact to the external arterials for any of the 10 alternatives.

**Table 90: 2018 AM Peak Hour Arterial Travel Speeds**

Arterial Analysis - Travel Speeds (MPH)		NB	Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1.	Rockville Pike Northbound	22.7	22.2	22.6	22.6	22.6	22.6	22.2	22.3	22.3	22.3	22.3
	Rockville Pike Southbound	18.9	18.4	18.3	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
2.	Jones Bridge Road Eastbound	19.7	19.6	19.6	19.7	19.7	19.7	19.6	19.6	19.7	19.6	19.7
	Jones Bridge Road Westbound	19.5	19.2	19.2	19.2	19.1	19.2	19.2	19.2	19.2	19.0	19.2
3.	West Cedar Lane Eastbound	14.7	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
	West Cedar Lane Westbound	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9

<sup>a</sup> Preferred Alternative

**Table 91: 2018 PM Peak Hour Arterial Travel Speeds**

Arterial Analysis - Travel Speeds (MPH)		NB	Alternatives										
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10	
1.	Rockville Pike Northbound	17.9	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.3	17.4
	Rockville Pike Southbound	18.5	18.1	18.2	18.2	18.2	18.2	18.1	18.2	18.2	18.2	18.1	18.2
2.	Jones Bridge Road Eastbound	18.0	17.7	17.7	17.5	17.7	17.5	17.7	17.7	17.5	17.7	17.5	17.5
	Jones Bridge Road Westbound	18.2	18.2	18.2	18.0	18.0	18.0	18.2	18.2	18.0	18.0	18.0	18.0
3.	West Cedar Lane Eastbound	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
	West Cedar Lane Westbound	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4

<sup>a</sup> Preferred Alternative

**Table 92: 2018 AM Peak Hour Arterial Travel Times**

Arterial Analysis - Travel Time (minutes:seconds)		NB	Alternatives										
			:	2	3	4 <sup>a</sup>	5	6	7	8	9	10	
1.	Rockville Pike Northbound	5:46	5:53	5:47	5:47	5:47	5:47	5:53	5:51	5:52	5:52	5:52	5:52
	Rockville Pike Southbound	7:07	7:19	7:22	7:19	7:18	7:19	7:19	7:19	7:19	7:20	7:19	7:19
2.	Jones Bridge Road Eastbound	5:14	5:15	5:15	5:14	5:14	5:14	5:15	5:15	5:14	5:15	5:14	5:14
	Jones Bridge Road Westbound	5:17	5:22	5:22	5:22	5:23	5:22	5:23	5:23	5:23	5:25	5:23	5:23
3.	West Cedar Lane Eastbound	2:57	2:58	2:58	2:58	2:58	2:58	2:58	2:58	2:58	2:58	2:58	2:58
	West Cedar Lane Westbound	2:34	2:34	2:34	2:34	2:34	2:34	2:34	2:34	2:34	2:34	2:34	2:34

<sup>a</sup> Preferred Alternative

**Table 93: 2018 PM Peak Hour Arterial Travel Times**

Arterial Analysis - Travel Time (minutes:seconds)		NB	Alternatives										
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10	
1.	Rockville Pike Northbound	7:19	7:32	7:31	7:31	7:32	7:31	7:32	7:31	7:31	7:33	7:31	7:31
	Rockville Pike Southbound	7:15	7:25	7:24	7:24	7:24	7:23	7:25	7:24	7:23	7:25	7:23	7:23
2.	Jones Bridge Road Eastbound	5:44	5:50	5:50	5:54	5:49	5:54	5:51	5:50	5:54	5:50	5:54	5:54
	Jones Bridge Road Westbound	5:40	5:40	5:40	5:44	5:44	5:44	5:40	5:40	5:45	5:44	5:44	5:44
3.	West Cedar Lane Eastbound	3:31	3:31	3:31	3:31	3:31	3:31	3:31	3:31	3:31	3:31	3:31	3:31
	West Cedar Lane Westbound	2:30	2:30	2:30	2:30	2:30	2:30	2:30	2:30	2:30	2:30	2:30	2:30

<sup>a</sup> Preferred Alternative

**Table 94: 2018 AM Peak Hour Arterial Level of Service**

Arterial Analysis -Level of Service			NB	Alternatives									
				1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1.	Rockville Pike	Northbound	C	C	C	C	C	C	C	C	C	C	C
		Southbound	C	C	C	C	C	C	C	C	C	C	C
2.	Jones Bridge Road	Eastbound	C	C	C	C	C	C	C	C	C	C	C
		Westbound	C	C	C	C	C	C	C	C	C	C	C
3.	West Cedar Lane	Eastbound	D	D	D	D	D	D	D	D	D	D	D
		Westbound	D	D	D	D	D	D	D	D	D	D	D

<sup>a</sup> Preferred Alternative

**Table 95: 2018 PM Peak Hour Arterial Level of Service**

Arterial Analysis -Level of Service			NB	Alternatives									
				1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
1.	Rockville Pike	Northbound	D	D	D	D	D	D	D	D	D	D	D
		Southbound	C	C	C	C	C	C	C	C	C	C	C
2.	Jones Bridge Road	Eastbound	D	D	D	D	D	D	D	D	D	D	D
		Westbound	C	C	C	D	D	D	C	C	D	D	D
3.	West Cedar Lane	Eastbound	D	D	D	D	D	D	D	D	D	D	D
		Westbound	D	D	D	D	D	D	D	D	D	D	D

<sup>a</sup> Preferred Alternative

**4.3 Internal Intersection Summary**

The HCM method was used to calculate the LOS for 13 internal intersections, including a proposed intersection at South Palmer Road and South Wood Road serving the exit ramp from the proposed underground parking structure. Each alternative shifted travel patterns around NSA Bethesda, lowering the LOS for some intersections, while raising the LOS for others. For each intersection, the difference between the projected 2018 No Build condition and given Build Alternative was measured.

Based on the AM peak hour HCM analysis, Build Alternative 1 and 2 would improve from LOS B to A at the #20 R.B. Brown Drive at Garage 54 Entrance intersection, but worsen from LOS A to B at the #24 East Palmer Road at North Palmer Road intersection. This would be due to patient trips entering through Gate #1 shifted from R.B. Brown Drive to the new underground garage and new staff trips entering through

Gate #1, headed to the new USU Alternative 2 parking structure in N-Lot passing through the #24 intersection.

Build Alternative 3 and 5 would improve from LOS B to A at the #20 R.B. Brown Drive at Garage 54 Entrance intersection, but worsen from LOS B to C at the #18 R.B. Brown Drive at North Palmer Road intersection, and from LOS A to B at the #24 East Palmer Road at North Palmer Road, #25 East Palmer Road at Rixey Road, and #26 East Palmer Road at Gunnell Road intersections. This would be due to staff trips entering through Gate #1 shifted from R.B. Brown Drive to the new parking structures along Taylor Road and Grounds Road passing through #18 and #24 intersections and new staff trips entering through Gate #1, headed to the new USU Alternative 2 parking structure in N-Lot passing through #18, #24, and #25 intersections. There would also be new trips entering through Gate #3 passing through #25 and #26 intersections. The #19 R.B. Brown Drive and Building 54 Exit intersection would change from LOS C to D, reflecting the new staff pedestrian trips crossing at this intersection from the new parking structures on Taylor Road or Grounds Road.

Build Alternative 4 (Preferred Alternative) would improve from LOS C to B at the #19 R.B. Brown Drive and Building 54 Exit intersection and from LOS B to A at the #20 R.B. Brown Drive at Garage 54 Entrance intersection, but worsen from LOS A to B at the #24 East Palmer Road at North Palmer Road and #26 East Palmer Road at Gunnell Road intersections. This would be due to staff trips shifted from R.B. Brown Drive to the new parking facility in H-Lot, entering through Gate #3 and passing through the #26 intersection. There would also be new staff trips entering through Gate #1 headed to the new USU Alternative 2 parking structure passing through the #24 intersection.

Build Alternatives 6 and 7 would improve from LOS B to A at the #18 R.B. Brown Drive at North Palmer Road and #20 R.B. Brown Drive at Garage 54 Entrance intersections, but worsen from LOS A to B at the #23 R.B. Brown Drive at South Palmer Road, #27 Stokes Road at South Palmer Road, and #28 Grier Road at South Palmer Road intersections. This would be due to patient trips entering through Gate #1 shifted to the new underground parking structure and new staff trips entering through Gate #2 and passing through #23, #27, and #28 intersections destined for the USU Alternative 1 parking structure.

Build Alternatives 8 and 10 would improve from LOS B to A at the #20 R.B. Brown Drive at Garage 54 Entrance intersection, but worsen from LOS A to B at the #24 East Palmer Road at North Palmer Road, and #26 East Palmer Road at Gunnell Road intersections. This would be due to staff trips shifted from R.B. Brown Drive to the new parking structures entering through Gate #1 and destined to Taylor and Grounds Roads passing through the #24 intersection and shifted staff trips entering through Gate #3 and passing through the #26 intersection headed to Taylor and Grounds Roads. The #19 R.B. Brown Drive and Building 54 Exit intersection would change from LOS C to D, reflecting

the new pedestrian trips crossing at this intersection from the new parking structures on Taylor Road or Grounds Road.

Build Alternative 9 would improve from LOS B to A at the #18 R.B. Brown Drive at North Palmer Road and #20 R.B. Brown Drive at Garage 54 Entrance intersections, and LOS C to B at the #19 R.B. Brown Drive and Building 54 Exit intersection, but worsen from LOS A to B at the #26 East Palmer Road at Gunnell Road, #27 Stokes Road at South Palmer Road, and #28 Grier Road at South Palmer Road intersections. This would be due to staff trips shifted from R.B. Brown Drive to the new parking facility in H-Lot, entering through Gate #3 and passing through the #26 intersection and entering through Gate #4 and passing through the #27 and #28 intersections. Table 96 shows the AM peak hour HCM internal summary.

**Table 96: AM Peak Hour Internal Summary**

Highway Capacity Manual - LOS	NB	Alternatives									
		1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
18. Parking Lot/R.B. Brown Drive & North Palmer Road	B	B	B	C	B	C	A	A	B	A	B
19. R.B. Brown Drive & America Garage/Garage 54 Exit	C	C	C	D	B	D	C	C	D	B	D
20. R.B. Brown Drive & Garage 54 Entrance	B	A	A	A	A	A	A	A	A	A	A
21. R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	A	A	A	A	A	A	A	A	A	A	A
22. R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	A	A	A	A	A	A	A	A	A	A	A
23. R.B. Brown Drive & South Palmer Road	A	A	A	A	A	A	B	B	A	A	A
24. East Palmer Road & North Palmer Road/Taylor Road	A	B	B	B	B	B	A	A	B	A	B
25. East Palmer Road & Visitor Garage Exit/Rixey Road	A	A	A	B	A	B	A	A	A	A	A
26. East Palmer Road/Gunnell Road & Stokes Road	A	A	A	B	B	B	A	A	B	B	B
27. AFRI Driveway/Stokes Road & South Palmer Road	A	A	A	A	A	A	B	B	A	B	A
28. University Road/Grier Road & South Palmer Road	A	A	A	A	A	A	B	B	A	B	A
29. University Road & South Palmer Road	A	A	A	A	A	A	A	A	A	A	A
31. South Wood Road & South Palmer Road <sup>b</sup>	--	A	--	--	--	--	A	--	--	--	--

<sup>a</sup> Preferred Alternative

<sup>b</sup> Intersection added to analyze the effects of a new exit ramp from the proposed underground parking structure. Intersection #30 not analyzed because no vehicle conflicts would exist (See Figure 36).

Based on the PM peak hour HCM analysis, Build Alternatives 1 and 2 would worsen from LOS B to C at the #26 East Palmer Road at Gunnell Road and #28 Grier Road at South Palmer Road intersections. This would be due to new staff trips entering through Gate #3, headed to the new USU Alternative 2 parking structure in N-Lot passing through the #26 intersection and new staff trips exiting through Gate #2, originating

from the new USU Alternative 2 parking structure and passing through the #28 intersection.

Build Alternatives 3 and 5 would improve from LOS B to A at the #21 R.B. Brown Drive at Garage 55 Exit and #23 R.B. Brown Drive at South Palmer Road intersection (Build Alternative 5 only), but worsen from LOS B to C at the #26 East Palmer Road at Gunnell Road intersection. This would be due to shifted staff trips exiting through Gate #3, originating along Taylor and Grounds Roads passing through the #26 intersection.

Build Alternative 4 (Preferred Alternative) would improve from LOS C to B at the #18 R.B. Brown Drive at North Palmer Road and from LOS B to A at the #21 R.B. Brown Drive at Garage 55 Exit intersection, but worsen from LOS B to D at the #26 East Palmer Road at Gunnell Road intersection and from LOS B to C at the #28 Grier Road at South Palmer Road intersection. This would be due to staff trips shifted from R.B. Brown Drive to the new parking facility in H-Lot, exiting through Gate #3 and passing through the #26 intersection. There would also be new staff trips exiting through Gate #4 originating at the new USU Alternative 2 parking structure passing through the #28 intersection.

Build Alternatives 6 and 7 would worsen from LOS B to C at the #28 Grier Road at South Palmer Road intersection as a result of new staff trips exiting through Gates #2 and #4 passing through intersection #28 originating at the USU Alternative 1 parking structure.

Build Alternatives 8 and 10 would improve from LOS B to A at the #21 R.B. Brown Drive at Garage 55 Exit and #23 R.B. Brown Drive at South Palmer Road intersection, but worsen from LOS B to C at the #26 East Palmer Road at Gunnell Road intersection. This would be due to staff trips shifted from R.B. Brown Drive to the new parking structures along Taylor Road and Grounds Road, exiting through Gate #3 and passing through intersection #26 originating along Taylor and Grounds Roads.

Build Alternative 9 would improve from LOS C to B at the #18 R.B. Brown Drive at North Palmer Road intersection and from LOS B to A at the #21 R.B. Brown Drive at Garage 55 Exit intersection, but worsen from LOS B to D at the #26 East Palmer Road at Gunnell Road intersection and from LOS B to C at the #28 Grier Road at South Palmer Road intersection. This would be due to staff trips shifted from R.B. Brown Drive to the new parking facility in H-Lot, exiting through Gate #3 and passing through the #26 intersection. There would also be new staff trips exiting through Gate #4 originating at the new USU Alternative 1 parking structure passing through the #28 intersection. Table 97 shows the PM peak hour HCM internal summary.

While there would be shifts in the LOS for various internal intersections, the lowest LOS would be LOS D, which is acceptable for an intersection located in an urban area and represents stable traffic

conditions. Based on this analysis, there would be no significant impact to the internal intersections by any of the Build Alternatives.

**Table 97: PM Peak Hour HCM Internal Summary**

Highway Capacity Manual - LOS		NB	Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
18.	Parking Lot/R.B. Brown Drive & North Palmer Road	C	C	C	C	B	C	C	C	C	B	C
19.	R.B. Brown Drive & America Garage/Garage 54 Exit	b	b	b	b	b	b	b	b	b	b	b
20.	R.B. Brown Drive & Garage 54 Entrance	A	A	A	A	A	A	A	A	A	A	A
21.	R.B. Brown Drive & Drop-Off Loop Entrance/Garage 55 Exit	B	B	B	A	A	A	B	B	A	A	A
22.	R.B. Brown Drive & Drop-Off Loop Exit/Garage 55 Entrance	A	A	A	A	A	A	A	A	A	A	A
23.	R.B. Brown Drive & South Palmer Road	B	B	B	B	B	A	B	B	A	B	A
24.	East Palmer Road & North Palmer Road/Taylor Road	B	B	B	B	B	B	B	B	B	B	B
25.	East Palmer Road & Visitor Garage Exit/Rixey Road	B	B	B	B	B	B	B	B	B	B	B
26.	East Palmer Road/Gunnell Road & Stokes Road	B	C	C	C	D	C	B	B	C	D	C
27.	AFRRI Driveway/Stokes Road & South Palmer Road	B	B	B	B	B	B	B	B	B	B	B
28.	University Road/Grier Road & South Palmer Road	B	C	C	B	C	B	C	C	B	C	B
29.	University Road & South Palmer Road	A	A	A	A	A	A	A	A	A	A	A
31.	South Wood Road & South Palmer Road <sup>c</sup>	-	B	--	--	--	--	B	--	--	--	--

<sup>a</sup> Preferred Alternative

<sup>b</sup> HCM unsignalized intersection capacity analysis result in abnormally high levels of delay at intersections with large pedestrian volumes. This intersection would perform with a similar LOS as the AM conditions, LOS C or LOS D, depending on the alternative.

<sup>c</sup> Intersection added to analyze the effects of a new exit ramp from the proposed underground parking structure. Intersection #30 not analyzed because no vehicle conflicts would exist (See Figure 36).

**4.4 Gate Count Summary**

Counts at the five gates were obtained on October 18, 19, 20, and 26, 2011, under the existing conditions. The projected trips to each gate under the No Build condition and 10 Build Alternatives were calculated from each alternative’s projected intersection turning movement counts, which were used in previous sections to determine the future intersection operations.

The gate volumes would differ for each alternative, reflecting the shift in patient or staff trips between gates to access the new parking structures.

Table 98 shows the projected AM peak hour 2018 volumes by gate, and Table 99 shows the projected AM peak hour 2018 percent change by gate. Note that the outbound direction at Gate #4 is closed during the AM peak hour; therefore, a zero volume is shown. Also note that the volumes shown for inbound Gate #4 (AM peak hour) would likely be

higher than shown as the existing gate counts were obtained during a period when Gate #4 was the temporary truck entrance, thus passenger vehicles arriving from the east along Jones Bridge Road would have been required to use Gate #3 or #5 instead of Gate #4. The CLV-based and HCM-based intersection analysis for the three intersections along Jones Bridge Road serving the three NSA Bethesda gates (intersections #11, #12, and #13) would all be LOS A for all 10 Build Alternatives during the AM peak hour; therefore, vehicle shifts from the intersections serving Gates #3 (Gunnell Road) and #5 (University Road) to Gate #4 (Grier Road) would not result in any significant impacts.

**Table 98: Projected AM Peak Hour 2018 Volumes by Gate**

Gates - Proposed Counts	Direction	NB	Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
7 North Wood Road (Gate #1)	Inbound	427	491	488	491	394	491	427	396	423	314	427
	Outbound	117	67	115	116	97	117	67	115	116	97	117
9 South Wood Road (Gate #2)	Inbound	190	190	190	152	152	152	254	285	220	241	216
	Outbound	91	156	107	107	109	106	156	108	107	111	106
11 Gunnell Road (Gate #3)	Inbound	254	276	274	314	398	314	254	254	291	372	292
	Outbound	122	127	127	127	141	127	122	122	122	137	122
12 Grier Road (Gate #4)	Inbound	48	48	48	0	26	0	128	128	31	136	28
	Outbound	0	0	0	0	0	0	0	0	0	0	0
13 University Road (Gate #5)	Inbound	135	193	190	293	205	293	135	135	233	135	235
	Outbound	6	20	18	20	17	20	25	25	25	25	25

<sup>a</sup> Preferred Alternative

**Table 99: Projected AM Peak Hour 2018 Percent Change by Gate**

Gates - Percent Change	Direction	NB	Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
7 North Wood Road (Gate #1)	Inbound	427	15%	14%	15%	-8%	15%	0%	-7%	-1%	-26%	0%
	Outbound	117	-43%	-2%	-1%	-17%	0%	-43%	-2%	-1%	-17%	0%
9 South Wood Road (Gate #2)	Inbound	190	0%	0%	-20%	-20%	-20%	34%	50%	16%	27%	14%
	Outbound	91	71%	18%	18%	20%	16%	71%	19%	18%	22%	16%
11 Gunnell Road (Gate #3)	Inbound	254	9%	8%	24%	57%	24%	0%	0%	15%	46%	15%
	Outbound	122	4%	4%	4%	16%	4%	0%	0%	0%	12%	0%
12 Grier Road (Gate #4)	Inbound	48	0%	0%	-100%	-46%	-100%	167%	167%	-35%	183%	-42%
	Outbound	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
13 University Road (Gate #5)	Inbound	135	43%	41%	117%	52%	117%	0%	0%	73%	0%	74%
	Outbound	6	233%	200%	233%	183%	233%	317%	317%	317%	317%	317%

<sup>a</sup> Preferred Alternative

Table 100 shows the projected PM peak hour 2018 gate volume change by gate, and Table 101 shows the projected PM peak hour 2018 percent change by gate. Note that the inbound direction at Gate #4 is closed during the PM peak hour; therefore, a zero volume is shown.

**Table 100: Projected PM Peak Hour 2018 Volume Change by Gate**

Gates - Proposed Counts	Direction	NB	Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
7 North Wood Road (Gate #1)	Inbound	85	112	111	112	96	112	85	83	84	70	85
	Outbound	464	423	443	453	346	456	431	451	460	354	464
9 South Wood Road (Gate #2)	Inbound	102	102	102	97	97	97	129	131	125	127	124
	Outbound	198	306	283	239	250	236	298	278	232	252	228
11 Gunnell Road (Gate #3)	Inbound	166	175	175	180	191	180	166	166	171	182	171
	Outbound	373	371	371	407	485	408	373	373	409	487	410
12 Grier Road (Gate #4)	Inbound	0	0	0	0	0	0	0	0	0	0	0
	Outbound	342	433	430	339	429	335	423	423	329	432	325
13 University Road (Gate #5)	Inbound	7	32	30	32	27	32	41	41	41	42	41
	Outbound	7	2	2	94	2	97	7	7	102	7	105

<sup>a</sup> Preferred Alternative**Table 101: Projected PM Peak Hour 2018 Percent Change by Gate**

Gates - Percent Change	Direction	NB	Alternatives									
			1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
7 North Wood Road (Gate #1)	Inbound	85	32%	31%	32%	13%	32%	0%	-2%	-1%	-18%	0%
	Outbound	464	-9%	-5%	-2%	-25%	-2%	-7%	-3%	-1%	-24%	0%
9 South Wood Road (Gate #2)	Inbound	102	0%	0%	-5%	-5%	-5%	26%	28%	23%	25%	22%
	Outbound	198	55%	43%	21%	26%	19%	51%	40%	17%	27%	15%
11 Gunnell Road (Gate #3)	Inbound	166	5%	5%	8%	15%	8%	0%	0%	3%	10%	3%
	Outbound	373	-1%	-1%	9%	30%	9%	0%	0%	10%	31%	10%
12 Grier Road (Gate #4)	Inbound	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Outbound	342	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
13 University Road (Gate #5)	Inbound	7	357%	329%	357%	286%	357%	486%	486%	486%	500%	486%
	Outbound	7	-71%	-71%	<sup>b</sup>	-71%	<sup>b</sup>	0%	0%	<sup>b</sup>	0%	<sup>b</sup>

<sup>a</sup> Preferred Alternative<sup>b</sup> Values resulting in over a 1,000 percent increase based on low volume predicted for the PM outbound volume for the No Build condition.

#### 4.5 Internal Parking

The 2018 No Build condition parking facility inventory provided a base for determining how much parking would potentially be available for the 270 new employees anticipated to be added to the installation as part of the 10 Build Alternatives. For alternatives where existing parking lots would be replaced by a new parking facility, those lost spaces were assumed to be provided for within the new parking structure. This would reduce the number of available new spaces for new staff expected by 2018.

The study assumed the proposed new parking structure in the existing N-Lot would have 62 spaces used by former N-Lot users. Additionally, the study assumed the proposed new parking structure in H-Lot would have 110 spaces used by former H-Lot users, and the proposed new parking structure in Z-Lot would have 17 spaces used by former Z-Lot users. If the G-Lot was affected by the new underground parking

facility, then the study assumed that 82 spaces in the new USU parking structure site would be used by those users.

Build Alternatives 1, 2, 3, 4, 5, 8, and 9 would displace existing parking. Existing employees using the parking spaces in the displaced lots would be allowed to use spaces in other lots on campus or in new lots. Therefore, the number of new staff trips expected to be generated by any given Build Alternative would be calculated by subtracting the number of displaced staff parking spaces from the total number of staff spaces to be provided under the alternative. The number of peak hour trips used to calculate traffic impacts was derived by comparing the number of remaining parking spaces to the maximum of 270 new employees. If the remaining spaces were equal or greater than 270, then all peak hour trips projected to be generated by the projected 270 new employees were included in the alternative. If less than 270 spaces remained, then the remaining number of spaces was used to calculate the peak hour trip generation for the alternative. The total patient, visitor, and barracks spaces were also calculated. However, the new trips were only staff (patient and visitor trips are not expected to change); therefore, staff spaces were the only focus of the traffic study.

The total NSA Bethesda available parking is bound by the NCPC staff parking ratio of one space for every three employees. To ensure that NSA Bethesda would adhere to NCPC policy, the NCPC ratio was calculated for the existing condition, project 2018 No Build condition, and Build Alternatives. Under all Build Alternatives, the staff parking ratio would remain greater than the NCPC ratio of one space for every three employees. Table 102 shows the parking summary.

#### **4.6 Bicycle and Pedestrian Impacts**

The bicycle and pedestrian networks were discussed in the existing conditions, providing the Bicycle and Pedestrian Impact Statement elements required in the M-NCPPC-LATR. This included existing bicycle routes, storage racks, and counts as well as pedestrian counts, sidewalk extent and widths, and ADA-compliant curbing.

Each alternative was evaluated for bicycle and pedestrian impacts, including the addition of pedestrian trips at each appropriate intersection to determine the impact, if any, to vehicle operations. For Build Alternatives 1-5, pedestrian flows between the proposed USU Alternative 2 parking structure in N-Lot and the Medical Buildings were analyzed, and sidewalk widths were checked to ensure a safe walkway would exist. For Build Alternatives 6-10, an additional intersection was included to connect with the proposed USU Alternative 1 parking structure south of South Palmer Road across from the USU. For Build Alternatives 3-5 and 8-10, pedestrian flows between the proposed parking structures along Taylor Road or Grounds Road were analyzed, and sidewalk widths were checked to ensure a safe walkway would exist. For Build Alternatives 4 and 9, the Stokes Road at

Gunnell Road intersection was analyzed to connect the proposed H-Lot parking structure to the Medical Buildings.

**Table 102: Parking Summary**

Alternative				Total Staff	Total Patient	Total Visitor	Total Barracks	Total Gov't	Capacity	NCPC
Existing Condition <sup>a</sup>				3,525	2,436	1,120	457	148	7,686	3.32
No Build Condition <sup>b</sup>				3,484	2,286 <sup>c</sup>	1,512 <sup>c</sup>	601 <sup>c</sup>	229 <sup>c</sup>	8,112	3.54
ALT	New Staff spaces	New Patient spaces	Spaces Shifted	Total Staff	Total Patient	Total Visitor	Total Barracks	Total Gov't	Capacity	NCPC
Alt 1: <sup>d</sup>	338	500	N-LOT=62	3,822	2,786	1,512	601	229	8,950	3.30
Alt 2: <sup>d</sup>	256	500	G-LOT=82 N-LOT=62	3,740	2,786	1,512	601	229	8,868	3.37
Alt 3: <sup>d</sup>	321	500	N-LOT=62 Z-LOT=17	3,805	2,786	1,512	601	229	8,933	3.31
Alt 4: <sup>d e</sup>	228	500	N-LOT=62 H- LOT=110	3,712	2,786	1,512	601	229	8,840	3.40
Alt 5: <sup>d</sup>	338	500	N-LOT=62	3,822	2,786	1,512	601	229	8,950	3.30
Alt 6: <sup>d</sup>	400	500		3,884	2,786	1,512	601	229	9,012	3.25
Alt 7: <sup>d</sup>	318	500	G-LOT=82	3,802	2,786	1,512	601	229	8,930	3.32
Alt 8: <sup>d</sup>	383	500	Z-LOT=17	3,867	2,786	1,512	601	229	8,995	3.26
Alt 9: <sup>d</sup>	290	500	H- LOT=110	3,774	2,786	1,512	601	229	8,902	3.34
Alt 10: <sup>d</sup>	400	500		3,884	2,786	1,512	601	229	9,012	3.25

<sup>a</sup> Existing Condition ratio based upon population of 11,686.

<sup>b</sup> No Build Condition ratio based upon population of 12,341.

<sup>c</sup> Numbers increased due to previously evaluated projects under construction or about to be under construction.

<sup>d</sup> Build Alternative ratio based upon population of 12,611.

<sup>e</sup> Preferred alternative

Table 103 shows the AM peak hour 2018 Build Alternative new pedestrian trips, and Table 104 shows the PM peak hour 2018 Build Alternative new pedestrian trips. These new trips would be the result of shifted and new staff trips required to walk from one of the new parking structures to their office in the Medical Building or USU campus.

**Table 103: AM Peak Hour 2018 Build Alternative New Pedestrian Trips**

Pedestrian Trips Added	Alternatives									
	1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
R.B. Brown Drive & America Garage/Garage 54 Exit			284		293			284		293
R.B. Brown Drive & South Palmer Road	17	50	26	307	17	17	50	26	314	17
East Palmer Road & North Palmer Road/Taylor Road			284		293			284		293
East Palmer Road/Gunnell Road & Stokes Road				229					229	
AFFRI Driveway/Stokes Road & South Palmer Road	17	50	26	78	17	17	50	26	85	17
University Road/Grier Road (Gate #4) & South Palmer Road						178	204	178	246	178

<sup>a</sup> Preferred Alternative**Table 104: PM Peak Hour 2018 Build Alternative New Pedestrian Trips**

Pedestrian Trips Added	Alternatives									
	1	2	3	4 <sup>a</sup>	5	6	7	8	9	10
R.B. Brown Drive & America Garage/Garage 54 Exit			270		278			270		278
R.B. Brown Drive & South Palmer Road	16	31	24	292	16	16	31	24	294	16
East Palmer Road & North Palmer Road/Taylor Road			270		278			270		278
East Palmer Road/Gunnell Road & Stokes Road				217					217	
AFFRI Driveway/Stokes Road & South Palmer Road	16	31	24	75	16	16	31	24	77	16
University Road/Grier Road (Gate #4) & South Palmer Road						209	215	208	270	209

<sup>a</sup> Preferred Alternative

In addition to NSA Bethesda having adequate sidewalk widths and curbing, the NSA Bethesda Accessibility Capital Improvement Plan recommends improving the sidewalks along the entire length of R.B. Brown Drive and Taylor Road, which will improve the future connections between the Medical Buildings and the proposed parking structures along Taylor and Grounds Roads.

Although alternatives to the underground parking garage are more distant from the Medical Facilities where most of the staff work, based upon the existing sidewalk widths, available internal and external sidewalk network, and available bicycle external network and internal storage racks, there would be no significant impact from implementing any of the alternatives with regard to bicycle and pedestrian accessibility at NSA Bethesda.

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## 5.0 Construction Impacts

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The construction conditions include parking, sidewalk, and truck access through Gate #5. The parking section includes the NSA Bethesda plan for handling parking needs during the construction period. The sidewalk section includes discussion of the potential temporary impacts to the internal and external sidewalk network due to construction activities, and the Gate #5 construction truck impacts consists of a trucking queue analysis to determine if any temporary measures might be recommended to mitigate potential queues.

### 5.1 Parking

Overall, parking at NSA Bethesda is impacted on a daily basis due to major and minor construction projects. On the average day, approximately 100 spaces are lost to construction staging, storage, and contractor vehicles associated with both capital improvements and ongoing maintenance of existing facilities. These impacts are coordinated to allow for the least possible impact to the installation patient population.

To minimize impacts on installation parking from construction workers, the Navy will contractually limit construction worker parking to within the construction sites and lay down areas. It is anticipated that the limited construction parking would be utilized for contractor management staff, on-site government representatives, and visitors. Further, for those construction contractors who do not receive on-site construction parking, the Navy will contractually require the contractors to utilize mass transit options to access the installation. The Navy will require documented verification of these provisions, and to ensure compliance, may conduct security inspections and badge verifications at the installation entrance(s) or at the contractor-provided parking site.

The number of peak trips to the installation may temporarily increase due to construction worker trips during the construction period, which is projected to last 66 months. Additionally, staff commuting patterns may be temporarily altered due to shifts in parking locations. NSA Bethesda will seek to minimize impacts on parking and the road network during this period by employing constraints on construction worker parking (as described previously) and the mitigation strategies discussed in Section 7.0.

### 5.2 Sidewalk Impacts

During the construction period within the NSA Bethesda installation there would be temporary sidewalk closings, temporary new connections provided to compensate for the sidewalk closings when necessary, and sidewalk impacts such as narrowed or torn up sidewalks.

Because all construction would occur internally to the installation, the external sidewalk or bicycle network along Rockville Pike or Jones Bridge Road would not be significantly impacted.

These impacts would be short-term, and there would not be any long-term impacts. NSA Bethesda will seek to minimize these impacts by employing the mitigation strategies discussed in Section 7.0.

### **5.3 Gate #5 Construction Truck Impacts**

NSA Bethesda operates five gates: two on Rockville Pike and three on Jones Bridge Road. Passenger vehicles may enter through any one of the five gates, depending on the hours of operation, but trucks must enter through the newly upgraded Gate #5 and the CVIF and must exit through Gate #1.

#### **5.3.1 Existing Condition**

Gate #5 is located on the southeastern corner of NSA Bethesda along University Road, connecting Jones Bridge Road to the USU campus. There are two sets of security gatehouses, one serving private vehicles and the other only serving commercial vehicles as the official NSA Bethesda CVIF. The security gatehouse serving private vehicles is located directly along University Road, with one inbound and one outbound lane operating between the hours of 5:00 AM and 6:00 PM, Monday through Friday. Commercial vehicles exiting NSA Bethesda would exit through Gate #1 on Rockville Pike.

The security gatehouse serving the commercial vehicles is located to the right of the private vehicle inspection area and can store four trucks at one time, two under the gatehouse and two directly behind them. Once a truck is cleared, it may proceed northbound through the CVIF gatehouse to Perimeter Road and access the rest of the installation. If the NSA Bethesda security does not clear a truck, then the truck must use the truck turnaround bay, located on the right side, directly past the inspection area. Once in the truck turnaround bay, a truck may wait to be cleared or return to University Road and exit the installation. Figure 69 shows Gate #5.

On Tuesday, February 21<sup>st</sup>, 2012, between 6:30 AM and 9:00 AM, truck arrival counts and inspection times by truck type were collected at Gate #5 to observe an existing queue condition. Based on the data collection effort, 54 trucks entered through Gate #5's CVIF, composed of dump trucks, trucks carrying food, mail trucks (United Parcel Service and Federal Express), trucks carrying waste, contractor vehicles, and vans. Truck sizes ranged from small contractor pick-up trucks through 53-foot tractor trailers.

The average processing times by truck types ranged between 27 seconds for a Coca Cola truck to 148 seconds (2 minutes and 28 seconds) for a tractor trailer carrying food. Other than the large truck carrying food, most of the other truck processing times ranged between 45 to 65 seconds. Five dump trucks took an average of 47 seconds to pass

through the CVIF. Table 105 contains an existing truck arrival and inspection summary.

**Table 105: Existing Truck Arrival and Inspection Summary**

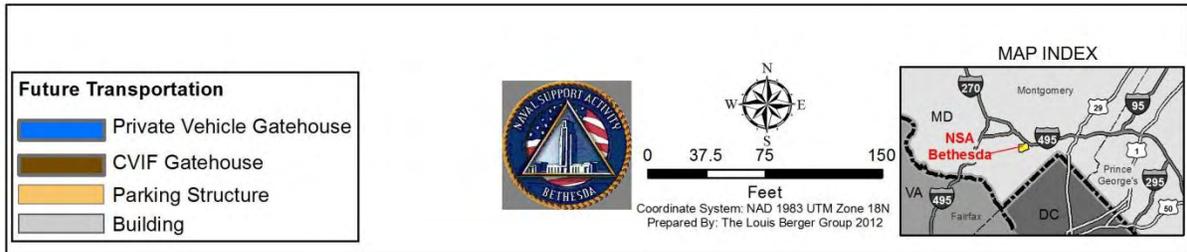
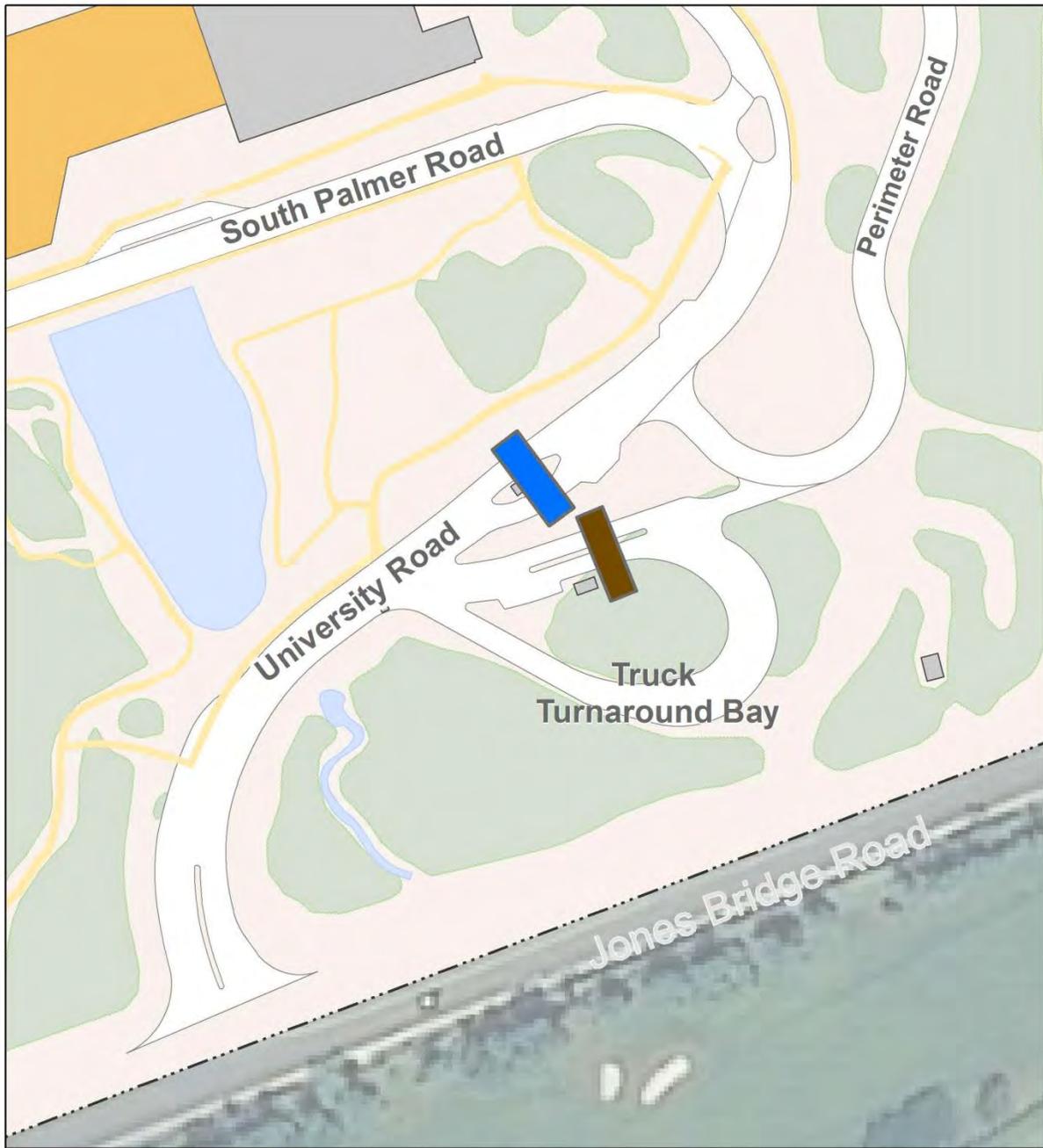
Time Periods	Trucks Arriving	Average Inspection Time (in seconds)
6:30am - 6:45am	3	60.0
6:45am - 7:00am	7	82.4
7:00am - 7:15am	4	42.8
7:15am - 7:30am	7	60.4
7:30am - 7:45am	6	72.2
7:45am - 8:00am	3	53.3
8:00am - 8:15am	3	17.3
8:15am - 8:30am	7	57.1
8:30am - 8:45am	7	72.0
8:45am - 9:00am	7	33.7
<b>Grand Total</b>	<b>54</b>	<b>58.1</b>

Based on the existing truck arrivals and average inspection times, there are two peak hours, between 6:30 AM and 7:30 AM and between 8:00 AM and 9:00 AM. Both of those peak hours totaled 24 trucks arriving at the Gate #5 CVIF. According to a field survey, a maximum of four trucks could be stored at one time during the two peak hours, with the security staff inspecting three trucks at one time.

### 5.3.2 Future Condition

To determine the worst case scenario for construction truck impacts, the study used July 1, 2015, through June 30, 2016, as the future year. Based on the current construction schedule estimates, during this time period the new Medical Facility Development, new Medical Facilities Development parking structure, and USU expansion building and new parking structure would be under construction. In addition, there will be utility upgrades involving construction or repairs, and a number of Medical Facility buildings and USU buildings will be undergoing renovation.

Figure 69: Gate #5



### **5.3.2.1 Estimated Trucks**

The study projected future construction trucks by first dividing the construction into two distinct periods. The initial period, scheduled to require approximately 2 years, would include the excavation or demolition required for the Medical Facility garage, as well as a number of smaller accessibility and appearance plan projects and utility upgrades. A set of estimates was developed for the maximum amount of earth or debris that could potentially be generated by excavation or demolition under each of the alternatives for Medical Facilities Development parking. The number of dump trucks required to remove this earth or debris from the installation was estimated under the assumption that all earth and debris would potentially require off-site disposal. The material requirements and resulting trucks for the other several smaller proposed projects that are currently scheduled to occur during the same period as the excavation or demolition for the parking garage were also added. To be conservative, one 250-day construction year was assumed, and an average daily requirement for trucks was estimated.

The second period of construction was assumed to include all remaining projects, including necessary demolition of existing buildings and construction of the Medical Facilities Development and parking garage, the majority of utility upgrades, all proposed renovations, and the USU Expansion. Estimates were made of the construction materials needed to be brought onto the installation for new construction and renovation, and estimates were made of construction and demolition (C&D) debris that would need to be removed during the same time period. The estimates were based on average factors for nonresidential buildings determined by a study conducted for the U.S. Environmental Protection Agency by Franklin Associates. The types of trucks that would be used and their capacity were assumed based upon those typically used to support construction. It was also assumed, conservatively, that supply trucks used to bring in materials would not be used to remove the C&D debris; rather, separate dump trucks that come on-site empty would be used to remove the C&D debris. Again, to be conservative, it was assumed that, although these actions are scheduled to occur over several years, all activity would take place over one construction year of 250 days. The resulting total tonnage coming on-site and being removed from the installation was then allocated to the trucks to derive an average requirement for trucks per day.

The result was 37 trucks per day during the second period. The second period required more trucks than the first and was therefore used as the number of trucks entering the facility each day on average. This estimate of 37 trucks per day was used for the analysis of construction traffic impacts.

### **5.3.2.2 Queue Analysis**

The queue analysis consists of calculating the most severe case estimate for the number of trucks that would enter at Gate #5, the

average length of time to inspect each truck, and determining the storage space to handle the truck demand.

To calculate the number of trucks entering Gate #5 during the AM peak hour, the existing peak hour number plus the estimated future peak hour number were summed. As surveyed, the existing peak hour was 24 trucks per hour. These included mail, food, contractors, and trash.

Based on the assumptions discussed in the previous section, there would be approximately 37 additional construction trucks per day. Using the 24 hour Grier Road (Gate #4) ATR data used to calculate the existing volumes, the study obtained a 3-day sample of northbound traffic volumes. During the time the ATR was placed on Grier Road, Gate #4 served as the CVIF, with all other vehicles required to use one of the other four gates to enter the installation. These data provided a quality sample to calculate the maximum percent of daily trucks that would arrive during the peak hour. Based on the data, an average of 17.51 percent of trucks arrived at the installation during the AM peak hour (average of 18.29 percent, 18.40 percent, and 15.83 percent). The resulting peak hour additional construction truck flow would be 7 trucks per hour (6.48 rounded to the next whole number).

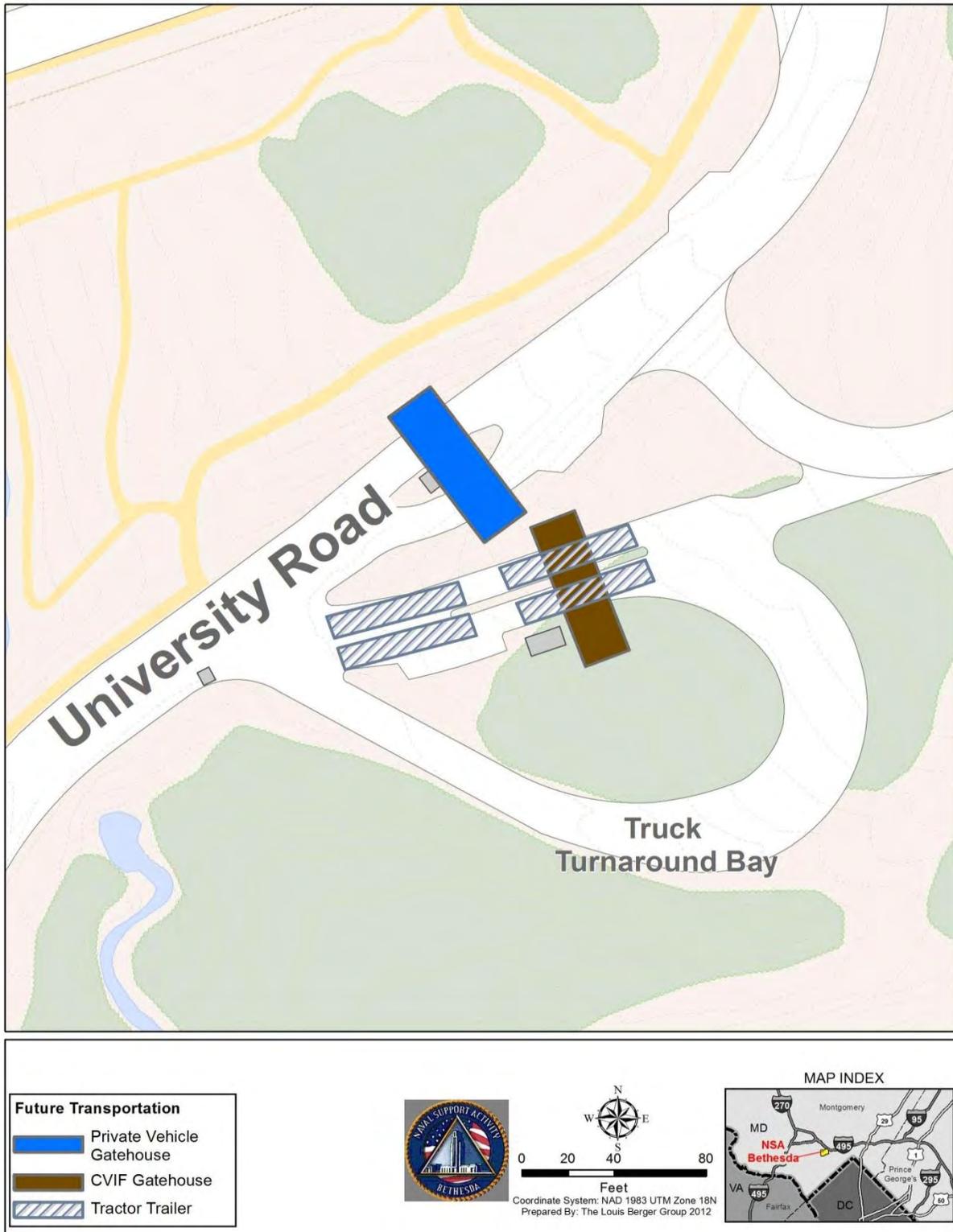
The total number of trucks per hour (existing plus future) would be 31 trucks per hour in 2015. If the average time to inspect a truck was observed to be between 45 and 65 seconds, the study used the severe case scenario by rounding to the next minute or 2 minutes, with two trucks inspected at one time. This would result in the security staff processing 60 trucks per hour (60 minutes in an hour divided by 2 minutes inspection time, times two inspection stations).

Currently, the CVIF can store four tractor trailer trucks; two inspection slots with one truck queued directly behind each inspection slot. Based on 31 trucks per hour arriving during the AM peak hour and a uniform arrival rate, there would be no queue, because the existing facility can handle up to 60 trucks per hour. Figure 70 shows the existing tractor trailer truck storage.

Because the arrival rates for the trucks would not be uniform, the Poisson distribution was used to calculate the probability of truck arrivals. According the Poisson distribution, there would be a probability of 32.33 percent that two, 14.29 percent that three, 5.27 percent that four, 1.66 percent that five, and 0.45 percent that six trucks would arrive during a 2-minute interval. Based on these calculations, there would be a 95 percent or greater probability that no more than four trucks would arrive, the maximum number that the existing facility can store, and an 85 percent probability that no more than two trucks would arrive at the same time.

Because there would be less than a 2 percent probability that more than four trucks would arrive at the same time to Gate #5, and that this analysis assumes all four trucks would be tractor trailers, there would be no significant queue impact to the CVIF and Gate #5.

Figure 70: Existing Tractor Trailer Truck Storage



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## 6.0 Proposed Action Recommendations

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The existing conditions provided a starting point for analyzing the NSA Bethesda roadway system and external roadway network. The 2018 No Build condition was then developed using the background trips, short-term planned/ongoing project trips (adjusting to the No Build condition parking constraints), planned roadway improvements, planned transit improvements, and parking lot shifts due to planned lot closures. From the 2018 No Build condition, ten 2018 Build Alternatives were developed and analyzed to determine the effects on the external roadways, internal roadways, and bicycle/pedestrians.

For the external roadways, there were no significant impacts to any of the intersections or arterials when comparing the 2018 No Build condition to the 2018 Build Alternatives. Although some intersections would experience a slight decline in LOS, no intersections would shift to a failing LOS. Therefore, no mitigation measures are recommended for the external roadway intersections.

For the internal roadway network, there were no significant impacts to any of the intersections when comparing the 2018 No Build condition to the 2018 Build Alternatives. Therefore, no mitigation measures are recommended for the internal roadway intersections.

For the bicycle and pedestrian network, there are ample sidewalks, bicycle racks, and ADA-compliant curbing at intersections where new pedestrian trips would occur. Therefore, no mitigation measures are recommended for the bicycle or pedestrian network. However, it is recommended that if one of the 2018 Build Alternatives 6 through 10 is implemented, signing and pedestrian markings clearly identify an appropriate crossing location between the new parking structure serving Building F and the USU. This recommendation is to accommodate the 161 AM peak hour and 193 PM peak hour new pedestrian trips created by the 220 USU employees being consolidated to NSA Bethesda.

It is also recommended that the Installation TMP continue to be implemented to reduce the number of vehicle trips on the external and internal roadway system by using the Metro, Montgomery County transit system, vanpools, carpools, and bicycle trails. The sustained implementation of the TMP would continue to ensure that the transportation system in the area functions efficiently.

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## 7.0 Construction Recommendations

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To keep the installation functioning well and to preserve staff parking during construction, NSA Bethesda would implement the following basic steps. To minimize impacts on installation parking from construction workers, the Navy would contractually limit construction worker parking to within the construction sites and lay down areas. It is anticipated that the limited construction parking would be utilized for contractor management staff, on-site government representatives, and visitors. Further, for those construction contractors who do not receive on-site construction parking, the Navy would contractually require the contractors to utilize alternative options to access the installation such as mass transit, satellite parking, and shuttles. The Navy would require documented verification of these provisions and, to ensure compliance, may conduct security inspections and badge verifications at the installation entrance(s) or at the contractor-provided parking site. These steps would minimize the impact of the construction on NSA Bethesda's ultimate mission of medical care, medical research, and recovery services to aid our nation's wounded warriors.

To address the internal sidewalk needs to enable staff, patients, visitors, and residents to safely and easily access the installation, NSA Bethesda will provide signing to alert pedestrians of closed sidewalks and direct them to the temporary or alternative existing sidewalks through construction zones. In addition, NSA Bethesda construction contractors will install temporary barriers to protect pedestrians from vehicular traffic in areas where sidewalks are narrowed or shifted closer to the roadway. Lastly, any sidewalk shifts or closures would be announced to alert potential users of the pending sidewalk system changes.

The truck queue analysis determined that the existing truck volumes added to the projected additional short-term construction truck volumes would be less than the total number of trucks that the existing CVIF can accommodate. In addition, the Navy will contractually limit the construction contractors to stagger their truck arrivals to operate within the capacity of the commercial vehicle inspection facility. An arrival analysis determined there would be less than a 2 percent probability that five trucks would arrive at the same time. Based on this analysis, there would be no significant queuing impacts caused by the construction trucks at Gate #5.

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## 9.0 Appendices

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**Appendix D1 - EXTERNAL ROADWAY MSHA DESIGNS**

**Appendix D2 - DETAILED PEAK HOUR TRIP GENERATION TABLES**

**Appendix D3 - GATES 3 AND 4 GATE DESIGNS**

**Appendix D4 - UNDERGROUND PARKING STRUCTURE CONCEPTS**

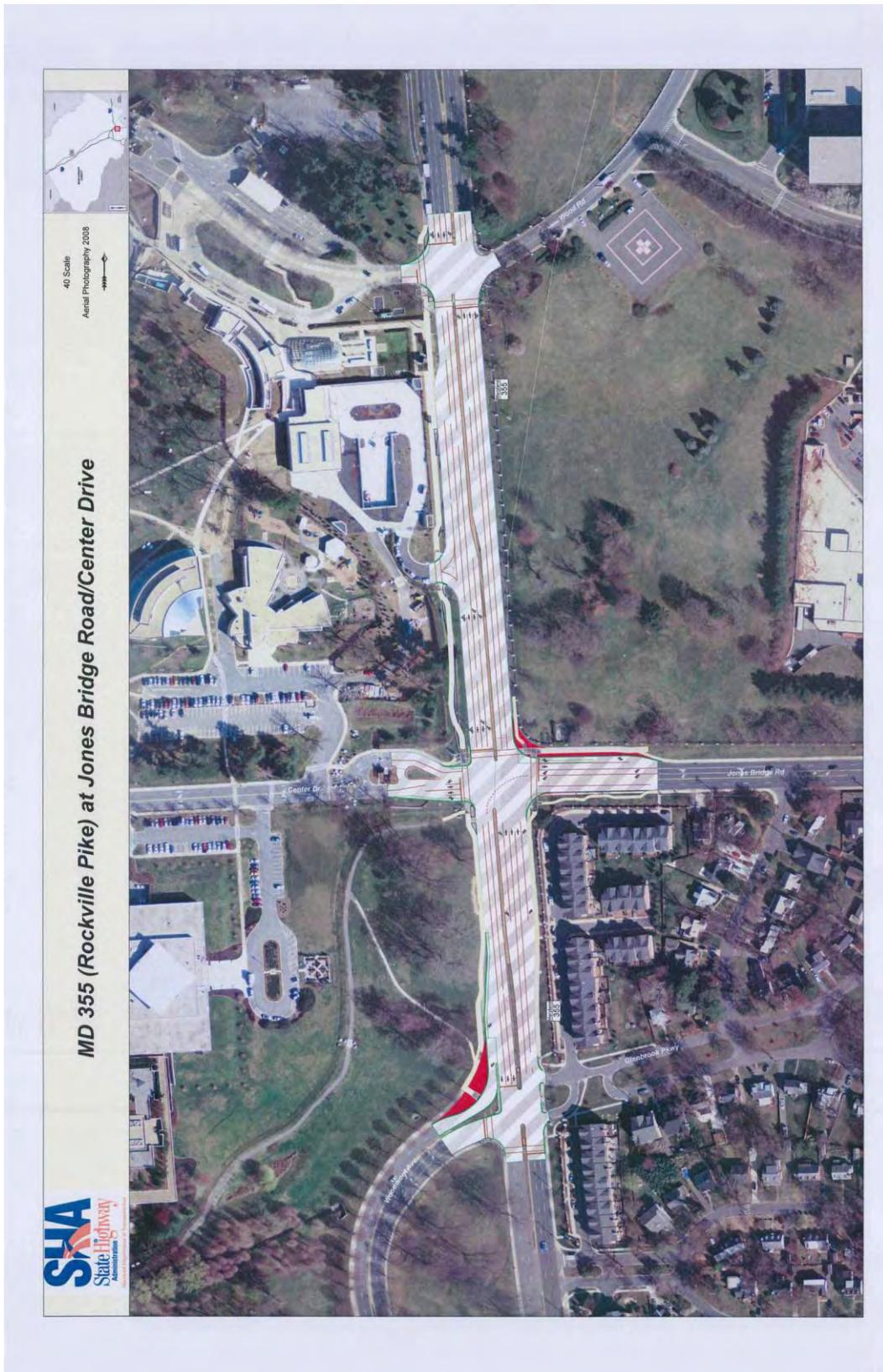
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**APPENDIX D1 - EXTERNAL ROADWAY MSHA DESIGNS**

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**APPENDIX D2 - DETAILED PEAK HOUR TRIP GENERATION**

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**Table D2-1: Detailed Peak Hour Trip Generation Rate Calculations for Background Development**

	Facility Name	Development Use	Square Feet/ Dwelling Unit	AM Peak Hour				PM Peak Hour			
				In	Out	Pass -by	Total	In	Out	Pass -by	Total
1	FASEB Office Addition (Office park expansion)	*Existing Headquarters	167,312	160	10	0	170	16	160	0	176
		<b>*Future Expansion</b>	<b>40,000</b>	<b>38</b>	<b>2</b>	<b>0</b>	<b>40</b>	<b>4</b>	<b>38</b>	<b>0</b>	<b>42</b>
		*Total Headquarters	207,312	198	12	0	210	20	198	0	218
2	Alta Vista at ACC (New development)	<b>Single family homes</b>	<b>37</b>	<b>7</b>	<b>22</b>	<b>0</b>	<b>29</b>	<b>22</b>	<b>12</b>	<b>0</b>	<b>34</b>
3	NIH - Porter Neuroscience Research Lab	Office	<sup>1</sup> 200 Veh. per day	40	0	0	40	0	36	0	36
4	Suburban Hospital (Hospital Expansion)	*Existing Total	418,887	210	86	0	296	92	212	0	304
		<b>*Future Expansion</b>	<b>114,996</b>	<b>111</b>	<b>35</b>	<b>0</b>	<b>146</b>	<b>51</b>	<b>130</b>	<b>0</b>	<b>182</b>
		*Future Total	533,883	321	121	0	442	143	342	0	486
5	Glen Aldon on Battery Lane (Med-Rise to be replaced)	Existing Med-Rise	260	23	94	0	117	78	39	0	117
		Future High-Rise	694	42	166	0	208	139	69	0	208
		<b>Differential</b>		<b>19</b>	<b>72</b>	<b>0</b>	<b>91</b>	<b>61</b>	<b>30</b>	<b>0</b>	<b>91</b>
6	Woodmont View (Office and house to be Replaced)	<b>Office</b>	<b>4,200</b>	<b>-5</b>	<b>-1</b>	<b>0</b>	<b>-6</b>	<b>-1</b>	<b>-5</b>	<b>0</b>	<b>-6</b>
		Single Family	1	0	1	0	1	1	0	0	1
		Mid-Rise	46	4	17	0	21	14	7	0	21
		<b>Residential Diff.</b>		<b>4</b>	<b>16</b>	<b>0</b>	<b>20</b>	<b>13</b>	<b>7</b>	<b>0</b>	<b>21</b>
		<sup>2</sup> Restaurant	3,200	0	0	0	0	9	4	11	24
		Extended Stay Fac.	5	0	2	0	2	1	1	0	2
7	8300 Wisconsin Avenue (New development)	<b>High-Rise</b>	<b>350</b>	<b>21</b>	<b>84</b>	<b>0</b>	<b>105</b>	<b>70</b>	<b>35</b>	<b>0</b>	<b>105</b>
		Hotel	150 rooms	20	13	0	33	18	15	0	33
		Grocery Store	50,000	43	18	0	61	155	155	0	310
		<b>Total Retail</b>		<b>63</b>	<b>31</b>	<b>0</b>	<b>94</b>	<b>173</b>	<b>170</b>	<b>0</b>	<b>343</b>
8	Woodmont Central - A (Gas station to be replaced)	<b>Office</b>	<b>81,107</b>	<b>104</b>	<b>18</b>	<b>0</b>	<b>122</b>	<b>31</b>	<b>91</b>	<b>0</b>	<b>122</b>
		Gas Station/ Mart	6 pumps	22	20	0	42	23	22	0	45
		Retail	10,505	4	3	0	7	13	14	0	27
		<b>Retail Differential</b>		<b>-18</b>	<b>-17</b>	<b>0</b>	<b>-35</b>	<b>-10</b>	<b>-8</b>	<b>0</b>	<b>-18</b>
9	BRAC - National Navy	(Include in existing Counts)									
10	Chevy Chase Lake East (Retail to be replaced)	<b>Office</b>	<b>74,356</b>	<b>103</b>	<b>15</b>	<b>0</b>	<b>118</b>	<b>22</b>	<b>105</b>	<b>0</b>	<b>127</b>
		Retail(existing)	67,009	40	36	51	127	158	146	202	506
		Retail(new)	174,016	108	100	138	346	432	398	553	1,383
		<b>Retail Differential</b>		<b>68</b>	<b>64</b>	<b>0</b>	<b>132</b>	<b>274</b>	<b>252</b>	<b>0</b>	<b>526</b>

**BOLD** values used for determining new trips expected to be generated  
 \*Trip generation rates obtained from proposed development traffic study

<sup>1</sup> Trips based on 200 vehicles per day or 100 entering vehicles during the AM peak hour and 100 vehicles departing during the PM peak hour. To determine peak hour the numbers were adjusted by multiplying the percentage resulting from dividing the existing condition peak hour vehicles entering/exiting all NSAB gates divided by the existing condition peak hour vehicles entering/exiting all NSAB gates to determine peak hour trips. (AM - 2,125 peak hour / 5,250 peak hour = 40% or 40 trips & PM - 1,834 peak hour / 5,028 peak hour = 36% or 36 trips)

<sup>2</sup> ITE Land Use Code 931 (Quality Restaurant)

**Table D2-2: Detailed Peak Hour Trip Generation Rate Calculations for Short-term Planned/Ongoing Projects**

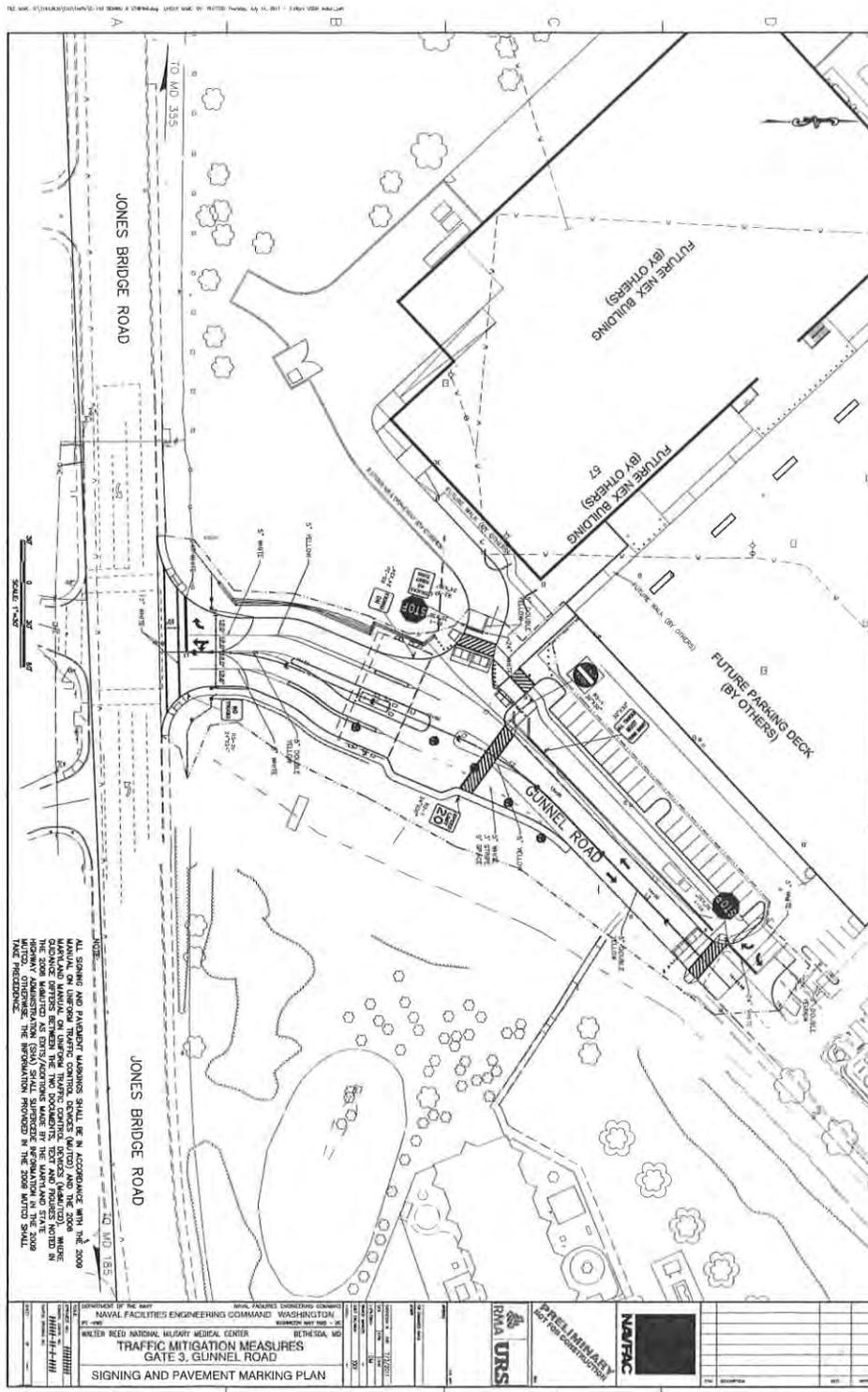
	Facility Name	Development Use	Square Feet/ Dwelling Unit Employees	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
3	<sup>3</sup> Sanctuary Hall (WWTl)	Assisted Living	200 Beds	25	9	34	30	28	58
4	Child Development Center (CDC)	<sup>4</sup> Day Care Center	63 employees	55	48	103	47	54	101
5	United Service Organization (USO)	<sup>5</sup> Community Center	5 employees	3	1	4	2	2	4
6	Public Private Venture	Rehabilitation of Houses	N/A						
7	<sup>6</sup> Navy Exchange (NEX)	Existing Market	48,029 SQ FT	0	0	0	31	31	62
		New Market	150,000 SQ FT	0	0	0	65	65	130
		<b>Differential</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>34</b>	<b>68</b>
8	<sup>7</sup> Navy Lodge Expansion	Hotel Style Facility	64 Rooms	15	9	24	20	18	38
10	Helipad	N/A	N/A						
	Medical Facility	Naval Dosimetry Center	6 employees	2	0	2	0	2	2
	USU growth	Staff growth	306 employees	55	12	67	26	64	90
	Credit Union	<sup>8</sup> New Employees	5 employees	3	0	3	4	4	8

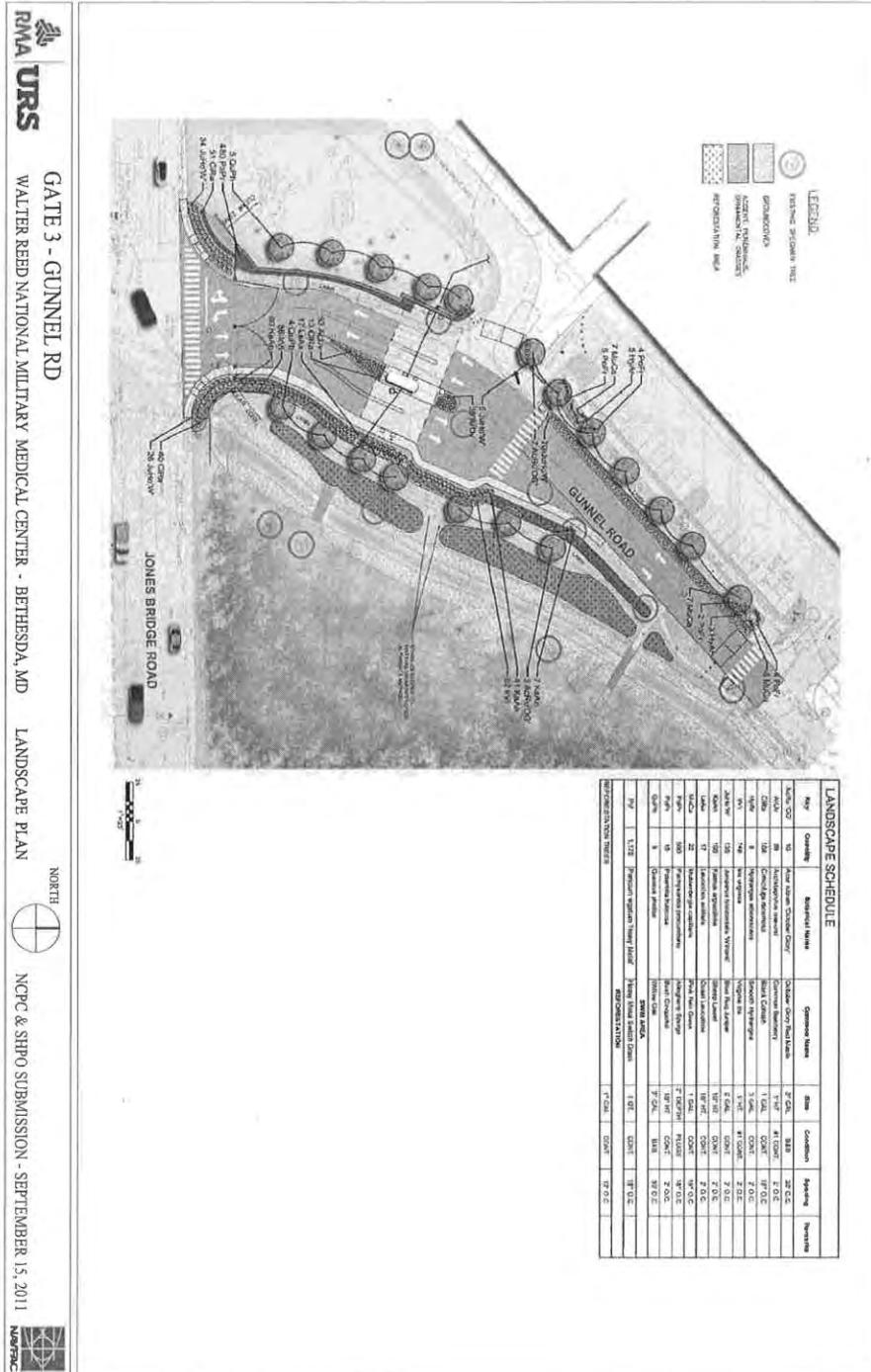
The USO, Medical Facility, USU, and Credit Union trips reduced by 66 percent to reflect employee parking ratio

<sup>3</sup> Trips reported in Wounded Warrior Transition and Navy Lodge Expansion at NSAB Environmental Assessment  
<sup>4</sup> ITE Land Use Code 565 (Day Care Center)  
<sup>5</sup> ITE Land Use Code 435 (Recreational Community Center)  
<sup>6</sup> Trips reported in the Navy Exchange Replacement at NSAB Environmental Assessment  
<sup>7</sup> Trips reported in Wounded Warrior Transition and Navy Lodge Expansion at NSAB Environmental Assessment  
<sup>8</sup> ITE Land Use Code 912 (Bank)

## APPENDIX D3 - GATES 3 AND 4 GATE DESIGNS

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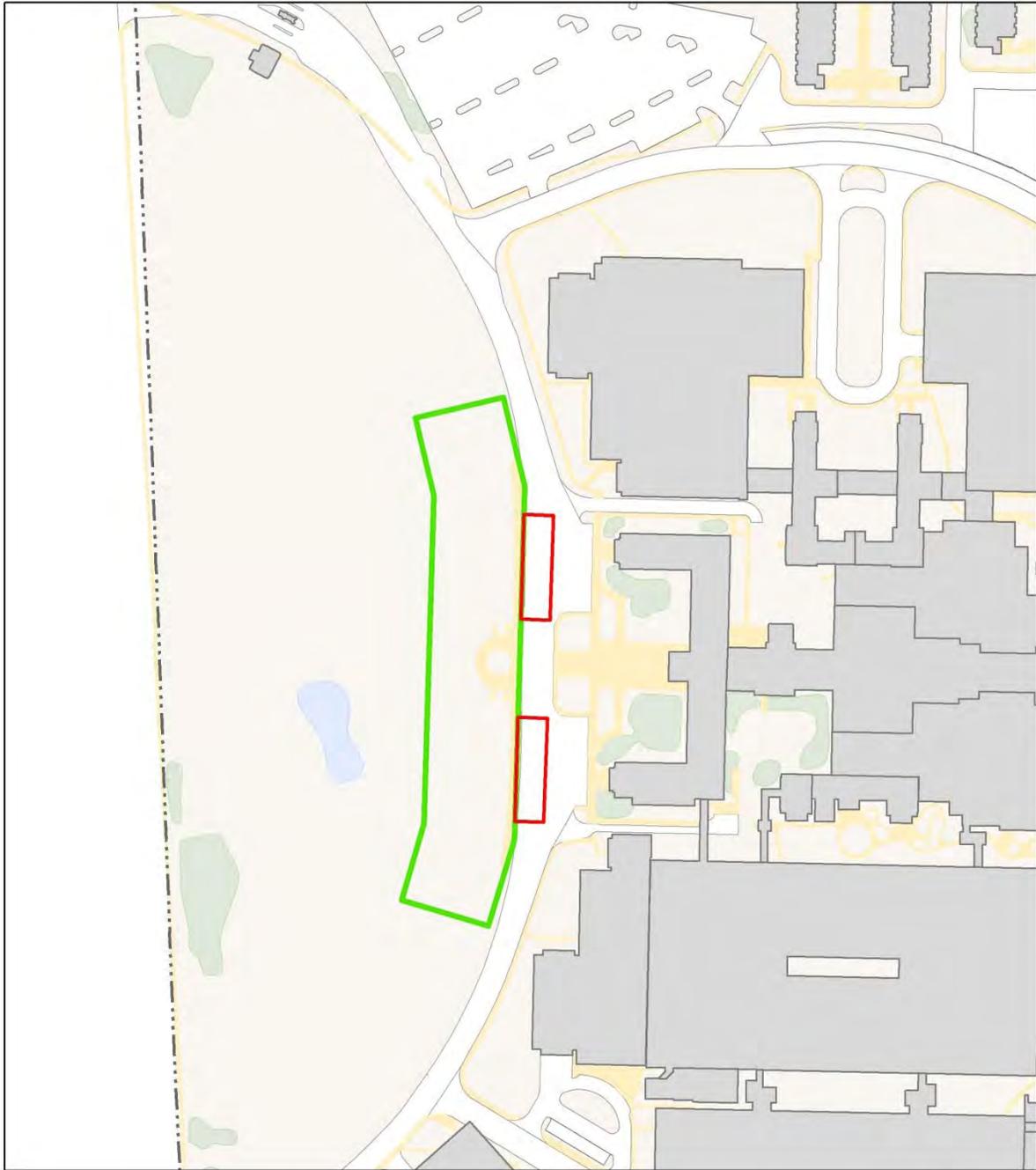


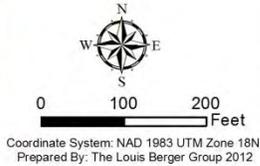


**APPENDIX D4 – UNDERGROUND PARKING STRUCTURE  
CONCEPTS**

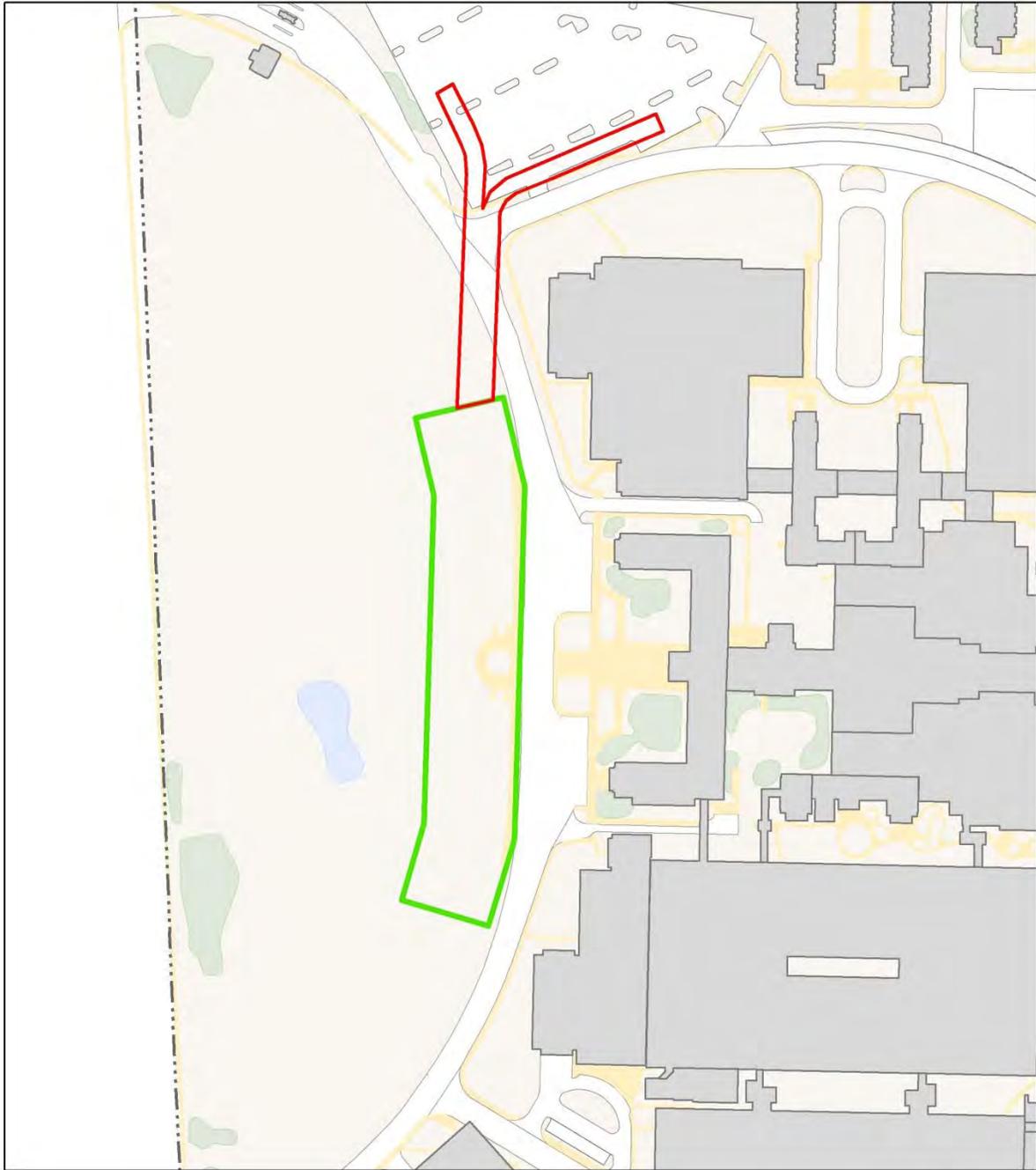
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### Underground Parking Structure - Alternatives 1 and 6



<b>Parking and Proposed Action Area</b>  Entrance/Exit Ramps  Underground Garage		 <p>Coordinate System: NAD 1983 UTM Zone 18N Prepared By: The Louis Berger Group 2012</p>	<b>MAP INDEX</b> 
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### Underground Parking Structure - Alternatives 2 and 7



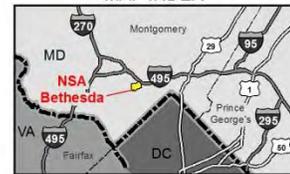
**Parking and Proposed Action Area**

-  Entrance/Exit Ramps
-  Underground Garage



0 100 200 Feet  
Coordinate System: NAD 1983 UTM Zone 18N  
Prepared By: The Louis Berger Group 2012

**MAP INDEX**



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**APPENDIX E: ECONOMIC IMPACT FORECAST SYSTEM MODEL**

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## APPENDIX E: ECONOMIC IMPACT FORECAST MODEL

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### 1.0 Socioeconomic Impact Assessment

Socioeconomic impacts are linked through cause-and-effect relationships. Military payrolls and local procurement contribute to the economic base for the region of influence (ROI). In this regard, the proposed Medical Facilities Development and University Expansion have a multiplier effect on the local and regional economy. With the proposed actions, direct jobs would be created, generating new income and increasing personal spending. This spending generally creates secondary jobs, increases business volume, and increases revenues for schools and other social services.

### 2.0 Economic Impact Forecast System

The U.S. Army, with the assistance of many academic and professional economists and regional scientists, developed the Economic Impact Forecast System (EIFS) to address the economic impacts of actions subject to the National Environmental Policy Act (NEPA) and to measure their significance. As a result of its designed applicability, and in the interest of uniformity, EIFS should be used in NEPA assessments for the proposed action. The entire system is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in the EIFS model are simple and easy to understand, but still have firm, defensible bases in regional economic theory.

EIFS was developed under a joint project of the U.S Army Corps of Engineers (USACE); the Army Environmental Policy Institute (AEPI); and the Computer and Information Science Department of Clark Atlanta University, Georgia. EIFS is an on-line system, and the EIFS Web application is hosted by USACE, Mobile District. The system is available to anyone with an approved user-id and password. University staff and the staff of USACE, Mobile District are available to assist with the use of EIFS.

The databases in EIFS are national in scope and cover approximately 3,700 counties, parishes, and independent cities that are recognized as reporting units by federal agencies. EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers and other variables used in the various models in EIFS, and prompts the user for forecast input data.

### 3.0 EIFS Model

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from military-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the environmental assessment (EA) and environmental impact statement (EIS) process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for example, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the model the data elements that describe the Navy action: the change in expenditures, or dollar volume of the construction project(s); change in civilian or military employment; average annual income of affected civilian or military employees; the percent of civilians expected to relocate due to the Navy's action; and the percent of military living on-post. Once these are entered into the EIFS model, a projection of changes in the local economy is provided. These are projected changes in sales volume, income, employment, and population. These four indicator variables are used to measure and evaluate socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment due to the proposed action, including not only the direct and secondary changes in local employment, but also those personnel who are initially affected by the military action. Income is the total change in local wages and salaries due to the proposed action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the proposed action. Population is the increase or decrease in the local population as a result of the proposed action.

#### 4.0 Significance of Socioeconomic Impacts

Once model projections are obtained, the Rational Threshold Value (RTV) profile allows the user to evaluate the significance of the impacts. This analytical tool reviews the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, income, employment, and population. These evaluations identify the positive and negative changes within which a project can affect the local economy without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action's impact on the historical fluctuation in a particular area. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables: the sales volume, income, employment, and population (Table 1).

**Table 1: Historical Deviation Variables**

	Increase	Decrease
Sales Volume	100%	75%
Income	100%	67%
Employment	100%	67%
Population	100%	50%

These boundaries determine the amount of change that will affect an area. The percentage allowances are arbitrary, but sensible. The maximum positive historical fluctuation is allowed with expansion because economic growth is beneficial. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, military base reductions and closures generally are more injurious to local economics than are expansion actions.

The major strengths of the RTV are its specificity to the region under analysis and its basis on actual historical data for the region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV technique for measuring the intensity of impacts have been reviewed by economic experts and have been deemed theoretically sound.

The following are the EIFS inputs and output data and the RTVs for the ROI. These data form the basis for the socioeconomic impact analysis presented in Section 3.10 of the EIS.

#### 5.0 Summary of Assumptions

For purposes of running the EIFS model, the overall construction spending was selected to determine the maximum impact that proposed actions could have on the regional economy. For this analysis, it was

assumed that no civilian personnel would re-locate within the ROI as a result of the proposed actions. Therefore, only construction costs were used to determine the impact of the proposed action and only construction cost, and not civilian or military employment, estimates were inserted into Tables 2, 4, 6, 8, or 12 below. The total project costs for the Medical Facilities Development are between approximately \$613,699,000 and \$625,552,000 depending on the location chosen to construct a parking structure. Four EIFS models were run to determine the separate economic impacts on the local economy that could occur from the four alternative site locations of the parking structure for the Medical Facilities Development. An additional fifth EIFS model was run to determine the economic impact that the 50 person increase in support level operations staff for the WRNMMC would have on the local economy (see Tables 10 and 11). The total project costs for the University Expansion are assumed to be \$252,800,000. A sixth EIFS model was run to determine the economic impacts on the local economy that could occur from the University Expansion. The costs for all of these models were obtained through DD1391s for each project and communication with personnel at Naval Facilities Engineering Command (NAVFAC) Washington and at Naval Support Activity (NSA) Bethesda. The impacts from project spending are shown in Tables 2 through 11 for the Medical Facilities Development, and Tables 12 and 13 for the University Expansion. Tables 2, 4, 6, 8, 10, and 12 show input to the model; Tables 3, 5, 7, 9, 11, and 13 show resultant sales, income, and employment generated for the economy and the percent annual fluctuation it represents; and Table 14 shows the annual fluctuations in RTV for the ROI above or below which the action would be considered significant.

### **5.1 Medical Facilities Development - Above-ground Parking - H-Lot Parking Structure Site**

Table 2 shows the input value into the EIFS model for the total construction cost of the Medical Facilities Development for the H-Lot Parking Alternative.

**Table 2: Forecast Input for the EIFS Model**

<b>EIFS Report Montgomery County, MD - Forecast Input</b>	
Change In Local Expenditures	\$613,699,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-base	0

Table 3 shows the EIFS model outputs that would result from construction-related spending on the Medical Facilities Development for the H-Lot Parking Alternative.

**Table 3: EIFS Report for Montgomery County, Maryland - Forecast Output**

Forecast Output		
Employment Multiplier	2.62	
Income Multiplier	2.62	
Sales Volume - Direct	\$379,462,700	
Sales Volume - Induced	\$614,729,500	
Sales Volume - Total	\$994,192,300	2.00%
Income - Direct	\$82,572,280	
Income - Induced	\$133,767,100	
Income - Total (place of work)	\$216,339,00	0.64%
Employment - Direct	1,681	
Employment - Induced	2,723	
Employment - Total	4,404	0.81%

Source: USACE, 2012a

## 5.2 Medical Facilities Development - Above-ground Parking - Warehouse Area Parking Structure Site

Table 4 shows the input value into the EIFS model for the total construction cost of the Medical Facilities Development for the Warehouse Area Parking Alternative.

**Table 4: Forecast Input for the EIFS Model**

EIFS Report Montgomery County, MD - Forecast Input	
Change In Local Expenditures	\$613,738,337
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-base	0

Table 5 shows the EIFS model outputs that would result from construction-related spending on the Medical Facilities Development for the Warehouse Area Parking Alternative.

**Table 5: EIFS Report for Montgomery County, Maryland - Forecast Output**

Forecast Output		
Employment Multiplier	2.62	
Income Multiplier	2.62	
Sales Volume - Direct	\$379,487,000	
Sales Volume - Induced	\$614,769,000	
Sales Volume - Total	\$994,256,000	2.00%
Income - Direct	\$82,577,570	
Income - Induced	\$133,775,700	
Income - Total (place of work)	\$216,353,200	0.64%
Employment - Direct	1,681	
Employment - Induced	2,723	
Employment - Total	4,404	0.81%

Source: USACE, 2012b

### 5.3 Medical Facilities Development - Above-ground Parking - Taylor Road Facilities Parking Structure Site

Table 6 shows the input value into the EIFS model for the total construction cost of the Medical Facilities Development for the Taylor Road Facilities Parking Alternative.

**Table 6: Forecast Input for the EIFS Model**

EIFS Report Montgomery County, MD - Forecast Input	
Change In Local Expenditures	\$614,574,650
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-base	0

Table 7 shows the EIFS model outputs that would result from construction-related spending on the Medical Facilities Development for the Taylor Road Facilities Parking Alternative.

**Table 7: EIFS Report for Montgomery County, Maryland - Forecast Output**

Forecast Output		
Employment Multiplier	2.62	
Income Multiplier	2.62	
Sales Volume - Direct	\$380,004,200	
Sales Volume - Induced	\$615,606,700	
Sales Volume - Total	\$995,610,900	2.01%
Income - Direct	\$82,690,100	
Income - Induced	\$133,958,000	
Income - Total (place of work)	\$216,648,000	0.64%
Employment - Direct	1,683	
Employment - Induced	2,727	
Employment - Total	4,410	0.81%

Source: USACE, 2012c

#### 5.4 Medical Facilities Development - Underground Parking

Table 8 shows the input value into the EIFS model for the total construction cost of the Medical Facilities Development for the Underground Parking Alternative.

**Table 8: Forecast Input for the EIFS Model**

EIFS Report Montgomery County, MD - Forecast Input	
Change In Local Expenditures	\$625,552,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-base	0

Table 9 shows the EIFS model outputs that would result from construction-related spending on the Medical Facilities Development for the Underground Parking Alternative.

**Table 9: EIFS Report for Montgomery County, Maryland - Forecast Output**

Forecast Output		
Employment Multiplier	2.62	
Income Multiplier	2.62	
Sales Volume - Direct	\$386,791,700	
Sales Volume - Induced	\$626,602,500	
Sales Volume - Total	\$1,013,394,000	2.04%
Income - Direct	\$84,167,080	
Income - Induced	\$136,350,700	
Income - Total (place of work)	\$220,517,700	0.65%
Employment - Direct	1,713	
Employment - Induced	2,776	
Employment - Total	4,489	0.83%

Source: USACE, 2012d

### 5.5 Medical Facilities Development - Operations Period Impacts

Table 10 shows the input value into the EIFS model for the average operations income per civilian and change in civilian employment for the operations period of the Medical Facilities Development.

**Table 10: Forecast Input for the EIFS Model**

EIFS Report Montgomery County, MD - Forecast Input	
Change In Local Expenditures	\$0
Change In Civilian Employment	50
Average Income of Affected Civilian	\$ 58,724
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-base	0

Table 11 shows the EIFS model outputs that would result from operations-related spending that would result from the 50 person increase in employment capacity as a result of the Medical Facilities Development.

**Table 11: EIFS Report for Montgomery County, Maryland - Forecast Output**

Forecast Output		
Employment Multiplier	2.62	
Income Multiplier	2.62	
Sales Volume - Direct	\$2,360,705	
Sales Volume - Induced	\$3,824,342	
Sales Volume - Total	\$6,185,046	0.01%
Income - Direct	\$2,936,200	
Income - Induced	\$832,189	
Income - Total (place of work)	\$3,768,389	0.01%
Employment - Direct	60	
Employment - Induced	17	
Employment - Total	77	0.01%

Source: USACE, 2012e

### 5.6 University Expansion

Table 12 shows the input value into the EIFS model for the total construction cost of the University Expansion.

**Table 12: Forecast Input for the EIFS Model**

EIFS Report Montgomery County, MD - Forecast Input	
Change In Local Expenditures	\$252,800,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-base	0

Table 13 shows the EIFS model outputs that would result from construction-related spending on the University Expansion.

**Table 13: EIFS Report for Montgomery County, Maryland - Forecast Output**

Forecast Output		
Employment Multiplier	2.62	
Income Multiplier	2.62	
Sales Volume - Direct	\$156,311,500	
Sales Volume - Induced	\$253,224,500	
Sales Volume - Total	\$409,536,000	0.83%
Income - Direct	\$34,013,860	
Income - Induced	\$55,102,450	
Income - Total (place of work)	\$89,116,310	0.26%
Employment - Direct	692	
Employment - Induced	1122	
Employment - Total	1814	0.33%

Source: USACE, 2012f

Table 14 shows the annual fluctuations in RTV for the ROI above or below which either of the proposed actions would have a significant socioeconomic impact.

**Table 14: EIFS Report for Montgomery County, Maryland - RTV Summary**

RTV Summary				
	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	12.59%	12.60%	3.56%	2.28%
<b>Negative RTV</b>	-5.49%	-4.19%	-3.54%	-1.21%

## 6.0 References

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