

PENNSYLVANIA AVE-MINNESOTA AVE, S.E.
INTERSECTION IMPROVEMENT
FINAL ENVIRONMENTAL ASSESSMENT AND
FINDING OF NO SIGNIFICANT IMPACT



JUNE 2015



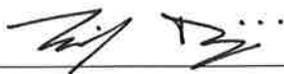
**FINAL ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT
FOR THE
PENNSYLVANIA AVE-MINNESOTA AVE, S.E.
INTERSECTION IMPROVEMENT
WASHINGTON, DC**

Prepared pursuant to 42 U.S.C. 4332(2)(c) by:

U.S. Department of Transportation
Federal Highway Administration
District Department of Transportation

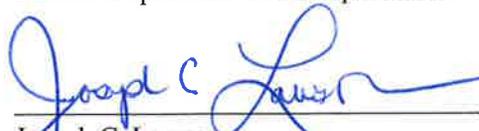
with the cooperation with
National Park Service
National Capital Planning Commission

6/10/15
Date of Approval



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6/17/15
Date of Approval



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*Text that has been added or modified since the release of the October 2013
Pennsylvania and Minnesota Avenues, S.E. Intersection Improvement
Environmental Assessment is denoted in bold and italic fonts.*

EXECUTIVE SUMMARY

ES.1. Preface

The Federal Highway Administration (FHWA) in conjunction with the District Department of Transportation (DDOT) is proposing improvements to the Pennsylvania Avenue, SE and Minnesota Avenue, SE intersection. This action would also include the transfer of land from the National Park Service (NPS) to DDOT. The land transfer would facilitate the proposed reconfiguration of this intersection, also known as the “Twining Square” area in Southeast Washington, DC. ***The open green space within Twining Square would remain parkland.*** This ***Environmental Assessment*** (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) and implementing regulations, the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) 1500-1508), the FHWA’s *Environmental Impact and Related Procedures* (23 CFR 771), FHWA *Technical Advisory Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (T6640.8A), NPS *Director’s Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making (DO-12)* and DDOT’s *Environmental Policy and Process Manual*.

The FHWA and DDOT prepared an EA which was released for agency and public review on October 28, 2013. A public hearing was held on November 13, 2013. Subsequently, this Final EA has been prepared to address agency and public comments received, and identifies FHWA and DDOT’s Preferred Alternative after consideration of public and agency comments.

The Proposed Action includes modifications to the intersection to improve safety, mobility, and connectivity for pedestrians and motorists. A land transfer from NPS to DDOT would be necessary, pending National Capital Planning Commission (NCPC) approval, to carry out ***some of*** the proposed intersection improvements.

ES.2. Purpose and Need

The purpose of the Proposed Action is to provide transportation improvements to the Pennsylvania and Minnesota Avenues, SE intersection in keeping with the District of Columbia’s Great Streets Initiative as set forth in the 2007 *Great Streets Framework Plan* and the 2007 *Revitalization of Pennsylvania Avenue, SE for the Great Streets Initiative Concepts Design Final Report (Great Streets Design Final Report)*.

The project needs consist of the following:

- Improve pedestrian and vehicular safety;
- Create a consolidated, usable park space;
- Improve multimodal connectivity and access; and
- Support improved land use and community needs.

For additional information on the Great Streets Initiative principles, program goals, and applicability to the Study Area, see *Section 1.3, Project Overview* and *Appendix A*.

ES.3. Project Background

The Study Area is located at the western end of the Pennsylvania Avenue, SE Great Streets corridor at the intersection of Pennsylvania Avenue with Minnesota Avenue, SE, in the immediate vicinity of Twining Square, also referred to as L'Enfant Square in the *Great Streets Framework Plan*.

The Pennsylvania and Minnesota Avenues, SE intersection includes NPS property, U.S. Reservation 487 (Twining Square), which includes four small park parcels fragmented by intersecting roadways and the adjacent roadway medians, totaling approximately **1.44** acres. The roadways split the reservations into areas that effectively function as traffic islands for pedestrians while crossing the street; the pieces of parkland are too small to function as true open space or green space as currently configured. Twining Square lacks aesthetic appeal and is underutilized urban space.

As shown on Figure 1-2 in *Section 1.0, Purpose and Need*, the current intersection configuration is dominated by busy lanes of traffic, rendering pedestrian circulation both difficult and dangerous. The project intersection is located on a major commuter route, Pennsylvania Avenue, SE, in an urban environment, at its crossing with the local travel route of Minnesota Avenue, SE. The project intersection carries traffic to and from the bridges that cross the Anacostia River, as well as Minnesota Avenue, SE.

Proposed solutions to improve the intersection were developed as part of the *Great Streets Design Final Report*, which was developed as part of the District's Great Streets Initiative. The Great Streets Initiative was kicked off in 2005 as a multi-agency program that strategically uses public investments to improve local quality of life and attract private investments to communities. Several corridors were chosen to be a part of the Great Streets Initiative, including Pennsylvania Avenue, SE.

The program goals of the Great Streets Initiative are as follows:

1. Improve the quality of life in neighborhoods along the corridors, including public safety, physical appearance and personal opportunity;
2. Support local demand for goods and services through economic development;
3. Expand mobility choices and improve safety and efficiency of all modes of travel; and
4. Attract private investment through the demonstration of a public commitment to Great Street communities.

Three viable options, developed as part of a four-day design charrette held in July 2006 were developed to a concept level: (1) Modified Traffic Square Alternative, (2) Ellipse Alternative, and (3) Conventional Intersection Alternative.

ES.4. Alternatives

Multiple alternatives for the Pennsylvania and Minnesota Avenues, SE intersection were developed in accordance with the project objectives established to meet the project purpose and need. Three alternatives, including the No Build Alternative, are analyzed in detail in this EA.

i. No Build Alternative

Under the No Build Alternative, there would be no improvements to the project intersection and no land jurisdiction transfer from NPS to DDOT would occur. The intersection would continue to function as it does today. Existing traffic patterns, crosswalks, signalization, and sidewalks would remain unimproved.

While the No Build Alternative does not meet the purpose and need of the Proposed Action, it provides a basis for comparing the environmental consequences of the Build Alternatives.

ii. Proposed Action

The Proposed Action is to provide improvements to the Pennsylvania and Minnesota Avenues, SE intersection that includes a potential land transfer from NPS to DDOT. The land transfer would facilitate reconfiguration to the intersection to improve safety, mobility, and connectivity for pedestrians and motorists at the intersection in keeping with the District of Columbia's Great Streets Initiative. No private right-of-way would be impacted or acquired by the Proposed Action. *The open green space within Twining Square would remain parkland.*

Build Alternative 1 – Revised Square Alternative

Under Build Alternative 1, the intersection would be improved to create a “traffic square” concept, which would require all vehicles, with the exception of through-movements on Pennsylvania Avenue, SE, to go around the expanded central park area. Build Alternative 1 would require a jurisdictional land transfer from NPS to DDOT of approximately **1.44** acres to enable the proposed modifications to the intersection and consolidate the green space. Build Alternative 1 would provide more contiguous park area for residents and visitors to the area to use and enjoy. The northern park area would total approximately one acre and the southern park area would total approximately 0.5 acres of contiguous park area.

Build Alternative 1 improves the roadway alignment and configuration to promote traffic-calming, thereby improving safety for pedestrians and vehicles at the intersection. Under this alternative, the traffic signal configuration is simplified and the left-turning conflicts are removed. Pennsylvania Avenue, SE would bisect the center of the square, and turning movements would be directed around the perimeter of the “square.” This perimeter route acts to calm the traffic, similar to how a traffic circle works by allowing vehicles to enter and exit the square at locations identified by the intersecting streets. It would also reduce vehicular speeds by providing short, straight distances between tight radius turns, at the presumed four corners of the square.

Build Alternative 1 would reduce the interaction between pedestrians and vehicles, and would also improve the functionality of existing and new crosswalk facilities. The crosswalk alignments and refuge areas for pedestrians would be significantly enhanced; sidewalks and green space would be improved and green space frontage would be provided for local residences and businesses.

Build Alternative 2 – Conventional Intersection Alternative

Under Build Alternative 2, the intersection would be redesigned into a typical at-grade intersection with all vehicle turning movements permitted for all approaches, with the exception of 25th Street, which would remain a one-way street going southbound. Build Alternative 2 would require a jurisdictional land

transfer from NPS to DDOT of approximately **1.44** acres to enable the proposed modifications to the intersection and consolidate the green space. Build Alternative 2 would consolidate the two park parcels to the north of Pennsylvania Avenue and the two park parcels to the south of Pennsylvania in order to provide more contiguous park area for residents and visitors to use as green space. The northern park area would total approximately one acre and the southern park area would total approximately 0.4 acres of contiguous park area.

The Build Alternative 2 design would improve the existing split roadway system that currently contains two complex intersections by reducing multiple traffic movements into one signalized intersection. This alternative would provide for left-turn movements in all directions and increase the left-turn bay storage length for vehicles.

Build Alternative 2 sets forth two options for the *direction* of traffic *flow on L'Enfant Square, SE, located* to the north and west of the "square." The one-way *flow of traffic* would work operationally as follows:

Option 1) Traffic flows one-way to the west and south on L'Enfant Square SE. Commuter traffic could continue to cut-through the "square" to avoid the Pennsylvania/Minnesota Avenues, SE intersection and the right-turning vehicle/pedestrian conflict to the west of the square would remain; or

Option 2) Traffic flows one-way to the north and east on this roadway. Cut-through traffic would be minimized and the vehicle/pedestrian conflict would be reduced.

Build Alternative 2 would improve vehicle operations and reduce confusion at the complex intersection, *create more consolidated green space for visitors and residents to the area, improve multimodal connectivity and access, and support improved land use and community needs.*

ES.5. Preferred Alternative and Option

Following the public review period of the October 2013 EA and based on the project's purpose and need, as well as agency and public input, DDOT and FHWA identified the following as the preferred alternative and preferred option. A complete description of each alternative and option is provided in Section 2.2 of the Final EA. Responses to public and agency comments are provided in Appendix C, Agency Coordination and Public Involvement.

Build Alternative 2 – Conventional Intersection Alternative (Preferred Alternative)

The preferred alternative is Build Alternative 2, Conventional Intersection Alternative, which would improve the existing split roadway system that currently contains two complex intersections by reducing multiple traffic movements into one signalized intersection. This alternative would provide for left-turn movements in all directions and increase the left-turn bay storage length for vehicles. A jurisdictional land transfer of approximately 1.44 acres from NPS to DDOT would enable the proposed modifications to the intersection and the enhancement of green space.

Option 2 (Preferred Option)

The one-way flow of traffic on the L'Enfant Square, SE roadway in the north and east direction is the preferred option. Under this option, cut-through traffic would be minimized along the L'Enfant Square, SE residences and the vehicle/pedestrian conflict would be reduced. Option 2 maintains L'Enfant Square, SE as a one-lane roadway with on-street parking on both sides of the street.

The total cost of the Preferred Alternative and option will be approximately \$9,009,853. The duration of construction is anticipated to take approximately 18 to 24 months.

ES.6. Construction and Staging

Construction staging areas would be selected to protect environmental resources, to meet the needs of the contractor based on the construction phasing plans, and to minimize disruptions and safety hazards for pedestrians, bicyclists and motorists who utilize the intersection. Appropriate advance notification of construction and construction phasing to ensure the safest and most logical detours around the road and sidewalk segments under construction would occur. Scheduling of construction would be conducted with adherence to Title 20 of the District of Columbia Code of Municipal Regulations (DCMR). It is estimated that construction would take approximately 18 to 24 months.

Adequate construction techniques, including use of BMPs and LID strategies, would be adhered to so as to minimize the potential for impacts to the surrounding environment. Construction impacts are discussed within the appropriate environmental categories in *Section 4.0, Environmental Consequences*.

ES.7. Cumulative Impacts

Cumulative effects would result from the Build Alternative impacts to Road Network and Traffic and Archaeological Resources.

From a regional context, the incremental impact on the roadway network and traffic due to the Build Alternatives would be negligible given the inevitable increase in traffic volume and congestion in the Study Area due to natural factors such as population growth and migration into the District and nearby suburbs. Additionally, with plans to implement Phase 3 of the D.C. Streetcar project through the Study Area (likely by 2030), the increased availability of public transit options may help lessen future traffic congestion in the Study Area. As a result, the Build Alternatives, when added to other past, present and foreseeable actions would have a negligible cumulative effect on the road network and traffic.

The incremental impact to archaeological resources is small given that the area where the potential to recover historic or prehistoric archaeological resources exists is limited to the southern reservation (approximately 0.06 acres) of the Study Area. Phase IB/II testing of this small area is recommended prior to final design decisions and construction of either of the Build Alternatives. Due to the small area recommended for further testing and provided that the conditions stated in the *Section 106 Review Form* for archaeology are followed (see *Appendix E*), the cumulative effect on archaeological resources due to past, present or future projects, is expected to be negligible.

The impacts of the Build Alternatives, when added to other past, present and future projects outlined in this EA, would result in a net benefit to vegetation, future land use, zoning, economics and development, aesthetic and visual quality, health and safety, parks and recreation areas, and the bicycle and transportation network.

The Build Alternatives would have no long-term cumulative impacts to geology, soils and topography, farmland, ground water, surface water, floodplains, water quality, wetlands, navigable waters, wild and scenic rivers, coastal zone, aquatic or terrestrial organisms, wildlife, historic structures, cultural landscapes, paleontology, environmental justice, joint development, emergency services, schools, utilities and infrastructure, Indian Trust resources, Sacred Sites and ethnographic resources, transit, air quality, noise, hazardous waste and materials, and energy conservation.

ES.8. Summary of Impacts

A comparison of impacts associated with the alternatives evaluated in this EA is summarized in **Table ES.1**.

Table ES.1
Summary of Impacts

Resource	No Build Alternative	Build Alternative 1	Build Alternative 2
<i>Natural Resources</i>			
Geology and Topography	No impact.	No impact; minor grading on already disturbed topography.	
Soils	No impact.	Minor short-term adverse impacts from soil erosion during construction. Negligible long-term impacts.	
Farmland	No impact; no prime farmland soils within Study Area.	No impact; no prime farmland soils within Study Area.	
Ground Water	No impact to groundwater volume or quality.	Negligible short-term and long-term impacts; minimal net increase of pervious surface.	Negligible short-term and long-term impacts; minimal net decrease of pervious surface.
Surface Water	No impact.	No impact; no surface waters within Study Area.	
Floodplains	No impact; Study Area is not located within a floodplain.	No impact; Study Area is not located within a floodplain.	
Water Quality	No impact.	Minor short-term adverse impacts during construction due to potential release of sediments into stormwater runoff from soil disturbance. Negligible long-term impacts due to minimal net change in impervious surface area and distance to Anacostia River.	
Wetlands	No impact; no wetlands identified within project study area.	No impact; no wetlands identified within Study Area.	
Navigable Waters	No impact; no navigable waters present in project study area.	No impact; no navigable waters within Study Area (indirect impacts addressed under Water Quality).	
Wild and Scenic Rivers	No impact; no Wild and Scenic Rivers within project study area.	No impact; no Wild and Scenic Rivers within Study Area.	
Coastal Zone	No impact. The District does not have a designated Coastal Zone.	No impact; the District does not have a designated Coastal Zone.	
Aquatic Organisms	No impact.	No impact; no aquatic habitat within Study Area (indirect impacts addressed under Water Quality).	
Wildlife	No impact.	Negligible short-term impacts; impacts would be of short duration and well within natural fluctuations. Negligible long-term impacts due to the location of the site being entirely within previously disturbed and maintained landscapes.	
Rare, Threatened and Endangered Species	No impact.	No impact; no threatened or endangered species in Study Area.	
Vegetation	No impact.	Minor short-term adverse impacts during construction due to earth disturbance and potential impacts to several trees to accommodate design changes. Minor long-term benefit due to enhanced landscape and additional grass and tree cover.	

Table ES.1
Summary of Impacts

Resource	No Build Alternative	Build Alternative 1	Build Alternative 2
<i>Cultural Resources</i>			
Historic Structures	No impact.	Conditional No Adverse Effect.	Conditional No Adverse Effect.
Cultural Landscapes	No impact.	Any indirect effects, such as visual impacts to the landscape due to construction would be short-term and negligible with the use of BMPs. Long-term indirect effects would be negligible.	
Archaeology	No impact.	Conditional No Adverse Effect. Phase IB/II archaeological testing of an area in the southern reservation of intersection needed prior to final design and construction where an intact historic surface was identified during geoarchaeological survey.	
Paleontology	No impact.	No impact; no known paleontological resources exist in Study Area.	
<i>Socioeconomic Resources</i>			
Land Use	No impact.	Negligible short-term impacts may result from road closures during construction. Minor indirect long-term benefits to future land use.	Negligible short-term impacts may result from road closures during construction. <i>Minor indirect long-term benefits to future land use..</i>
Zoning	No impact.	No short-term impacts to zoning. Minor indirect long-term benefits to future zoning.	No short-term impacts to zoning. <i>Minor indirect long-term benefits to future zoning.</i>
Demography	No impact.	Minor short-term adverse impacts due to road closures during construction. Minor long-term beneficial impacts due to enhanced safety for residents in the Study Area.	Minor short-term adverse impacts due to road closures during construction. <i>Minor long-term benefits to demography.</i>
Environmental Justice	No impact.	Negligible short-term and long-term impacts.	
Economics and Development	Minor negative indirect impact in long-term due to missed revitalization opportunity.	Minor short-term adverse impacts to residents and businesses due to temporary road closures. Indirect minor long-term beneficial impacts.	Minor short-term adverse impacts to residents and businesses due to temporary road closures. <i>Minor indirect long-term benefits to economics and development.</i>
Joint Development	No impact.	No impact.	
Aesthetics and Visual Quality	No impact.	Minor short-term adverse visual impacts during construction. Long-term minor benefit to visual quality with more contiguous park area/ green space and new roadway infrastructure.	

Table ES.1
Summary of Impacts

Resource	No Build Alternative	Build Alternative 1	Build Alternative 2
Health and Safety	No direct impact. Long-term indirect impact due to existing safety issues remaining unresolved.	Negligible short-term impact while becoming familiar with new traffic patterns. Minor long-term benefits to vehicle and pedestrian safety at the intersection.	Negligible short-term impact while becoming familiar with new traffic patterns. <i>Minor long-term benefits to vehicle and pedestrian safety at the intersection.</i>
Community Resources	No impact.	Minor short-term adverse impacts due to maintenance of traffic, temporary lane closures during construction. Indirect long-term benefit to students, school faculty, or those attending places of worship who may utilize the intersection due to improved safety for vehicles and pedestrians.	
Emergency Services	No impact.	Minor short-term adverse impacts due to maintenance of traffic, temporary lane closures during construction. Negligible impact in the long term.	
Parks and Recreation Areas	No direct impact. Minor long-term indirect impact as park area would remain fragmented and unusable as park or recreation area.	Minor short-term adverse impacts during construction. Long-term minor benefit due to providing more contiguous parkland to be used for passive recreational activity.	
Utilities and Infrastructure	No impact.	Minor short-term adverse impacts to utilities if it is determined that they must be relocated due to construction. Consultation with utility companies and more detailed survey needed as design development advances. Negligible impact in the long term after project implementation.	
Indian Trust Resources	No impact.	No impact; no known Indian Trust Resources exist in Study Area.	
Sacred Sites and Ethnographic Resources	No impact.	No impact; no known Sacred Sites and Ethnographic Resources exist in Study Area.	
Transportation			
Bicycle and Pedestrian Network	No impact.	Minor short-term adverse impacts due to temporary detours during construction. Moderate long-term beneficial impacts to local users and commuters through the area.	Minor short-term adverse impacts due to temporary detours during construction. Minor long-term beneficial impacts to local users and commuters through the area.
Roadway Network and Traffic	No short-term impact. Minor long-term adverse impacts; conditions expected to worsen due to anticipated increase in traffic volume by 2040.	Minor short-term adverse impacts due to temporary closures during construction; detours and maintenance of traffic will be provided.	

Table ES.1
Summary of Impacts

Resource	No Build Alternative	Build Alternative 1	Build Alternative 2
<i>Transit</i>	No impact.	Minor short-term adverse impacts to WMATA bus service during construction and familiarization with new routes and bus stops. Long-term impacts would be negligible.	
<i>Air Quality</i>	No impact.	Short-term adverse impacts to air quality due to construction would be temporary and localized; BMPs will be used. Build Alternatives would not contribute to any violation of the NAAQS and meets the project level CO conformity requirements of 40 CFR 94.	
<i>Noise</i>	No short-term impacts. In the long term, due to the projected increase in traffic volume at this intersection, noise levels will increase by 2040 under the No Build Alternative.	Minor short-term adverse impacts during construction. 2040 design year build PM peak hour traffic would raise noise levels 0.2 to 3.1 dB. The same residences, park and daycare that would be exposed to noise levels that approach or exceed the NAC with the No Build, would also approach or exceed the NAC with either build alternative. It has been determined that noise mitigation is not feasible for this project.	
<i>Hazardous Waste and Materials</i>	No impact.	No impact.	
<i>Energy Conservation</i>	No impact.	No impact. Energy conserved through use of LID principles at project site.	
<i>Cost</i>	--	\$10,971,254	\$9,009,853

Source: HNTB Corporation, 2014.

TABLE OF CONTENTS

	<u>Page</u>
ES.1. Preface.....	1
ES.2. Purpose and Need.....	1
ES.3. Project Background.....	2
ES.4. Alternatives.....	2
i. No Build Alternative.....	3
ii. Proposed Action.....	3
ES.5. Preferred Alternative and Option.....	4
ES.6. Construction and Staging.....	5
ES.7. Cumulative Impacts.....	5
ES.8. Summary of Impacts.....	6
1.0 PURPOSE AND NEED.....	1
1.1 Purpose of the Proposed Action.....	4
1.2 Needs for the Proposed Action.....	4
1.2.1 Improve Pedestrian and Vehicular Safety.....	4
1.2.2 Create a Consolidated, Usable Open Space.....	7
1.2.3 Improve Multimodal Connectivity and Access.....	9
1.2.4 Support Improved Land Use and Community Needs.....	10
1.3 Project Overview.....	11
1.3.1 Background.....	11
1.3.2 Description of Study Area.....	13
1.4 Project Objectives.....	15
1.5 Design Considerations.....	15
1.6 Relationship to Other Plans and Studies.....	15
1.6.1 Comprehensive Plan for the National Capital.....	16
1.6.2 Pennsylvania Avenue, SE Transportation Study.....	16
1.6.3 Middle Anacostia River Crossing Transportation Study.....	16
1.6.4 Great Streets Framework Plan: Pennsylvania Avenue, SE.....	17
1.6.5 District of Columbia Bicycle Master Plan.....	17
1.6.6 Revitalization of Pennsylvania Avenue, SE for the Great Street Initiative Concept Design	17
1.6.7 Pennsylvania Avenue, SE Corridor Land Development Plan.....	18

1.6.8	District of Columbia Pedestrian Master Plan.....	18
1.6.9	Pennsylvania and Potomac Avenues, SE Intersection Improvements	18
1.6.10	Barney Circle and Southeast Boulevard Transportation Study.....	18
1.7	Impact Topics Dismissed from Further Analysis.....	19
1.7.1	Geology and Topography.....	19
1.7.2	Surface Water.....	19
1.7.3	Navigable Waters.....	20
1.7.4	Coastal Zone	20
1.7.5	Floodplains.....	20
1.7.6	Wetlands	20
1.7.7	Wild and Scenic Rivers.....	21
1.7.8	Aquatic Organisms.....	21
1.7.9	Threatened and Endangered Species.....	21
1.7.10	Paleontological Resources	21
1.7.11	Indian Trust Resources.....	22
1.7.12	Sacred Sites.....	22
1.7.13	Ethnographic Resources.....	22
1.7.14	Hazardous Waste/Materials	22
1.7.15	Energy Conservation.....	23
2.0	PROPOSED ACTION AND ALTERNATIVES.....	25
2.1	No Build Alternative	25
2.2	Proposed Action	25
2.2.1	Build Alternative 1 - Revised Square Alternative.....	27
2.2.2	Build Alternative 2 - Conventional Intersection Alternative (<i>Preferred Alternative</i>).....	28
2.3	Alternatives Eliminated from Consideration.....	34
2.3.1	Modified Square Alternative.....	34
2.3.2	Ellipse Alternative.....	34
2.4	Construction and Staging	35
3.0	AFFECTED ENVIRONMENT	37
3.1	Natural Resources.....	37
3.1.1	Soils.....	37
3.1.2	Water Resources	39
3.1.3	Wildlife	40

3.1.4	Vegetation	40
3.2	Cultural Resources	41
3.2.1	Historical Context	41
3.2.2	Historic Structures.....	43
3.2.3	Cultural Landscapes.....	47
3.2.4	Archaeology	49
3.3	Socioeconomic Resources	51
3.3.1	Land Use	51
3.3.2	Zoning	51
3.3.3	Demography.....	53
3.3.4	Environmental Justice.....	57
3.3.5	Economics and Development.....	58
3.3.6	Aesthetics and Visual Quality.....	59
3.3.7	Health and Safety	59
3.3.8	Community Resources	60
3.3.9	Utilities and Infrastructure	63
3.4	Transportation	65
3.4.1	Pedestrian and Bicycle Network	65
3.4.2	Roadway Network.....	67
3.4.3	Transit	74
3.5	Air Quality.....	75
3.5.1	Criteria Pollutants	75
3.5.2	Attainment Designations.....	77
3.5.3	Existing Conditions.....	78
3.6	Noise.....	78
3.6.1	Noise Model and Analysis	78
3.6.2	Noise Measurements	80
4.0	ENVIRONMENTAL CONSEQUENCES	85
4.1	Natural Resources.....	86
4.1.1	Soils.....	86
4.1.2	Water Resources	87
4.1.3	Wildlife	90
4.1.4	Vegetation	91

4.2	Cultural and Historic Resources.....	92
4.2.1	Historic Structures.....	93
4.2.2	Cultural Landscape	95
4.2.3	Archaeological Resources.....	96
4.2.4	Cultural Resources Summary.....	98
4.3	Socioeconomic Resources.....	99
4.3.1	Land Use	99
4.3.2	Zoning.....	100
4.3.3	Demography.....	101
4.3.4	Environmental Justice.....	103
4.3.5	Economics and Development.....	104
4.3.6	Joint Development	105
4.3.7	Aesthetics and Visual Quality.....	106
4.3.8	Health and Safety	107
4.3.9	Community Resources	108
4.3.10	Utilities and Infrastructure	111
4.4	Transportation	112
4.4.1	Bicycle and Pedestrian Network.....	112
4.4.2	Roadway Network and Traffic.....	116
4.4.3	Transit	133
4.5	Air Quality.....	136
4.5.1	Regional Conformity.....	137
4.5.2	Project Level Conformity.....	137
4.5.3	CO Hot-Spot (Microscale) Analysis.....	137
4.5.4	Methodology	137
4.5.5	Impact Assessment.....	138
4.5.6	Ozone	145
4.5.7	PM _{2.5} Determination.....	145
4.5.8	Mobile Source Air Toxics (MSAT).....	145
4.6	Noise.....	146
4.6.1	Noise Modeling.....	146
4.6.2	Impact Assessment.....	148
4.6.3	Undeveloped Lands.....	150

4.6.4	Conclusion	150
4.7	Indirect and Cumulative Effects.....	150
4.7.1	Past Actions	151
4.7.2	Current or Future Actions	151
4.7.3	Cumulative Effects.....	153
4.8	Mitigation Measures.....	154
4.9	Permits and Authorizations	158
4.10	Section 6(f) – Land and Water Conservation Act of 1965	160
4.11	Irreversible and Irretrievable Commitment of Resources	160
5.0	SECTION 4(f) EVALUATION AND APPROVAL FOR TRANSPORTATION PROJECTS THAT HAVE A NET BENEFIT TO A SECTION 4(f) PROPERTY.....	163
5.1	Section 4(f) Historic Resources.....	163
5.2	Project Description	163
5.3	Purpose and Need.....	164
5.4	Proposed Action	164
5.5	Regulatory Requirements.....	164
5.5.1	Definition of the Net Benefits 4(f) Programmatic Evaluation	165
5.5.2	Applicability of the Net Benefits 4(f) Programmatic Evaluation	165
5.6	Section 4(f) Properties.....	166
5.6.1	U.S. Reservation 487 (Twining Square)	166
5.7	Alternatives Considered	169
5.7.1	No Build Alternative.....	169
5.7.2	Build Alternative 1 – Revised Square Alternative	169
5.7.3	Build Alternative 2 – Conventional Intersection Alternative (<i>Preferred Alternative</i>).....	173
5.7.4	Summary of Build Alternatives 1 and 2.....	174
5.8	Impacts on Section 4(f) Properties	176
5.8.1	Build Alternative 1 – Revised Square Alternative	176
5.8.2	Build Alternative 2 – Conventional Intersection Alternative (<i>Preferred Alternative</i>).....	182
5.9	Avoidance Alternatives	188
5.9.1	Do Nothing Alternative.....	189
5.9.2	Improve the Transportation Facility in a Manner that Addresses the Project’s Purpose and Need without a Use of the Section 4(f) Property.....	189
5.9.3	Alternative at a Location Not Requiring the Use of Section 4(f) Property.....	190
5.9.4	Summary of Avoidance Alternatives.....	190

5.10	Feasibility and Prudence Test.....	191
5.10.1	Do Nothing Alternative.....	191
5.10.2	Improve the Transportation Facility in a Manner that Addresses Purpose and Need without Use of the Section 4(f) Property	191
5.10.3	Build the Transportation Facility at a Location that Does Not Require Use of the Section 4(f) Property	192
5.11	Alternatives with Least Overall Harm.....	193
5.12	Planning to Minimize Harm	195
5.12.1	Mitigation, Enhancement, and Beneficial Measures.....	195
5.13	Coordination.....	196
5.13.1	Public Involvement	196
5.13.2	Agency Coordination	197
5.13.3	Coordination with NPS	197
5.14	Conclusion.....	198
6.0	AGENCY COORDINATION AND PUBLIC INVOLVEMENT.....	201
6.1	Agency Coordination	201
6.2	Public Involvement.....	203
7.0	LIST OF PREPARERS.....	205
8.0	ENVIRONMENTAL ASSESSMENT DISTRIBUTION	207
8.1	Federal/Regional Agencies.....	207
8.2	District Agencies	207
8.3	District Elected Officials	207
8.4	Advisory Neighborhood Commissions	207
8.5	Utilities	208
8.6	Neighborhood Associations	208
8.7	Public Review Copies	208
9.0	REFERENCES.....	209

List of Tables

		<u>Page</u>
Table 1.1	Accidents and Injuries – Pennsylvania Ave. and Minnesota Ave, SE.	5
Table 1.2	Accidents Time of Day – Pennsylvania Ave. and Minnesota Ave, SE.	5
Table 1.3	Pennsylvania and Minnesota Avenues, SE Intersection Statistics, 2012-2012.	7
Table 2.1	Alternatives Cost Summary.	33
Table 3.1	Change in Population in the Study Area (1980-2010)	55
Table 3.2	Study Area Demography by Census Tract	55
Table 3.3	Study Area Demography by Block Groups	56
Table 3.4	Persons without a High School Diploma in the Study Area.	56
Table 3.5	Study Area Economic Data	58
Table 3.6	List of Intersections in the Study Area	67
Table 3.7	Level of Service Definitions.	70
Table 3.8	Traffic Delay and LOS Results – Existing AM.	70
Table 3.9	Traffic Delay and LOS Results – Existing PM	71
Table 3.10	Queuing Analysis Results (in Feet) – Existing PM	72
Table 3.11	Queuing Analysis Results (in Feet) – Existing PM	72
Table 3.12	Existing Travel Times (in Minutes) – AM	73
Table 3.13	Existing Travel Times (in Minutes) – PM.	73
Table 3.14	National Ambient Air Quality Standards (NAAQS)	76
Table 3.15	Noise Abatement Criteria (NAC) – Hourly A-Weighted Sound Level Decibels (dBA)....	79
Table 3.16	Measured Existing Noise Levels	81
Table 3.17	Comparison of Measured and Modeled Noise Levels.	84
Table 4.1	List of Scenarios Included in the Traffic Analysis	117
Table 4.2	Traffic Delay (in Second/Vehicle) and LOS Results – 2015 AM	126
Table 4.3	Traffic Delay (in Second/Vehicle) and LOS Results – 2040 AM	127
Table 4.4	Traffic Delay (in Second/Vehicle) and LOS Results – 2015 PM.	128
Table 4.5	Traffic Delay (in Second/Vehicle) and LOS Results – 2040 PM.	129
Table 4.6	Queuing Analysis Results (in Feet) – AM.	130
Table 4.7	Queuing Analysis Results (in Feet) – PM	130
Table 4.8	Travel Time Analysis Results (in Minutes) – AM	131
Table 4.9	Travel Time Analysis Results (in Minutes) – PM	132
Table 4.10	Microscale Air Quality Analysis Maximum 1-Hour CO Concentrations (ppm).....	143
Table 4.11	Microscale Air Quality Analysis Maximum 8-Hour CO Concentrations (ppm).....	144
Table 4.12	PM Peak Hour Noise Levels, dBA Leq(h)	147
Table 5.1	U.S. Reservation 487 Acreages	169
Table 5.2	Comparison of Park Acreage.	174
Table 5.3	Impacts Relevant to Section 4(f) Property	187

List of Figures

		<u>Page</u>
Figure 1-1	Project Location.....	2
Figure 1-2	Project Study Area.....	3
Figure 1-3	Existing Safety Concerns for Pedestrians.....	6
Figure 1-4	Approximate Park Area Acreages	8
Figure 2-1	No Build Alternative (Current Configuration)	26
Figure 2-2	Build Alternative 1 - Revised Square.....	31
Figure 2-3	Build Alternative 2 - Conventional Intersection.....	32
Figure 3-1	Study Area Soils.....	38
Figure 3-2	Direct APE	44
Figure 3-3	Indirect APE.....	45
Figure 3-4	Properties Eligible for the National Register of Historic Places	46
Figure 3-5	Boring Locations and Study Area Superimposed on 1893 Map	50
Figure 3-6	Existing Land Use and Zoning	52
Figure 3-7	Study Area U.S. Census Tracts and Block Groups	54
Figure 3-8	Community Resources.....	61
Figure 3-9	Utilities	64
Figure 3-10	Existing Safety Concerns for Pedestrians.....	66
Figure 3-11	Study Area for Traffic Impact Analysis	68
Figure 3-12	Existing Roadway Configuration	69
Figure 3-13	Bus Routes Within the Study Area and the Vicinity	74
Figure 3-14	Bus Stops in the Existing Condition.....	75
Figure 3-15	Noise Receiver Map – Build Alternative 1	82
Figure 3-16	Noise Receiver Map – Build Alternative 2	83
Figure 4-1	Pedestrian and Bicycle Improvements – Build Alternative 1.....	114
Figure 4-2	Pedestrian and Bicycle Improvements – Build Alternative 2.....	116
Figure 4-3	Key Intersections Analyzed – Build Alternative 1	120
Figure 4-4	Key Intersections Analyzed – Build Alternative 2.....	123
Figure 4-5	Possible Bus Stop Locations – Build Alternative 1.....	134
Figure 4-6	Possible Bus Stop Locations – Build Alternative 2.....	136
Figure 4-7	CO Hot Spot Analysis – No Build Alternative.....	140
Figure 4-8	CO Hot Spot Analysis – Build Alternative 1	141
Figure 4-9	CO Hot Spot Analysis – Build Alternative 2	142
Figure 4-10	Construction Equipment Sound Levels.....	149
Figure 5-1	NPS Reservation Map	168
Figure 5-2	Approximate Park Area Acreage (No Build Alternative)	171
Figure 5-4	Build Alternative 2 – Conventional Intersection (Consolidated Park Area)	175

List of Appendices

- Appendix A Revitalization of Pennsylvania Avenue, SE for the Great Streets Initiative Concepts Design Final Report (Great Streets Design Final Report)
- Appendix B Design Criteria Report
- Appendix C Agency Coordination and Public Involvement
- Appendix D Construction Cost Estimate and Schedule
- Appendix E Section 106 Consultation and Cultural Resources Information
- Appendix F Traffic Analysis Report
- Appendix G Air Quality Report
- Appendix H Noise Technical Report

ACRONYMS AND ABBREVIATIONS

ACHP	American Council on Historic Preservation
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
ANC	Advisory Neighborhood Commission
APE	Area of Potential Effect
AWI	Anacostia Waterfront Initiative
BMP	Best Management Practices
CAA	Clean Air Act of 1970
CAAA	1990 Clean Air Act Amendments
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFA	Commission of Fine Arts
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CT	U.S. Census Bureau Census Tract
dBA	A-Weighted Sound Level-Decibels
DCMR	District of Columbia Code of Municipal Regulations
DC OP	DC Office of Planning
DC SHPO	DC State Historic Preservation Office
DDOE	District Department of the Environment
DDOT	District Department of Transportation
The District	District of Columbia
DMPED	Office of the Deputy Mayor of Economic Development
DO	Director's Order
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973

FEMA	Flood Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact
FWS	U.S. Fish and Wildlife Service
IPaC	Information, Planning, and Conservation System
LID	Low-Impact-Design
LOS	Level of Service
LRP	Long-Range Plan
LWCF	Land and Water Conservation Fund
MAC Study	<i>Middle Anacostia River Crossings Transportation Study (2005)</i>
MPO	Metropolitan Planning Organization
msl	Mean sea level
MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NCPC	National Capital Planning Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PEPCO	Potomac Electric Power Company
PM ₁₀	particulate matter less than or equal to 10 microns
PM _{2.5}	particulate matter less than or equal to 2.5 microns
PMP	District of Columbia Pedestrian Master Plan
RCRA	Resource Conservation and Recovery Act
SE	Southeast

SIP	State Implementation Plan
TIP	Transportation Improvement Program
TMDL	Total Maximum Daily Loads
TNM	Traffic Noise Model®
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USGS	U.S. Geological Survey
WIP	Watershed Implementation Plan
WMATA	Washington Metropolitan Area Transit Authority