

APPENDIX A: PUBLIC SCOPING COMMENTS

This page left intentionally blank.

Comment Card

Please submit your comments tonight or
fold in half and mail by May 23, 2017

Comments may be emailed to:

Lee.Webb@NCPD.gov

Subject: Carnegie Library Redevelopment Scoping Comment

Organization: Kim Hoagland

Email: hoagland@mtu.edu

Address: 350 9th St SE Apt 12
DC 20003

☐ check to be added to project mailing list

Comment: Landscaping of the whole block should be
considered. It's a great opportunity to rethink
public use of the space - paths, plantings, public
restrooms.

Access is critical - especially from the south,
which is how most people encounter the
building. How about a crosswalk directly in
front of building, as a continuation of 8th St.?
Give pedestrians priority over 8th St. traffic!

Comment Card

Please submit your comments tonight or
fold in half and mail by May 23, 2017

Comments may be emailed to:

Lee.Webb@NCPC.gov

Subject: Carnegie Library Redevelopment Scoping Comment

Organization: _____

Email: Daniellewebb@gmail.com

Address: 7700 Holmes Run Dr.

Falls Church VA 22042

☐ check to be added to project mailing list

Comment: I would love to see this historical
building fulfill its original purpose as a
library & avenue for the public to learn.

Thank you!
Danielle

Comment Card

Please submit your comments tonight or
fold in half and mail by May 23, 2017

Comments may be emailed to:
Lee.Webb@NCPC.gov

Subject: Carnegie Library Redevelopment Scoping Comment

Organization: DC Public Library

Email: lauren.martino@dc.gov

Address: 801 K St. NW

☒ check to be added to project mailing list

Comment: Please keep me updated

Comment Card

Please submit your comments tonight or
fold in half and mail by May 23, 2017

Comments may be emailed to:

Lee.Webb@NCPC.gov

Subject: Carnegie Library Redevelopment Scoping Comment

Organization: Dc Public Library - Washingtoniana
Email: Michele.Casto@dc.gov
Address: 801 K St. NW

☒ check to be added to project mailing list

Comment: Hoping Public Access to HSW + WASH
collections isn't interrupted
Please keep me updated!

Thank you

APPENDIX B: AGENCY COORDINATION

This page left intentionally blank.

IN REPLY REFER TO:
NCPC FILE No. 7532

April 21, 2017

Mr. David Maloney
State Historic Preservation Officer
Historic Preservation Office
District of Columbia Office of Planning
1100 4th Street SW Suite E650
Washington, DC 20024

Re: Initiation of Section 106 Consultation, Carnegie Library (Central Public Library) Rehabilitation

Dear Mr. Maloney:

Events DC is proposing to rehabilitate the Carnegie Library located at 801 K Street, NW, on Mount Vernon Square in Washington, DC. The National Capital Planning Commission (NCPC) is writing to initiate consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) in compliance with Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. § 470f) and its implementing regulations (36 CFR § 800). The proposed project is an undertaking and subject to the review and approval of NCPC under the National Capital Planning Act.

Project Description and Background

The Carnegie Library building is owned by the District of Columbia Government and is administered by Events DC, the convention and sports authority for the District of Columbia. In 1999, the District granted a ninety-nine-year lease of the library building to the Historical Society of Washington, DC (HSW). Events DC and HSW later amended the lease to reduce the original leased premises of HSW to only portions of the building interior. Mount Vernon Square (Reservation 8) is owned by the United States Government. In 2006, the Secretary of the Interior transferred jurisdiction of Mount Vernon Square from the National Park Service to the District of Columbia Government. Under the proposed project, Events DC will retain administrative jurisdiction over the building and Mount Vernon Square.

The purpose of the project is to rehabilitate and modernize the Carnegie Library building to become a retail and education facility. The building will be leased jointly by HSW (which will continue to operate its research library, exhibit galleries, and administrative offices there) and a retail tenant (which will operate a retail, events, and educational facility in the building). The project is comprised of the following components: a restoration of the building exterior, including repair and cleaning of the exterior stone, repair or replacement of the windows and skylights, and repair of the copper roof cladding; a rehabilitation of the building interior, including removal of non-original infill construction throughout the building, insertion of a central atrium space, upgrade or replacement of the MEP systems, and restoration of certain original finishes and features; and a reconfiguration of the north entrance, stairs, and landing. Although the project is generally limited to the building itself, minor alterations may be made to site hardscape elements to comply with accessibility and other code requirements.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, Events DC and NCPC have developed the enclosed list of consulting parties and a graphic illustration of the proposed Area of Potential Effects (APE). These items are intended as a basis of discussion and are subject to modification through the consultation process. The proposed APE for this project includes the area from which the project site is readily visible and is generally bound by Sixth Street, NW on the east, L Street, NW on the north, Tenth Street, NW on the west, and H Street, NW on the south. A preliminary list of historic resources within the draft APE includes portions of the Plan of the City of Washington (L'Enfant Plan; L'Enfant-McMillan Plan), Downtown Historic District, and the Mount Vernon Square Historic District. It also includes the following historic resources individually listed in the National Register and/or the District of Columbia Inventory of Historic Sites: Carnegie Library (Central Public Library); American Federation of Labor; Seventh Street, NW, East Site of 1000 Block; Mount Vernon Place United Methodist Church; Tudor Hall (Henley Park Hotel); and Washington Hebrew Congregation (Greater New Hope Baptist Church). The American Federal of Labor property has also been designated as a National Historic Landmark. Additionally, the draft APE encompasses a portion of the Downtown Historic District Amendment and Boundary Expansion, which is currently under consideration for status as a District of Columbia Historic District. The area in the vicinity of the Carnegie Library building has been extensively documented; therefore, it is not anticipated that additional survey to identify potentially affected resources will be required.

At this time, NCPC has determined that the project has the potential to have an adverse effect on the Carnegie Library building. Constructed in 1899-1902, Carnegie Library was listed in the District of Columbia Inventory of Historic Sites in 1964 and the National Register of Historic Places in 1969 as the Central Public Library. The nomination recognized the building's significance as one of many buildings given to American cities by industrialist and philanthropist Andrew Carnegie to promote free library systems. It also reflects the growth of the DC Public Library system from humble beginnings in rented quarters to a Beaux-Arts edifice on Mount Vernon Square.

NCPC is prepared to work with the DC SHPO, the Advisory Council on Historic Preservation, and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA) and in cooperation with Events DC, NCPC is preparing an Environmental Assessment (EA) to analyze potential impacts associated with the project. NCPC plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. A public NEPA scoping meeting will be held on **May 9, 2017, at 4:00pm** at the Carnegie Library located at 801 K Street, NW, Washington, DC. The purpose of this scoping meeting will be to introduce the project and invite public comment on the range of issues to be addressed in the EA.

Mr. David Maloney
Page 3

Next Steps

NCPC and Events DC invite you to attend the first Section 106 consulting parties meeting for the Carnegie Library project scheduled for **May 11, 2017, at 4:00pm**, in the Commission Hearing Room at NCPC's offices, 401 9th Street, NW, Suite 500, Washington, DC. The agenda for this meeting will include an overview of the project purpose and background, a preliminary identification of historic properties, and a detailed presentation of the proposed design and alternatives for the treatment of interior spaces.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions, please contact Lee Webb, Federal Preservation Officer, at (202) 482-7240 or at lee.webb@ncpc.gov.

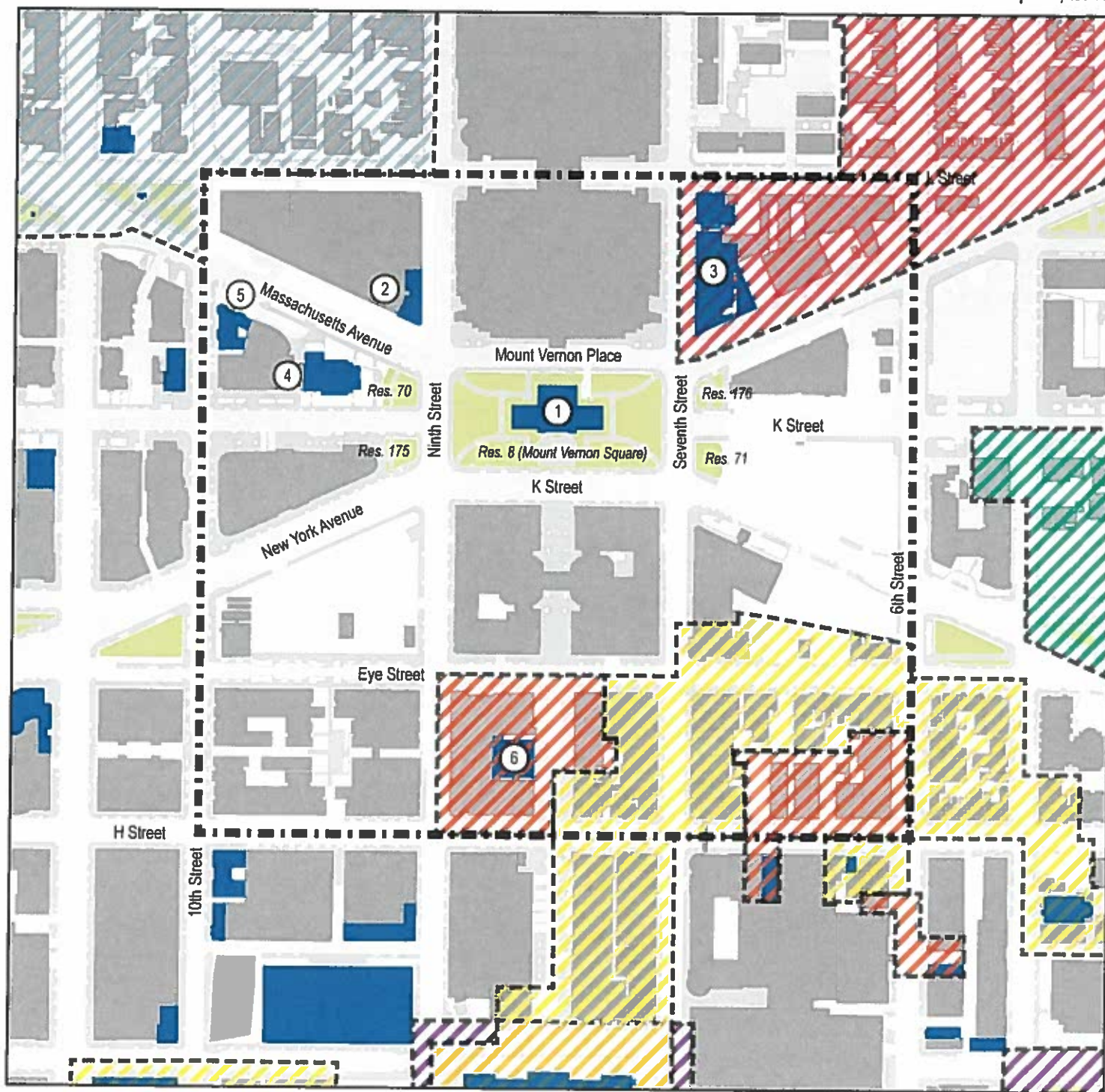
Sincerely,



Marcel Acosta
Executive Director

Enclosures: Draft Area of Potential Effects Map
 List of Potential Consulting Parties

cc: Steven Callcott, DC State Historic Preservation Office
 Andrew Lewis, DC State Historic Preservation Office



Key

	APE Boundary		Downtown Historic District
	DC Inventory and/or National Register		Downtown Historic District (proposed boundary expansion)
	Reservation (#)		Mount Vernon Square Historic District
	Pennsylvania Ave NHS		Shaw Historic District
	Plan of the City of Washington/L'Enfant Plan (not shown)		Mount Vernon Triangle Historic District

Individual Landmarks

- 1** Central Public Library (Carnegie Library) Mount Vernon Square, NW
- 2** American Federation of Labor 901 Massachusetts Ave, NW
- 3** Seventh Street, NW, East Side of 1000 Block 1005-1035 Seventh Street and 649-651 New York Ave, NW
- 4** Mount Vernon Place United Methodist Church 900 Massachusetts Ave, NW
- 5** Tudor Hall (Henley Park Hotel) 926 Massachusetts Ave, NW
- 6** Washington Hebrew Congregation (Greater New Hope Baptist Church) 816 Eighth Street, NW

Carnegie Library Rehabilitation**Section 106 Initiation – Potential Consulting Parties List**

Applicant	Events DC
SHPO	DC State Historic Preservation Officer
Representatives of Local Governments	Advisory Neighborhood Commission 2C Advisory Neighborhood Commission 2F Advisory Neighborhood Commission 6E District of Columbia Office of the Mayor District of Columbia City Council
Additional Consulting Parties/Neighboring Property Owners	635 Mass Ave LLC 800 K ST Associates LLC American Association of Medical Colleges Boston Properties Committee of 100 on the Federal City DC Preservation League District of Columbia Department of Transportation District of Columbia Office of Planning Douglas Development Downtown Business Improvement District Gould Property Historical Society of Washington, DC Kim Hoagland Matthew Gilmore Mount Vernon Triangle CID Mt. Vernon Place United Methodist Church Muriel Watkins National Park Service National Trust for Historic Preservation Oxford Properties Penn Quarter Neighborhood Association Suntone K9 LLC The Meridan Group Tudor LP US Commission of Fine Arts Washington Convention Center Advisory Committee

GOVERNMENT OF THE DISTRICT OF COLUMBIA
STATE HISTORIC PRESERVATION OFFICER



May 18, 2017

Mr. Marcel Acosta
Executive Director, National Capital Planning Commission
401 9th Street, NW
North Lobby, Suite 500
Washington, DC 20004

RE: Initiation of Section 106 Consultation; Rehabilitation of the Carnegie Library (aka Central Public Library) for Use as an Apple Corporation Retail Store; 801 K Street, NW

Dear Mr. Acosta:

Thank you for initiating consultation with the DC State Historic Preservation Office (SHPO) regarding the above-referenced undertaking which involves review and approval of the project by the National Capital Planning Commission (NCPC) pursuant to the National Capital Planning Act. This letter provides our initial comments regarding effects on historic properties in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

Based upon our review of the project submittal and our participation in the first consulting parties meeting which was held at NCPC yesterday, we understand that the project involves rehabilitating and adapting the interior and exterior of the Carnegie Library for use as an Apple Corporation retail store. We are pleased that the majority of the proposed work will be restorative and will benefit the historic building which was gifted to the city by Andrew Carnegie in 1899, designed by the architectural firm of Ackerman & Ross, constructed between 1901 and 1902, listed in the DC Inventory of Historic Sites and the National Register of Historic Places on November 8, 1964 and December 3, 1969, respectively.

We agree that NCPC's proposed Area of Potential Effects (APE) should be sufficient to take the project's effects on historic properties into account, but we recommend that the potential for effects on views associated with the Plan of the City of Washington (L'Enfant Plan) be acknowledged by incorporating ellipses onto the map to indicate that the views along Massachusetts and New York Avenues, NW and 8th and K Streets, NW will be considered. Since some ground disturbance is proposed, we also recommend that a Phase IA survey be conducted in consultation with our office to address the potential for archaeological resources that may need to be considered during consultation.

Despite the many noteworthy improvements that are proposed, we also concur with NCPC's determination that this project has the potential for adverse effects on the historic building – especially on the interior. For example, the removal of the historic lay light, alteration of the original spaces, and removal of historic fabric on second floor are all likely to meet the criteria of adverse effect. Similarly, window modifications and the removal of original elements from the northern façade have the potential to adversely affect character-defining features of the building's exterior. Other exterior aspects of the project, such as the proposal for *in-kind* replacement rather than repair of the window pediments, will require additional analysis before determinations of effect can be made.

Mr. Marcel Acosta

Initiation of Section 106 Consultation; Rehabilitation of the Carnegie Library for an Apple Corporation Retail Store; 801 K Street, NW

May 18, 2017

Page 2

We look forward to consulting with NCPC and all other parties to continue the Section 106 review of this project. In the meantime, please contact me at andrew.lewis@dc.gov or 202-442-8841 if you should have any questions or comments regarding this matter. Questions or comments relating to archaeology should be directed to Ruth Trocolli at ruth.trocolli@dc.gov or 202-442-8836. Thank you for providing this initial opportunity to review and comment.

Sincerely,



C. Andrew Lewis

Senior Historic Preservation Specialist

DC State Historic Preservation Office

17-0596

April 28, 2017



Mr. Marcel Acosta
Executive Director
National Capital Planning Commission
401 Ninth Street NW, Suite 500
Washington, D.C. 20004

RE: Request for Schematic Review of the Carnegie Library Rehabilitation

Dear Mr. Acosta:

Events DC is proposing to rehabilitate the Carnegie Library located at 801 K Street, NW, on Mount Vernon Square in Washington, DC. We request review of schematic development plans by the Commission at its June 1, 2017 meeting.

Administrative jurisdiction over the Carnegie Library building is held by Events DC, an independent instrumentality of the District of Columbia. Mount Vernon Square (Reservation 8), upon which the Carnegie Library is located, is owned by the United States Government. In 2006, the United States Congress transferred administrative jurisdiction over Mount Vernon Square the United States to the District of Columbia Government. In November 2011, the Authority entered into an Amended and Restated Lease with the Historical Society of Washington, DC (HSW) for a portion of the building interior for a term of eighty-seven (87) years.

The purpose of the project is to rehabilitate and modernize the Carnegie Library building to accommodate retail and education uses. The building will be leased jointly by HSW (which will continue to operate its research library, exhibit galleries, and administrative offices there) and a retail tenant (which will operate a retail, events, and educational facility in the building). The project is comprised of the following components: a restoration of the building exterior, including repair and cleaning of the exterior stone, repair or replacement of the windows and skylights, and repair of the copper roof cladding; a rehabilitation of the building interior, including removal of non-original infill construction throughout the building, insertion of a central atrium space, upgrade or replacement of the MEP systems, and restoration of certain original finishes and features; and a reconfiguration of the north entrance, stairs, and landing. Although the project is generally limited to the building itself, minor alterations may be made to site hardscape elements to comply with accessibility and other code requirements.

801 Mount Vernon Place NW
Washington, DC 20001

P 202.249.3000
F 202.249.3255

eventsdc.com



801 Mount Vernon Place NW
Washington, DC 20001

P 202.249.3000
F 202.249.3255

eventsdc.com

We have consulted on the schematic development plans with your staff as well as with the other stakeholders in accordance with Section 106 of the National Historic Preservation Act (NHPA). The Section 106 and National Environmental Policy Act (NEPA) review processes are being coordinated per the implementing regulations (36 CFR § 800.8) of the NHPA. An Environment Assessment (EA) is currently being prepared by NCPC in cooperation with Events DC to analyze potential impacts associated with the project.

In accordance with your submission requirements, we are enclosing three copies of the submission documents. If you have any questions, please contact Jennifer Iwu at jiwu@eventsdc.gov or at 202.249.3259.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory A. O'Dell".

Gregory A. O'Dell
President and Chief Executive Officer
Events DC



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chesapeake Bay Ecological Services Field Office

177 ADMIRAL COCHRANE DRIVE

ANNAPOLIS, MD 21401

PHONE: (410)573-4599 FAX: (410)266-9127

URL: www.fws.gov/chesapeakebay/;

www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

Consultation Code: 05E2CB00-2017-SLI-0952

March 20, 2017

Event Code: 05E2CB00-2017-E-01753

Project Name: Apple at Carnegie Library, DC

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Apple at Carnegie Library, DC

Official Species List

Provided by:

Chesapeake Bay Ecological Services Field Office

177 ADMIRAL COCHRANE DRIVE

ANNAPOLIS, MD 21401

(410) 573-4599

<http://www.fws.gov/chesapeakebay/>

<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

Consultation Code: 05E2CB00-2017-SLI-0952

Event Code: 05E2CB00-2017-E-01753

Project Type: ** OTHER **

Project Name: Apple at Carnegie Library, DC

Project Description: Renovation of the interior of Carnegie Library to accommodate a retail store.
No ground disturbance or external renovations anticipated.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: Apple at Carnegie Library, DC

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-77.02397167682648 38.90291487499239, -77.02393412590028 38.90212168702489, -77.0219385623932 38.90214256050599, -77.02193319797517 38.90291070034209, -77.02397167682648 38.90291487499239)))

Project Counties: District of Columbia, DC



United States Department of Interior
Fish and Wildlife Service

Project name: Apple at Carnegie Library, DC

Endangered Species Act Species List

There are a total of 0 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.



United States Department of Interior
Fish and Wildlife Service

Project name: Apple at Carnegie Library, DC

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: Apple at Carnegie Library, DC

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.



United States Department of Interior
Fish and Wildlife Service

Project name: Apple at Carnegie Library, DC

Appendix B: NWI Wetlands

There are no wetlands within your project area.



May 18, 2017

Mr. Bryan King

Associate Director, Fish and Wildlife Division
DC Department of Energy and Environment
1200 First Street NE
Washington, DC 20002
doee@dc.gov

Reference: Request for threatened and endangered species information for the rehabilitation and modernization of the Carnegie Library building, 801 K Street, NW, Washington, D.C., 20001

Dear Mr. King,

Events DC, in coordination with the National Capital Planning Commission (NCPC), is planning to rehabilitate and modernize the Carnegie Library building to become a retail and education facility. The project will include a full restoration of the building exterior, and the non-original stair and awning will be removed and replaced with a new stair. Although the project is generally limited to the building itself, minor alterations may be made to landscaping and hardscape elements to comply with accessibility and other code requirements. The project area is located at 801 K Street, NW, Washington, D.C., 20001 in Mount Vernon Square. Please find attached an aerial photo of the project area.

NCPC is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) for the Carnegie Library project.

We would like to request a review of the District of Columbia's natural resource database to determine the potential presence of any District-listed protected species on or within the vicinity of the project site, in accordance with NEPA and Section 7 of the Endangered Species Act.

If you require any additional information, please do not hesitate to contact me at (301) 220-1892 or via email at laura.cooper@stantec.com.

Regards,

Laura Cooper

A handwritten signature in black ink that reads "Laura Cooper".

Environmental Scientist
Phone: 301-220-1892
Laura.Cooper@Stantec.com

c. Liz Estes, Stantec

Design with community in mind



May 18, 2017
Mr. Bryan King
Page 2 of 2

Reference: Request for threatened and endangered species information for the rehabilitation and modernization of the Carnegie Library building, 801 K Street, NW, Washington, D.C., 20001



Figure 1. Carnegie Library Project Area

APPENDIX C: TRAFFIC IMPACT ANALYSIS

This page left intentionally blank.

801 K Street Transportation Study

Comprehensive Transportation
Review



Prepared for:
District Department of
Transportation

Prepared by:
Stantec Consulting Services Inc.

July 5, 2017

Table of Contents

EXECUTIVE SUMMARY	III
1.0 INTRODUCTION	5
1.1 PURPOSE AND METHODOLOGY	5
2.0 STRATEGIC PLANNING ELEMENTS	6
2.1 PLANS/STUDIES REVIEWED	6
2.2 GUIDELINES/REGULATIONS REVIEWED	9
2.3 POTENTIAL IMPACT OF PROPOSED DEVELOPMENT ON PLANS	10
3.0 ROADWAY NETWORK, CAPACITY, & OPERATIONS.....	11
3.1 VEHICLE STUDY AREA.....	11
3.2 DATA COLLECTION AND HOURS OF ANALYSIS	12
3.2.1 Turning Movement Counts	12
3.2.2 Queuing	13
3.3 ANALYSIS METHODOLOGY	13
3.4 DEVELOPMENT SCENARIOS	15
3.4.1 2017 Existing Condition	15
3.4.2 2020 No Build Condition	16
3.4.3 2020 Build Condition.....	17
4.0 BICYCLE AND PEDESTRIAN FACILITIES	25
4.1 EXISTING FACILITIES	25
4.1.1 Bicycle	25
4.1.2 Pedestrians	25
4.1.3 Barriers to Walking and Biking	25
4.2 PROPOSED PLANS	26
4.3 IMPACT OF PROPOSED REDEVELOPMENT ON EXISTING AND PROPOSED PLANS/FACILITIES	27
4.4 RECOMMENDATIONS	27
5.0 TRANSIT SERVICE	28
5.1 EXISTING TRANSIT SERVICES	28
5.2 PROPOSED TRANSIT SERVICES	29
5.2.1 Union Station to Georgetown Streetcar.....	29
6.0 SITE ACCESS AND LOADING	31
7.0 PARKING.....	32
7.1 ON-STREET PARKING	32
7.2 SURFACE AND GARAGE PARKING FACILITIES	32
7.2.1 Surface Parking	32
7.2.2 Garage Parking	32
7.3 PARKING UTILIZATION	33

801 K STREET TRANSPORTATION STUDY

Introduction
July 5, 2017

8.0	TRANSPORTATION DEMAND MANAGEMENT (TDM)	34
8.1	POTENTIAL TDM STRATEGIES.....	34
9.0	PERFORMANCE MONITORING AND MEASUREMENT	35
10.0	CONCLUSION	37
11.0	REFERENCES	38

LIST OF TABLES

Table 1: Study Area Major Corridor Characteristics	12
Table 2: Observed Queuing and Unmet – PM Peak Hour	13
Table 3: LOS Criteria for Signalized Intersections	14
Table 4: 2017 Existing Condition Intersections Operating at Overall LOS E or F	15
Table 5: v/c Ratio for Study Area Roadways.....	16
Table 6: 2020 No Build Intersections Operating at Overall LOS E or F	17
Table 7: Weekday PM Peak Hour Trips for 801 K Street	18
Table 8: Saturday Peak Hour Trips for 801 K Street	19
Table 9: 2020 Build Intersections Operating at Overall LOS E or F	21
Table 10: 2020 Build Movements with Delay Increase of More than 5 Seconds	22
Table 11: Potential Mitigation Measures.....	23
Table 12: 2020 Build with Mitigation Intersections Operating at Overall LOS E or F	24
Table 13: Existing and Proposed Transit Services within the Study Area	28
Table 14: Study Area Surface Parking Lots.....	32
Table 15: Study Area Garage Parking	33

LIST OF APPENDICES

Appendix A: Report Exhibits
Appendix B: Raw Count Data
Appendix C: Synchro 9 Outputs
Appendix D: Trip Generation Memo

Executive Summary

The Carnegie Library, located in Mt. Vernon Square (801 K Street NW) in Washington, DC served as the central public library for almost 70 years and currently houses the Historical Society of Washington, DC (HSW) and Events DC. Events DC, the official convention and sports authority for the District of Columbia, is proposing to rehabilitate and modernize the Carnegie Library building to accommodate retail and education uses. The building will be leased jointly by HSW, which will continue to operate its research library, exhibit galleries, and administrative offices in the library, and a new retail tenant, which will operate a 12,614 square-foot retail facility in the building capable of holding small to moderate-sized events and educational classes.

The project is comprised of the following components: a restoration of the building exterior, including repair and cleaning of the exterior stone, repair or replacement of the windows and skylights, and repair of the copper roof cladding; a rehabilitation of the building interior, including removal of nonoriginal infill construction throughout the building, restoration of a central atrium space, upgrade or replacement of the MEP systems, and restoration of certain original finishes and features; and a reconfiguration of the north entrance, stairs, and landing. Although the project is generally limited to the building itself, minor alterations will be made to site hardscape elements to comply with accessibility and other code requirements.

PURPOSE AND METHODOLOGY

This Comprehensive Transportation Review (CTR) has been developed for use in compiling a revised Draft and Final Environmental Assessment (EA) that will reflect the proposed modifications to the facility. Specifically, the CTR analyzes the potential transportation system impacts of the conversion of space to retail use, and identifies, assesses, and recommends strategies to reduce the impact of the site on the transportation system. This document analyzes the potential transportation system impacts of the conversion to retail in 2020, the future horizon analysis year of the EA. As such, the following items were assessed:

- *Review of Existing Plans and Studies:* The proposed project would not have a negative impact on any of the existing plans and studies.
- *Assessment of Existing Roadway Network Capacity and Operations:* The proposed project would result in minimal impacts to the already congested roadway network. Several modifications could be made to K Street NW to provide turn lanes, which would address existing and future anticipated deficiencies.
- *Bicycle and Pedestrian Facilities:* The site is well-connected to existing pedestrian and bicycle facilities in the area. On-site enhancements, such as bicycle parking and ADA accessible connections, should be made.
- *Transit Service:* The site lies within walking distance of several bus stops and two Metrorail stations. In addition, it lies along a potential future streetcar route. No additional transit enhancements are required.
- *Parking:* No on-site parking will be provided. Existing on-street and off-street (surface and garage) parking will be utilized. However, as the retail site peaks in activity weekday evenings and weekends, parking utilization of these facilities are also decreasing. Thus, it is

801 K STREET TRANSPORTATION STUDY

Introduction

July 5, 2017

anticipated that ample parking will be available for the limited number of customers that choose to arrive by vehicle.

- *Transportation Demand Management:* The retail tenant should encourage employees to arrive by modes of transportation other than driving alone.
- *Performance Monitoring and Measuring:* While the site would not trigger the need for performance monitoring, it is recommended that a post-development customer survey be conducted to compare the anticipated mode split with the actual mode split. Conducting this analysis may help to determine if the mitigation measures recommended for K Street are warranted.

CONCLUSION

The results of the capacity analysis show a relatively limited impact on the study area's transportation network due to the anticipated non-auto mode split of 60%. The additional vehicle trips generated by the site would be added to an already-congested roadway network, resulting in an increase in delay on several intersection approaches that warrant mitigation, primarily during the PM peak hour. Mitigation measures include:

Vehicular

- Signal timing and phasing revisions;
- Restriping sections of K Street NW between 9th Street NW and 7th Street NW to accommodate left-turn lanes;
- Providing a protected-permissive left-turn from westbound K Street NW to southbound 9th St NW;
- Provide a designated rideshare (taxi/Uber/Lyft) pick-up/drop-off area on K Street NW between 9th Street NW and 7th Street NW; and,
- Advanced coordination with DDOT and MPD prior to large events or product releases.

Pedestrian/Bicycle

- Provision of an ADA-accessible route from all four corners of Mt. Vernon square
- Provision of bicycle parking
- Installation of a Capital BikeShare station
- In addition, the applicant should evaluate the need for addition pedestrian accommodations, i.e. mid-block crosswalk on K Street NW, upon site opening.

The above mitigation measures would address these increases in delay, and would improve most approaches to operate better than the No Build Condition. However, it should be noted that the proposed mitigation measures represent potential options to mitigate the anticipated increase in delay at the study area intersections. If the proposed DC Streetcar is routed along K Street NW, these recommendations may need to be modified. Furthermore, it is our recommendation that these mitigation measures be evaluated after the retail site opens to determine if they are warranted, as existing and projected No Build traffic volumes and congestion may discourage travel to and from the retail location during the PM peak period.

1.0 INTRODUCTION

The Carnegie Library, located in Mt. Vernon Square (801 K Street NW) in Washington, DC (shown in Exhibit 1 in Appendix A), served as the central public library for almost 70 years, and currently houses the Historical Society of Washington, DC (HSW), and Events DC. Events DC, the official convention and sports authority for the District of Columbia, is proposing to rehabilitate and modernize the Carnegie Library building to accommodate retail and educational uses. The building will be leased jointly by HSW, which will continue to operate its research library, exhibit galleries, and administrative offices in the library, and a new retail tenant, which will operate a 12,614 square-foot retail facility, capable of holding small to moderate-sized events and educational classes.

The project is comprised of the following components: a restoration of the building exterior, including repair and cleaning of the exterior stone, repair or replacement of the windows and skylights, and repair of the copper roof cladding; a rehabilitation of the building interior, including removal of nonoriginal infill construction throughout the building, restoration of a central atrium space, upgrade or replacement of the MEP systems, and restoration of certain original finishes and features, and a reconfiguration of the north entrance, stairs, and landing. Although the project is generally limited to the building itself, minor alterations will be made to site hardscape elements to comply with accessibility and other code requirements.

1.1 PURPOSE AND METHODOLOGY

This Comprehensive Transportation Review (CTR) has been developed for use in compiling a revised Draft and Environmental Assessment (EA) that will reflect proposed site adjustments renovations and adjustments to accommodate the retail tenant. The CTR analyzes the potential transportation system impacts of the proposed retail use, and identifies, assesses, and recommends strategies to reduce the impact of the site on the transportation system. This document analyzes the potential transportation system impacts of the proposed action in the 2020 horizon analysis year of the EA.

2.0 STRATEGIC PLANNING ELEMENTS

Stantec reviewed several city-wide planning documents as well as city regulations and guidelines to determine how the proposed redevelopment considers District growth goals and objectives within the study area. Brief summaries of the plans, as well as the impact of the proposed Carnegie development on the plans, are provided in the sections below.

2.1 PLANS/STUDIES REVIEWED

DC Streetcar: Union Station to Georgetown Study (ongoing)

The District Department of Transportation (DDOT), in partnership with the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), is in the process of completing an Environmental Assessment (EA) for the proposed construction of an approximately three-mile DC Streetcar line between Union Station and Georgetown. This new transit line is intended to provide better east-west connectivity and improve overall transit service in the corridor. An Alternatives Analysis study was completed in September 2013.

In this report, DDOT identified one recommended alternative that passes through the study area, directly adjacent to Mount Vernon Square on both K Street NW and Mt Vernon Place. However, based on the more recent EA public involvement meeting materials, the alternatives currently under consideration only pass to the south of Mount Vernon Square on K Street NW, with a station platform on both the north side of the street (for the westbound line) and in the median (for the eastbound line). It is anticipated that the final NEPA decision for approval of a final alternative will be made Fall 2018.

Downtown West Transportation Planning Study (ongoing)

The Downtown West Transportation Planning Study is an ongoing study to develop alternatives for improved east-west travel for pedestrians and cyclists on Pennsylvania Avenue NW and for public transit riders along H Street NW and I Street NW. The recommended alternative will be selected between June and July 2017. Any of the alternatives would likely improve the multimodal travel experience to the study area.

Through an analysis of the existing conditions, completed August 2016, the study identifies high pedestrian volumes and key transit corridors throughout the study area. Furthermore, it identifies existing dedicated bicycle lanes within the study area along 7th and 9th Streets NW, as well as along New York Avenue NW. The study also identifies a proposed cycle track along Massachusetts Avenue NW.

801 K STREET TRANSPORTATION STUDY

Strategic Planning Elements
July 5, 2017

accessDC Study (ongoing)

The accessDC Study is an ongoing study focusing on the mobility and access needs of the District's older and disabled residents. Ultimately, the study will identify ways in which older residents and people with disabilities can have access to multiple transportation services. The final report for this study will be completed Summer 2017.

Sustainable DC Plan (2012), Vision Report (2012), and Progress Reports (2016 and 2017)

The Sustainable DC Plan report, published in 2012, encourages environmentally, economically, and socially sustainable city investments by setting "ambitious goals" for the District. One proposed solution for the built environment is to retrofit existing commercial buildings, such as the Carnegie Library, to achieve net-zero energy standards. The proposed solutions to improve the sustainability of the District's transportation network include: increase use of public transit, increase biking and walking, reduce commuter trips, and eliminate "unhealthy" air quality index days.

Smart DC Study (2016)

This study was completed in February 2016 as a part of DDOT's application for the "Beyond Traffic: The Smart City Challenge", a transportation system innovation competition for mid-sized cities sponsored by the USDOT that encouraged cities to envision how smart technology can help them meet future transportation challenges. In addition to other corridors, the segment of New York Avenue NW within the study area was identified as a pilot project corridor to test urban automation, connected vehicles, and intelligent, sensor-based infrastructure technology.

Curbside Management Study (2014)

The Curbside Management Study, completed in August 2014, identifies policies and strategies that support a more holistic approach to curbside management across the District. The three overarching goals for these policies is to "preserve access to residential areas for use of residents," "promote and facilitate commerce by prioritizing customer and commercial vehicle access in commercial areas," and "ensure the safety of all transportation users including pedestrians, cyclists, transit users, and motorists." The four identified strategies to complete these goals are as follows: promotion of walkable neighborhoods and local businesses, provision of equitable access to unequally geographically distributed resources, prioritization of existing local resident access over new developments or outsiders, and nimble management of parking supply/availability. This report identifies managed, predictable, and reliable curbside access as the most important approach for higher intensity districts, like the study area.

moveDC Multimodal Long-Range Transportation Plan (2014)

Published in October 2014, moveDC was a collaborative effort led by DDOT to present a vision and improvement course for the District's transportation system over the next 25 years. moveDC focuses on more travel options, reliability of transportation systems, safety for all, and efficiency of investments. The plan proposes more than 200 new miles of bicycle facilities, a 22-mile streetcar



801 K STREET TRANSPORTATION STUDY

Strategic Planning Elements
July 5, 2017

system with the possibility of extension lines, and more than 40 miles of High Capacity Transit. It also contains progress updates to the 2005 Bicycle and 2009 Pedestrian Master Plans as of December 2013.

moveDC recognizes that it is essential to maintain a balance between pedestrian, bicycle, transit, and vehicular modal activity on the City's transportation network to turn its vision into a reality. The study proposes various improvements to create this balance within the study area, including:

- A multi-use trail along New York Avenue to the northeast of the study area,
- Cycle tracks on Massachusetts Avenue NW to improve bicycle connections,
- High-capacity and high-frequency transit network (including a 22-mile streetcar system that will have a line surrounding Mount Vernon Square) to improve transit connections, and
- Lane reductions and other priority modal improvements to discourage excessive vehicular traffic.

DC Office of Planning Comprehensive Plan (2011)

The District's Comprehensive Plan is a general policy document that provides overall guidance for future planning and development of the city and its ten geographic areas. The most recent plan was approved in 2006 and amended in 2011. The study area falls within the boundaries of the Central Washington Area plan and the Near Northwest Area plan. Both plans indicate that any continuing redevelopment should also coordinate with other documents and update master plans as necessary.

The Central Washington Area plan recommends the preservation of historical buildings, listing the restoration of the Carnegie Library Building as a main example. The plan also supports additional retail development to promote Central Washington as a regional retail destination, specifically encouraging ground floor retail space to create street life that will complement the proposed high-density housing. The plan encourages development that promotes Mount Vernon Square as the heart of the urban neighborhood. It stresses that any improvements should consider the area's context, density, and urban character. The Near Northwest Area plan recommends the development of continuous ground floor retail uses along 7th and 9th Streets NW and encourages improved pedestrian infrastructure along these corridors.

Pedestrian Master Plan (2009)

The 2009 Pedestrian Master Plan serves as the foundation for DDOT's pedestrian programs and represents the first comprehensive city-wide effort to address pedestrian safety challenges and related issues. The goals of the plan are to reduce the number of pedestrian fatalities and injuries associated with motor vehicle crashes and to increase pedestrian activity by creating a comfortable and accessible environment for walking throughout all parts of the District. It should be noted that the moveDC plan supersedes this plan as of 2015.

Through an analysis of existing conditions, the plan identifies the study area to have medium pedestrian activity with medium, low, or not-evaluated pedestrian facility deficiencies. It also

801 K STREET TRANSPORTATION STUDY

Strategic Planning Elements
July 5, 2017

identifies New York Avenue NW as a priority corridor for curb ramp repair, curb extension, median construction/extension, crosswalk restriping/pavement repair, right turn on red restrictions, and bus stop improvements, among others.

Bicycle Master Plan (2005)

The 2005 Bicycle Master Plan is a guide to establishing high-quality bicycle facilities and programs from 2005 to 2015 through facility improvements, policy changes, and education, promotion, and enforcement. The plan shows that, while no existing facilities were present on the roadway network within the study area in 2005, Massachusetts Avenue NW, Mount Vernon Place NW, and K Street NW within the study area were signed bicycle routes. As such, the bicycle level of service in the study area was shown to be between C and E.

The plan shows New York Avenue NW to the east of the study area as a proposed multi-use trail connection to trails in the eastern part of the District. Furthermore, dedicated bicycle lanes were proposed within the study area on K Street NW. Since the study was completed, bike lanes were added on New York Avenue NW, west of the 9th Street NW intersection. It should be noted that the moveDC plan also supersedes this plan as of 2015.

2.2 GUIDELINES/REGULATIONS REVIEWED

DDOT Guidelines for Tour Bus Parking

The DDOT Motorcoach Operators Guide provides parking and operations guidelines for tour buses within the District. For example, motorcoaches can only park or drop-off/pick-up at designated curbside locations (subject to time limits) or at off-street parking facilities. It also specifically states that motorcoaches are not allowed to park adjacent to any parks. The guide also provides a list of designated parking and drop-off/pick-up locations, none of which are located within the study area.

DDOT Bicycle Parking Regulations

Title 18, Chapter 21:2119 of the District of Columbia Municipal Regulations details the rules relating to the required provision of bicycle parking. The regulations state that bicycle parking shall be provided for retail spaces, except in C-3-C (Medium Density Office, Retail, Housing), C-4 (Central Business District), and C-5 (Pennsylvania Avenue). The regulations also list the required dimensions, amount, and placement of bicycle parking. The project site is located in Zone D-5 and is not exempt from these requirements.

DDOT Guidelines for On-Street Carsharing

The DDOT On-Street Carsharing Program requires that all carsharing companies operating within the District must obtain a public space permit from DDOT's Public Space Regulations Administration. Reserved on-street carsharing spaces are selected in consultation with Advisory

801 K STREET TRANSPORTATION STUDY

Strategic Planning Elements
July 5, 2017

Neighborhood Commissions, businesses, and community leaders. However, some carsharing companies obtain Zone 9 permits, which allow them to park in both residential and metered parking spaces free of charge and longer than the posted time limit. There are currently no designated carsharing spaces within the study area.

2.3 POTENTIAL IMPACT OF PROPOSED DEVELOPMENT ON PLANS

The redevelopment of the Carnegie Library property aligns with the recommendations and findings of many of these planning documents and studies. The proposed development considers the character and history of the site, supports the desired increase in ground-floor retail use, provides on-site bicycle parking, and will contribute to increasing activity and walkability within the area. The proposed plan would not preclude any of the infrastructure improvements recommended in the above studies (roadway, transit, and bicycle and pedestrian infrastructure).

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

3.0 ROADWAY NETWORK, CAPACITY, & OPERATIONS

3.1 VEHICLE STUDY AREA

While Mt. Vernon Square and the Carnegie Library are located within Ward 2, a portion of the project study area lies on the boundary with Ward 6. The transportation study area includes the following intersections:

- 9th Street NW and K Street NW/New York Avenue NW
- 7th Street NW and K Street NW/Massachusetts Avenue NW
- 7th Street NW and K Street NW
- 7th Street NW and Mt. Vernon Pl NW/New York Avenue NW
- 9th Street NW and Mt. Vernon Pl NW/Massachusetts Avenue NW
- 9th Street NW and K Street NW

In addition to the above-listed intersections, this CTR will also evaluate pedestrian and bicycle facilities within a $\frac{1}{4}$ and $\frac{1}{2}$ mile, respectively, including connections to and from nearby bus stops and Metrorail stations.

Characteristics of the major corridors within the study area were obtained from maps on the DDOT and MWCOC websites denoting functional classification, 2015 AADT, number of lanes, speed limits, and truck routes/loading zones. This information is summarized in Table 1. It should be noted that there is a mix of on-street parking regulations throughout the study area.

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

Table 1: Study Area Major Corridor Characteristics

Roadway	Functional Class	2015 AADT (thousands)*	Number of Lanes, Median	Speed Limit (mph)	Primary Truck Route/Designated Loading Zones?
Massachusetts Ave NW, west of 9 th St NW	Principal Arterial	35.7	5, None	25 mph	Yes/No
Massachusetts Ave NW, east of 7 th St NW	Principal Arterial	23.6	4, None	25 mph	Yes/No
Mt Vernon Pl NW	Principal Arterial	25.4	4, None	25 mph	Yes/No
New York Ave NW, west of 9 th St NW	Principal Arterial	18.9	4, landscaped	25 mph	Yes/Yes
New York Ave NW, east of 7 th St NW	Principal Arterial	24.0	6, striped with flexible delineators	25 mph	Yes/Yes
K St NW between 7 th and 9 th Sts NW	Principal Arterial	19.9	4, None	25 mph	Yes/No
9 th St NW between Mt Vernon Pl NW and K St NW	Principal Arterial	18.3	5, None	25 mph	Yes/No
7 th St NW between Mt Vernon Pl NW and K St NW	Principal Arterial	11.4	3, None	25 mph	Yes/No
* Traffic data obtained from the Regional Transportation Data Clearinghouse (RTDC) Data Viewer, Traffic Counts – Annual Average GIS layer, provided by the National Capital region Transportation Planning Board (TPB) as part of the Metropolitan Council of Governments (MWCOC), located here: http://gis.mwcog.org/webmaps/rtdc/					

3.2 DATA COLLECTION AND HOURS OF ANALYSIS

Stantec conducted a comprehensive data collection program to establish “average day” baseline conditions for vehicular, transit, pedestrian, and cyclist traffic within the study area. The program consisted of manual turning movement counts, queuing observations, and parking inventory. All data were collected on typical weekdays when District schools and Congress were in session.

3.2.1 Turning Movement Counts

Manual turning movement counts were collected during the PM peak period (4:00PM – 7:00PM) on Tuesday, May 23, 2017 and June 6, 2017, as well as on Saturday, May 20, 2017 between 11:00AM and 2:00PM at the following six intersections:

1. 9th Street NW & Massachusetts Avenue NW/Mt. Vernon Place NW
2. 9th Street NW & K Street NW
3. 9th Street NW & New York Avenue NW/K Street NW



801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

4. 7th Street NW & K Street NW/Massachusetts NW
5. 7th Street NW & K Street NW
6. 7th Street NW & Mt. Vernon Place NW/New York Avenue NW

Appendix B contains the raw count data. An analysis of this data revealed that the individual intersection PM peak period hours varied throughout the study area, but the Saturday peak hour was 1:00PM – 2:00PM at five of the six intersections. Due to the proximity of each intersection to one another (less than 1500 feet), one overall peak hour for each peak period was determined:

- PM Peak Hour: 4:45PM – 5:45PM
- Saturday Peak Hour: 1:00PM – 2:00PM

3.2.2 Queuing

Queuing observations were conducted on Thursday, June 15, 2017 to determine if additional unmet demand would need to be considered in the traffic analysis. Field observations indicated no residual queueing during the Saturday peak hour that required field measurements.

According to *moveDC*, queuing is prevalent within the study area, especially during the PM peak period along New York Avenue NW. Table 2 summarizes where queuing issues were observed during the PM peak period and reflects the approaches for which additional unmet demand volume was added based on unresolved queue lengths for the last 15-minute period during the hour. The final 2017 Existing Condition AM and PM peak hour volume diagrams are contained in Exhibits 2 and 3 in Appendix A. Appendix B contains the queue observation data.

Table 2: Observed Queuing and Unmet – PM Peak Hour

Intersection	Approach	Additional Unmet Volume Added
9 th Street NW & Massachusetts Avenue NW/Mt Vernon Place NW	Eastbound	320 vehicles
9 th Street NW & K Street NW	None	0 vehicles
9 th Street NW & New York Avenue NW/K Street NW	Eastbound	51 vehicles
7 th Street NW & K Street NW/Massachusetts Avenue NW	Northbound	128 vehicles
7 th Street NW & K Street NW	Northbound	128 vehicles
7 th Avenue NW & Mt Vernon Place NW/New York Avenue NW	Eastbound	320 vehicles
	Northbound left turn	128 vehicles

3.3 ANALYSIS METHODOLOGY

Capacity analyses were performed for the signalized and unsignalized intersections in the study area utilizing Synchro 9 traffic analysis software. This software package provides average control delay, queues, and level of service (LOS) for each lane group and for the overall intersection. LOS

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

is an evaluation of the quality of operation of an intersection and is a measure of the average delay a driver experiences while traveling through the intersection. LOS is dependent upon a range of defined operating conditions such as traffic demand, lane geometry, and traffic signal timing and phasing.

Utilizing Synchro instead of the more basic Highway Capacity Software (HCS) is preferable for transportation networks with a series of closely-spaced signalized intersections, as well as for networks with complex signal phasing, such as those within the study area. Under these conditions, Synchro is able to more accurately model the effects that the traffic operations (such as poor LOS or extensive queuing) at one intersection have on operations at an adjacent intersection.

LOS can range from A to F and is based on the average control delay per vehicle. For a signalized intersection, LOS A indicates operations with an average control delay less than 10 seconds per vehicle, while LOS F describes operations with an average control delay in excess of 80 seconds per vehicle at signalized intersections and 50 seconds per vehicle at unsignalized intersections, or a v/c ratio greater than 1.0. Table 4 summarizes the 2010 HCM delay criteria for signalized and unsignalized intersections.

Table 3: LOS Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	
	Signalized	Unsignalized
A	≤ 10.0	≤ 10.0
B	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
C	> 20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
D	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
E	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
F	> 80.0 or v/c > 1.0	>50.0 or v/c>1.00
Source: 2010 Highway Capacity Manual		

While LOS D or better operations are generally deemed satisfactory from a traffic operations perspective, LOS E or F operations are often indicative of queuing and congestion. Improvements as recommended in this study seek to maintain or improve traffic operations to LOS D or better, with minimal queuing, as reported by Synchro.

Signal plans and timing directives were provided by DDOT and were field-verified to accurately model signal operation type, phasing, detection, and cycle length.

3.4 DEVELOPMENT SCENARIOS

3.4.1 2017 Existing Condition

2017 Existing Condition volumes for the PM and Saturday peak hours, shown in Exhibits 2 and 3 in Appendix A, were modeled in Synchro 9 to produce capacity analysis results, summarized in Exhibit 4 in Appendix A. All Synchro capacity analysis outputs are in Appendix C. The results show that two intersections during the PM peak hour and all intersections during Saturday peak hour currently operate at an overall LOS D or better. Table 4 below indicates the intersections that operate at an overall LOS of E or F (failing condition) during the PM peak hour.

Table 4: 2017 Existing Condition Intersections Operating at Overall LOS E or F

Intersection	PM Peak Hour Level of Service
7 th Street NW & Mt Vernon Pl NW/New York Avenue NW	E
7 th Street NW & K Street NW	E
7 th Street NW & K Street NW/Massachusetts Avenue NW	E

3.4.1.1 V/C Evaluation

In addition to LOS, volume-to-capacity (v/c) ratios are used to evaluate mobility and quality of travel on a roadway or segment of roadway. They compare demand (volume) with supply (capacity) and are expressed as a decimal, usually less than 1.00. A v/c ratio at or above 1.00 indicates that the roadway is operating at or above capacity.

The table presented in Chapter 45, Section 45.4(3) of the DDOT Design and Engineering Manual (DEM) shows the threshold capacity for different arterial designations, from local residential roadway to major arterial. Stantec used this table, the 2015 traffic data obtained from the RTDC Data Viewer provided by MWCOC, and the official DDOT Functional Classification Map 2016 provided on the DDOT website to estimate the current volume/capacity ratio for all roadways within the study area. Table 5 lists these ratios and highlights those that are above 1.00.

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

Table 5: v/c Ratio for Study Area Roadways

Roadway	Functional Class	2015 AADT	Threshold Capacity	v/c Ratio
Massachusetts Avenue NW (west of 9th Street NW)	Principal Arterial	35,700	30,000	1.19
Massachusetts Avenue NW (east of 7 th Street NW)	Principal Arterial	23,600	30,000	0.79
Mount Vernon Place NW	Principal Arterial	25,400	30,000	0.85
New York Avenue NW (west of 9 th Street NW)	Principal Arterial	18,900	30,000	0.63
New York Avenue NW (east of 7 th Street NW)	Principal Arterial	24,000	45,000	0.53
K Street NW (between 9 th Street NW and 7 th Street NW)	Principal Arterial	19,900	30,000	0.66
9 th Street NW (between Mount Vernon Place NW and K Street NW)	Principal Arterial	18,300	30,000	0.61
7 th Street NW (between Mount Vernon Place NW and K Street NW)	Principal Arterial	11,400	30,000	0.38

3.4.2 2020 No Build Condition

The selected analysis year of 2020 corresponds to the horizon year identified for the EA. Stantec obtained forecast data from the Metropolitan Washington Council of Governments (MWCOC) model to determine the background growth factor. This model uses future population and employment projections that reflect a regional perspective on growth and development. Based on information contained in the model, an annual growth rate of 1.5% was applied to the Existing Condition volumes to generate background growth volumes.

In addition to background growth, the impact of nearby site developments is also typically included in the No Build condition. A review of active cases for ANCs 2C, 2F, and 6E as shown in the Interactive Zoning Information System (IZIS) and the interactive online zoning map, both maintained by the DC Office of Zoning, yielded three nearby developments that are currently being constructed and are anticipated to open before 2020:

- 1126 9th Street NW, a mixed-use building with 3,723 SF of office space and 33 condominiums/townhouses
- 655 New York Avenue NW, a 678,000 SF trophy office building with 79,000 SF of street-level and subterranean retail with parking
- 950 New York Avenue NW, a 360-room luxury hotel with 30,000 SF of street-level retail with subterranean parking

These three developments are expected to have an impact on traffic volumes in the study area. It should be noted that at the time of this study, only trip generation, trip distribution, and corresponding mode splits were available for 1126 9th Street NW from DDOT. Trip generation for

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

655 New York Avenue NW and 950 New York Avenue NW was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th ed. Mode splits for these two developments was assumed to be the same as that shown in a memorandum previously submitted to DDOT entitled "801 K Street Trip Generation and Mode Split Estimates" (Appendix D). Exhibits 5 through 11 in Appendix A show how all anticipated development trips were distributed through the existing roadway network, based on existing travel patterns.

Projected background growth volumes and site-specific development volumes were summed to obtain 2020 No Build Condition volumes for the PM and Saturday peak hours (Exhibits 12 and 13 in Appendix A). These volumes were modeled in Synchro 9 to produce capacity analysis results, summarized in Exhibit 14 in Appendix A. The results show that all study area intersections would operate at an overall LOS E or F during the PM peak hour (Table 6). However, the study area intersections would operate at an overall LOS D or better during the Saturday peak hour, with the exception of 7th Street NW & K Street NW/Massachusetts Avenue NW, which would operate at an overall LOS F.

Table 6: 2020 No Build Intersections Operating at Overall LOS E or F

Intersection	PM Peak Hour Level of Service	Saturday Peak Hour Level of Service
9 th Street NW and Massachusetts Avenue NW/ Mt Vernon PI NW	F	-
9 th Street NW and New York Avenue NW/K Street NW	E	-
7 th Street NW & Mt Vernon PI NW/New York Avenue NW	F	-
7 th Street NW & K Street NW	F	-
7 th Street NW & K Street NW/Massachusetts Avenue NW	F	F

3.4.3 2020 Build Condition

3.4.3.1 Site Access

There will be no public vehicular access provided to the site. Any vehicles wishing to access the site will park either on-street or in nearby surface lots and garages. However, it was assumed that a designated rideshare pickup/drop off location would be located at the front of the library along westbound K Street NW. Deliveries will be made in box trucks via the existing loading driveway located on Mount Vernon Place (see Section 6.0).

3.4.3.2 Trip Generation, Distribution, and Assignment

3.4.3.2.1 Trip Generation

The project is expected to be completed by 2020. A memorandum previously submitted to DDOT entitled "801 K Street Trip Generation and Mode Split Estimates" (Appendix D) documents the trip generation and mode split analysis that was conducted for the proposed redevelopment. Based

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

on a pre-scoping meeting with DDOT held on February 7, 2017, it was determined that the ITE *Trip Generation Manual*, would not provide an adequate estimate of the number of trips generated. Therefore, site-specific trip generation and mode split data was collected at five existing retail brand stores that have locational and/or operational features that are similar to those of the proposed location. The results of the trip generation and mode split calculations are shown in Tables 7 and 8.

Table 7: Weekday PM Peak Hour Trips for 801 K Street

	Units	Total Trips	Entering (54%)	Exiting (46%)
New Person Trips	12,614 SF	512	277	235
Additional Pass-By Trips	15%	76	38	38
Event Trips		200	180	20
Total Trips		788	495	293
Drive Alone	16%	114	73	41
Carpool	4%	29	18	11
Carshare	0.5%	4	2	2
Total New Vehicle Trips to Parking*		125	80	45
Total Vehicle Person Trips Reflect as Pedestrians Entering Site		147	93	54
Taxi/Uber/Lyft	17%	121	78	43
Delivery	0.5%	3	2	1
Total New Pass-Through Vehicle Trips		124	80	44
Bus	5%	36	23	13
Rail/Subway	29%	206	132	74
Walk**	24%	247	148	99
Bike	4%	28	18	10
Total Multi-Modal Trips		517	321	196

*Total New Vehicle Trips to Parking = Drive Alone + Carpool/3

**Walk = 22% Mode Split + Pass-By Trips

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

Table 8: Saturday Peak Hour Trips for 801 K Street

	Units	Total Trips	Entering (50%)	Exiting (50%)
New Person Trips	12,614 SF	669	335	335
Additional Pass-By Trips	10%	67	33	33
Event Trips		200	180	20
Total Trips		936	548	388
Drive Alone	14%	122	72	50
Carpool	11%	96	57	39
Carshare	0.5%	4	2	2
Total New Vehicle Trips to Parking*		158	94	64
Total Vehicle Person Trips Reflect as Pedestrians Entering Site		222	131	91
Taxi/Uber/Lyft	16%	139	82	57
Delivery	0.5%	5	3	2
Total New Pass-Through Vehicle Trips		144	85	59
Bus	5%	44	26	18
Rail/Subway	23%	200	118	82
Walk**	25%	284	162	122
Bike	5%	44	26	18
Total Multi-Modal Trips		572	332	240

*Total New Vehicle Trips to Parking = Drive Alone + Carpool/3

**Walk = 26% Mode Split + Pass-By Trips

3.4.3.2.2 Trip Distribution

The distribution of vehicle, pedestrian, bicycle and transit trips was based on existing travel patterns, location of on-street and off-street parking, and transit stops/stations.

Vehicular Trip Distribution

There are two types of vehicle trips generated by the proposed facility: vehicles destined for on-street or off-street parking (drive alone, carpool, and carshare), and vehicles destined for the site frontage (taxi/Uber/Lyft and deliveries). All vehicle trips were distributed to the regional roadway network based on existing travel patterns as reflected in the overall AADT for each roadway (Exhibit 15 in Appendix A). A centralized drop-off location on westbound K Street NW, along Mt. Vernon Square was assumed for all taxi, Uber, Lyft vehicles, and delivery activity was assigned to the existing loading area on Mt. Vernon Place. Therefore, all rideshare and delivery vehicle trips were distributed from the regional roadway network to the assumed drop-off area based on the most direct path.

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

Vehicles destined for on-street or off-street parking facilities were distributed on the study area roadway network based on the location and availability of parking spaces within one block of the site, relative to their point of origin in the regional roadway network. Field observations conducted during the PM peak period, revealed high utilization of on-street parking, while surface and structured parking was becoming increasingly available as area employees departed. Therefore, it was assumed that, in general, approximately 15% of vehicles destined for the site would park on-street, reflecting the limited amount of parking available, as well as the reluctance of retail-patrons to circulate looking for on-street parking. Twenty-five percent of vehicles were assumed to be destined for the two nearby surface parking facilities, and the remaining 60% of vehicles were assumed to be destined to the seven garage parking facilities within one block of the site. Slight adjustments were made to these percentages based on the operating hours of the structured and surface parking, as well as on-street parking restrictions (see Section 7).

Vehicles were then distributed from the regional roadway network to the parking based on the most direct route from the roadway entering the study area to or from the parking facility. Therefore, some vehicles traveling to or from a particular parking facility may not enter the study area intersections because the most direct path lies outside of the study area intersections. Exhibits 16 through 62 in Appendix A show the distributions to and from each facility as well as the total number of trips distributed on the network for this mode. It should be noted that the vehicle trips were then reflected as pedestrian trips from the parking area to the site.

Exhibits 63 through 71 show distributed taxi/Uber/Lyft and delivery trucks on the network.

Non-Vehicular Trip Distribution

Transit trips were distributed on the study area roadway network as pedestrian trips. Pedestrian-bus trips were assigned to the nearest bus stops on Massachusetts Avenue NW, New York Avenue NW, 9th Street NW, and 7th Street NW based on June 2016 bus ridership data obtained from WMATA. Pedestrian-Metrorail trips were distributed on the network based on the proximity of the Gallery Place/Chinatown and Mt. Vernon Square/Convention Center stations. According to data compiled by WMATA via the Plan It Metro website, the Gallery Place/Chinatown station experiences high ridership volume by link when compared to the Mt. Vernon/Convention Center station. The link volumes obtained from this website indicate that 95% of trips in the PM peak hour and 70% of trips in the Saturday peak hour) would travel to/from this station. Exhibits 72 through 80 in Appendix A show the calculated trip distributions as well as the distributions on the network for each mode.

Pedestrian and bicycle trips were distributed on the study area roadway network based on existing pedestrian and bicycle volumes collected as part of the TMCs. These volumes are shown in Exhibits 81 through 84 in Appendix A.

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

3.4.3.2.3 Trip Assignment

Stantec assigned the generated trips to the study area network based on the trip distribution discussed in Section 3.4.3.2.2. Exhibits 85 and 86 (in Appendix A) show the total site trip assignment for all modes.

3.4.3.3 Mitigation Scenarios

The total site trips were added to the 2020 No Build Condition traffic volumes to generate 2020 Build Condition traffic volumes (Exhibits 87 and 88 in Appendix A). Two mitigation scenarios were examined to determine the extent of improvements needed on the transportation network to accommodate the proposed traffic: 2020 Build Condition without and with Mitigation. It should be noted that at the time of this report, the details for the proposed DC Streetcar line that is expected to run through the study area was not available. Therefore, the 2020 Build Condition without and with Mitigation scenarios do not consist of proposed roadway network improvements as needed for the proposed DC Streetcar. Only the existing roadway network was modeled.

3.4.3.3.1 Without Mitigation

Stantec modeled this scenario in Synchro 9 to obtain capacity analysis results (Exhibit 89 in Appendix A). The Synchro capacity analysis outputs are located in Appendix C. The results show that all study area intersections would continue to operate at an overall LOS E or F during the PM peak hour. However, the study area intersections would operate at an overall LOS D or better during the Saturday peak hour, with the exception of 7th Street NW & K Street NW, which would operate at LOS E and 7th Street NW & K Street NW/Massachusetts Avenue NW, which would operate at an overall LOS F (Table 9).

Table 9: 2020 Build Intersections Operating at Overall LOS E or F

Intersection	PM Peak Hour Level of Service	Saturday Peak Hour Level of Service
9 th Street NW and Massachusetts Avenue NW/ Mt Vernon PI NW	F	-
9 th Street NW and New York Avenue NW/K Street NW	E	-
7 th Street NW & Mt Vernon PI NW/New York Avenue NW	F	-
7 th Street NW & K Street NW	F	E
7 th Street NW & K Street NW/Massachusetts Avenue NW	F	F

While the study area intersections continue to operate at an overall LOS that is consistent with the No Build Condition, DDOT requires mitigation for any movement that experiences an increase in delay of greater than 5 seconds per vehicle. Table 10 shows the movements that experience an increase in delay of more than five seconds per vehicle in one or both peak hours. However, it is important to note that most of the study area roadways are at or over capacity. Therefore, even small additions to vehicular volume result in significant, exponential increases in delay. For example, the capacity analysis results show that the EB approach to the intersection of 7th Street

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

NW and K Street NW/Massachusetts Avenue NW would experience an increase in vehicle delay of approximately 106 seconds per vehicle during the PM peak hour. However, the site is only adding 34 vehicles to that approach, or 2.5% of the total approach volume.

Due to the existing capacity deficiency only a small increase in overall vehicles results in a high increase in delay, based on capacity analysis formal, that would likely not be realized in the field. However, the results, while likely not realistic indicate an overall need for additional capacity, and this mitigation measures should still be explored to the extent possible.

Table 10: 2020 Build Movements with Delay Increase of More than 5 Seconds

Intersection	PM Peak Hour	Saturday Peak Hour
9th Street NW and Massachusetts Avenue NW/ Mt Vernon PI NW	EB-LT (+21) EB-R (+17) WB-LTR (+20)	EB-LT (+6) EB-R (+8)
9th Street NW and New York Avenue NW/K Street NW	WB-LT (+86)	-
7th Street NW & Mt Vernon PI NW/New York Avenue NW	NB-L (+8)	WB-LT (+9)
7th Street NW & K Street NW	SB-LT (+19)	-
7th Street NW & K Street NW/Massachusetts Avenue NW	EB-LTR (+106) NB-LTR (+18)	EB-LTR (+47) SB-LTR (+30)

3.4.3.3.2 With Mitigation

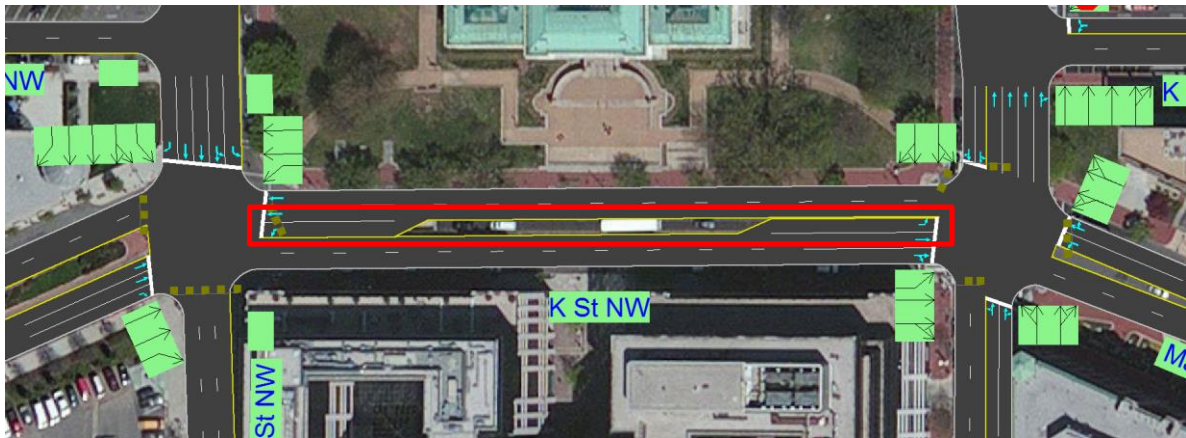
Stantec developed and evaluated mitigation measures that would address the additional intersection delay while considering multi-modal transportation needs and potential ROW impacts. It should be noted that this section identifies vehicle mitigation measures. Pedestrian/bicycle improvements are discussed in Section 4, and transit improvements are discussed in Section 5.

The mitigation options shown in Table 11 should be considered preliminary as improvements may be made to the study area transportation network as part of other DDOT projects, including the DC Streetcar expansion on K Street NW and 7th Street NW.

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

Table 11: Potential Mitigation Measures

Mitigation Measure	
A. Upgrade all study area signalized intersection to be fully actuated and optimize phasing and offsets.	
	
B. Remove on street parking on one side of K Street to provide an exclusive left turn lane on WB K Street at the intersection of 9 th Street with New York Avenue NW. Revise the phasing to include a protected/permitted WB left turn. It may be possible provide a shift in the through lanes to avoid a complete removal of on-street parking.	C. Remove on-street parking on one side of K Street to provide an exclusive left turn lane on EB K Street at the intersection of 9 th Street with New York Avenue. It may be possible provide a shift in the through lanes to avoid a complete removal of on-street parking.

It should be noted that measures B and C would need to be coordinated with the future DC Streetcar project. Furthermore, it is our recommendation that these mitigation measures be evaluated after the retail site opens to determine if they are warranted. The anticipated additional vehicle trips analyzed in this report were estimated utilizing data obtained at similar retail sites. However, given the existing and projected background congestion in the study area during the PM peak period, and the ample number of retail locations elsewhere in the DC metropolitan area, it is unlikely that PM peak hour trips would be generated from suburban communities outside of DC. Therefore, non-auto mode share may be higher than anticipated. A post-development survey may help to evaluate actual customer travel patterns, and determine if the more significant enhancements, such as the removal of on-street parking to accommodate left-turn bays are needed.

Capacity analysis results for the Build with Mitigation condition are contained in Exhibit 90 in Appendix A and show delay, v/c ratio, LOS and queuing by lane group. Based on the analysis results all study area intersections would experience a significant improvement in operation due to the signal timing adjustments and striping modifications. All intersections would operate at an overall LOS D or better, except for the intersections shown in Table 12.

801 K STREET TRANSPORTATION STUDY

Roadway Network, Capacity, & Operations
July 5, 2017

Table 12: 2020 Build with Mitigation Intersections Operating at Overall LOS E or F

Intersection	PM	Saturday
7 th Street NW & Mt Vernon Place NW/New York Avenue NW	E	-
7 th Street NW & K Street NW	F	E

4.0 BICYCLE AND PEDESTRIAN FACILITIES

The Carnegie Library site is in an area with existing pedestrian and bicycle facilities. This section will evaluate existing pedestrian and bicycle facilities within the area of the site, identify planned improvements, and recommend any additional improvements to enhance the connectivity.

4.1 EXISTING FACILITIES

4.1.1 Bicycle

According to the 2005 DC Bicycle Master Plan, no existing bicycle facilities were present on the roadway network within the study area in 2005. Massachusetts Avenue NW, Mount Vernon Place NW, and K Street NW within the study area were signed bicycle routes. As such, the bicycle level of service in the study area was shown to be between C and E. However, since the study was conducted bicycle lanes were added to New York Avenue NW, west of the study area. The Downtown West Transportation Planning Study Existing Conditions report also identifies a proposed cycle track along Massachusetts Avenue NW that has yet to be constructed. It should be noted that bicycles are permitted to ride on the sidewalk north of Massachusetts Avenue.

Exhibit 91 in Appendix A shows existing bicycle facilities including bike lanes, bike routes, bike racks, and Capital BikeShare locations. It also shows that there is one Capital BikeShare location with the ¼-mile walkshed and eight locations within the ½-mile bikeshed.

4.1.2 Pedestrians

The site is served by a robust network of sidewalks that are provided on both sides of each study area roadway. According to the Downtown West Transportation Planning Study Existing Conditions report, completed August 2016, high pedestrian volumes and key transit corridors/connections are prevalent throughout the study area. Sidewalks vary in width from six to eighteen feet, and were observed to be in good to fair condition. Furthermore, signalized crosswalks are provided on all legs of the surrounding signalized intersections. Unsignalized crossings are provided across K Street NW at 9th Street NW and at 7th Street NW. Based on field observations, many of the crossings adjacent to the site appear to have ADA compliant curb ramps. Exhibit 92 in Appendix A shows existing pedestrian facilities.

It should also be noted that a pedestrian-only mall, referred to as Techworld Plaza is provided on the south side of K Street NW, between 7th Street NW and 9th Street NW.

4.1.3 Barriers to Walking and Biking

There are no transportation system features within the study area that act as barriers to the use of the existing facilities.

4.2 PROPOSED PLANS

Stantec reviewed the following plans to assess existing and proposed pedestrian and bicycle facilities in the study area.

DDOT Bicycle Master Plan (2005)

The 2005 Bicycle Master Plan is a guide to establishing high-quality bicycle facilities and programs from 2005 to 2015 through facility improvements, policy changes, and education, promotion, and enforcement.

The DC Bicycle Master Plan includes recommendations such as:

- Expand the bicycle route network;
- Provide bicycle facilities on roadways;
- Complete ongoing trail development and improvement projects;
- Provide bicycle parking in public and private spaces;
- Eliminate gaps in the existing system;
- Improve areas with a high number of bicycle crashes;
- Provide bicycle access through barrier areas (including the Washington Hospital Center);
- Improve bicycle access to public transportation;
- Provide more bicycle-friendly policies; and,
- Educate motorists, bicyclists, and youth regarding safe operating behaviors, among others.

The plan shows that while no existing facilities were present on the roadway network within the study area in 2005, Massachusetts Avenue NW, Mount Vernon Place NW, and K Street NW within the study area were signed bicycle routes. As such, the bicycle level of service in the study area was shown to be between C and E.

The plan shows New York Avenue NW to the east of the study area as a proposed multi-use trail connection to trails in the eastern part of the District. Furthermore, a dedicated bicycle lane was proposed within the study area on K Street NW. It should be noted that the moveDC plan supersedes this plan as of 2015.

DDOT Pedestrian Master Plan (2009)

The 2009 DC Pedestrian Master Plan identifies deficiencies in the existing pedestrian network, recommends pedestrian treatments and identifies New York Avenue study area roadway as a priority corridors for curb ramp repair, curb extension, median construction/extension, crosswalk restriping/pavement repair, right turn on red restrictions, and bus stop improvements, among others. It should be noted that the moveDC plan supersedes this plan as of 2015.

moveDC Multimodal Long-Range Transportation Plan (2014)

moveDC is a long-range multimodal transportation plan that addresses ways to improve the transportation system so that it operates more safely and efficiently. The plan addresses a variety

801 K STREET TRANSPORTATION STUDY

Bicycle and Pedestrian Facilities
July 5, 2017

of modes including pedestrians, bicyclists, transit, vehicle, and freight, as well as transportation demand management, parking, and sustainability/livability. The plan recommends a variety of policy and practices as it relates to the various modes. The plan also calls for several new facilities within the study area and establishes a priority system for implementation that ranges from Tier 1 (Highest Priority) to Tier 4 (Lowest Priority):

- A multi-use trail along New York Avenue to the northeast of the study area (Tier 1),
- Cycle track along Massachusetts Avenue (Tier 3),

DDOT Guidelines for Bike Parking

The DDOT Bicycle Parking Regulations detail the rules relating to the required provision of bicycle parking. The regulations list that bicycle parking shall be provided for retail spaces, except in C-3-C (Medium Density Office, Retail, Housing), C-4 (Central Business District), and C-5 (Pennsylvania Avenue). The regulations also list the required dimensions, amount, and placement of bicycle parking.

4.3 IMPACT OF PROPOSED REDEVELOPMENT ON EXISTING AND PROPOSED PLANS/FACILITIES

The Carnegie Library site would not have a negative impact on existing or proposed pedestrian and bicycle facilities. In fact, many of the recommendations presented in the plans summarized in the previous section would ensure adequate connections between the Carnegie Library site, nearby transit options, and surrounding community. These enhancements would be needed particularly for improving bicycle access to the site.

4.4 RECOMMENDATIONS

It is recommended that the following on-site pedestrian and bicycle enhancements be included in the redevelopment of the site:

- Provision of an ADA-accessible route from all four corners of Mt. Vernon square
- Provision of bicycle parking
- Installation of a Capital BikeShare station

In addition, the applicant should evaluate the need for additional pedestrian accommodations, i.e. mid-block crosswalk on K Street NW, upon site opening.

5.0 TRANSIT SERVICE

The proposed retail redevelopment is located in an area with ample transit service that includes Metrobus and Metrorail. A transit analysis was conducted that includes all transit stops within a ¼-mile walkshed and ½-mile bikeshed of Carnegie Library, including existing Metrorail, Metrobus, DC Circulator, Loudoun Commuter Bus and proposed DC Streetcar routes and stops. Because the site is anticipated to generate fewer than 25 peak hour bus trips, an assessment of existing bus system capacity was not conducted.

5.1 EXISTING TRANSIT SERVICES

Table 13 below lists and Exhibit 93 in Appendix A shows the existing transit services that serve the study area within one half mile. The table includes the name of the type of transit, route, terminal stations/stops, operating hours, and headways during the PM and Saturday peak periods. It should be noted that although service changes came into effect June 25, 2017 that eliminated some Metrobus routes from the study area, these routes are included in this analysis to account for riders seeking and using alternative routes to travel to/from the study area.

Table 13: Existing and Proposed Transit Services within the Study Area

Transit	Terminals		Line	Service Headways		Operating Hours	
	From	To		PM Peak	Sat. Peak	Open	Close
Bus 42	Mt. Pleasant	Gallery Place	Mt. Pleasant	9 min	12-13 min	4:15 AM	3:15 AM
Bus 53	Takoma	McPherson Square	14th Street	20 min	24 min	4:00 AM	2:00 AM
Bus 63	Takoma	Federal Triangle	Takoma-Petworth	10 min	24 min	4:30 AM	2:00 AM
Bus 64	Fort Totten	Federal Triangle	Fort Totten-Petworth	15 min	22 min	5:00 AM	2:00 AM
Bus 70	Silver Spring	Archives	Georgia Ave – 7th Street	12 min	14 min	24 hours	
Bus 74	Mt. Vernon Square	SW Waterfront	Southwest Waterfront	15 min	24 min	4:45 AM	12:00 AM
Bus 79	Silver Spring	Archives	Georgia Ave – 7th St MetroExtra	10 min	15 min	6:00 AM	8:00 PM
Bus 80	Fort Totten	Kennedy Center	North Capitol Street	12 min	30 min	4:30 AM	2:00 AM
Bus D1	Glover Park	Franklin Square	Glover Park-Federal Triangle	30 min	-	5:30 AM	1:00 AM
Bus D4	Ivy City	Franklin Square	Ivy City-Franklin Square	18 min	30 min	4:00 AM	12:30 AM

801 K STREET TRANSPORTATION STUDY

Transit Service
July 5, 2017

Transit	Terminals		Line	Service Headways		Operating Hours	
	From	To		PM Peak	Sat. Peak	Open	Close
Bus D6	Stadium-Armory	Sibley Hospital	Sibley Hospital-Stadium Armory	18 min	30 min	4:00 AM	2:00 AM
Bus G8	Farragut West	Avondale	Rhode Island Avenue	12 min	30 min	4:30 AM	2:00 AM
Bus P17/P19	Fort Washington	Farragut West	Oxon Hill-Fort Washington	Eliminated			
Bus P6	Anacostia	Rhode Island Avenue	Anacostia-Eckington	15 min	35 min	24 hours	
Bus S2	Silver Spring	Federal Triangle	16 th Street	24 min	30 min	24 hours	
Bus S9	Silver Spring	McPherson Square	16 th Street MetroExtra	8 min	20 min	8:00 AM	8:00 PM
Bus W13	Fort Washington Forest via Friendly	Farragut West	Bock Road	Eliminated			
Bus X2	Minnesota Avenue	Lafayette Square	Benning Road – H Street	8 min	10 min	24 hours	
Bus X9	Capitol Heights	Metro Center	Benning Road – H St MetroExtra	16 min	-	6:00 AM	6:00 PM
DC Circulator	Union Station	Georgetown	Union Station - Georgetown	10 min	10 min	6:00 AM	12:00 AM
Rail	Glenmont	Shady Grove	Red Line	4-8 mins	12 min	Mon - Thu Fri Sat Sun	5:00 AM - 11:30 PM
Rail	Branch Avenue	Greenbelt	Green Line	8 mins	12 min		5:00 AM - 1:00 AM
Rail	Huntington	Fort Totten	Yellow Line	8 mins	12 min		7:00 AM - 1:00 AM 8:00 AM - 11:00 PM
Commuter Bus	Loudoun County, VA	Washington, DC	Loop	5-10 mins	-	5:00 AM	7:30 PM
DC Streetcar	Conceptual Stage Only					12 min	12 min

5.2 PROPOSED TRANSIT SERVICES

5.2.1 Union Station to Georgetown Streetcar

DDOT, in partnership with FHWA and FTA, is in the process of completing an Environmental Assessment (EA) for the proposed construction of an approximately three-mile DC Streetcar line



801 K STREET TRANSPORTATION STUDY

Transit Service
July 5, 2017

between Union Station and Georgetown. This new transit line is intended to provide better east-west connectivity and improve overall transit service in the corridor. An Alternatives Analysis study was completed in September 2013.

In this report, DDOT identified one recommended alternative that passes through the study area, directly adjacent to Mount Vernon Square on both K Street NW and Mt Vernon Place. However, based on the more recent EA public involvement meeting materials – the alternatives currently under consideration only pass to the south of Mount Vernon Square on K Street NW, with a station platform on both the north side of the street (for the westbound line) and in the median (for the eastbound line). It is anticipated that the final NEPA decision for approval of a final alternative will be made Fall 2018.

6.0 SITE ACCESS AND LOADING

The current Truck and Bus Through Routes and Restrictions map, published by DDOT in 2014, shows that all roads within the study area, with the exception of K Street NW east of 7th Street NW, are designated truck routes with no restrictions. Therefore, it is anticipated that freight/delivery vehicles will utilize the existing driveway and loading dock on Mt. Vernon Place NW for access and loading activities. This driveway, located in a historic district, conforms to DEM Section 31.2.3.2 DDOT Requirements: Commercial Driveway, with the exception of vehicle entry. Due to the relatively small size of the existing loading driveway, trucks will have to back into the driveway. The historic nature of the building and grounds cannot accommodate a larger driveway that is capable of supporting vehicle turn-arounds. Accommodations for pedestrians and bicyclists are provided at the access point.

According to the mode split discussed in Section 3.4.3.2.1 and shown in Tables 6 and 7, there are expected to be up to three delivery vehicle trips (two entering, one exiting) during the PM peak hour and up to five delivery vehicles trips (three entering, two exiting) during the Saturday peak hour. Although Mt Vernon Place NW is a two-way roadway, it was assumed that all such vehicles would perform back-in and right-out maneuvers. Furthermore, the retail tenant has stipulated that deliveries will occur outside of the AM (7:00 AM – 10:00 AM) and PM (3:00 PM – 7:00 PM) peak periods, thus reducing the impact of the back-in operation.

DDOT requires AutoTURN diagrams as verification that no turning maneuvers will interfere with roadway operations or on-street parking lanes. According to the retail tenant, all deliveries will be made by 30-foot, single-unit truck. Exhibit 94 in Appendix A shows that the right-out turning maneuvers for this type of truck do not interfere with roadway operations.

7.0 PARKING

No onsite parking will be provided. Patrons wishing to access the site via a vehicle will park on-street or at nearby surface and garage parking facilities.

7.1 ON-STREET PARKING

The area surrounding the Carnegie Library site restricts on-street parking by type and time of day. As such, the available on-street parking for cars during both PM and Saturday peak hours was identified within a two-block walking distance of the site and is shown in Exhibits 95 and 96 in Appendix A.

7.2 SURFACE AND GARAGE PARKING FACILITIES

7.2.1 Surface Parking

There are six (6) off-street surface parking lots within walking distance of the Carnegie Library. The operating hours of the lots are noted below in Table 14 and shown in Exhibits 95 and 96 in Appendix A. The two sites highlighted in the table are those that lie within one block of the site and were included in the vehicle distribution analysis.

Table 14: Study Area Surface Parking Lots

Lot	Operating Hours
900 New York Avenue NW, PMI Parking Lot	Seven days a week, 24 hours a day
1001 6th Street NW	Monday – Friday 6:00 AM – 7:00 PM Saturday – Sunday 8:00AM – 5:00 PM
1016 6th Street NW	Seven days a week, hours unknown
915 5th Street NW	Monday – Saturday, 5:30 AM – 8:00 PM
622 I Street NW	Monday through Saturday, hours unknown
615 H Street NW	Monday through Saturday, hours unknown

7.2.2 Garage Parking

There are seventeen (17) off-street subterranean parking garages within walking distance of the Carnegie Library. The operating hours of the lots are noted below in Table 15 and shown in Exhibits 95 and 96 in Appendix A. The sites highlighted in the table are those that lie within one block of the site and were included in the vehicle distribution analysis.

Table 15: Study Area Garage Parking

Lot	Operating Hours
Marriott Marquis	Seven days a week, 24 hours a day
901 K Street NW	Seven days a week, 7:00 AM – 7:00 PM
1100 L Street NW	Seven days a week, 7:00 AM – 7:00 PM
1101 New York Ave NW	Monday – Friday 6:00 AM – 7:00 PM Saturday 6:00 AM – 4:00 PM Sunday 8:00 AM – 4:00 PM
1050 K Street NW	Monday – Friday 7:00 AM – 7:00 PM
1099 New York Ave NW	Monday – Friday 7:00 AM – 11:00 PM Saturday 10:00 AM – 11:00 PM
Embassy Suites	Seven days a week, 24 hours a day
901 New York Avenue NW	Monday – Friday 7:00 AM – 7:00 PM
845 11th Street NW	Monday – Friday 6:00 AM – 12:00 AM Saturday 9:00 AM – 7:00 PM
870 9th Street NW (City Center DC)	Seven days a week, 24 hours a day
The Victor Building	Monday – Friday 6:00 AM – 7:00 PM
999 9th Street NW	Seven days a week, 24 hours a day
650 Massachusetts Avenue NW	Monday – Friday 6:30 AM – 6:30 PM
600 Massachusetts Avenue NW	Seven days a week, 6:00 AM – 1:00 AM
500 H Street NW	Seven days a week, 24 hours a day
Hampton Inn	Seven days a week, 24 hours a day
601 Massachusetts Avenue NW	Monday – Friday 7:00 AM – 8:00 PM

7.3 PARKING UTILIZATION

Parking utilization counts were not conducted for the garage or surface parking facilities because the surrounding land uses consist primarily of office space, thus the parking demand for the proposed retail facility (evening and weekends) would correspond with times of lower utilization at the nearby surface and structured parking facilities. Furthermore, the site generates a relatively low maximum parking demand of 125 vehicles in the PM peak hour and 158 vehicles on a Saturday peak hour. Furthermore, the nearby site-specific developments included in this CTR include sub-surface parking, thus reducing the potential demand on the existing nearby parking facilities. Therefore, it can be assumed that these vehicles would be easily accommodated with in the 21 nearby off-street parking facilities, as well as on-street parking.

8.0 TRANSPORTATION DEMAND MANAGEMENT (TDM)

Transportation demand management (TDM) is the application of policies and strategies to reduce travel demand (typically single-occupancy private vehicles) or to redistribute that demand over other non-peak times. TDM strategies are typically more challenging to apply to retail facilities as the majority of trips are generated by customers, and the retail tenant has little control over how and when people arrive to the site. Furthermore, staffing is more limited than office development, and employees have a variety of shift schedules, thus making it more difficult to coordinate employee-wide programs. However, this section will discuss potential TDM strategies that could be employed by the retail tenant to encourage employees to commute via non-auto modes, as well as support customers' use of non-auto modes.

8.1 POTENTIAL TDM STRATEGIES

Potential TDM strategies that would be appropriate and effective for retail sites, such as the one being proposed, include:

- Designate an employee to serve as a TDM coordinator to organize and promote the TDM plan and the use of alternative transportation modes. This person will also act as the point of contact with DDOT.
- Provide a real-time transit station within the lobby of the facility that includes alternative mode information using electronic message boards.
- Encourage employees to join carpool and vanpool programs, as well as the guaranteed ride home service, provided by MWCOC's Commuter Connections.
- Provide SmartBenefits (transit subsidies) for employees.
- Schedule shift changes to occur outside traditional AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods.
- Provide sheltered bicycle parking and shower accommodations for employees that wish to commute via bicycle.
- Provide a Capital Bikeshare station on Mount Vernon Square.

9.0 PERFORMANCE MONITORING AND MEASUREMENT

The proposed retail development is not anticipated to generate over 200 drive alone vehicle trips during worst-case peak periods. As such, this CTR does not prescribe performance monitoring and measurement. However, as noted in the discussion of mitigation measures in Section 3.4, it is recommended that a post-development customer survey be conducted to compare the anticipated mode split with the actual mode split. Conducting this analysis may help to determine if the mitigation measures that require additional turn lanes and removal of on-street parking are warranted. The methodology described in "801 K Street Trip Generation and Mode Split Estimates" (Appendix D) should be used.

Conclusion
July 5, 2017

10.0 CONCLUSION

This Comprehensive Transportation Review (CTR) Report documents the results of an analysis of the potential impact of modifications to the Carnegie Library to include a retail tenant that would occupy approximately 12,614 square feet of the facility. The results of the capacity analysis show a relatively limited impact on the study areas transportation network due to the anticipated non-auto mode split of 60%. The additional vehicle trips generated by the site would be added to an already-congested roadway network, resulting in an increase in delay on several intersection approaches that warrant mitigation, primarily in the PM peak hour. Mitigation measure include:

- Signal timing and phasing revisions;
- Restriping sections of K Street NW between 9th Street NW and 7th Street NW to accommodate left-turn lanes;
- Providing a protected-permissive left-turn from westbound K Street NW to southbound 9th St NW;
- Provide a designated rideshare (taxi/Uber/Lyft) pick-up/drop-off area on K Street NW between 9th Street NW and 7th Street NW; and,
- Advanced coordination with DDOT and MPD prior to large events or product releases.

These recommended mitigation measures would address these increases in delay, and would improve most approaches to operate better than the No Build Condition.

It should be noted that the proposed mitigation measures represent potential options to mitigate the anticipated increase in delay at the study area intersections. If the proposed DC Streetcar is routed along K Street NW, these recommendations may need to be modified. Furthermore, it is our recommendation that these mitigation measures be evaluated after the retail site opens to determine if they are warranted. The anticipated additional vehicle trips analyzed in this report were estimated utilizing data obtained at similar retail sites. However, given the existing and projected background congestion in the study area during the PM peak period, and the ample number of retail locations elsewhere in the DC metropolitan area, it is unlikely that PM peak hour trips would be generated from suburban communities outside of DC. Therefore, non-auto mode share may be higher than anticipated. A post-development survey may help to evaluate actual customer travel patterns, and determine if the more significant enhancements, such as the removal of on-street parking to accommodate left-turn bays are needed.

References
July 5, 2017

11.0 REFERENCES

"AccessDC Study." *AccessDC Study* | Ddot. DDOT. Web. 08 June 2017.
<<https://ddot.dc.gov/page/accessdc-study>>.

"Bicycle Parking Regulations." *Bicycle Parking Regulations* | Ddot. District of Columbia Municipal Regulations Title 18, Chapter 21: 2119 Bicycle Parking Spaces. Web. 08 June 2017.
<<https://ddot.dc.gov/page/bicycle-parking-regulations>>.

"DC Streetcar." *DC Streetcar* | Ddot. DDOT, 2012. Web. 08 June 2017.
<<https://ddot.dc.gov/dcstreetcar>>.

District Department of Transportation. By Toole Design Group. 2009. *District of Columbia Pedestrian Master Plan*. DDOT, 07 May 2010. Web. 08 June 2017.
<<https://ddot.dc.gov/page/pedestrian-master-plan-2009>>.

District Department of Transportation. By Toole Design Group, LLC. 2005. *District of Columbia Bicycle Master Plan*. DDOT, 10 Apr. 2013. Web. 08 June 2017.
<<https://ddot.dc.gov/node/477162>>.

District Department of Transportation. *Curbside Management Study*. By NelsonNygaard Consulting Associates. DDOT, Mar. 2014. Web. 08 June 2017.
<<https://comp.ddot.dc.gov/SitePages/Curbside%20Management%20Study.aspx>>.

District Department of Transportation. Policy, Planning & Sustainability Administration. *MoveDC: The District of Columbia's Multimodal Long-Range Transportation Plan*. DDOT, Oct. 2014. Web. 08 June 2017. <<http://www.wemovedc.org/>>.

District Department of Transportation. Policy, Planning and Sustainability Administration (PPSA). *Motorcoach Operators Guide*. DDOT, 01 Aug. 2011. Web. 08 June 2017.
<https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/motorcoach_operators_guide.pdf>.

"District of Columbia's Comprehensive Plan." *Comprehensive Plan* | Op. DC Office of Planning, 08 Apr. 2011. Web. 30 June 2017. <<https://planning.dc.gov/page/comprehensive-plan>>.

"Downtown West Transportation Study." *Downtown West Transportation Planning Study* | Ddot. DDOT. Web. 08 June 2017. <<https://ddot.dc.gov/page/downtown-west-transportation-planning-study>>.

"On-Street Carsharing Program." *On-Street Carsharing Program* | Ddot. DDOT. Web. 08 June 2017. <<https://ddot.dc.gov/page/street-carsharing-program>>.

"Smart DC." *Smart DC* | Ddot. DDOT. Web. 08 June 2017. <<https://ddot.dc.gov/page/smart-dc>>.

801 K STREET TRANSPORTATION STUDY

References

July 5, 2017

"Sustainability DC." *Sustainability in DC*. Sustainable DC, 2012. Web. 08 June 2017.
<<http://www.sustainabledc.org/>>.

APPENDIX A REPORT EXHIBITS

APPENDIX B RAW TRAFFIC DATA

APPENDIX C

SYNCHRO 9 OUTPUTS

APPENDIX D

TRIP GENERATION MEMO

APPENDIX E

CRASH ANALYSIS SUMMARIES