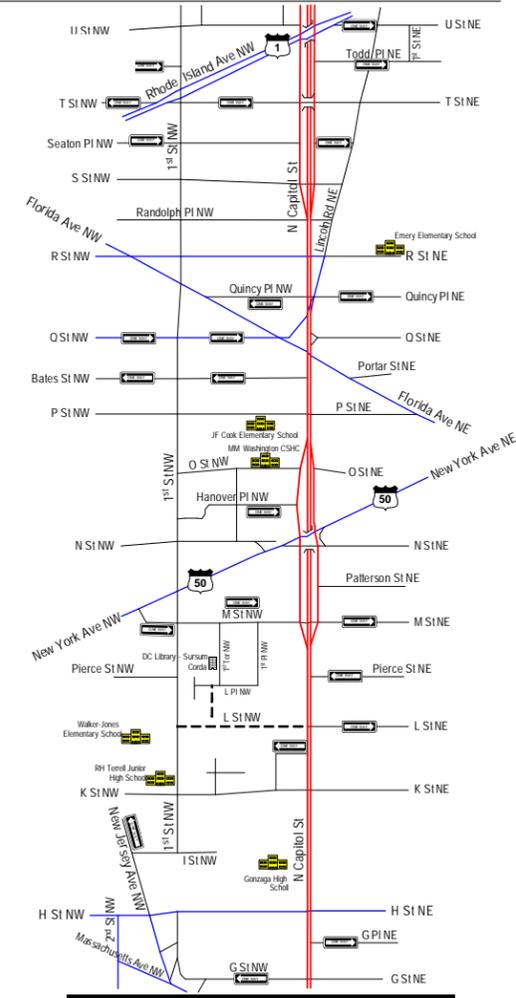


North Capitol Street Transportation Study

Draft Final Report



Prepared by:
DMJM Harris, Inc.
for:
District Department of Transportation
District of Columbia

November 2005

TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1

STUDY AREA..... ES-1

MASS TRANSIT SERVICE..... ES-1

TRAFFIC VOLUMES ES-1

TRAFFIC OPERATIONS ES-1

FUTURE CONDITIONS ES-1

FEASIBILITY OF RECONSTRUCTING TRUXTON CIRCLE..... ES-2

TRANSPORTATION ISSUES AND RECOMMENDATIONS..... ES-2

I. INTRODUCTION..... 1

II. EXISTING CONDITIONS 2

EXISTING TRANSPORTATION FEATURES 2

 MAJOR ROADWAYS IN THE STUDY AREA 2

 North Capitol Street 2

 First Street 2

 Rhode Island Avenue..... 2

 Florida Avenue 2

 New York Avenue 6

 SIDEWALKS..... 6

PARKING INVENTORY 6

PUBLIC TRANSPORTATION..... 6

 WMATA Route 80-North Capitol Street Line..... 6

 WMATA Route P6-Anacostia-Eckington Line 6

 WMATA Route 96-East Capitol Street-Cardozo Line..... 6

 WMATA Route 90, 92, 93-U Street-Garfield Line..... 10

 WMATA Route G8-Rhode Island Avenue Line..... 10

 WMATA Route X1-Benning Road Line 10

 WMATA Route X2-Benning Road-H Street Line 10

 WMATA Route D3-Sibley Hospital-Stadium-Armory Line..... 10

 WMATA Route D4-Ivy City-Union Station Line..... 10

TRAFFIC VOLUMES 10

EXISTING LEVEL OF SERVICE..... 15

TRANSPORTATION ISSUES 15

III. FUTURE CONDITIONS 17

2014 FUTURE TRAFFIC VOLUMES..... 17

LEVELS OF SERVICE WITH FUTURE 2014 TRAFFIC17

IV. ISSUES AND RECOMMENDED IMPROVEMENTS..... 20

 POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF NORTH CAPITOL STREET AND H STREET..... 25

 POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF NORTH CAPITOL STREET AND K STREET..... 29

 POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF NEW YORK AVENUE AND NORTH CAPITOL STREET..... 36

 POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF RHODE ISLAND AVENUE AND NORTH CAPITOL STREET 50

 IMPROVEMENT SCHEDULE..... 66

V. FEASIBILITY OF RECONSTRUCTING TRUXTON CIRCLE67

TRAFFIC CIRCLE ALTERNATIVES.....67

EVALUATION OF TRAFFIC CIRCLE ALTERNATIVES.....67

 TRAFFIC OPERATIONS 67

 COST AND AESTHETICS 67

RECOMMENDATION67

LIST OF FIGURES

1. Study Area..... 1

2A. Existing (2004) AM Peak Period Lane Configurations..... 3

2B. Existing (2004) PM Peak Period Lane Configurations..... 4

3. Generalized Land Use Map..... 5

4. Existing (2004) Sidewalk Inventory 7

5. Existing (2004) Parking Restrictions..... 8

6. Transit Routes and Location of Bus Stops and Bus Shelters 9

7. Intersection Count Locations..... 11

8. Existing (2004) Peak Hour and Daily Volumes 12

9. Existing (2004) Peak Hour Pedestrian Volumes 13

10. Existing (2004) Peak Hour Levels of Service 16

11. Future (2014) Peak Hour Volumes..... 18

12. Future (2014) Peak Hour Levels of Service 19

13A. Issues Map G Street and North Capitol Street 21

13B. Improvements Map G Street and North Capitol Street 22

14A. Issues Map H Street and North Capitol Street 23

14B. Improvements Map H Street and North Capitol Street 24

15A. Issues Map K Street and North Capitol Street 27

15B.Improvements Map K Street and North Capitol Street	28
16A.Issues Map L Street and North Capitol Street	30
16B.Improvements Map L Street and North Capitol Street	31
17A.Issues Map M Street and North Capitol Street	32
17B.Improvements Map M Street and North Capitol Street	33
18A.Issues Map New York Avenue and North Capitol Street	34
18B.Improvements Map New York Avenue and North Capitol Street.....	35
19A.Issues Map P Street and North Capitol Street	38
19B.Improvements Map P Street and North Capitol Street.....	39
20A.Issues Map Florida Avenue and North Capitol Street.....	40
20B.Improvements Map Florida Avenue and North Capitol Street.....	41
21A.Issues Map R Street and North Capitol Street.....	42
21B.Improvements Map R Street and North Capitol Street	43
22A.Issues Map Randolph Place and North Capitol Street	44
22B.Improvements Map Randolph Place and North Capitol Street.....	45
23A.Issues Map S Street and North Capitol Street	46
23B.Improvements Map S Street and North Capitol Street.....	47
24A.Issues Map Rhode Island Avenue and North Capitol Street	48
24B.Improvements Map Rhode Island Avenue and North Capitol Street.....	49
25A.Issues Map New York Avenue and First Street NW	52
25B.Improvements Map New York Avenue and First Street NW.....	53
26A.Issues Map O Street and First Street NW	54
26B.Improvements Map O Street and First Street NW.....	55
27A.Issues Map P Street and First Street NW	56
27B.Improvements Map P Street and First Street NW	57
28A.Issues Map Bates Street and First Street NW.....	58
28B.Improvements Map Bates Street and First Street NW	59
29A.Issues Map Q Street and First Street NW	60
29B.Improvements Map Q Street and First Street NW.....	61
30A.Issues Map Florida Avenue and First Street NW	62
30B.Improvements Map Florida Avenue and First Street NW.....	63
31A.Issues Map Rhode Island Avenue/T Street and First Street NW.....	64
31B.Improvements Map Rhode Island Avenue/T Street and First Street NW	65
32A.At Grade Traffic Circle Plan	68
32B.Grade Separated Traffic Circle Plan	68

LIST OF TABLES

1 Delay, LOS and 95th Percentile Queue Length Comparison with and without Protected Left Turn Phase for the Southbound Movement at the Intersection of North Capitol Street and H Street.....	25
2 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Adjusted Yellow and All-Red Time at the Intersection of North Capitol Street and H Street.....	26
3 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Protected Left Turn Phase for the Southbound and Northbound Movement at the Intersection of North Capitol Street and K Street.....	29

4 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Additional Green Time for the Westbound Left Turn Movement at the Intersection of New York Avenue and North Capitol Street.....	36
5 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Protected Only Left Turn Phase for the Westbound Movement at New York Avenue and North Capitol Street	37
6 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Westbound Left Turn Stacking Allowed from the Bridge to New York Avenue and North Capitol Street.....	37
7 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Additional Green Time for the Westbound Left Turn Movement at the Intersection of Rhode Island Avenue and North Capitol Street	50
8 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Protected Only Left Turn Phase for the Westbound Movement at the Intersection of Rhode Island Avenue and North Capitol Street.....	51
9 Delay, LOS and 95 th Percentile Queue Length Comparison with and without Westbound Left Turn Stacking Allowed on the Bridge at the Intersection of Rhode Island Avenue and North Capitol Street.....	51
10 Expected Traffic Operations with At-Grade and Grade-Separated Traffic Circle.....	70
11 Truxton Circle Reconstruction Planning Level Cost Estimate	71

LIST OF CHARTS

1. Average Hourly Weekday Traffic Variation on North Capitol Street between G Street and New York Avenue	14
2. Average Hourly Weekday Traffic Variation on North Capitol Street between New York Avenue and Florida Avenue.....	14
3. Average Hourly Weekday Traffic Variation on North Capitol Street between Florida Avenue and Rhode Island Avenue.....	15

LIST OF APPENDICES

(Appendices to be provided as a separate package)

A TRUXTON CIRCLE
B TRAFFIC AND PEDESTRIAN COUNT DATA
C DESCRIPTION OF LEVELS OF SERVICE
D MEASURE OF EFFECTIVENESS OF TRAFFIC CIRCLE WITH EXISTING LANE CONFIGURATIONS
E CITIZENS' COMMENTS
F SUMMARY OF PROPOSED IMPROVEMENTS BY CATEGORY

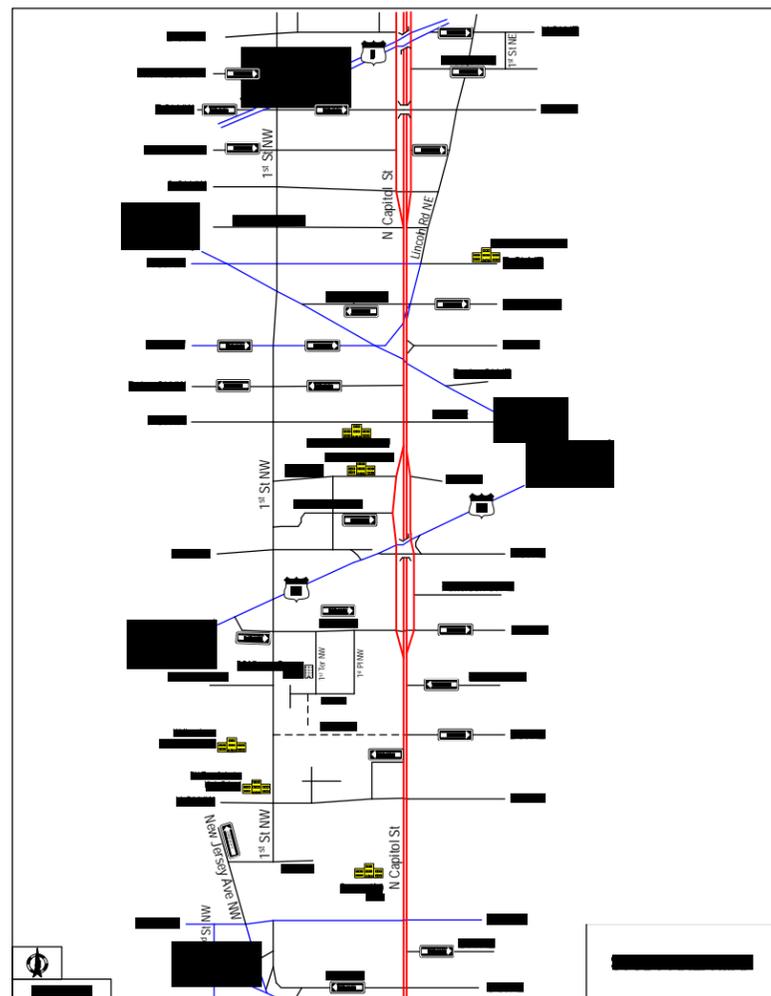
EXECUTIVE SUMMARY

In response to Citizen's concern, the District of Columbia Department of Transportation (DDOT) conducted a study that evaluated transportation conditions in the North Capitol Street area.

STUDY AREA

The study area is located in northwest Washington, DC and is shown in Figure ES-1.

Figure ES-1—Study Area Map



The major roadways in the study area are North Capitol Street, First Street NW, Rhode Island Avenue, Florida Avenue and New York Avenue.

MASS TRANSIT SERVICE

The Washington Metropolitan Area Transit Authority provides bus and rail service in the study area. The Union Station, New York Avenue and Rhode Island Avenue Metrorail stations are within walking distance of the study area. The Union Station Metrorail station is located within three blocks of the intersection of North Capitol Street and H Street. The New York Avenue Metrorail station is located within three blocks of the intersection of North Capitol Street and New York Avenue. These two Metrorail stations are served by the Red Line. The Rhode Island Avenue Metrorail station is located within three blocks of the intersection of North Capitol Street and Rhode Island Avenue and is served by the Blue Line.

TRAFFIC VOLUMES

North Capitol Street is the most traveled road in the study area, with daily traffic volumes ranging from 32,000 south of Florida Avenue to 44,000 north of Florida Avenue. The intersections in the study area with the highest turning movement volumes can be found along North Capitol Street, with the intersection of Florida Avenue and North Capitol Street the highest overall.

Traffic levels on North Capitol Street during the AM peak hour are higher than the traffic levels during the PM peak hour. During the weekday AM peak period, traffic between 8:00 AM to 9:00 AM is consistently higher than during other hours of the peak period. Weekday peak traffic conditions during the PM peak period are maintained over a period of several hours.

TRAFFIC OPERATIONS

Several intersections in the study area are operating at Level of Service (LOS) D or better during the AM and PM peak hours. The intersections of P Street and North Capitol Street and R Street and North Capitol Street operate at LOS F during the AM peak hour. The intersections of R Street and North Capitol Street, and New York Avenue and North Capitol Street operate at LOS F during the PM peak hour.

The intersections along First Street operate at level of service (LOS) D or better during the AM and PM peak hour except the intersection of New York Avenue and First Street which operates at LOS E during the PM peak hour.

FUTURE CONDITIONS

The Study Team assessed future conditions for the year 2014. The Study Team found that with the expected traffic growth additional intersections will operate at LOS F. The intersections that are expected to operate at LOS F in the year 2014 are the following:

- Q Street and North Capitol Street (AM peak hour)
- New York Avenue and North Capitol Street (PM peak hour)
- P Street and North Capitol Street (AM and PM peak hour)
- R Street and North Capitol Street (AM and PM peak hour)

FEASIBILITY OF RECONSTRUCTING TRUXTON CIRCLE

The Study Team analyzed the feasibility of converting the intersection of North Capitol Street with Florida Avenue, Q Street and Lincoln Road from a signalized intersection to a traffic circle. Two alternatives; at grade and grade separated alignments were considered.

While an at-grade traffic circle alternative would improve the aesthetics of the area, the construction of the traffic circle would result in significant detrimental effects on traffic operations, would require right of way acquisitions and would cost approximately 3.7 million dollars. The grade separated alternative of the Truxton Circle would not be as aesthetically pleasant as the proposed at-grade circle and would have an extremely high cost of construction. Therefore, the Study Team does not recommend the construction of a traffic circle at the intersection of North Capitol Street and Florida Avenue.

TRANSPORTATION ISSUES AND RECOMMENDATIONS

The Study Team, with the assistance of area residents, conducted an extensive evaluation of the transportation infrastructure in the study area. The Study Team identified transportation issues throughout the study area.

These identified transportation issues include vehicular operations, transit service, and pedestrian safety. Detailed descriptions of the transportation issues are presented in the study report. In addition, the Study Team evaluated alternative improvement options and developed recommended improvements to address the identified transportation issues. Table ES-1 summarizes the recommended improvements by location within the study area¹.

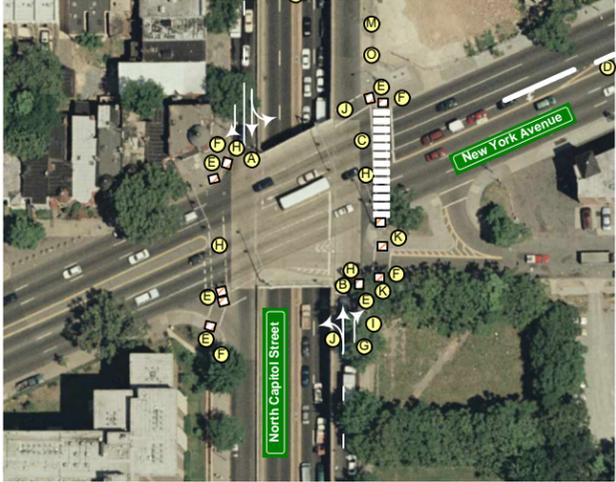
¹ Appendix F presents summaries of the proposed improvements organized by type of improvement.

Table ES-1: Recommended Improvements

LOCATION	IMPROVEMENTS	
<p>G STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Re-stripe crosswalk on G Street. B Re-stripe crosswalk on south side of North Capitol Street. C Repair the sidewalk on southwest corner. D Repair the sidewalk south of G Street on west side of North Capitol Street. E Stripe Stop bars on G Street and northbound North Capitol Street. F Re-stripe crosswalk across North Capitol Street on north side of G Street. G Close the median opening on North Capitol Street north of G Street. H Provide parking sign assembly at a location 120 feet north of G Street and on west side of North Capitol Street noting two-hour parking limit and no parking during the AM peak hours. I Increase law enforcement for speed and parking activities. 	
<p>H STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Install RED sign on the westbound approach (at the top of the hill on H Street) a distance of 500 feet from the intersection of North Capitol Street and H Street. The RED sign should be interconnected with the parking lot signal on H Street located at the entrance to the parking lot. The RED sign should be illuminated when the signal head indication on westbound H Street is red and should not be illuminated when the signal indication on H Street at the parking garage is green. B Operate the signal for the parking garage on H Street as semi-actuated (instead of pre-timed) installing detectors for the southbound approach (vehicles exiting the parking garage) and signal heads for the movement out of the garage. C Close the median opening at the northern part of the intersection (on North Capitol Street) to preclude unsafe left turn movements. D Fix sidewalk on the northeast corner of the intersection. E Install red light cameras at the top of the H Street bridge (intersection of H Street and the Union Station entrance). F Fix alignment of ADA ramp in the southwest corner. G Re-stripe all of the approaches to the intersection. H Increase law enforcement for speed and parking activities. I Relocate near-side bus stop on the northwest corner of North Capitol Street and H Street to the far side of the intersection (southwest corner) and combine the stop with the existing stop on southbound North Capitol Street located south of H Street near the intersection of North Capitol Street and G Place NE. J Provide two seconds of additional all-red times for all phases at the intersection. 	
<p>K STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Relocate the no parking from here to corner sign located in the northeast corner along North Capitol Street 8 feet to the north (18 feet from the crosswalk). B Eliminate two parking spaces on the northbound approach. With this change, the first parking space on the northbound approach south of K Street will be located 40 feet from the intersection. C Provide adequate pavement markings on the North Capitol Street approaches. D Provide adequate pavement markings on K Street. E Repair pedestrian signal at the northeast corner. F Increase law enforcement for speed and parking activities. 	

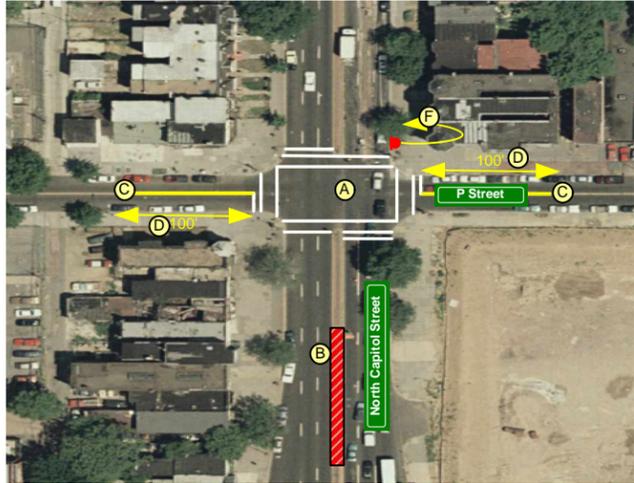
Note: The legend describing the color scheme for the proposed improvements is provided at the end of this table.
North Capitol Street Transportation Study

Table ES-1: Recommended Improvements (Continued)

LOCATION	IMPROVEMENTS	
<p>L STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Re-stripe crosswalk on L Street. B Install a gate on L Street to deter cars from turning onto street. Gate to be activated by card reader/transponder. Provide smart card/transponder to legal users (emergency vehicles, police, etc.). 	
<p>M STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Provide pavement markings and lane use symbols on M Street to reduce driver confusion and improve intersection operation. B Add a 90-foot "No parking" zone on the west side of North Capitol Street, south of M Street. C Repair the sidewalk on north side of M street, east and west of North Capitol Street. On the west side of North Capitol Street, reconfigure sidewalk to meet ADA requirements. D Install a "No Turn" sign at the traffic signal pole in north side median. E Trim the median separating northbound and southbound movements a distance of 10 feet to improve the geometric configuration. Move the stop bar for the southbound movement of North Capitol Street 10 feet to the north. F Rebuild ADA ramp on northwest corner to conform to ADA standards. G Re-stripe crosswalk on northeast corner to provide clearance for ADA ramps. H Relocate light pole on southwest corner away from the curb and provide additional sidewalk east of the existing curb line to provide clearance for pedestrians on sidewalk. I Increase law enforcement for speed and parking activities. 	
<p>NEW YORK AVENUE AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Re-stripe the southbound approach of North Capitol Street placing lane use symbols. Indicate one right turn lane and one through-left lane on the southbound approach at the intersection. B Re-stripe the northbound approach of North Capitol Street placing lane use symbols. Indicate one right turn lane and one through-left lane on the southbound approach at the intersection. C Re-stripe the crosswalk on westbound New York Avenue. D Extend the left turn bay for westbound traffic a distance of 100 feet. E Replace ADA ramps at all corner of the intersections with wider ramps. F Replace all pedestrian signals with countdown pedestrian signals. G Repair sidewalk on the northbound off-ramp to New York Avenue near the bus stop. H Install in-roadway warning lights for pedestrians in all of the approaches. I Repair the bus stop at the southeast corner (northbound off-ramp). J Repair median side curb on the northbound off-ramp to New York Avenue. K Reconstruct the island east of North Capitol Street ensuring that disabled persons can adequately cross New York Avenue without encountering barriers across their path. L Install New York Avenue sign on southbound North Capitol Street north of the exit ramp. M Replace confusing parking sign assembly on northbound on-ramp from New York Avenue to North Capitol Street with a sign that states no parking or standing anytime. N Increase speed enforcement. O Reconstruct the sidewalk on the northbound on-ramp from New York Avenue to North Capitol Street to make it adequate for disabled persons. 	

Note: The legend describing the color scheme for the proposed improvements is provided at the end of this table.

Table ES-1: Recommended Improvements (Continued)

LOCATION	IMPROVEMENTS	
<p>P STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Re-stripe crosswalk in all directions. B Close median opening for exit driveway on North Capitol Street and prohibit the left-turn movement onto North Capitol Street. C Provide pavement markings to better indicate parking and/or travel lanes on P Street. D Remove on-street parking on the northeast and southwest sides of the intersection along P Street for a distance of 100 feet and provide meters beyond this point. E Increase parking enforcement along North Capitol Street. F Relocate parking sign assembly on the northeast corner of North Capitol Street eight feet to the north. 	
<p>FLORIDA AVENUE AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Close driveway nearest to Florida Avenue for gas station on northbound North Capitol Street. B Install ADA ramp at northwest corner across Florida Avenue. C Re-stripe crosswalk for eastbound approach. D Make KFC driveway that provides ingress from and egress to KFC a right-in-right-out driveway. Include "No Left-Turn" signs. E Relocate light pole on southwest closer to the curb to provide clearance for pedestrians on sidewalk. F Add sign saying "Lincoln Road, Q Street Traffic , Use Right Lane", beyond second driveway on northbound approach at a distance of 120 feet from intersection. G Replace "15 mph when children are present" sign on southbound North Capitol Street with flashing beacons indicating 15 mph. Add "End School Zone" sign at the edge of the school speed zone. H Fix ADA ramps at southwest and southeast corners (both directions). I Add shelter to bus stop on northwest corner. J Install countdown pedestrian signals for all crosswalks. K Increase law enforcement for speed and parking activities. L Add two seconds for the pedestrians to cross Florida Avenue. M Install in-roadway warning lights for pedestrians across Florida Avenue. 	
<p>R STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Provide pavement markings for northbound North Capitol Street, on both sides of the intersection. B Re-stripe all crosswalks. C Fix curb line/edge on northeast corner. 	

Note: The legend describing the color scheme for the proposed improvements is provided at the end of this table.
 North Capitol Street Transportation Study
 DMJM HARRIS | AECOM

Table ES-1: Recommended Improvements (Continued)

LOCATION	IMPROVEMENTS	
<p>RANDOLPH PLACE AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Provide pavement markings on northbound North Capitol Street, on both sides of the intersection. B Re-stripe crosswalks on North Capitol Street. C Repair the fence on North Capitol Street, north of the intersection. D Re-stripe southbound North Capitol Street, before the intersection. E Increase law enforcement for speeding activities. 	
<p>S STREET AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Close the median. Note that vehicles heading westbound on S Street will not have access to the tunnel. Said vehicles will have to make a right onto the local roads to access the mainline of North Capitol Street. B Relocate impact attenuator to the beginning of the median. Relocate signs on existing light pole to a new sign post at the beginning of the median. C Repair sidewalk east of North Capitol Street, south of S Street. 	
<p>RHODE ISLAND AVENUE AND NORTH CAPITOL STREET</p>	<ul style="list-style-type: none"> A Re-stripe crosswalk for northbound approach (North Capitol Street Ramp). B Widen the tapered area of the handicapped ramps on the Rhode Island Avenue bridge. C Widen sidewalk on the short narrow section on the west side of North Capitol Street. D Re-stripe crosswalk for southbound approach (North Capitol Street ramp). E Relocate Stop Here on Red sign on the southbound ramp of North Capitol Street to match the stop bar. F Re-stripe crosswalk across U Street. G Provide bench for bus shelter. H Provide countdown pedestrian signals for all approaches. I Rotate sign on the south side of Rhode Island Avenue to be parallel to the street. J Replace the existing "No Standing or Parking 4-6:30 PM Monday-Friday" sign with a new one. K Move the existing "No Standing or Parking 4 PM-6:30 PM Monday-Friday" and "No Standing or Parking Metro Bus Zone" signs east towards the beginning of the bus zone. 	

Note: The legend describing the color scheme for the proposed improvements is provided at the end of this table.
North Capitol Street Transportation Study

Table ES-1: Recommended Improvements (Continued)

LOCATION	IMPROVEMENTS	
<p>NEW YORK AVENUE AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Rebuild ADA ramps on the northeast and southeast corners to conform with current ADA standards. B Align the island opening with the crosswalk and provide adequate opening. C Improve the sidewalk in the northeast corner along New York Avenue. D Relocate the parking regulation sign 100 feet east of the intersection. E Install a Metro Bus zone sign approximately 60 feet east of the intersection. F Intall the no parking sign to a location 60 feet north of New York Avenue and relocate the no standing or parking sign to a location 120 feet north of New York Avenue. G Improve sidewalk on the east side of First Street north of New York Avenue. H Re-stripe yellow lines on the northbound approach of first Street. I Add zebra-type (continental) crosswalks for all approaches to improve safety in the vicinity of a school. J Install count down pedestrian signal heads in all corners. 	
<p>O STREET AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Rotate the no parking sign to face towards O Street. B Build ADA ramps or eliminate crosswalk across First Street NW, south of O Street. C Remove the signal heads facing towards west. D Improve sidewalk on the east side of First Street. E Add pedestrian signal heads for all approaches. 	

Note: The legend describing the color scheme for the proposed improvements is provided at the end of this table.

Table ES-1: Recommended Improvements (Continued)

LOCATION	IMPROVEMENTS	
<p>P STREET AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Add zebra type (continental) cross-walks in all directions. B Rebuild ADA ramps on northeast and southeast corners to conform to ADA standards. C Construct ADA ramp on the southwest corner across P Street. D Install count down pedestrian signal heads in all corners. 	
<p>BATES STREET AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Upgrade ADA ramps to current standards on the northeast, northwest, and southwest corners. B Install a school zone sign with beacons to replace the current school zone signage. C Rotate the no parking sign and place it parallel to First Street NW. D Reconstruct the ADA ramp on northeast side over 9 feet towards west. E Reduce the crosswalk width by 6 feet. Also move the stop bar 6 feet west from its current position. F Talk to the homeowner and ask him to remove the bushes. G Install a school zone sign with beacons to replace the current school zone signage. 	
<p>Q STREET AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Provide pedestrian signals with push buttons on all approaches. B Upgrade the ADA ramps to the current standards on the southwest, northwest, and southeast corners. C Install one ADA ramp to serve both approaches to the northeast corner. A curb inlet at this location may not allow for the typical ADA ramp application. D Cut back the tree roots and repair the sidewalk on First Street. E Replace the faded "no parking" sign on the southeast corner with a new sign. F Restrict parking within 20 feet of the southwest corner by adding "no parking" signs above the existing signs for eastbound and southbound directions. 	

Note: The legend describing the color scheme for the proposed improvements is provided at the end of this table.
 North Capitol Street Transportation Study
 DMJM HARRIS | AECOM

Table ES-1: Recommended Improvements (Continued)

LOCATION	IMPROVEMENTS	
<p>FLORIDA AVENUE AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Upgrade ADA ramps on the southwest, southeast, and northeast corners to current standards. B Repair/replace pavement on the northbound approach to the intersection. C Repair/replace pavement on the westbound approach to the intersection. D Replace pavement markings on the northbound and westbound approaches to the intersection. E Contact the property owner and request that the overgrown shrubs on the northeast corner be trimmed in order to provide more passable sidewalk width. F Provide a bus shelter for the bus stop on the southwest corner. G Remove the conflicting "no parking" signs located on the southwest and northwest corners and replace them with "no parking" signs. H Add sign to prohibit left turns from the westbound approach during the AM peak period from 7:00 AM to 9:30 AM. I Add sign to prohibit left turns from the eastbound approach during the PM peak period from 4:00 PM to 6:30 PM. 	
<p>RHODE ISLAND AVENUE, T STREET AND FIRST STREET, N.W.</p>	<ul style="list-style-type: none"> A Remove the top sign from the northwest corner and place it 40 feet west of the intersection along Rhode Island Avenue, and remove the bottom sign from the post. B Place a no standing or parking anytime sign along Rhode Island Avenue 100 feet west of the intersection. C Extend the island near the southwest corner and provide cut-out for ADA requirements. D Remove sign post on south side of Rhode Island Avenue. E Place a no parking sign on Rhode Island Avenue 60 feet west of the southwest corner of the intersection. F Install a pedestrian signal head in the southwest corner. G Improve sidewalks on the north side of T Street. H Reposition the no parking allowed sign on Rhode Island Avenue to make it clearly visible from the road. I Place a sign to identify the end of bus zone. 	

Note: The improvements presented in the table are color coded to represent the following improvement categories:

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

I. INTRODUCTION

In response to citizen concerns, the District of Columbia Department of Transportation (DDOT) conducted a study that evaluated transportation conditions in the North Capitol Street area in the District. The consulting firm DMJM+HARRIS, Inc. (Consultant) conducted the study with assistance from DDOT staff. In this report the team of Consultant and DDOT staff is referred to as the “Study Team.”

The goals of this study are as follows:

1. Assess the existing and future (2014) transportation condition within the study area.
2. Determine short-term and long-term transportation and infrastructure improvements. These improvements are intended to improve safety and efficiency of pedestrian movement and improve vehicular flow while still meeting the needs of pedestrians.
3. Determine the feasibility of converting the intersection of North Capitol Street with Florida Avenue, Q Street, and Lincoln Avenue from a signalized intersection to a traffic circle.

The study area, shown in Figure 1, focuses on North Capitol Street and is bounded by the following roadways:

- Rhode Island Avenue to the north
- G Street to the south
- First Street NW to the west
- North Capitol Street to the east

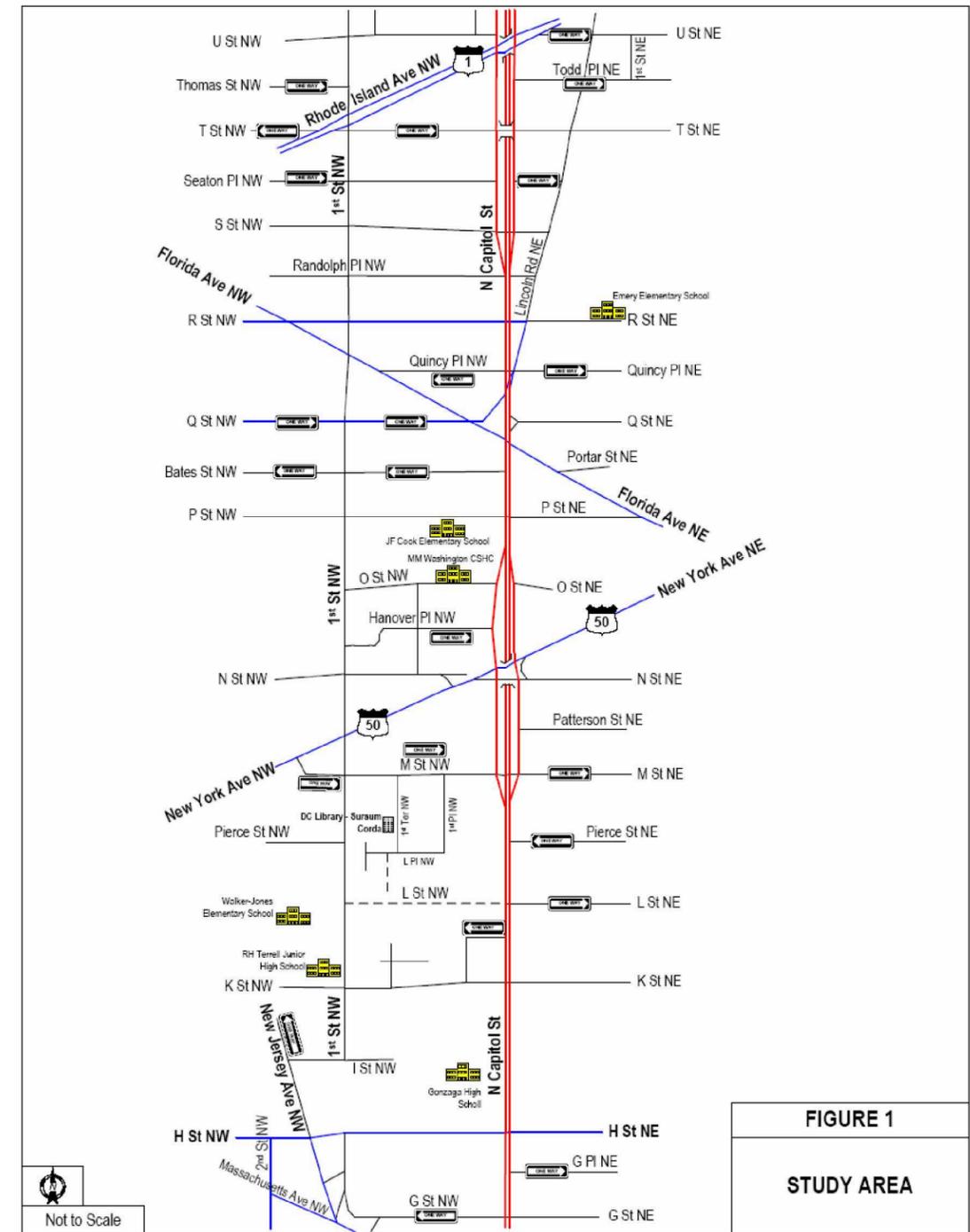
The study was conducted with assistance from the area residents, Advisory Neighborhood Committee (ANC) members and representatives of local area organizations. The Study Team held meetings with area residents to discuss transportation issues and potential improvement options. Area residents provided additional input via e-mail and regular correspondence. Inputs from residents were helpful in the identification of key issues noted in this report and in the development of mitigation measures with respect to transportation improvements.

This report summarizes the assessment of existing and future transportation conditions, identifies transportation issues, presents an evaluation of the proposed improvements and describes the improvements that are recommended for implementation in the study area. The existing conditions section of this report includes a description of the major roadways in the study area, information on traffic volumes and levels of service at critical intersections. It also describes the condition of existing pedestrian facilities, parking regulations and public transportation.

The future transportation condition section of this report includes future year travel forecast and levels of service for the year 2014. The following sections describe the identified transportation issues and presents recommended improvements for traffic, pedestrian and transit operation.

Before 1946, the intersection of North Capitol Street with Florida Avenue, Q Street, and Lincoln Avenue operated as a traffic circle (Truxton Circle). The feasibility of reconstructing Truxton Circle section of this report describes the different alternatives analyzed in the study and the measure of effectiveness of each alternative. The report also presents a feasibility assessment of reconstructing the circle. Appendix A shows a picture of Truxton Circle prior to its removal.

Figure 1. Study Area



II. EXISTING CONDITIONS

EXISTING TRANSPORTATION FEATURES

The Study Team conducted an extensive data collection effort to gain an understanding of existing conditions in the study area. In addition to collecting data for the quantitative assessment of existing conditions, the Study Team conducted field evaluations throughout the study area during peak and off-peak hours to further assist in the assessment of existing conditions. This section of the report summarizes the data collected for the study and addresses issues and deficiencies in transportation infrastructure within the study area.

MAJOR ROADWAYS IN THE STUDY AREA

The study area is located in Northwest and Northeast areas of Washington, DC and is shown in Figure 1. The following are the major roadways in the study area:

- North Capitol Street
- First Street NW
- Rhode Island Avenue
- Florida Avenue
- New York Avenue

While some of the studied roadways continue beyond the above terminals, their associated characteristics will only be described within these limits.

North Capitol Street

North Capitol Street¹ is a two-way principal arterial² running north-south through the study area. North Capitol Street has a six-lane cross-section throughout the study area, as shown in Figures 2A and 2B. There are three lanes operating in each direction and the posted speed limit is 25 mph. Off-Peak parking is available on the east side of North Capitol Street between G Street and Randolph Place. Parking is prohibited between 7:00 AM and 9:30 AM on the east side of the street between Randolph Place and Rhode Island Avenue and on the west side of the street between Rhode Island Avenue and H Street. North Capitol Street has sidewalks on both sides of the street. The sidewalk width varies along North Capitol Street and is generally wider than four feet.

Land use along North Capitol Street, as shown in Figure 3, varies widely based on location. The west side of North Capitol Street is primarily moderate to medium density residential area with medium density residential areas located primarily south of New York Avenue.

Medium to high density commercial areas are located on the west side of North Capitol Street south of I Street. The east side of North Capitol Street between G Street and Q Street is a medium to high density commercial area. From Q Street to Rhode Island Avenue, there are moderate density residential areas along the east side of North Capitol Street. Federal buildings are located along North Capitol Street

south of H Street. Several schools are located along the east and west sides of North Capitol Street. The locations of the schools are shown in the Study Area map presented in Figure 1.

First Street

First Street is a two-way collector running north-south through the study area. As shown in Figure 2, First Street operates with one lane in each direction. No parking is allowed on the east side of First Street between I Street and Florida Avenue. Parking is available at any time on the east side of the street between Florida Avenue and R Street and between S Street and Rhode Island Avenue. On the west side of the street, parking is available at any time between N Street and R Street and between S Street and Seaton Place. Off peak parking with mixed hour parking limit is available on the west side of the street between New York Avenue and I Street. Two hour parking between 7:00 AM and 8:30 PM is available on both sides of the street between R Street and S Street.

There are sidewalks along both sides of First Street between Seaton Place and I Street. Only the east side of First Street has sidewalks between Seaton Place and Rhode Island Avenue.

As shown in Figure 3, land usage along First Street is primarily residential with moderate density residential properties between Rhode Island Avenue and New York Avenue and medium density residential properties between New York Avenue and I Street. Local public facilities are located at the corner of N Street. First Avenue south of I Street is institutional with moderate to high density commercial area. Several schools are located along First Street as shown in Figure 1.

Rhode Island Avenue

Rhode Island Avenue is a two-way principal arterial running east-west through the study area. Rhode Island Avenue has a six-lane cross-section. During the AM peak period, Rhode Island Avenue operates with two southbound and three northbound lanes. During the PM peak period Rhode Island Avenue operates with three lanes in each direction. Off peak parking is available on both sides of Rhode Island Avenue. No parking is available on the north side of the street during the AM peak period while parking is prohibited on the south side of the street during the PM peak period. Both sides of Rhode Island Avenue have sidewalks, which are generally between four to six feet wide.

Florida Avenue

Florida Avenue is a two-way principal arterial running east-west through the study area. Florida Avenue operates as a three-lane facility in each direction. Off-peak parking is available on both sides of the street between First Street and Q Street. Between Q Street and North Capitol Street, off-peak parking is only available on the south side of Florida Avenue. Florida Avenue has sidewalks on both sides, which are generally between four to six feet wide.

¹ Most streets in the study area are located in the northwest quadrant of the District. Therefore, throughout this report where the NW designation is omitted, it should be understood that the street is located in the northwest quadrant of the District.

² All roadway classifications were taken from the District of Columbia Functional Classification Map.

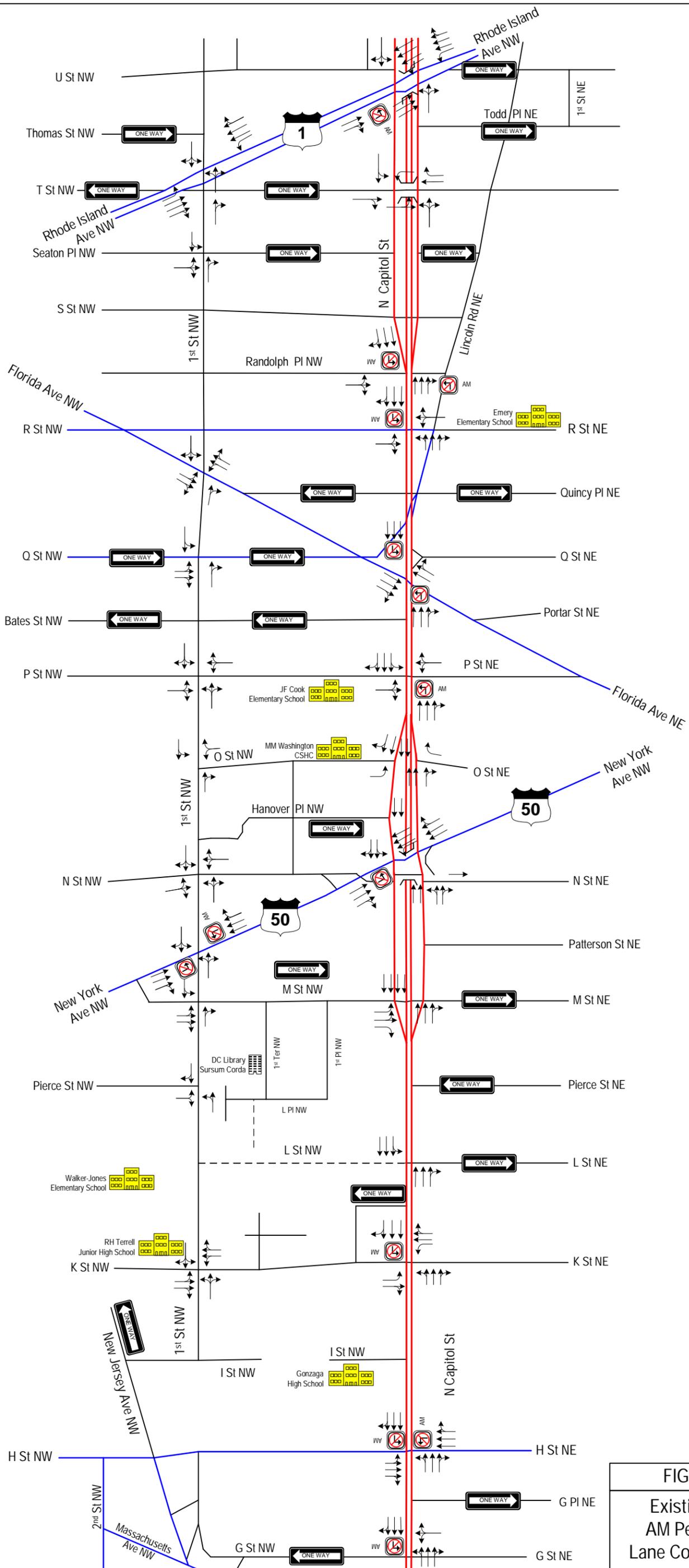


FIGURE 2A
Existing (2004)
AM Peak Period
Lane Configurations

Not to Scale

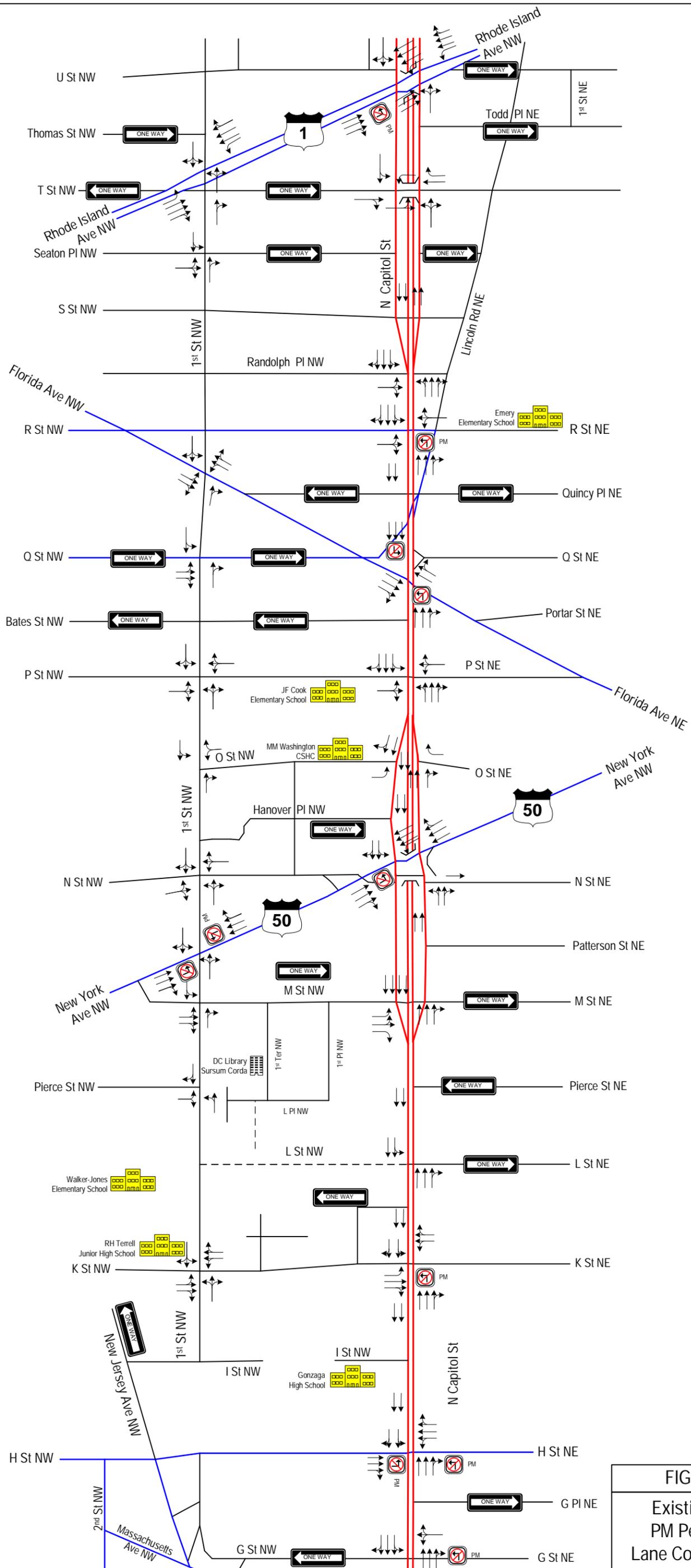
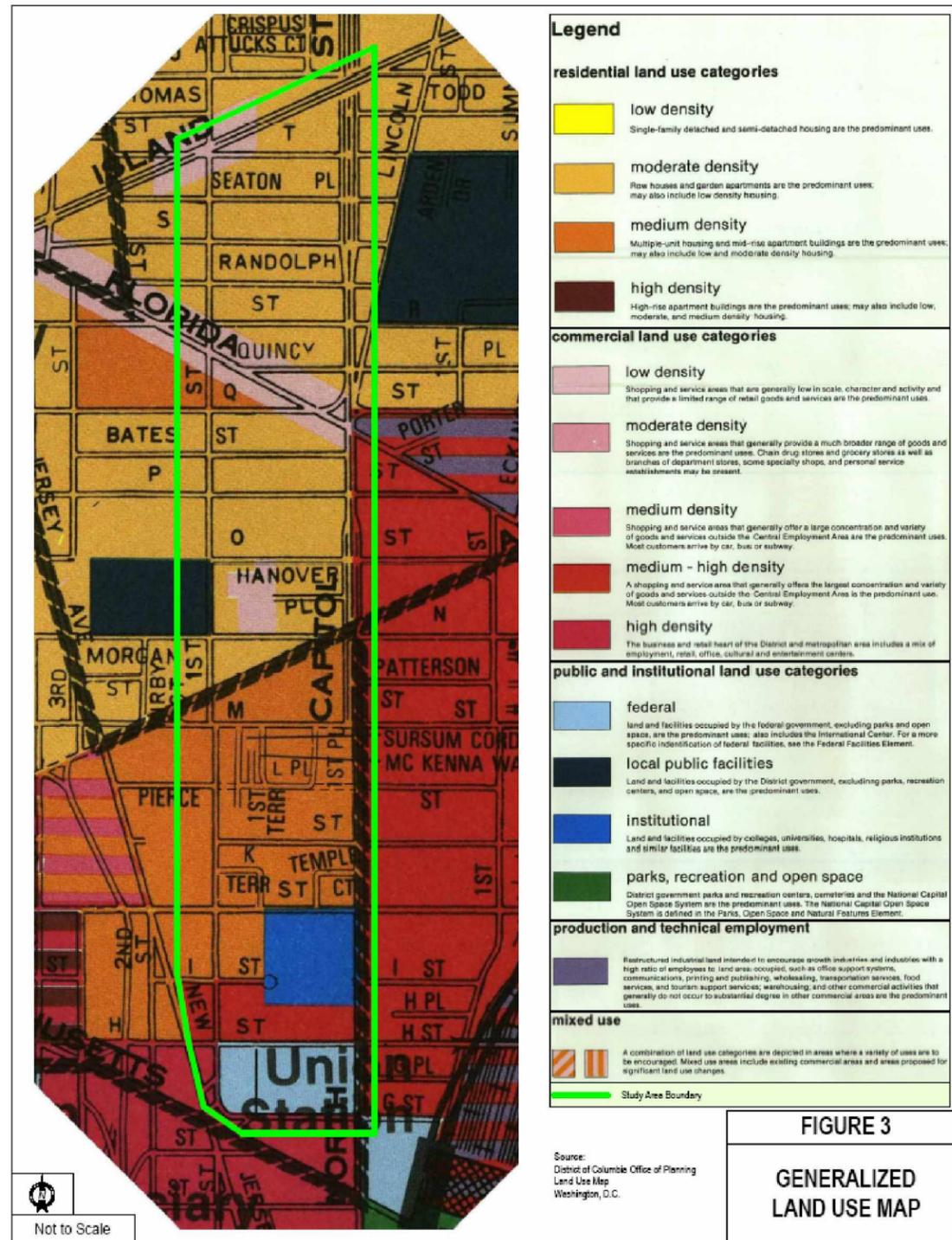


FIGURE 2B
 Existing (2004)
 PM Peak Period
 Lane Configurations

Not to Scale

Figure 3. Generalized Land Use Map



New York Avenue

New York Avenue is a two-way, six-lane principal arterial running east-west along the study area between First Street and North Capitol Street. New York Avenue operates with three lanes in each direction. Off-peak parking is available on both sides of New York Avenue. Parking is not allowed on the south side of New York Avenue between 3:00 PM to 6:30 PM, while on the north side of New York Avenue, parking is prohibited between 6:00 AM and 9:00 AM. New York Avenue has sidewalks on each side, which are generally between four to six feet wide.

SIDEWALKS

The Study Team performed a comprehensive sidewalk inventory for the entire study area, noting the location of the sidewalks and sidewalk width. As can be seen from Figure 4, all the streets within the study area have sidewalks on both side of the street. Most of the sidewalks within the study area are wider than the minimum required four feet. However, there are two locations where the sidewalks are narrower than four feet. These narrow sidewalks are located on the east side of First Street between Pierce Street and L Street and on the west side of First Street between New York Avenue and M Street.

PARKING INVENTORY

The Study Team also performed a comprehensive inventory of on-street parking throughout the entire study area, noting the parking restrictions and location of parking meters. Parking restrictions within the study area vary widely. As shown in Figure 5, two-hour parking from 7:00 AM to 8:30 PM is available on the east-west streets north of R Street and south of Rhode Island Avenue. Residents with Zone 5 parking permit can park longer than two hours on these spaces. Many of the east-west streets south of Q Street have no parking limits.

Parking restrictions along North Capitol Street vary significantly. There are several sections where parking is always prohibited. Other sections of North Capitol Street allow off-peak parking only. Parking restrictions on First Street also vary significantly. Parking is not permitted on the east side of First Street south of Florida Avenue. There are residential parking permit restrictions north of R Street.

PUBLIC TRANSPORTATION

There is no Metrorail station within the study area. However as shown in Figure 6, there are three Metrorail stations in the vicinity of the study area. The Union Station Metrorail station is located within three blocks of the intersection of North Capitol and H Street. The New York Avenue Metrorail station is located within three blocks of the intersection of North Capitol Street and New York Avenue. These two Metrorail stations are served by the Red Line. The Rhode Island Avenue Metrorail station is located within three blocks of the intersection of North Capitol Street and Rhode Island Avenue, and is served by the Blue Line.

The Washington Metropolitan Area Transit Authority (WMATA) provides bus service in the study area. The Study Team performed a transit inventory noting the locations of the bus stops within the study

area. Figure 6 shows the transit routes, bus stop and bus shelter locations within the study area. The bus routes that operate in the study area are described below.

WMATA Route 80-North Capitol Street Line

Route 80 operates on North Capitol Street and is the major bus route for traveling north-south through the study area. During the weekdays, route 80 provides service throughout the day with southbound service operating from 4:33 AM until 2:11 AM. Northbound service operates from 5:16 AM until 3:19 AM.

In the study area southbound headways range from 8 to 20 minutes, with AM peak period headway varying from 8 to 12 minutes and PM peak period headway varying from 12 to 20 minutes. Northbound headway ranges from 11 minutes to 15 minutes, with AM peak period headway ranging from 11 minutes to 15 minutes, mid-day headway of 15 minutes and PM peak period headway varying from 10 to 14 minutes.

On Saturday southbound service operates from 4:57 AM to 1:38 AM while the northbound service operates from 5:31 AM to 3:17 AM. On Sunday the southbound service operates from 5:04 AM to 12:01 AM while the northbound service operates from 5:31 AM to 12:21 AM. Headways during the weekend peak period range from 25 to 35 minutes.

WMATA Route P6-Anacostia-Eckington Line

Route P6 runs on New York Avenue, M Street, North Capitol Street and R Street in the study area. During weekdays route P6 operates from 5:00 AM to 3:20 AM. Outbound headways range from 15 to 20 minute during the AM peak period and 18 to 25 minutes during the PM peak period. Inbound headway during weekdays is approximately 20 minutes during both the AM and PM peak period. Route P6 operates on weekends with 30 minute headway during the peak period.

WMATA Route 96-East Capitol Street-Cardozo Line

Route 96 operates on M Street and southbound North Capitol Street, servicing Union Station. During weekdays route 96 operates between 5:12 AM and 3:20 AM. AM peak period headway varies from 15 to 18 minutes while PM peak period headway varies from 16 to 19 minutes.

Service is also available on weekends. On weekends, route 96 operates from 5:20 AM to 2:20 AM with buses operating 35 minutes apart during the AM peak period and 32 minutes apart during the PM peak period.

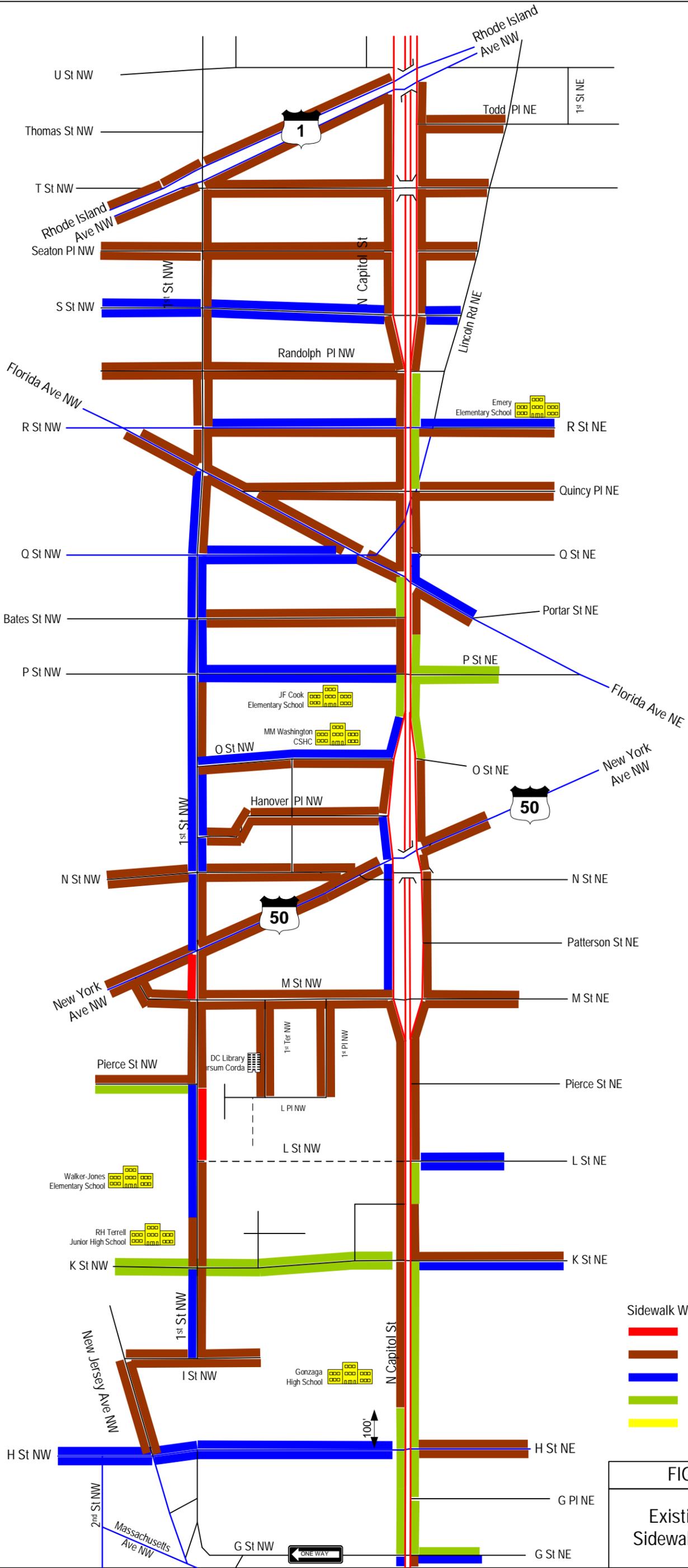


FIGURE 4
Existing (2004)
Sidewalk Inventory

Not to Scale

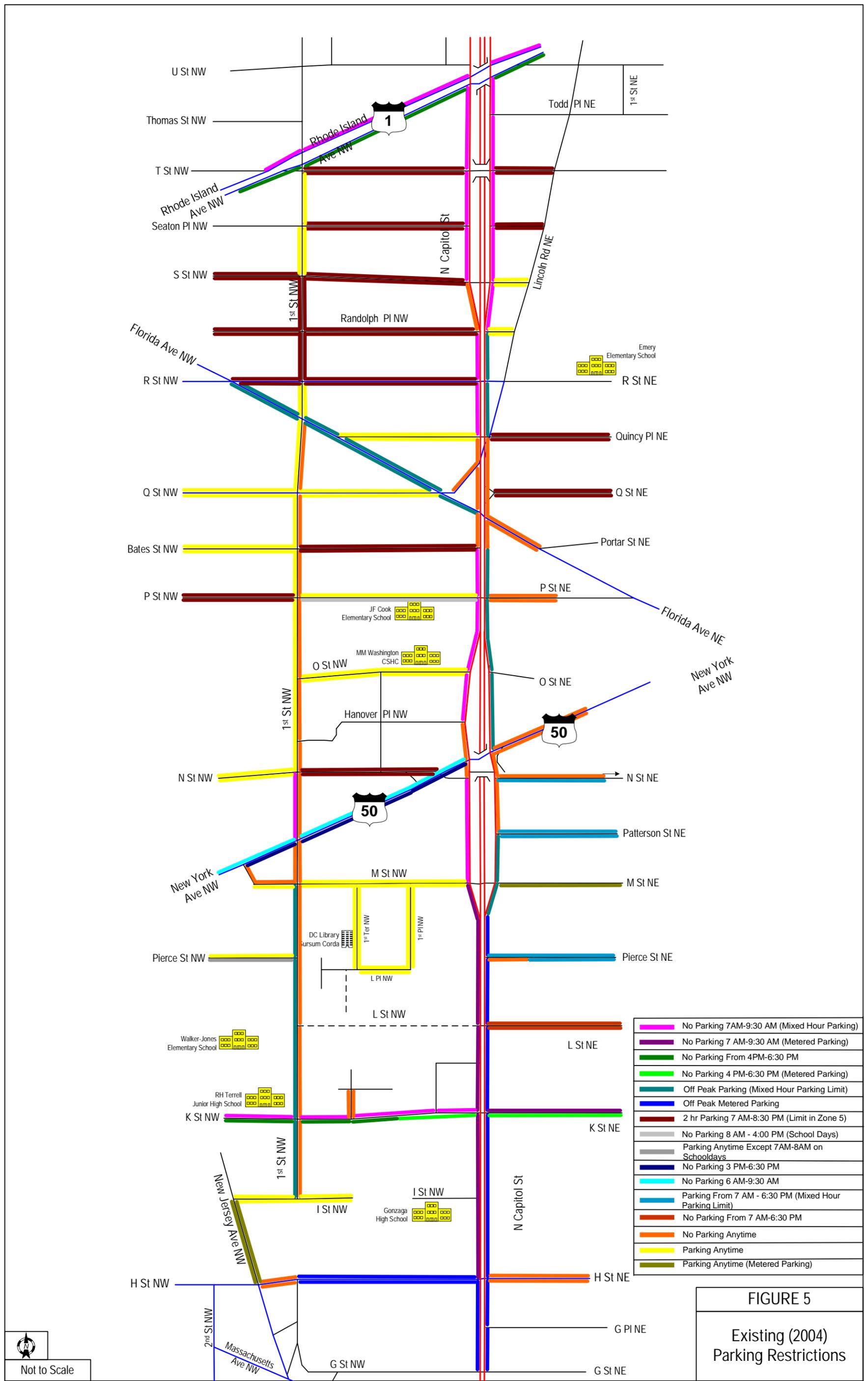
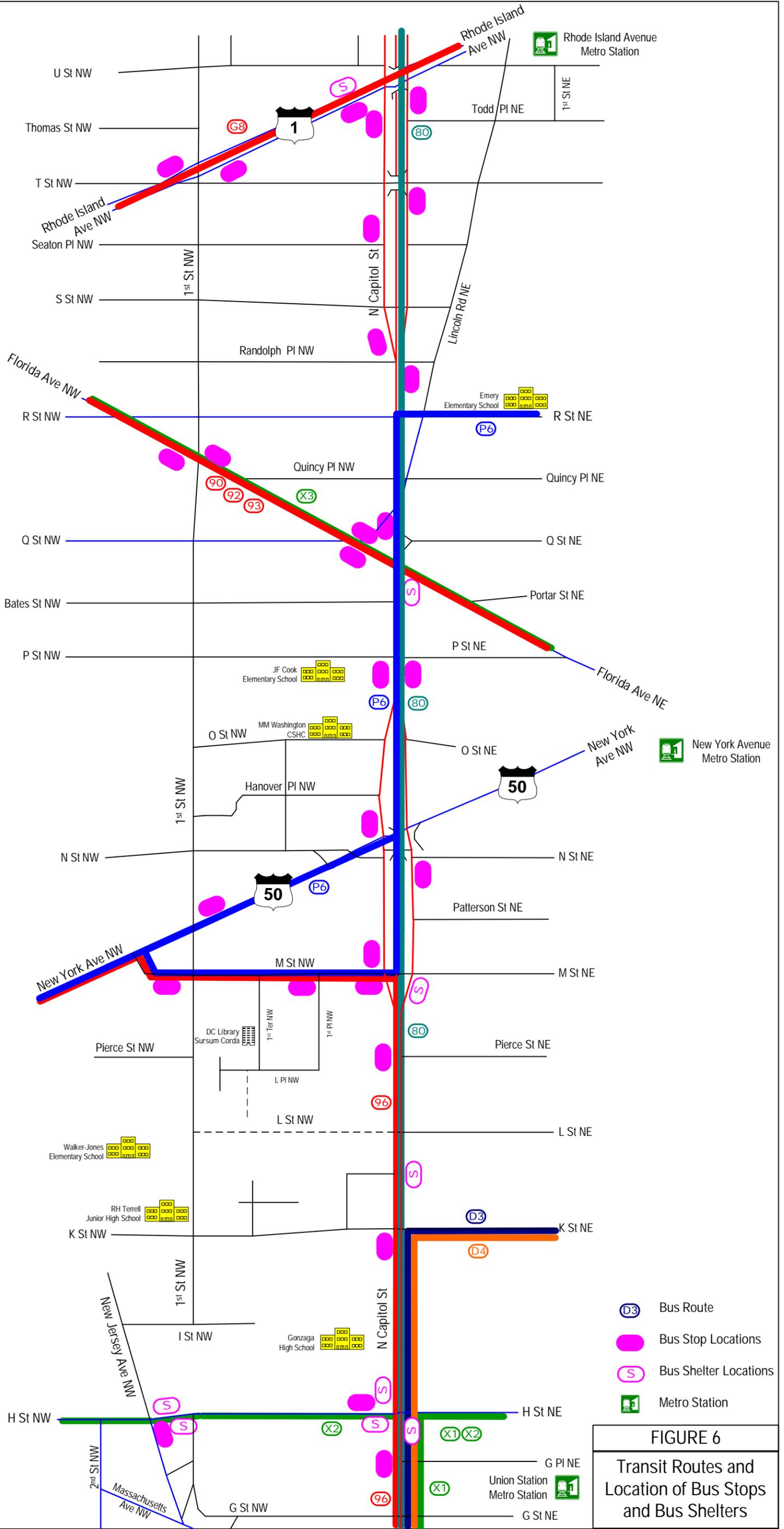


FIGURE 5
Existing (2004)
Parking Restrictions



-  Bus Route
-  Bus Stop Locations
-  Bus Shelter Locations
-  Metro Station

FIGURE 6
Transit Routes and Location of Bus Stops and Bus Shelters

Not to Scale

WMATA Route 90, 92, 93-U Street-Garfield Line

Route 92, 92 and 93 operates along Florida Avenue during the weekdays. Route 90 and 92 operates consecutively between morning and midnight. For the northbound direction, the AM peak period headway ranges between 9 and 15 minutes while the PM peak period headway ranges between 15 and 20 minutes. For the southbound direction, the AM peak period headway ranges between 14 and 20 minutes while the PM peak period headway ranges between 10 and 15 minutes. Route 93 operates after midnight with buses running approximately 30 minutes apart. No service is available during the weekend.

WMATA Route G8-Rhode Island Avenue Line

Route G8 operates along Rhode Island Avenue between 4:44 AM to 3:45 AM. For the eastbound direction, the headway ranges from 14 to 18 minute during the AM peak period and from 10 to 15 minutes during the PM peak period. For the westbound direction, the headway ranges from 7 to 13 minutes during AM peak period and between 10 to 22 minute between PM peak period. Service is available during the weekend.

WMATA Route X1-Benning Road Line

On weekdays, Route X1 operates along westbound North Capitol Street during the AM peak period only with buses running approximately 17 minutes apart while eastbound service is available during the PM peak period only with approximately 25 minute headways.

WMATA Route X2-Benning Road-H Street Line

Route X2 operates along H Street within the study area. Route X2 operates between 4:22 AM and 3:22 AM with headways ranging between 7 and 15 minutes during the AM and PM peak hour on weekdays. Weekend services with varying headways is also available.

WMATA Route D3-Sibley Hospital-Stadium-Armory Line

Route D3 operates along North Capitol Street. During weekdays PM service is available from K Street to E Street with headways ranging from 22 to 30 minutes. Service is not available during weekends.

WMATA Route D4-Ivy City-Union Station Line

Route 4 operates along North Capitol Street from K Street to Massachusetts Avenue. On weekdays, headways range between 15 and 17 minutes during the peak periods. During the weekends the headway ranges between 15 and 36 minutes during the peak period.

TRAFFIC VOLUMES

In order to evaluate existing traffic conditions throughout the study area, the Study Team collected AM and PM peak hour turning movement counts at the following intersections:

1. North Capitol Street and M Street
2. North Capitol Street and New York Avenue
3. North Capitol Street and P Street
4. North Capitol Street and Florida Avenue
5. North Capitol Street and R Street
6. North Capitol Street and Randolph Place
7. North Capitol Street and Rhode Island Avenue
8. First Street NW and New York Avenue
9. First Street NW and O Street
10. First Street NW and P Street
11. First Street NW and Q Street
12. First Street NW and Florida Avenue
13. First Street NW and Rhode Island Avenue / T Street

Figure 7 shows the location of these intersections.

In addition, the Study Team gathered AM and PM peak period turning movement counts for the intersection of North Capitol Street and H Street from recent traffic count data (collected within the last year) collected for another District Department of Transportation Study (Sursum Corda Transportation Study).

The Study Team counted the intersections on typical weekdays (Tuesday, Wednesday or Thursday), from 7:00 AM to 9:00 AM and from 4:30 PM to 6:30 PM. No traffic was counted during holiday weeks or when district public schools and universities were not in session.

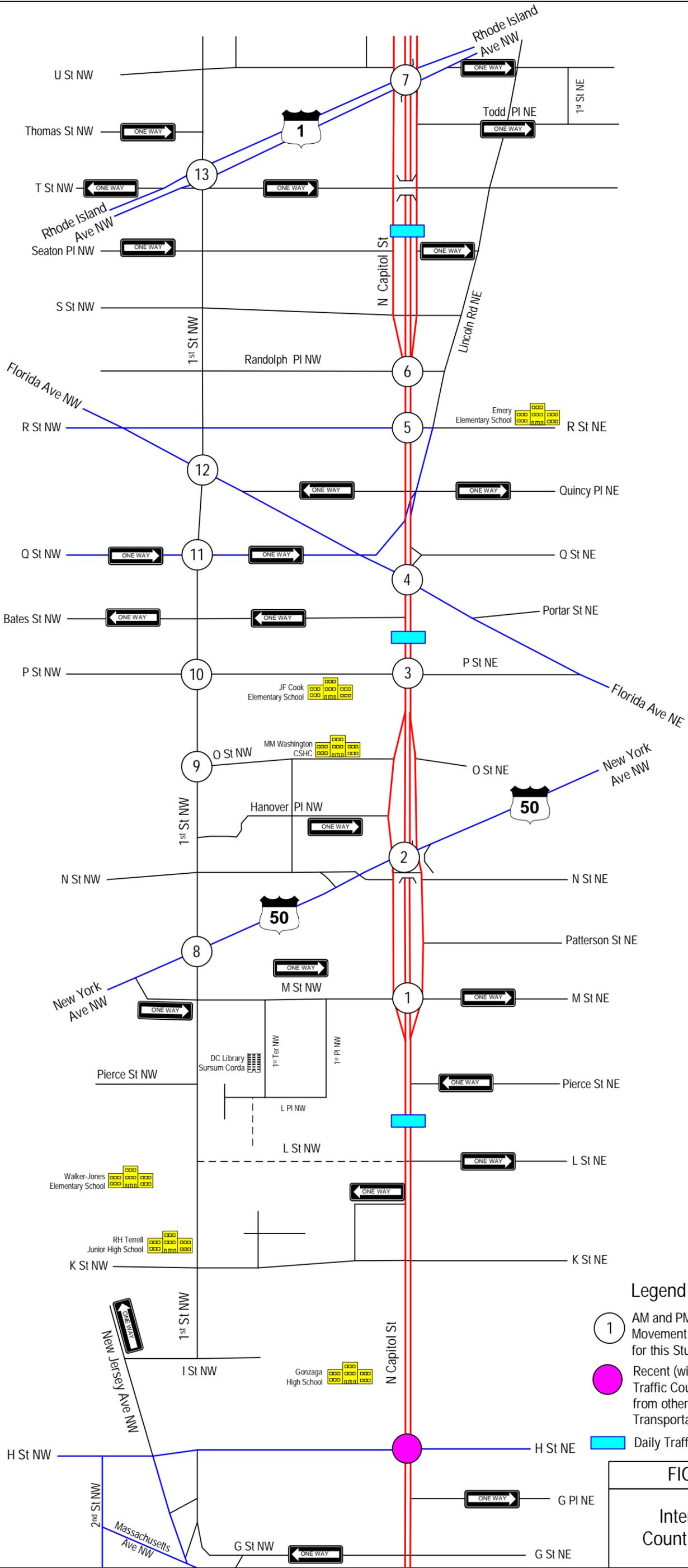
Figure 8 presents the existing 2004 balanced peak hour volumes at the study area intersections. Accompanying pedestrian counts are presented in Figure 9. Detailed traffic movement and pedestrian count worksheets are presented in Appendix B

As shown in Figure 8, the intersections with higher traffic volumes are along North Capitol Street with the intersection of Florida Avenue and North Capitol Street the highest overall. Intersections along First Street have lower traffic volumes.

The Study Team also collected automated Daily Traffic counts over a two-week period at the following locations (shown in Figure 7):

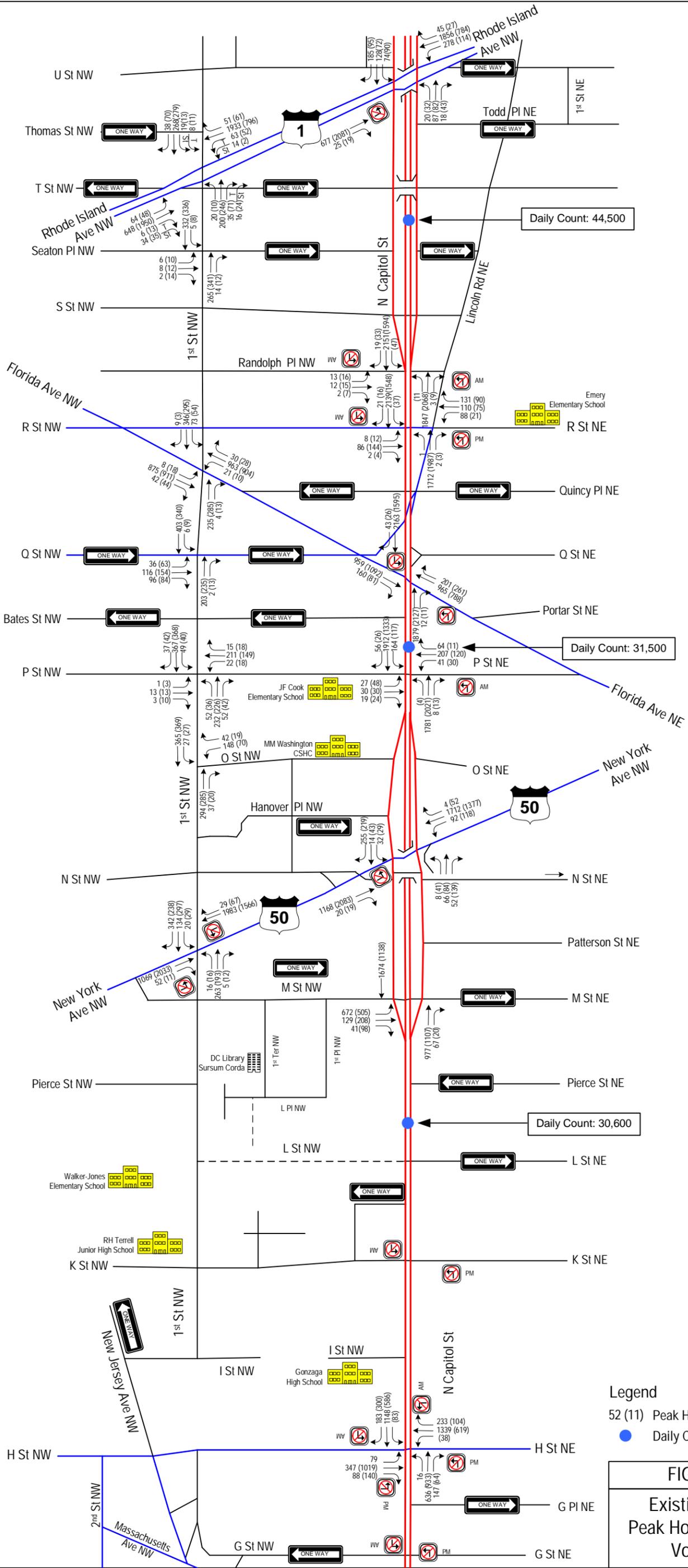
- North Capitol Street between G Street and New York Avenue
- North Capitol Street between New York Avenue and Florida Avenue
- North Capitol Street between Florida Avenue and Rhode Island Avenue

As Figure 8 indicates, North Capitol south of Florida Avenue carries approximately 31,000 vehicles during a typical weekday. The daily traffic volume along North Capitol Street north of Florida Avenue is higher, exceeding 44,000 vehicles per day.



- Legend**
- ① AM and PM Peak Hour Turning Movement Count Conducted for this Study
 - Recent (within one year) Traffic Count Data Collected from other DDOT Transportation Study
 - ▭ Daily Traffic Count Location

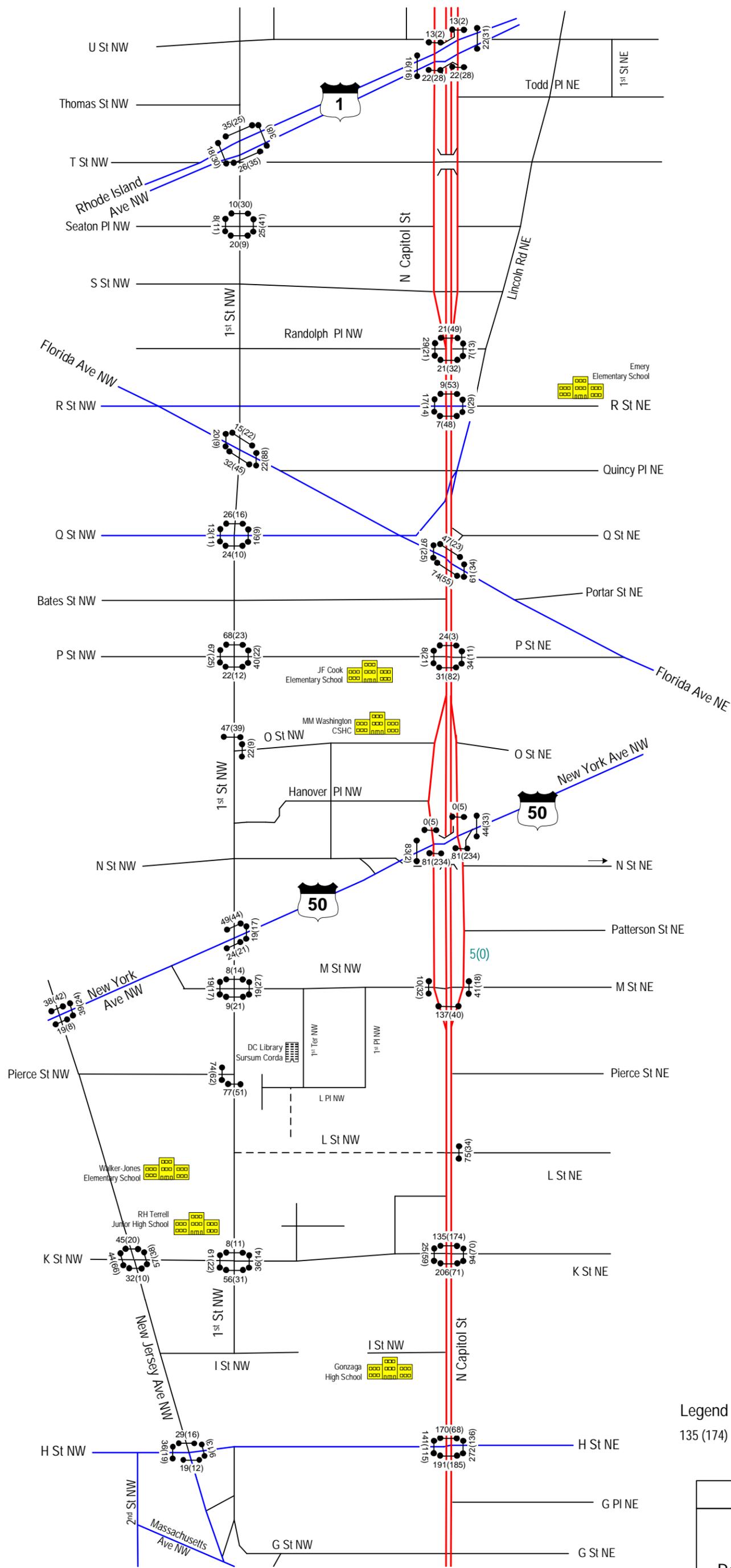
FIGURE 7
Intersection Count Locations



Legend
 52 (11) Peak Hour Count
 ● Daily Count Location

FIGURE 8
 Existing (2004)
 Peak Hour and Daily
 Volumes

Not to Scale



Legend
135 (174) AM (PM) Peak Hour Count

FIGURE 9
Existing (2004)
Peak Hour
Pedestrian Volumes

Not to Scale

Charts 1, 2 and 3 show the average hourly traffic variations for the three locations where average daily traffic counts were recorded. As can be seen from the charts, traffic levels along North Capitol Street during the AM peak hour are higher than traffic levels during the PM peak hour. Traffic flow peaks rapidly during the AM peak period with a steep reduction of traffic after 9:00 AM. During the PM peak hour, the peaking is less steep with relatively constant traffic flow between 3:00 PM and 6:00 PM. During the AM peak period, southbound traffic flow is the predominant movement. Traffic flow is more balanced during the PM peak period with smaller differences between northbound and southbound flows.

Chart 1
Average Hourly Weekday Traffic Variations on North Capitol Street between G Street and New York Avenue

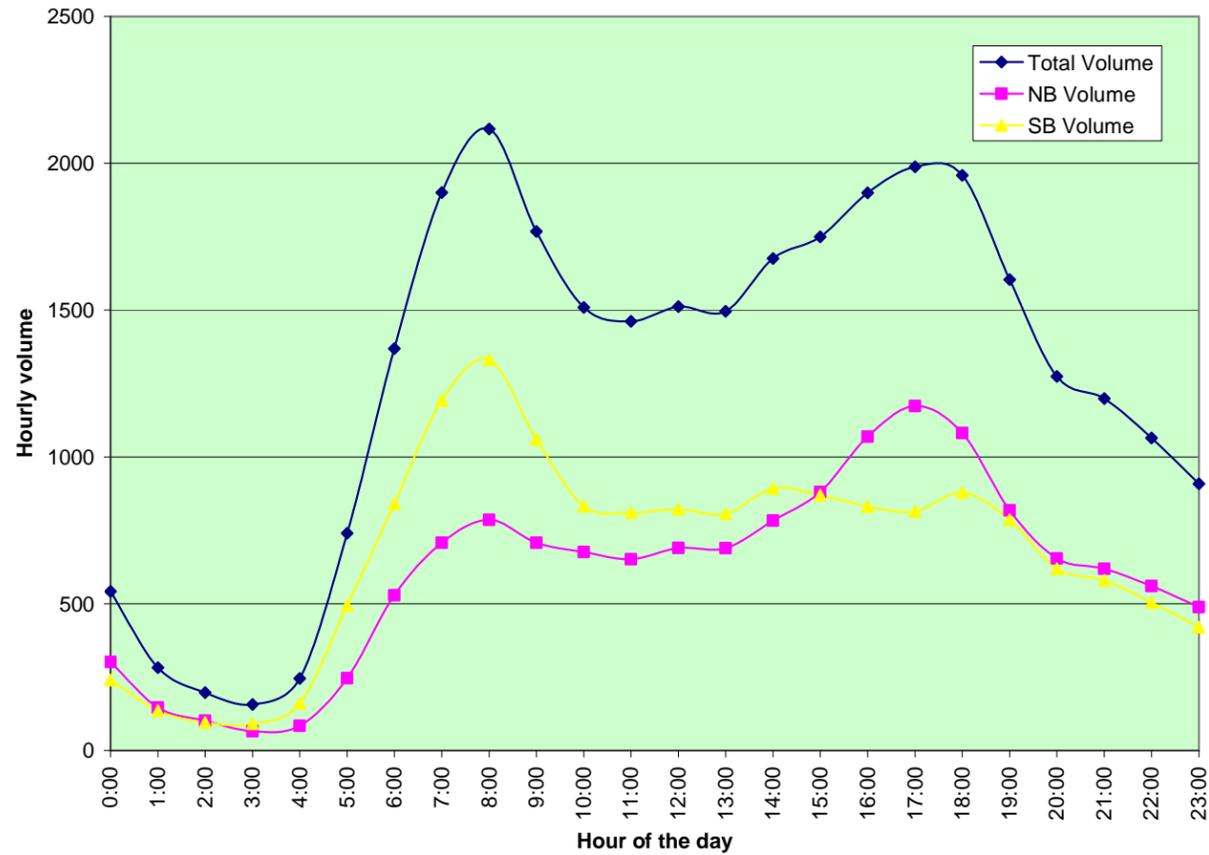


Chart 2
Average Hourly Weekday Traffic Variations on North Capitol Street between New York Avenue and Florida Avenue

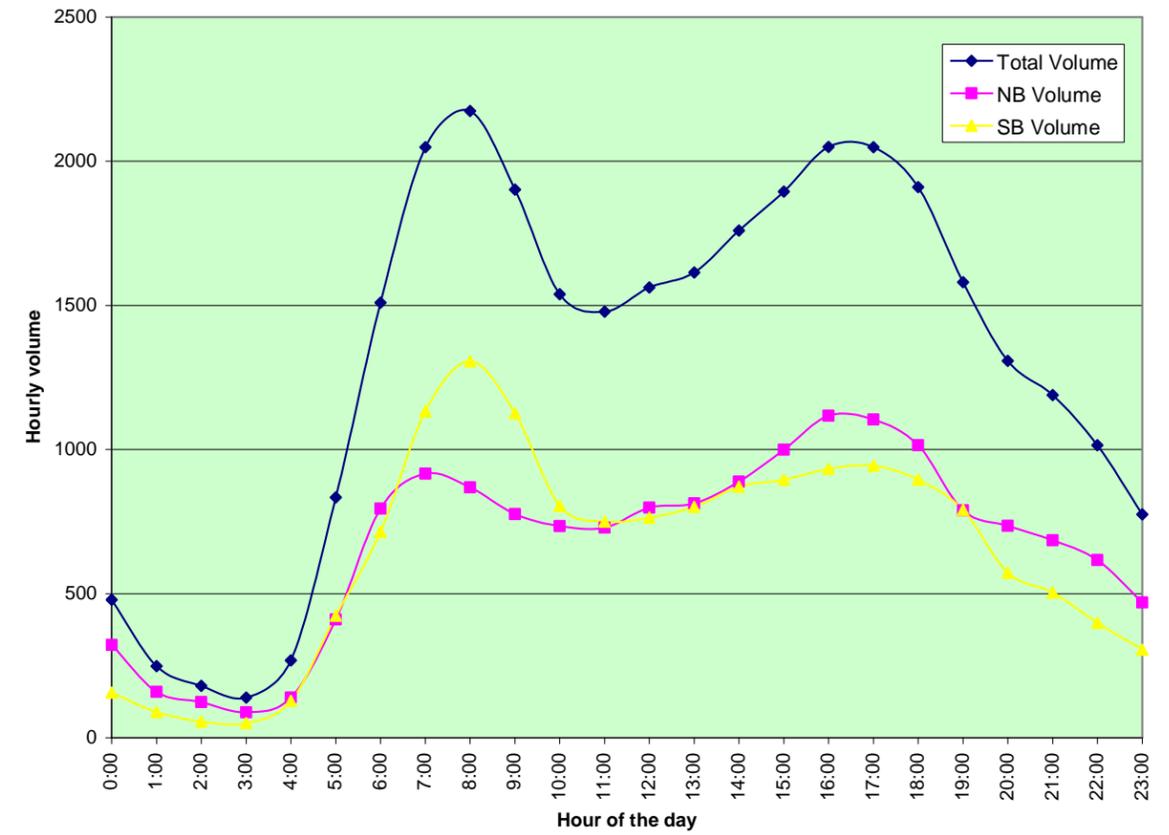
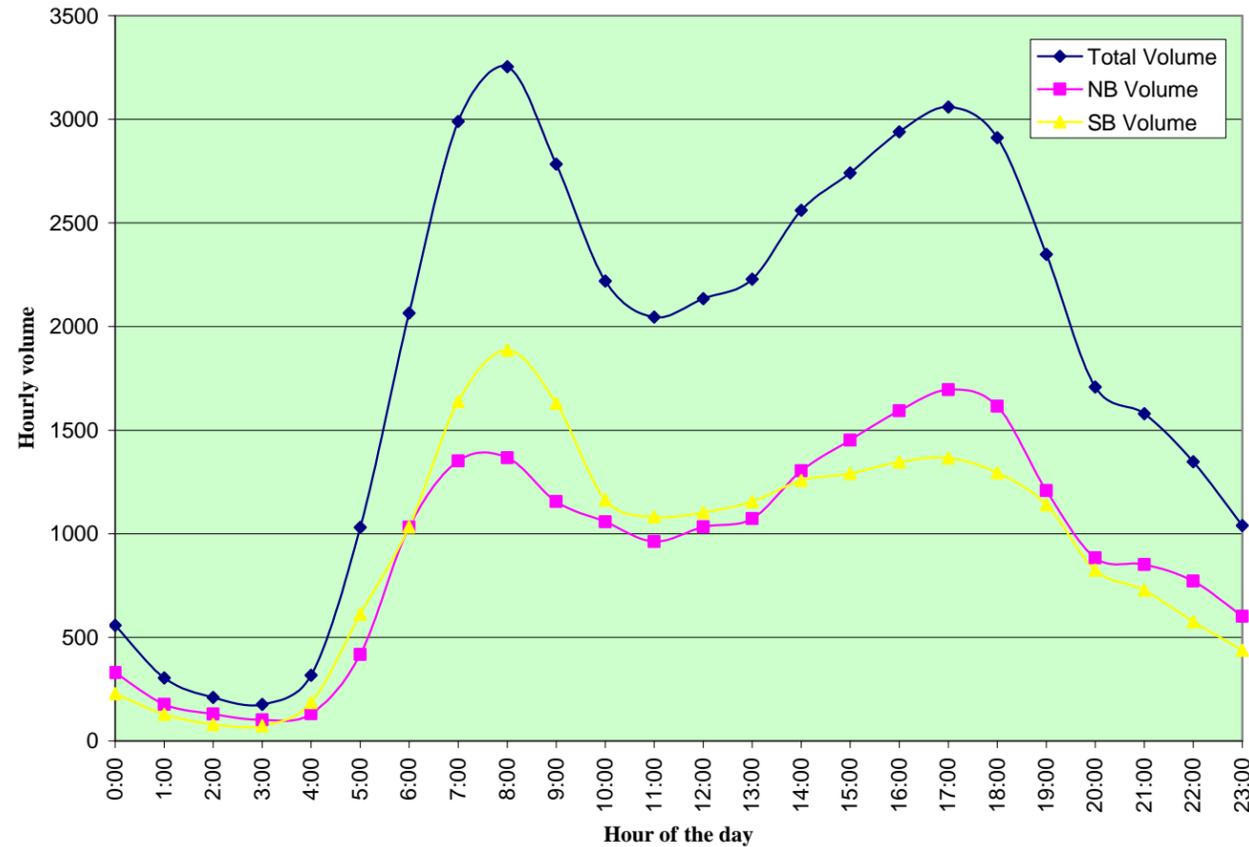


Chart 3
Average Hourly Weekday Traffic Variations on North Capitol Street
between Florida Avenue and Rhode Island Avenue



EXISTING LEVEL OF SERVICE

The Consultant used Synchro, a traffic modeling/analysis program, to evaluate existing traffic conditions in the study area. For the evaluation, the Consultant entered existing traffic volumes, lane configurations, pedestrian volumes and signal timings into Synchro to develop a base case, existing conditions model. SimTraffic, Synchro's associated traffic simulation software, was used to assist in the development of a model that accurately replicates existing conditions.

The Consultant used the Synchro software results to calculate levels of service (LOS) and the delay per vehicle for the intersections in the study area. All the intersections are signalized. The LOS evaluation uses a six-letter grade scale (A to F) to rank the overall traffic handling ability of an intersection or a network based on delay per vehicle. LOS A indicates excellent traffic operations with minimal delays. LOS F represents failing conditions with long delays. Levels of service E and F are generally considered undesirable. Appendix C provides a description of the different levels of service and their associated delays for both signalized and unsignalized intersections.

The Consultant analyzed study area traffic for the AM and PM peak periods. As seen in Figure 10, during the AM peak hour, all the intersections along First Street operate at LOS C or better except the intersection of First Street and New York Avenue which operates at LOS E. LOS E indicates that the existing traffic volumes are approaching the capacity of the intersection and traffic delays approach undesirable levels. During the AM peak period, intersections along North Capitol Street operate at LOS C or better except the following:

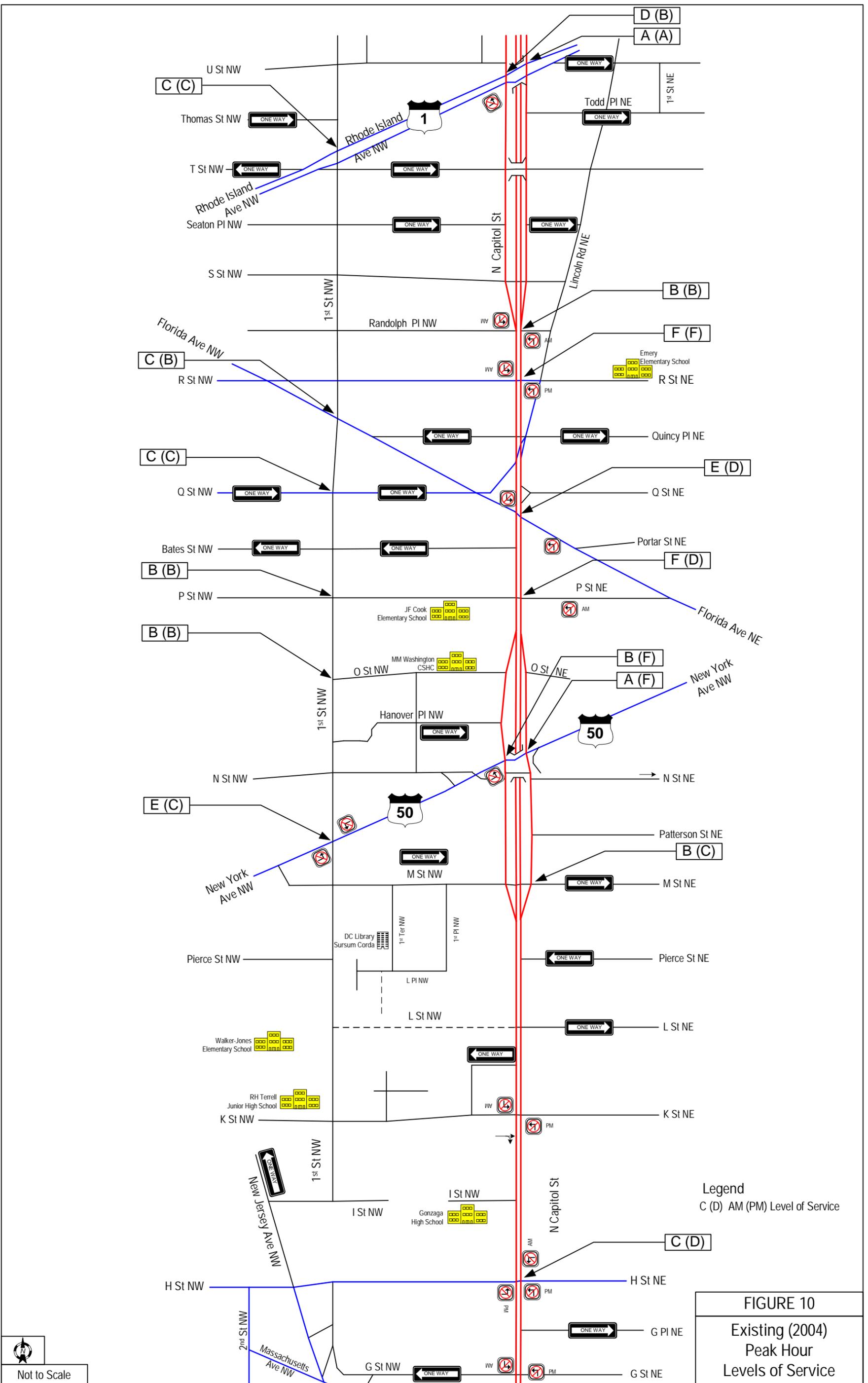
- P Street and North Capitol Street
- Florida Avenue and North Capitol Street
- R Street and North Capitol Street

During the PM peak period, all the intersections along the study area operate at a LOS D or better except the following:

- North Capitol Street and New York Avenue
- R Street and North Capitol Street

TRANSPORTATION ISSUES

The Study Team used the results of the traffic modeling, the levels of service calculations and extensive field observations to develop a comprehensive assessment of transportation issues in the study area. The transportation issues identified by the Study Team are presented in Chapter IV of this report.



III. FUTURE CONDITIONS

The Study Team evaluated future conditions taking into consideration growth in background traffic. The background traffic was added to existing traffic counts to determine future traffic volumes.

2014 FUTURE TRAFFIC VOLUMES

The calculated growth rate used for the calculation of future traffic was 1.0 percent per year. This rate accounts for regional growth as well as significant development growth within and in the area adjacent to the study area.

All balanced traffic volumes were grown by 1.0 percent per year to determine traffic volumes for the year 2014, the chosen future analysis year for the North Capitol Street Transportation Study. Figure 11 shows the 2014 forecast traffic volumes for the AM and PM peak hours.

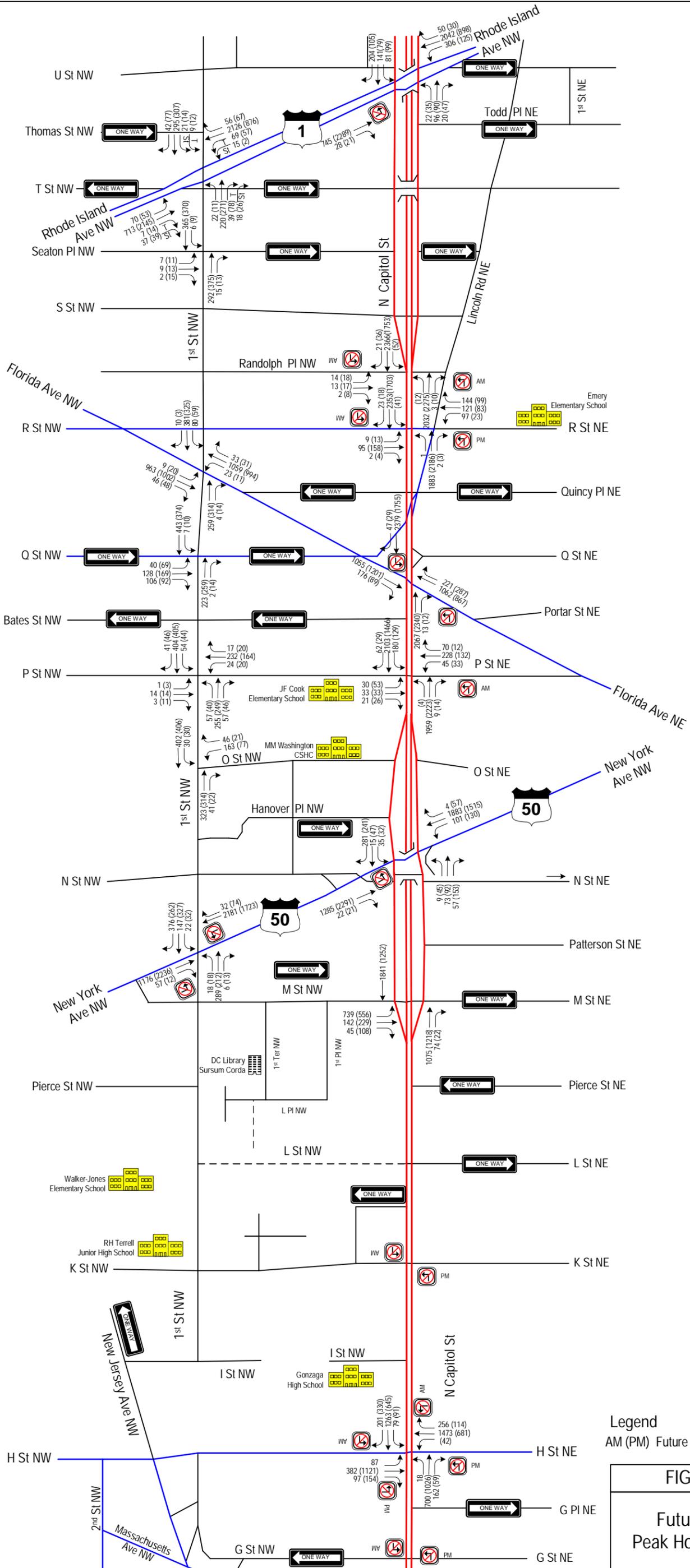
LEVELS OF SERVICE WITH FUTURE 2014 TRAFFIC

Using the Synchro traffic analysis software, the Study Team evaluated traffic conditions at the intersections within the study area for 2014 conditions. The Study Team used the Synchro results to calculate LOS and delay per vehicle for the intersections in the study area for the AM and PM peak hours.

As shown in Figure 12, levels of service will degrade in 2014 with the projected growth in traffic. Most intersections degrade by one letter grade, although there are some locations where no degradation is expected and other locations where LOS degrades by two letter grades.

Some intersections are expected to operate at LOS F during the AM or PM peak hours. These intersections are:

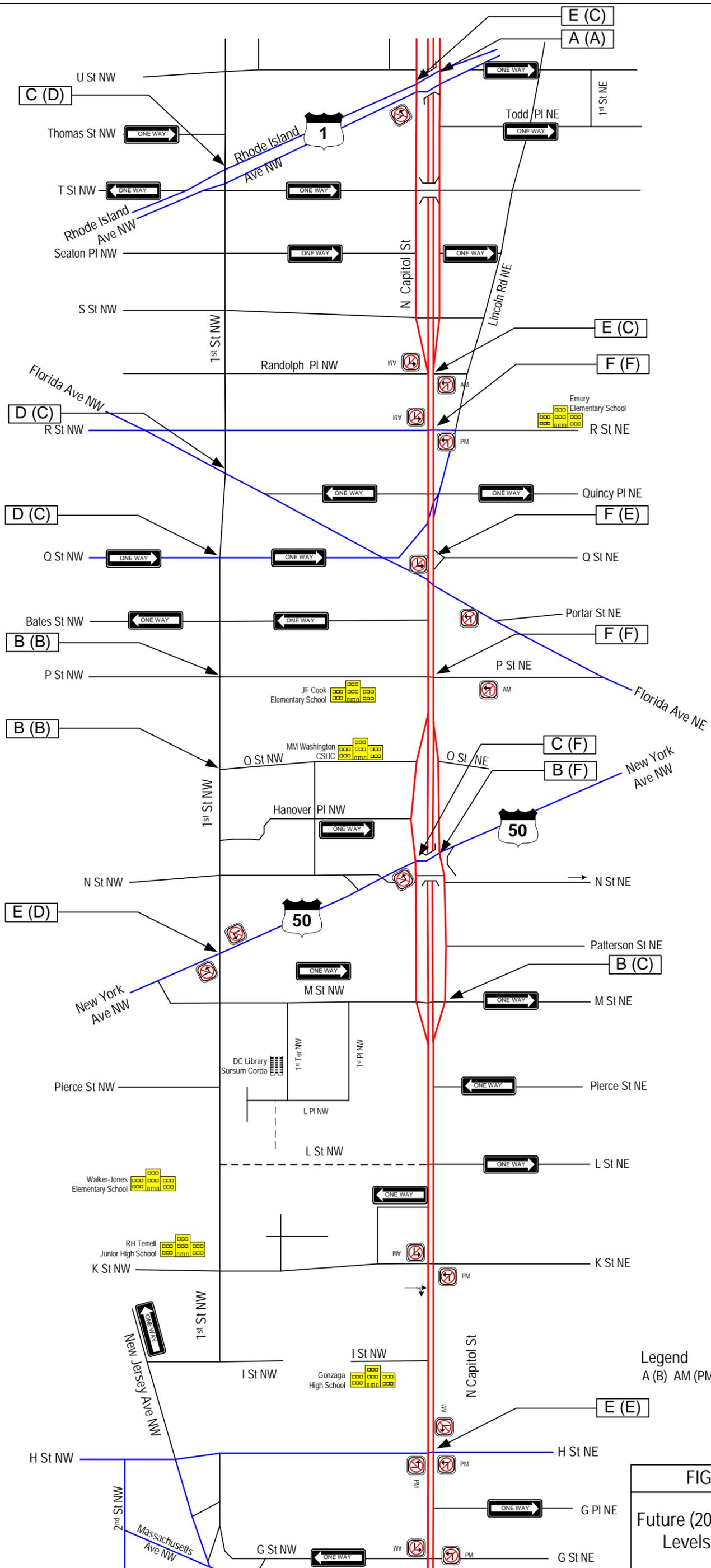
- Q Street and North Capitol Street (AM peak hour)
- New York Avenue and North Capitol Street (PM peak hour)
- P Street and North Capitol Street (AM and PM peak hour)
- R Street and North Capitol Street (AM and PM peak hour)



Legend
AM (PM) Future Peak Hour Volumes

FIGURE 11
Future (2014)
Peak Hour Volumes

Not to Scale



Legend
A (B) AM (PM) Level of Service

FIGURE 12
Future (2014) Peak Hour Levels of Service

Not to Scale

IV. ISSUES AND RECOMMENDED IMPROVEMENTS

The Study Team used the results of the traffic modeling, the levels of service calculations and extensive field observations to develop a comprehensive assessment of transportation issues in the study area. The Study Team assessed the transportation issues and developed preliminary recommendations to address these issues. The Study Team evaluated alternative improvement options at selected locations. This section of the report presents the identified transportation issue for each of the study area intersections and the recommended improvements. For intersections for which the Study Team evaluated alternative improvement options, an evaluation section is included in this section of the report.

This section of the report presents identified transportation issues and recommended improvements listed by intersection. They are presented as follows:

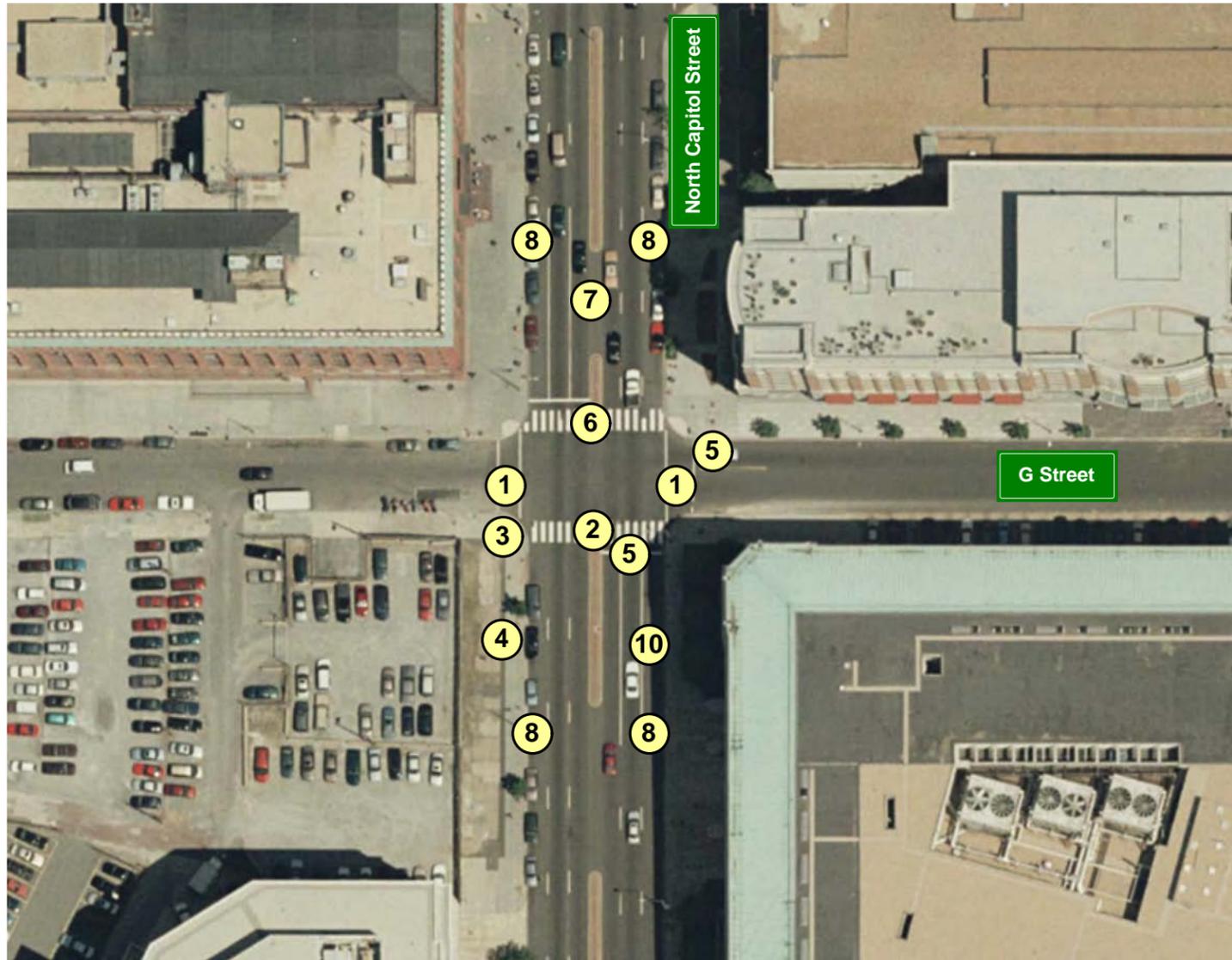
- Issue Map - Figure listing and displaying the transportation issues.
- Improvements Map - Figure listing the recommended improvements.
- Other Potential Improvements Evaluated- This section includes a description of all improvements considered in the evaluation but based on the evaluation of alternatives, were not recommended for implementation.

The intersections where issues are identified and improvements are recommended are:

1. G Street and North Capitol Street
2. H Street and North Capitol Street¹
3. K Street and North Capitol Street¹
4. L Street and North Capitol Street
5. M Street and North Capitol Street
6. New York Avenue and North Capitol Street¹
7. P Street and North Capitol Street
8. Florida Avenue and North Capitol Street
9. R Street and North Capitol Street
10. Randolph Place and North Capitol Street
11. S Street and North Capitol Street
12. Rhode Island Avenue and North Capitol Street¹
13. New York Avenue and First Street
14. O Street and First Street
15. P Street and First Street
16. Bates Street and First Street
17. Q Street and First Street
18. Florida Avenue and First Street
19. Rhode Island Avenue/T Street and First Street.

Figures 13 through 31 present the identified transportation issues and the recommended improvements for intersections throughout the study area.

¹ For this intersection, alternative improvement options were evaluated and recommendations were developed based on the evaluation of alternatives.



TRANSPORTATION ISSUES:

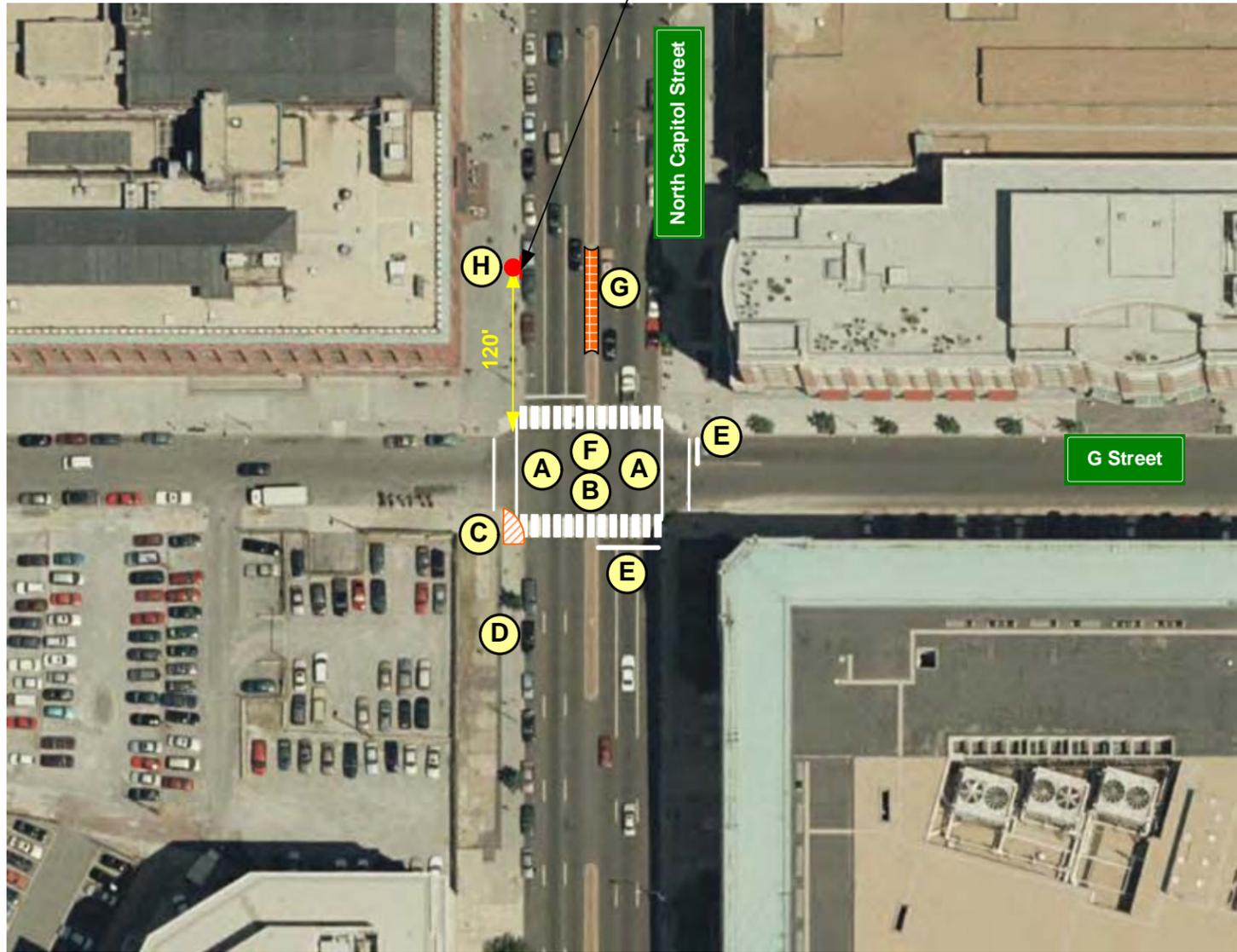
- ① No crosswalks on G Street (Aerial shown was taken in 2002, hence does not reflect the current poor conditions).
- ② No crosswalk on south side of North Capitol St (Aerial shown was taken in 2002, hence does not reflect the current poor conditions).
- ③ Sidewalk on southwest corner in poor condition.
- ④ Sidewalk on the west side of North Capitol Street south of G Street in poor condition.
- ⑤ No Stop bars on G Street and northbound North Capitol Street (Aerial shown was taken in 2002, hence does not reflect the current poor conditions).
- ⑥ Cross walk on north side of North Capitol Street in poor condition (Aerial shown was taken in 2002, hence does not reflect the current poor conditions).
- ⑦ Median opening on North Capitol Street allows illegal turns.
- ⑧ Illegal on-street parking blocks one lane of traffic.
- ⑨ Speeds through the intersection were observed to be higher than the posted speed limit.
- ⑩ Delivery trucks park illegally quite often due to adjoining businesses.



FIGURE 13A
ISSUES MAP
G STREET AND
NORTH CAPITOL STREET



Not to Scale



RECOMMENDED IMPROVEMENTS:

- (A) Re-stripe crosswalks on G Street.
- (B) Re-stripe crosswalk on south side of North Capitol Street.
- (C) Repair the sidewalk on southwest corner.
- (D) Repair the sidewalk south of G Street on west side of North Capitol Street.
- (E) Stripe Stop bars on G Street and northbound North Capitol Street.
- (F) Re-stripe cross walk across North Capitol Street on north side of G Street.
- (G) Close the median opening on North Capitol Street north of G Street.
- (H) Provide parking sign assembly at a location 120 feet north of G Street and on west side of North Capitol Street noting two hour parking limit and no parking during the AM peak hours.
- (I) Increase law enforcement for speed and parking activities.

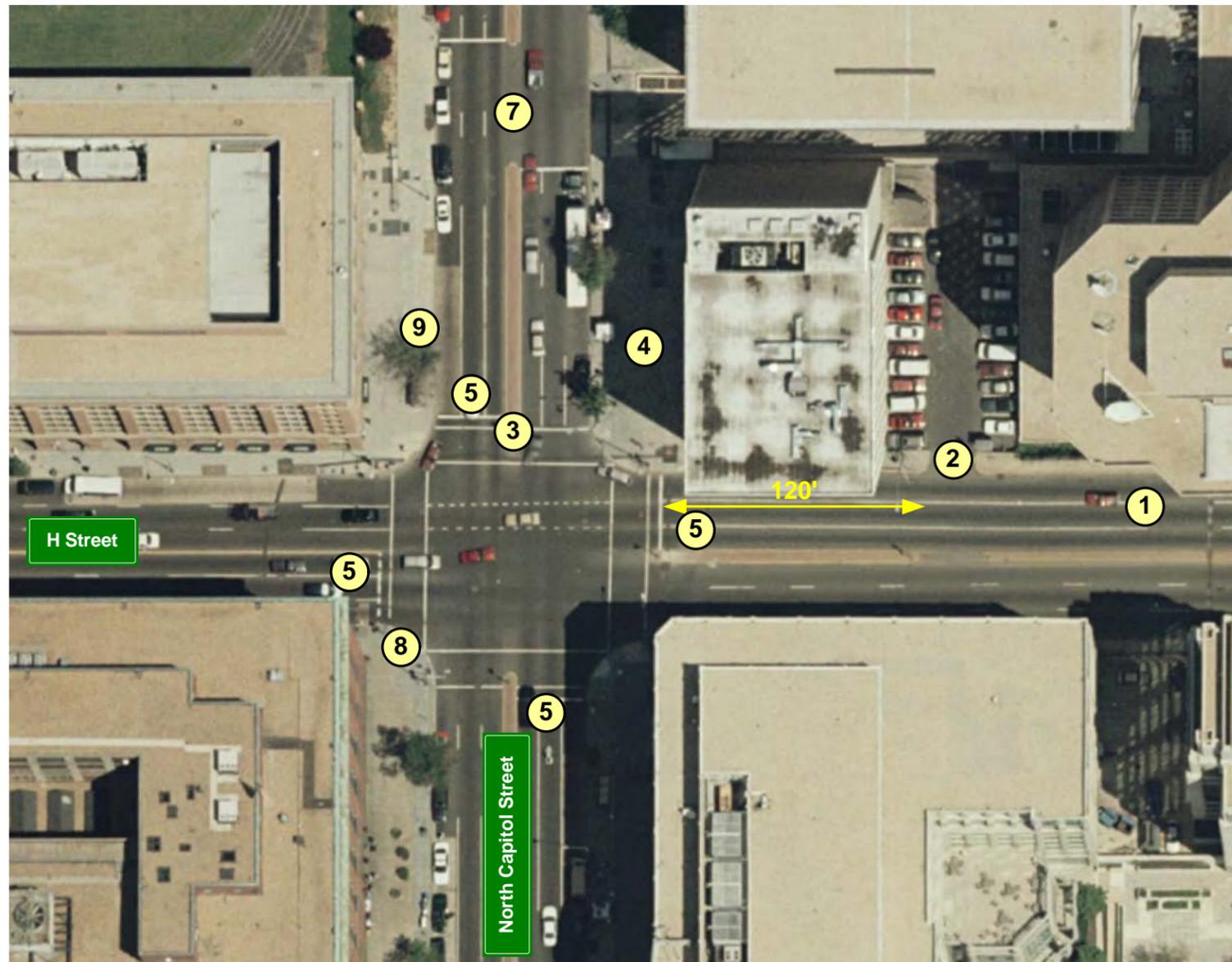


Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 13B
IMPROVEMENTS MAP
G STREET AND
NORTH CAPITOL STREET

Not to Scale



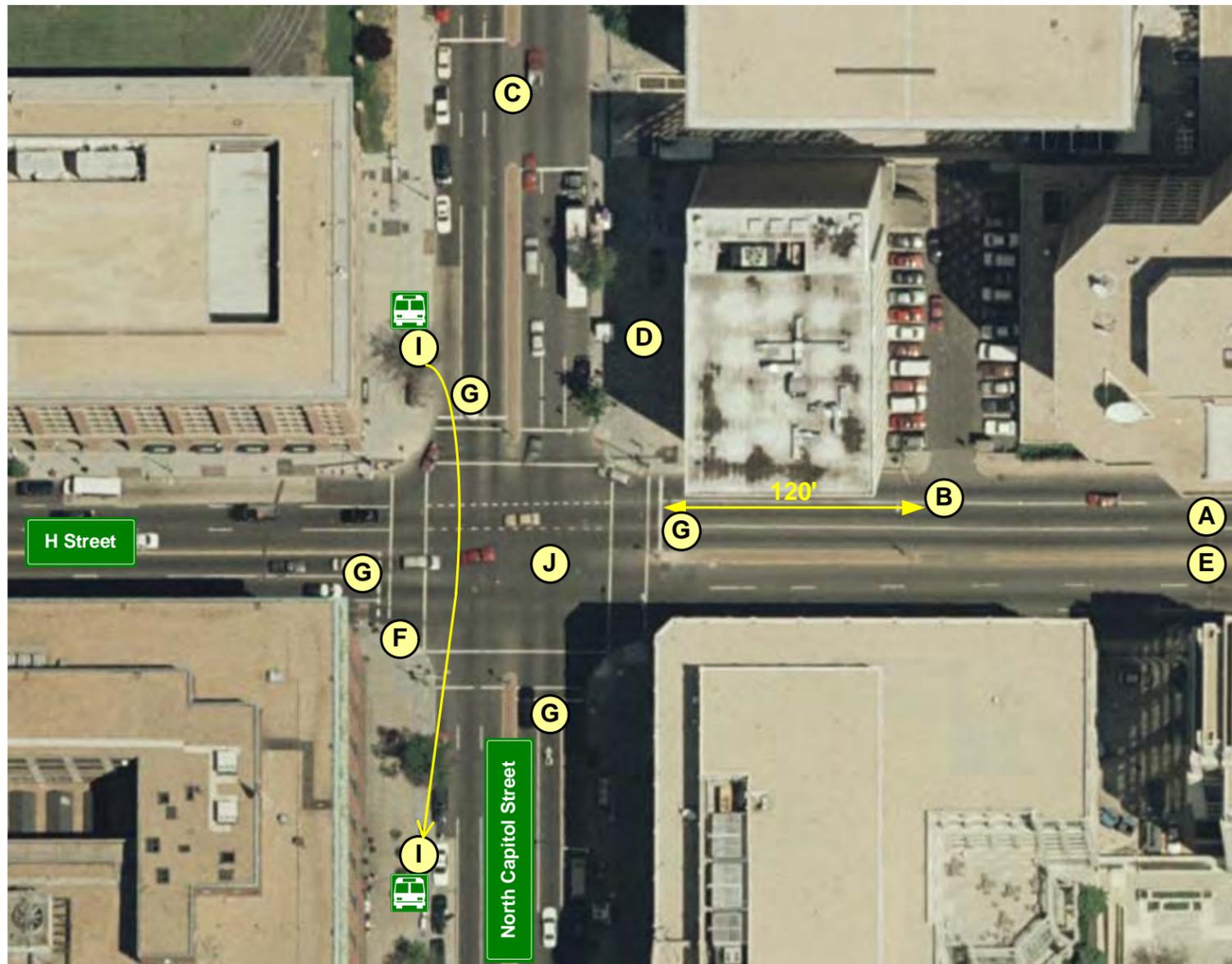
TRANSPORTATION ISSUES:

- ① High operating speeds as a result of the sharp downgrade on westbound H Street decrease reaction time for the parking garage signal on H Street.
- ② The traffic signal associated with the parking garage on westbound H Street reduces safety.
- ③ The lack of protected southbound left turns contribute to right-angle collisions.
- ④ Poor condition of the sidewalk on the northeast side of the intersection on North Capitol Street.
- ⑤ Faded pavement markings and no lane control symbols on all approaches.
- ⑥ Delivery trucks frequently double park or park illegally on North Capitol Street due to the commercial nature along the corridor.
- ⑦ Median opening north of H Street creates unsafe conditions.
- ⑧ ADA ramp on the southwest corner is incorrectly aligned.
- ⑨ Southbound buses on North Capitol Street stopping at the northwest corner block traffic.



FIGURE 14A
ISSUES MAP
H STREET AND
NORTH CAPITOL STREET

Not to Scale



RECOMMENDED IMPROVEMENTS:

- (A) Install **RED** sign on the westbound approach (at the top of the hill on H Street) a distance of 500 feet from the intersection of North Capitol Street and H Street. The **RED** sign should be interconnected with the **SIGNAL AHEAD** parking lot signal on H Street located at the entrance to the parking lot. The **RED** sign should be illuminated when the signal head indication on westbound H Street is red and should not be illuminated when the signal indication on H Street at the parking garage is green.
- (B) Operate the signal for the parking garage on H Street as semi-actuated (instead of pre-timed) installing detectors for the southbound approach (vehicles exiting the parking garage) and signal heads for the movement out of the garage.
- (C) Close the median opening at the northern part of the intersection (on North Capitol Street) to preclude unsafe left turn movements
- (D) Fix sidewalk on the northeast corner of the intersection.
- (E) Install red light cameras at the top of the H Street bridge (intersection of H Street and the Union Station entrance).
- (F) Fix alignment of ADA ramp in the southwest corner.
- (G) Re-stripe all of the approaches to the intersection.
- (H) Increase law enforcement for speed and parking activities.
- (I) Relocate near-side bus stop on the northwest corner of North Capitol Street and H Street to the far side of the intersection (southwest corner) and combine the stop with the existing stop on southbound North Capitol Street located south of H Street near the intersection of North Capitol Street and G Place NE.
- (J) Provide two seconds of additional all-red times for all phases at the intersection.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 14B

IMPROVEMENTS MAP
H STREET AND
NORTH CAPITOL STREET



Not to Scale

POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF NORTH CAPITOL STREET AND H STREET

Issue:

- Lack of protected southbound left turns contribute to right-angle collision.

Potential Improvements:

1. Add a protected left turn phase for southbound left turning traffic.
2. Adjust yellow and all-red times at the intersection.

Evaluation:

1. The Study Team modified the existing AM and PM Synchro model to assess the provision of a protected left turn phase for the southbound movement at the intersection of H Street and North Capitol Street. Resulting delay, LOS and 95th percentile queue length are presented in Table 1.

**Table 1
Delay, LOS and 95th Percentile Queue Length Comparison with and without Protected Left Turn Phase for the Southbound Movement at the Intersection of North Capitol Street and H Street**

	AM Peak Period								PM Peak Period							
	Without Protected Left Turn for the Southbound Movement				With Protected Left Turn for the Southbound Movement				Without Protected Left Turn for the Southbound Movement				With Protected Left Turn for the Southbound Movement			
	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound
Delay (second/vehicle)	20	59	9	58	20	58	14	201	30	23	20	74	30	23	26	243
95th Queue Length (feet)	135	490 ⁽¹⁾	55	103	134	487 ⁽¹⁾	57	186 ⁽¹⁾	354	178	228	224 ⁽¹⁾	354	178	233	583 ⁽¹⁾
LOS	B	E	A	E	B	E	B	F	C	C	C	E	C	C	C	F

Note:

⁽¹⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

As can be seen from Table 1, the protected left turn phase will significantly increase delay and queue for the southbound movement, especially during the PM peak period. This increased delay and queuing for the southbound movement can be contributed to the fact that with a protected left turn phase, left turning traffic will be forced to stop on a shared lane on red, creating a blockage for through traffic. It should also be noted that the actual queue may be longer than the queue reported in Table 1 as the 95th percentile volume exceeds capacity.

2. The Study Team modified the existing AM and PM Synchro model, providing 2 seconds of additional all-red time for all approaches at the intersection of H Street and North Capitol Street. Resulting delay, LOS and 95th percentile queue length are presented in Table 2.

Table 2
Delay, LOS and 95th Percentile Queue Length Comparison with and without Adjusted Yellow and All-Red Time at the Intersection of North Capitol Street and H Street

	AM Peak Period								PM Peak Period							
	Without Adjusted Yellow and All-Red Time				With Adjusted Yellow and All-Red Time				Without Adjusted Yellow and All-Red Time				With Adjusted Yellow and All-Red Time			
	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound
Yellow (second)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
All Red (second)	1	1	2	2	3	3	4	4	1	1	2	2	3	3	4	4
Total Split (second)	45	45	55	55	45	45	55	55	44	44	56	56	44	44	56	56
Delay (second/vehicle)	20	59	9	58	20	59	9	59	30	23	20	74	30	23	20	74
95th Queue Length (feet)	135	490 ⁽¹⁾	55	103	135	490 ⁽¹⁾	55	103	354	178	228	224 ⁽¹⁾	354	178	228	224 ⁽¹⁾
LOS	B	E	A	E	B	E	A	E	C	C	C	E	C	C	C	E

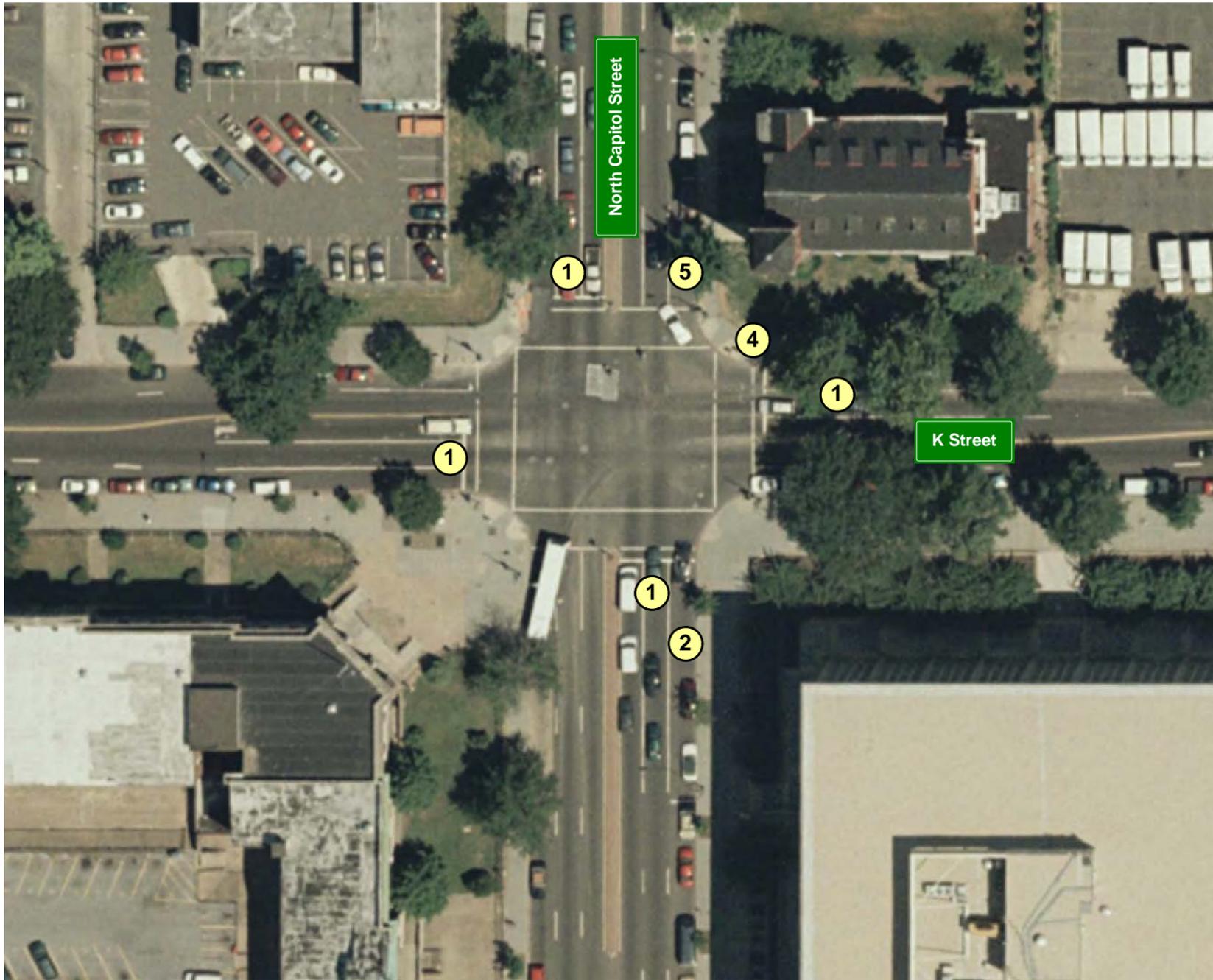
Note:

⁽¹⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

As can be seen from Table 2, the increased all-red time will not affect the intersection operation. It will provide traffic more time to clear the intersection which will improve safety.

Recommendations:

- Do not provide a protected left turn phase for the southbound movement.
- Add 2 seconds of additional all-red time to all movements.



TRANSPORTATION ISSUES:

- ① Lack of adequate pavement markings and lane use symbols for North Capitol Street and K Street approaches.
- ② On street parking partially obstructs one travel lane on the northbound approach.
- ③ Vehicles on North Capitol Street travel at speeds higher than the posted speed limit.
- ④ Poor condition of pedestrian signal at the northeast corner of the intersection.
- ⑤ On street parking too close to the intersection at the northeast corner.
- ⑥ Northbound and southbound left turn vehicles sometimes get delayed waiting for gap.

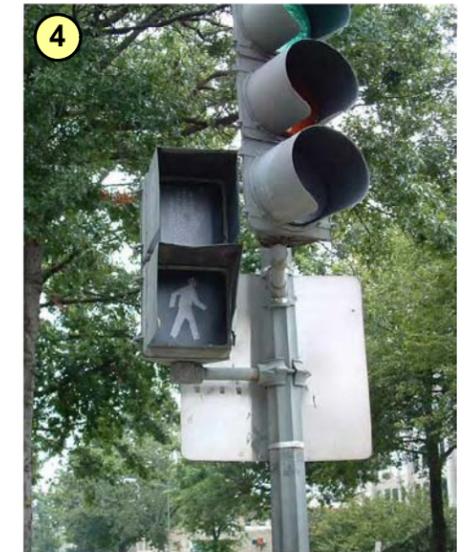
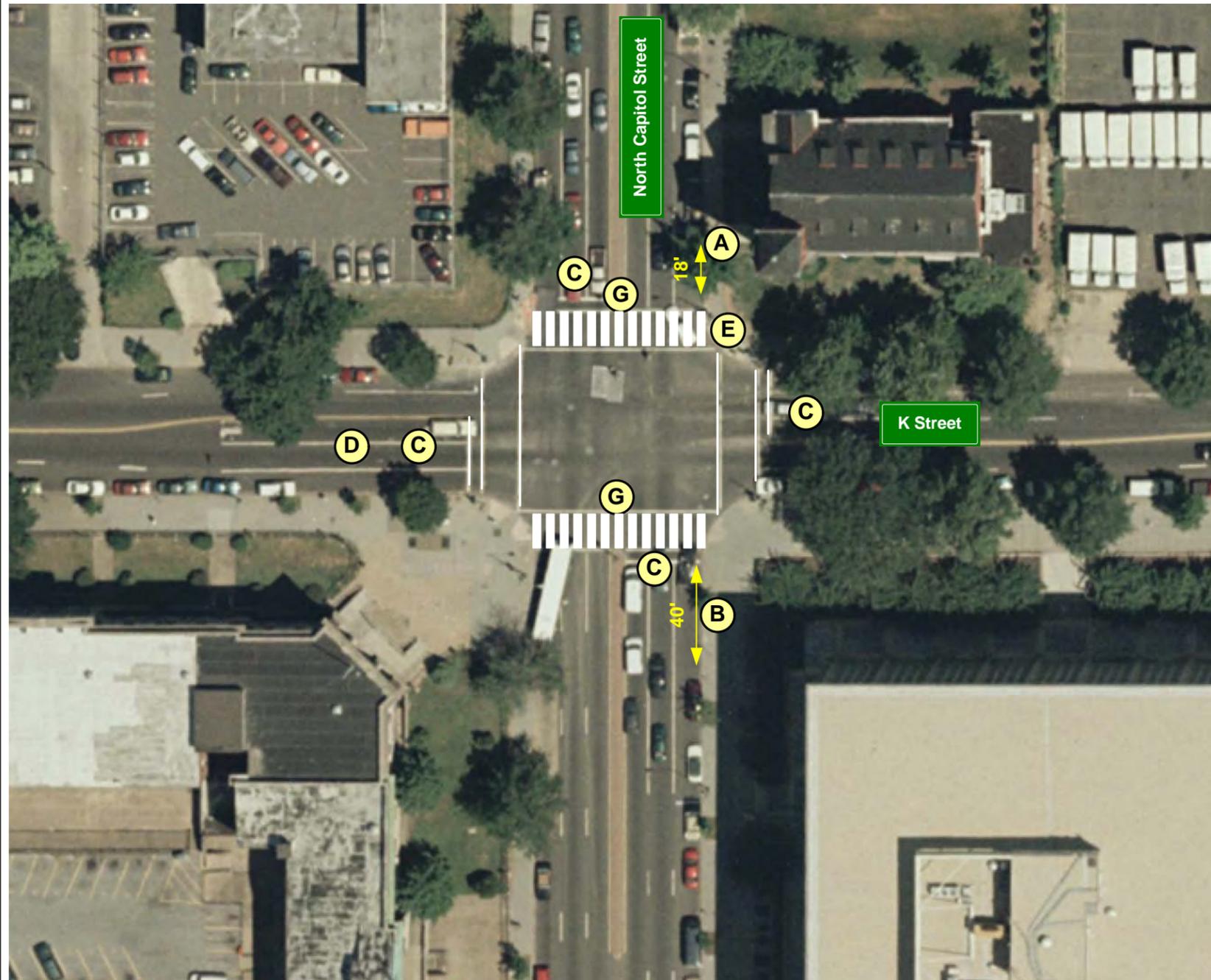


FIGURE 15A
ISSUES MAP
K STREET AND NORTH
CAPITOL STREET

Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Relocate the no parking from here to corner sign located in the northeast corner along North Capitol Street 8 feet to the north (18 feet from crosswalk).
- B** Eliminate two parking spaces on the northbound approach. With this change, the first parking space on the northbound approach south of K Street will be located 40 feet from the intersection.
- C** Provide adequate pavement markings on the North Capitol Street approaches.
- D** Provide adequate pavement markings on K Street.
- E** Repair pedestrian signal at the northeast corner.
- F** Increase law enforcement for speed and parking activities.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 15B

IMPROVEMENTS MAP
K STREET AND NORTH
CAPITOL STREET



Not to Scale

POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF NORTH CAPITOL STREET AND K STREET

Issue:

- Northbound and southbound left turn vehicles sometimes get delayed waiting for gap.

Potential Improvement(s):

- Provide protected left turn phase for the northbound and southbound movements.

Evaluation:

- The Study Team modified the existing AM and PM Synchro model to assess the provision of a protected left turn phase for the southbound and northbound movements at the intersection of K Street and North Capitol Street. Resulting delay, LOS and 95th percentile queue length are presented in Table 3.

Table 3

Delay, LOS and 95th Percentile Queue Length Comparison with and without Protected Left Turn Phase for the Southbound and Northbound Movement at the Intersection of North Capitol Street and K Street

	AM Peak Period												PM Peak Period									
	Without Protected Northbound Left Turn Phase						With Protected Northbound Left Turn Phase						Without Protected Southbound Left Turn Phase				With Protected Southbound Left Turn Phase					
	Eastbound		Westbound		Northbound	Southbound	Eastbound		Westbound		Northbound	Southbound	Eastbound		Westbound	Northbound	Southbound	Eastbound		Westbound	Northbound	Southbound
	Left	Through	Left	Through			Left	Through	Left	Through			Left	Through				Left	Through			
Delay (second/vehicle)	61	14	29	36	40	27	63	20	29	36	36	90	29	19	55	34	45	29	19	55	42	226
95th Percentile Queue Length (feet)	170 ⁽²⁾	110	82	327	282	309	170 ⁽²⁾	190	82	327	263	368	146	160	267	307	124 ⁽¹⁾	146	160	267 ⁽²⁾	309	368 ⁽²⁾
LOS	E	B	C	D	D	C	E	B	C	D	D	F	C	B	E	C	D	C	B	E	D	F

Note:

⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

As can be seen from Table 3, the protected left turn phase will significantly increase delay and queuing for the southbound movement, especially during the PM peak period. This increased delay and queuing for the southbound movement can be contributed to the fact that with a protected left turn phase, left turning traffic will be forced to stop on a shared lane on red, creating a blockage for through traffic. It should also be noted that the actual queue may be longer than the queue reported in Table 3 as the 95th percentile volume exceeds capacity.

Recommendation:

- Do not provide a protected left turn phase for the northbound and southbound movements.



TRANSPORTATION ISSUES:

- ① Westbound approach on L Street needs a cross-walk.
- ② Cars ignore "Do Not Enter" sign and enter L Street from North Capitol Street.

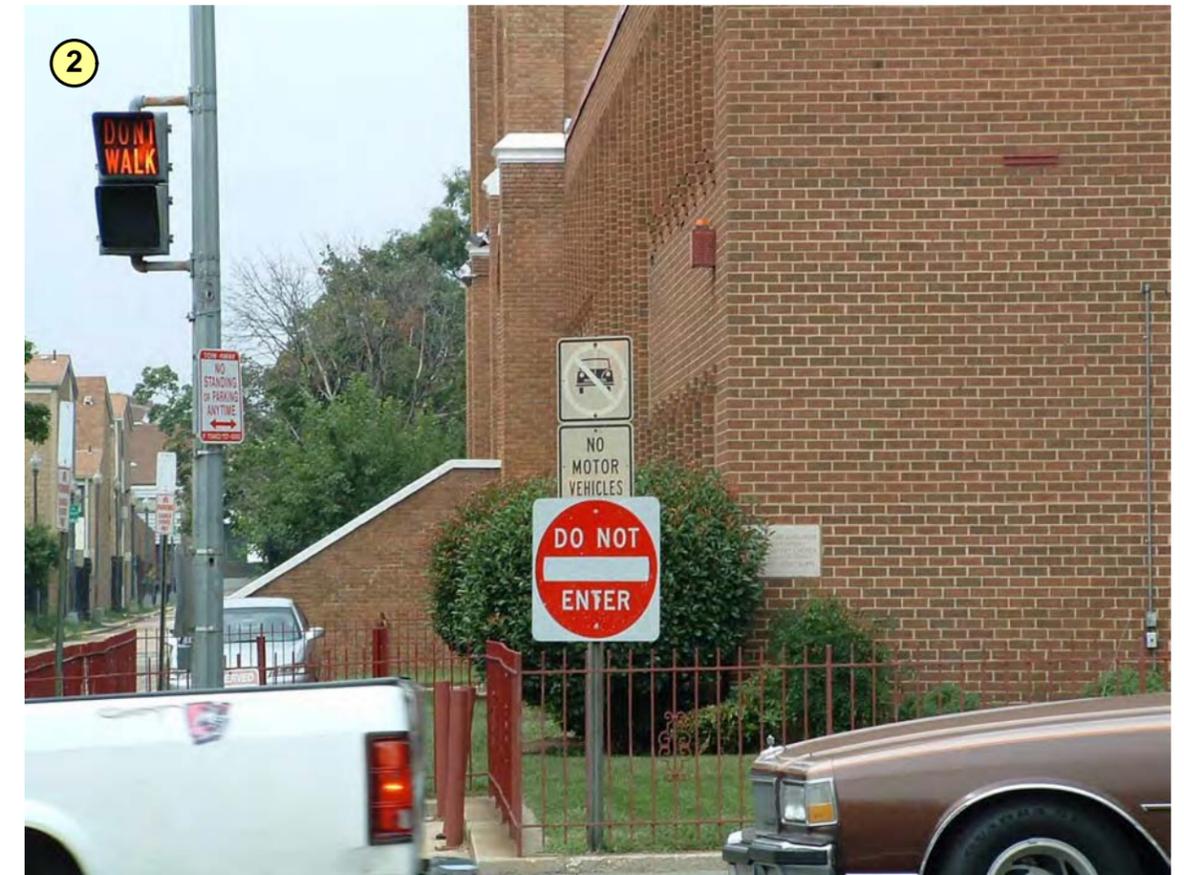


FIGURE 16A
ISSUES MAP
L STREET AND NORTH
CAPITOL STREET



Not to Scale



RECOMMENDED IMPROVEMENTS:

- Ⓐ Re-stripe crosswalk on L Street.
- Ⓑ Install a gate on L Street to deter cars from turning onto street. Gate to be activated by card reader/transponder. Provide smart card/transponder to legal users (emergency vehicles, police, etc.)

Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 16B

IMPROVEMENTS MAP
L STREET AND NORTH
CAPITOL STREET



Not to Scale

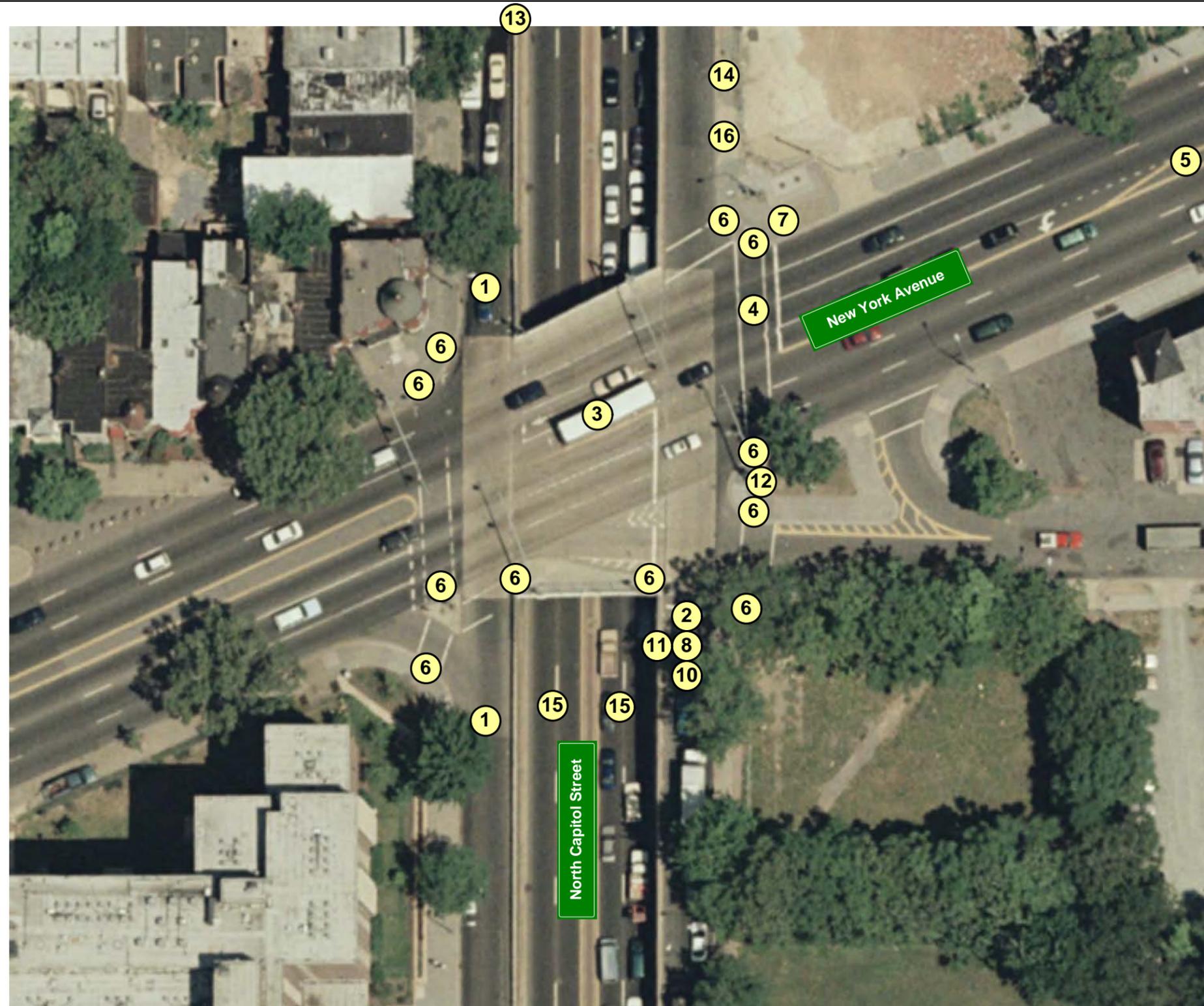


TRANSPORTATION ISSUES:

- ① For local traffic, southbound vehicles travel in two separate lanes which must merge into one travel lane after passing through the intersection.
- ② For local traffic, northbound vehicles travel in two separate lanes which must merge into one travel lane after passing through the intersection.
- ③ Eastbound M Street has one exclusive left-turn lane and a shared lane (thru/left). There are no signs, lane control operation symbols or pavement markings to guide motorists. This creates confusion. In addition, the geometric configuration is not adequate for dual left turns onto the North Capitol Street underpass.
- ④ The median on the north side of the intersection encroaches onto the crosswalk.
- ⑤ Vehicles on North Capitol Street travel at speeds higher than the posted speed limit.
- ⑥ In the southwest corner of the intersection, there is a pole blocking the sidewalk and ADA ramp.
- ⑦ The "No Turn" sign for northbound North Capitol Street is in the wrong location and not easily visible.
- ⑧ Metro buses cannot make southbound right turns from M Street without encroaching on the island or the sidewalk.
- ⑨ The ADA ramp on the northwest corner does not meet current ADA standards.
- ⑩ The ADA ramp on the northeast corner is improperly aligned with the crosswalk.
- ⑪ Sidewalk on the north side of M Street, west and east of North Capitol Street, is in poor condition.
- ⑫ Fence on northeast corner needs repair.
- ⑬ A fire hydrant is blocking the sidewalk in the northeast corner.



FIGURE 17A
ISSUES MAP
M STREET AND NORTH
CAPITOL STREET



TRANSPORTATION ISSUES:

- ① The southbound approach to New York Avenue is unmarked and operates as two lanes. These lanes must merge into one lane in a short distance on the southbound leg south of the intersection.
- ② The northbound approach to New York Avenue is unmarked and operates as two lanes.
- ③ The left lane on westbound New York Avenue only has space for about three vehicles. This produces queues that sometimes block the northbound direction of North Capitol Street.
- ④ The crosswalk area on westbound New York Avenue needs re-striping.
- ⑤ Drivers use the striped median on westbound New York Avenue as a lane (extension of the left turn bay)
- ⑥ ADA ramps at all of the intersections are narrow.
- ⑦ Pedestrian signal at the northeast corner (for pedestrians crossing southbound New York Avenue) needs to be fixed.
- ⑧ Sidewalk is in poor condition on the northbound ramp on New York Avenue near the bus stop.
- ⑨ Significant pedestrian activity.
- ⑩ Bus stop at the southeast corner (northbound ramp) is in poor condition.
- ⑪ Median side curb on the northbound ramp of New York Avenue needs to be repaired.
- ⑫ The space provided for disabled persons on the island east of North Capitol is inadequate (for persons attempting to cross New York Avenue on the east side).
- ⑬ The ramp for southbound New York Avenue is not adequately signed.
- ⑭ Confusing parking sign northbound on-ramp from New York Avenue to North Capitol Street.
- ⑮ The speed of vehicles on North Capitol Street traveling on the underpass (under New York Avenue) often exceed the posted speed limit.
- ⑯ Sidewalk on the northbound on-ramp from New York Avenue to North Capitol Street is not adequate for disabled persons.

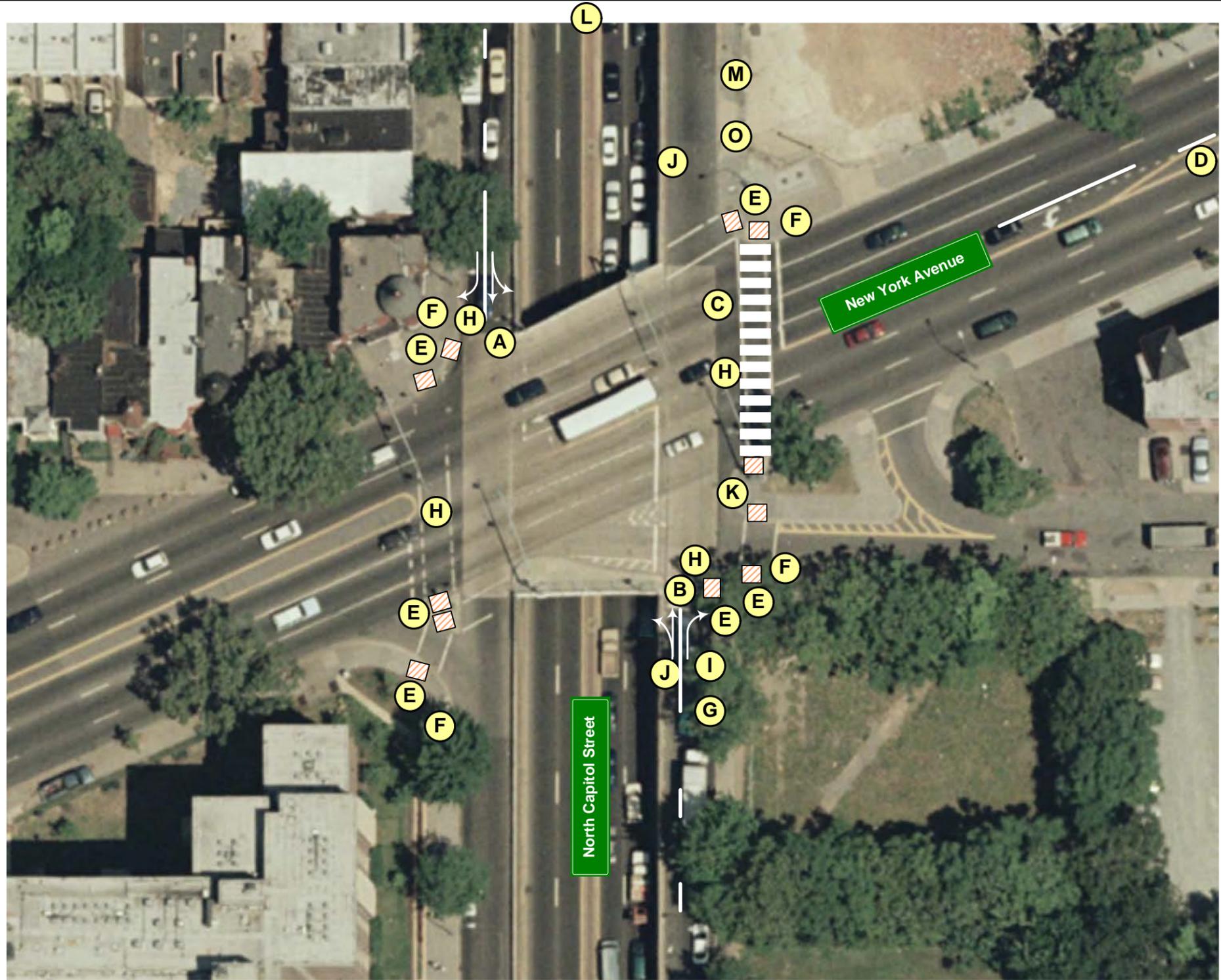


FIGURE 18A

ISSUES MAP
NEW YORK AVENUE AND
NORTH CAPITOL STREET

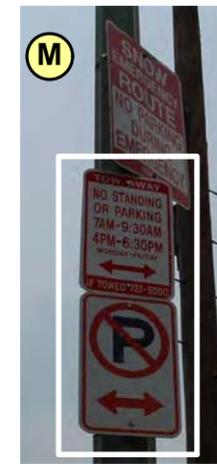


Not to Scale



RECOMMENDED IMPROVEMENTS

- A** Re-stripe the southbound approach of North Capitol Street placing lane use symbols. Indicate one right turn lane and one through-left lane on the southbound approach at the intersection.
- B** Re-stripe the northbound approach of North Capitol Street placing lane use symbols. Indicate one right turn lane and one through-left lane on the southbound approach at the intersection.
- C** Re-stripe the crosswalk on westbound New York Avenue.
- D** Extend the left turn bay for westbound traffic a distance of 100 feet.
- E** Replace ADA ramps at all of the intersections with wider ramps.
- F** Replace all pedestrian signals with countdown pedestrian signals.
- G** Repair sidewalk on the northbound off-ramp to New York Avenue near the bus stop.
- H** Install in-roadway warning lights for pedestrians in all of the approaches.
- I** Repair the bus stop at the southeast corner (northbound off-ramp).
- J** Repair median side curb on the northbound off-ramp to New York Avenue.
- K** Reconstruct the island east of North Capitol Street ensuring that disabled persons can adequately cross New York Avenue without encountering barriers across their path.
- L** Install New York Avenue sign on southbound North Capitol Street north of the exit ramp.
- M** Replace confusing parking sign assembly on northbound on-ramp from New York Avenue to North Capitol Street with a sign that states no parking or standing anytime.
- N** Increase speed enforcement.
- O** Reconstruct the sidewalk on the northbound on-ramp from New York Avenue to North Capitol Street to make it adequate for disabled persons.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements



Not to Scale

FIGURE 18B

**IMPROVEMENTS MAP
NEW YORK AVENUE AND
NORTH CAPITOL STREET**

POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF NEW YORK AVENUE AND NORTH CAPITOL STREET

Issue:

- The left turn lane on westbound New York Avenue only has space for about three vehicles. This produces queues that sometimes block the northbound direction of North Capitol Street.

Potential Improvement(s):

Short Term Improvement(s)

1. Provide additional green time for westbound left turn.
2. Allow only protected left turns for westbound traffic.

Long Term Improvement(s)

3. Eliminate stops on the bridge by providing a clear out interval for westbound left-turns from New York Avenue.

Evaluation:

1. The Study Team modified the existing AM and PM Synchro models providing three seconds of additional green time to the westbound left turn movement and curtailing three seconds of green time from the eastbound through movement. Resulting delay, LOS and 95th percentile queue length are presented in Table 4.

Table 4

Delay, LOS and 95th Percentile Queue Length Comparison with and without Additional Green Time for the Westbound Left Turn Movement at the Intersection of New York Avenue and North Capitol Street

	AM Peak Period								PM Peak Period							
	Without Additional Green Time for Westbound Left Turn Phase				With Additional Green Time for Westbound Left Turn Phase				Without Additional Green Time for Westbound Left Turn Phase				With Additional Green Time for Westbound Left Turn Phase			
	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound
		Left	Through			Left	Through			Left	Through			Left	Through	
Total Split (second)	43	29	72	28	40	32	72	28	46	26	72	28	43	29	72	28
Delay (second/vehicle)	25	5	1	53	29	6	1	53	695	14	1	31	696	12	1	31
95th Percentile Queue Length (feet)	363 ⁽¹⁾	28 ⁽¹⁾	13	131	365 ⁽¹⁾	32 ⁽¹⁾	13	131	680 ⁽¹⁾⁽²⁾	63 ⁽¹⁾	17 ⁽¹⁾	105	715 ⁽¹⁾⁽²⁾	60 ⁽¹⁾	17 ⁽¹⁾	105
LOS	C	A	A	D	C	A	A	D	F	B	A	C	F	B	A	C

Note:

⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Table 4 shows that additional green time will not reduce queue for the westbound left turn movement. It will not clear the blockage of the intersection.

2. The Study Team modified the existing Synchro model for AM and PM peak period to provide protected left turns for the westbound movement. As summarized in Table 5, the Synchro analysis reveals that protected only westbound left turn will increase delay and queue for the westbound left turn movement. Protected left turn for the westbound movement will not eliminate the intersection blockage.

Table 5
Delay, LOS and 95th Percentile Queue Length Comparison with and without Protected Only Left Turn Phase for the Westbound Movement at New York Avenue and North Capitol Street

	AM Peak Period								PM Peak Period							
	With Protected and Permitted Left Turn for the Westbound Movement				With Only Protected Left Turn for the Westbound Movement				With Protected and Permitted Left Turn for the Westbound Movement				With Only Protected Left Turn for the Westbound Movement			
	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound
		Left	Through			Left	Through			Left	Through			Left	Through	
Delay (second/vehicle)	25	5	1	53	25	23	1	53	695	14	1	31	695	28	1	31
95th Percentile Queue Length (feet)	363 ⁽¹⁾	28 ⁽¹⁾	13	131	363 ⁽¹⁾	90 ⁽¹⁾	13	131	680 ⁽¹⁾⁽²⁾	63 ⁽¹⁾	17 ⁽¹⁾	105	680 ⁽¹⁾⁽²⁾	60 ⁽¹⁾	17 ⁽¹⁾	105
LOS	C	A	A	D	C	C	A	D	F	B	A	C	F	C	A	C

Note:

⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

- The Study Team modified the future (2014) AM and PM Synchro model to reflect the elimination of stops on the bridge by setting up the left turns to be made from New York Avenue. Resulting delay, LOS and 95th percentile queue length are presented in Table 6.

Table 6
Delay, LOS and 95th Percentile Queue Length Comparison with and without Westbound Left Turn Stacking Allowed on the Bridge to New York Avenue and North Capitol Street

	AM Peak Period								PM Peak Period							
	Westbound Left Turn Allowed from the Bridge				No Westbound Left Turn Allowed from the Bridge				Westbound Left Turn Allowed from the Bridge				No Westbound Left Turn Allowed from the Bridge			
	Eastbound	Westbound	Southbound	Northbound	Eastbound	Westbound	Southbound	Northbound	Eastbound	Westbound	Southbound	Northbound	Eastbound	Westbound	Southbound	Northbound
Delay (second/vehicle)	30	9	102	163	131	554	15	34	696	9	40	726	1030	300	24	583
95th Percentile Queue Length (feet)	397 ⁽¹⁾	309	148	87 ⁽²⁾	619 ⁽²⁾	1112 ⁽²⁾	94	79	781 ⁽¹⁾⁽²⁾	219	123	225	1301 ⁽²⁾	462	77	176
LOS	C	A	F	F	F	F	B	C	F	A	D	F	F	F	C	F

Note:

⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

As can be seen from Table 6, delay and queue length would increase significantly for the westbound and eastbound movements during both AM and PM peak period; especially during the PM peak period. Eliminating left turns from the bridge would reduce delay and queuing for both northbound and southbound direction but the reduction in queue would not be significant compared to the increase in queue for the eastbound and westbound directions. Eliminating left turns from the bridge will adversely impact the overall traffic operation along New York Avenue.

Recommendations:

- Do not provide additional green time for the westbound left turn movement.
- Do not provide protected only left turn for the westbound left turn movement.
- Do not eliminate stops on the bridge.



TRANSPORTATION ISSUES:

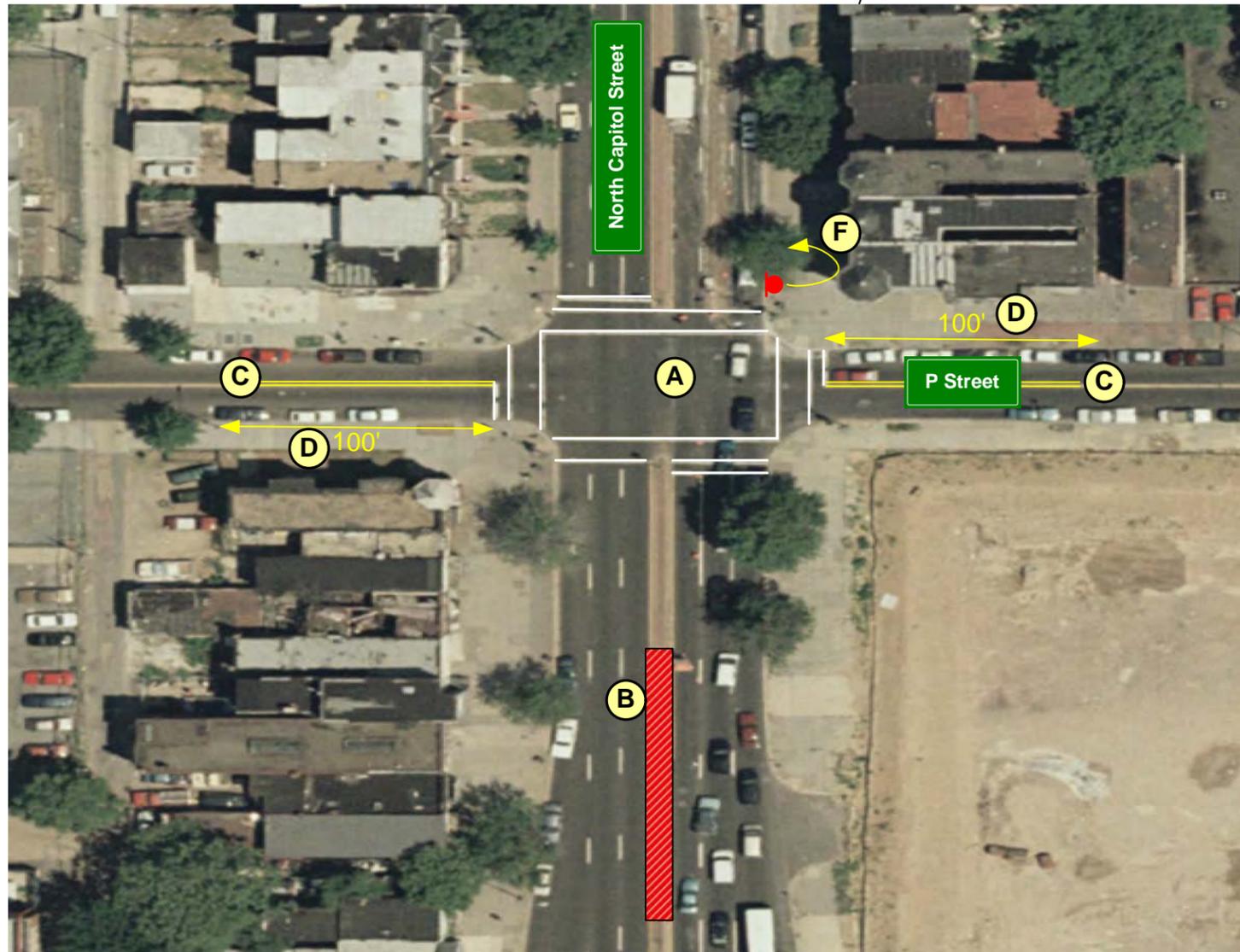
- ① The median opening on North Capitol street facilitates the left-turn movement for vehicles leaving the Exit Gate driveway.
- ② No exclusive left-turn lane onto eastbound P Street from southbound North Capitol Street.
- ③ Parking on either side of P Street impacts the efficiency of vehicle movements along P Street.
- ④ On-street parking and illegally stopped cars can obstruct one lane of North Capitol Street.
- ⑤ The sidewalk is not level on the west side of North Capitol Street



FIGURE 19A
ISSUES MAP
P STREET AND
NORTH CAPITOL STREET

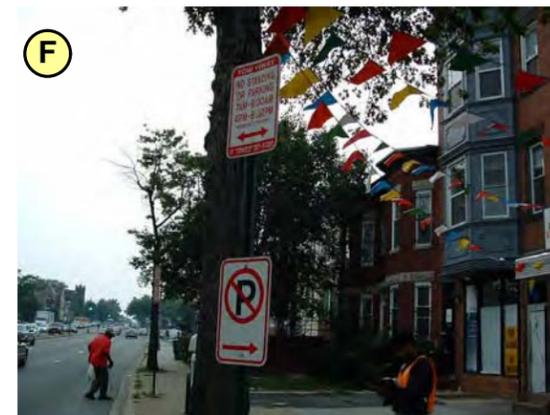


Not to Scale



RECOMMENDED IMPROVEMENTS:

- A Re-stripe crosswalks in all directions.
- B Close median opening for exit driveway on North Capitol Street and prohibit the left-turn movement onto North Capitol Street.
- C Provide pavement markings to better indicate parking and/or travel lanes on P Street.
- D Remove on-street parking on the northeast and southwest sides of the intersection along P Street for a distance of 100 feet and provide meters beyond this point.
- E Increase parking enforcement along North Capitol Street.
- F Relocate parking sign assembly on the northeast corner of North Capitol Street eight feet to the north.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 19B

IMPROVEMENTS MAP
P STREET AND
NORTH CAPITOL STREET



Not to Scale



TRANSPORTATION ISSUES:

- ① Driveway on the northbound approach is very close to the intersection and adjacent to the bus stop.
- ② ADA ramp is missing on northwest corner across Florida Avenue.
- ③ Eastbound approach needs cross-walk re-stripping.
- ④ KFC driveway on westbound approach is too close to the intersection.
- ⑤ Sidewalk on the south side of Florida Avenue, east of North Capitol Street, narrows.
- ⑥ Lack of signing for Lincoln Road and Q Street.
- ⑦ Sign indicating speed limit of "15 mph when children are present" located on southbound North Capitol Street, 150 feet south of the Florida Avenue intersection, does not provide maximum safety.
- ⑧ Inadequate ADA ramps on the southeast and southwest corners.
- ⑨ There is significant pedestrian activity during off-peak hours.
- ⑩ Not enough time for pedestrian to cross Florida Avenue.
- ⑪ The crosswalk across Florida Avenue at Q Street is not as visible as needed.



FIGURE 20A
ISSUES MAP
FLORIDA AVENUE AND
NORTH CAPITOL STREET

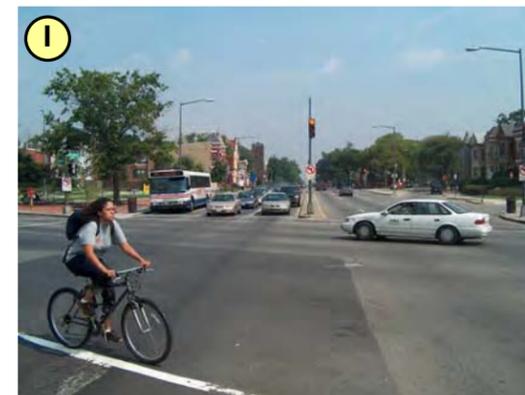
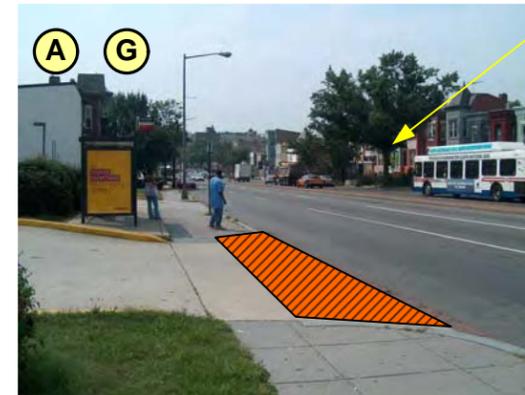


Not to Scale



RECOMMENDED IMPROVEMENTS:

- (A) Close driveway nearest to Florida Avenue for gas station on northbound North Capitol Street.
- (B) Install ADA ramp at northwest corner across Florida Avenue.
- (C) Re-stripe cross-walk for eastbound approach.
- (D) Make KFC driveway that provides ingress from and egress to KFC a right-in-right-out driveway. Include "No Left-Turn" signs.
- (E) Relocate light pole on southwest closer to the curb to provide clearance for pedestrians on sidewalk.
- (F) Add sign saying "Lincoln Road, Q Street Traffic , Use Right Lane", beyond second driveway on northbound approach at a distance of 120 feet from intersection.
- (G) Replace "15 mph when children are present" sign on southbound North Capitol Street with flashing beacons indicating 15 mph. Add "End School Zone" sign at the edge of the school speed zone.
- (H) Fix ADA ramps at southwest and southeast corners (both directions).
- (I) Add shelter to bus stop on northwest corner.
- (J) Install countdown pedestrian signals for all crosswalks.
- (K) Increase law enforcement for speed and parking activities.
- (L) Add two seconds for the pedestrians to cross Florida Avenue.
- (M) Install in-roadway warning lights for pedestrians across Florida Avenue.



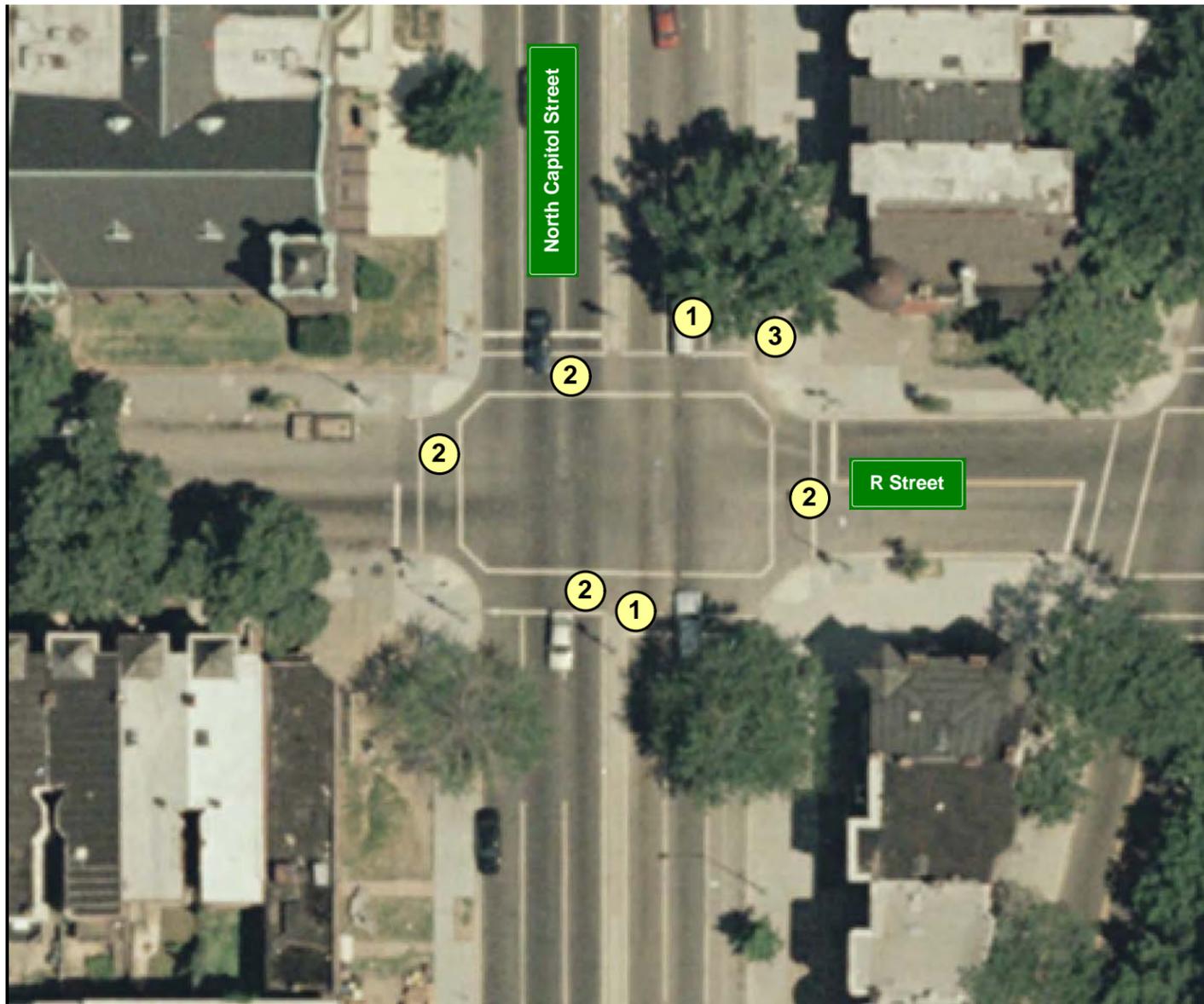
Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 20B
IMPROVEMENTS MAP
FLORIDA AVENUE AND
NORTH CAPITOL STREET



Not to Scale



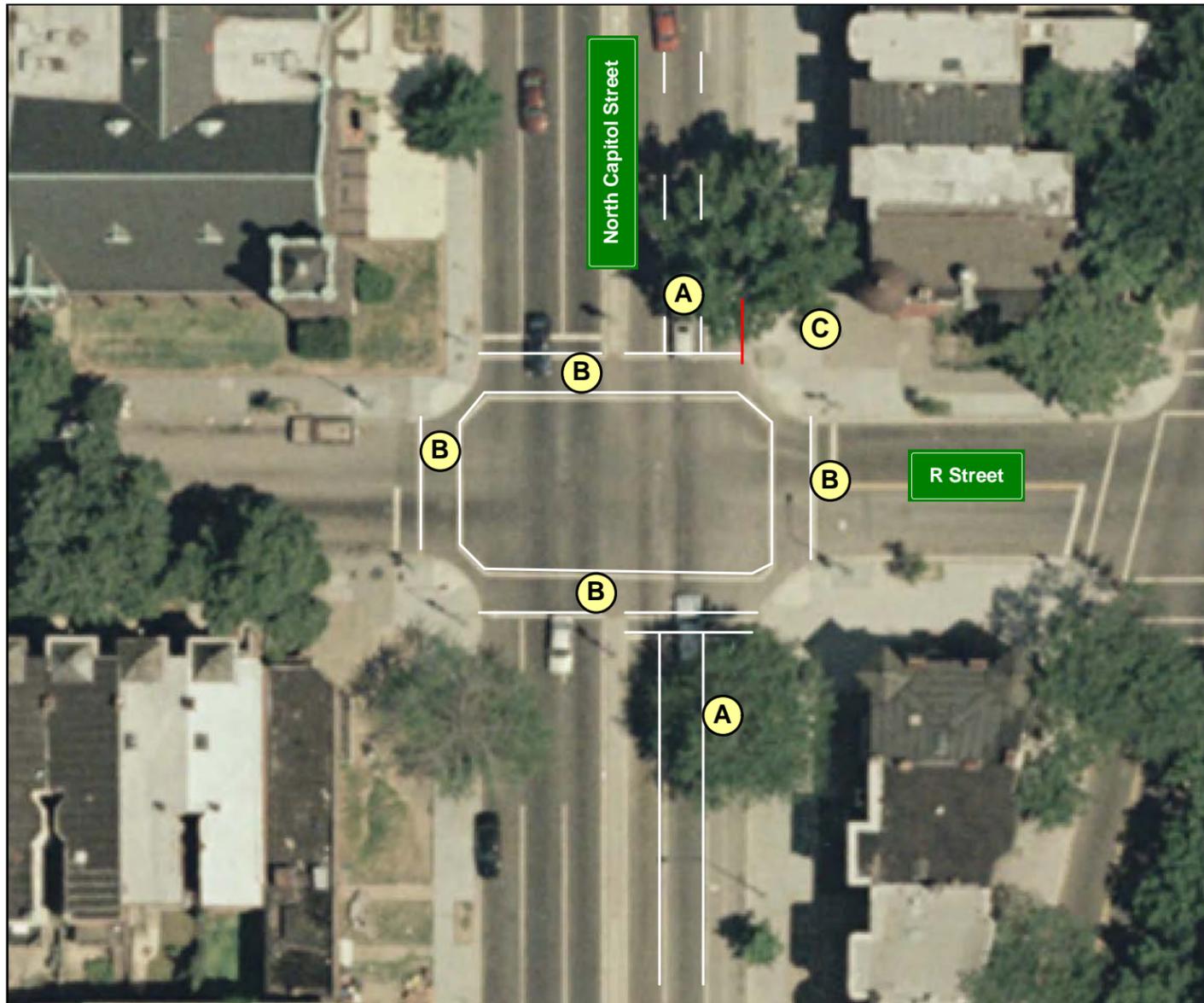
TRANSPORTATION ISSUES:

- ① No lane markings on northbound North Capitol Street before and after the intersection.
- ② Crosswalks are not clearly defined.
- ③ Curb line/edge on northeast corner requires repair.



FIGURE 21A
ISSUES MAP
R STREET AND
NORTH CAPITOL STREET

Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Provide pavement markings for northbound North Capitol Street, on both sides of the intersection.
- B** Re-stripe all crosswalks.
- C** Fix curb line/edge on northeast corner.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 21B
IMPROVEMENTS MAP
R STREET AND
NORTH CAPITOL STREET

Not to Scale



TRANSPORTATION ISSUES:

- ① No lane markings on northbound North Capitol Street before and after the intersection.
- ② Crosswalks on North Capitol Street need re-striping.
- ③ The median fence on the north side of Randolph Place is in poor condition.
- ④ Southbound North Capitol Street needs re-striping before the intersection.
- ⑤ Cars traveling on North Capitol Street speed through the intersection prior to entering the tunnel.
- ⑥ Sidewalk narrows on the east side, just north of the intersection.



FIGURE 22A
ISSUES MAP
RANDOLPH PLACE AND
NORTH CAPITOL STREET



RECOMMENDED IMPROVEMENTS:

- A** Provide pavement markings on northbound North Capitol Street, on both sides of the intersection.
- B** Re-stripe crosswalks on North Capitol Street.
- C** Repair the fence on North Capitol Street, north of the intersection.
- D** Re-stripe southbound North Capitol Street, before the intersection.
- E** Increase law enforcement for speeding activities.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 22B

IMPROVEMENTS MAP
RANDOLPH PLACE AND
NORTH CAPITOL STREET



Not to Scale



TRANSPORTATION ISSUES:

- ① Motorists unfamiliar with the area cut across the median to go from the mainline to the Rhode Island Avenue Access Road.
- ② Sidewalk is damaged on east side of North Capitol Street, south of S Street.

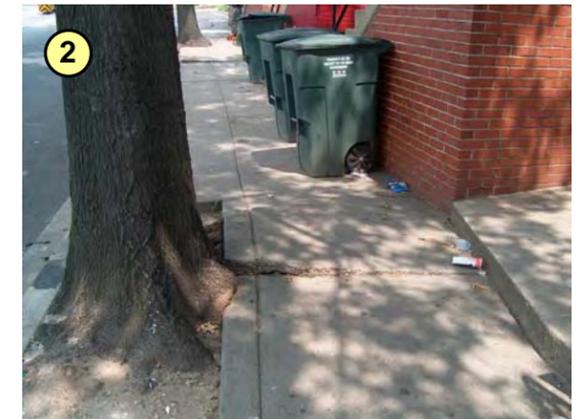
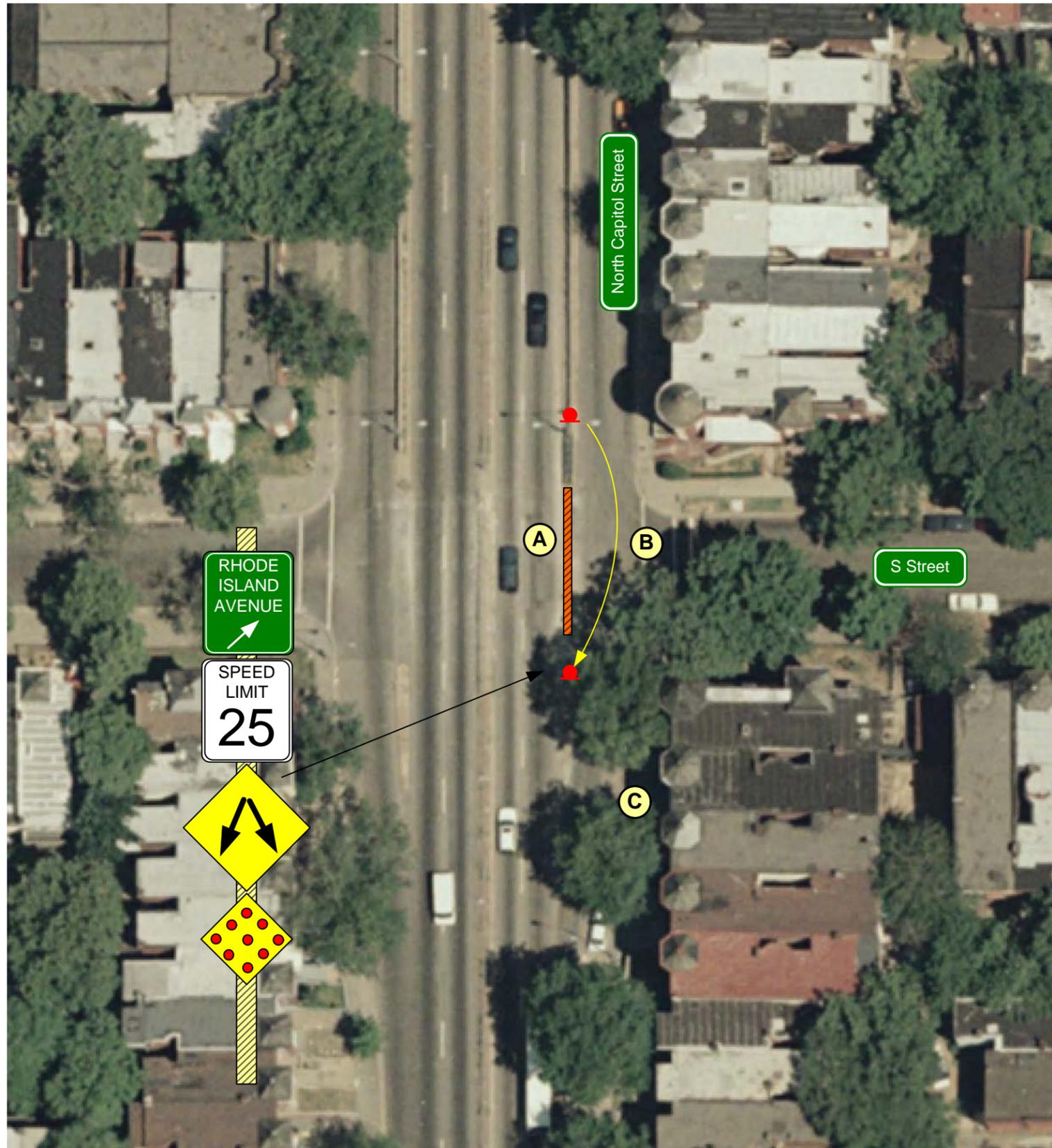
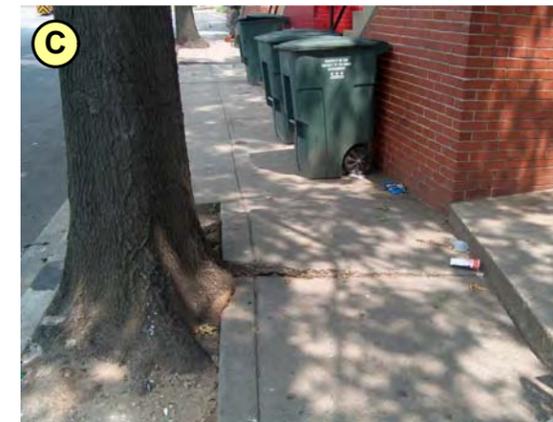


FIGURE 23A
ISSUES MAP
S STREET AND
NORTH CAPITOL STREET



RECOMMENDED IMPROVEMENTS:

- A** Close the median. Note that vehicles heading westbound on S Street will not have access to the tunnel. Said vehicles will have to make a right onto the local roads to access the mainline of North Capitol Street.
- B** Relocate impact attenuator to the beginning of the median. Relocate signs on existing light pole to a new sign post at the beginning of the median.
- C** Repair sidewalk east of North Capitol Street, south of S Street.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 23B
IMPROVEMENTS MAP
S STREET AND
NORTH CAPITOL STREET

North
Not to Scale



TRANSPORTATION ISSUES:

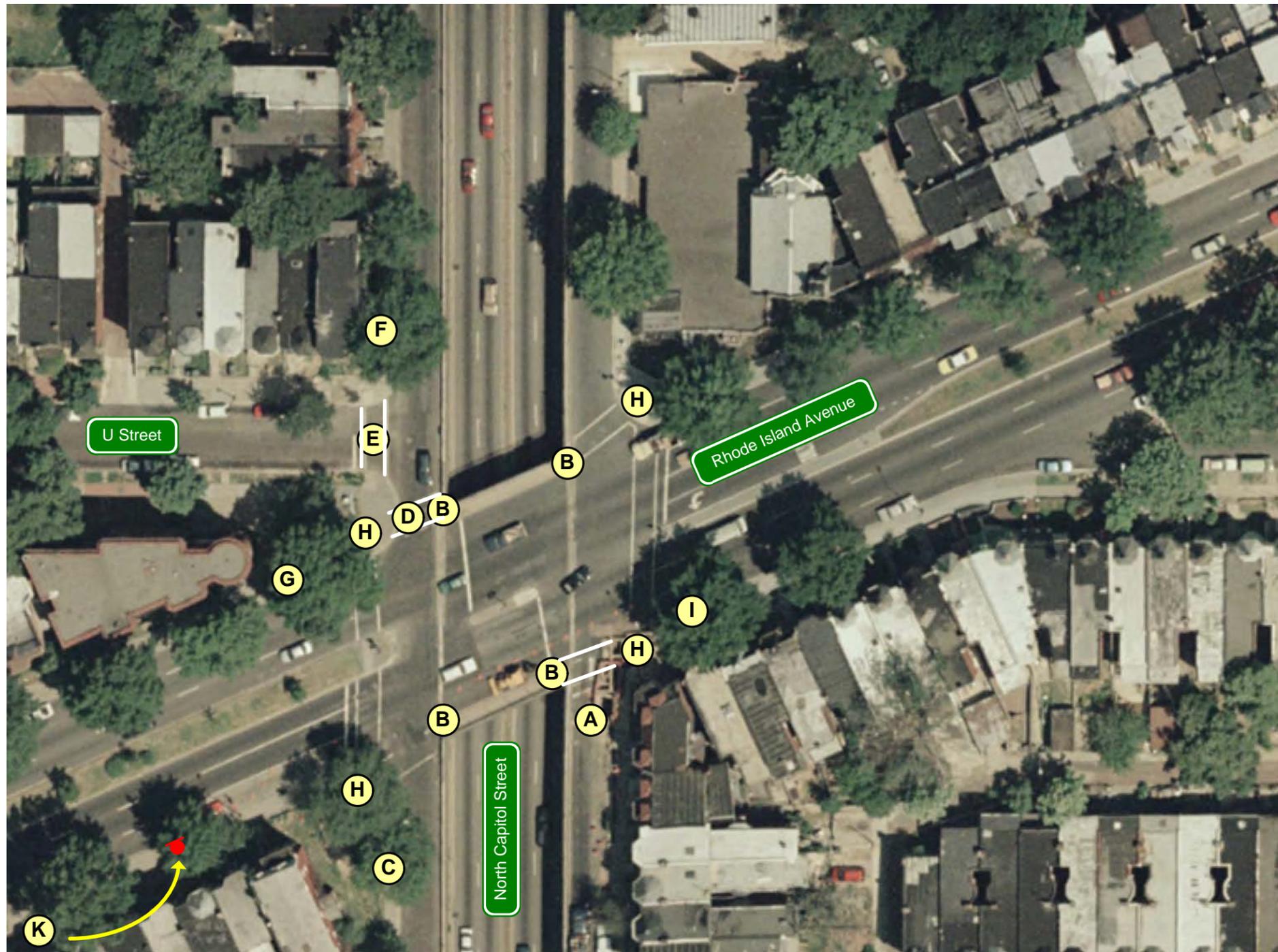
- ① Crosswalk for northbound approach (North Capitol St. ramp) needs to be re-striped.
- ② Westbound vehicles turning left from Rhode Island Avenue to southbound North Capitol Street block the intersection because there is only room for two cars on the left turn bay on the bridge.
- ③ Handicap ramp is narrow.
- ④ Section of sidewalk on west side of North Capitol Street is narrow.
- ⑤ Crosswalk for southbound approach (North Capitol St. ramp) needs to be re-striped.
- ⑥ Crosswalk across U Street needs to be re-striped.
- ⑦ The stop bar for the southbound ramp of North Capitol Street does not match the stop here on red sign.
- ⑧ Bus shelter needs a bench.
- ⑨ Significant pedestrian activity.
- ⑩ Parking sign on the south side of Rhode Island Avenue needs to be rotated.
- ⑪ Sign is not visible on the south side of Rhode Island Avenue, approximately 300 feet west of the intersection.
- ⑫ Confusing signs on the south side of Rhode Island Avenue, approximately 360 feet west of the intersection.



FIGURE 24A
ISSUES MAP
RHODE ISLAND AVENUE AND
NORTH CAPITOL STREET



Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Re-stripe crosswalk for northbound approach (North Capitol St. ramp).
- B** Widen the tapered area of the handicapped ramps on the Rhode Island Ave. bridge.
- C** Widen sidewalk on the short narrow section on the west side of North Capitol Street.
- D** Re-stripe crosswalk for southbound approach (North Capitol St. ramp).
- E** Re-stripe crosswalk across U Street.
- F** Relocate Stop Here on Red sign on the southbound ramp of North Capitol Street to match the stop bar.
- G** Provide bench for bus shelter.
- H** Provide countdown pedestrian signals for all approaches.
- I** Rotate sign on the south side of Rhode Island Avenue to be parallel to the street.
- J** Replace the existing No Standing or Parking 4-6:30 PM Monday-Friday sign with a new one.
- K** Move the existing No Standing or Parking 4 PM-6:30 PM Monday-Friday and No Standing or Parking Metro Bus Zone signs east towards the beginning of the bus zone.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 24B

IMPROVEMENTS MAP
RHODE ISLAND AVENUE AND
NORTH CAPITOL STREET



Not to Scale

POTENTIAL IMPROVEMENTS EVALUATED FOR THE INTERSECTION OF RHODE ISLAND AVENUE AND NORTH CAPITOL STREET

Issue:

- Westbound vehicles turning left from Rhode Island Avenue to southbound North Capitol Street block the intersection because there is only room for two cars on the left turn bay on the bridge.

Potential Improvement(s):

Short Term Improvement(s)

1. Provide additional green time for westbound left turn.
2. Allow only protected left turns for westbound traffic.

Long Term Improvement(s)

3. Eliminate stops on the bridge by providing a clear out interval for westbound left-turns and extending the left turn bay for westbound traffic a distance of 100 feet.

Evaluation:

1. The Study Team modified the existing AM and PM Synchro models by providing three seconds of additional green time to the westbound left turn movement and curtailing three seconds of green time from the eastbound through movement. Table 7 summarizes the resulting delay, LOS and 95th percentile queue length

Table 7

Delay, LOS and 95th Percentile Queue Length Comparison with and without Additional Green Time for the Westbound Left Turn Movement at the Intersection of Rhode Island Avenue and North Capitol Street

	AM Peak Period							PM Peak Period								
	Without Additional Green Time for the Westbound Left Turn Phase				With Additional Green Time for the Westbound Left Turn Phase			Without Additional Green Time for the Westbound Left Turn Phase				With Additional Green Time for the Westbound Left Turn Phase				
	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound
		Left	Through			Left	Through			Left	Through			Left	Through	
Total Split (second)	53	19	72	28	50	22	72	28	58	15	73	27	55	18	73	27
Delay (second/vehicle)	35	129	9	98	35	181	12	98	17	83	2	40	19	56	2	40
95th Percentile Queue Length (feet)	321 ⁽¹⁾	149	122	478 ⁽²⁾	321 ⁽¹⁾	164	138	478 ⁽²⁾	582 ⁽¹⁾	77	13	223	578 ⁽¹⁾	72	13	223
LOS	C	F	A	F	D	F	B	F	B	F	A	D	B	E	A	D

Note:

⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Table 7 shows that additional green time will increase delay and queue for the westbound left turn movement. It will not clear the blockage of the intersection.

2. The Study Team modified the existing Synchro model for AM and PM peak period to provide protected left turns for westbound traffic. As summarized in Table 8, the Synchro analysis reveals that protected only westbound left turn will significantly increase delay and queue for the westbound left turn movement.

Table 8
Delay, LOS and 95th Percentile Queue Length Comparison with and without Protected Only Left Turn Phase for the Westbound Movement at the Intersection of Rhode Island Avenue and North Capitol Street

	AM Peak Period								PM Peak Period							
	With Protected and Permitted Westbound Left Turn				With Protected Only Westbound Left Turn				With Protected and Permitted Westbound Left Turn				With Protected Only Westbound Left Turn			
	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound	Eastbound	Westbound		Southbound
	Left	Through			Left	Through			Left	Through			Left	Through		
Delay (second/vehicle)	35	129	9	98	35	740	9	98	17	83	2	40	17	377	2	40
95th Percentile Queue Length (feet)	321 ⁽¹⁾	149	122	478 ⁽²⁾	321 ⁽¹⁾	416(2)	122	478 ⁽²⁾	582 ⁽¹⁾	77	13	223	578 ⁽¹⁾	138(2)	13	223
LOS	C	F	A	F	C	F	A	F	B	F	A	D	B	F	A	D

Note:

⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

- The Study Team modified the traffic signal at the intersection of Rhode Island Avenue and North Capitol Street in the future (2014) AM and PM Synchro model to reflect the suggested improvement. Table 9 presents the resulting delay, LOS and 95th percentile queue length.

Table 9
Delay, LOS and 95th Percentile Queue Length Comparison with and without Westbound Left Turn Stacking Allowed on the Bridge at the Intersection of Rhode Island Avenue and North Capitol Street

	AM Peak Period										PM Peak Period									
	Westbound Left Turn Allowed from the Bridge					No Westbound Left Turn Allowed from the Bridge					Westbound Left Turn Allowed from the Bridge					No Westbound Left Turn Allowed from the Bridge				
	Eastbound	Westbound		Southbound	Northbound	Eastbound	Westbound		Southbound	Northbound	Eastbound	Westbound		Southbound	Northbound	Eastbound	Westbound		Southbound	Northbound
	Left	Through				Left	Through				Left	Through				Left	Through			
Delay (second/vehicle)	36	254	16	138	33	36	373	24	293	53	41	107	2	44	35	120	119	16	119	56
95th Percentile Queue Length (feet)	351 ⁽¹⁾	190	133	548 ⁽²⁾	133	375	606 ⁽²⁾	446	749 ⁽²⁾	181	601 ⁽¹⁾	87	15	268 ⁽²⁾	157	939 ⁽²⁾	244 ⁽²⁾	151	460 ⁽²⁾	206
LOS	D	F	B	F	C	D	F	C	F	D	D	F	A	D	D	F	F	B	F	E

Note:

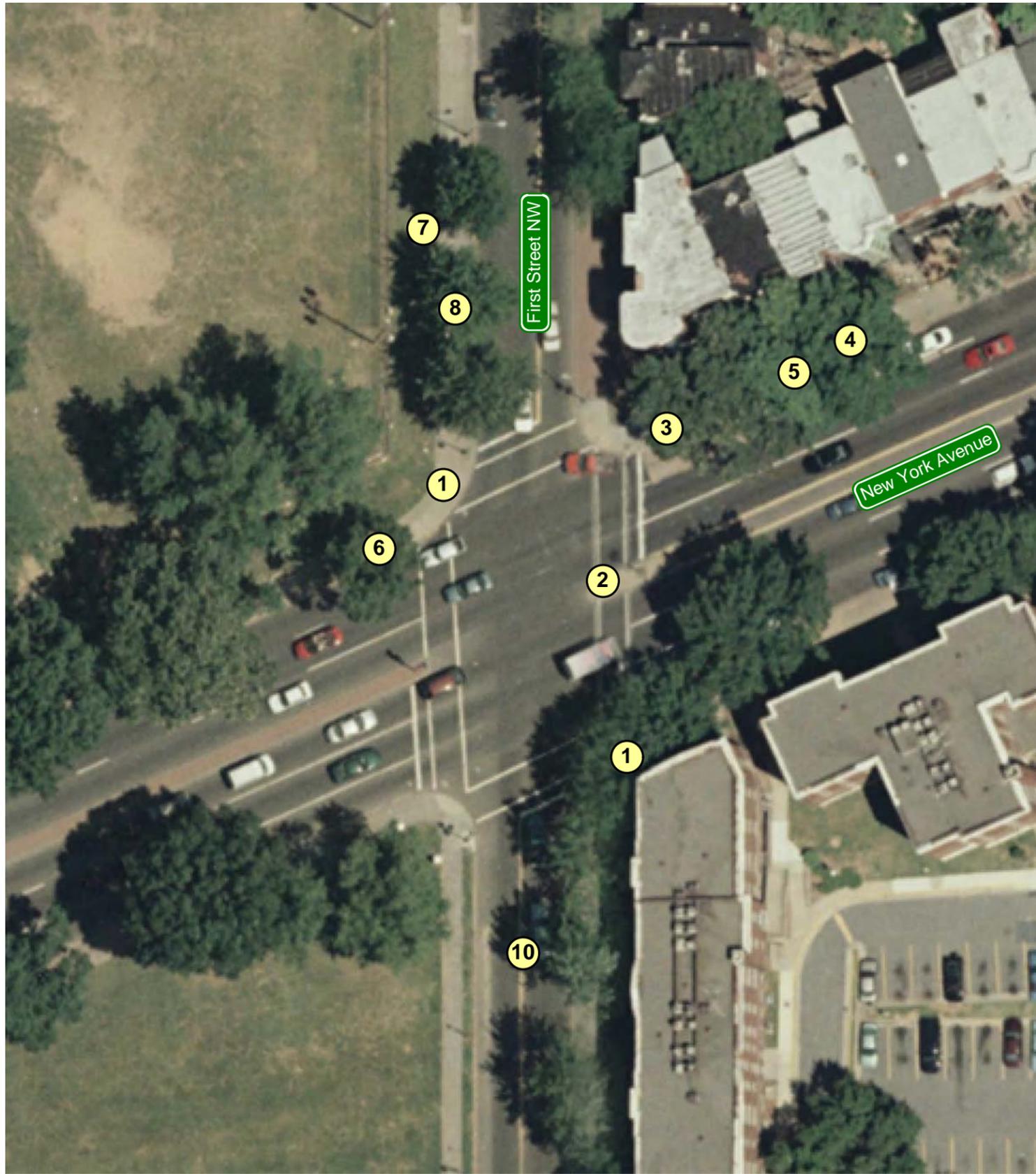
⁽¹⁾ Volume for 95th percentile queue is metered by upstream signal.

⁽²⁾ 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

The simulation package of the traffic model, SimTraffic, indicates that the proposed relocation of the stops for the turns from the bridge to the area immediately outside the bridge would help reduce traffic blockages on the bridge. However, as Table 9 indicates, the proposed modification would result in significant increases in delays and queue lengths for the southbound and westbound movements during the AM and PM peak hours. The southbound queues could potentially extend to the mainline of North Capitol Street and could encroach onto the through lanes. The negative safety impacts associated with the implementation of this improvement (potential encroachments onto mainline North Capitol Street southbound through movement) outweigh the benefits in traffic operations (reduction in traffic blockages on the bridge).

Recommendations:

- Do not provide additional green time for the westbound left turn movement as it will increase delay and queue length for the westbound movement.
- Do not provide protected only left turn for the westbound left turn movement as it will increase delay and queuing.
- Do not relocate the stops for the turns from the bridge to the area immediately outside the bridge as it will increase queues significantly for the westbound and southbound direction.



TRANSPORTATION ISSUES:

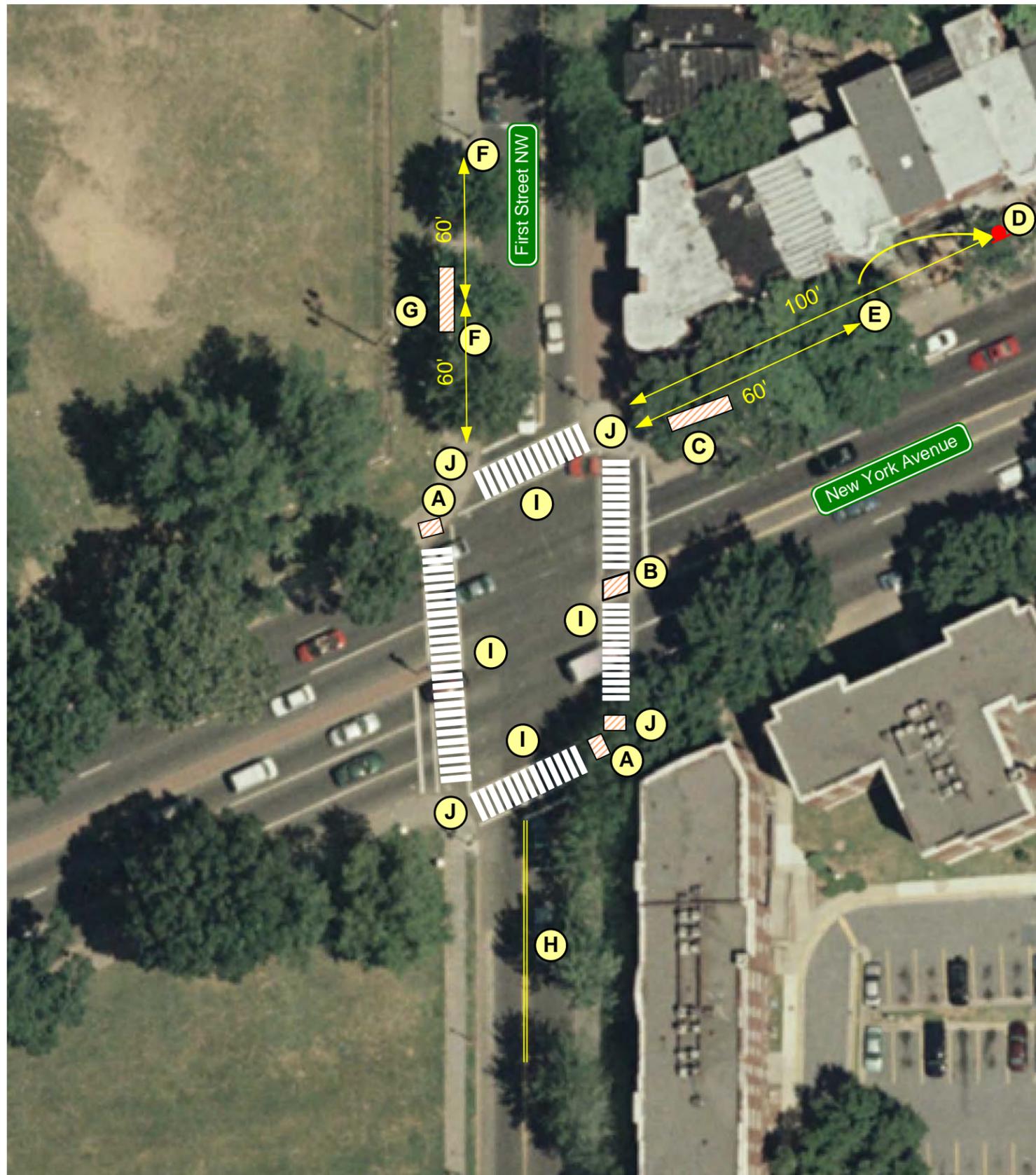
- ① The ADA ramps on the southeast and northwest corners do not meet current ADA standards.
- ② The island opening on the east leg of New York Avenue is not adequate and is also not aligned with the crosswalk.
- ③ In the northeast corner along New York Avenue the sidewalk is in poor condition.
- ④ Parking regulation sign is obstructed by signal.
- ⑤ No bus zone sign on the north side of New York Avenue, east of First Street.
- ⑥ Conflicting no parking sign messages on the same sign post on westbound New York Avenue west of First Street.
- ⑦ Sidewalk on the west side of First Street (north of the intersection) is in poor condition.
- ⑧ No parking regulation sign on the west side of First Street approaching the intersection.
- ⑨ Significant pedestrian activity and proximity to school.
- ⑩ Yellow striping on the northbound approach of First Street is in poor condition.



FIGURE 25A
ISSUES MAP
NEW YORK AVENUE AND
FIRST STREET NW

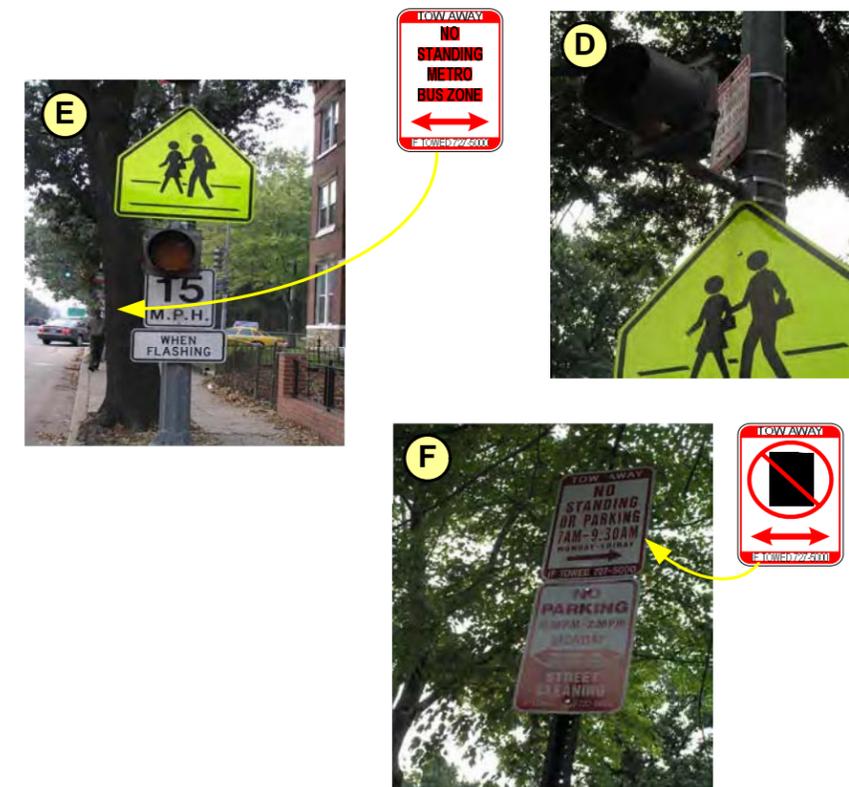


Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Rebuild ADA ramps on the northeast and southeast corners to conform with current ADA standards.
- B** Align the island opening with the crosswalk and provide adequate opening.
- C** Improve the sidewalk in the northeast corner along New York Avenue.
- D** Relocate the parking regulation sign 100 feet east of the intersection.
- E** Install a Metro Bus zone sign approximately 60 feet east of the intersection.
- F** Install a no parking sign to a location 60 feet north of New York Avenue and install a no standing or parking sign to a location 120 feet north of New York Avenue.
- G** Improve sidewalk on the east side of First Street north of New York Avenue.
- H** Re-stripe yellow lines on the northbound approach of first Street.
- I** Add zebra-type (continental) crosswalks for all approaches to improve safety in the vicinity of a school.
- J** Install count down pedestrian signal heads in all corners.



Legend

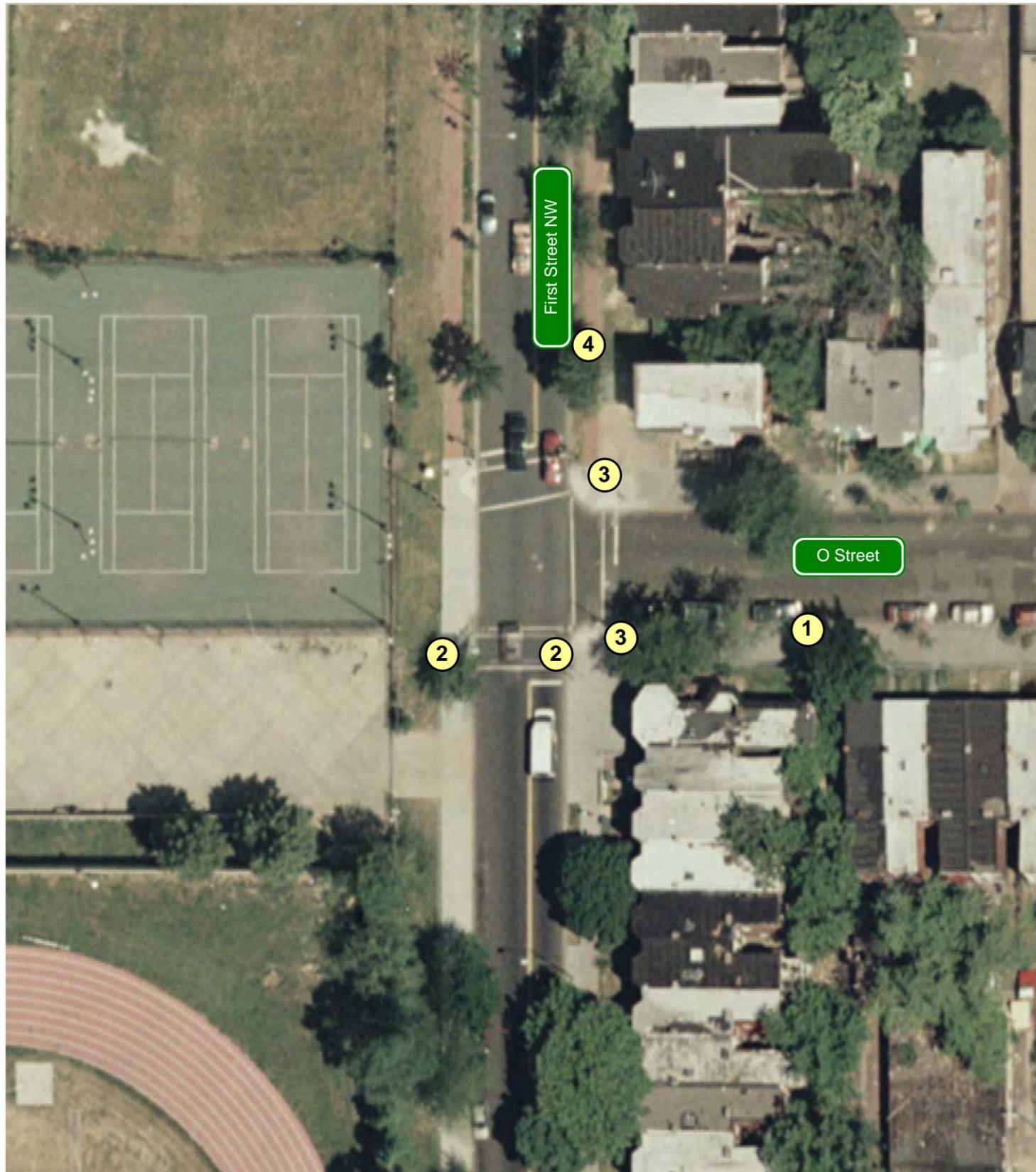
- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 25B

IMPROVEMENTS MAP
NEW YORK AVENUE AND
FIRST STREET NW



Not to Scale



TRANSPORTATION ISSUES:

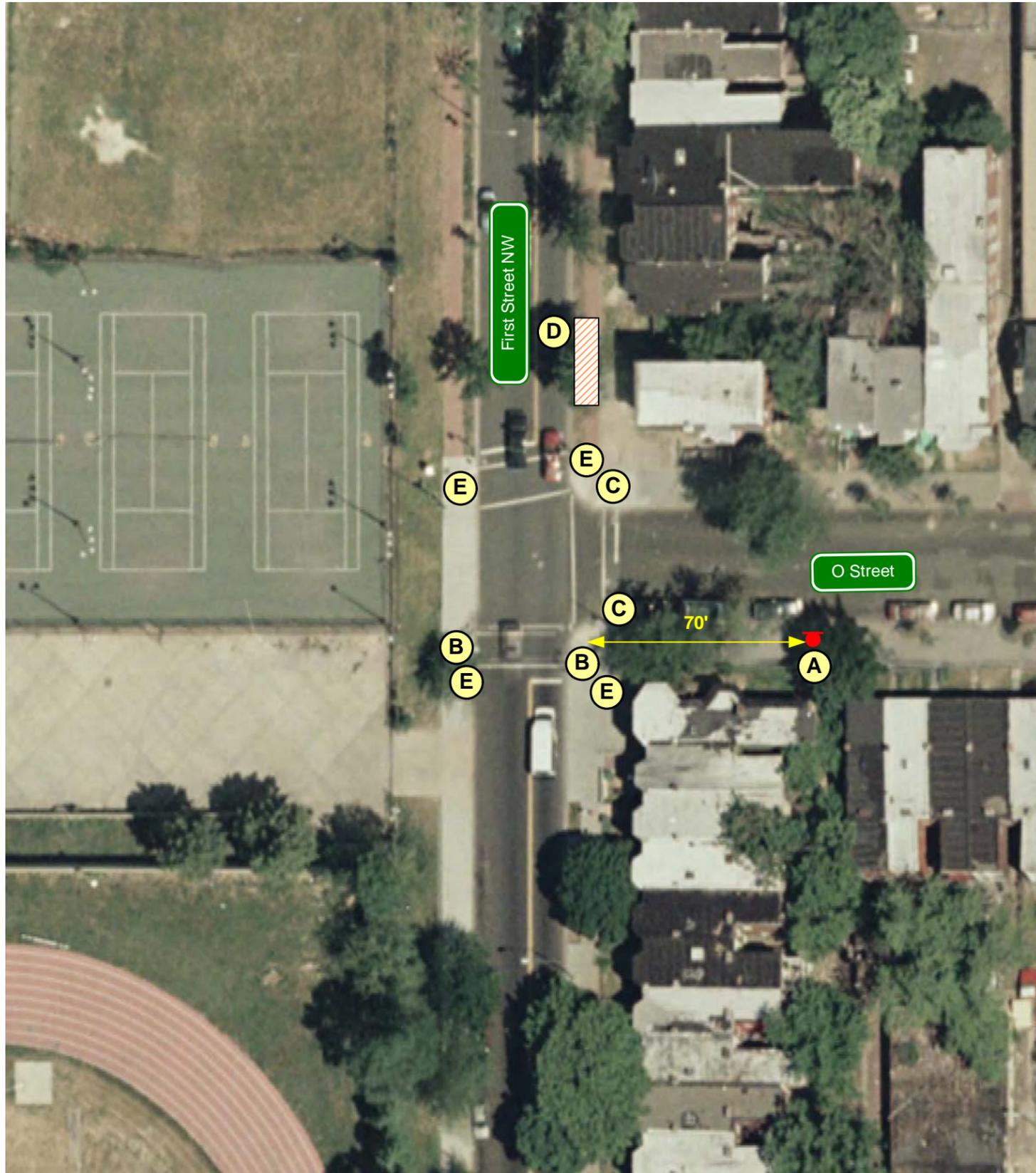
- ① No parking sign (70 feet east from the southeast corner) is pointing in the wrong direction.
- ② No ADA ramps on the southeast and southwest corners.
- ③ There are signal heads on the northeast and southeast corner for the west leg of O Street; however, there is no such street.
- ④ Poor sidewalk condition on the east side of First Street.
- ⑤ No pedestrian signals at this intersection.



FIGURE 26A
ISSUES MAP
O STREET AND
FIRST STREET NW



Not to Scale



RECOMMENDED IMPROVEMENTS:

- A Rotate the no parking sign to face towards O Street
- B Build ADA ramps or eliminate crosswalk across First Street NW, south of O Street.
- C Remove the signal heads facing towards west.
- D Improve sidewalk on the east side of First Street.
- E Add pedestrian signal heads for all approaches.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 26B

IMPROVEMENTS MAP
O STREET AND
FIRST STREET NW



Not to Scale



TRANSPORTATION ISSUES:

- ① ADA ramps on the southeast and northeast corners do not meet current ADA standards.
- ② There is no ADA ramp in the southwest corner on P Street.
- ③ Significant pedestrian activity and proximity to schools.

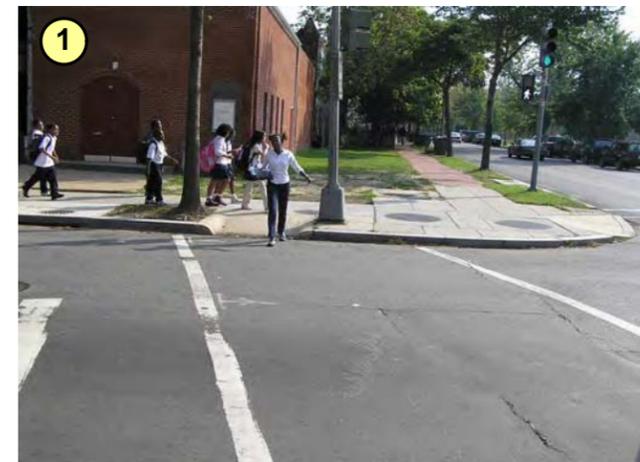


FIGURE 27A
ISSUES MAP
P STREET AND
FIRST STREET NW



Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Add zebra type (continental) crosswalks in all directions.
- B** Rebuild ADA ramps on northeast and southeast corners to conform to ADA standards.
- C** Construct ADA ramp on the southwest corner across P Street.
- D** Install count down pedestrian signal heads in all corners.

Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 27B

IMPROVEMENTS MAP
P STREET AND
FIRST STREET NW



Not to Scale



TRANSPORTATION ISSUES:

- ① ADA ramps on the northeast, northwest and southwest corners do not match current ADA standards.
- ② Vehicles appear to be traveling at higher than the posted speed limit on First Street.
- ③ School zone is not adequately signed.
- ④ No parking sign is not properly installed.
- ⑤ Poor sight distance from the stop bar for westbound traffic.
- ⑥ The school zone is not adequately signed.



FIGURE 28A
ISSUES MAP
BATES STREET AND
FIRST STREET NW

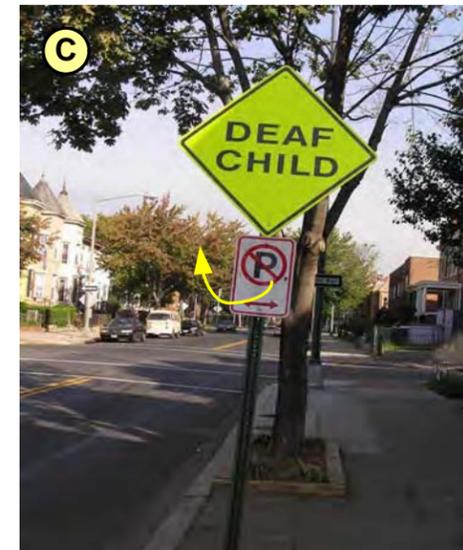
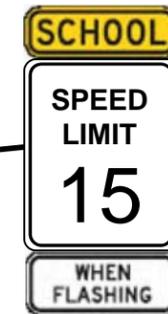


Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Upgrade ADA ramps to current standards on the northeast, northwest, and southwest corners.
- B** Install a school zone sign with beacons to replace the current school zone signage.
- C** Rotate the no parking sign and place it parallel to First Street NW.
- D** Reconstruct the ADA ramp on northeast side over 9 feet towards west.
- E** Reduce the crosswalk width by 6 feet. Also move the stop bar 6 feet west from its current position.
- F** Talk to the homeowner and ask him to remove the bushes.
- G** Install a school zone sign with beacons to replace the current school zone signage.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 28B

IMPROVEMENTS MAP
BATES STREET AND
FIRST STREET NW



Not to Scale



TRANSPORTATION ISSUES:

- ① There are no pedestrian signal heads.
- ② ADA ramps are too narrow on the southwest, northwest and southeast corners.
- ③ No ADA ramps are provided on the northeast corner.
- ④ Sidewalk on the First Street is uneven.
- ⑤ "No Parking" sign on Q Street is faded and message difficult to read.
- ⑥ The absence of parking restrictions on the southeast corner is not consistent with the treatment of the northwest and northeast corners.

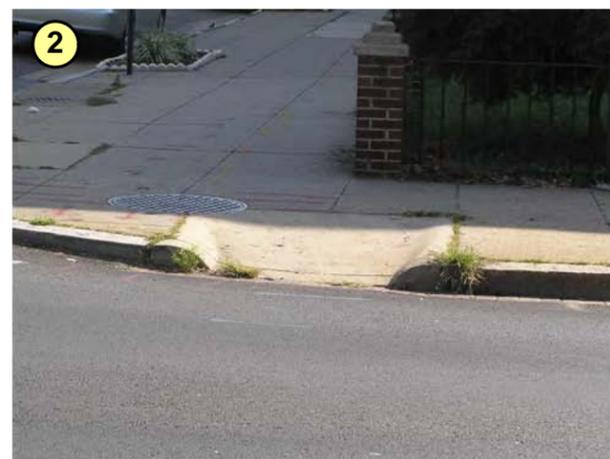
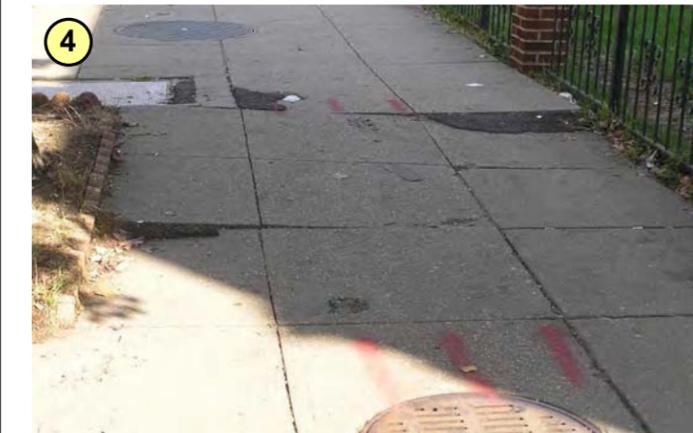


FIGURE 29A
ISSUES MAP
Q STREET AND
FIRST STREET NW



Not to Scale



RECOMMENDED IMPROVEMENTS:

- A** Provide pedestrian signals with push buttons on all approaches.
- B** Upgrade the ADA ramps to the current standards on the southwest, northwest, and southeast corners.
- C** Install one ADA ramp to serve both approaches to the northeast corner. A curb inlet at this location may not allow for the typical ADA ramp application.
- D** Cut back the tree roots and repair the sidewalk on First Street.
- E** Replace the faded "no parking" sign on the southeast corner with a new sign.
- F** Restrict parking within 20 feet of the southwest corner by adding "no parking" signs above the existing signs for eastbound and southbound directions.



Legend

- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

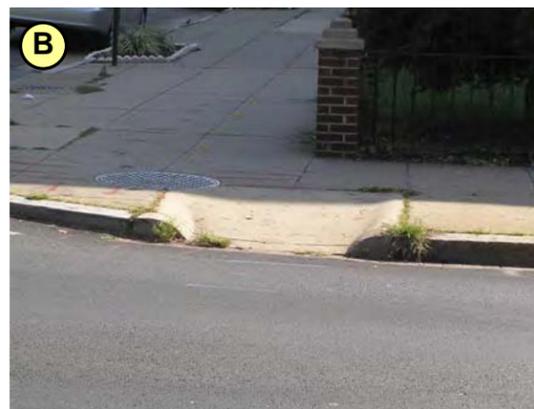
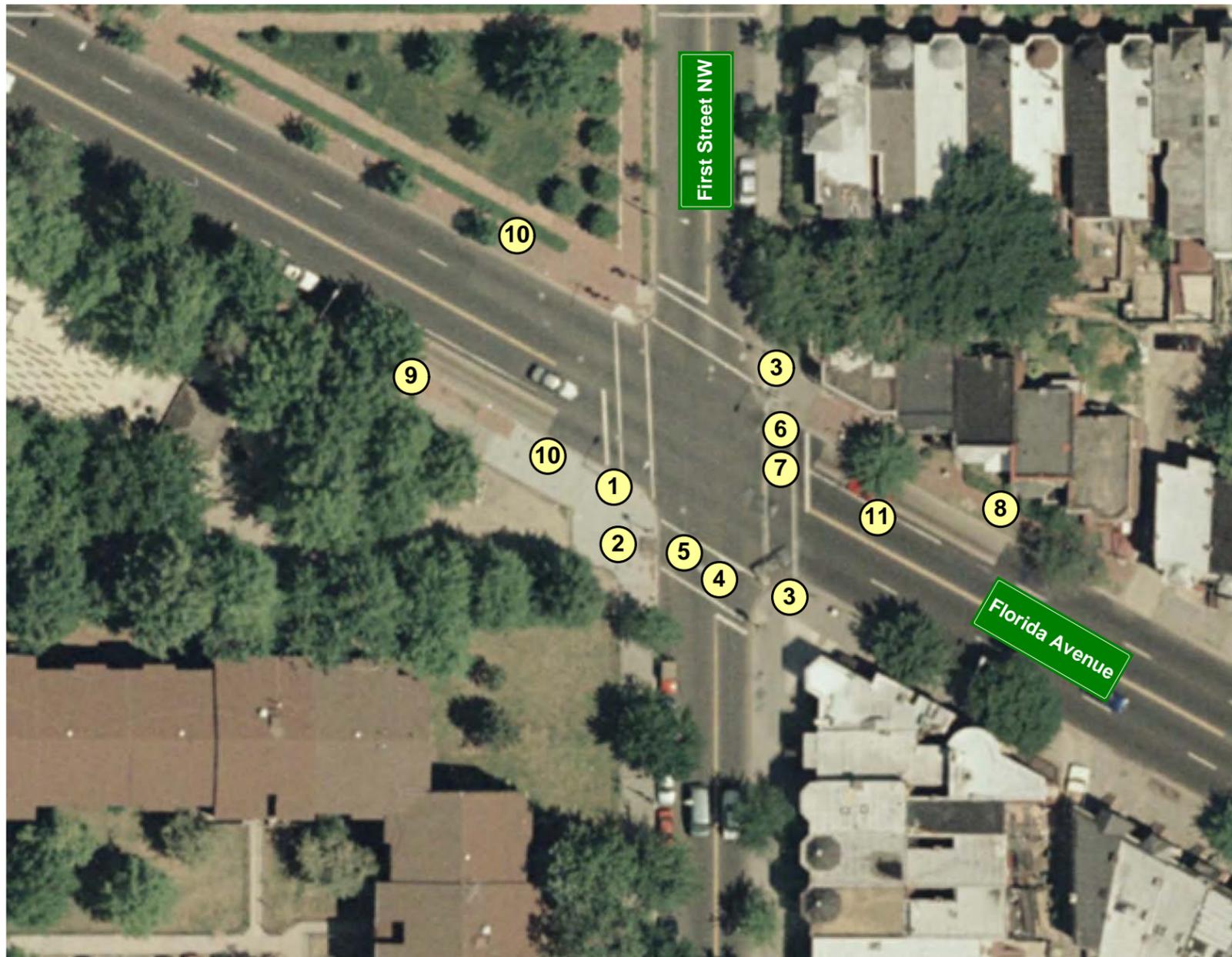


FIGURE 29B

IMPROVEMENTS MAP
Q STREET AND
FIRST STREET NW

Not to Scale



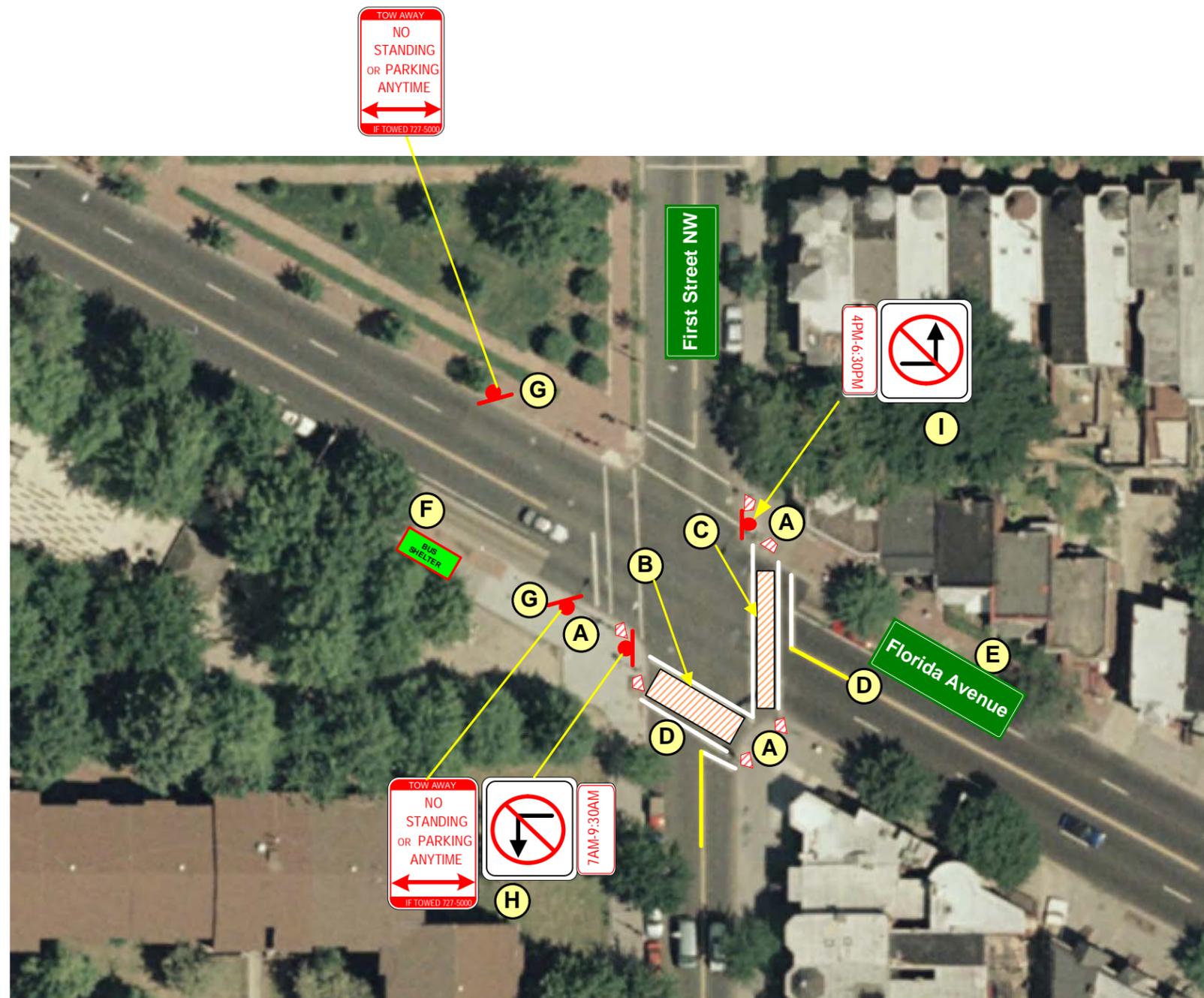
TRANSPORTATION ISSUES:

- ① ADA ramp for north/south movement on the southwest corner is too narrow.
- ② ADA ramp for east/west movement on the southwest corner is not properly constructed.
- ③ ADA ramps on the southeast and northeast corners are too narrow.
- ④ Pavement heaving observed in the northbound lanes of First Street south of Florida Avenue.
- ⑤ Pavement markings have worn away on the northbound approach to the intersection (First Street).
- ⑥ Pavement heaving observed on the north side of the westbound approach (Florida Avenue).
- ⑦ Pavement markings have worn away on the westbound approach to the intersection (Florida Avenue).
- ⑧ Sidewalk too narrow on the north side of Florida Avenue east of First Street due to overgrown shrubs limiting the usable sidewalk width.
- ⑨ Heavy bus usage on the southwest corner but no bus shelter has been provided.
- ⑩ Conflicting “no parking” sign messages on the same sign post at locations on the southwest and northwest corners.
- ⑪ Potential for both westbound (Florida Avenue) traffic lanes to be blocked by the simultaneous occurrence of a vehicle stopped in the left lane to make a left turn and a bus stopped in the right lane at the bus stop.



FIGURE 30A
ISSUES MAP
FLORIDA AVENUE AND
FIRST STREET NW

Not to Scale



TOW AWAY
NO
STANDING
OR PARKING
ANYTIME
IF TOWED 727-5000

First Street NW

4PM-6:30PM



TOW AWAY
NO
STANDING
OR PARKING
ANYTIME
IF TOWED 727-5000



7AM-9:30AM

Florida Avenue

4PM-6:30PM



RECOMMENDED IMPROVEMENTS:

- (A) Upgrade ADA ramps on the southwest, southeast, and northeast corners to current standards.
- (B) Repair/replace pavement on the northbound approach to the intersection.
- (C) Repair/replace pavement on the westbound approach to the intersection.
- (D) Replace pavement markings on the northbound and westbound approaches to the intersection.
- (E) Contact the property owner and request that the overgrown shrubs on the northeast corner be trimmed in order to provide more passable sidewalk width.
- (F) Provide a bus shelter for the bus stop on the southwest corner.
- (G) Remove the conflicting "no parking" signs located on the southwest and northwest corners and replace them with "no parking" signs.
- (H) Add sign to prohibit left turns from the westbound approach during the AM peak period from 7:00 AM to 9:30 AM.
- (I) Add sign to prohibit left turns from the eastbound approach during the PM peak period from 4:00 PM to 6:30 PM.



TOW AWAY
NO
STANDING
OR PARKING
ANYTIME
IF TOWED 727-5000

Legend

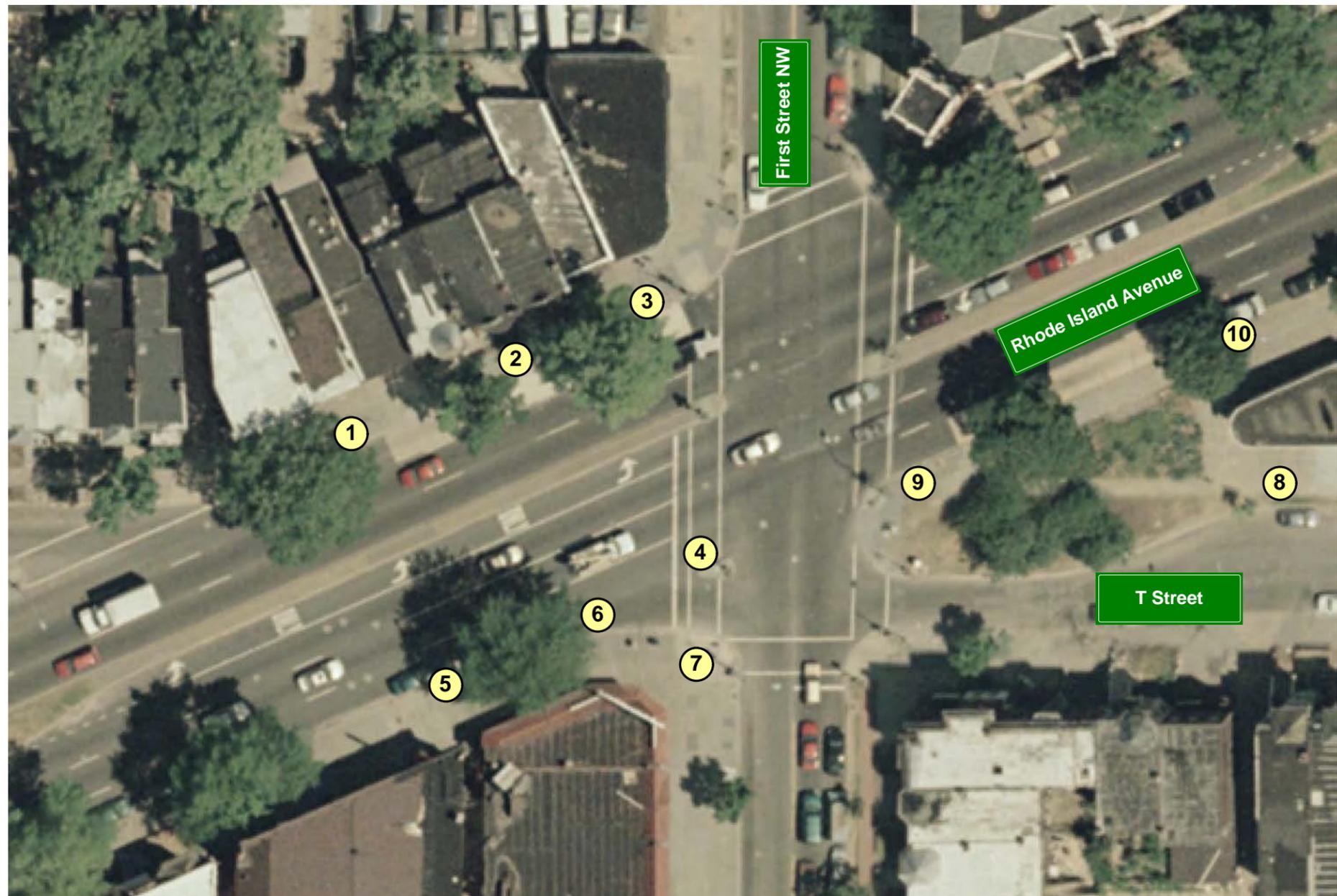
- Roadway construction
- Striping and pavement markings
- Parking and traffic regulations
- Pole relocation
- Signs
- Bus stop/bus shelter
- Traffic signal
- Sidewalks
- Other miscellaneous improvements

FIGURE 30B

IMPROVEMENTS MAP
FLORIDA AVENUE AND
FIRST STREET NW



Not to Scale



TRANSPORTATION ISSUES:

- ① Illegal parking on the bus stop area at the northwest corner along Rhode Island Avenue.
- ② No parking sign is missing at the bus stop.
- ③ Confusing sign at the northwest corner of the intersection.
- ④ No ADA ramp to cross the western side of Rhode Island Avenue.
- ⑤ There is a sign post with no sign on Rhode Island Avenue west of First Street NW.
- ⑥ Eastbound Rhode Island Avenue traffic approaching T Street is blocked by illegally parked vehicles along Rhode Island Avenue.
- ⑦ No pedestrian signal at the southwest corner (for pedestrians crossing from the island on Rhode Island Avenue to the sidewalk on the south side of Rhode Island Avenue).
- ⑧ Sidewalk is in poor condition along the north side of T Street.
- ⑨ On the southeast corner of Rhode Island Avenue, no parking allowed sign at bus stop is not clearly visible.
- ⑩ On the southeast corner of Rhode Island Avenue, there is no sign to identify the end of the bus stopping zone.



FIGURE 31A
ISSUES MAP
RHODE ISLAND AVENUE/
T STREET AND
FIRST STREET NW

Not to Scale

IMPROVEMENT SCHEDULE

The recommendations improvements, presented in Figures 13 through 31, can be implemented within five years.

V. FEASIBILITY OF RECONSTRUCTING TRUXTON CIRCLE

Before 1946, the intersection of North Capitol Street with Florida Avenue, Q Street, and Lincoln Avenue operated as a traffic circle, known as Truxton Circle¹. The Study Team analyzed the feasibility of converting the intersection of North Capitol Street with Florida Avenue, Q Street, and Lincoln Avenue from a signalized intersection to a traffic circle.

TRAFFIC CIRCLE ALTERNATIVES

The Study Team assessed two different alternative designs for the proposed traffic circle:

1. At-Grade traffic circle at the intersection of North Capitol Street and Florida Avenue
2. Traffic circle at the intersection of North Capitol Street and Florida with North Capitol Street depressed under the circle.

The generalized design concepts for these two alternatives are presented in Figure 32.

EVALUATION OF TRAFFIC CIRCLE ALTERNATIVES

The Study team evaluated the feasibility of implementing the Truxton Circle by assessing the following factors:

1. Traffic Operations
2. Cost
3. Aesthetics

TRAFFIC OPERATIONS

The Study Team used the Synchro and Sidra traffic analysis software to evaluate expected traffic conditions with the proposed circle. The Study Team used the projected 2014 traffic volumes, as shown in Figure 11.

The Study Team used delay, queue length and level of service to measure the effectiveness of the proposed circle.

The two analysis tools, Synchro and Sidra yielded similar LOS results. As Table 10 indicates, the construction of an at-grade traffic circle at the intersection of North Capitol Street and Florida Avenue would have negative effects on traffic operations at this intersection. The anticipated queues on North Capitol Street are expected to exceed 2,000 feet on northbound North Capitol Street. These queues are much longer than the expected queues without the traffic circle. The anticipated queue length for future conditions without the circle is less than 400 feet. Similarly, the delays and levels of service would degrade significantly with the construction of an at-grade traffic circle.

As Table 10 shows, traffic operations could be improved significantly with the construction of a traffic circle with grade separated North Capitol Street. Depressing North Capitol Street at the traffic circle would result in significant improvements in traffic operations at this intersection. With grade separation, the traffic circle would operate at LOS A during the AM and PM peak hours.

Currently northbound and southbound North Capitol Street and eastbound Florida Avenue have a three-lane cross-section. As shown in Figure 32, the Study Team developed a preliminary design with two-lane approaches to the circle to improve safety and to conform to the design guidelines specified in "Roundabouts: An Informational Guide" published by Federal Highway Administration. To determine whether a three lane cross-section would improve the traffic operation of the circle, The Study Team performed a Sidra analysis where the northbound and southbound North Capitol Street and eastbound Florida Avenue would have three lanes at the approach to the circle. The analysis results, presented in Appendix D, show that the at grade alternative would operate at LOS F during both AM and PM peak hours while the grade separated alternative would operate at LOS A during both AM and PM peak hours.

COST AND AESTHETICS

The Study Team also considered cost and aesthetics as evaluation factors for the assessment of proposed traffic circle alternatives. As Table 11 indicates, the estimated cost for the at grade alternative is approximately 3.7 million dollars. The estimated cost of the grade separated traffic circle is 100 million dollars.

Aesthetics is another important consideration in the evaluation process. At grade traffic circle with central landscaping would blend in with the neighborhood and complement the characteristics of the area. But the grade separated traffic circle, which will require construction of tunnels and ramps, would not conform aesthetically to the overall image of the neighborhood. Moreover, the grade separated alternative will force R Street, Quincy Place, O Street and P Street to operate as a one-way street. These conversions to one-way streets would inconvenience the study area residents.

RECOMMENDATION

The Study Team does not recommend the construction of Truxton Circle. While the At-Grade alternative would improve the aesthetics of the area, the traffic circle would result in significant detrimental effects on traffic operations, would require right of way acquisitions and would cost approximately 3.7 Million Dollars. The Grade Separated alternative of the Truxton Circle would not be as aesthetically pleasant as the proposed At-Grade circle and would have an extremely high cost of construction. The Study Team recommends that the recommendations included in the Issues and Recommendations chapter of this report be implemented to improve traffic operations and pedestrian safety at the intersection of North Capitol Street and Florida Avenue.

¹ Appendix A shows a picture of Truxton Circle prior to its removal.

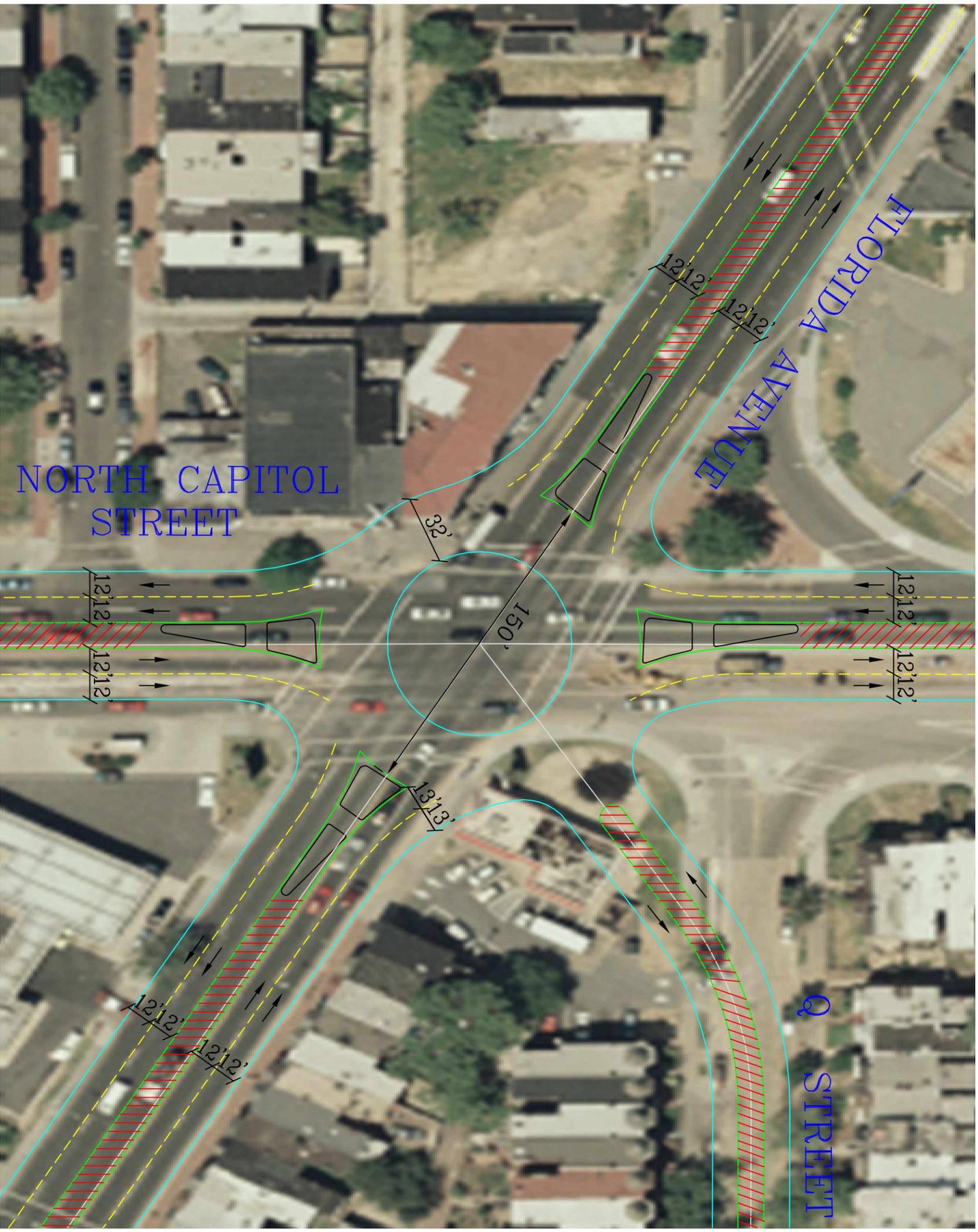
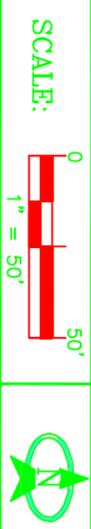
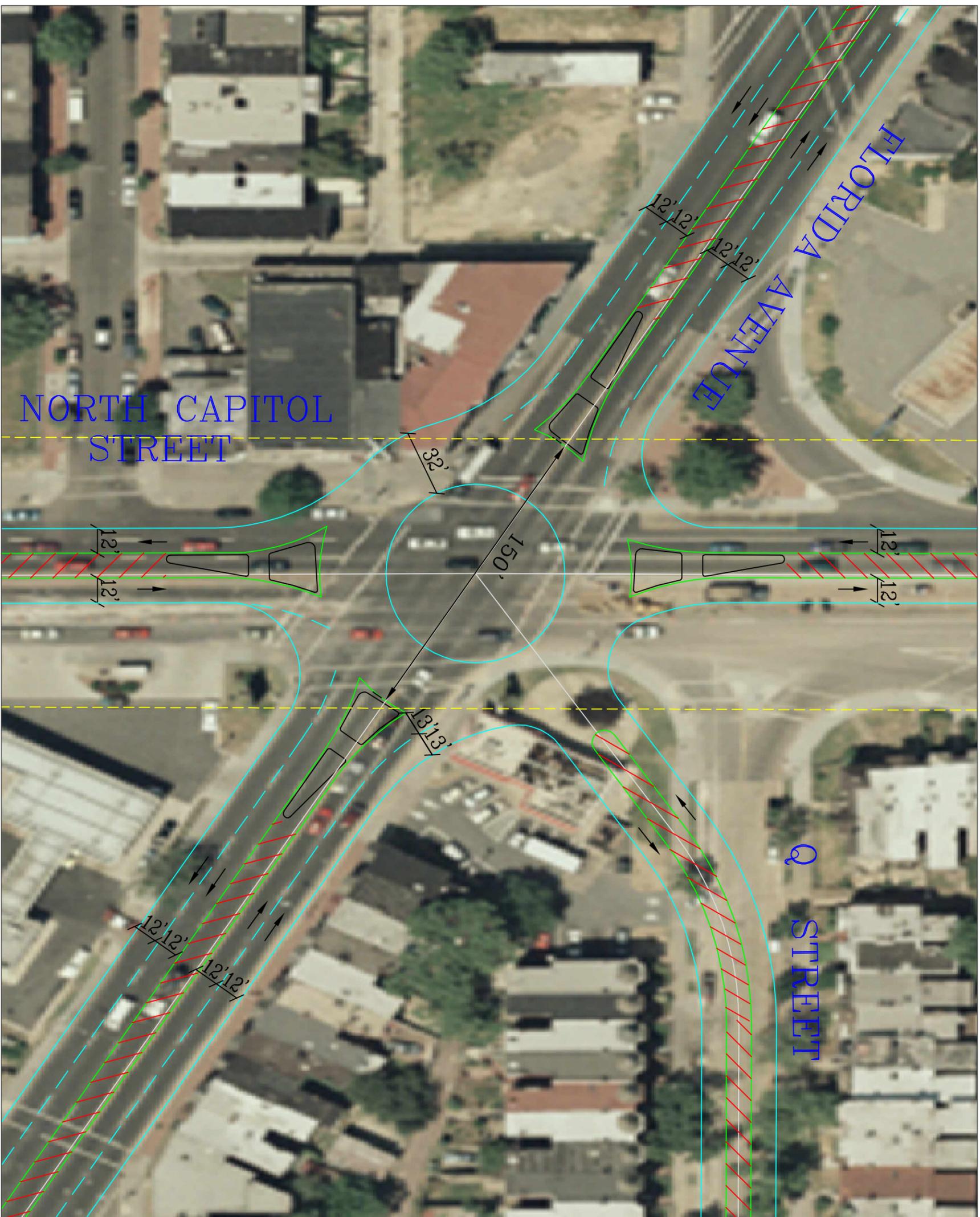


FIGURE 32A

At Grade Traffic
Circle Plan



North Capitol Street Transportation Study



LEGEND
 - - - Edge of underground
 - - - North Capitol Street

FIGURE 32B

**Grade Separated
 Traffic Circle Plan**

SCALE:
 0 50'
 1" = 50'



North Capitol Street Transportation Study

NOVEMBER 2005 Page 69

Table 10
Expected Traffic Operations with At-Grade and Grade-Separated Traffic Circle

	At-Grade										Grade-Separated									
	AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street	Southbound North Capitol Street	Q Street NE	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street	Southbound North Capitol Street	Q Street NE	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street	Southbound North Capitol Street	Q Street NE	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street	Southbound North Capitol Street	Q Street NE
Average Delay (second)	251	380	156	251	24	229	273	249	67	22	2	2	7	8	8	2	2	7	8	7
95th Percentile Queue Length (feet)	2972	3296	2875	4445	86	4302	2470	4302	1371	82	100	100	7	10	18	93	82	7	8	15
Synchro LOS	F	F	F	F	D	F	F	F	F	D	C	A	A	A	A	D	A	B	A	A
Sidra LOS	F	F	F	F	C	F	F	F	E	C	A	A	A	A	A	A	A	A	A	A
Synchro LOS of the Traffic Circle	F					F					B					C				
Sidra LOS of the Traffic Circle	F					F					A					A				
Intersection LOS without Circle	E					F														

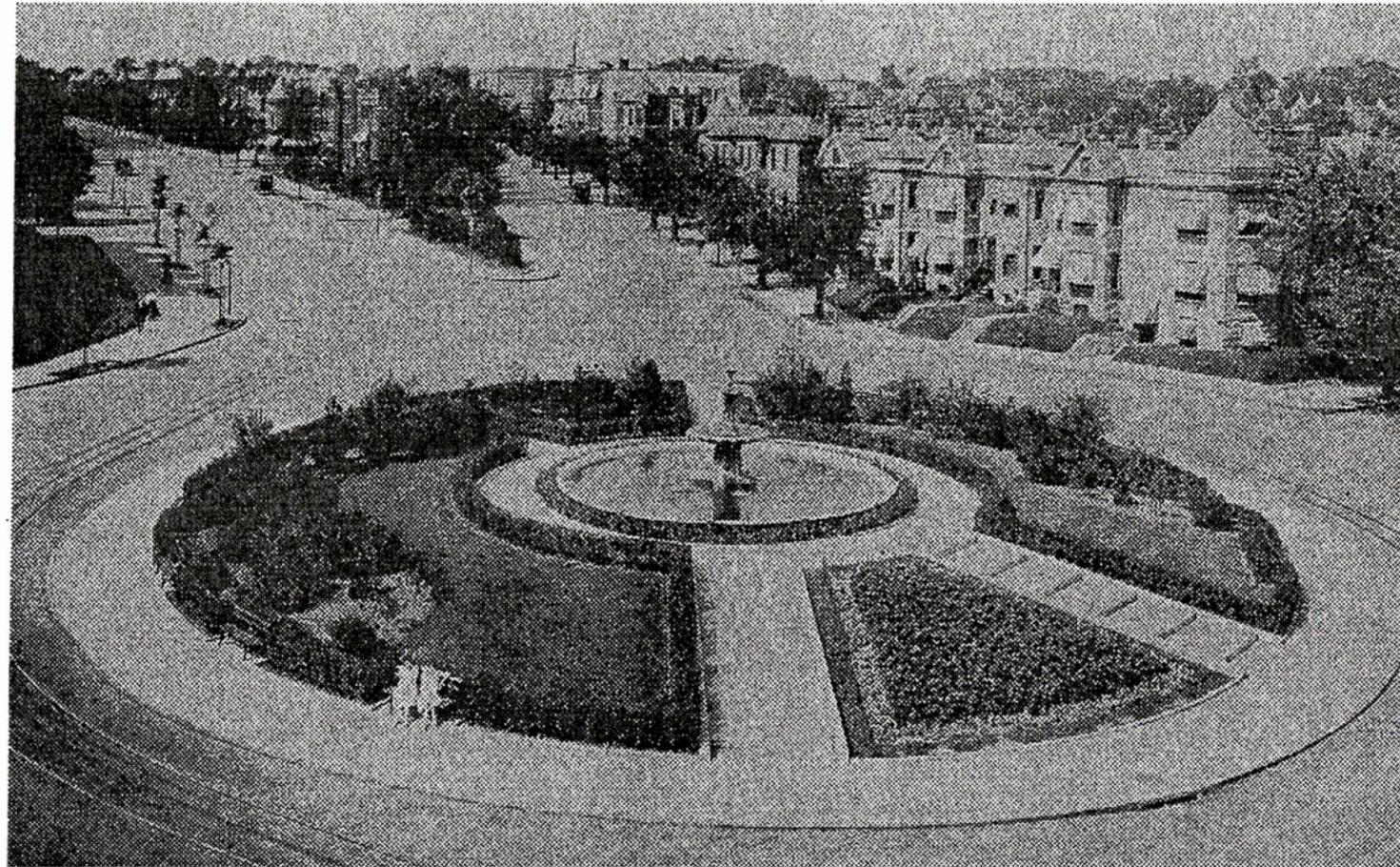
**Table 11
Truxton Circle Reconstruction Planning Level Cost Estimate**

Location	Description	Unit	Qty	Unit Price	Total	
At Grade Alternative	Right of way cost	LS	4	\$	1,636,400	
	Full depth pavement construction	SF	7200	9.20 \$	66,240	
	Pavement planing and overlay	SF	17672	1.25 \$	22,090	
	Pavement signing and marking	LF	3291	0.63 \$	2,073	
	Sidewalk removal and disposal	SF	8400	0.70 \$	5,880	
	4" Cement concrete side walk	SF	11385	3.50 \$	39,848	
	Crosswalk marking/ striping	EA	4	206.00 \$	824	
	Drainage	LS		\$	38,453	
	Signal and utility removal cost	LS		\$	50,000	
	Maintenance of traffic	LS	1	\$	3,201	
	Construction cost of inscribed circle and landscaping	LS		\$	150,000	
	Construction of median	SF	16800	50.00 \$	840,000	
	Signs	LS	1	\$	20,000	
	Note: Signs includes bus stop signs, pedestrian walk signs, parking/ no parking signs, speed limit signs, signs indicating the location of the helipad					
	Sub-Total \$					2,875,009
	15%Engineering and Design \$					431,251
	15%Contingency \$					431,251
Total \$					3,737,511	
Grade Separated Alternative	Right of way cost	LS		\$	26,771,100	
	Full depth pavement construction	SF	7200	9.20 \$	66,240	
	Cost of tunnel and ramp construction	SF	245000	200.00 \$	49,000,000	
	Pavement planing and overlay	SF	17672	1.25 \$	22,090	
	Pavement signing and marking	LF	3291	0.63 \$	2,073	
	Sidewalk removal and disposal	SF	8400	0.70 \$	5,880	
	4" Cement concrete side walk	SF	11385	3.50 \$	39,848	
	Crosswalk marking/ striping	EA	4	206.00 \$	824	
	Maintenance of traffic	LS	1	\$	3,201	
	Construction cost of inscribed circle and landscaping	LS		\$	150,000	
	Construction of median	SF	16800	50.00 \$	840,000	
	Signs	LS	1	\$	20,000	
	Note: Signs includes bus stop signs, pedestrian walk signs, parking/ no parking signs, speed limit signs, signs indicating the location of the helipad					
	Sub-Total \$					76,921,255
	15%Engineering and Design \$					11,538,188
	15%Contingency \$					11,538,188
	Total \$					99,997,632

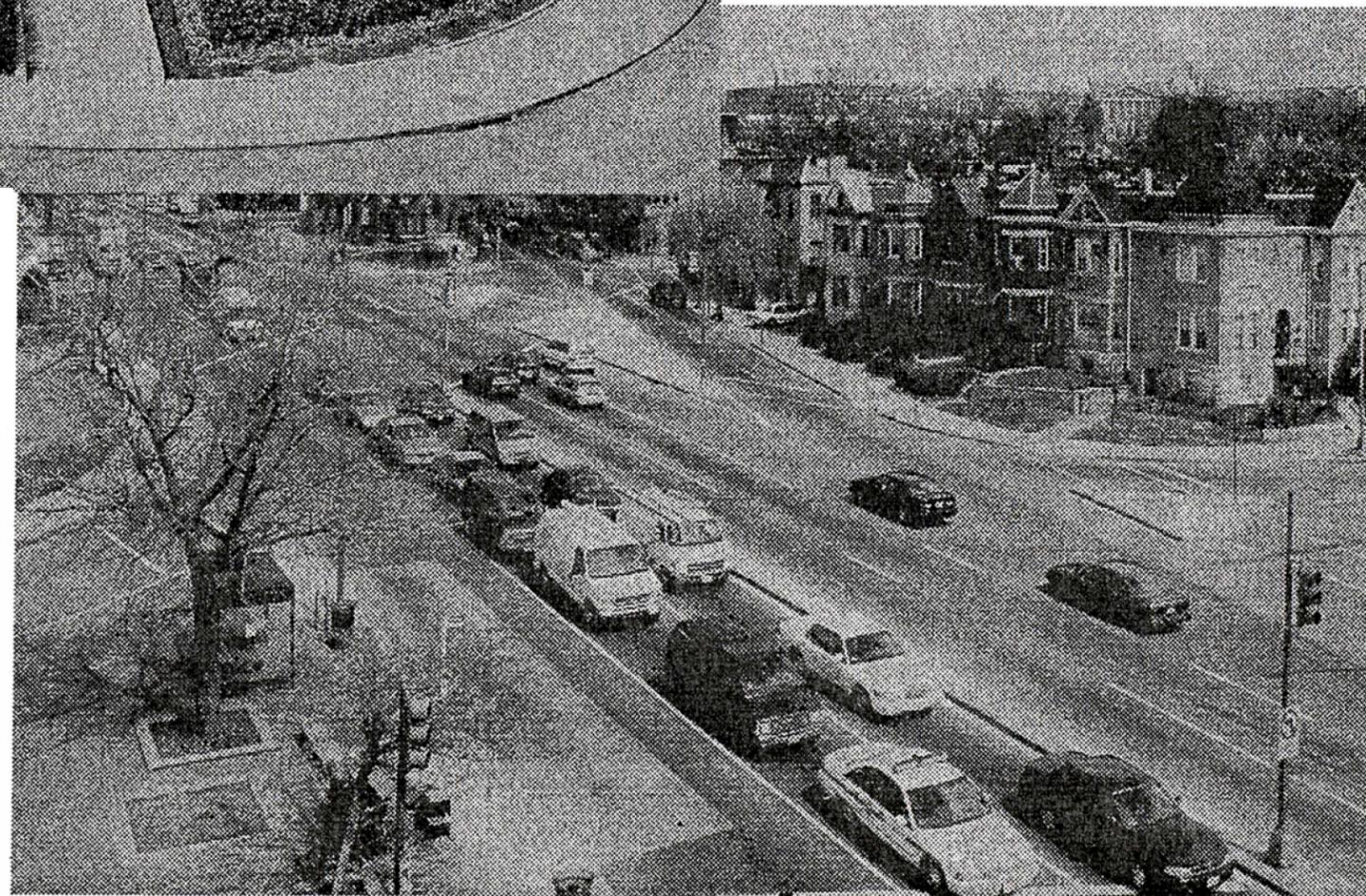
Note:
All total cost include 15% engineering and design cost and 15% contingency cost
Right of way cost is calculated based on the property value reported in District of Columbia's real property map.

APPENDIX A

TRUXTON CIRCLE



Truxton Circle was located at the intersection of North Capitol Street (left), Lincoln Avenue (center, now Lincoln Road), Q Street, and Florida Avenue. C 1916.



When North Capitol was widened in 1946, Truxton Circle was eliminated, creating the North Capitol that we know today.

APPENDIX B
TRAFFIC AND PEDESTRIAN COUNT DATA

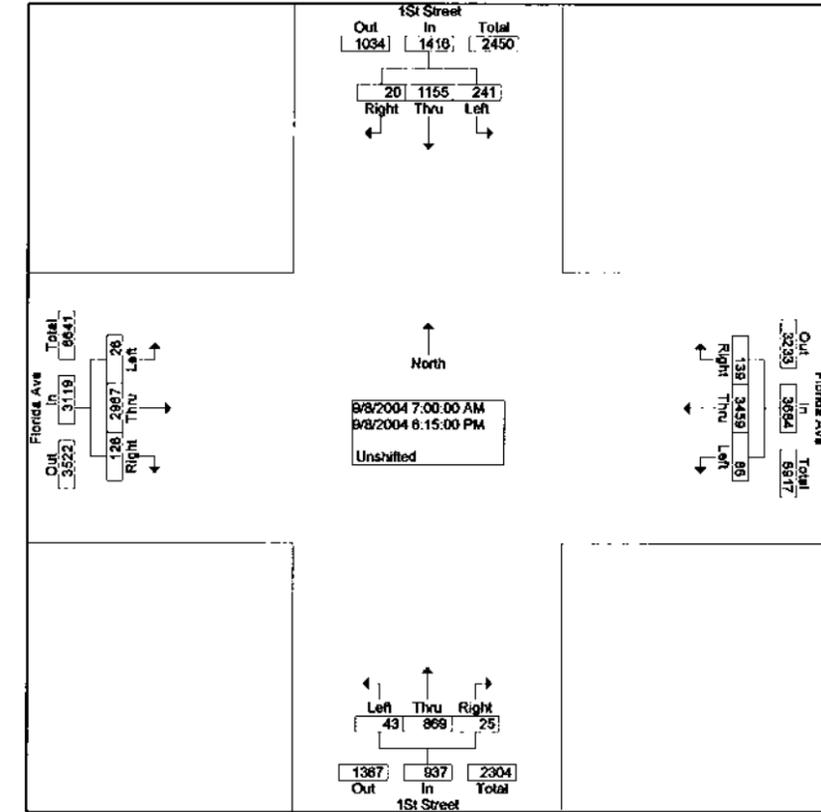
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1STSTR~1
Site Code : 00000033
Start Date : 09/08/2004
Page No : 1

Start Time	1St Street From North			Florida Ave From East			1St Street From South			Florida Ave From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	1	50	6	6	208	6	0	52	3	5	109	0	448
07:15 AM	2	52	20	6	210	4	1	40	2	8	150	2	497
07:30 AM	1	78	14	4	237	3	1	73	1	3	171	1	587
07:45 AM	2	83	18	7	249	5	0	60	1	7	146	0	576
Total	6	263	58	23	804	18	2	225	7	23	576	3	2106
08:00 AM	1	92	17	11	248	5	0	47	2	13	145	0	581
08:15 AM	0	79	17	8	236	5	2	54	3	10	189	7	610
08:30 AM	5	86	21	8	244	4	2	61	4	5	171	0	611
08:45 AM	3	89	18	3	235	7	0	51	3	14	170	1	594
Total	9	346	73	30	963	21	4	213	12	42	675	8	2396
04:30 PM	0	75	15	8	170	8	2	45	2	5	254	3	587
04:45 PM	1	83	14	12	195	8	0	52	4	11	225	0	585
Total	1	138	29	20	365	16	2	97	6	16	479	3	1172
05:00 PM	1	75	20	15	211	5	1	36	2	5	134	2	507
05:15 PM	2	74	19	7	201	7	2	48	1	7	238	3	609
05:30 PM	0	79	18	16	181	1	4	63	4	6	215	2	589
05:45 PM	0	64	9	9	222	6	4	67	5	5	232	3	626
Total	3	292	66	47	815	19	11	214	12	23	819	10	2331
06:00 PM	1	71	8	12	207	4	3	64	5	10	219	2	606
06:15 PM	0	45	9	7	205	8	3	56	1	12	199	0	545
Grand Total	20	1155	241	139	3459	86	25	869	43	128	2967	28	9156
Apprch %	1.4	81.6	17.0	3.8	93.9	2.3	2.7	92.7	4.6	4.0	95.1	0.8	
Total %	0.2	12.6	2.6	1.5	37.8	0.9	0.3	9.5	0.5	1.4	32.4	0.3	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1STSTR~1
Site Code : 00000033
Start Date : 09/08/2004
Page No : 2



Start Time	1St Street From North				Florida Ave From East				1St Street From South				Florida Ave From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	9	346	73	428	30	963	21	1014	4	213	12	229	42	675	8	725	2396
Percent	2.1	80.8	17.1		3.0	95.0	2.1		1.7	83.0	5.2		5.8	93.1	1.1		
08:30 Volume	5	86	21	112	8	244	4	256	2	61	4	67	5	171	0	176	611
Peak Factor																	0.980
High Int.	08:30 AM				08:00 AM				08:30 AM				08:15 AM				
Volume	5	86	21	112	11	248	5	264	2	61	4	67	10	169	7	206	
Peak Factor	0.955				0.960				0.854				0.880				
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:15 PM																
Volume	3	288	54	345	44	811	18	873	13	242	15	270	28	904	10	942	2430
Percent	0.9	83.5	15.7		5.0	92.9	2.1		4.8	89.6	5.6		3.0	96.0	1.1		
05:45 Volume	0	64	9	73	9	222	6	237	4	67	5	76	5	232	3	240	626
Peak Factor																	0.970
High Int.	05:30 PM				05:45 PM				05:45 PM				05:15 PM				
Volume	0	79	18	97	9	222	6	237	4	67	5	76	7	238	3	248	
Peak Factor	0.889				0.921				0.888				0.950				

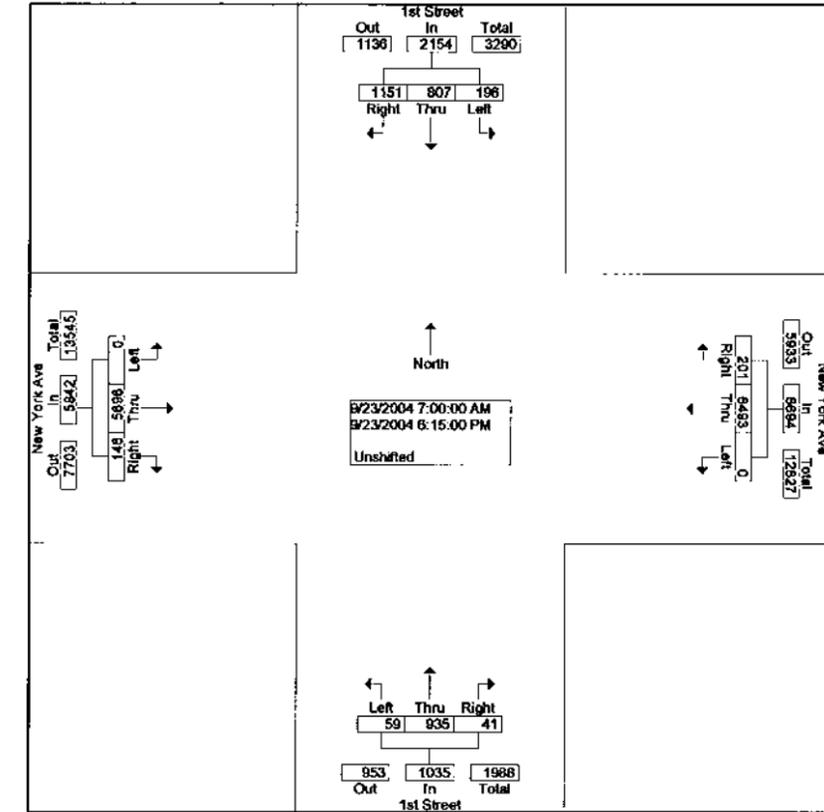
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1STSTA~4
Site Code : 00000033
Start Date : 09/23/2004
Page No : 1

Start Time	1st Street From North			New York Ave From East			1st Street From South			New York Ave From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	88	14	15	12	592	0	2	62	7	10	267	0	1069
07:15 AM	90	20	8	5	526	0	0	57	3	10	271	0	990
07:30 AM	87	38	7	5	533	0	1	70	5	14	271	0	1031
07:45 AM	77	41	11	7	532	0	2	74	1	18	260	0	1023
Total	342	113	41	29	2183	0	5	263	16	52	1069	0	4113
08:00 AM	102	60	8	4	412	0	3	73	4	20	243	0	929
08:15 AM	73	67	9	13	332	0	2	81	2	19	238	0	834
08:30 AM	91	57	8	39	285	0	1	70	5	24	244	0	824
08:45 AM	76	61	8	15	317	0	4	66	4	9	211	0	771
Total	342	245	33	71	1346	0	10	290	15	72	834	0	3358
04:30 PM	63	53	8	9	359	0	2	43	3	3	417	0	960
04:45 PM	69	46	20	12	358	0	4	48	6	2	453	0	1018
Total	132	99	28	21	717	0	6	91	9	5	870	0	1978
05:00 PM	77	55	16	11	404	0	4	42	6	3	436	0	1054
05:15 PM	57	83	11	10	388	0	3	51	3	1	466	0	1073
05:30 PM	51	50	16	37	380	0	5	58	2	4	462	0	1065
05:45 PM	53	80	15	9	394	0	0	42	3	3	469	0	1068
Total	238	268	58	67	1566	0	12	193	14	11	1833	0	4260
06:00 PM	41	52	18	4	330	0	4	51	3	4	490	0	997
06:15 PM	56	30	18	9	351	0	4	47	2	2	500	0	1019
Grand Total	1151	807	196	201	6493	0	41	935	59	146	5896	0	15725
Approch %	53.4	37.5	8.1	3.0	97.0	0.0	4.0	90.3	5.7	2.5	97.5	0.0	
Total %	7.3	5.1	1.2	1.3	41.3	0.0	0.3	5.9	0.4	0.9	36.2	0.0	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1STSTA~4
Site Code : 00000033
Start Date : 09/23/2004
Page No : 2



Start Time	1st Street From North				New York Ave From East				1st Street From South				New York Ave From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	342	113	41	496	29	2183	0	2212	5	263	18	284	52	1069	0	1121	4113
Percent	69.0	22.8	8.3		1.3	98.7	0.0		1.8	92.6	5.6		4.6	95.4	0.0		
07:00 Volume	88	14	15	117	12	592	0	604	2	62	7	71	10	267	0	277	1069
Peak Factor																	0.962
High Int.	07:30 AM				07:00 AM				07:45 AM				07:30 AM				
Volume	87	38	7	132	12	592	0	604	2	74	1	77	14	271	0	285	
Peak Factor	0.939				0.916				0.922				0.983				
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	238	268	58	564	67	1566	0	1633	12	193	14	219	11	1833	0	1844	4260
Percent	42.2	47.5	10.3		4.1	95.9	0.0		5.5	88.1	6.4		0.6	99.4	0.0		
05:15 Volume	57	83	11	151	10	388	0	398	3	51	3	57	1	466	0	467	1073
Peak Factor																	0.993
High Int.	05:15 PM				05:30 PM				05:30 PM				05:45 PM				
Volume	57	83	11	151	37	380	0	417	5	58	2	65	3	469	0	472	
Peak Factor	0.934				0.979				0.842				0.977				

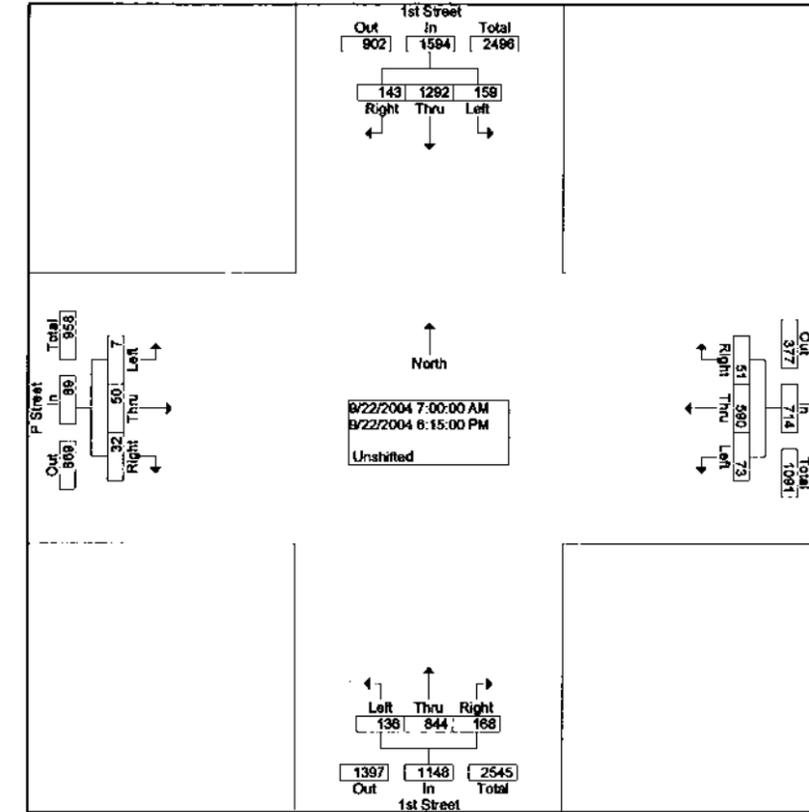
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1STSTR~2
Site Code : 00000095
Start Date : 09/22/2004
Page No : 1

Start Time	1st Street From North			P Street From East			1st Street From South			P Street From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	9	63	4	0	38	3	9	58	4	0	0	0	188
07:15 AM	3	61	7	1	44	3	4	46	5	2	1	0	177
07:30 AM	11	83	5	3	15	1	7	56	9	3	2	1	196
07:45 AM	11	89	10	1	33	5	10	62	13	1	2	0	237
Total	34	296	26	5	130	12	30	222	31	6	5	1	798
08:00 AM	9	80	3	4	64	6	12	45	14	0	4	1	242
08:15 AM	12	92	21	5	65	3	14	59	16	2	4	0	293
08:30 AM	7	74	16	2	42	5	14	67	10	0	4	0	241
08:45 AM	9	83	9	4	40	8	12	61	12	1	1	0	240
Total	37	329	49	15	211	22	52	232	52	3	13	1	1016
04:30 PM	9	79	8	4	35	3	11	55	3	6	8	2	223
04:45 PM	6	100	8	4	50	3	11	31	9	1	0	1	224
Total	15	179	16	8	85	6	22	86	12	7	8	3	447
05:00 PM	5	83	12	4	35	5	11	52	12	3	1	0	223
05:15 PM	10	79	9	6	30	2	9	61	5	3	5	1	220
05:30 PM	21	106	11	4	34	8	11	47	10	3	7	1	263
05:45 PM	8	79	11	1	27	8	12	57	6	1	5	0	215
Total	44	347	43	15	128	23	43	217	33	10	18	2	921
06:00 PM	7	72	16	3	18	3	9	44	1	3	5	0	181
06:15 PM	6	69	9	5	20	7	12	43	7	3	1	0	182
Grand Total	143	1292	159	51	590	73	168	844	136	32	50	7	3545
Apprch %	9.0	81.1	10.0	7.1	82.6	10.2	14.6	73.5	11.8	36.0	56.2	7.9	
Total %	4.0	36.4	4.5	1.4	16.6	2.1	4.7	23.8	3.8	0.9	1.4	0.2	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1STSTR~2
Site Code : 00000095
Start Date : 09/22/2004
Page No : 2



Start Time	1st Street From North				P Street From East				1st Street From South				P Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	37	329	49	415	15	211	22	248	52	232	52	336	3	13	1	17	1016
Percent	8.9	79.3	11.8		6.0	85.1	8.9		15.5	69.0	15.5		17.6	76.5	5.9		
08:15 Volume	12	92	21	125	5	65	3	73	14	59	16	89	2	4	0	6	293
Peak Factor	0.887																
High Int.	08:15 AM																
Volume	12	92	21	125	4	64	6	74	14	67	10	91	2	4	0	6	293
Peak Factor	0.830																

DMJM+HARRIS, INC
 NorthCapitol Street Transportation Study
 Turning Movement Counts

File Name : 1STSTR~2
 Site Code : 00000095
 Start Date : 09/22/2004
 Page No : 3

Start Time	1st Street From North				P Street From East				1st Street From South				P Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	42	368	40	450	18	149	18	185	42	191	36	269	10	13	3	26	930
Percent	9.3	81.8	8.9		9.7	80.5	9.7		15.6	71.0	13.4		38.5	50.0	11.5		
05:30 Volume	21	106	11	138	4	34	8	46	11	47	10	68	3	7	1	11	263
Peak Factor	0.884																
High Int.	05:30 PM				04:45 PM				05:00 PM				05:30 PM				
Volume	21	108	11	138	4	50	3	57	11	52	12	75	3	7	1	11	
Peak Factor	0.815				0.811				0.897				0.591				

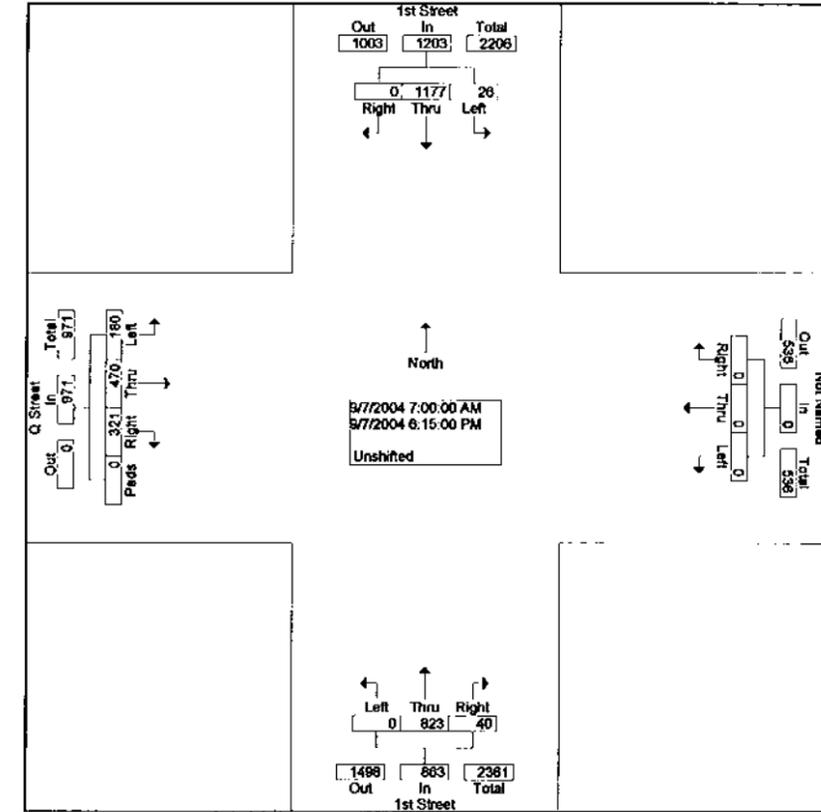
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1SB413~1
Site Code : 00000033
Start Date : 09/07/2004
Page No : 1

Start Time	1st Street From North			From East			1st Street From South			Q Street From West			Peds	Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
07:00 AM	0	44	0	0	0	0	4	50	0	5	10	6	0	119
07:15 AM	0	46	1	0	0	0	3	51	0	12	9	9	0	131
07:30 AM	0	47	2	0	0	0	1	25	0	9	7	6	0	97
07:45 AM	0	96	1	0	0	0	1	51	0	21	26	6	0	202
Total	0	233	4	0	0	0	9	177	0	47	52	27	0	549
08:00 AM	0	95	0	0	0	0	0	58	0	24	27	4	0	208
08:15 AM	0	106	3	0	0	0	2	44	0	23	27	11	0	216
08:30 AM	0	90	1	0	0	0	0	38	0	20	37	10	0	196
08:45 AM	0	79	2	0	0	0	0	63	0	29	25	11	0	209
Total	0	370	6	0	0	0	2	203	0	96	116	36	0	829
04:30 PM	0	92	3	0	0	0	2	54	0	12	37	15	0	215
04:45 PM	0	85	1	0	0	0	4	54	0	15	45	17	0	221
Total	0	177	4	0	0	0	6	108	0	27	82	32	0	436
05:00 PM	0	85	5	0	0	0	7	83	0	31	37	16	0	264
05:15 PM	0	78	0	0	0	0	0	44	0	27	35	15	0	199
05:30 PM	0	66	3	0	0	0	4	53	0	30	44	10	0	210
05:45 PM	0	64	0	0	0	0	1	59	0	25	39	14	0	202
Total	0	293	8	0	0	0	12	239	0	113	155	55	0	875
06:00 PM	0	53	0	0	0	0	4	51	0	11	29	14	0	162
06:15 PM	0	51	4	0	0	0	7	45	0	27	38	16	0	186
Grand Total	0	1177	26	0	0	0	40	823	0	321	470	180	0	3037
Apprch %	0.0	97.8	2.2	0.0	0.0	0.0	4.6	95.4	0.0	33.1	48.4	18.5	0.0	
Total %	0.0	38.8	0.9	0.0	0.0	0.0	1.3	27.1	0.0	10.8	15.5	5.9	0.0	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : 1SB413~1
Site Code : 00000033
Start Date : 09/07/2004
Page No : 2



Start Time	1st Street From North				From East				1st Street From South				Q Street From West				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	Peds		App. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Intersection	08:00 AM																	
Volume	0	370	6	376	0	0	0	0	2	203	0	205	96	116	36	0	248	829
Percent	0.0	98.4	1.6		0.0	0.0	0.0		1.0	99.0	0.0		38.7	46.8	14.5	0.0		
Volume	0	106	3	109	0	0	0	0	2	44	0	46	23	27	11	0	61	216
Peak Factor	0.959																	
High Int.	08:15 AM				8:45:00 AM				08:45 AM				08:30 AM					
Volume	0	106	3	109	0	0	0	0	0	63	0	63	20	37	10	0	67	
Peak Factor	0.862								0.813				0.925					
Peak Hour From 02:30 PM to 06:15 PM - Peak 1 of 1																		
Intersection	04:30 PM																	
Volume	0	340	9	349	0	0	0	0	13	235	0	248	85	154	63	0	302	899
Percent	0.0	97.4	2.6		0.0	0.0	0.0		5.2	94.8	0.0		28.1	51.0	20.9	0.0		
Volume	0	85	5	90	0	0	0	0	7	83	0	90	31	37	16	0	84	264
Peak Factor	0.851																	
High Int.	04:30 PM								05:00 PM				05:00 PM					
Volume	0	92	3	95	0	0	0	0	7	83	0	90	31	37	16	0	84	
Peak Factor	0.918								0.689				0.899					

DMJM+HARRIS, INC
North Capitol Street Transportation Study
Turning Movement Counts

File Name : TSTATF~1
Site Code : 00000000
Start Date : 10/06/2004
Page No : 1

Start Time	1st Street From North			Rhode Island From East			1st Street From South			Rhode Island From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	4	36	2	3	286	9	0	7	0	1	17	6	371
07:15 AM	6	39	3	5	364	13	1	19	3	2	73	9	537
07:30 AM	10	52	5	7	405	18	8	31	5	2	104	20	667
07:45 AM	12	55	6	8	515	14	8	56	4	1	132	22	831
Total	32	182	16	21	1570	54	17	113	12	6	326	57	2406
08:00 AM	11	66	7	8	535	15	6	35	5	4	142	12	846
08:15 AM	6	83	4	12	453	21	8	46	8	0	156	13	810
08:30 AM	9	49	2	25	427	13	3	33	3	1	155	17	737
08:45 AM	8	50	4	10	364	17	9	42	0	1	112	18	633
Total	34	248	17	55	1779	68	26	156	16	6	565	58	3026
04:30 PM	10	71	6	13	180	10	23	25	4	5	336	21	704
04:45 PM	23	72	2	15	192	18	18	32	1	5	416	21	815
Total	33	143	8	28	372	28	41	57	5	10	752	42	1519
05:00 PM	18	78	4	14	160	11	19	26	3	2	424	7	766
05:15 PM	18	69	5	15	225	14	17	28	2	1	424	12	830
05:30 PM	11	60	2	17	185	9	17	24	4	5	386	8	708
05:45 PM	14	50	10	11	199	13	16	33	8	0	391	26	771
Total	61	257	21	57	749	47	69	111	17	8	1625	53	3075
06:00 PM	13	39	7	17	158	16	15	37	4	0	387	26	719
06:15 PM	10	37	8	15	143	14	20	51	11	4	393	29	735
Grand Total	183	906	77	193	4771	225	188	525	85	34	4048	265	11480
Apprch %	15.7	77.7	6.6	3.7	91.9	4.3	24.2	67.5	8.4	0.8	93.1	6.1	
Total %	1.6	7.9	0.7	1.7	41.6	2.0	1.6	4.6	0.6	0.3	35.3	2.3	

Start Time	1st Street From North				Rhode Island From East				1st Street From South				Rhode Island From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:45 AM																
Volume	38	253	19	310	51	1930	63	2044	25	170	20	215	6	585	64	855	3224
Percent	12.3	81.6	6.1		2.5	64.4	3.1		11.6	79.1	9.3		0.9	89.3	9.8		
08:00	11	66	7	84	8	535	15	558	6	35	5	46	4	142	12	158	846
Peak Factor																	0.953
High Int.	08:15 AM				08:00 AM				07:45 AM				08:30 AM				
Volume	6	63	4	93	8	535	15	558	8	58	4	68	1	155	17	173	
Peak Factor	0.833				0.916				0.790				0.947				
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	70	279	13	362	81	742	52	855	71	110	10	191	13	1650	48	1711	3119
Percent	19.3	77.1	3.6		7.1	66.8	6.1		37.2	57.6	5.2		0.8	96.4	2.8		
05:15	18	69	5	92	15	225	14	254	17	28	2	47	1	424	12	437	830
Peak Factor																	0.939
High Int.	05:00 PM				05:15 PM				04:45 PM				04:45 PM				
Volume	18	78	4	100	15	225	14	254	18	32	1	51	5	416	21	442	
Peak Factor	0.905				0.842				0.936				0.968				

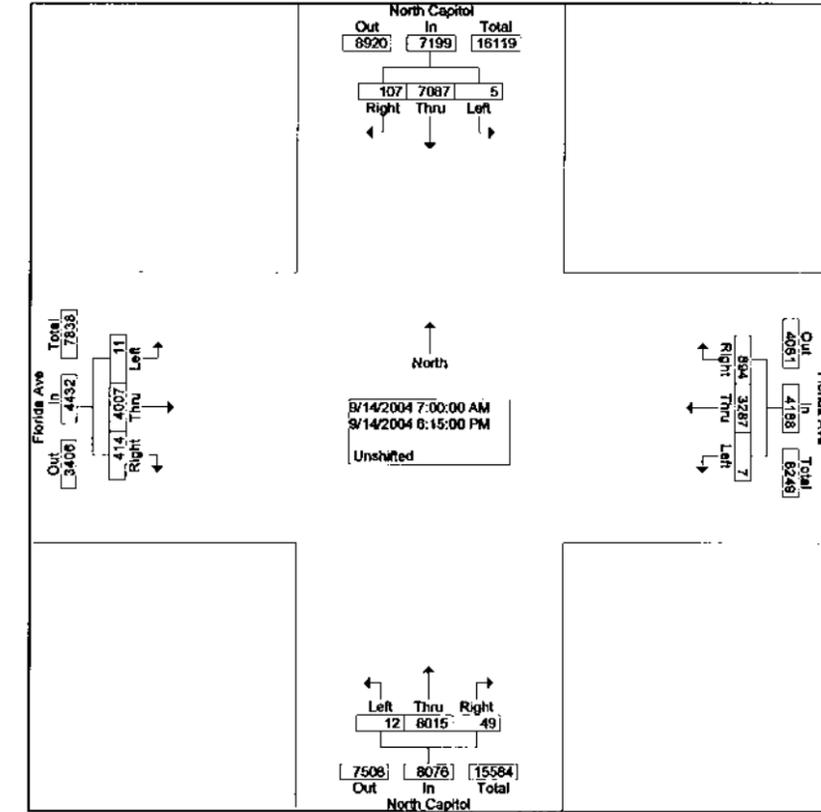
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPIT~2
Site Code : 00000095
Start Date : 09/14/2004
Page No : 1

Start Time	North Capitol From North			Florida Ave From East			North Capitol From South			Florida Ave From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	7	395	2	42	210	1	2	365	0	23	110	1	1158
07:15 AM	3	479	1	57	230	1	4	378	0	23	153	0	1329
07:30 AM	4	500	0	48	255	0	4	446	0	20	183	0	1458
07:45 AM	17	529	0	39	233	0	0	472	0	37	235	0	1562
Total	31	1903	3	184	928	2	10	1661	0	103	681	1	5507
08:00 AM	6	575	1	62	248	0	4	482	0	33	213	0	1624
08:15 AM	15	555	0	46	256	0	3	519	0	38	317	2	1751
08:30 AM	8	532	0	46	214	0	1	594	0	46	315	0	1756
08:45 AM	14	500	0	47	247	0	4	534	0	43	312	0	1701
Total	43	2162	1	201	965	0	12	2129	0	160	1167	2	6832
04:30 PM	0	378	0	82	154	0	6	451	1	23	244	1	1340
04:45 PM	0	347	0	46	171	4	3	487	1	18	203	0	1278
Total	0	725	0	128	325	4	9	938	2	39	447	1	2618
05:00 PM	1	396	1	70	181	0	4	499	1	20	266	2	1441
05:15 PM	0	388	0	71	176	0	3	570	3	24	303	1	1539
05:30 PM	9	386	0	77	168	0	1	550	0	20	320	0	1531
05:45 PM	7	434	0	59	174	0	5	556	3	17	278	0	1533
Total	17	1604	1	277	699	0	13	2175	7	81	1167	3	6044
06:00 PM	10	387	0	54	170	0	2	543	2	20	289	1	1478
06:15 PM	6	306	0	50	200	1	3	569	1	11	266	3	1416
Grand Total	107	7087	5	894	3287	7	49	8015	12	414	4007	11	23895
Approch %	1.5	98.4	0.1	21.3	78.5	0.2	0.6	99.2	0.1	9.3	90.4	0.2	
Total %	0.4	29.7	0.0	3.7	13.8	0.0	0.2	33.5	0.1	1.7	16.8	0.0	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPIT~2
Site Code : 00000095
Start Date : 09/14/2004
Page No : 2



Start Time	North Capitol From North				Florida Ave From East				North Capitol From South				Florida Ave From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	43	2162	1	2206	201	965	0	1166	12	2129	0	2141	160	1157	2	1319	6832
Percent	1.9	98.0	0.0		17.2	82.8	0.0		0.6	99.4	0.0		12.1	87.7	0.2		
08:30 Volume	8	532	0	540	46	214	0	260	1	594	0	595	46	315	0	361	1756
Peak Factor	0.973																
High Int.	08:00 AM																
Volume	6	575	1	582	62	248	0	310	1	594	0	595	46	315	0	361	
Peak Factor	0.948																
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:15 PM																
Volume	28	1595	0	1621	281	688	0	949	11	2219	8	2238	81	1190	2	1273	6081
Percent	1.6	98.4	0.0		27.5	72.5	0.0		0.5	99.2	0.4		6.4	93.5	0.2		
05:15 Volume	0	388	0	388	71	176	0	247	3	570	3	576	24	303	1	328	1539
Peak Factor	0.988																
High Int.	05:15 PM																
Volume	7	434	0	441	71	176	0	247	3	570	3	576	20	320	0	340	
Peak Factor	0.919																

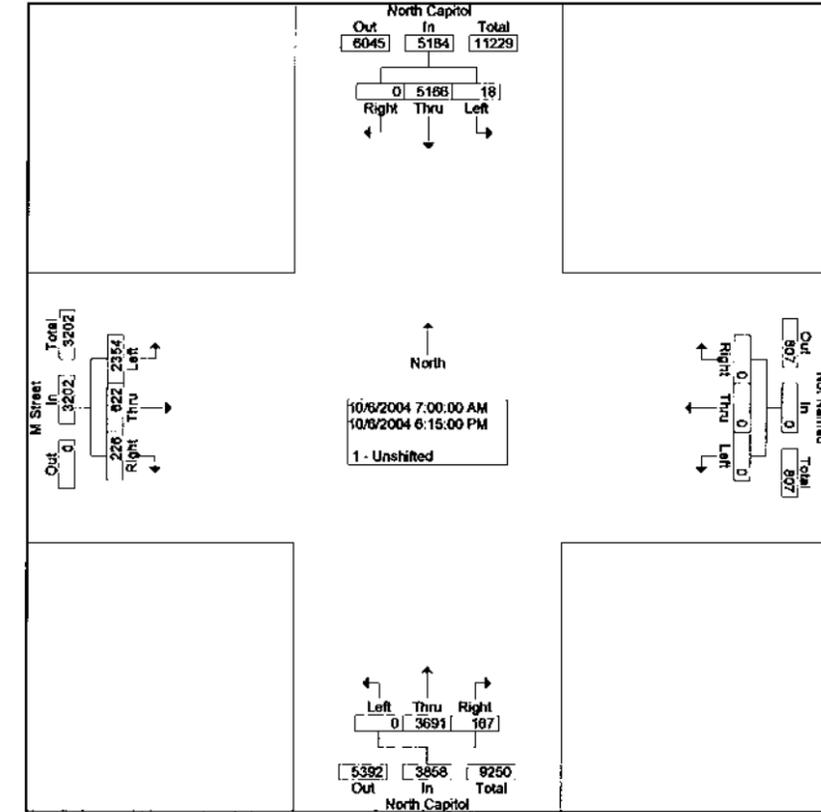
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NC0CD8~1
Site Code : 00009403
Start Date : 10/06/2004
Page No : 1

Start Time	North Capitol From North			From East			North Capitol From South			M Street From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	319	1	0	0	0	9	111	0	8	28	185	659
07:15 AM	0	356	0	0	0	0	6	180	0	16	19	183	740
07:30 AM	0	348	1	0	0	0	8	193	0	10	31	172	761
07:45 AM	0	279	2	0	0	0	4	177	0	10	36	124	632
Total	0	1300	4	0	0	0	27	661	0	44	112	644	2792
08:00 AM	0	382	3	0	0	0	13	216	0	10	35	180	819
08:15 AM	0	494	5	0	0	0	17	217	0	13	27	185	958
08:30 AM	0	355	1	0	0	0	13	204	0	9	29	168	779
08:45 AM	0	454	0	0	0	0	24	340	0	9	38	139	1004
Total	0	1665	9	0	0	0	67	977	0	41	129	672	3560
04:30 PM	0	243	0	0	0	0	12	197	0	12	35	127	626
04:45 PM	0	292	0	0	0	0	9	245	0	17	57	126	746
Total	0	535	0	0	0	0	21	442	0	29	92	253	1372
05:00 PM	0	300	0	0	0	0	3	249	0	21	42	111	726
05:15 PM	0	304	1	0	0	0	1	270	0	24	58	128	784
05:30 PM	0	288	0	0	0	0	6	301	0	28	61	128	812
05:45 PM	0	244	1	0	0	0	10	287	0	25	47	140	754
Total	0	1136	2	0	0	0	20	1107	0	98	208	505	3076
06:00 PM	0	242	1	0	0	0	22	246	0	4	40	144	699
06:15 PM	0	288	2	0	0	0	10	258	0	10	41	136	745
Grand Total	0	5166	18	0	0	0	167	3691	0	226	622	2354	12244
Apprch %	0.0	99.7	0.3	0.0	0.0	0.0	4.3	95.7	0.0	7.1	19.4	73.5	
Total %	0.0	42.2	0.1	0.0	0.0	0.0	1.4	30.1	0.0	1.8	5.1	19.2	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NC0CD8~1
Site Code : 00009403
Start Date : 10/06/2004
Page No : 2



Start Time	North Capitol From North				From East				North Capitol From South				M Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	08:00 AM																
Volume	0	1665	9	1674	0	0	0	0	67	977	0	1044	41	129	672	842	3560
Percent	0.0	99.5	0.5		0.0	0.0	0.0		6.4	93.6	0.0		4.9	15.3	79.8		
08:45																	
Volume	0	454	0	454	0	0	0	0	24	340	0	364	9	38	139	186	1004
Peak Factor	0.886																
High Int.	08:15 AM																
Volume	0	494	5	499	0	0	0	0	24	340	0	364	10	35	180	225	
Peak Factor	0.839																
	6:45:00 AM																
	08:45 AM																
	08:00 AM																
	0.717																
	0.936																

DMJM+HARRIS, INC
 NorthCapitol Street Transportation Study
 Turning Movement Counts

File Name : NC0CD8~1
 Site Code : 00009403
 Start Date : 10/06/2004
 Page No : 3

Start Time	North Capitol From North				From East				North Capitol From South				M Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	1136	2	1138	0	0	0	0	20	1107	0	1127	98	208	505	811	3078
Percent	0.0	99.8	0.2		0.0	0.0	0.0		1.8	98.2	0.0		12.1	25.6	62.3		
05:30																	
Volume	0	288	0	288	0	0	0	0	6	301	0	307	28	61	128	217	812
Peak Factor																	0.947
High Int.	05:15 PM								05:30 PM				05:30 PM				
Volume	0	304	1	305	0	0	0	0	6	301	0	307	28	61	128	217	
Peak Factor	0.933								0.918				0.934				

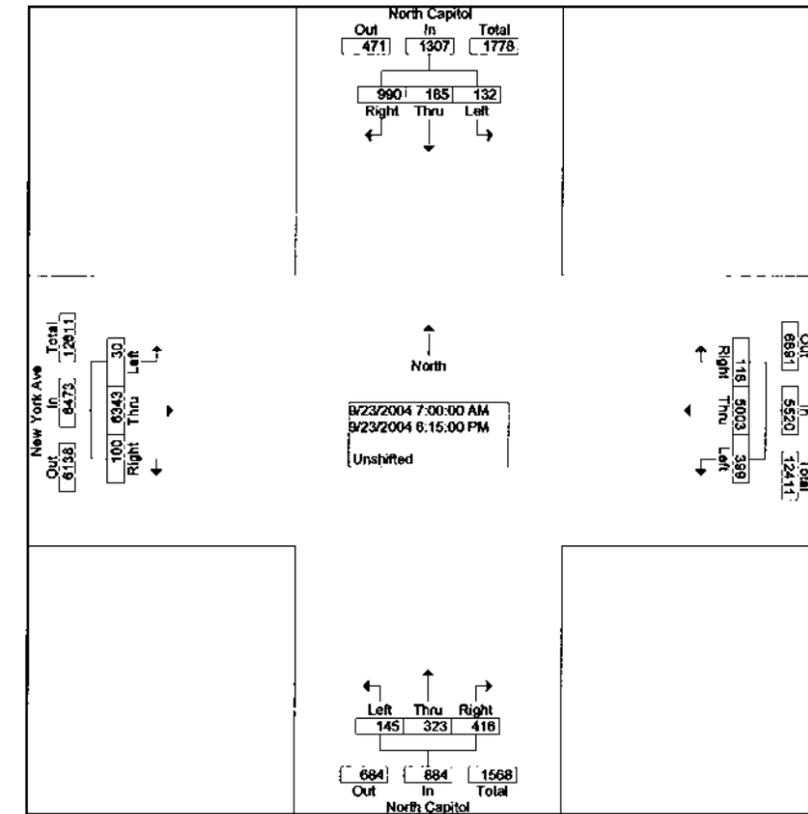
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPI~4
Site Code : 00000000
Start Date : 09/23/2004
Page No : 1

Start Time	North Capitol From North			New York Ave From East			North Capitol From South			New York Ave From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	63	5	8	0	361	21	25	14	3	1	278	0	779
07:15 AM	67	3	10	0	394	21	21	12	3	4	298	0	833
07:30 AM	64	5	12	0	417	29	15	19	1	7	318	0	887
07:45 AM	61	1	2	4	340	21	21	21	1	8	269	5	754
Total	255	14	32	4	1512	92	82	66	8	20	1163	5	3253
08:00 AM	68	11	3	2	218	30	29	23	13	6	290	3	696
08:15 AM	75	10	14	4	217	12	18	16	11	11	314	2	704
08:30 AM	71	8	11	0	239	14	17	20	9	9	274	0	672
08:45 AM	68	10	15	7	256	24	28	19	18	7	225	0	677
Total	282	39	43	13	930	80	92	78	51	33	1103	5	2749
04:30 PM	43	50	8	13	217	31	23	30	9	9	386	2	819
04:45 PM	69	16	15	8	327	26	32	31	15	5	456	0	1000
Total	112	66	21	21	544	57	55	61	24	14	842	2	1819
05:00 PM	63	16	6	15	339	34	31	22	8	1	468	0	1003
05:15 PM	45	10	13	10	355	37	32	14	14	11	496	1	1038
05:30 PM	46	8	4	10	368	24	49	27	10	5	585	1	1137
05:45 PM	69	16	4	18	295	21	34	26	14	2	588	0	1087
Total	223	50	27	53	1357	116	146	89	46	19	2137	2	4265
06:00 PM	59	9	8	14	359	36	24	17	3	1	606	6	1142
06:15 PM	59	7	1	13	301	18	17	12	13	13	492	10	958
Grand Total	990	185	132	118	5003	399	416	323	145	100	6343	30	14184
Apprch %	75.7	14.2	10.1	2.1	90.6	7.2	47.1	36.5	16.4	1.5	98.0	0.5	
Total %	7.0	1.3	0.9	0.8	35.3	2.8	2.9	2.3	1.0	0.7	44.7	0.2	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPI~4
Site Code : 00000000
Start Date : 09/23/2004
Page No : 2



Start Time	North Capitol From North				New York Ave From East				North Capitol From South				New York Ave From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:00 AM				07:30 AM				07:45 AM				07:30 AM				
Volume	255	14	32	301	4	1512	92	1608	82	66	8	156	20	1163	5	1188	3253
Percent	84.7	4.7	10.6		0.2	94.0	5.7		52.6	42.3	5.1		1.7	97.9	0.4		887
Volume	64	5	12	81	0	417	29	446	15	19	1	35	7	318	0	325	887
Peak Factor					0.929				0.901				0.907				0.917
High Int.	07:30 AM				07:30 AM				07:45 AM				07:30 AM				
Volume	64	5	12	81	0	417	29	446	21	21	1	43	7	318	0	325	887
Peak Factor					0.929				0.901				0.907				0.914
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:15 PM				06:00 PM				05:30 PM				06:00 PM				
Volume	219	43	29	291	52	1377	118	1547	139	84	41	264	19	2275	8	2302	4404
Percent	75.3	14.8	10.0		3.4	89.0	7.6		52.7	31.8	15.5		0.8	98.8	0.3		1142
Volume	59	9	8	76	14	359	36	409	24	17	3	44	1	606	6	613	1142
Peak Factor					0.817				0.946				0.767				0.964
High Int.	05:45 PM				06:00 PM				05:30 PM				06:00 PM				
Volume	69	16	4	89	14	359	36	409	49	27	10	86	1	606	6	613	1142
Peak Factor					0.817				0.946				0.767				0.939

DMJM+HARRIS, INC
 NorthCapitol Street Transportation Study
 Turning Movement Counts

File Name : NCAPIT~3
 Site Code : 00000011
 Start Date : 09/15/2004
 Page No : 3

Start Time	North Capitol From North				P Street From East				North Capitol From South				P Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:15 PM																
Volume	26	1234	117	1377	11	120	30	161	13	1821	4	1838	24	30	48	102	3478
Percent	1.9	89.6	8.5		6.8	74.5	18.6		0.7	99.1	0.2		23.5	29.4	47.1		
05:45 Volume	8	308	30	344	3	29	8	40	3	470	4	477	7	8	13	28	887
Peak Factor	0.980																
High Int.	06:00 PM																
Volume	8	317	34	359	4	48	10	62	3	470	4	477	8	11	7	26	
Peak Factor	0.959																
								0.649				0.963				0.981	

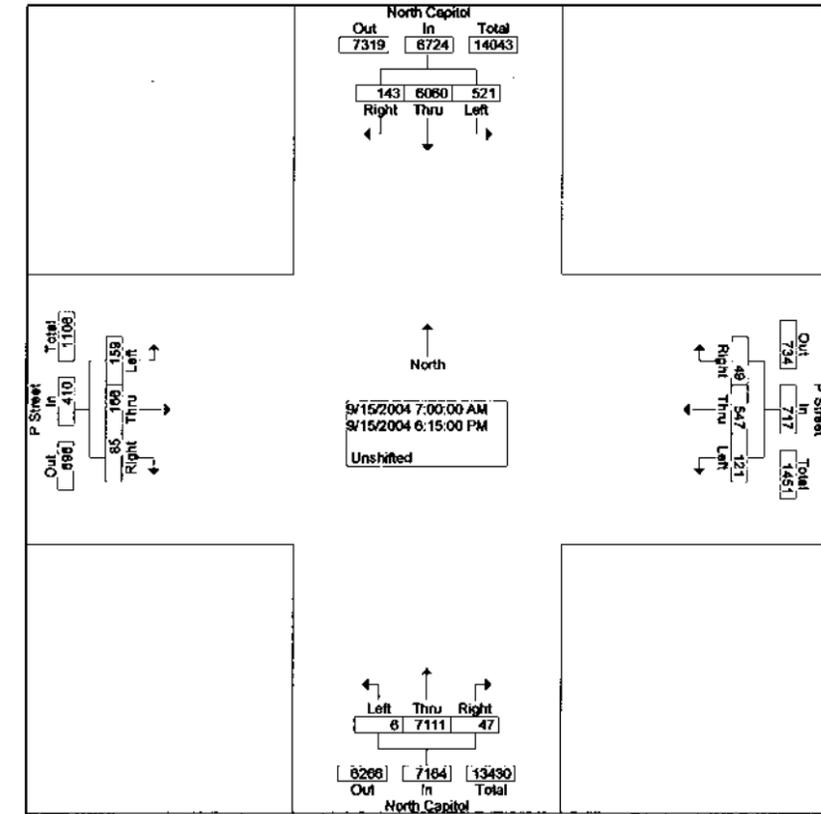
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPI~3
Site Code : 00000011
Start Date : 09/15/2004
Page No : 1

Start Time	North Capitol From North			P Street From East			North Capitol From South			P Street From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	8	482	33	2	45	10	1	396	0	2	7	4	991
07:15 AM	11	498	50	5	44	15	2	417	0	4	5	6	1057
07:30 AM	13	471	38	1	50	4	3	428	0	4	8	9	1029
07:45 AM	24	487	45	8	60	13	1	482	0	6	14	5	1145
Total	57	1938	166	16	199	42	7	1723	0	16	34	24	4222
08:00 AM	8	456	31	0	53	9	2	454	0	5	3	7	1028
08:15 AM	15	461	41	1	29	4	2	399	0	0	8	9	969
08:30 AM	11	473	38	1	31	7	0	471	0	6	32	10	1080
08:45 AM	9	456	40	2	45	5	2	520	1	3	21	8	1112
Total	43	1846	150	4	158	25	6	1844	1	14	64	34	4189
04:30 PM	1	204	20	1	9	3	3	420	0	2	15	14	692
04:45 PM	4	326	22	10	22	10	13	477	0	11	8	16	919
Total	5	530	42	11	31	13	16	897	0	13	23	30	1611
05:00 PM	4	267	23	4	17	7	2	409	0	10	10	9	782
05:15 PM	5	322	31	2	17	5	2	472	0	8	11	7	882
05:30 PM	5	289	22	4	48	10	5	439	0	4	4	16	846
05:45 PM	8	306	30	3	29	8	3	470	4	7	6	13	887
Total	22	1184	106	13	111	30	12	1790	4	29	31	45	3377
06:00 PM	8	317	34	2	26	7	3	440	0	5	9	12	863
06:15 PM	8	245	23	3	22	4	3	417	1	8	5	14	753
Grand Total	143	6080	521	49	547	121	47	7111	8	85	166	159	15015
Approch %	2.1	90.1	7.7	6.8	76.3	16.9	0.7	99.3	0.1	20.7	40.5	38.8	
Total %	1.0	40.4	3.5	0.3	3.6	0.8	0.3	47.4	0.0	0.6	1.1	1.1	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPI~3
Site Code : 00000011
Start Date : 09/15/2004
Page No : 2



Start Time	North Capitol From North				P Street From East				North Capitol From South				P Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	56	1912	164	2132	14	207	41	262	8	1781	0	1789	19	30	27	76	4259
Percent	2.6	89.7	7.7		5.3	79.0	15.6		0.4	99.8	0.0		25.0	39.5	35.5		
07:45 Volume	24	487	45	556	8	60	13	81	1	482	0	483	6	14	5	25	1145
Peak Factor	0.930																
High Int.	07:15 AM																
Volume	11	498	50	559	8	60	13	81	1	482	0	483	6	14	5	25	
Peak Factor	0.926																

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

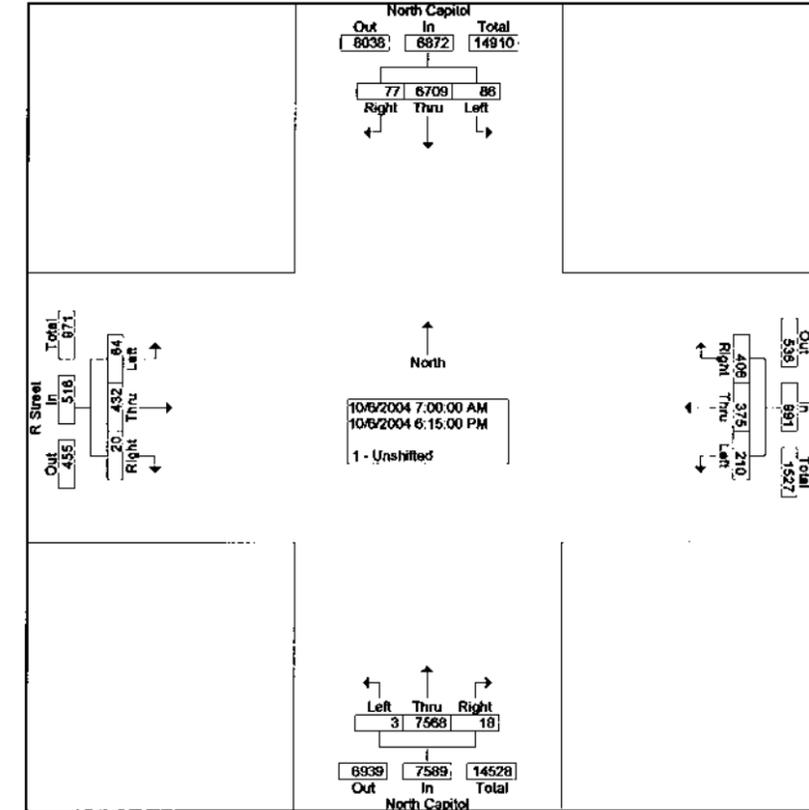
File Name : NCPAT~4
Site Code : 00000000
Start Date : 10/06/2004
Page No : 1

Groups Printed- 1 - Unshifted

Start Time	North Capitol From North			R Street From East			North Capitol From South			R Street From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	3	452	2	20	18	12	4	389	0	1	7	6	914
07:15 AM	5	481	3	23	22	17	1	464	0	2	71	4	1083
07:30 AM	4	509	2	28	25	21	2	528	1	2	32	4	1158
07:45 AM	5	548	1	36	23	18	0	523	0	0	27	3	1184
Total	17	1990	8	107	88	68	7	1904	1	5	137	17	4349
08:00 AM	9	519	4	30	27	31	0	471	0	0	11	1	1103
08:15 AM	3	553	3	37	35	18	0	540	0	0	16	0	1205
08:30 AM	11	495	1	19	31	15	0	431	0	3	24	6	1036
08:45 AM	6	505	0	27	30	26	2	438	0	2	27	7	1070
Total	29	2072	8	113	123	90	2	1880	0	5	78	14	4414
04:30 PM	3	346	6	33	18	4	4	389	1	3	8	7	822
04:45 PM	7	335	7	28	24	5	1	484	0	2	71	4	948
Total	10	681	13	59	42	9	5	853	1	5	79	11	1768
05:00 PM	4	315	17	19	14	7	2	528	1	2	32	4	945
05:15 PM	2	355	5	22	19	2	0	523	0	0	27	3	958
05:30 PM	3	342	8	23	18	7	0	471	0	0	14	1	887
05:45 PM	1	293	7	21	25	11	0	540	0	0	16	0	914
Total	10	1305	37	85	76	27	2	2062	1	2	89	8	3704
08:00 PM	5	333	10	20	22	6	0	431	0	1	21	7	856
08:15 PM	6	328	10	22	24	10	2	438	0	2	28	7	877
Grand Total	77	6709	88	406	375	210	18	7568	3	20	432	84	15988
Approch %	1.1	97.6	1.3	41.0	37.8	21.2	0.2	99.7	0.0	3.9	83.7	12.4	
Total %	0.5	42.0	0.5	2.5	2.3	1.3	0.1	47.4	0.0	0.1	2.7	0.4	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCPAT~4
Site Code : 00000000
Start Date : 10/06/2004
Page No : 2



Start Time	North Capitol From North				R Street From East				North Capitol From South				R Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	21	2129	10	2180	131	110	88	329	2	2062	1	2065	2	88	8	96	4650
Percent	1.0	98.6	0.5		39.8	33.4	26.7		0.1	99.9	0.0		2.1	89.6	8.3		
Volume	3	553	3	559	37	35	18	90	0	540	0	540	0	16	0	16	1205
Peak Factor																	0.965
High Int.	08:15 AM				08:15 AM				08:15 AM				07:30 AM				
Volume	3	553	3	559	37	35	18	90	0	540	0	540	2	32	4	38	
Peak Factor	0.966				0.914				0.956				0.632				

DMJM+HARRIS, INC
 NorthCapitol Street Transportation Study
 Turning Movement Counts

File Name : NCAPAT~4
 Site Code : 00000000
 Start Date : 10/06/2004
 Page No : 3

Start Time	North Capitol From North				R Street From East				North Capitol From South				R Street From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	16	1347	37	1400	90	75	21	186	3	1986	1	1990	4	144	12	160	3736
Percent	1.1	96.2	2.6		48.4	40.3	11.3		0.2	99.8	0.1		2.5	90.0	7.5		
05:15 Volume	2	355	5	362	22	19	2	43	0	523	0	523	0	27	3	30	958
Peak Factor	0.975																
High Int. Volume	05:15 PM				04:45 PM				05:00 PM				04:45 PM				
Peak Factor	2	355	5	362	26	24	5	55	2	528	1	531	2	71	4	77	0.519
	0.967				0.845				0.937				0.519				

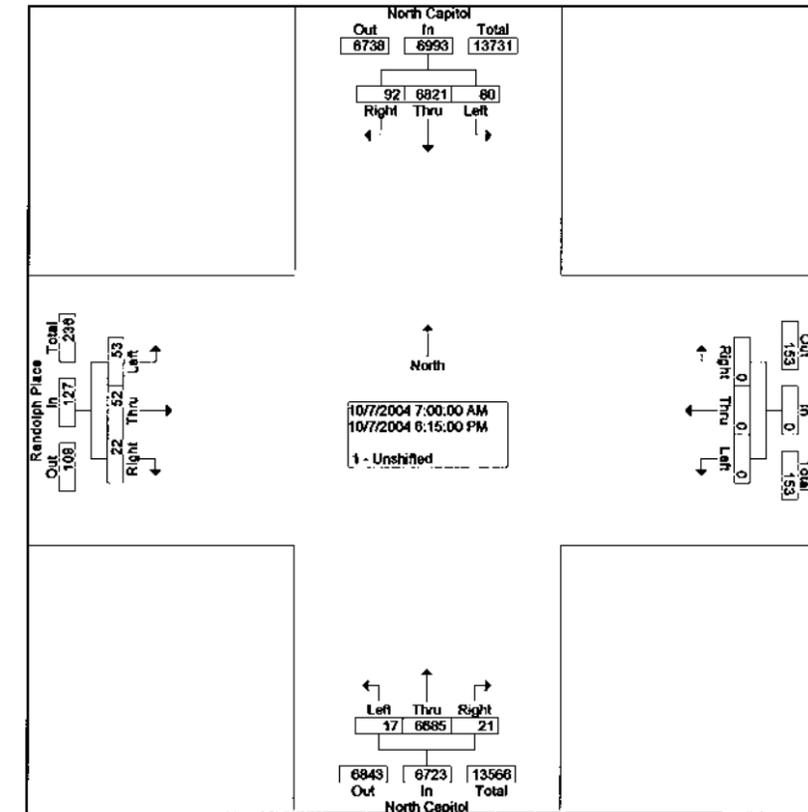
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCPAT~1
Site Code : 00000011
Start Date : 10/07/2004
Page No : 1

Start Time	North Capitol From North			Randolph Place From East			North Capitol From South			Randolph Place From West			Int. Total
	Right	Thru	Left										
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	3	403	0	0	0	0	0	339	0	0	0	0	745
07:15 AM	6	484	0	0	0	0	0	370	1	0	2	2	865
07:30 AM	3	517	1	0	0	0	2	387	0	0	5	1	916
07:45 AM	1	523	0	0	0	0	0	420	0	2	1	6	953
Total	13	1927	1	0	0	0	2	1518	1	2	8	9	3479
08:00 AM	9	525	1	0	0	0	1	389	0	0	4	4	933
08:15 AM	1	532	1	0	0	0	0	265	0	2	2	3	806
08:30 AM	4	518	1	0	0	0	1	345	0	1	2	1	873
08:45 AM	5	363	2	0	0	0	0	360	0	1	4	5	740
Total	19	1938	5	0	0	0	2	1359	0	4	12	13	3352
04:30 PM	8	314	9	0	0	0	1	406	0	4	5	4	751
04:45 PM	12	410	15	0	0	0	6	438	3	4	4	4	898
Total	20	724	24	0	0	0	7	844	3	8	9	8	1647
05:00 PM	12	370	14	0	0	0	0	457	0	2	3	6	884
05:15 PM	5	422	12	0	0	0	0	513	8	0	4	2	968
05:30 PM	4	392	6	0	0	0	3	516	0	1	4	4	930
05:45 PM	7	356	9	0	0	0	3	500	2	1	5	3	886
Total	28	1540	41	0	0	0	6	1986	10	4	16	15	3646
08:00 PM	7	329	4	0	0	0	3	509	3	3	5	4	867
06:15 PM	5	363	5	0	0	0	1	471	0	1	2	4	852
Grand Total	92	6821	80	0	0	0	21	6685	17	22	52	53	13843
Approch %	1.3	97.5	1.1	0.0	0.0	0.0	0.3	99.4	0.3	17.3	40.9	41.7	
Total %	0.7	49.3	0.6	0.0	0.0	0.0	0.2	48.3	0.1	0.2	0.4	0.4	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCPAT~1
Site Code : 00000011
Start Date : 10/07/2004
Page No : 2



Start Time	North Capitol From North				Randolph Place From East				North Capitol From South				Randolph Place From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	19	2049	2	2070	0	0	0	0	3	1566	1	1570	2	12	13	27	3887
Percent	0.9	99.0	0.1		0.0	0.0	0.0		0.2	99.7	0.1		7.4	44.4	48.1		
Volume	07:45																
Volume	1	523	0	524	0	0	0	0	0	420	0	420	2	1	6	9	953
Peak Factor																	0.962
High Int.	08:00 AM				8:45:00 AM				07:45 AM				07:45 AM				
Volume	9	525	1	535	0	0	0	0	0	420	0	420	2	1	6	9	9
Peak Factor	0.967								0.935				0.750				

DMJM+HARRIS, INC
 NorthCapitol Street Transportation Study
 Turning Movement Counts

File Name : NCAPAT~1
 Site Code : 00000011
 Start Date : 10/07/2004
 Page No : 3

Start Time	North Capitol From North				Randolph Place From East				North Capitol From South				Randolph Place From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	33	1584	47	1674	0	0	0	0	9	1824	11	1944	7	15	16	38	3656
Percent	2.0	95.2	2.8		0.0	0.0	0.0		0.5	99.0	0.6		18.4	39.5	42.1		
05:15 Volume	5	422	12	439	0	0	0	0	0	513	8	521	0	4	2	6	966
Peak Factor	0.946																
High Int.	05:15 PM								05:15 PM				04:45 PM				
Volume	5	422	12	439	0	0	0	0	0	513	8	521	4	4	4	12	
Peak Factor	0.953								0.933				0.792				

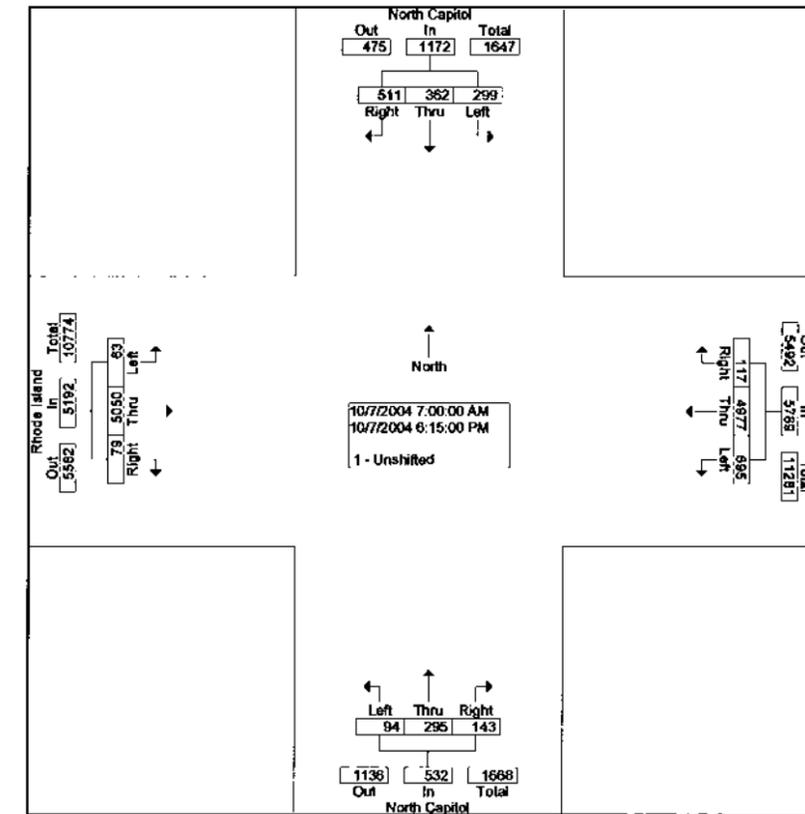
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPI~1
Site Code : 00000033
Start Date : 10/07/2004
Page No : 1

Start Time	North Capitol From North			Rhode Island From East			North Capitol From South			Rhode Island From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	27	16	8	5	382	44	9	13	7	9	154	3	677
07:15 AM	45	18	10	5	397	50	7	14	4	1	161	5	717
07:30 AM	40	17	17	4	410	51	6	9	5	2	118	3	682
07:45 AM	48	30	14	8	451	64	6	42	8	2	121	2	796
Total	160	81	49	22	1640	209	28	78	24	14	554	13	2872
08:00 AM	44	32	19	15	506	78	3	10	3	6	204	5	925
08:15 AM	55	33	15	2	456	84	5	19	6	6	159	0	840
08:30 AM	38	33	26	20	443	52	4	16	3	11	185	1	832
08:45 AM	22	25	9	5	398	52	2	18	1	7	134	2	875
Total	159	123	69	42	1803	266	14	63	13	30	682	8	3272
04:30 PM	23	18	17	4	208	22	7	7	3	4	410	5	728
04:45 PM	24	33	20	2	206	31	15	27	9	6	351	8	732
Total	47	51	37	6	414	53	22	34	12	10	761	13	1460
05:00 PM	24	20	31	2	177	20	23	23	7	5	457	3	792
05:15 PM	23	17	19	4	222	35	7	19	6	1	530	3	886
05:30 PM	20	26	30	8	167	28	9	21	11	9	564	4	897
05:45 PM	27	13	24	9	206	24	14	18	7	8	541	7	898
Total	94	76	104	23	772	107	53	81	31	23	2092	17	3473
06:00 PM	25	16	17	6	189	27	13	24	8	1	531	1	858
06:15 PM	26	15	23	18	159	33	13	15	6	1	430	11	750
Grand Total	511	362	299	117	4977	695	143	295	94	79	5050	63	12685
Apprch %	43.8	30.9	25.5	2.0	86.0	12.0	26.9	55.5	17.7	1.5	97.3	1.2	
Total %	4.0	2.9	2.4	0.9	39.2	5.5	1.1	2.3	0.7	0.6	39.8	0.5	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Turning Movement Counts

File Name : NCAPI~1
Site Code : 00000033
Start Date : 10/07/2004
Page No : 2



Start Time	North Capitol From North				Rhode Island From East				North Capitol From South				Rhode Island From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:45 AM				08:00 AM				07:45 AM				08:00 AM				
Volume	185	128	74	387	45	1858	278	2179	18	87	20	125	25	669	8	702	3393
Percent	47.8	33.1	19.1		2.1	85.2	12.8		14.4	69.6	16.0		3.6	95.3	1.1		0.917
Volume	44	32	19	95	15	506	78	599	3	10	3	16	6	204	5	215	925
Peak Factor	0.939				0.909				0.558				0.816				
High Int. Volume	08:15 AM				08:00 AM				07:45 AM				08:00 AM				
Volume	55	33	15	103	15	506	78	599	6	42	8	56	6	204	5	215	
Peak Factor	0.939				0.909				0.558				0.816				
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Intersection	05:15 PM				05:15 PM				06:00 PM				05:30 PM				
Volume	95	72	90	257	27	784	114	925	43	82	32	157	19	2166	15	2200	3539
Percent	37.0	28.0	35.0		2.9	84.8	12.3		27.4	52.2	20.4		0.9	98.5	0.7		0.985
Volume	27	13	24	64	9	206	24	239	14	18	7	39	8	541	7	556	898
Peak Factor	0.845				0.888				0.872				0.953				
High Int. Volume	05:30 PM				05:15 PM				06:00 PM				05:30 PM				
Volume	20	26	30	76	4	222	35	261	13	24	8	45	9	564	4	577	
Peak Factor	0.845				0.888				0.872				0.953				

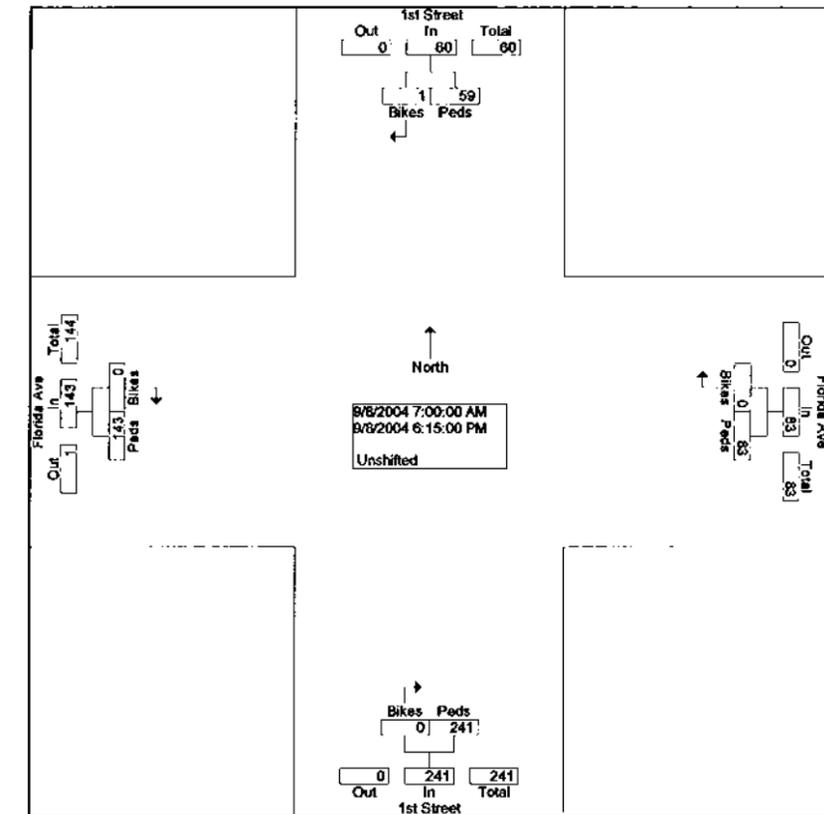
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STSTA~1
Site Code : 00000033
Start Date : 09/08/2004
Page No : 1

Start Time	1st Street From North		Florida Ave From East		1st Street From South		Florida Ave From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	4	0	5	0	5	0	3	17
07:15 AM	0	5	0	4	0	4	0	6	19
07:30 AM	0	2	0	8	0	6	0	5	21
07:45 AM	0	4	0	8	0	7	0	2	21
Total	0	15	0	25	0	22	0	16	78
08:00 AM	0	4	0	11	0	6	0	6	27
08:15 AM	0	3	0	2	0	2	0	11	18
08:30 AM	0	6	0	1	0	9	0	10	26
08:45 AM	0	7	0	1	0	5	0	5	18
Total	0	20	0	15	0	22	0	32	89
04:30 PM	0	4	0	5	0	24	0	13	46
04:45 PM	0	3	0	6	0	37	0	17	83
Total	0	7	0	11	0	61	0	30	109
05:00 PM	0	1	0	3	0	18	0	4	26
05:15 PM	0	1	0	4	0	22	0	16	43
05:30 PM	1	0	0	3	0	19	0	5	28
05:45 PM	0	5	0	8	0	27	0	15	55
Total	1	7	0	18	0	86	0	40	152
06:00 PM	0	3	0	7	0	20	0	9	39
06:15 PM	0	7	0	7	0	30	0	16	60
Grand Total	1	59	0	83	0	241	0	143	527
Apprch %	1.7	98.3	0.0	100.0	0.0	100.0	0.0	100.0	
Total %	0.2	11.2	0.0	15.7	0.0	45.7	0.0	27.1	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STSTA~1
Site Code : 00000033
Start Date : 09/08/2004
Page No : 2



Start Time	1st Street From North			Florida Ave From East			1st Street From South			Florida Ave From West			Int. Total
	Bikes	Peds	App. Total										
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	08:00 AM			07:15 AM			07:45 AM			08:00 AM			
Volume	0	20	20	0	31	31	0	24	24	0	32	32	
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	08:45 AM			08:00 AM			08:30 AM			08:15 AM			
Volume	0	7	7	0	11	11	0	9	9	0	11	11	
Peak Factor			0.714			0.705			0.687				0.727
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	05:30 PM			05:30 PM			04:30 PM			04:30 PM			
Volume	1	15	16	0	25	25	0	101	101	0	50	50	
Percent	6.3	93.8		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	08:15 PM			05:45 PM			04:45 PM			04:45 PM			
Volume	0	7	7	0	8	8	0	37	37	0	17	17	
Peak Factor			0.571			0.781			0.682				0.735

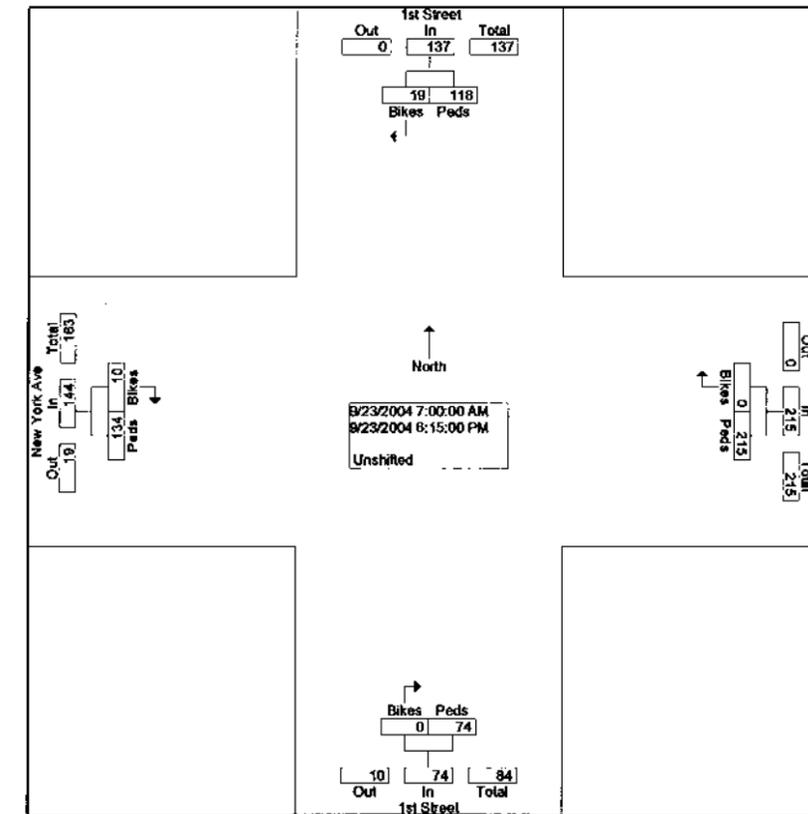
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STSTA~3
Site Code : 00000033
Start Date : 09/23/2004
Page No : 1

Start Time	1st Street From North		New York Ave From East		1st Street From South		New York Ave From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	1	0	4	0	1	1	0	7
07:15 AM	2	1	0	9	0	5	0	9	26
07:30 AM	1	8	0	12	0	3	0	4	28
07:45 AM	1	6	0	24	0	10	2	11	54
Total	4	16	0	49	0	19	3	24	115
08:00 AM	0	6	0	16	0	2	0	8	32
08:15 AM	1	14	0	14	0	6	2	24	61
08:30 AM	0	23	0	30	0	8	0	26	87
08:45 AM	3	4	0	20	0	5	1	9	42
Total	4	47	0	80	0	21	3	67	222
04:30 PM	0	14	0	22	0	4	1	1	42
04:45 PM	0	12	0	8	0	5	1	2	28
Total	0	26	0	30	0	9	2	3	70
05:00 PM	1	7	0	12	0	5	0	5	30
05:15 PM	2	6	0	10	0	3	0	2	23
05:30 PM	2	5	0	15	0	1	0	4	27
05:45 PM	0	7	0	7	0	6	1	10	33
Total	5	25	0	44	0	17	1	21	113
06:00 PM	3	4	0	8	0	4	0	13	32
06:15 PM	3	0	0	4	0	4	1	6	18
Grand Total	19	118	0	215	0	74	10	134	570
Apprch %	13.9	86.1	0.0	100.0	0.0	100.0	6.9	93.1	
Total %	3.3	20.7	0.0	37.7	0.0	13.0	1.8	23.5	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STSTA~3
Site Code : 00000033
Start Date : 09/23/2004
Page No : 2



Start Time	1st Street From North			New York Ave From East			1st Street From South			New York Ave From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:45 AM			07:45 AM			07:45 AM			07:45 AM			
Volume	2	49	51	0	84	84	0	26	26	4	69	73	
Percent	3.9	96.1		0.0	100.0		0.0	100.0		5.5	94.5		
High Int.	08:30 AM			08:30 AM			07:45 AM			08:15 AM			
Volume	0	23	23	0	30	30	0	10	10	2	24	26	
Peak Factor			0.554			0.700			0.650			0.702	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:30 PM			04:30 PM			04:30 PM			05:30 PM			
Volume	3	39	42	0	52	52	0	17	17	2	33	35	
Percent	7.1	92.9		0.0	100.0		0.0	100.0		5.7	94.3		
High Int.	04:30 PM			04:30 PM			04:45 PM			06:00 PM			
Volume	0	14	14	0	22	22	0	5	5	0	13	13	
Peak Factor			0.750			0.591			0.850			0.673	

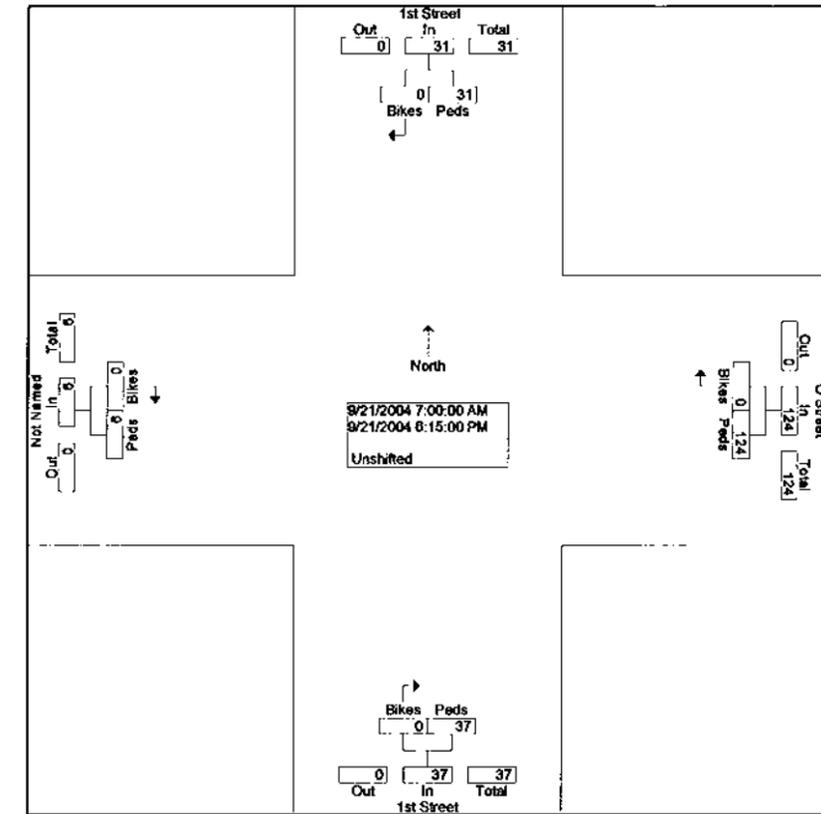
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STSTA~2
Site Code : 00000033
Start Date : 09/21/2004
Page No : 1

Start Time	1st Street From North		O Street From East		1st Street From South		From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	1	0	1	0	1	0	0	3
07:15 AM	0	1	0	1	0	0	0	0	2
07:30 AM	0	0	0	2	0	0	0	0	2
07:45 AM	0	2	0	2	0	1	0	0	5
Total	0	4	0	6	0	2	0	0	12
08:00 AM	0	0	0	16	0	0	0	0	16
08:15 AM	0	3	0	13	0	9	0	0	25
08:30 AM	0	11	0	16	0	7	0	0	34
08:45 AM	0	3	0	2	0	6	0	0	11
Total	0	17	0	47	0	22	0	0	86
04:30 PM	0	4	0	15	0	2	0	2	23
04:45 PM	0	0	0	3	0	5	0	2	10
Total	0	4	0	18	0	7	0	4	33
05:00 PM	0	0	0	15	0	3	0	1	19
05:15 PM	0	1	0	18	0	0	0	0	19
05:30 PM	0	3	0	3	0	1	0	1	8
05:45 PM	0	2	0	5	0	2	0	0	9
Total	0	6	0	41	0	6	0	2	55
06:00 PM	0	0	0	3	0	0	0	0	3
06:15 PM	0	0	0	9	0	0	0	0	9
Grand Total	0	31	0	124	0	37	0	6	198
Apprch %	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	
Total %	0.0	15.7	0.0	62.6	0.0	18.7	0.0	3.0	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STSTA~2
Site Code : 00000033
Start Date : 09/21/2004
Page No : 2



Start Time	1st Street From North			O Street From East			1st Street From South			From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	08:00 AM			07:45 AM			08:00 AM			07:00 AM			
Volume	0	17	17	0	47	47	0	22	22	0	0	0	0
Percent	0.0	100.0		0.0	100.0		0.0	100.0		-	-	-	-
High Int.	08:30 AM			08:00 AM			08:15 AM			-	-	-	-
Volume	0	11	11	0	16	16	0	9	9	-	-	-	-
Peak Factor			0.386			0.734			0.611				
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	05:00 PM			04:30 PM			04:15 PM			04:15 PM			
Volume	0	6	6	0	51	51	0	10	10	0	5	5	5
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	05:30 PM			05:15 PM			04:45 PM			04:30 PM			
Volume	0	3	3	0	18	18	0	5	5	0	2	2	2
Peak Factor			0.500			0.708			0.500				0.625

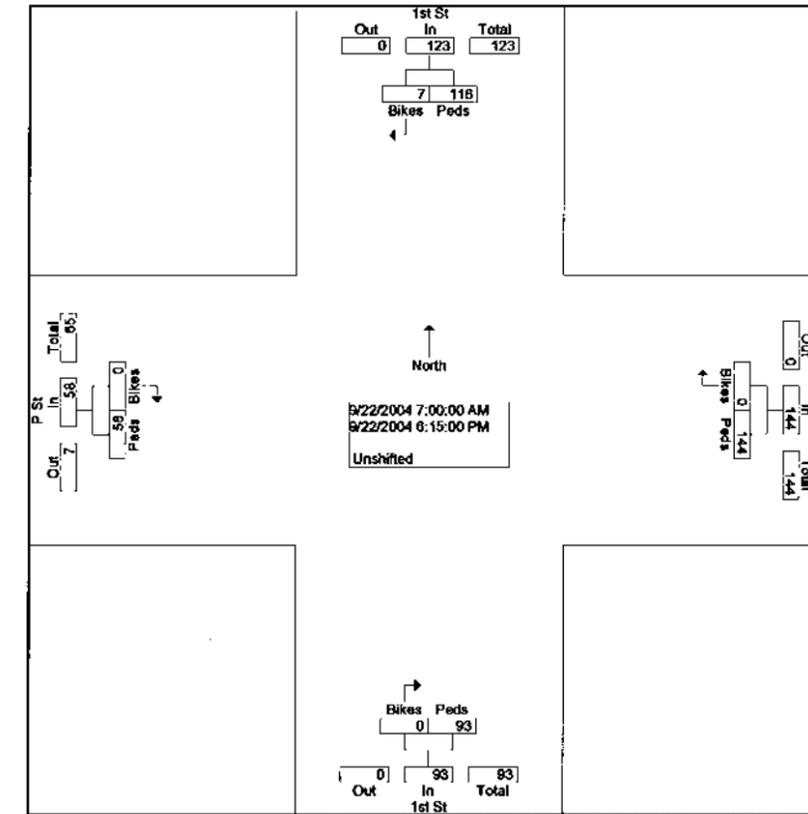
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STATP~1
Site Code : 00000033
Start Date : 09/22/2004
Page No : 1

Start Time	1st St From North		P St From East		1st St From South		P St From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
07:00 AM	0	0	0	2	0	7	0	2	11
07:15 AM	0	4	0	4	0	1	0	1	10
07:30 AM	0	1	0	3	0	8	0	1	13
07:45 AM	0	3	0	12	0	9	0	4	28
Total	0	8	0	21	0	25	0	8	62
08:00 AM	0	8	0	10	0	13	0	7	38
08:15 AM	1	26	0	24	0	5	0	9	65
08:30 AM	0	23	0	15	0	10	0	3	51
08:45 AM	0	10	0	19	0	12	0	3	44
Total	1	67	0	68	0	40	0	22	198
04:30 PM	2	4	0	1	0	1	0	7	15
04:45 PM	1	7	0	1	0	1	0	2	12
Total	3	11	0	2	0	2	0	9	27
05:00 PM	0	8	0	5	0	8	0	3	24
05:15 PM	0	5	0	7	0	6	0	5	23
05:30 PM	1	5	0	10	0	7	0	2	25
05:45 PM	0	2	0	14	0	1	0	1	18
Total	1	20	0	36	0	22	0	11	90
06:00 PM	2	6	0	5	0	3	0	6	22
06:15 PM	0	4	0	12	0	1	0	2	19
Grand Total	7	116	0	144	0	93	0	58	418
Apprch %	5.7	94.3	0.0	100.0	0.0	100.0	0.0	100.0	
Total %	1.7	27.8	0.0	34.4	0.0	22.2	0.0	13.9	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STATP~1
Site Code : 00000033
Start Date : 09/22/2004
Page No : 2



Start Time	1st St From North			P St From East			1st St From South			P St From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	08:00 AM			08:00 AM			08:00 AM			07:45 AM			
Volume	1	67	68	0	68	68	0	40	40	0	23	23	
Percent	1.5	98.5		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	08:15 AM			08:15 AM			08:00 AM			08:15 AM			
Volume	1	26	27	0	24	24	0	13	13	0	9	9	
Peak Factor			0.630			0.708			0.769			0.639	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:30 PM			05:30 PM			04:45 PM			04:30 PM			
Volume	3	24	27	0	41	41	0	22	22	0	17	17	
Percent	11.1	88.9		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	04:45 PM			05:45 PM			05:00 PM			04:30 PM			
Volume	1	7	8	0	14	14	0	8	8	0	7	7	
Peak Factor			0.844			0.732			0.688			0.607	

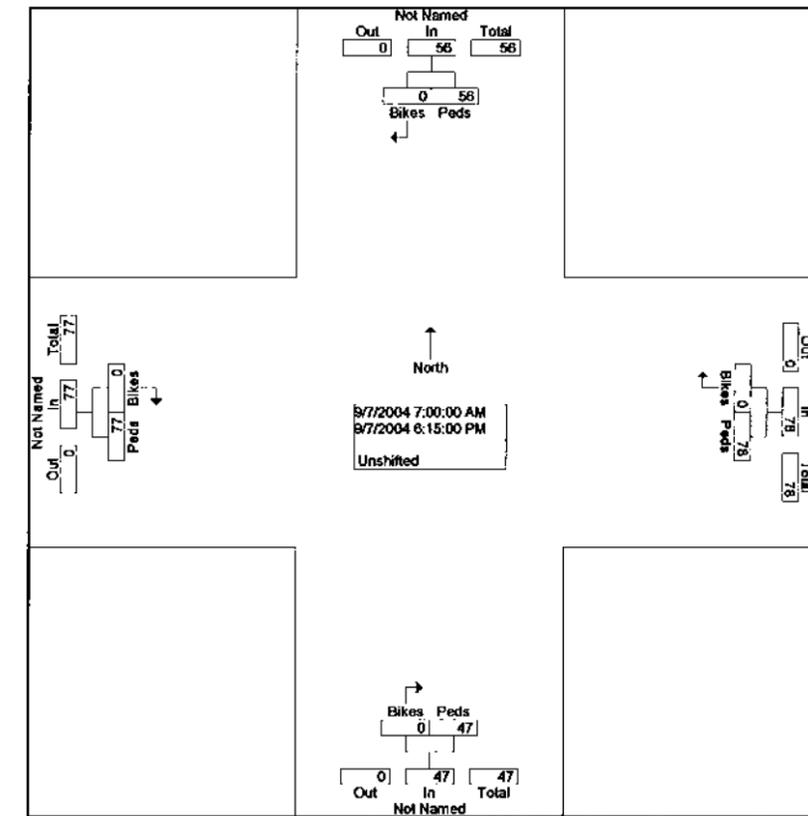
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STATQ~1
Site Code : 00000033
Start Date : 09/07/2004
Page No : 1

Start Time	From North		From East		From South		From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	5	0	4	0	0	0	1	10
07:15 AM	0	3	0	6	0	3	0	7	19
07:30 AM	0	1	0	5	0	5	0	10	21
07:45 AM	0	8	0	10	0	2	0	4	24
Total	0	17	0	25	0	10	0	22	74
08:00 AM	0	4	0	13	0	6	0	8	31
08:15 AM	0	4	0	1	0	3	0	3	11
08:30 AM	0	2	0	8	0	5	0	7	22
08:45 AM	0	3	0	4	0	2	0	6	15
Total	0	13	0	26	0	16	0	24	79
04:30 PM	0	7	0	8	0	4	0	4	23
04:45 PM	0	0	0	3	0	1	0	1	5
Total	0	7	0	11	0	5	0	5	28
05:00 PM	0	0	0	4	0	2	0	5	11
05:15 PM	0	4	0	1	0	2	0	0	7
05:30 PM	0	2	0	3	0	2	0	5	12
05:45 PM	0	11	0	2	0	3	0	1	17
Total	0	17	0	10	0	9	0	11	47
06:00 PM	0	0	0	3	0	2	0	8	11
06:15 PM	0	2	0	3	0	5	0	9	19
Grand Total	0	58	0	78	0	47	0	77	258
Apprch %	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	
Total %	0.0	21.7	0.0	30.2	0.0	18.2	0.0	29.8	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : 1STATQ~1
Site Code : 00000033
Start Date : 09/07/2004
Page No : 2



Start Time	From North			From East			From South			From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:45 AM			07:15 AM			07:15 AM			07:15 AM			
Volume	0	18	18	0	34	34	0	16	16	0	29	29	
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	07:45 AM			08:00 AM			08:00 AM			07:30 AM			
Volume	0	8	8	0	13	13	0	6	6	0	10	10	
Peak Factor			0.583			0.654			0.667			0.725	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	05:00 PM			04:30 PM			05:30 PM			05:30 PM			
Volume	0	17	17	0	16	16	0	12	12	0	21	21	
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	05:45 PM			04:30 PM			06:15 PM			06:15 PM			
Volume	0	11	11	0	8	8	0	5	5	0	9	9	
Peak Factor			0.386			0.500			0.600			0.583	

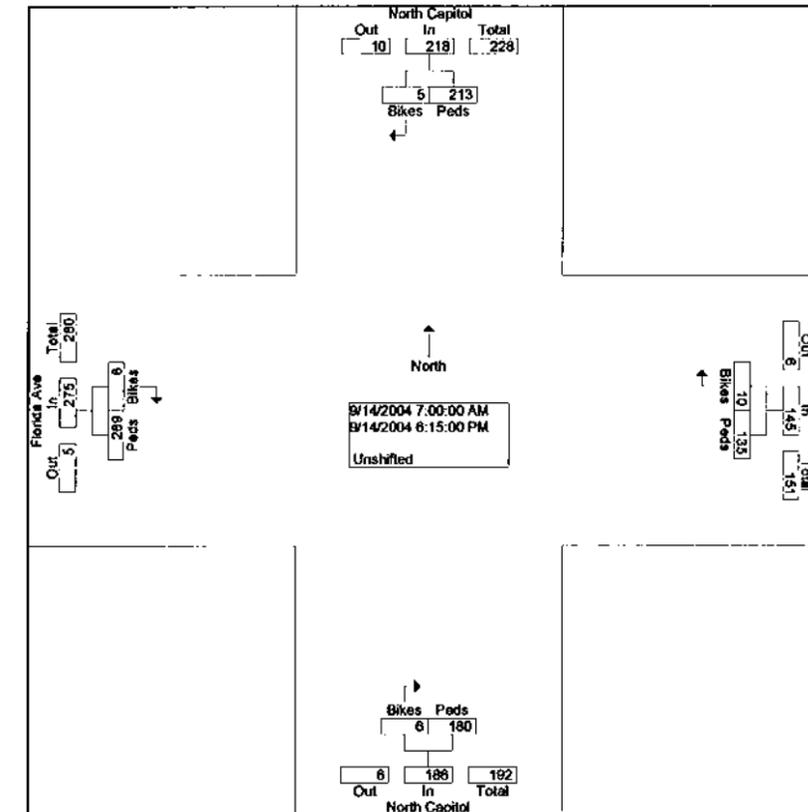
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NC149F~1
Site Code : 00000033
Start Date : 09/14/2004
Page No : 1

Start Time	North Capitol From North		Florida Ave From East		North Capitol From South		Florida Ave From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	10	0	8	0	14	0	20	52
07:15 AM	0	14	0	6	0	9	0	21	50
07:30 AM	0	12	2	19	0	7	0	12	52
07:45 AM	1	13	0	9	2	5	1	16	47
Total	1	49	2	42	2	35	1	69	201
08:00 AM	0	29	2	16	2	13	2	20	84
08:15 AM	0	23	0	6	0	10	0	23	62
08:30 AM	2	23	1	12	0	19	0	9	66
08:45 AM	0	22	1	13	0	19	0	22	77
Total	2	97	4	47	2	61	2	74	289
04:30 PM	0	14	0	11	0	32	1	38	96
04:45 PM	1	11	0	3	1	8	0	16	40
Total	1	25	0	14	1	40	1	54	136
05:00 PM	0	14	0	4	0	10	1	3	32
05:15 PM	0	13	0	7	0	8	0	16	44
05:30 PM	1	4	2	15	1	20	0	11	54
05:45 PM	0	3	0	1	0	6	1	27	38
Total	1	34	2	27	1	44	2	57	188
06:00 PM	0	5	2	0	0	0	0	1	8
06:15 PM	0	3	0	5	0	0	0	14	22
Grand Total	5	213	10	135	6	180	6	269	824
Apprch %	2.3	97.7	8.9	93.1	3.2	96.8	2.2	97.8	
Total %	0.6	25.8	1.2	16.4	0.7	21.8	0.7	32.6	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NC149F~1
Site Code : 00000033
Start Date : 09/14/2004
Page No : 2



Start Time	North Capitol From North			Florida Ave From East			North Capitol From South			Florida Ave From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	08:00 AM			07:15 AM			08:00 AM			08:00 AM			
Volume	2	97	99	4	50	54	2	61	63	2	74	76	
Percent	2.0	98.0		7.4	92.6		3.2	96.8		2.6	97.4		
High Int.	08:00 AM			07:30 AM			08:30 AM			08:15 AM			
Volume	0	29	29	2	19	21	0	19	19	0	23	23	
Peak Factor			0.853			0.643			0.829				0.826
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:30 PM			04:45 PM			04:30 PM			04:30 PM			
Volume	1	52	53	2	29	31	1	58	59	2	73	75	
Percent	1.9	98.1		6.5	93.5		1.7	98.3		2.7	97.3		
High Int.	04:30 PM			05:30 PM			04:30 PM			04:30 PM			
Volume	0	14	14	2	15	17	0	32	32	1	38	39	
Peak Factor			0.948			0.456			0.461				0.481

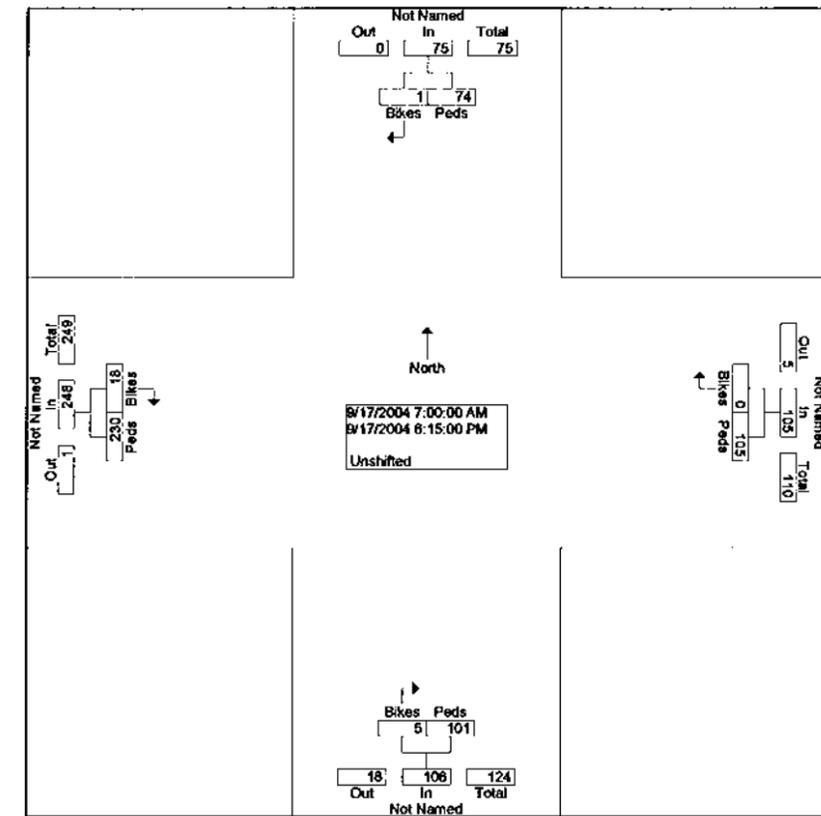
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCBB49~1
Site Code : 00000033
Start Date : 09/17/2004
Page No : 1

Start Time	From North		From East		From South		From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
07:00 AM	0	1	0	4	0	4	0	8	17
07:15 AM	0	1	0	6	1	3	3	9	23
07:30 AM	0	0	0	8	0	4	2	17	31
07:45 AM	0	0	0	7	0	8	1	21	37
Total	0	2	0	25	1	19	6	55	108
08:00 AM	0	1	0	3	0	19	1	25	49
08:15 AM	0	4	0	11	1	8	2	18	44
08:30 AM	0	3	0	13	0	14	4	43	77
08:45 AM	0	2	0	3	0	0	0	21	26
Total	0	10	0	30	1	41	7	107	196
04:30 PM	1	13	0	8	0	7	1	7	37
04:45 PM	0	4	0	7	0	14	1	8	34
Total	1	17	0	15	0	21	2	15	71
05:00 PM	0	11	0	8	1	8	1	13	42
05:15 PM	0	3	0	10	2	1	2	5	23
05:30 PM	0	9	0	3	0	2	0	13	27
05:45 PM	0	9	0	5	0	7	0	9	30
Total	0	32	0	26	3	18	3	40	122
06:00 PM	0	7	0	1	0	2	0	6	16
06:15 PM	0	8	0	8	0	0	0	7	21
Grand Total	1	74	0	105	5	101	18	230	534
Apprch %	1.3	98.7	0.0	100.0	4.7	95.3	7.3	92.7	
Total %	0.2	13.9	0.0	19.7	0.9	18.9	3.4	43.1	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCBB49~1
Site Code : 00000033
Start Date : 09/17/2004
Page No : 2



Start Time	From North			From East			From South			From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	08:00 AM			07:45 AM			07:45 AM			07:45 AM			
Volume	0	10	10	0	34	34	1	49	50	8	107	115	
Percent	0.0	100.0		0.0	100.0		2.0	98.0		7.0	83.0		
High Int.	08:15 AM			08:30 AM			08:00 AM			08:30 AM			
Volume	0	4	4	0	13	13	0	19	19	4	43	47	
Peak Factor			0.625			0.654			0.658			0.812	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:30 PM			04:30 PM			04:30 PM			04:45 PM			
Volume	1	31	32	0	33	33	3	30	33	4	39	43	
Percent	3.1	96.9		0.0	100.0		9.1	80.9		9.3	80.7		
High Int.	04:30 PM			05:15 PM			04:45 PM			05:00 PM			
Volume	1	13	14	0	10	10	0	14	14	1	13	14	
Peak Factor			0.571			0.825			0.589			0.768	

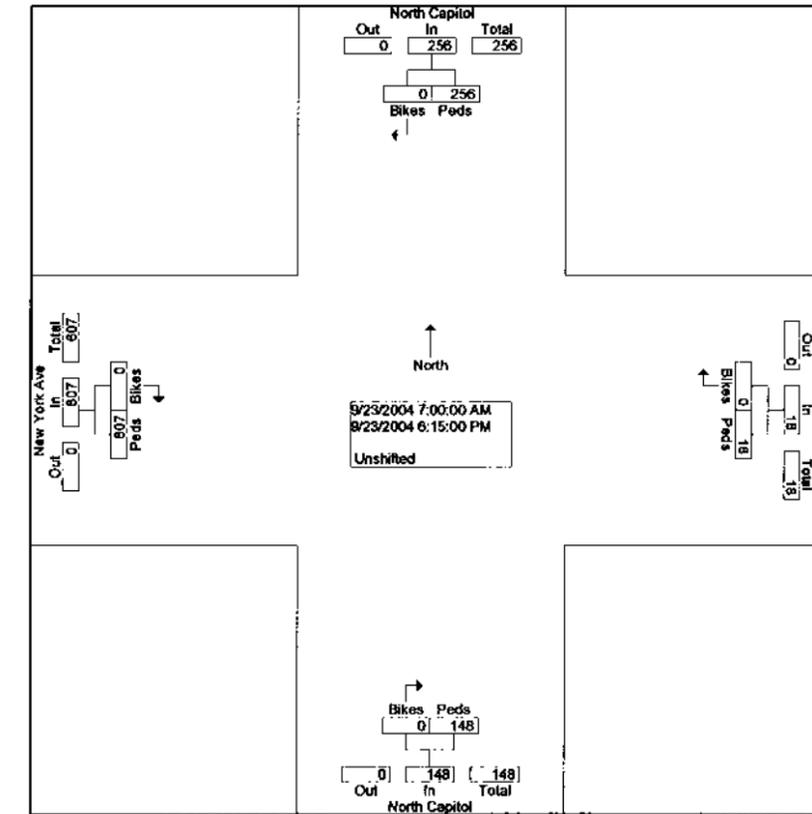
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCAPIA~2
Site Code : 00000033
Start Date : 09/23/2004
Page No : 1

Start Time	North Capitol From North		New York Ave From East		North Capitol From South		New York Ave From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	10	0	0	0	13	0	18	41
07:15 AM	0	15	0	0	0	10	0	17	42
07:30 AM	0	24	0	0	0	13	0	19	56
07:45 AM	0	34	0	0	0	8	0	27	69
Total	0	83	0	0	0	44	0	81	208
08:00 AM	0	37	0	0	0	0	0	29	66
08:15 AM	0	47	0	0	0	5	0	52	104
08:30 AM	0	42	0	0	0	8	0	17	67
08:45 AM	0	31	0	0	0	8	0	46	85
Total	0	157	0	0	0	21	0	144	322
04:30 PM	0	7	0	6	0	9	0	49	71
04:45 PM	0	3	0	2	0	7	0	37	49
Total	0	10	0	8	0	16	0	86	120
05:00 PM	0	4	0	1	0	21	0	36	62
05:15 PM	0	0	0	3	0	5	0	82	70
05:30 PM	0	2	0	0	0	2	0	43	47
05:45 PM	0	0	0	0	0	12	0	73	85
Total	0	6	0	4	0	40	0	214	264
06:00 PM	0	0	0	2	0	14	0	56	72
06:15 PM	0	0	0	4	0	13	0	26	43
Grand Total	0	256	0	18	0	148	0	607	1029
Approch %	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	
Total %	0.0	24.9	0.0	1.7	0.0	14.4	0.0	59.0	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCAPIA~2
Site Code : 00000033
Start Date : 09/23/2004
Page No : 2



Start Time	North Capitol From North			New York Ave From East			North Capitol From South			New York Ave From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:45 AM			07:00 AM			07:00 AM			08:00 AM			
Volume	0	160	160	0	0	0	0	44	44	0	144	144	144
Percent	0.0	100.0		-	-		0.0	100.0		0.0	100.0		
High Int.	08:15 AM			-	-		07:00 AM			08:15 AM			
Volume	0	47	47	-	-		0	13	13	0	52	52	52
Peak Factor			0.851						0.846				0.692
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:15 PM			04:30 PM			04:30 PM			05:15 PM			
Volume	0	14	14	0	12	12	0	42	42	0	234	234	234
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	04:30 PM			04:30 PM			05:00 PM			05:45 PM			
Volume	0	7	7	0	6	6	0	21	21	0	73	73	73
Peak Factor			0.500			0.500			0.500				0.801

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

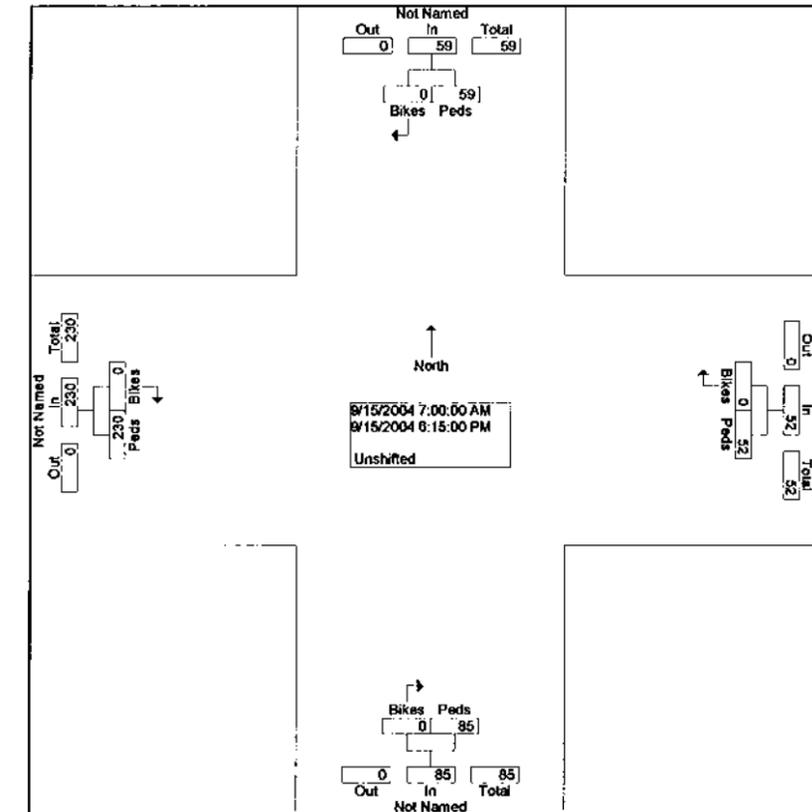
File Name : NCPAT~2
Site Code : 00000033
Start Date : 09/15/2004
Page No : 1

Groups Printed- Unshifted

Start Time	From North		From East		From South		From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	5	0	2	0	5	0	7	19
07:15 AM	0	1	0	6	0	8	0	10	25
07:30 AM	0	0	0	1	0	10	0	6	17
07:45 AM	0	5	0	4	0	8	0	10	27
Total	0	11	0	13	0	31	0	33	88
08:00 AM	0	2	0	13	0	8	0	5	28
08:15 AM	0	5	0	5	0	4	0	25	39
08:30 AM	0	6	0	7	0	19	0	11	43
08:45 AM	0	3	0	4	0	6	0	11	24
Total	0	16	0	29	0	37	0	52	134
04:30 PM	0	0	0	0	0	0	0	6	6
04:45 PM	0	6	0	3	0	1	0	28	38
Total	0	6	0	3	0	1	0	34	44
05:00 PM	0	1	0	2	0	0	0	12	15
05:15 PM	0	7	0	0	0	2	0	24	33
05:30 PM	0	4	0	1	0	0	0	15	20
05:45 PM	0	2	0	2	0	2	0	24	30
Total	0	14	0	5	0	4	0	75	98
06:00 PM	0	8	0	0	0	7	0	19	34
06:15 PM	0	4	0	2	0	5	0	17	28
Grand Total	0	59	0	52	0	85	0	230	426
Apprch %	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	
Total %	0.0	13.8	0.0	12.2	0.0	20.0	0.0	54.0	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCPAT~2
Site Code : 00000033
Start Date : 09/15/2004
Page No : 2



Start Time	From North			From East			From South			From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:45 AM			07:45 AM			07:45 AM			08:00 AM			
Volume	0	18	18	0	29	29	0	39	39	0	52	52	
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	08:30 AM			08:00 AM			08:30 AM			08:15 AM			
Volume	0	6	6	0	13	13	0	19	19	0	25	25	
Peak Factor			0.750			0.558			0.513				0.520
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	05:15 PM			04:45 PM			05:30 PM			05:15 PM			
Volume	0	21	21	0	6	6	0	14	14	0	82	82	
Percent	0.0	100.0		0.0	100.0		0.0	100.0		0.0	100.0		
High Int.	06:00 PM			04:45 PM			08:00 PM			05:15 PM			
Volume	0	6	6	0	3	3	0	7	7	0	24	24	
Peak Factor			0.658			0.500			0.500				0.854

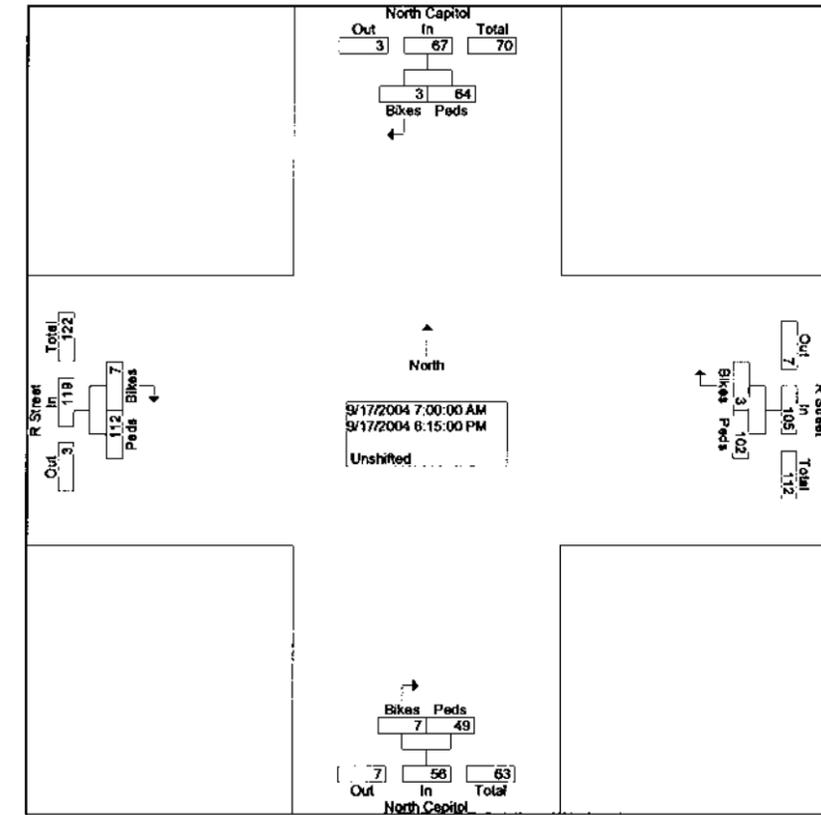
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCPAT~3
Site Code : 00000033
Start Date : 09/17/2004
Page No : 1

Start Time	North Capitol From North		R Street From East		North Capitol From South		R Street From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	3	0	1	0	0	0	4	8
07:15 AM	0	0	0	0	0	0	0	4	4
07:30 AM	0	2	0	2	0	0	0	0	4
07:45 AM	0	5	0	1	0	0	0	0	6
Total	0	10	0	4	0	0	0	8	22
08:00 AM	0	6	0	2	0	0	0	5	13
08:15 AM	0	4	0	4	0	0	0	2	10
08:30 AM	0	3	0	1	0	0	0	2	6
08:45 AM	0	4	0	7	0	0	0	2	13
Total	0	17	0	14	0	0	0	11	42
04:30 PM	1	11	0	11	0	2	2	16	43
04:45 PM	0	3	0	13	1	3	0	13	33
Total	1	14	0	24	1	5	2	29	76
05:00 PM	0	1	0	8	3	7	0	13	32
05:15 PM	0	6	0	18	0	14	0	15	53
05:30 PM	0	4	1	14	1	5	0	7	32
05:45 PM	0	6	2	11	0	10	1	9	39
Total	0	17	3	51	4	36	1	44	156
06:00 PM	1	1	0	3	1	6	2	6	20
06:15 PM	1	5	0	6	1	2	2	14	31
Grand Total	3	64	3	102	7	49	7	112	347
Apprch %	4.5	95.5	2.9	97.1	12.5	87.5	5.9	94.1	
Total %	0.9	18.4	0.9	29.4	2.0	14.1	2.0	32.3	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCPAT~3
Site Code : 00000033
Start Date : 09/17/2004
Page No : 2



Start Time	North Capitol From North			R Street From East			North Capitol From South			R Street From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:45 AM			08:00 AM			07:00 AM			08:00 AM			
Volume	0	18	18	0	14	14	0	0	0	0	11	11	
Percent	0.0	100.0		0.0	100.0		-	-	-	0.0	100.0		
High Int.	08:00 AM			08:45 AM						08:00 AM			
Volume	0	6	6	0	7	7				0	5	5	
Peak Factor			0.750			0.500							0.550
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:30 PM			04:45 PM			05:00 PM			04:30 PM			
Volume	1	21	22	1	53	54	4	36	40	2	57	59	
Percent	4.5	95.5		1.9	98.1		10.0	90.0		3.4	96.6		
High Int.	04:30 PM			05:15 PM			05:15 PM			04:30 PM			
Volume	1	11	12	0	18	18	0	14	14	2	18	18	
Peak Factor			0.458			0.750			0.714				0.819

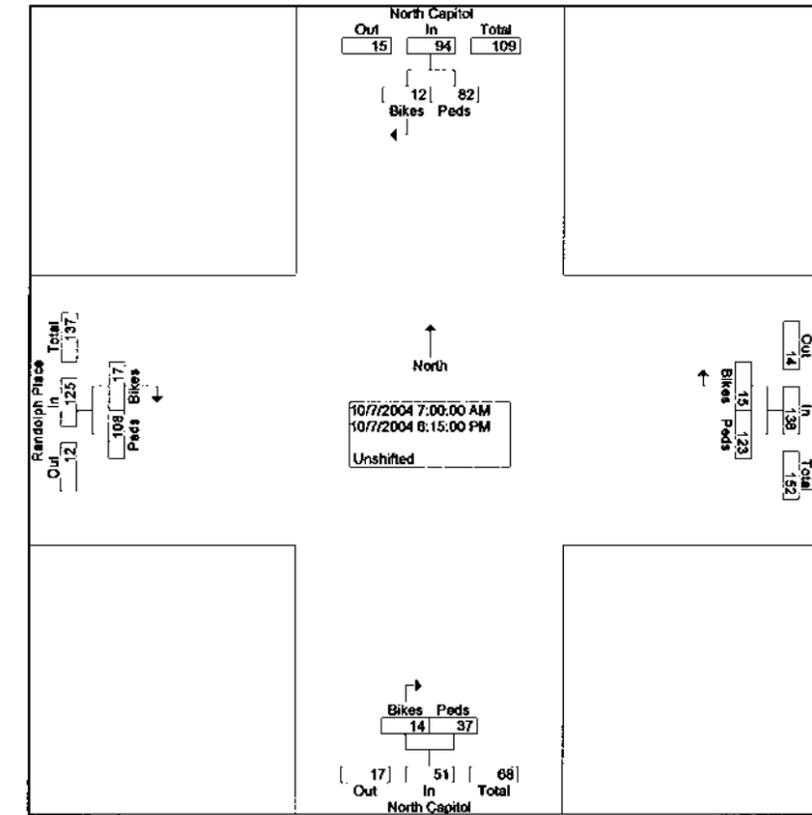
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NC15A0~1
Site Code : 00000033
Start Date : 10/07/2004
Page No : 1

Start Time	North Capitol From North		Randolph Place From East		North Capitol From South		Randolph Place From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	1	0	0	2	2	5
07:15 AM	0	9	0	5	0	0	0	1	15
07:30 AM	0	3	1	5	0	1	1	5	16
07:45 AM	2	11	0	4	0	3	0	8	28
Total	2	23	1	15	0	4	3	16	64
08:00 AM	0	6	0	7	1	3	0	7	24
08:15 AM	0	2	0	8	1	0	2	6	19
08:30 AM	0	4	1	5	0	0	0	7	17
08:45 AM	0	6	1	2	0	1	3	2	15
Total	0	18	2	22	2	4	5	22	75
04:30 PM	0	8	1	13	3	5	1	13	44
04:45 PM	3	2	1	9	1	2	1	4	23
Total	3	10	2	22	4	7	2	17	67
05:00 PM	3	12	1	8	0	3	1	16	42
05:15 PM	0	1	1	20	1	5	2	8	38
05:30 PM	1	6	2	14	3	3	2	4	35
05:45 PM	0	3	1	10	2	5	2	10	33
Total	4	22	5	50	6	16	7	38	148
06:00 PM	3	6	5	6	2	0	0	8	30
06:15 PM	0	3	0	8	0	6	0	7	24
Grand Total	12	82	15	123	14	37	17	108	408
Apprch %	12.8	87.2	10.9	89.1	27.5	72.5	13.8	86.4	
Total %	2.9	20.1	3.7	30.1	3.4	9.1	4.2	26.5	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NC15A0~1
Site Code : 00000033
Start Date : 10/07/2004
Page No : 2



Start Time	North Capitol From North			Randolph Place From East			North Capitol From South			Randolph Place From West			Int. Total
	Bikes	Peds	App. Total										
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:15 AM			07:30 AM			07:30 AM			07:45 AM			
Volume	2	29	31	1	24	25	2	7	9	2	28	30	
Percent	6.5	93.5		4.0	96.0		22.2	77.8		6.7	93.3		
High Int.	07:45 AM			08:15 AM			08:00 AM			07:45 AM			
Volume	2	11	13	0	8	8	1	3	4	0	8	8	
Peak Factor			0.596			0.781			0.563			0.938	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	04:30 PM			05:15 PM			05:00 PM			04:30 PM			
Volume	6	23	29	9	50	59	6	16	22	5	41	46	
Percent	20.7	79.3		15.3	64.7		27.3	72.7		10.9	89.1		
High Int.	05:00 PM			05:15 PM			05:45 PM			05:00 PM			
Volume	3	12	15	1	20	21	2	5	7	1	16	17	
Peak Factor			0.483			0.702			0.786			0.676	

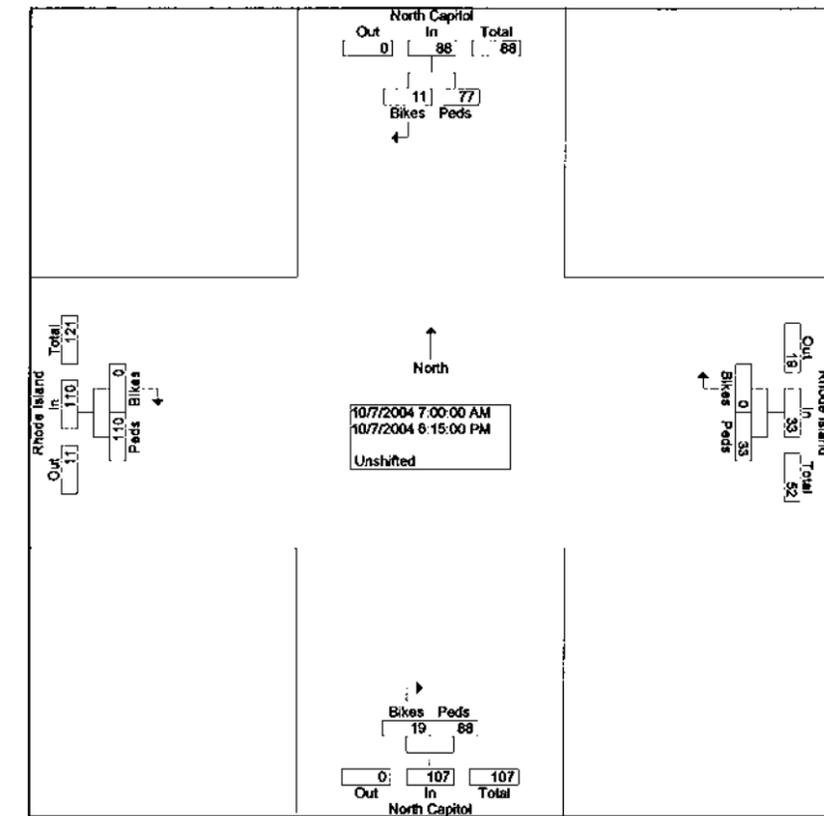
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCAPIA~1
Site Code : 00000033
Start Date : 10/07/2004
Page No : 1

Start Time	North Capitol From North		Rhode Island From East		North Capitol From South		Rhode Island From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	8	0	2	1	2	0	8	19
07:15 AM	2	4	0	0	1	1	0	4	12
07:30 AM	0	3	0	2	0	7	0	9	21
07:45 AM	1	1	0	3	1	4	0	1	11
Total	3	14	0	7	3	14	0	22	63
08:00 AM	0	4	0	2	2	6	0	5	19
08:15 AM	2	6	0	2	0	8	0	12	30
08:30 AM	0	5	0	6	2	4	0	4	21
08:45 AM	0	4	0	0	0	2	0	13	19
Total	2	19	0	10	4	20	0	34	89
04:30 PM	2	6	0	4	4	4	0	2	22
04:45 PM	1	9	0	5	1	8	0	10	34
Total	3	15	0	9	5	12	0	12	56
05:00 PM	1	4	0	2	2	1	0	4	14
05:15 PM	0	1	0	2	0	9	0	9	25
05:30 PM	0	6	0	0	2	9	0	13	30
05:45 PM	2	6	0	0	0	2	0	3	13
Total	3	17	0	4	4	25	0	29	82
06:00 PM	0	3	0	0	3	7	0	3	16
06:15 PM	0	9	0	3	0	10	0	10	32
Grand Total	11	77	0	33	19	88	0	110	338
Approch %	12.5	87.5	0.0	100.0	17.8	82.2	0.0	100.0	
Total %	3.3	22.8	0.0	9.8	5.6	26.0	0.0	32.5	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : NCAPIA~1
Site Code : 00000033
Start Date : 10/07/2004
Page No : 2



Start Time	North Capitol From North			Rhode Island From East			North Capitol From South			Rhode Island From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	08:00 AM			07:45 AM			07:30 AM			08:00 AM			
Volume	2	19	21	0	13	13	3	25	28	0	34	34	
Percent	9.5	90.5		0.0	100.0		10.7	89.3		0.0	100.0		
High Int.	08:15 AM			08:30 AM			08:00 AM			08:45 AM			
Volume	2	6	8	0	6	6	2	6	8	0	13	13	
Peak Factor			0.656			0.542			0.875			0.654	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	05:30 PM			04:30 PM			04:45 PM			04:45 PM			
Volume	2	24	26	0	13	13	5	31	36	0	36	36	
Percent	7.7	92.3		0.0	100.0		13.9	86.1		0.0	100.0		
High Int.	06:15 PM			04:45 PM			05:15 PM			05:30 PM			
Volume	0	9	9	0	5	5	0	13	13	0	13	13	
Peak Factor			0.722			0.650			0.692			0.692	

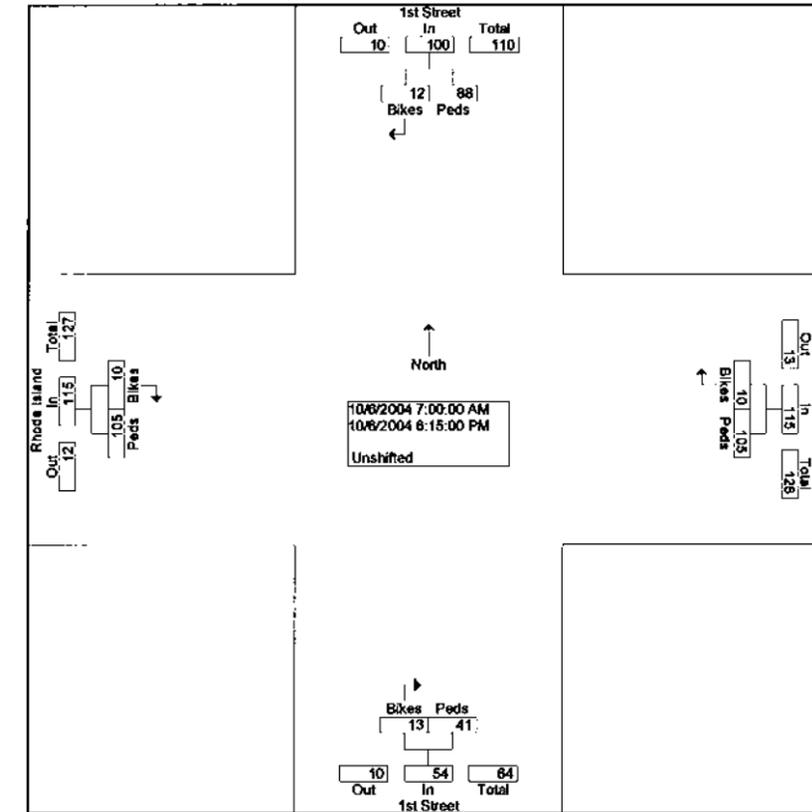
DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : TSTREE~1
Site Code : 00000033
Start Date : 10/06/2004
Page No : 1

Start Time	1st Street From North		Rhode Island From East		1st Street From South		Rhode Island From West		Int. Total
	Bikes	Peds	Bikes	Peds	Bikes	Peds	Bikes	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	0	0	1	0	0	1
07:15 AM	0	1	0	2	0	0	0	1	4
07:30 AM	0	2	0	5	1	0	0	1	9
07:45 AM	1	2	1	6	0	2	1	1	14
Total	1	5	1	13	1	3	1	3	28
08:00 AM	0	12	0	11	0	0	0	4	27
08:15 AM	1	2	0	7	1	0	0	9	20
08:30 AM	0	2	1	11	0	1	0	12	27
08:45 AM	1	1	0	5	0	0	2	5	14
Total	2	17	1	34	1	1	2	30	88
04:30 PM	2	8	1	12	2	12	1	9	47
04:45 PM	0	5	1	2	1	5	1	6	21
Total	2	13	2	14	3	17	2	15	68
05:00 PM	3	4	0	3	3	0	0	6	19
05:15 PM	0	10	2	6	0	1	2	11	32
05:30 PM	2	11	0	14	2	2	0	12	43
05:45 PM	0	9	1	8	0	3	1	13	35
Total	5	34	3	31	5	6	3	42	129
06:00 PM	2	8	2	9	1	1	2	6	31
06:15 PM	0	11	1	4	2	13	0	9	40
Grand Total	12	88	10	105	13	41	10	105	384
Approch %	12.0	88.0	8.7	91.3	24.1	75.9	8.7	91.3	
Total %	3.1	22.9	2.6	27.3	3.4	10.7	2.6	27.3	

DMJM+HARRIS, INC
NorthCapitol Street Transportation Study
Pedestrian Count

File Name : TSTREE~1
Site Code : 00000033
Start Date : 10/06/2004
Page No : 2



Start Time	1st Street From North			Rhode Island From East			1st Street From South			Rhode Island From West			Int. Total
	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	Bikes	Peds	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1													
By Approach	07:30 AM			07:45 AM			07:00 AM			08:00 AM			
Volume	2	18	20	2	35	37	1	3	4	2	30	32	
Percent	10.0	90.0		5.4	94.6		25.0	75.0		6.3	93.8		
High Int.	08:00 AM			08:30 AM			07:45 AM			08:30 AM			
Volume	0	12	12	1	11	12	0	2	2	0	12	12	
Peak Factor			0.417			0.771			0.500			0.667	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1													
By Approach	05:30 PM			05:15 PM			04:30 PM			05:15 PM			
Volume	4	39	43	5	37	42	6	18	24	5	42	47	
Percent	9.3	90.7		11.9	88.1		25.0	75.0		10.6	89.4		
High Int.	05:30 PM			05:30 PM			04:30 PM			05:45 PM			
Volume	2	11	13	0	14	14	2	12	14	1	13	14	
Peak Factor			0.827			0.750			0.429			0.839	

APPENDIX C
DESCRIPTION OF LEVELS OF SERVICES

Level of Service Descriptions for Signalized Intersections

Level of Service

Description

- A** *Level of Service A* describes operations with very low delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
- B** *Level of Service B* describes operations with delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than for LOS A, causing higher levels of average delay.
- C** *Level of Service C* describes operations with delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
- D** *Level of Service D* describes operations with delay greater than 35 and up to 55 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, longer cycle lengths, or high volume to capacity (v/c) ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. This level is considered by many agencies to be the limit of acceptable delay.
- E** *Level of Service E* describes operations with delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
- F** *Level of Service F* describes operations with delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and cycle lengths may also be major contributing causes to such delay levels.

APPENDIX D

MEASURES OF EFFECTIVENESS OF

TRAFFIC CIRCLE WITH EXISTING LANE CONFIGURATIONS

	At-Grade										Grade-Separated									
	AM Peak Period					PM Peak Period					AM Peak Period					PM Peak Period				
	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street	Southbound North Capitol Street	Q Street NE	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street	Southbound North Capitol Street	Q Street NE	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street Northbound Off Ramp	Northbound North Capitol Street Southbound Off Ramp	Q Street NE	Florida Avenue NW	Florida Avenue NE	Northbound North Capitol Street Northbound Off Ramp	Northbound North Capitol Street Southbound Off Ramp	Q Street NE
Delay (second/vehicle)	540	686	5	6	119	49	451	178	4	38	2	2	7	9	9	2	2	7	8	7
95th Percentile Queue Length (feet)	3022	4527	216	293	224	608	3309	2719	153	117	52	100	7	10	18	49	82	7	8	15
LOS	F	F	A	A	F	D	F	F	A	D	A	A	A	A	A	A	A	A	A	A
LOS of the Traffic Circle	F					F					A					A				

APPENDIX E

CITIZENS' COMMENTS

Citizen's Comments Summary from Ward 5 Transportation Summit

The Ward 5 Transportation Summit was held on December 11th, 2004 at Crosby Noyes Elementary School in Washington DC. The North Capitol Street Transportation Study is one of the projects presented in the summit. The citizens of Ward 5 who participated in the summit provided valuable comments regarding the North Capitol Transportation Study which are summarized below:

Verbal Comments received from the Citizens

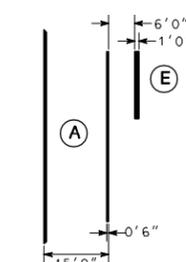
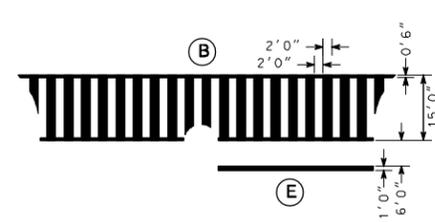
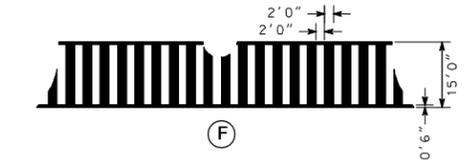
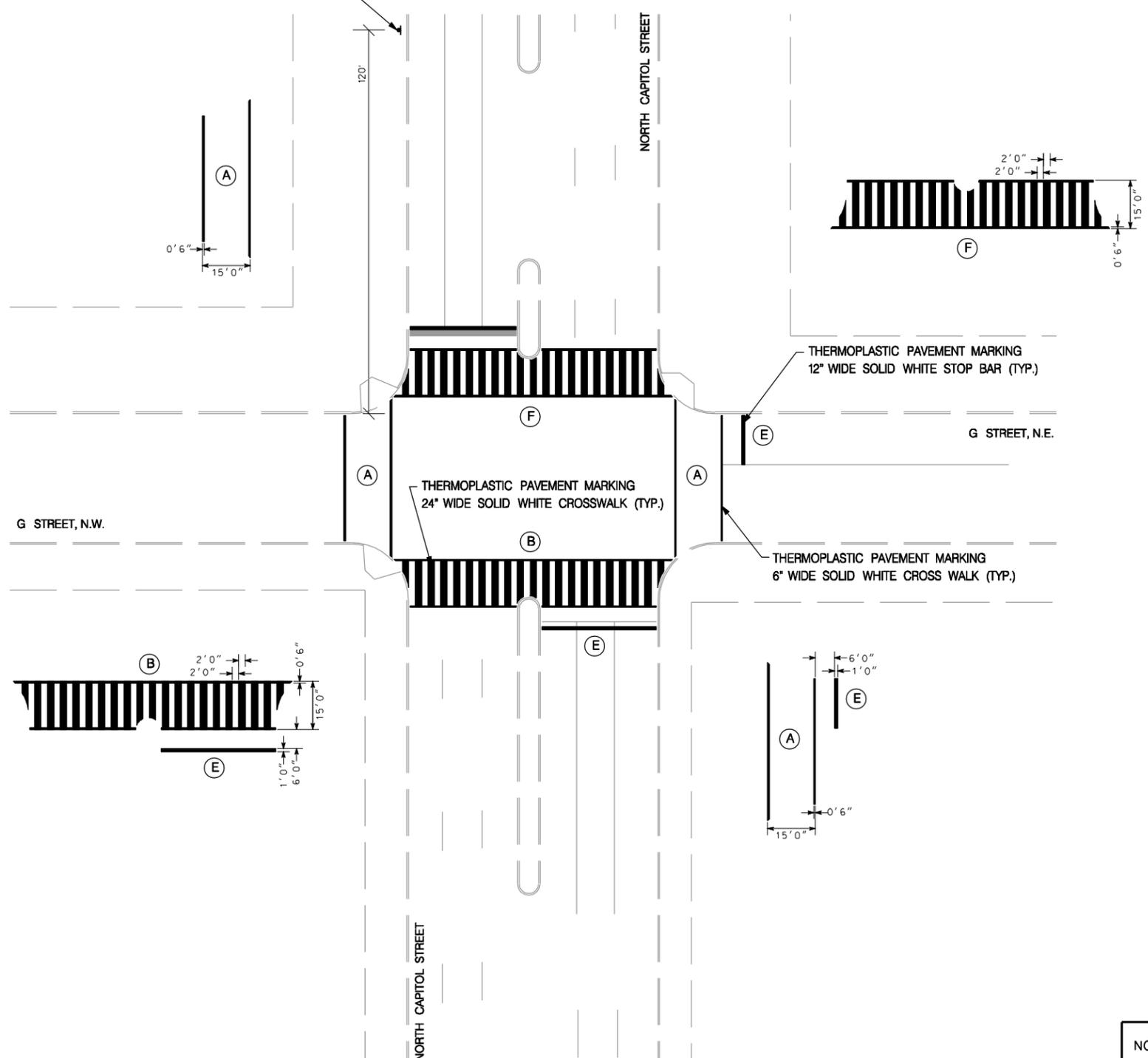
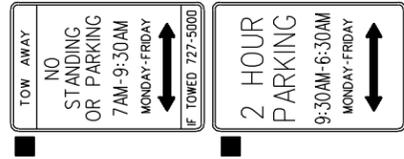
1. Provide pedestrian access to Metro.
2. Build the Truxton Circle and grade separate North Capitol Street at Truxton Circle.
3. Improve sign at the intersection of M Street and First Street.
4. Cars are speeding at First Street and Bates Street.
5. Pedestrian signal across North Capitol Street at Florida Avenue does not provide enough time to cross the street.
6. Educate pedestrians on rules to cross street.
7. What is going to happen to the sidewalk on Lincoln Rd?
8. Can we move the bus stop in front of the liquor store at the intersection of North Capitol Street and Florida Avenue?
9. Provide separate left turn lanes at the intersection of North Capitol Street at Florida Avenue.
10. Crosswalks at Q Street and Florida Avenue need improvements.
11. Slow down traffic on First Street NW.
12. Right turn lane on southbound North Capitol Street narrows south of Florida Avenue.
13. Truxton Circle will displace residential and business establishments.
14. Southbound traffic does not yield to pedestrian at the intersection of New York Avenue and North Capitol Street.
15. Provide left turn phase at New York Avenue and First Street NW during rush hour.
16. Provide left turn phase at North Capitol Street and P Street.
17. Drivers do not notice the crosswalks and fail to yield to pedestrian at the intersection of Q Street and Florida Avenue. Paint the word "STOP" on the pavement before the cross walks at the intersection of Q Street and Florida Avenue
18. Provide bigger sign "STOP HERE" at the intersection of P Street and Florida Avenue NE.
19. Convert the intersection of First Street and Bates Street NW to all-way stop.
20. Convert the intersection of First Street and N Street to all-way stop.
21. Provide pedestrian overpass at New York Avenue near Metro Station.
22. Billboard along the Florida Avenue at the intersection of Q Street makes traffic go faster.

Written Comments Received from the Citizens

23. Provide left turn signal on New York Avenue at the intersection of New York Avenue and First Street, NW.
24. Provide left turn signal at North Capitol Street and P Street, NW
25. Convert the intersection of First Street and Bates Street, NW to all-way stop.
26. Provide pedestrian overpass across New York Avenue from New York Avenue to Metro Station.
27. Convert the intersection of First Street and N Street, NW to all-way stop.
28. Monorail should be considered as a traffic solution.
29. Reeducate public on how to properly cross the street.
30. Provide turning lanes with turning signal at the intersection of North Capitol Street and Florida Avenue, NW.
31. Provide turning lanes with turning signal at the intersection of North Capitol Street and H Street, NW.

APPENDIX F
SUMMARY OF PROPOSED IMPROVEMENTS BY CATEGORY

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

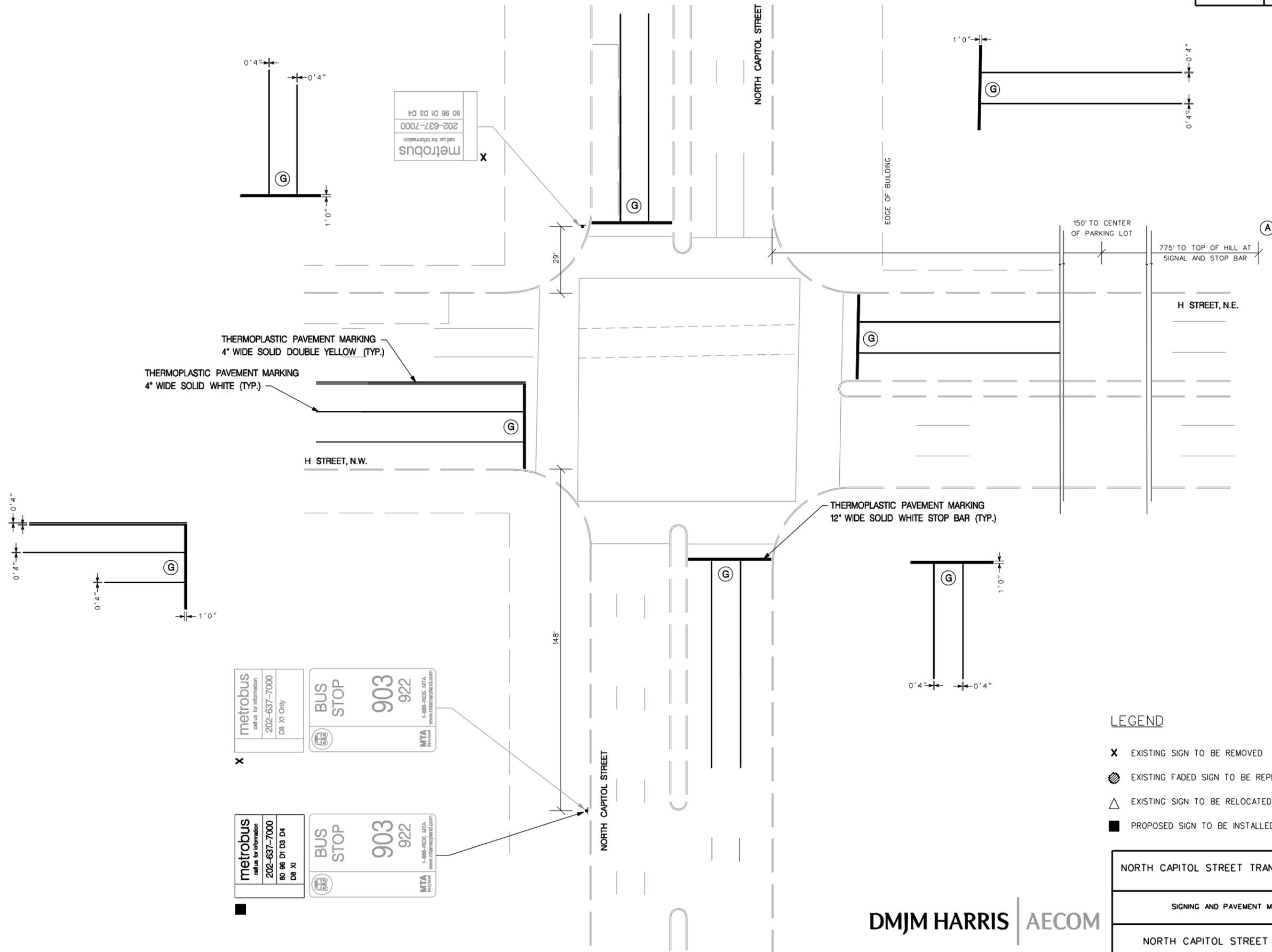
- X EXISTING SIGN TO BE REMOVED
- EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/2005
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND G STREET	DRAWING NO. 1 OF 46

F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS



THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID DOUBLE YELLOW (TYP.)

THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID WHITE (TYP.)

THERMOPLASTIC PAVEMENT MARKING
12" WIDE SOLID WHITE STOP BAR (TYP.)



LEGEND

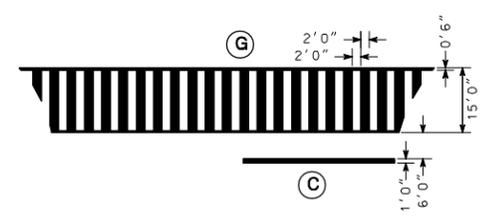
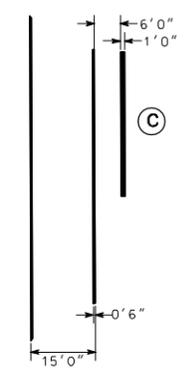
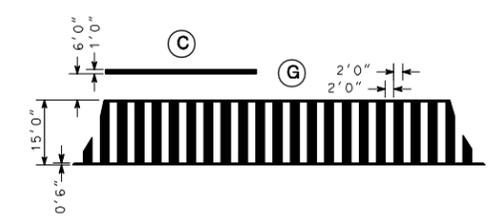
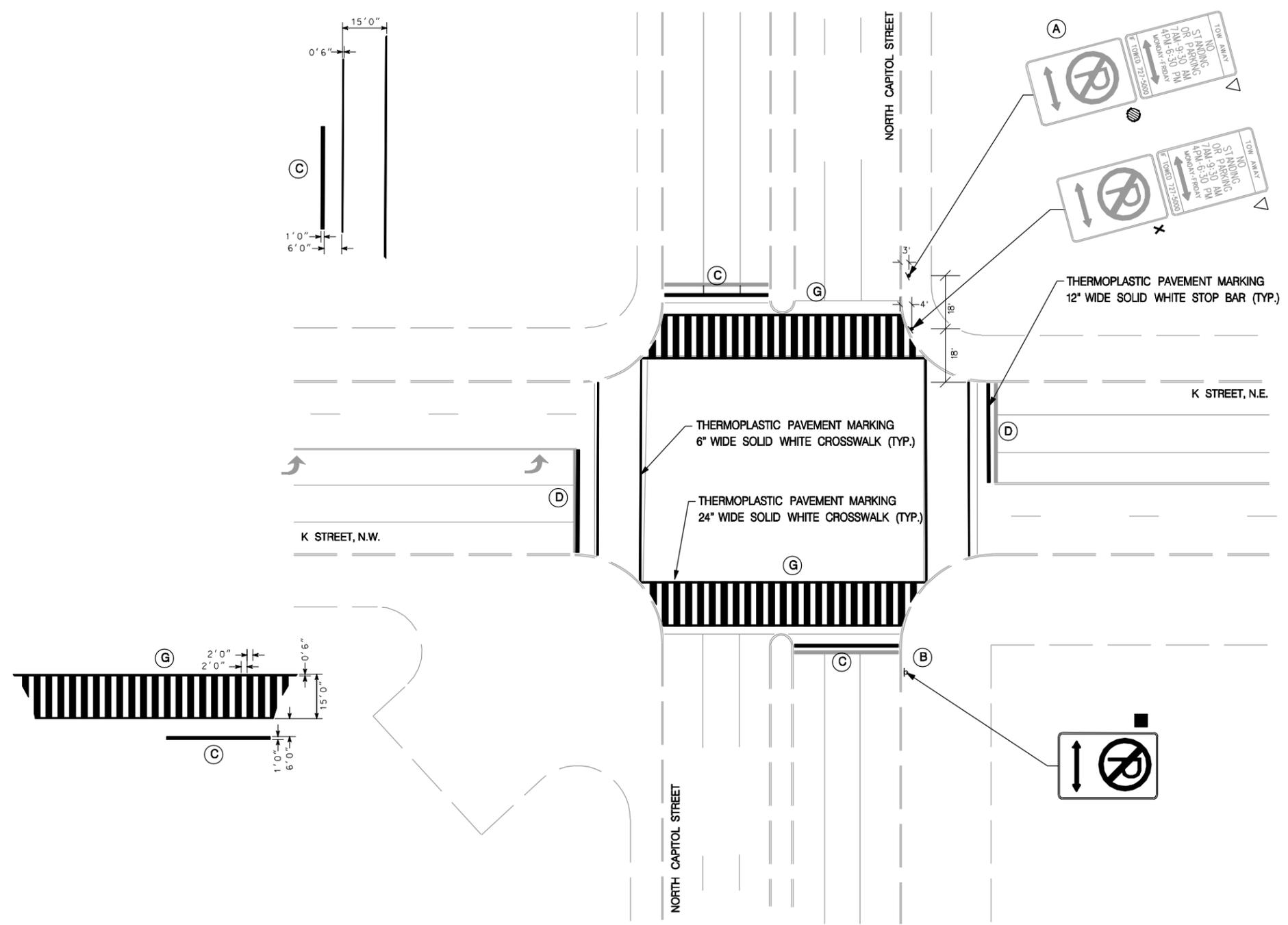
- X** EXISTING SIGN TO BE REMOVED
- EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS PLAN	SCALE 1" = 20'
NORTH CAPITOL STREET AND H STREET	DRAWING NO. 2 OF 46

F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS



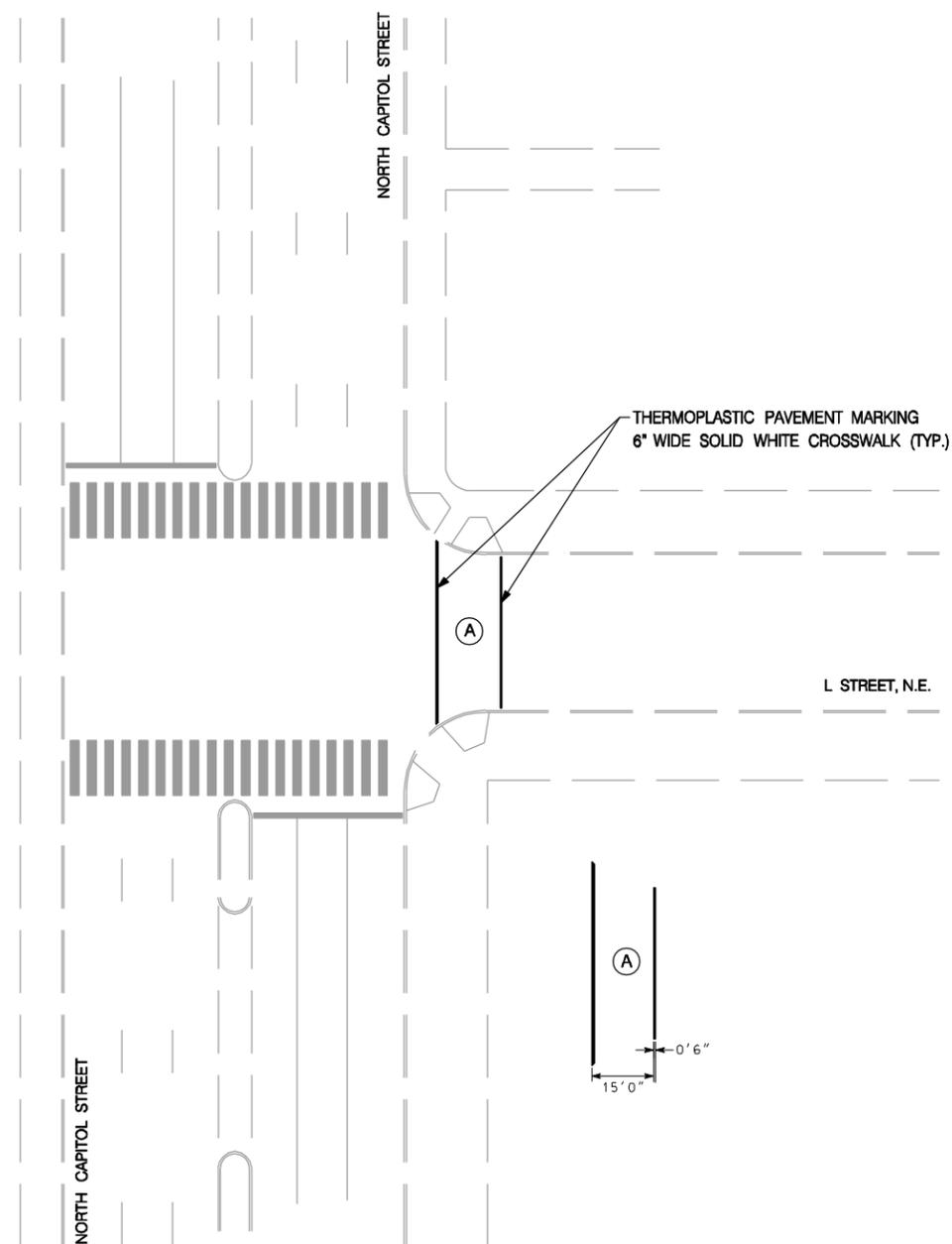
LEGEND

- X** EXISTING SIGN TO BE REMOVED
- EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED

DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/2005
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND K STREET	DRAWING NO. 3 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

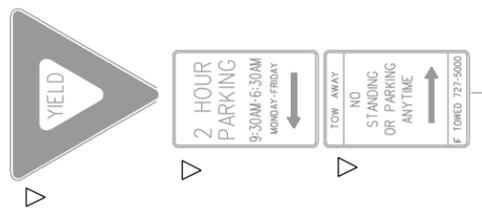
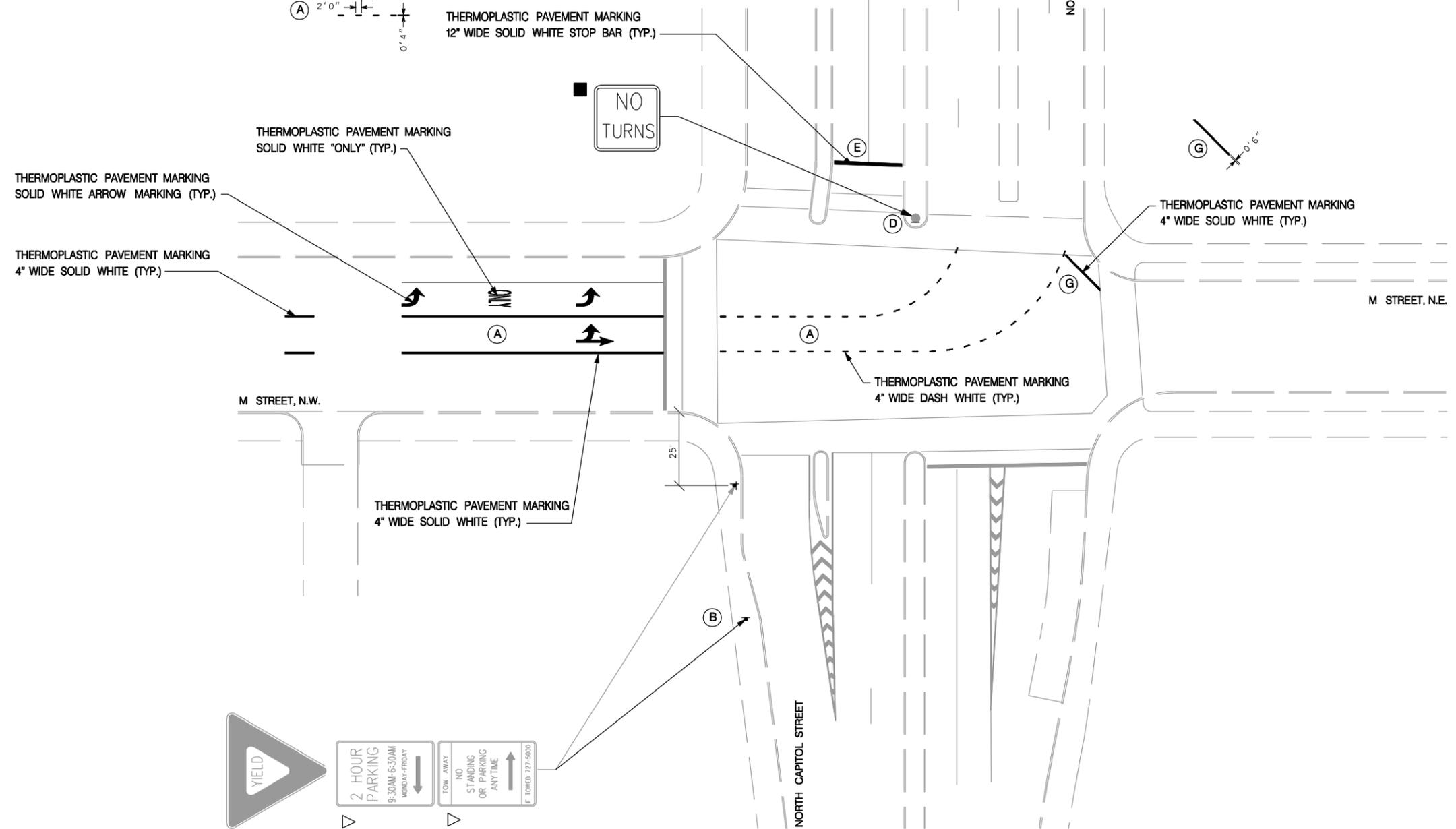
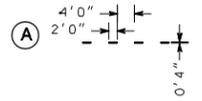
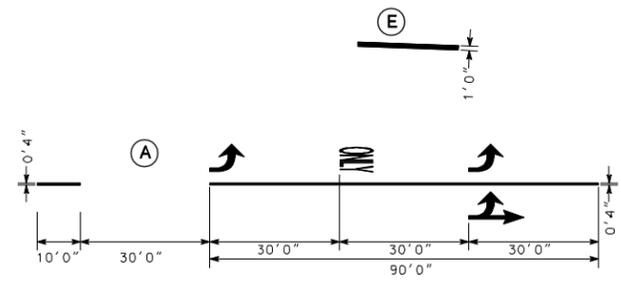
- ✘ EXISTING SIGN TO BE REMOVED
- ⊗ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 20'
SIGNING AND PAVEMENT MARKINGS	DRAWING NO.	4 OF 46
NORTH CAPITOL STREET AND L STREET		

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

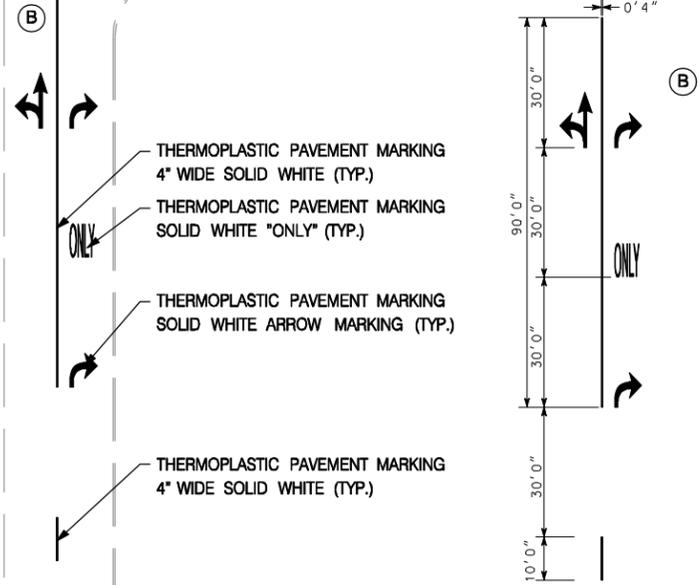
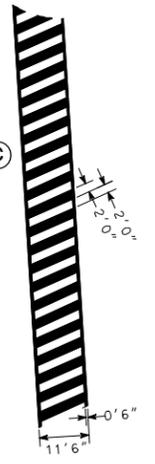
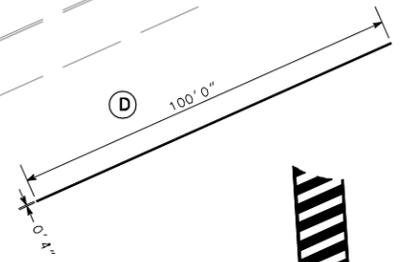
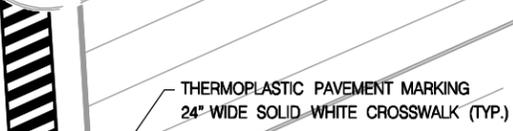
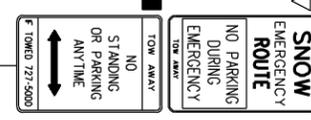
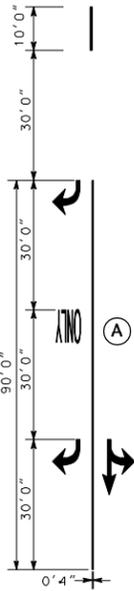
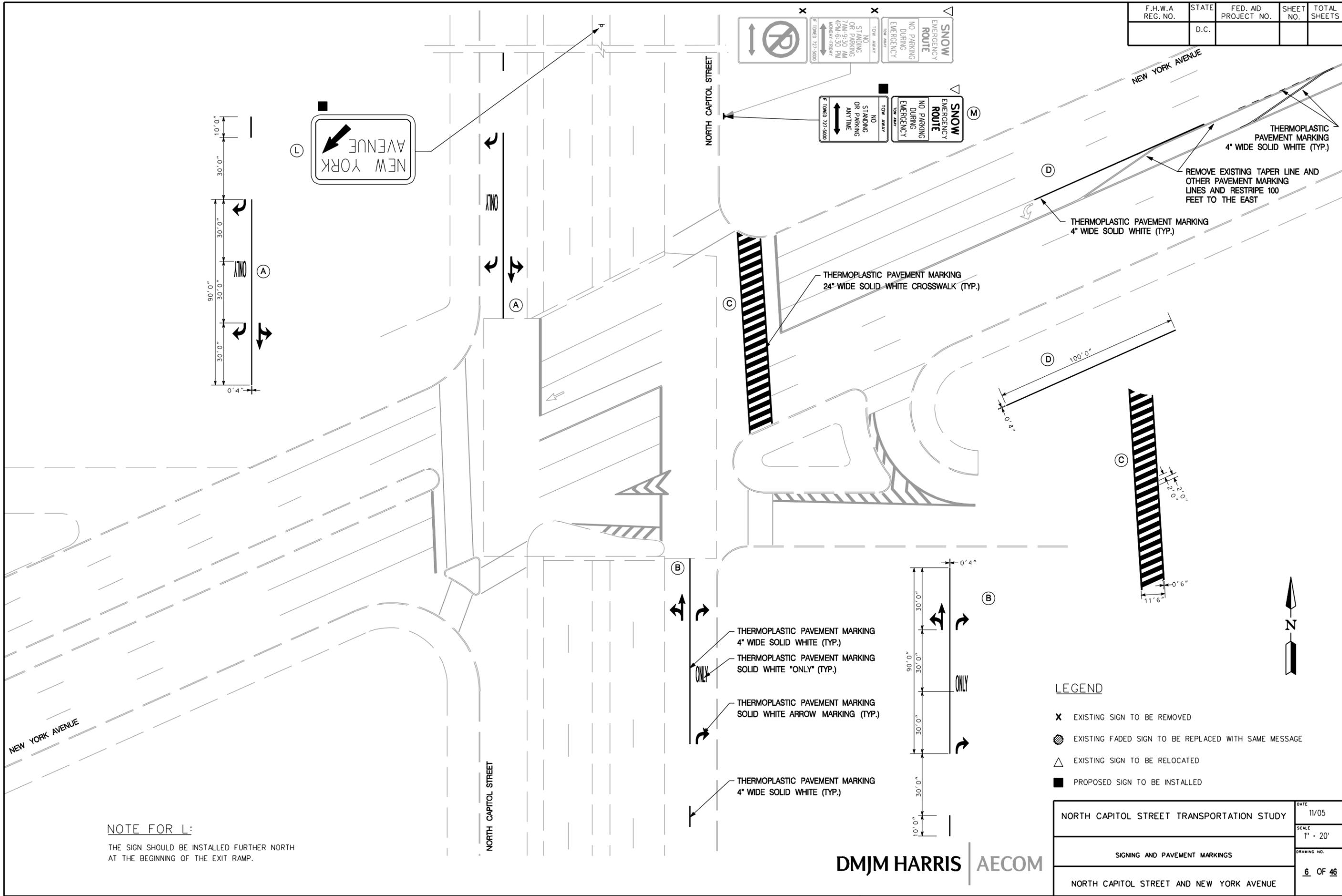
- X EXISTING SIGN TO BE REMOVED
- ⊗ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND M STREET	DRAWING NO. 5 OF 46

F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS



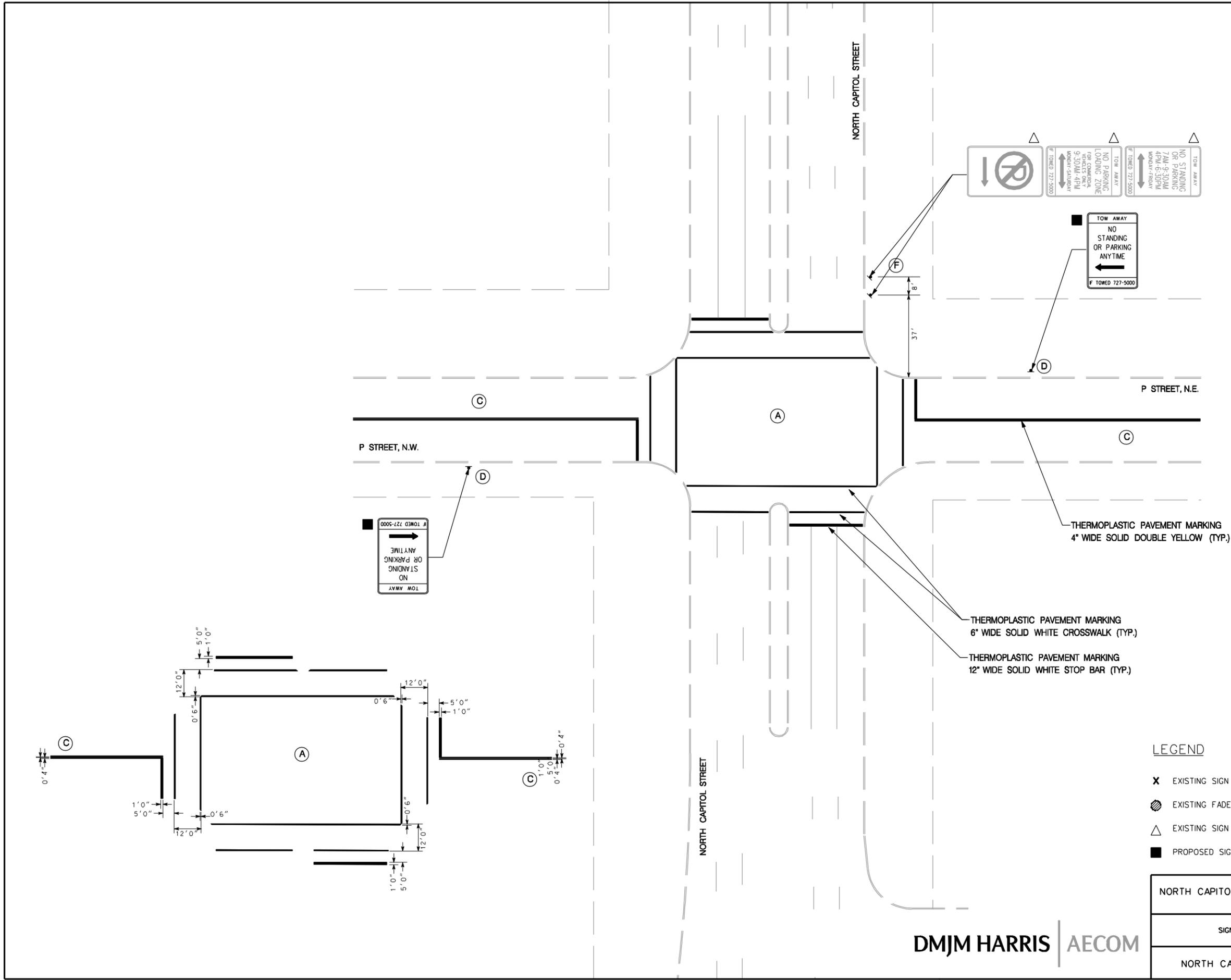
NOTE FOR L:
THE SIGN SHOULD BE INSTALLED FURTHER NORTH AT THE BEGINNING OF THE EXIT RAMP.

- LEGEND**
- X EXISTING SIGN TO BE REMOVED
 - ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
 - △ EXISTING SIGN TO BE RELOCATED
 - PROPOSED SIGN TO BE INSTALLED

DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND NEW YORK AVENUE	DRAWING NO. 6 OF 46

F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS



THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID DOUBLE YELLOW (TYP.)

THERMOPLASTIC PAVEMENT MARKING
6" WIDE SOLID WHITE CROSSWALK (TYP.)

THERMOPLASTIC PAVEMENT MARKING
12" WIDE SOLID WHITE STOP BAR (TYP.)

LEGEND

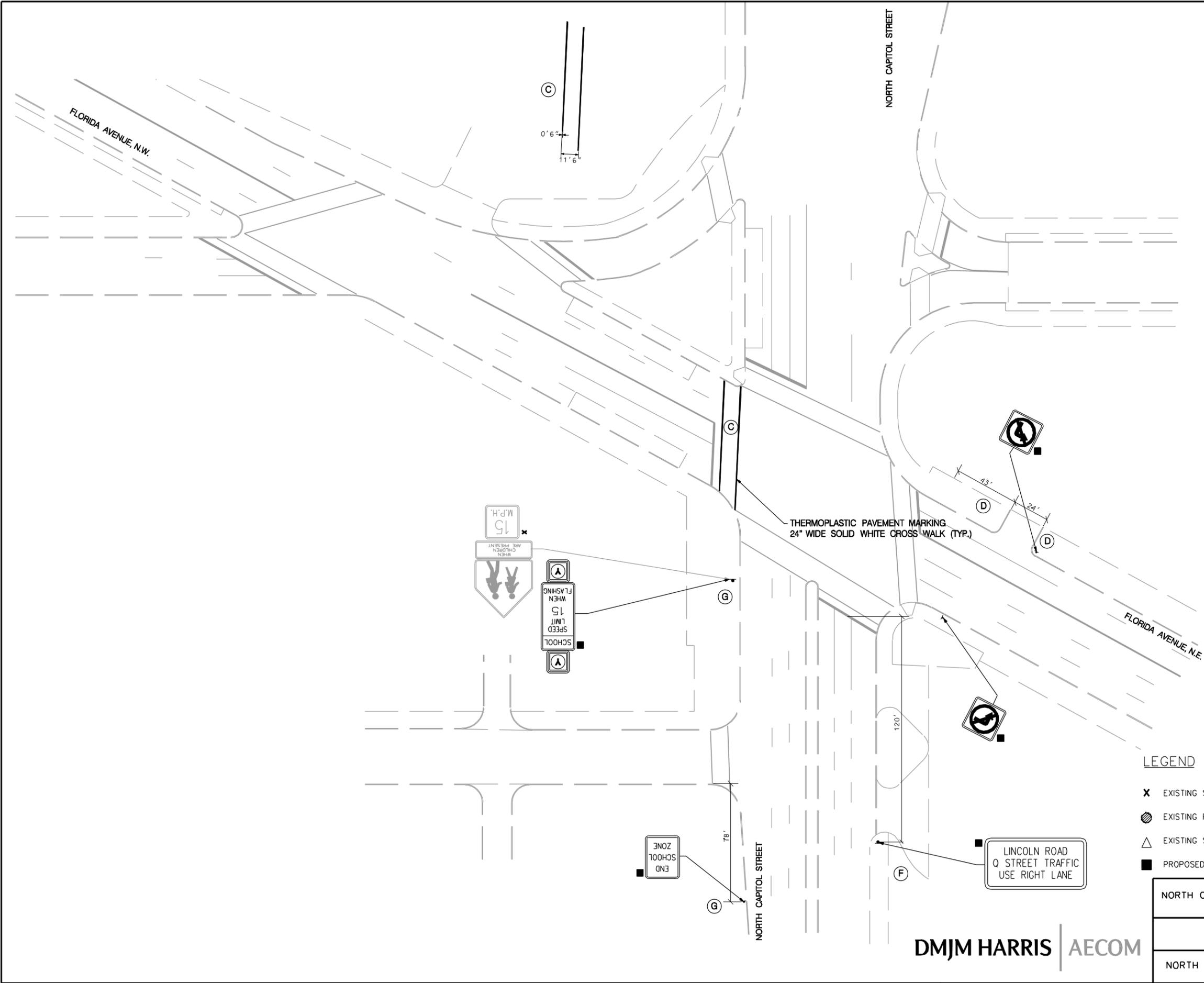
- X EXISTING SIGN TO BE REMOVED
- ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND P STREET	DRAWING NO. 7 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

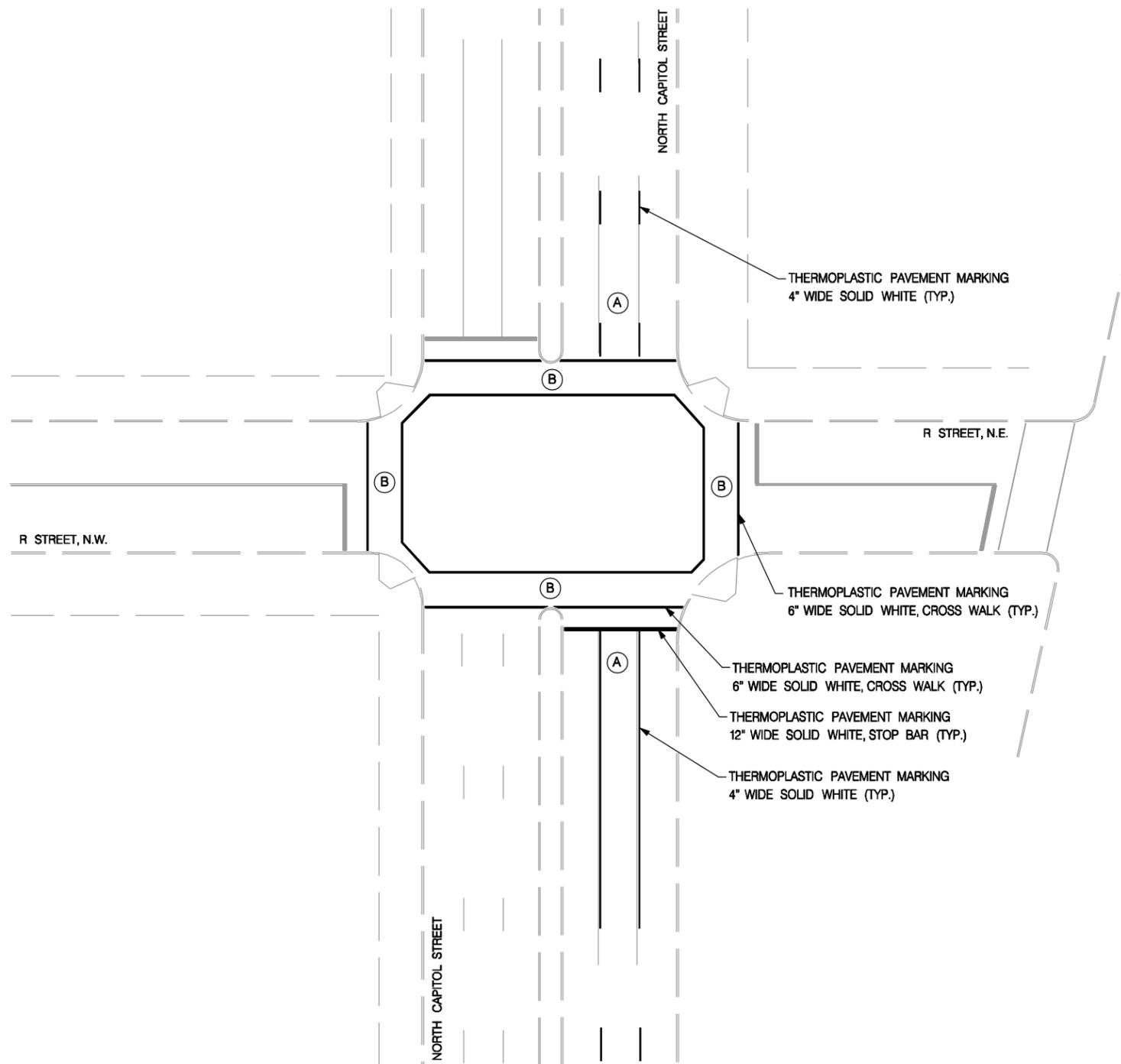
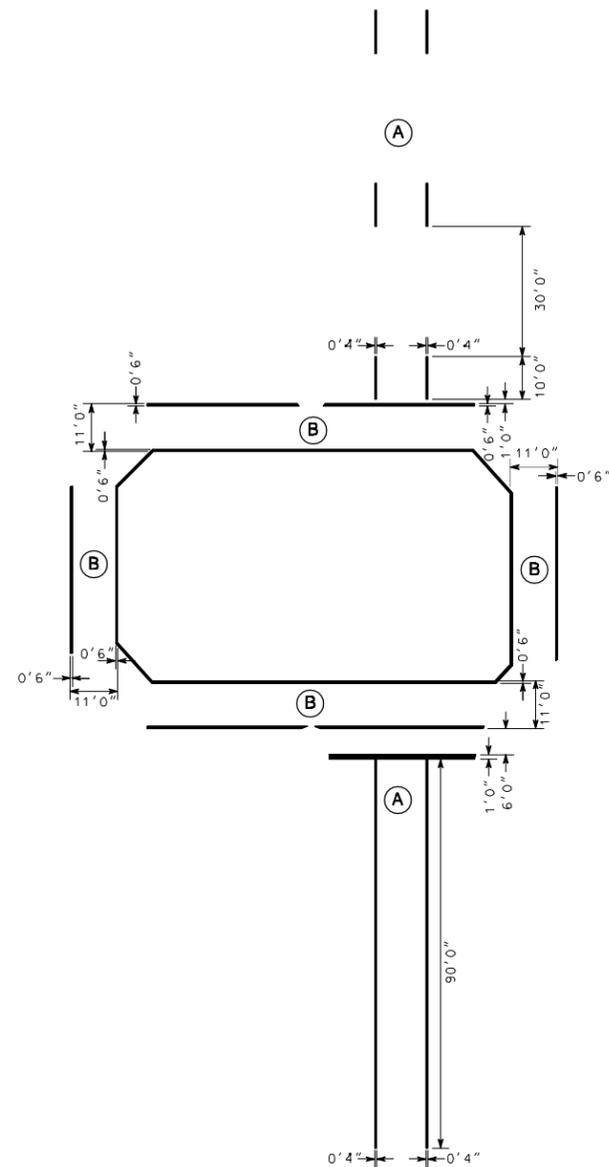
- X EXISTING SIGN TO BE REMOVED
- ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 10/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 30'
NORTH CAPITOL STREET AND FLORIDA AVENUE	DRAWING NO. 8 OF 46

DMJM HARRIS | AECOM

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

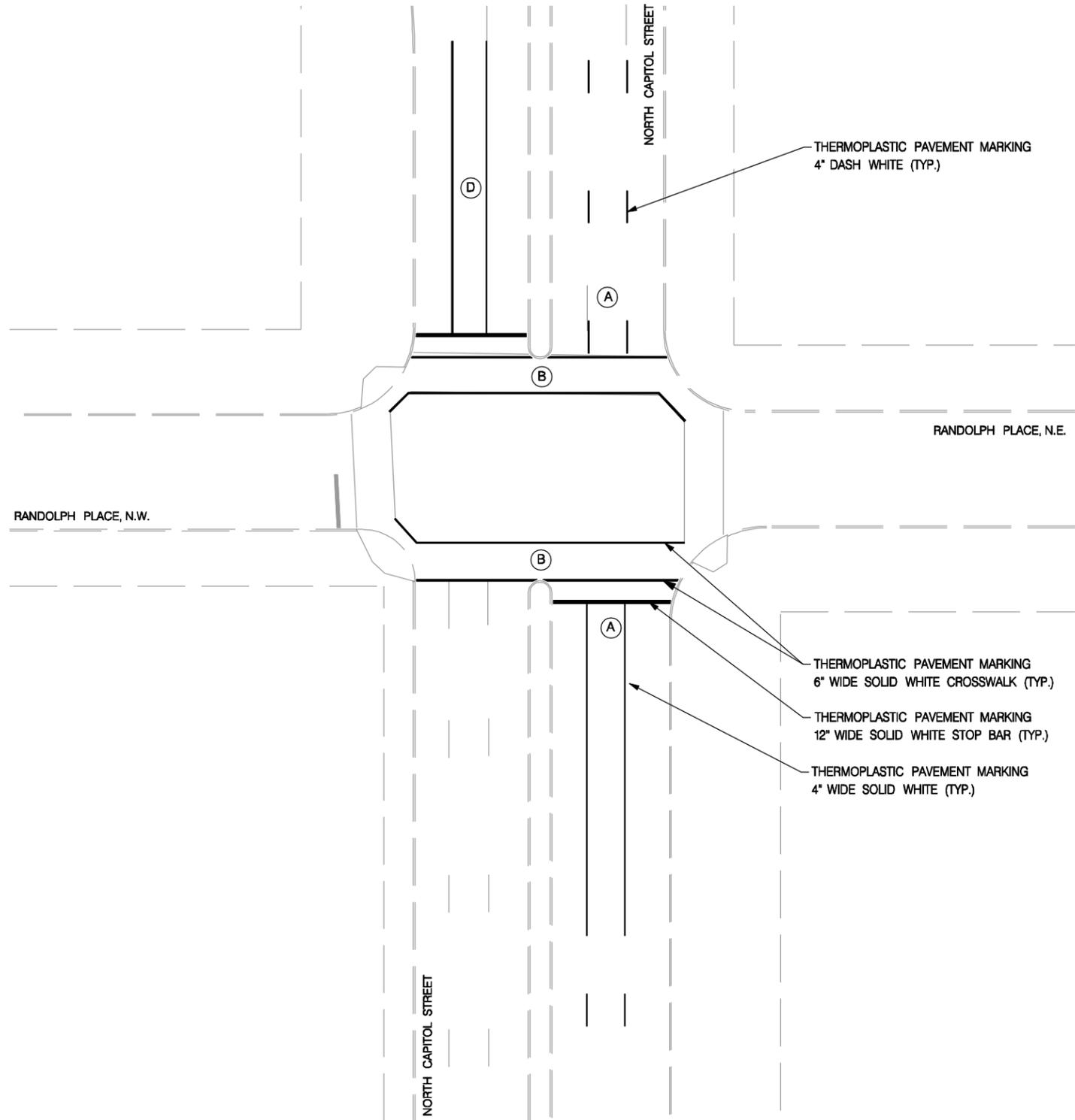
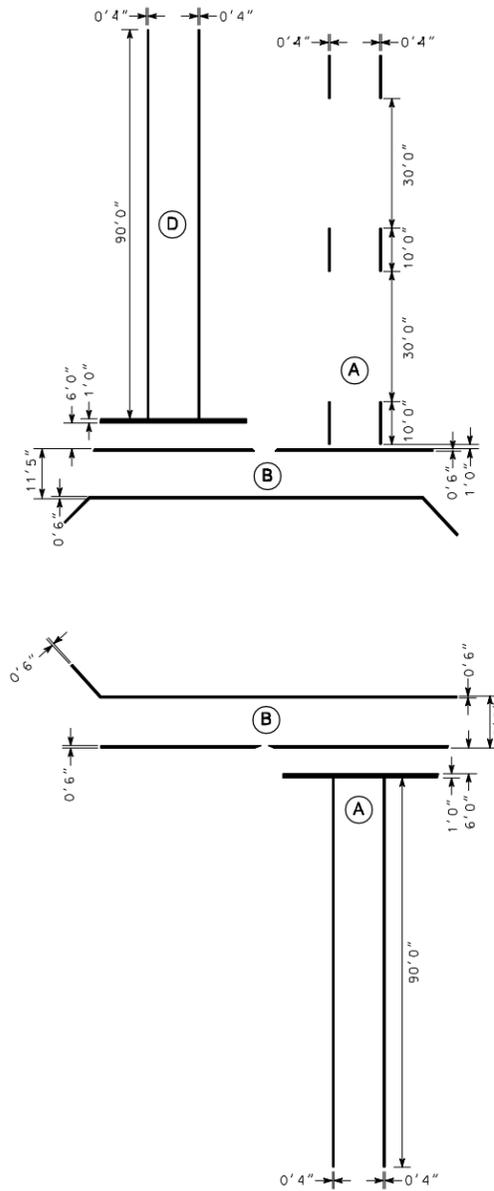
- ✘ EXISTING SIGN TO BE REMOVED
- ⊗ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND R STREET	DRAWING NO. 9 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

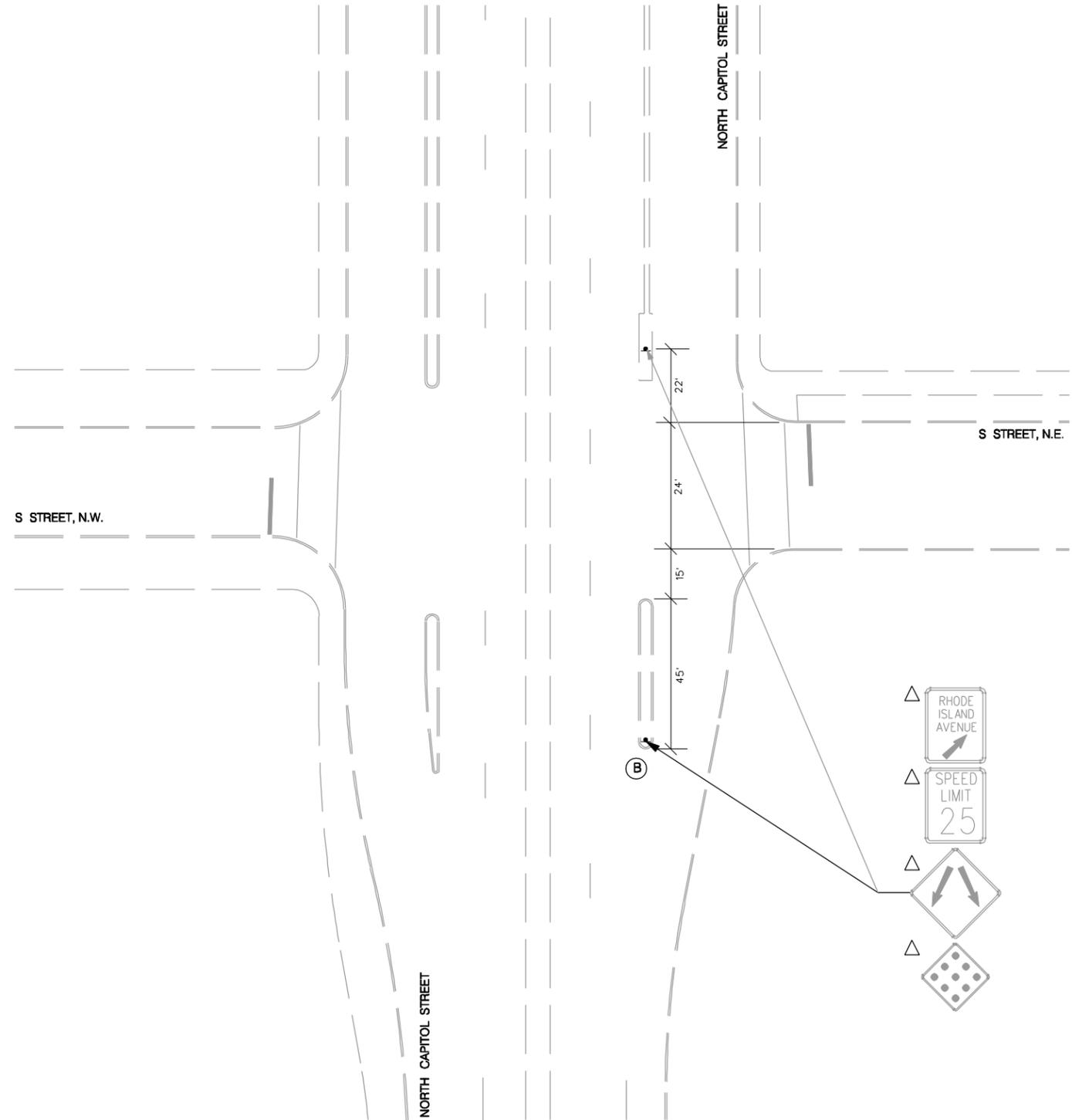
- ✕ EXISTING SIGN TO BE REMOVED
- ⊗ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND RANDOLPH PLACE	DRAWING NO. 10 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

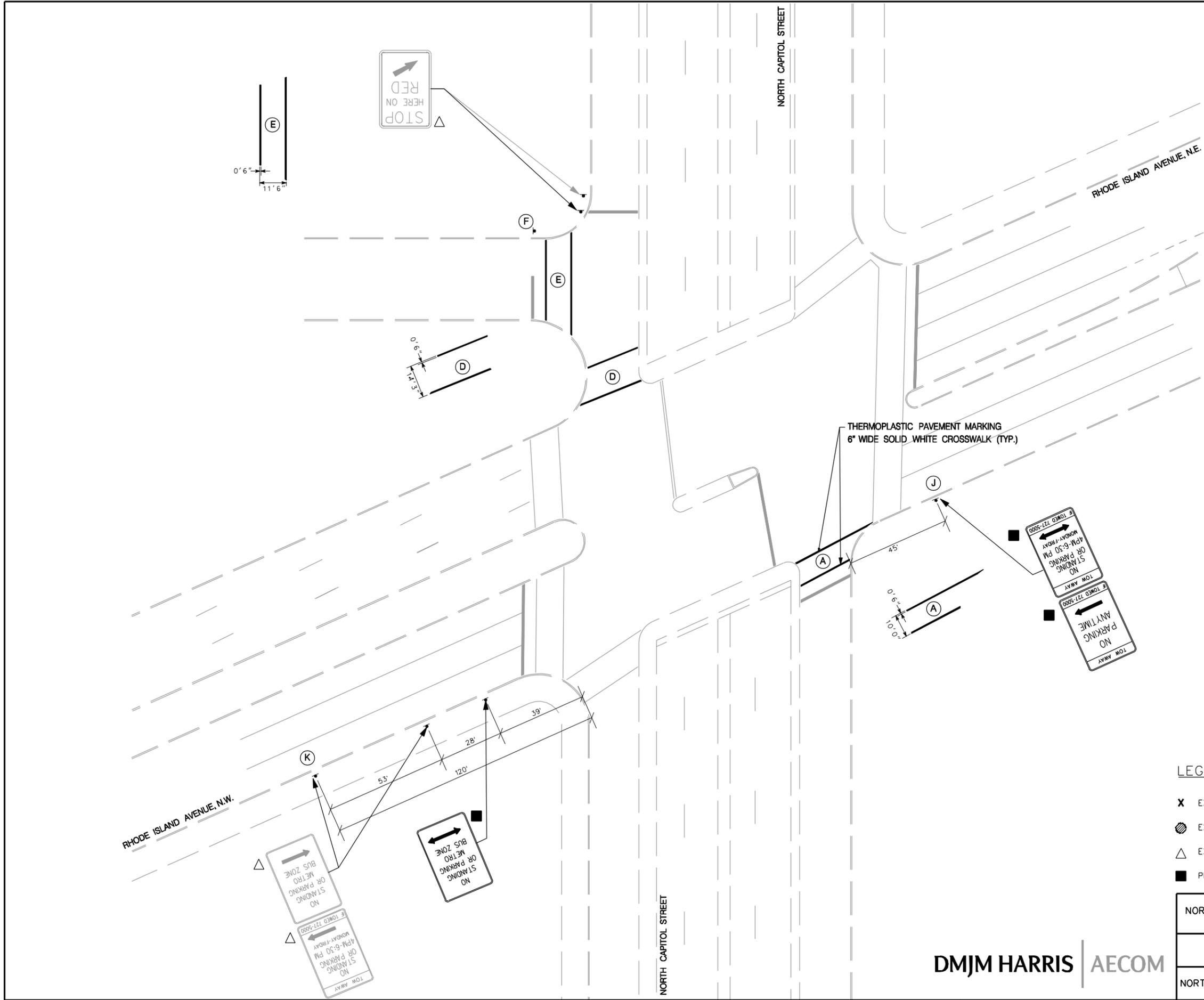
- X** EXISTING SIGN TO BE REMOVED
- ⊗** EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- ⊠** EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND S STREET	DRAWING NO. 11 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



THERMOPLASTIC PAVEMENT MARKING
6" WIDE SOLID WHITE CROSSWALK (TYP.)

LEGEND

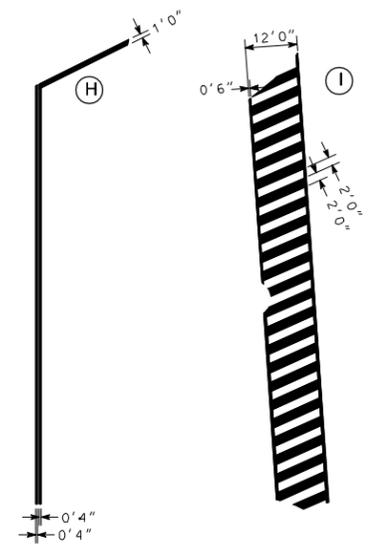
- X EXISTING SIGN TO BE REMOVED
- ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



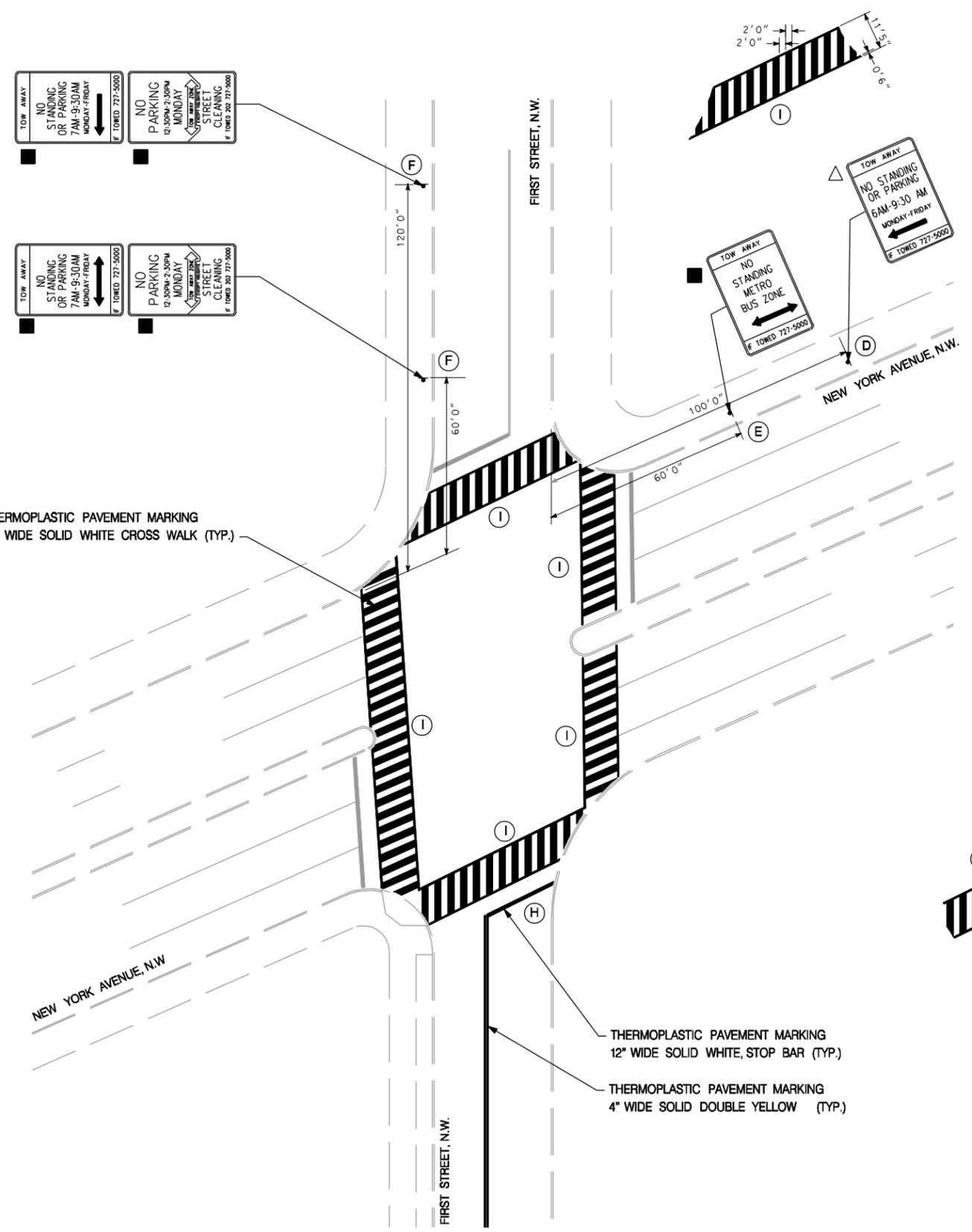
NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
NORTH CAPITOL STREET AND RHODE ISLAND AVENUE	DRAWING NO. 12 OF 46

DMJM HARRIS | AECOM

F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS

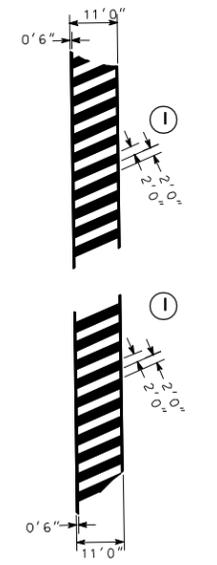
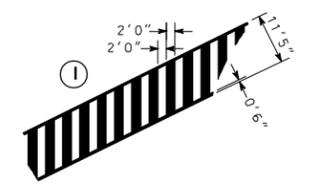


THERMOPLASTIC PAVEMENT MARKING
24" WIDE SOLID WHITE CROSS WALK (TYP.)



THERMOPLASTIC PAVEMENT MARKING
12" WIDE SOLID WHITE, STOP BAR (TYP.)

THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID DOUBLE YELLOW (TYP.)



LEGEND

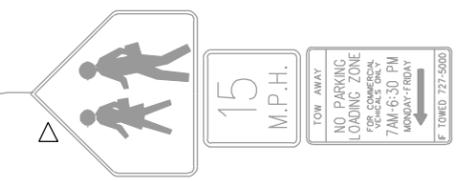
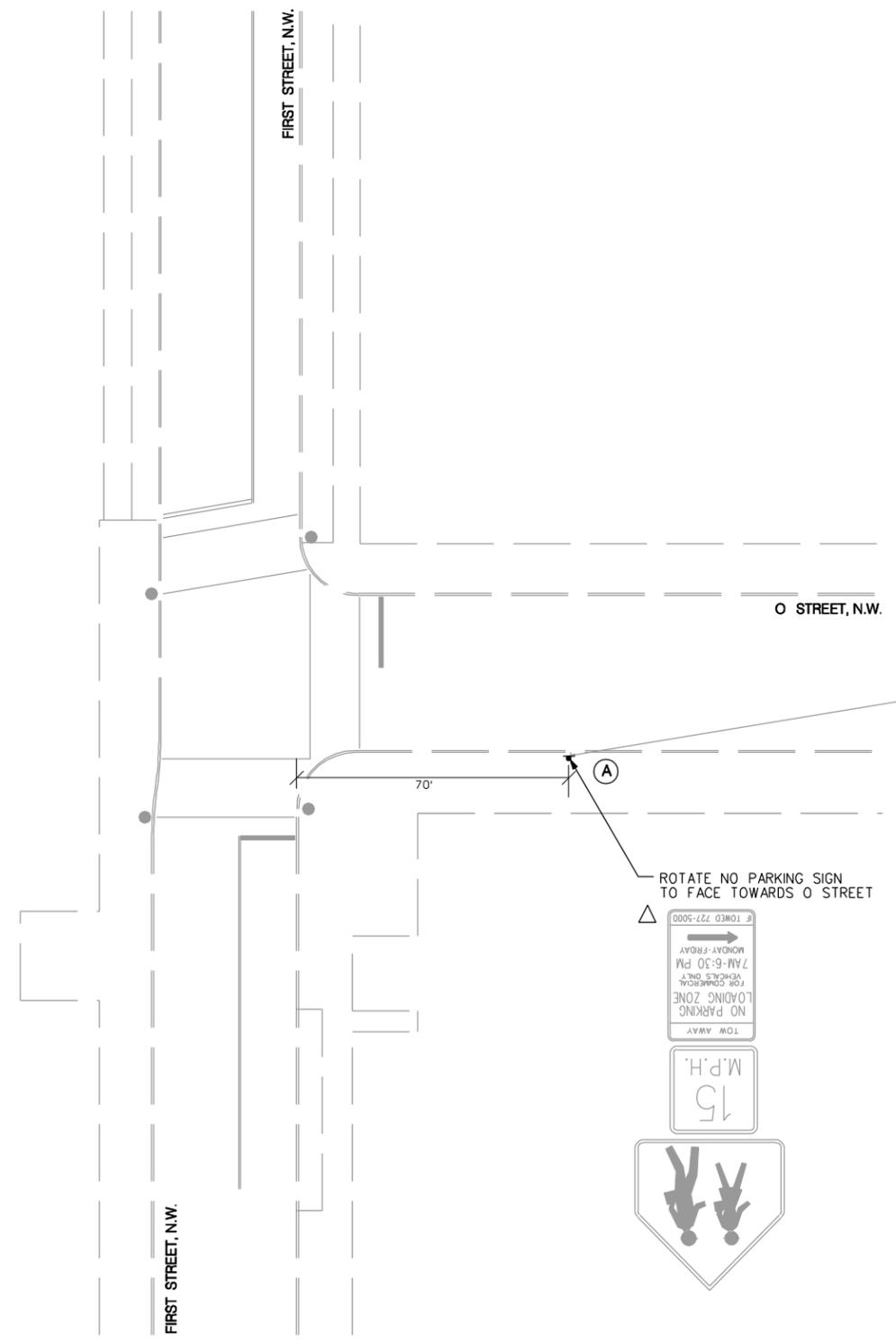
- X EXISTING SIGN TO BE REMOVED
- ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W. AND NEW YORK AVENUE N.W.	DRAWING NO. 13 OF 46

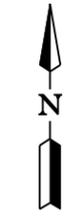
F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS



ROTATE NO PARKING SIGN TO FACE TOWARDS O STREET

LEGEND

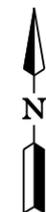
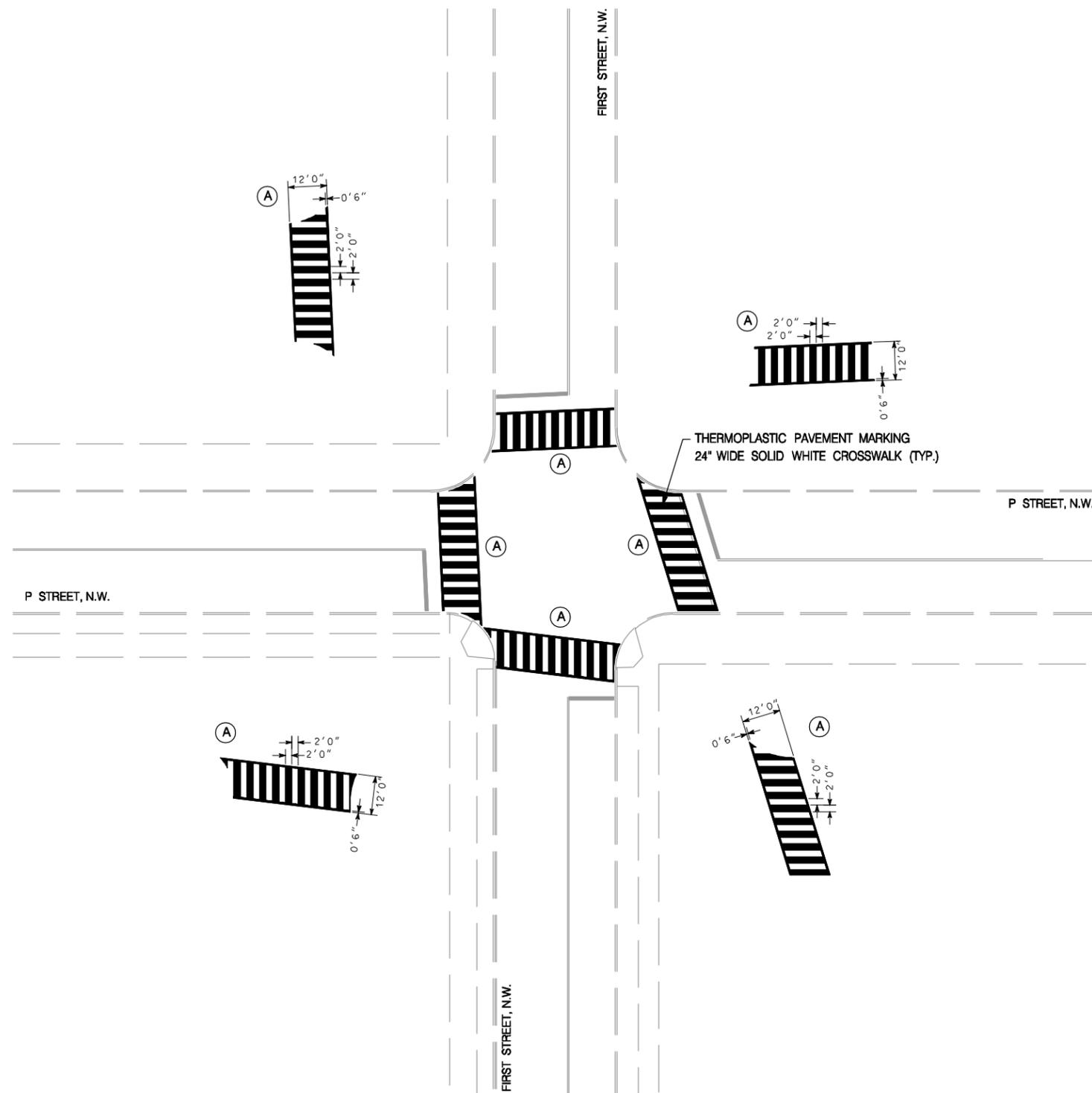
- EXISTING SIGN TO BE REMOVED
- EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W. AND O STREET N.W.	DRAWING NO. 14 OF 46

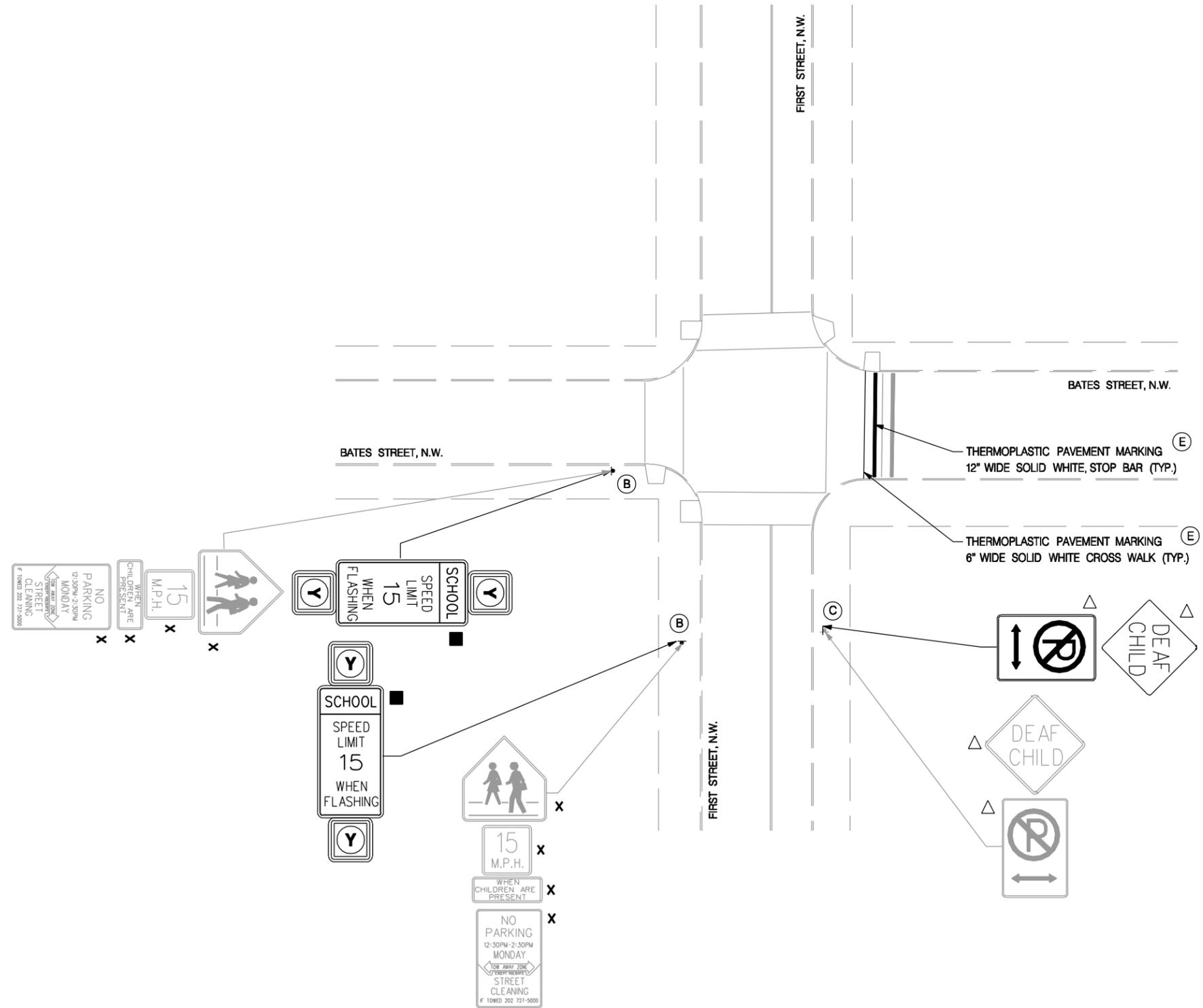
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W. AND P STREET N.W.	DRAWING NO. 15 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

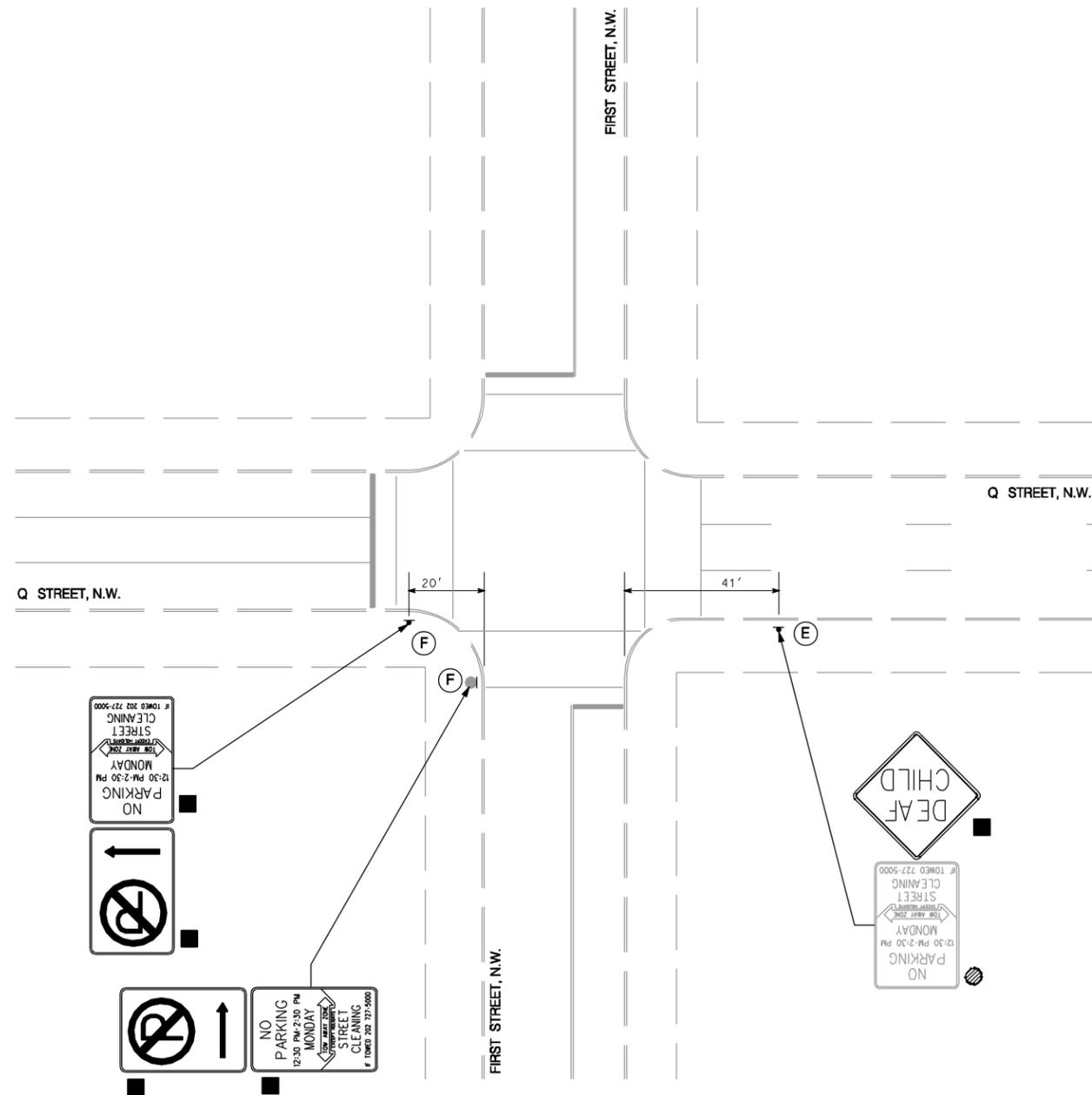
- X** EXISTING SIGN TO BE REMOVED
- EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W. AND BATES STREET N.W.	DRAWING NO. 16 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

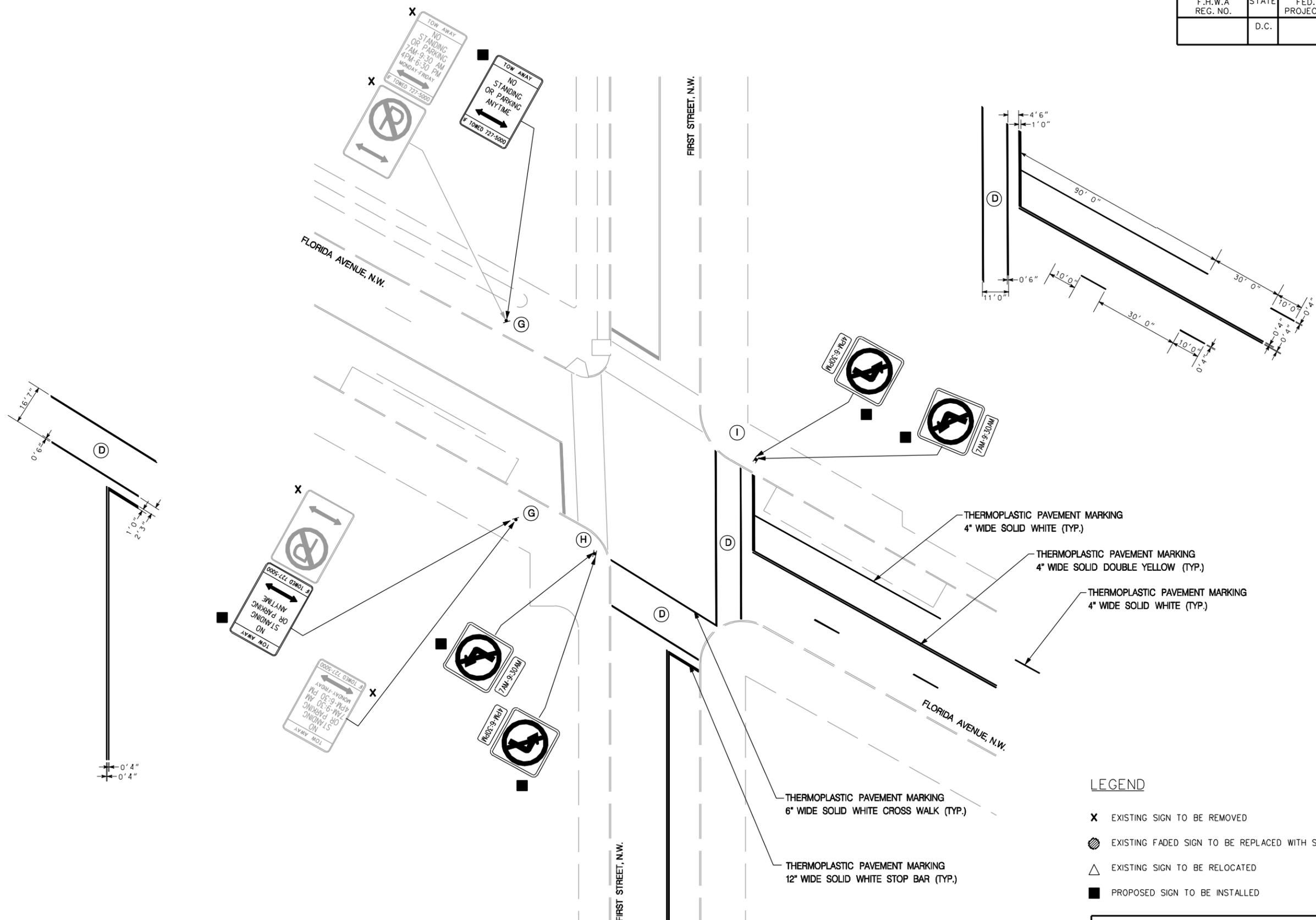
- X EXISTING SIGN TO BE REMOVED
- ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W. AND Q STREET N.W.	DRAWING NO. 17 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



- THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID WHITE (TYP.)
- THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID DOUBLE YELLOW (TYP.)
- THERMOPLASTIC PAVEMENT MARKING
4" WIDE SOLID WHITE (TYP.)

- THERMOPLASTIC PAVEMENT MARKING
6" WIDE SOLID WHITE CROSS WALK (TYP.)
- THERMOPLASTIC PAVEMENT MARKING
12" WIDE SOLID WHITE STOP BAR (TYP.)

LEGEND

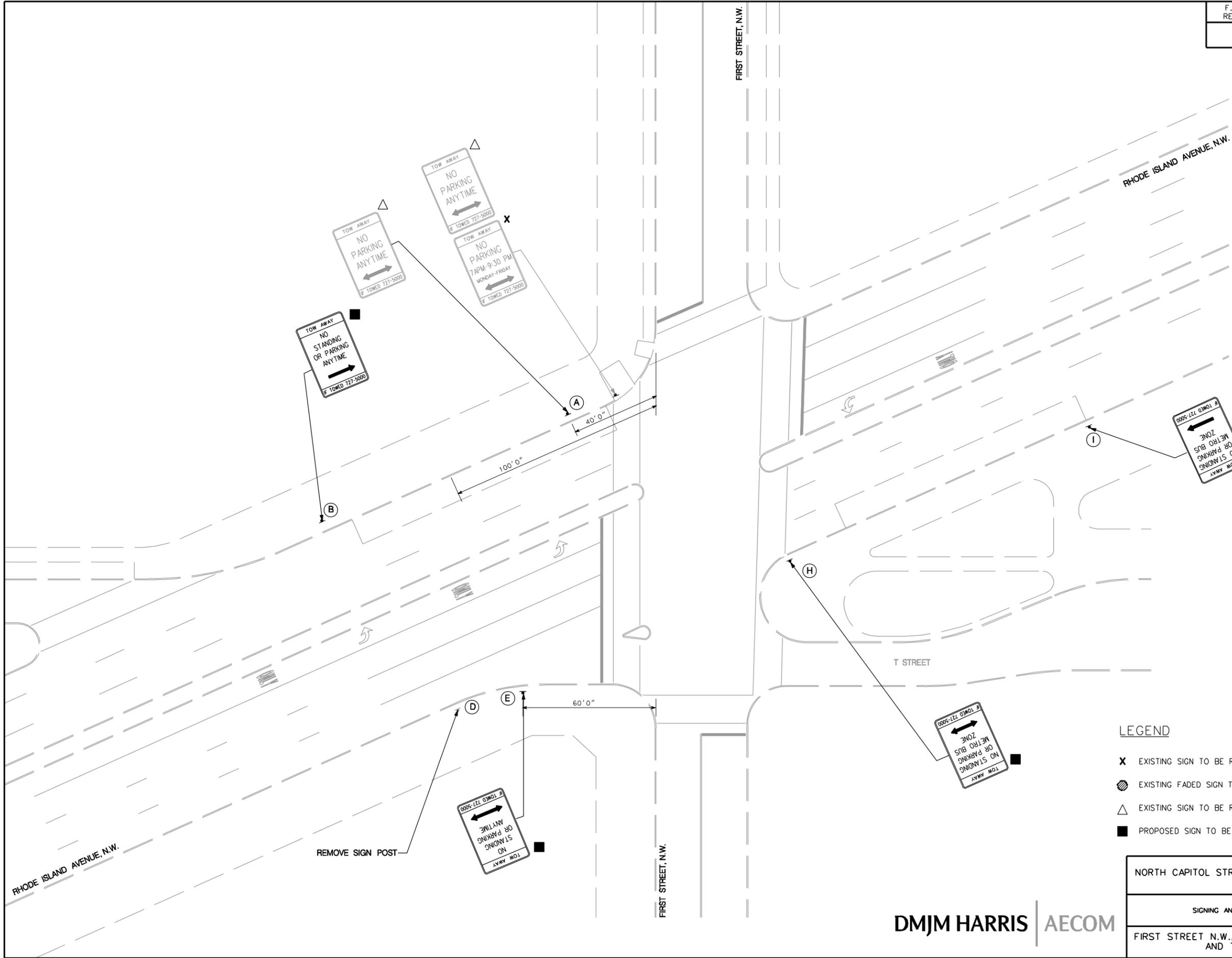
- X EXISTING SIGN TO BE REMOVED
- ⊗ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W. AND FLORIDA AVENUE N.W.	DRAWING NO. 18 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



LEGEND

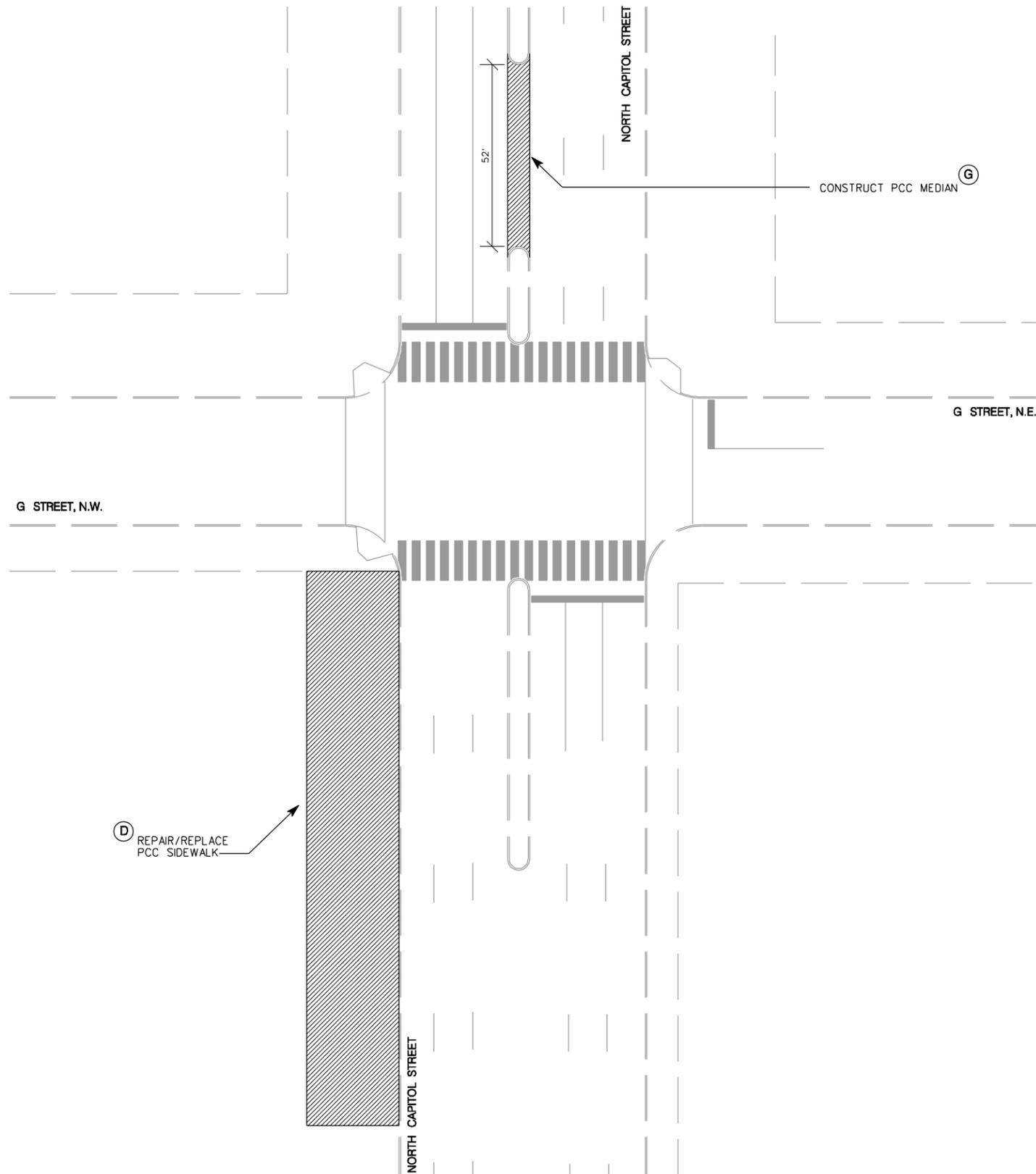
- X EXISTING SIGN TO BE REMOVED
- ◉ EXISTING FADED SIGN TO BE REPLACED WITH SAME MESSAGE
- △ EXISTING SIGN TO BE RELOCATED
- PROPOSED SIGN TO BE INSTALLED



NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNING AND PAVEMENT MARKINGS	SCALE 1" = 20'
FIRST STREET N.W., RHODE ISLAND AVENUE N.W. AND T STREET N.W.	DRAWING NO. 19 OF 46

DMJM HARRIS | AECOM

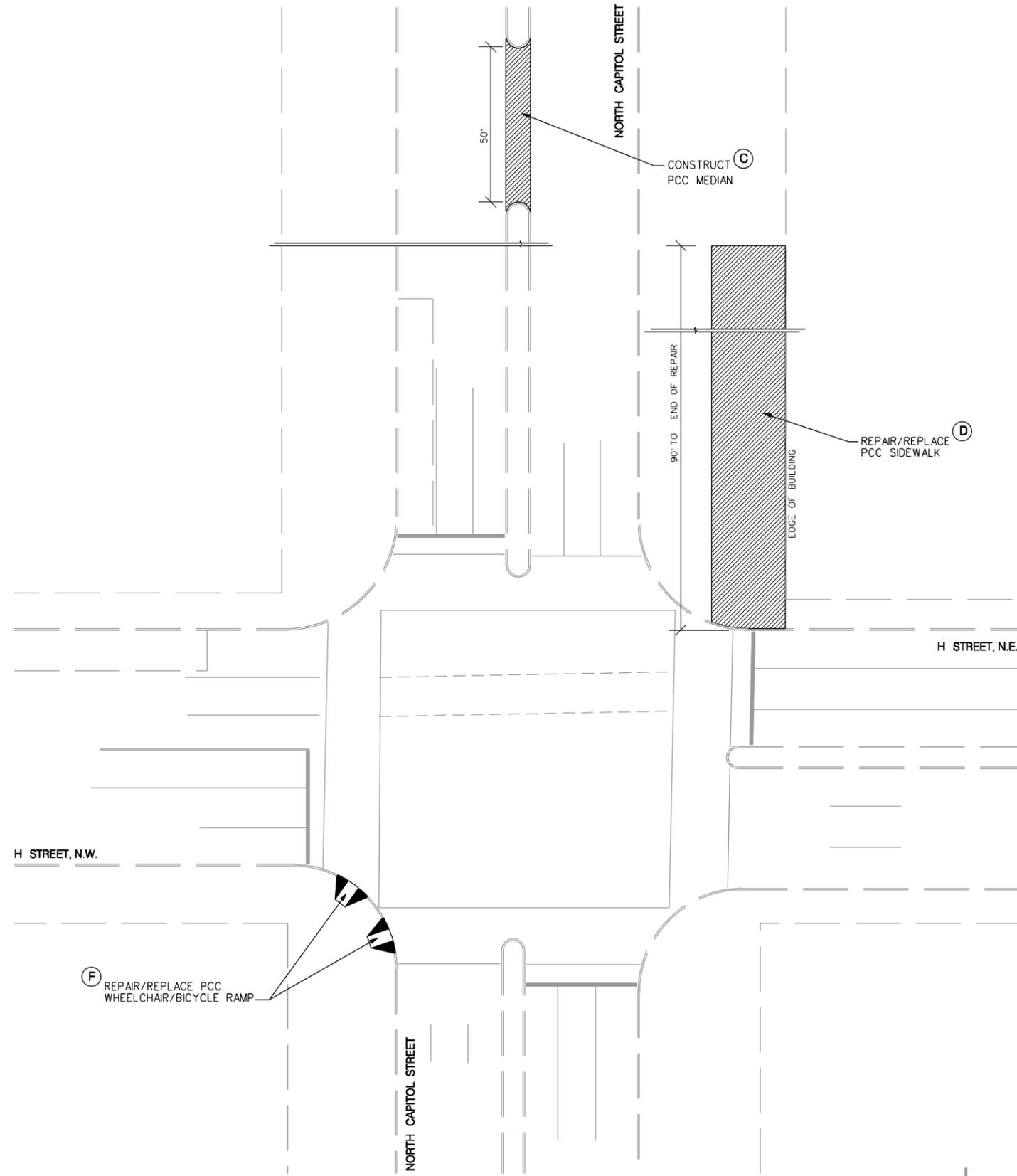
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND G STREET	DRAWING NO. 20 OF 46

F.H.W.A REG. NO.	STATE D.C.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS

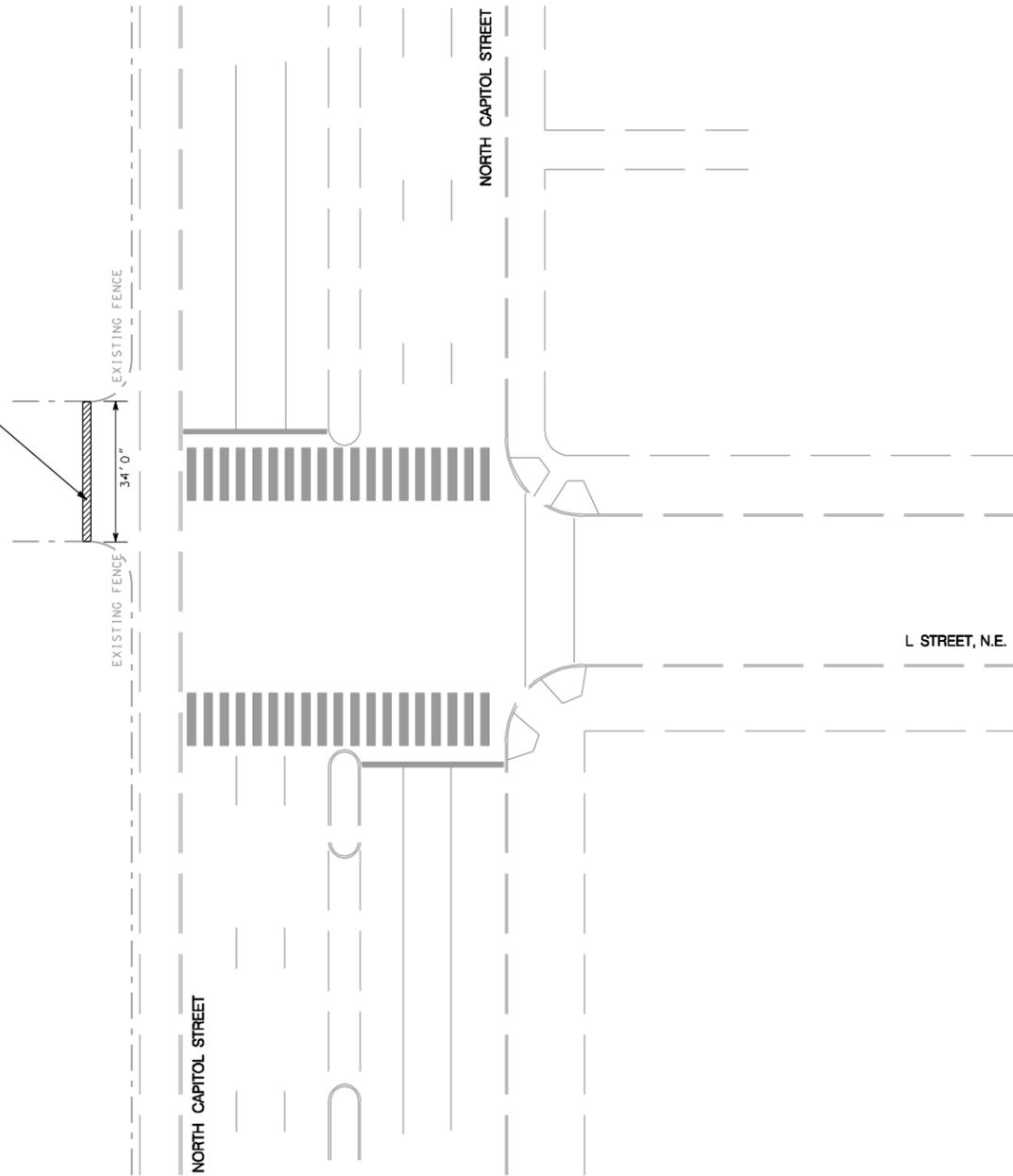


DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND H STREET	DRAWING NO. 21 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			

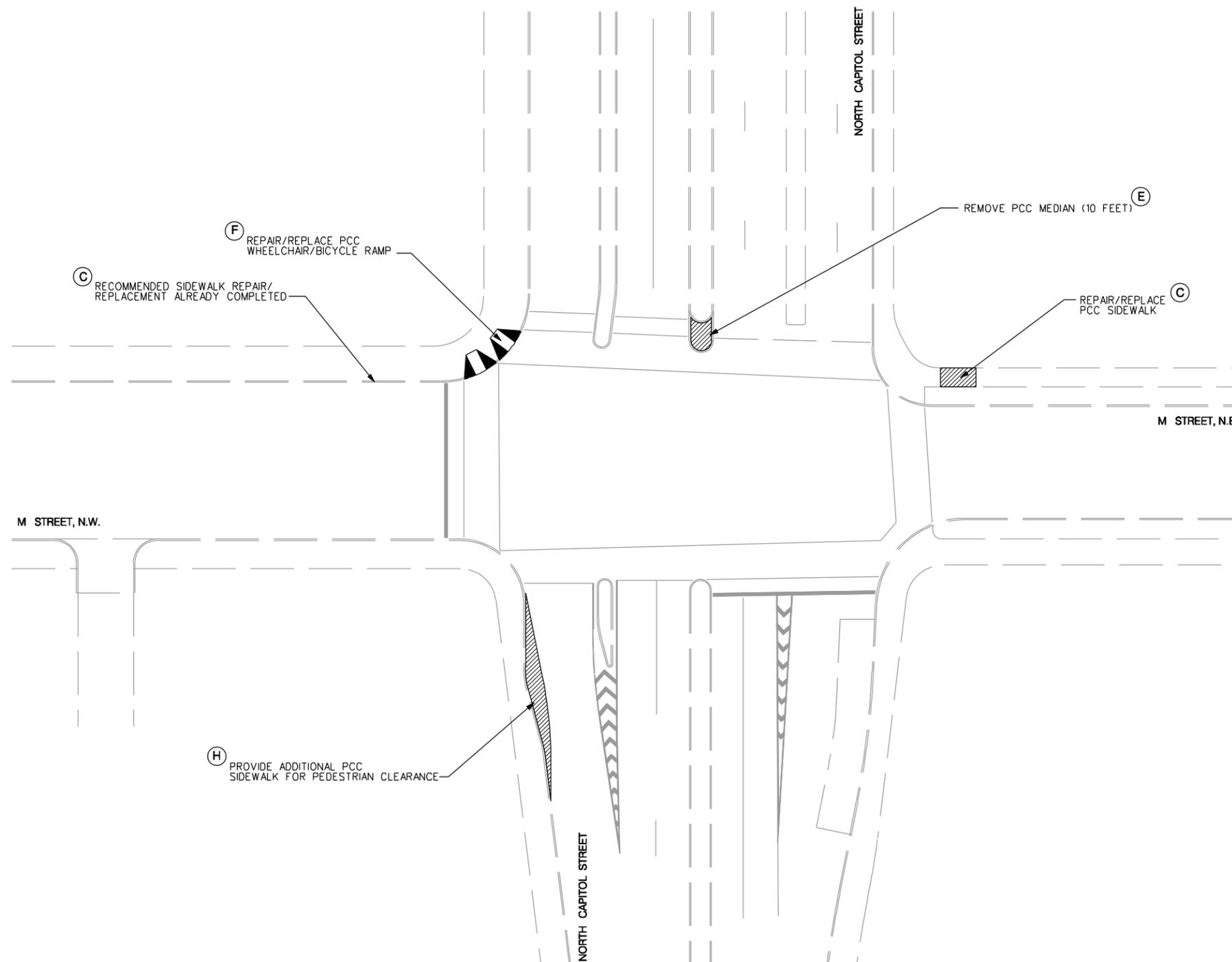
Ⓑ INSTALL GATE ACTIVATED BY
CARD READER/TRANSPONDER



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND L STREET	DRAWING NO. 22 OF 46

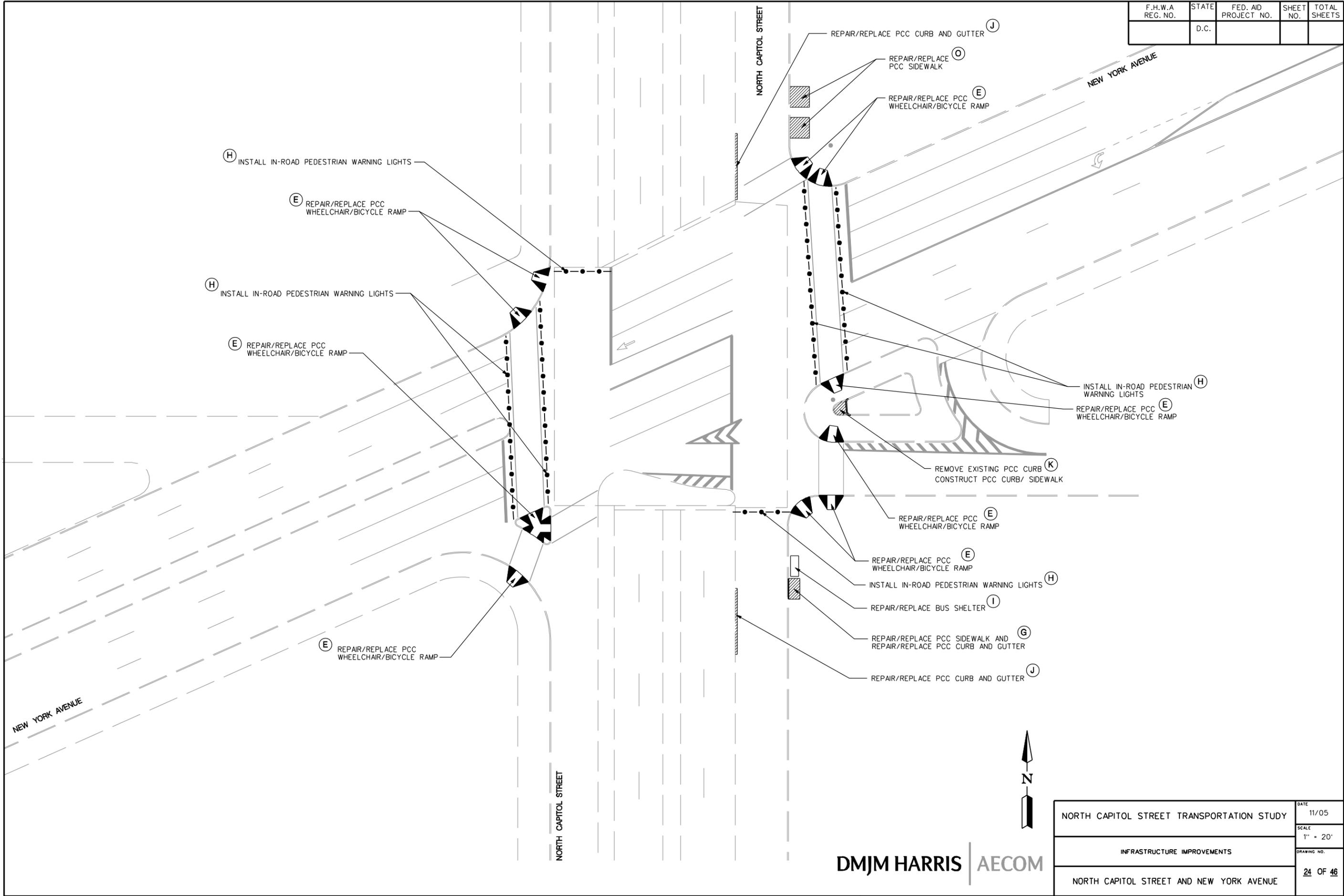
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND M STREET	DRAWING NO. 23 OF 46

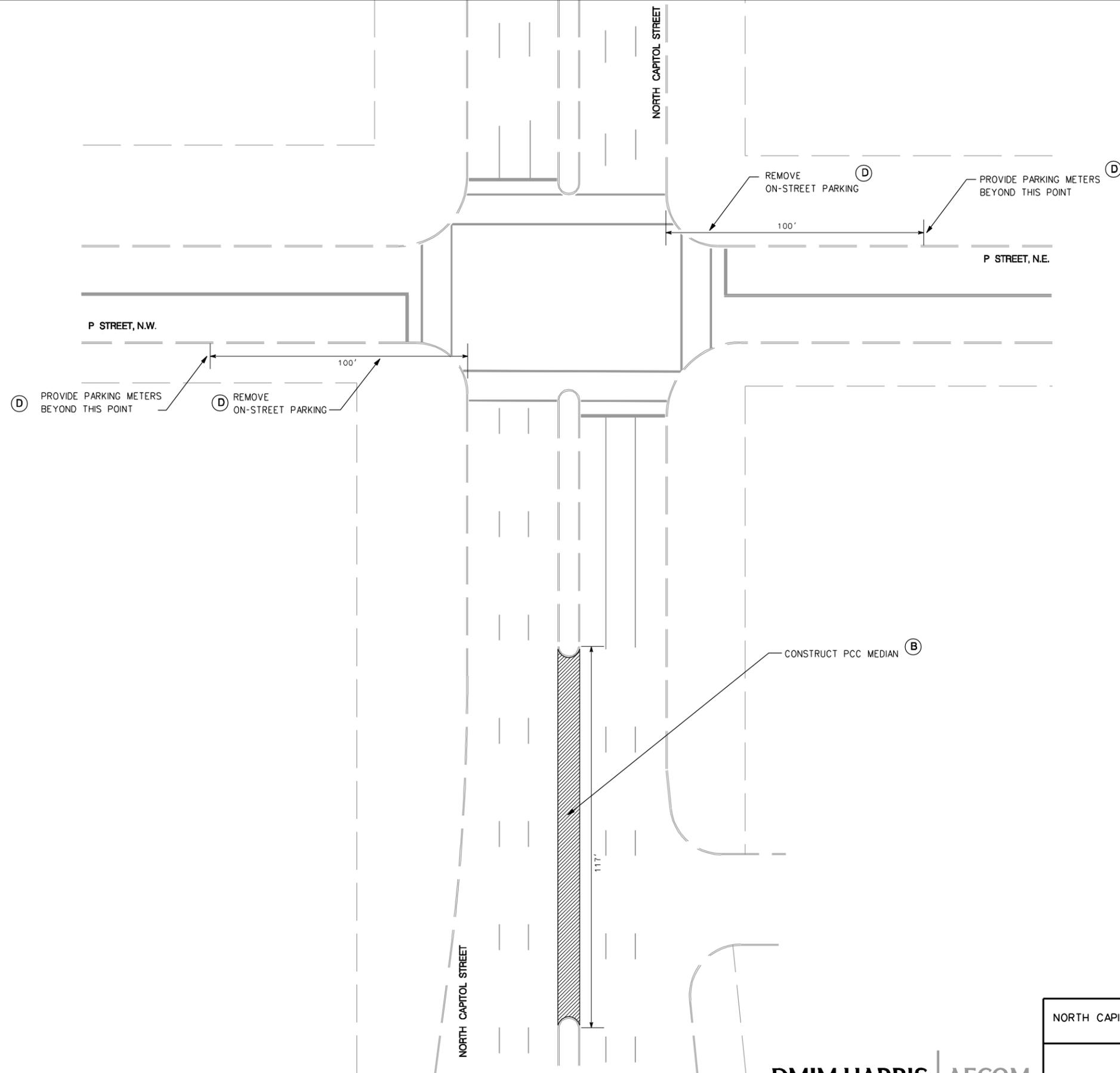
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



NORTH CAPITOL STREET TRANSPORTATION STUDY		DATE 11/05
INFRASTRUCTURE IMPROVEMENTS		SCALE 1" = 20'
NORTH CAPITOL STREET AND NEW YORK AVENUE		DRAWING NO. 24 OF 46

DMJM HARRIS | AECOM

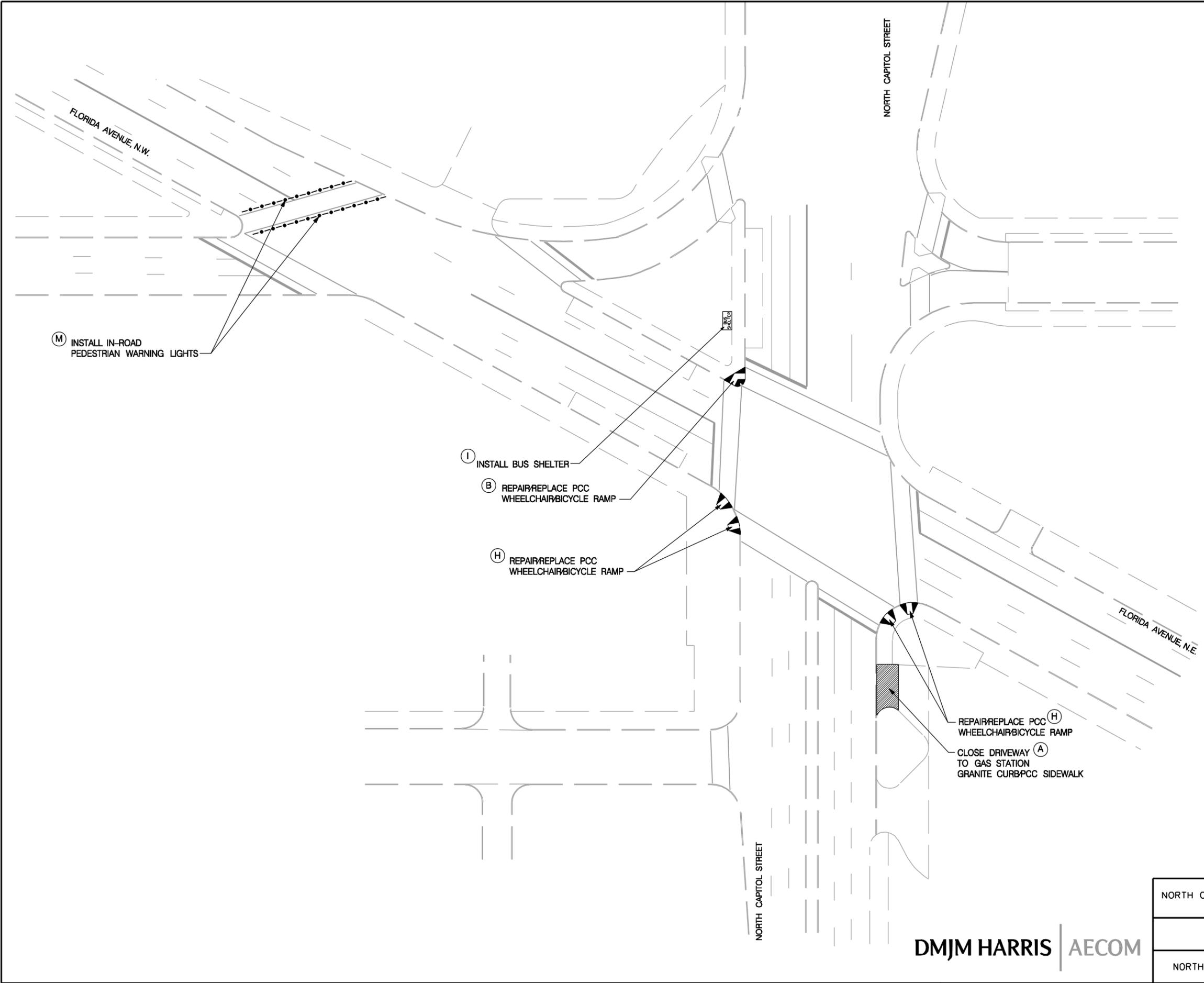
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND P STREET	DRAWING NO. 25 OF 46

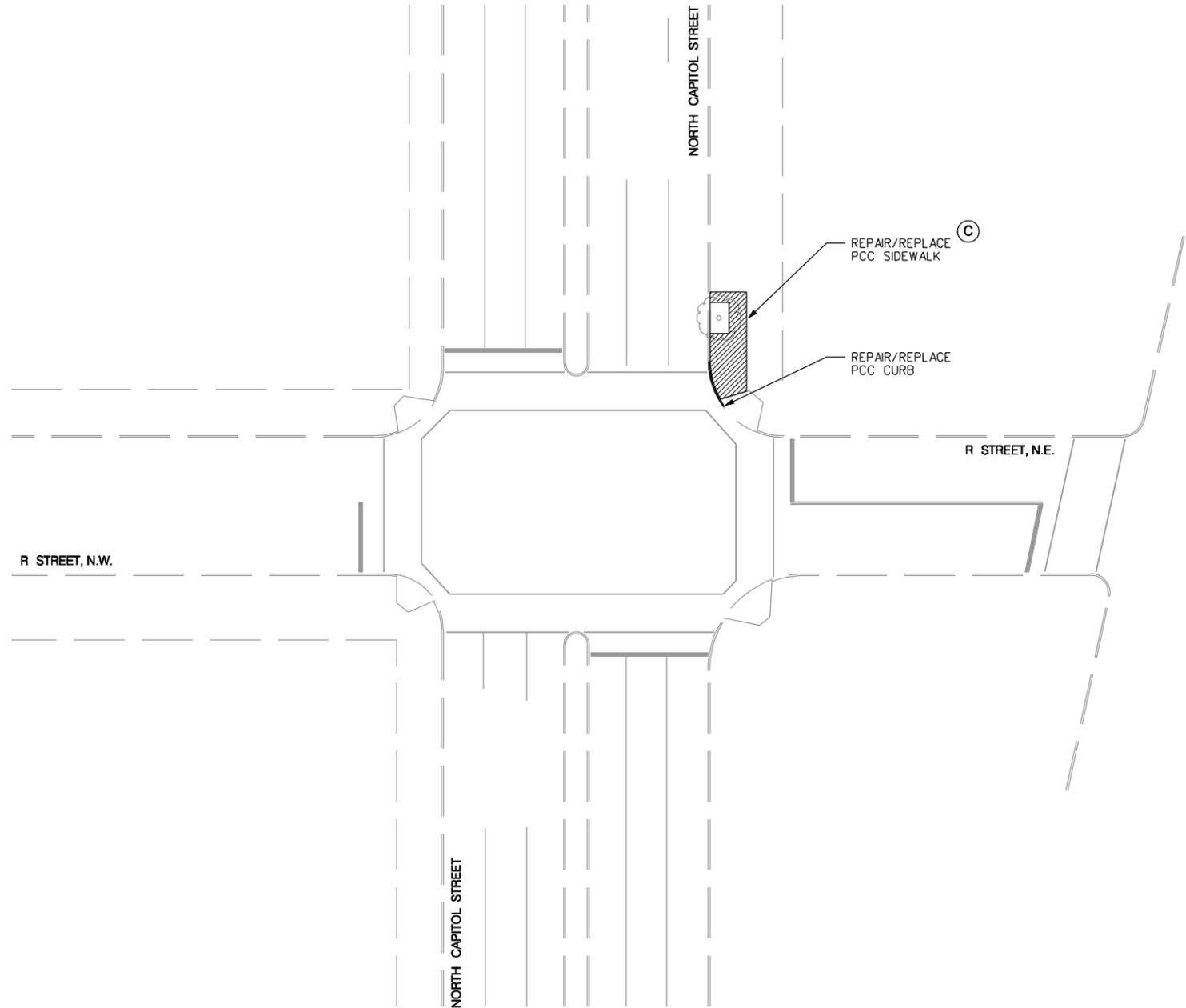
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 30'
NORTH CAPITOL STREET AND FLORIDA AVENUE	DRAWING NO. 26 OF 46

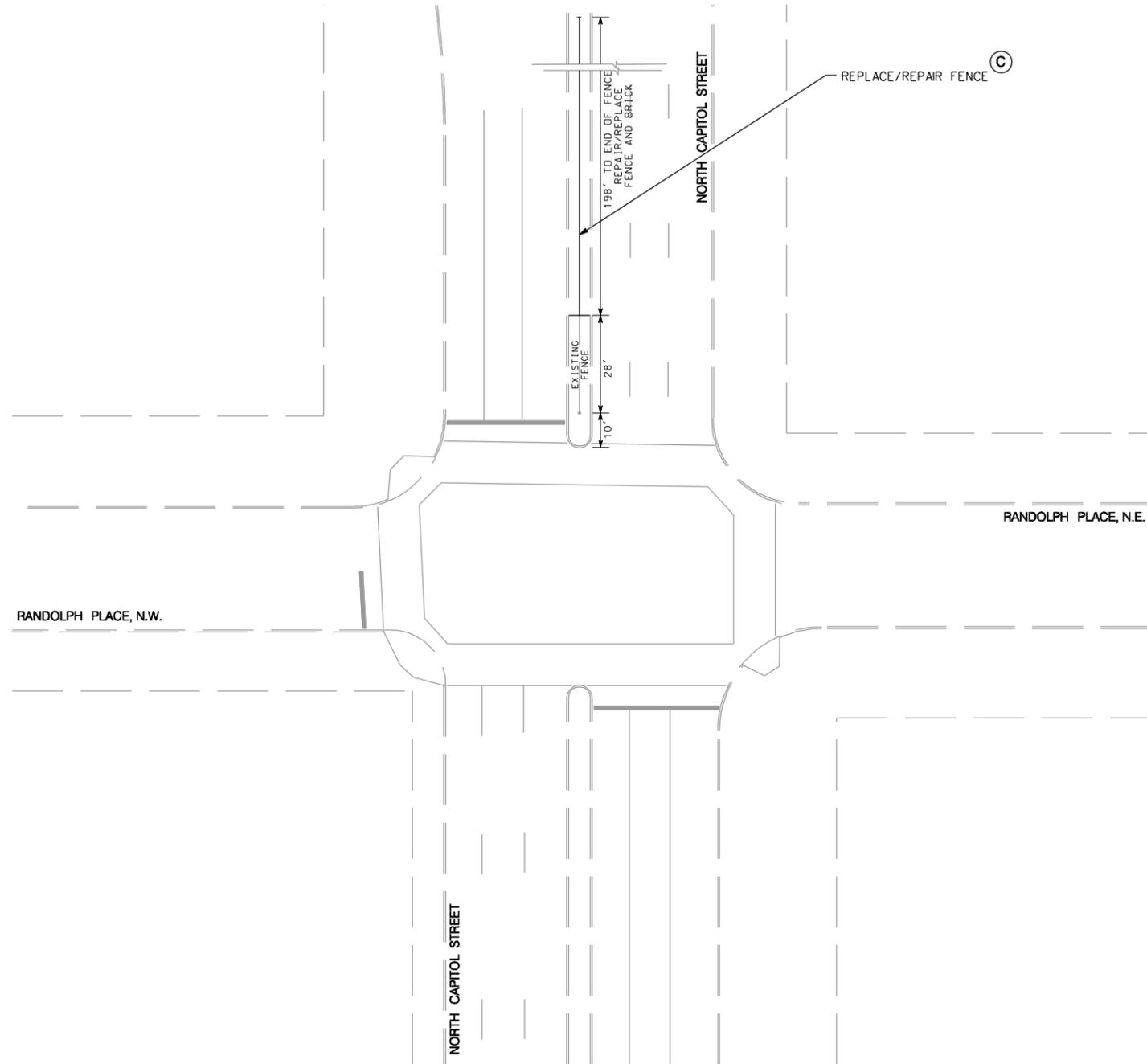
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND R STREET	DRAWING NO. 27 OF 46

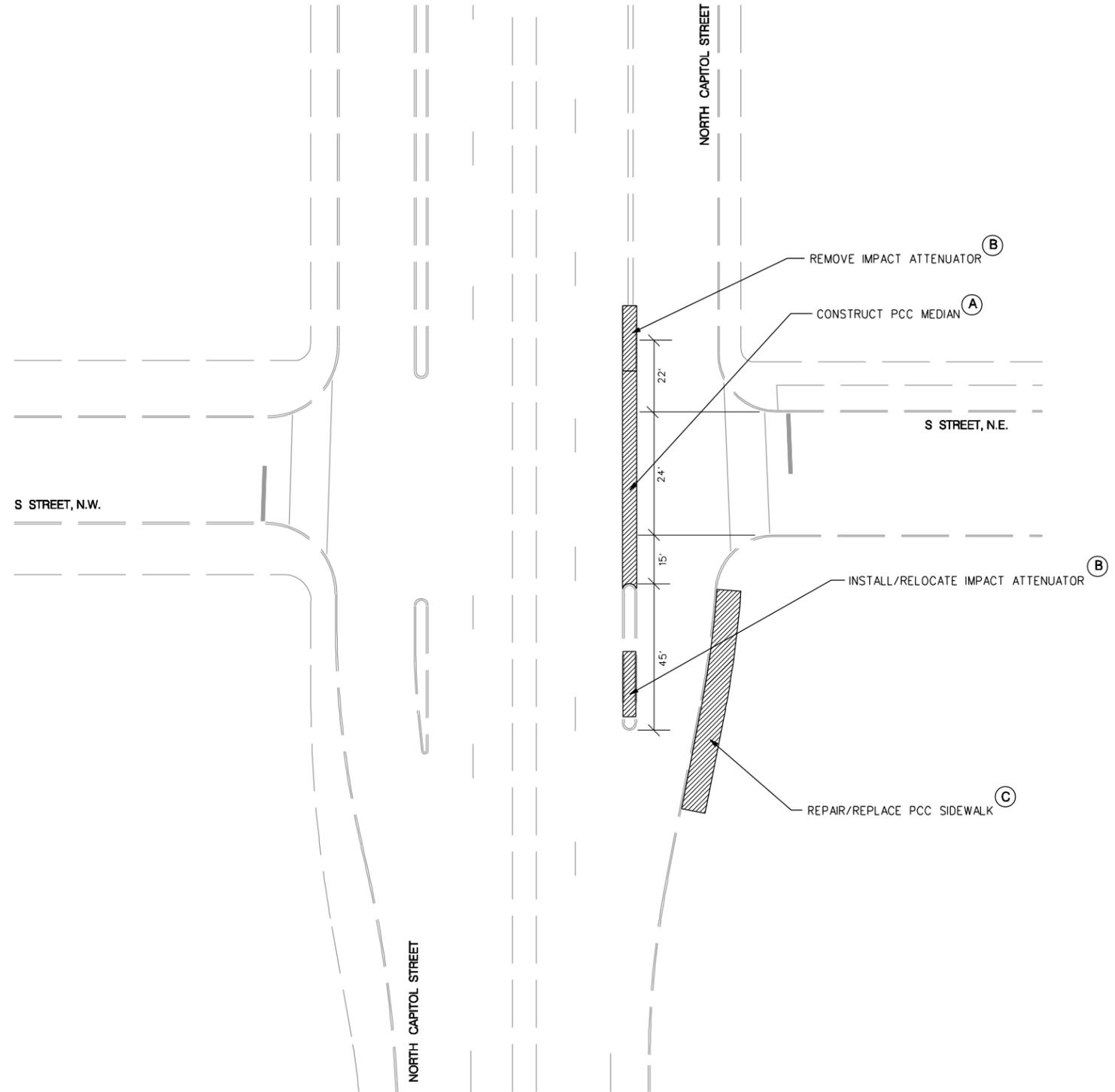
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND RANDOLPH PLACE	DRAWING NO. <u>28</u> OF <u>46</u>

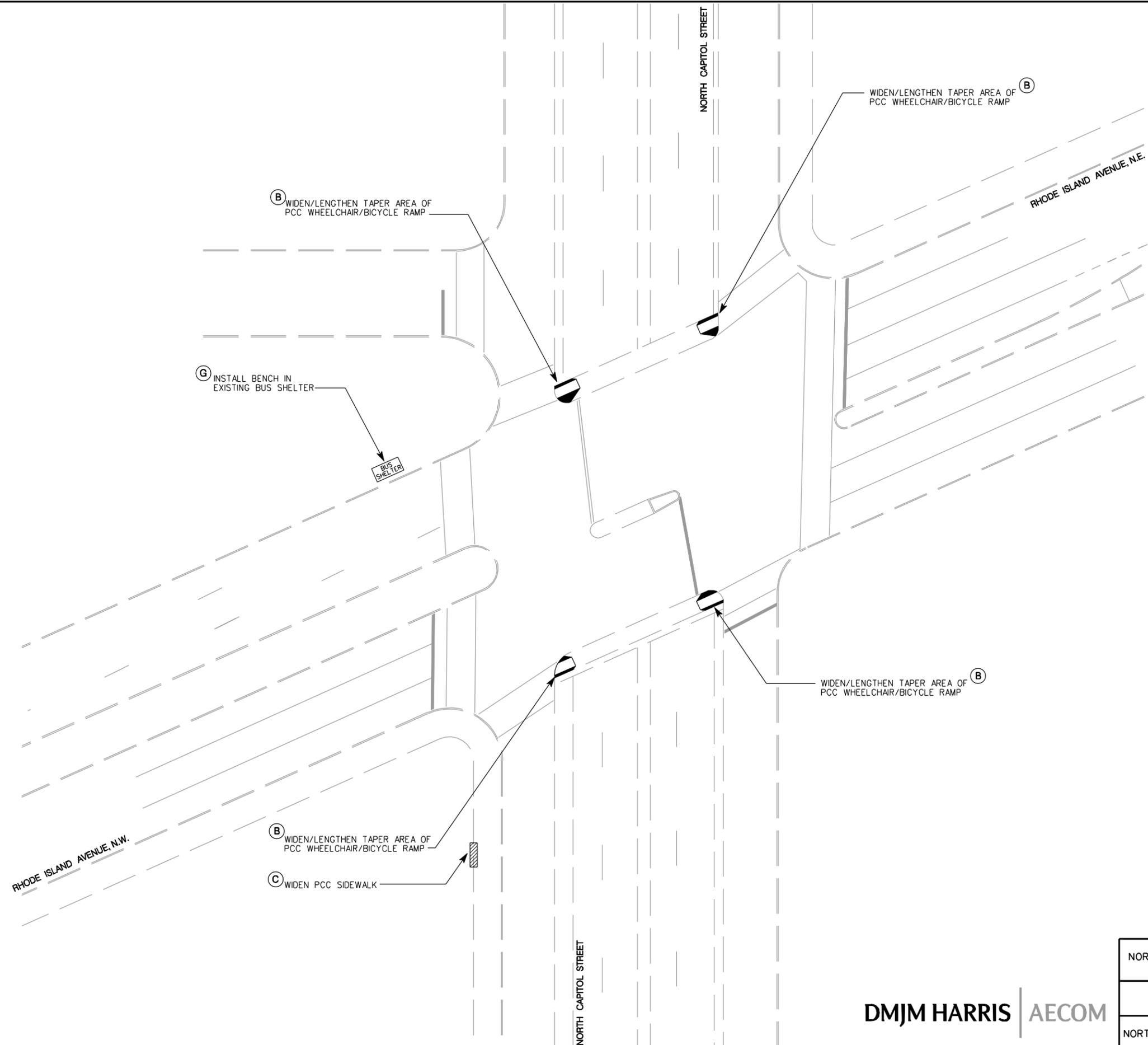
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND S STREET	DRAWING NO. 29 OF 46

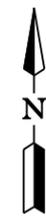
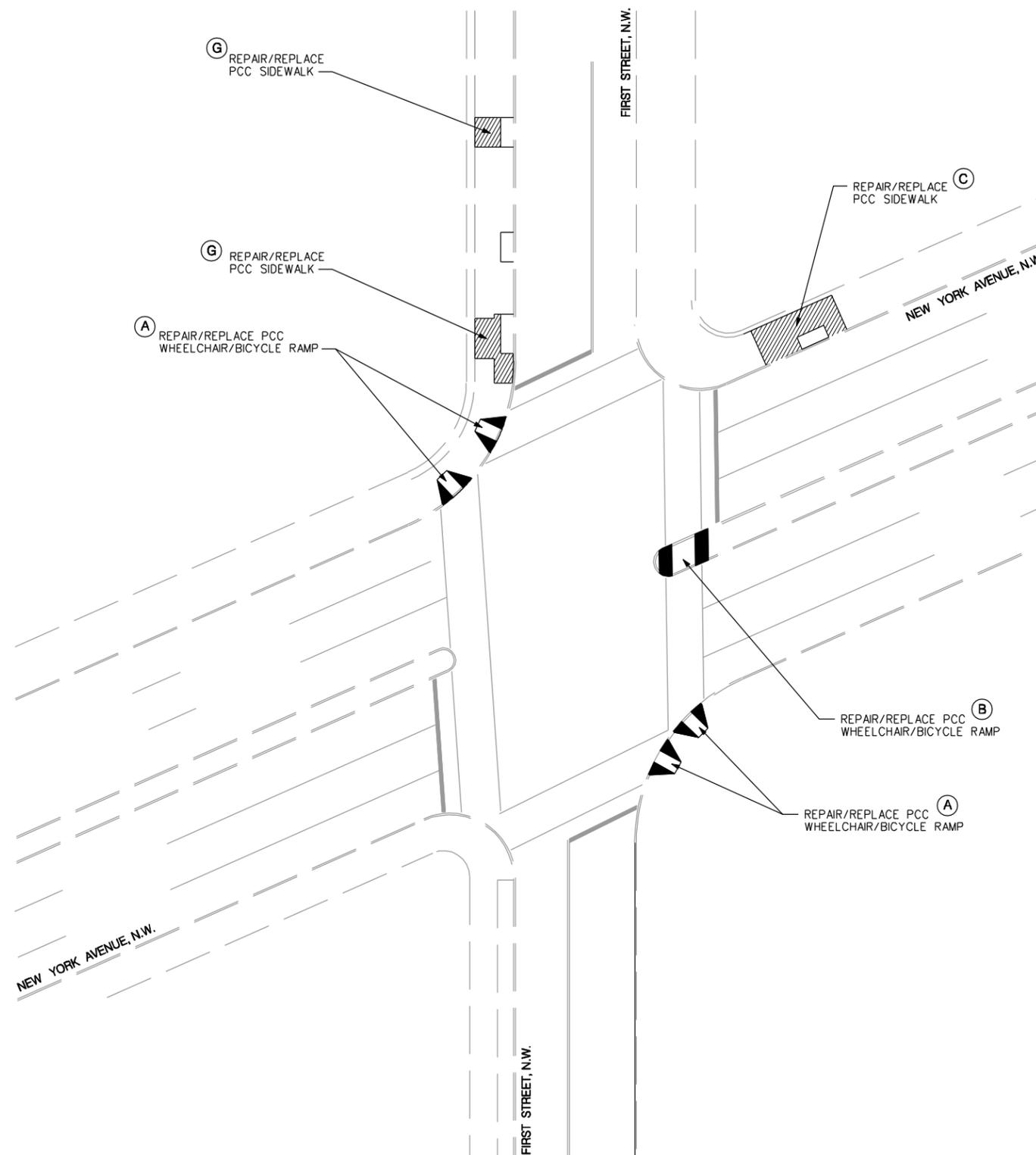
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
NORTH CAPITOL STREET AND RHODE ISLAND AVENUE	DRAWING NO. 30 OF 46

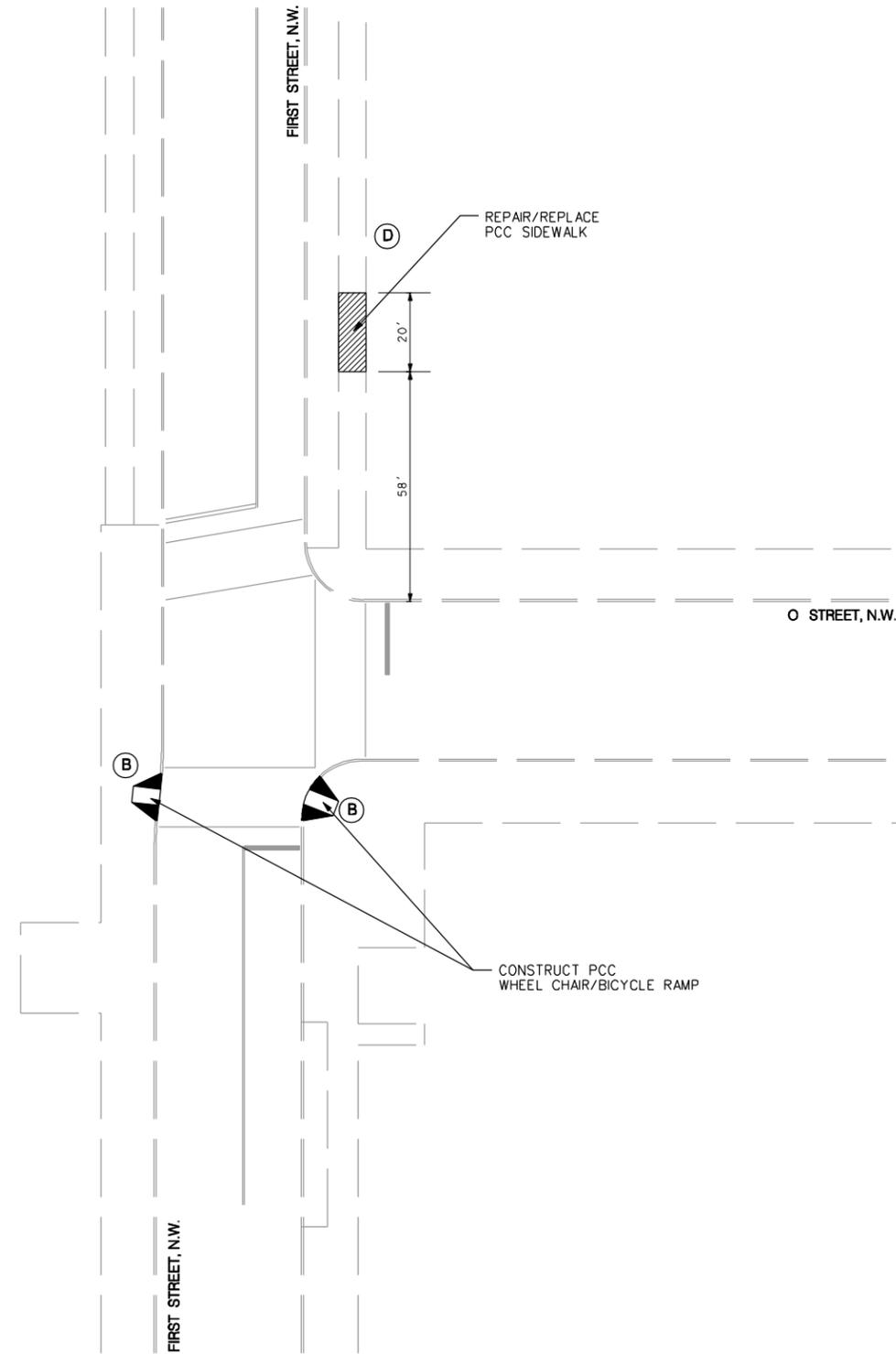
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W. AND NEW YORK AVENUE N.W.	DRAWING NO. 31 OF 46

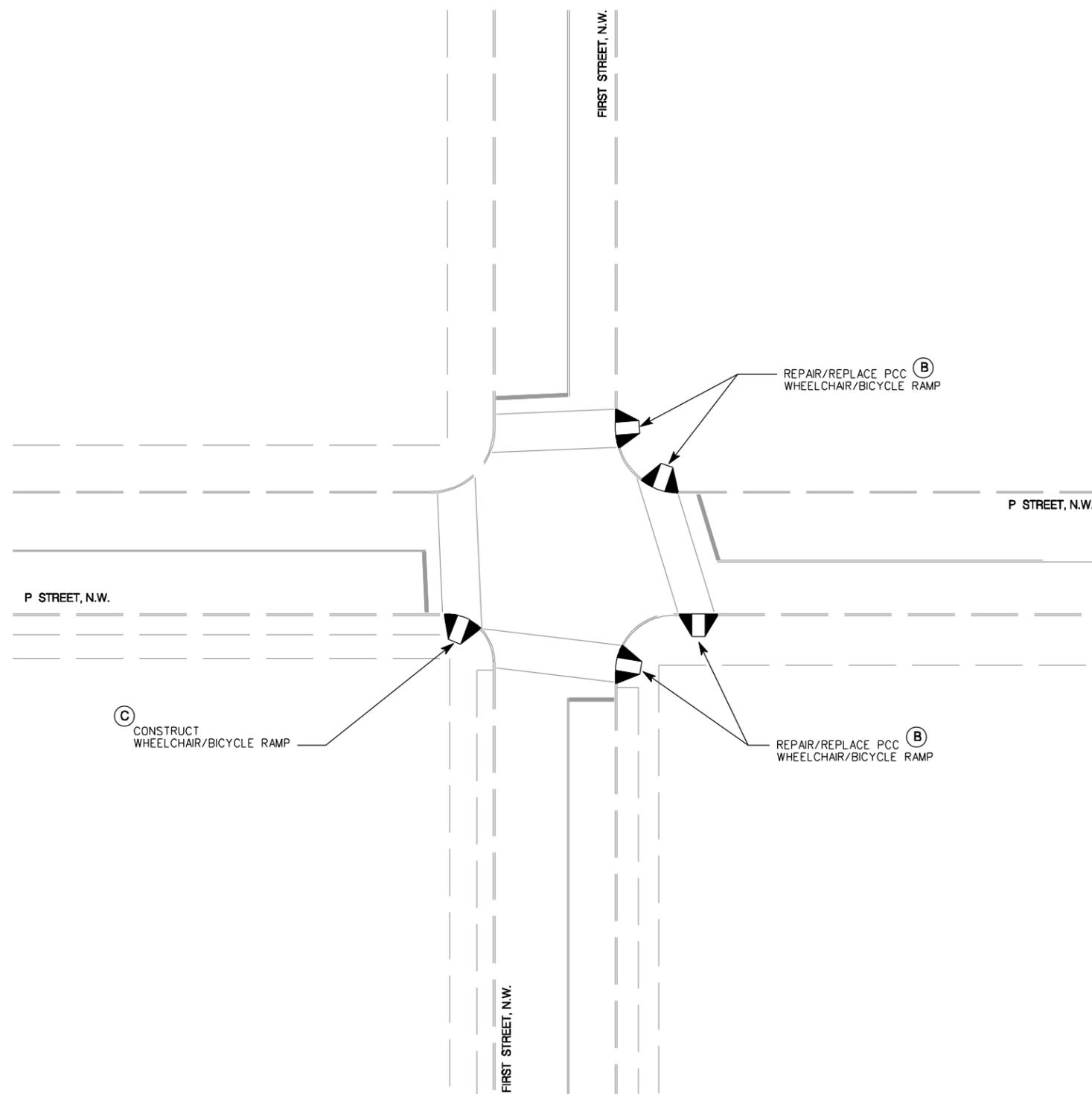
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W. AND O STREET N.W.	DRAWING NO. 32 OF 46

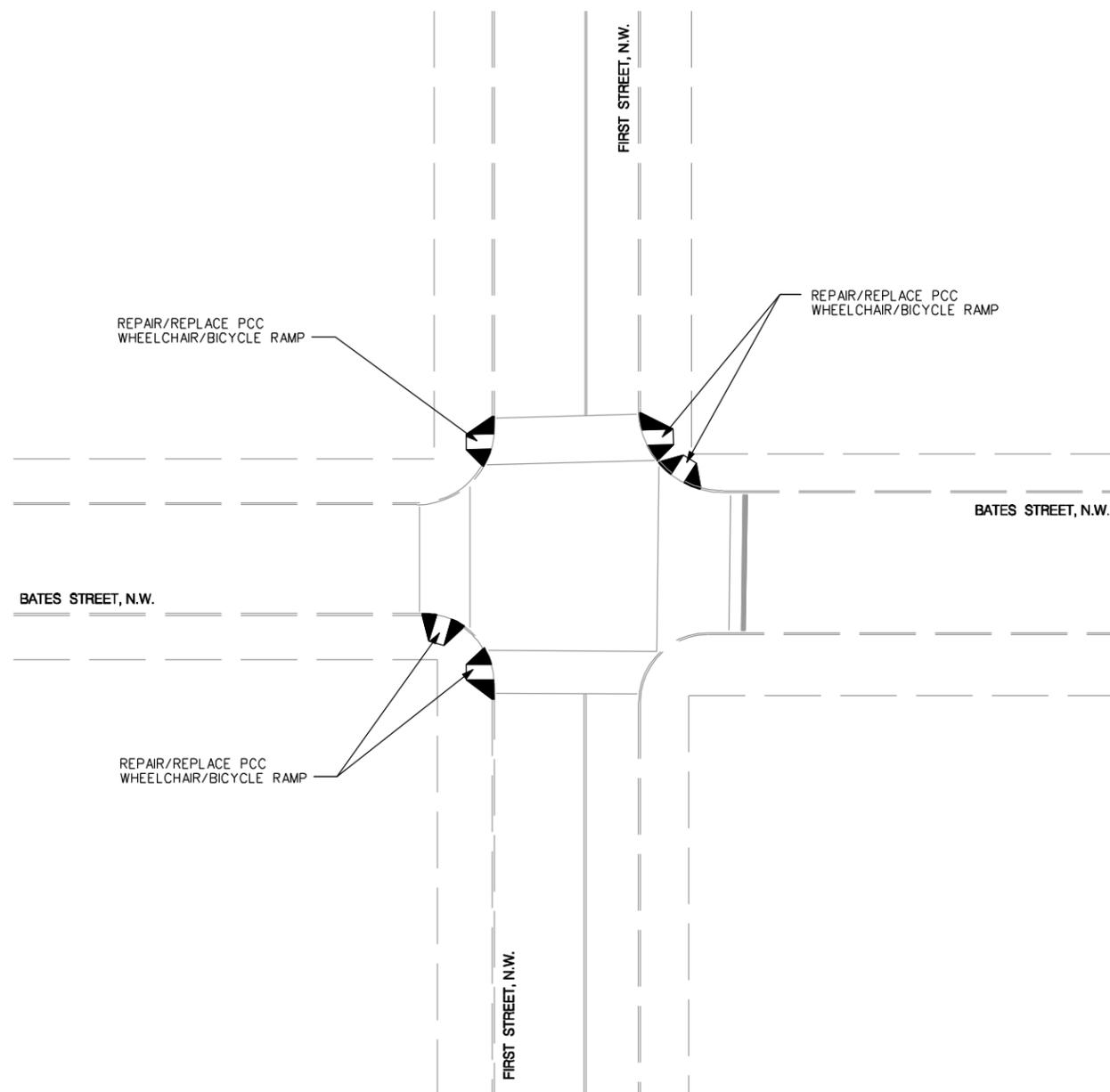
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W. AND P STREET N.W.	DRAWING NO. 33 OF 46

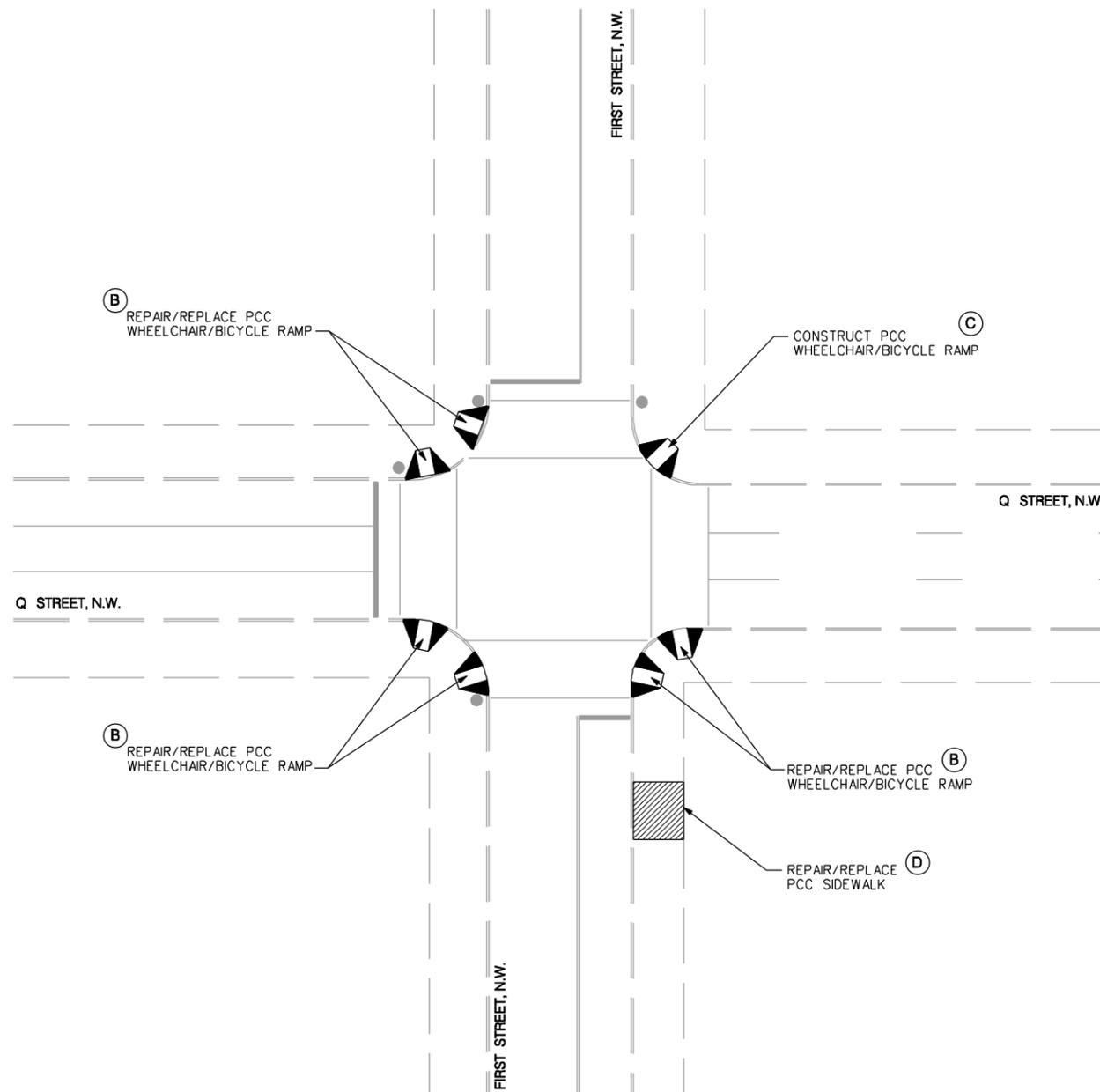
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W. AND BATES STREET N.W.	DRAWING NO. 34 OF 46

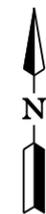
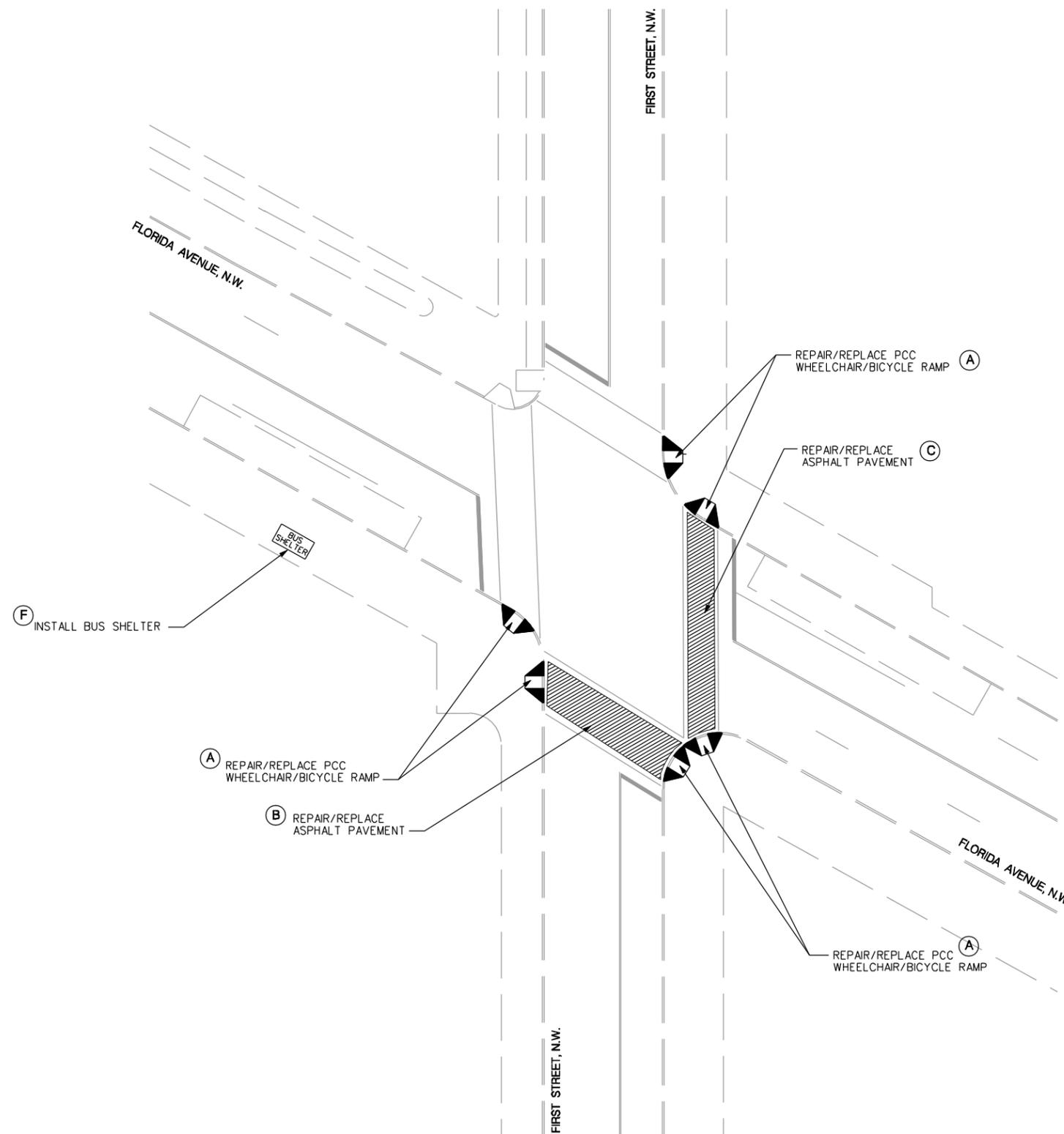
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W. AND Q STREET N.W.	DRAWING NO. 35 OF 46

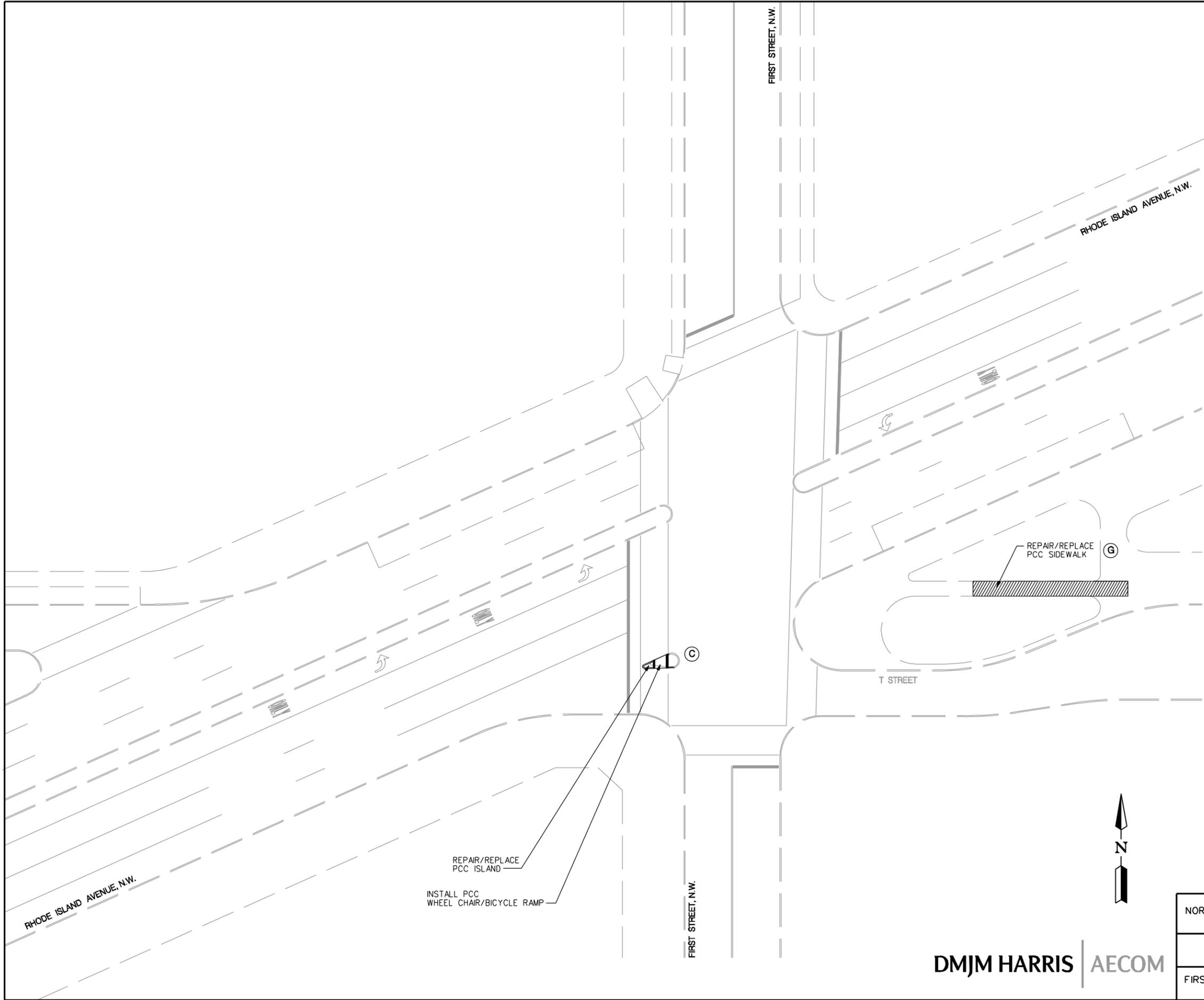
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W. AND FLORIDA AVENUE N.W.	DRAWING NO. 36 OF 46

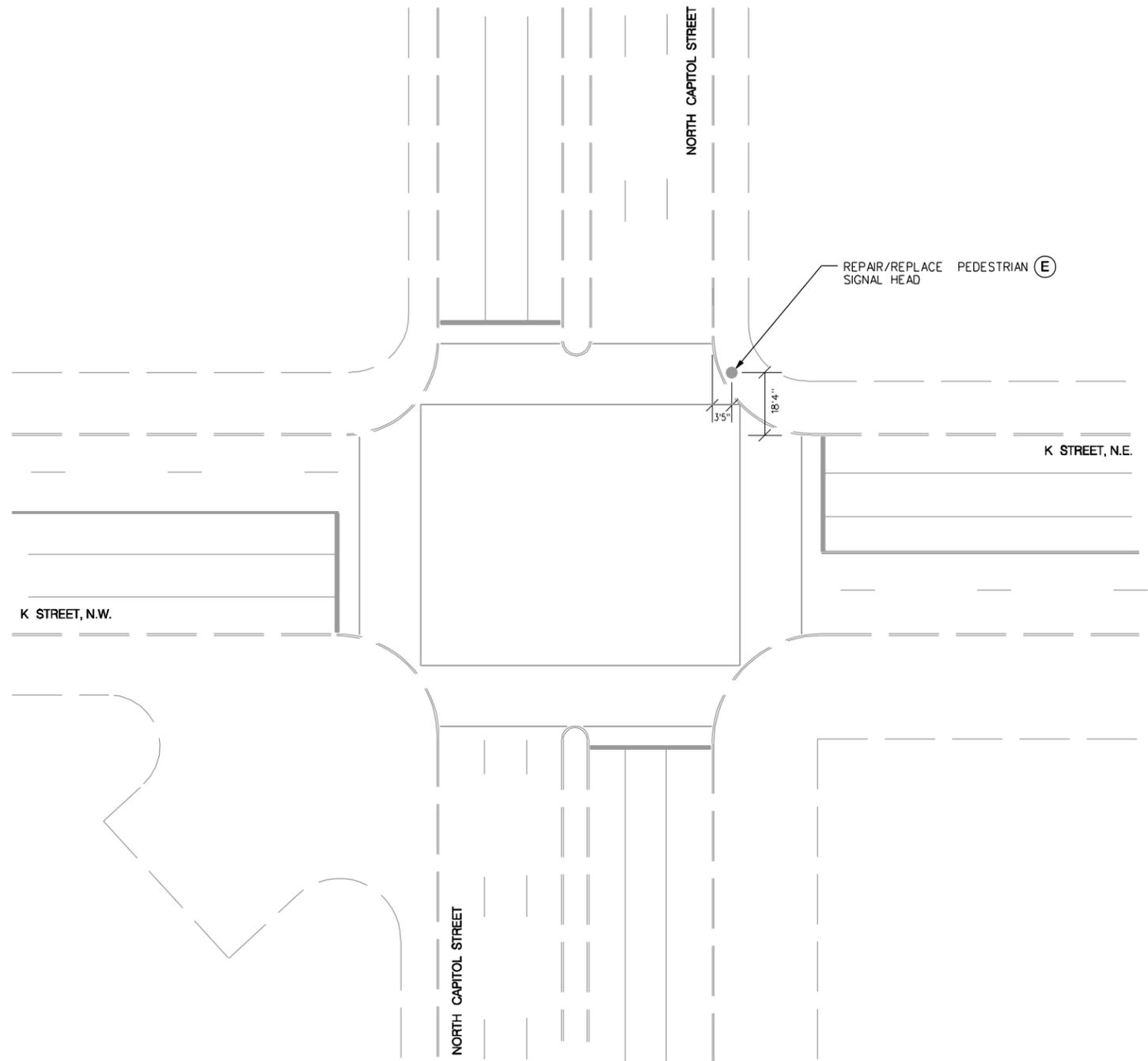
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
INFRASTRUCTURE IMPROVEMENTS	SCALE 1" = 20'
FIRST STREET N.W., RHODE ISLAND AVENUE N.W. AND T STREET N.W.	DRAWING NO. 37 OF 46

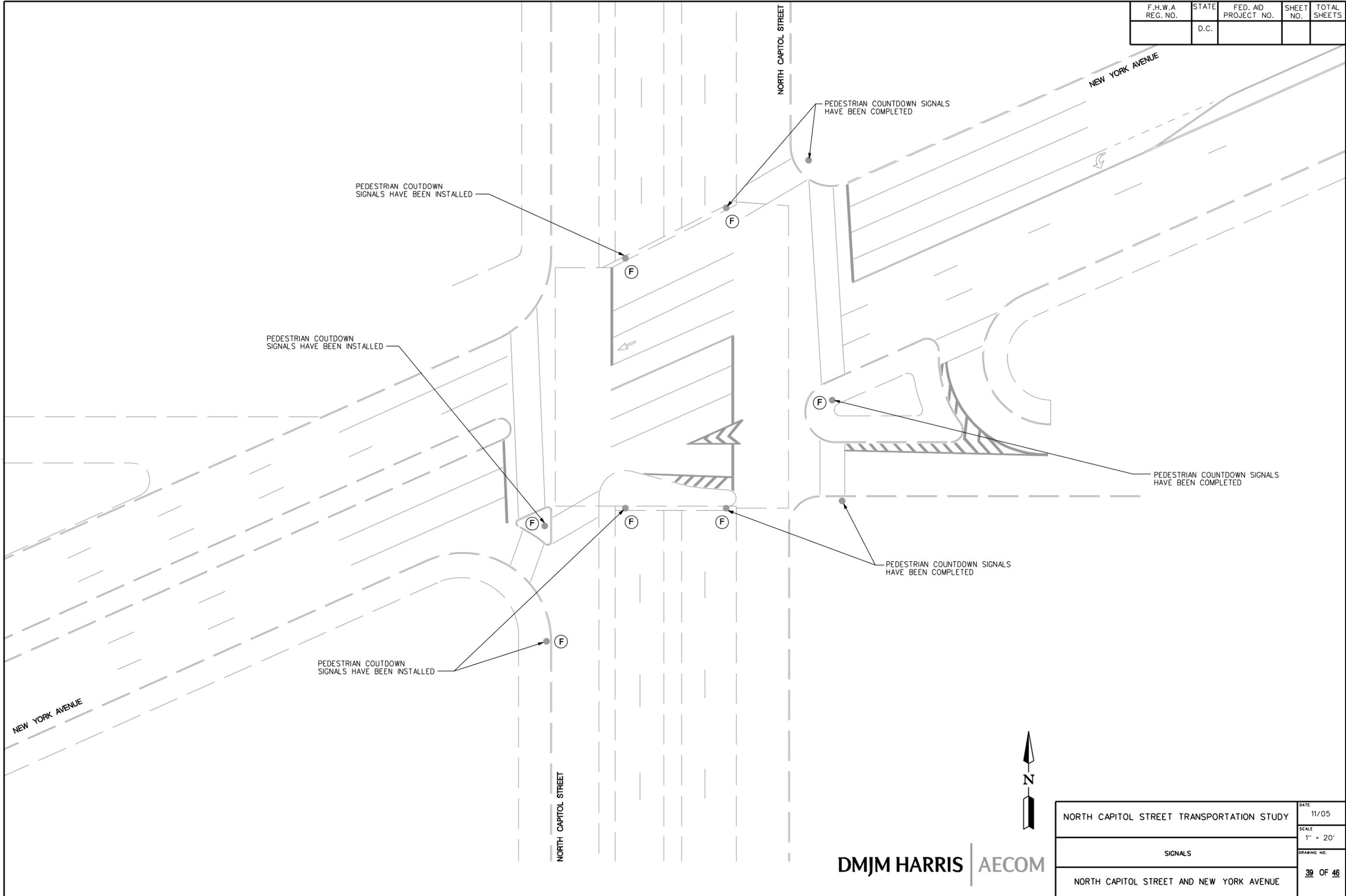
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 20'
SIGNALS	DRAWING NO.	38 OF 46
NORTH CAPITOL STREET AND K STREET		

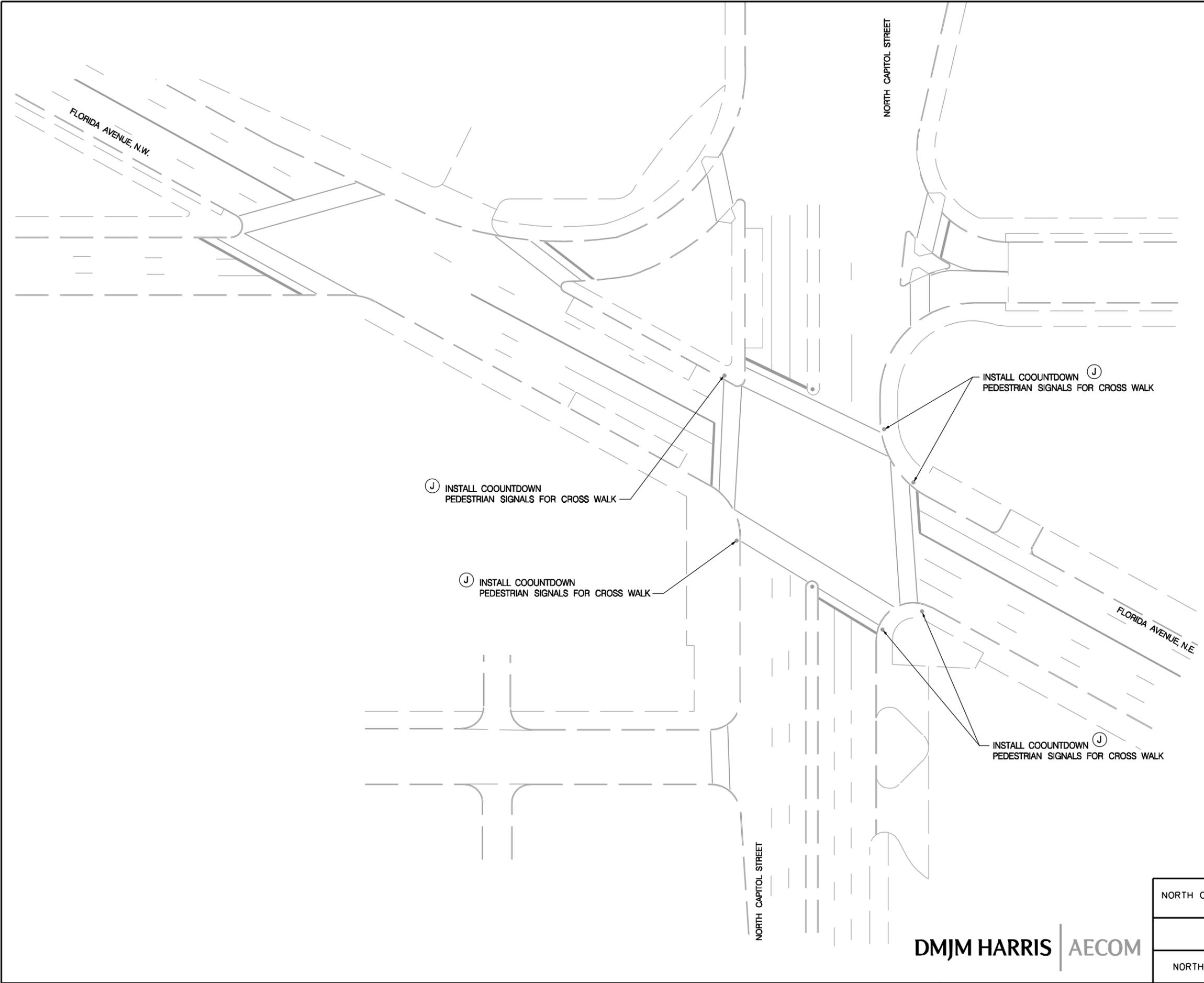
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 20'
SIGNALS	DRAWING NO.	39 OF 46
	NORTH CAPITOL STREET AND NEW YORK AVENUE	

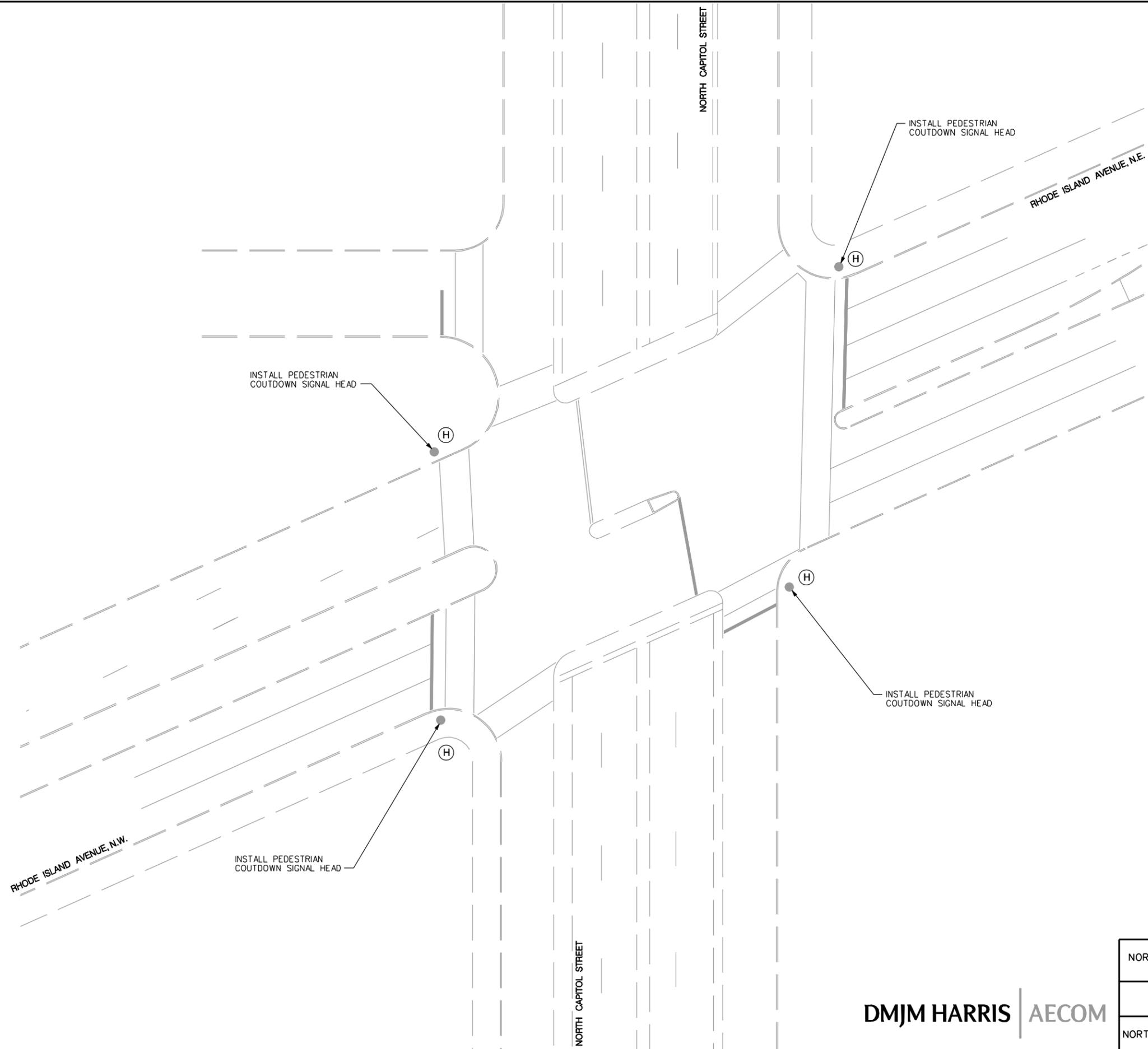
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 30'
SIGNALS	DRAWING NO.	40 OF 46
NORTH CAPITOL STREET AND FLORIDA AVENUE		

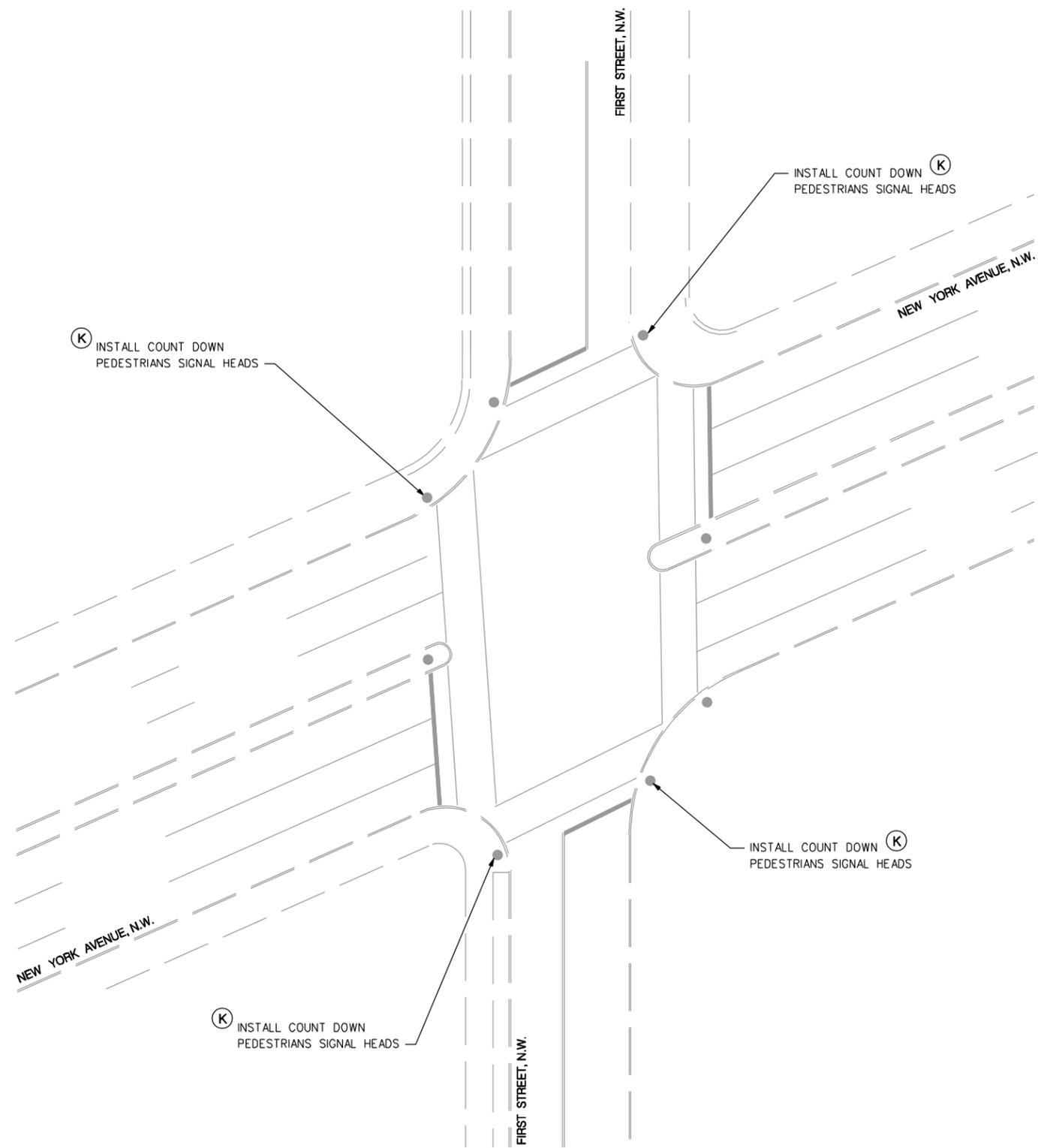
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
SIGNALS	SCALE 1" = 20'
NORTH CAPITOL STREET AND RHODE ISLAND AVENUE	DRAWING NO. 41 OF 46

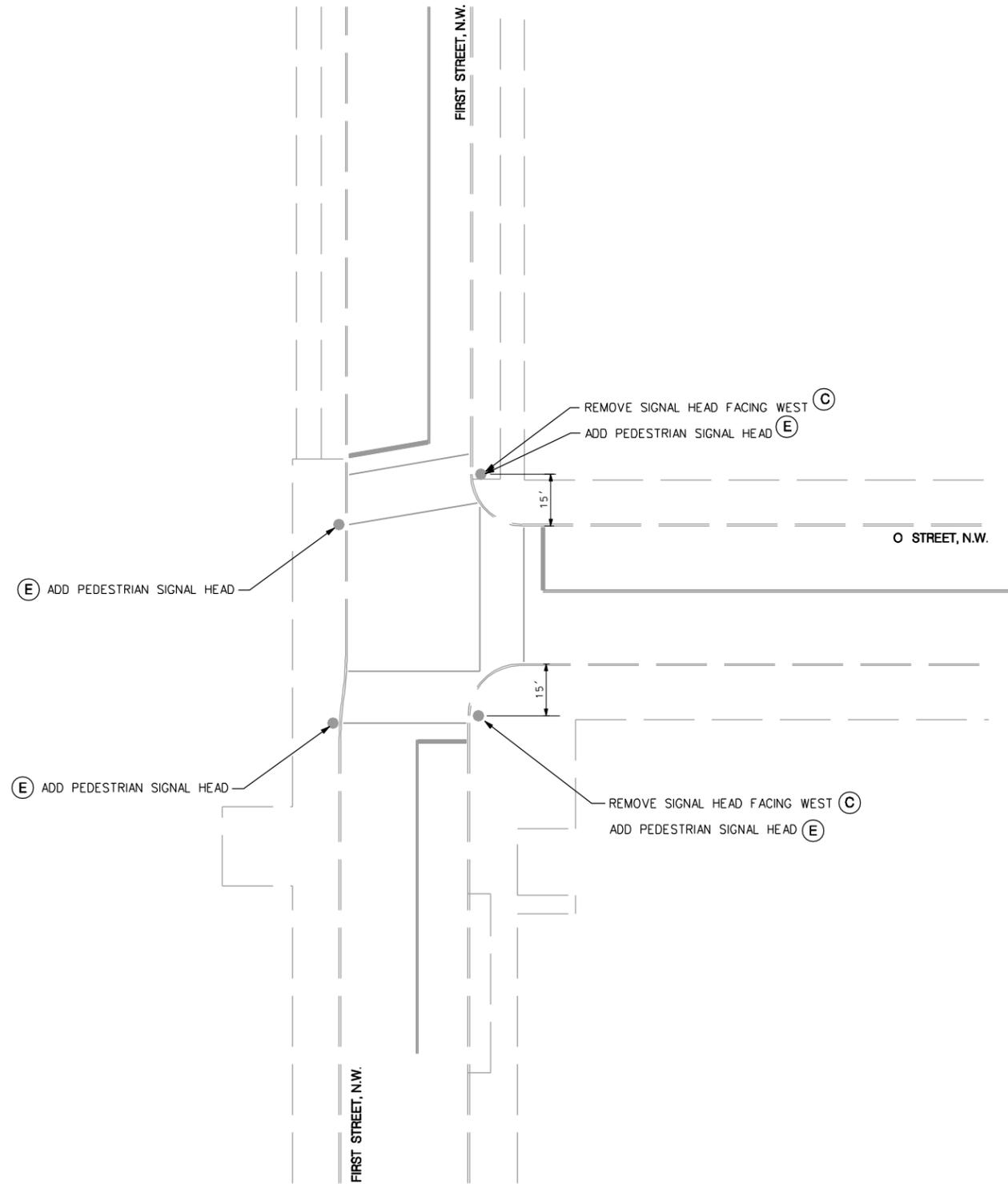
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
	SCALE 1" = 20'
SIGNALS	DRAWING NO. 42 OF 46
FIRST STREET N.W. AND NEW YORK AVENUE N.W.	

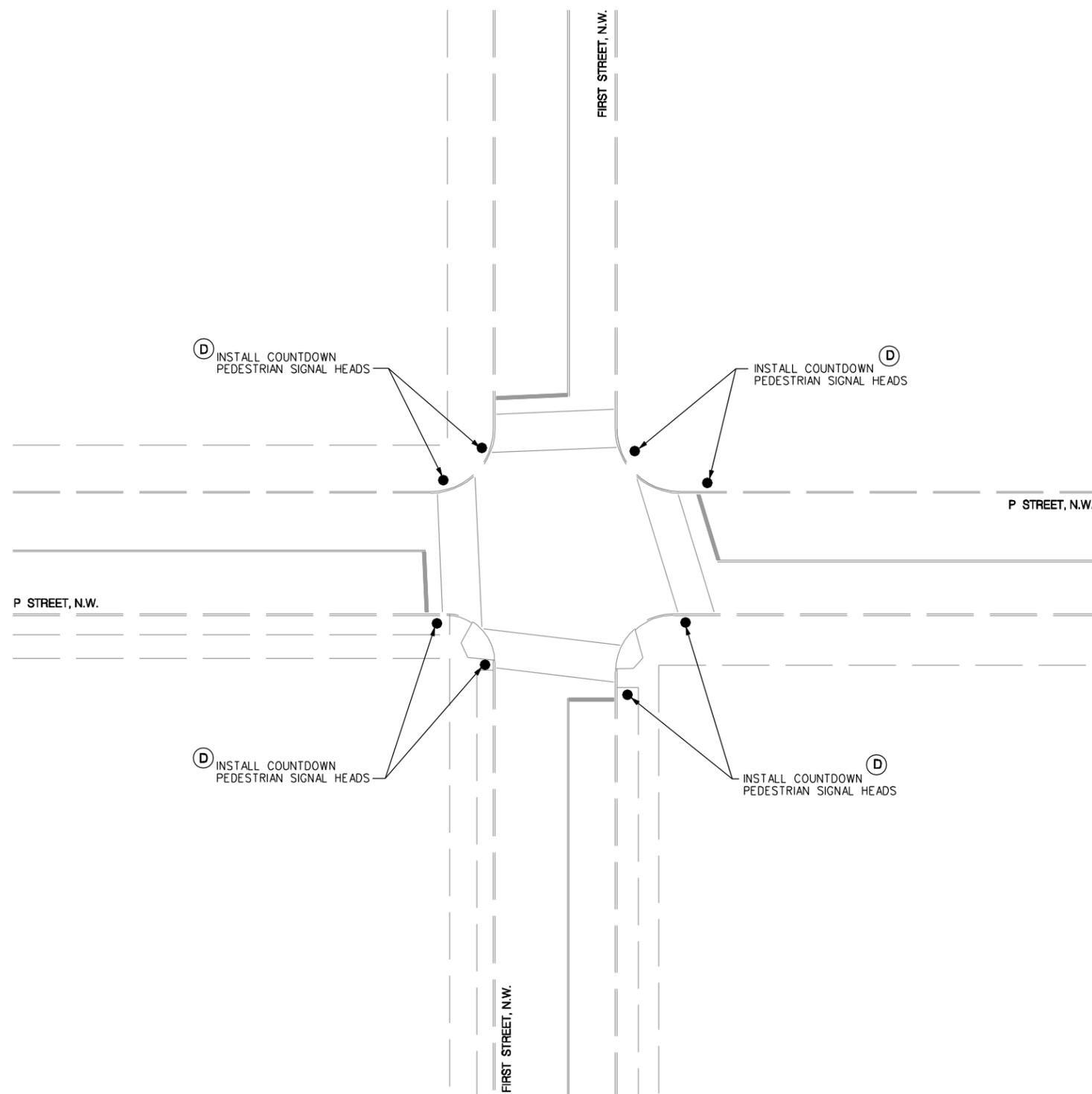
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 20'
SIGNALS	DRAWING NO.	43 OF 46
FIRST STREET N.W. AND O STREET N.W.		

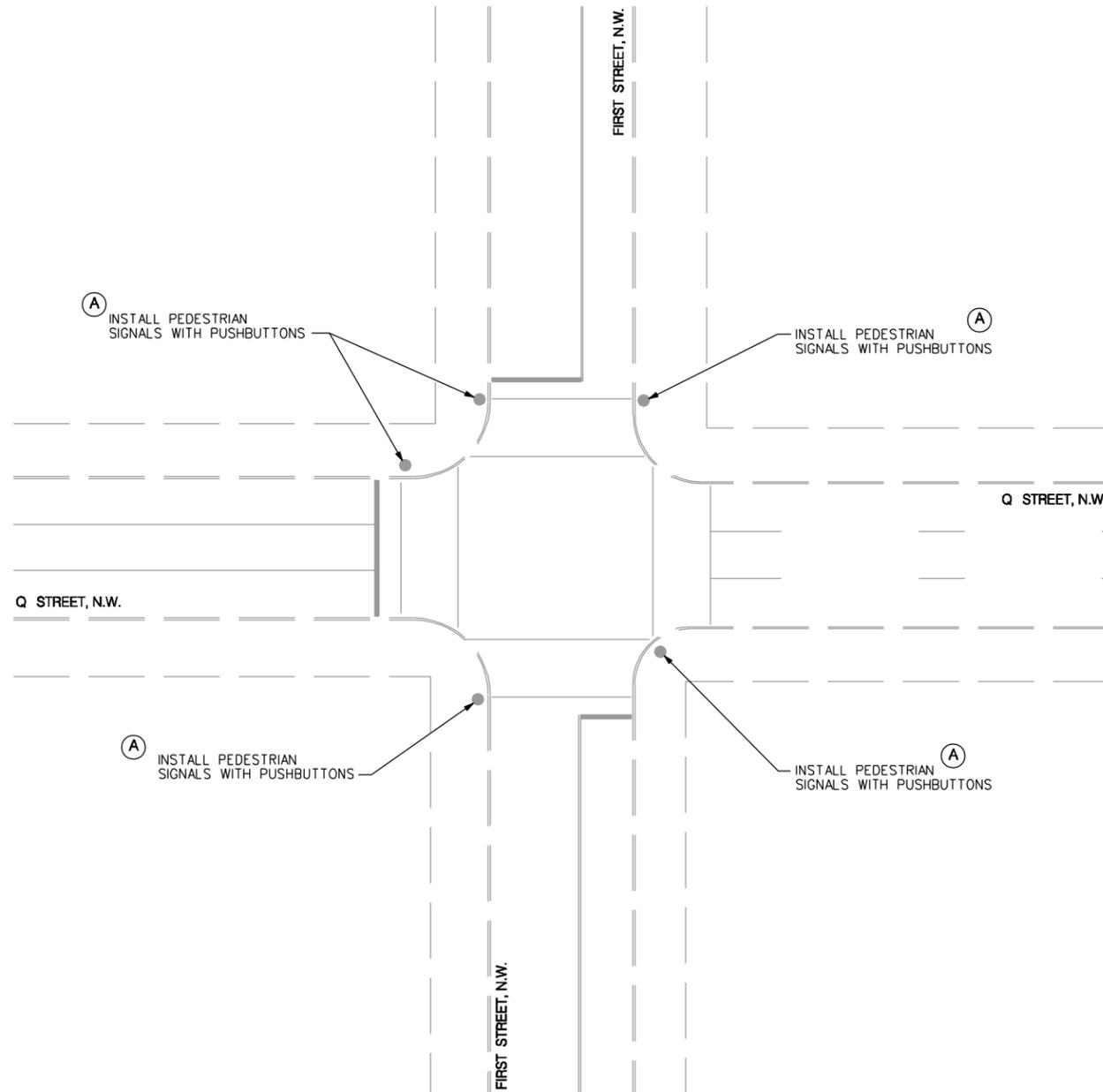
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 20'
SIGNALS	DRAWING NO.	44 OF 46
	FIRST STREET N.W. AND P STREET N.W.	

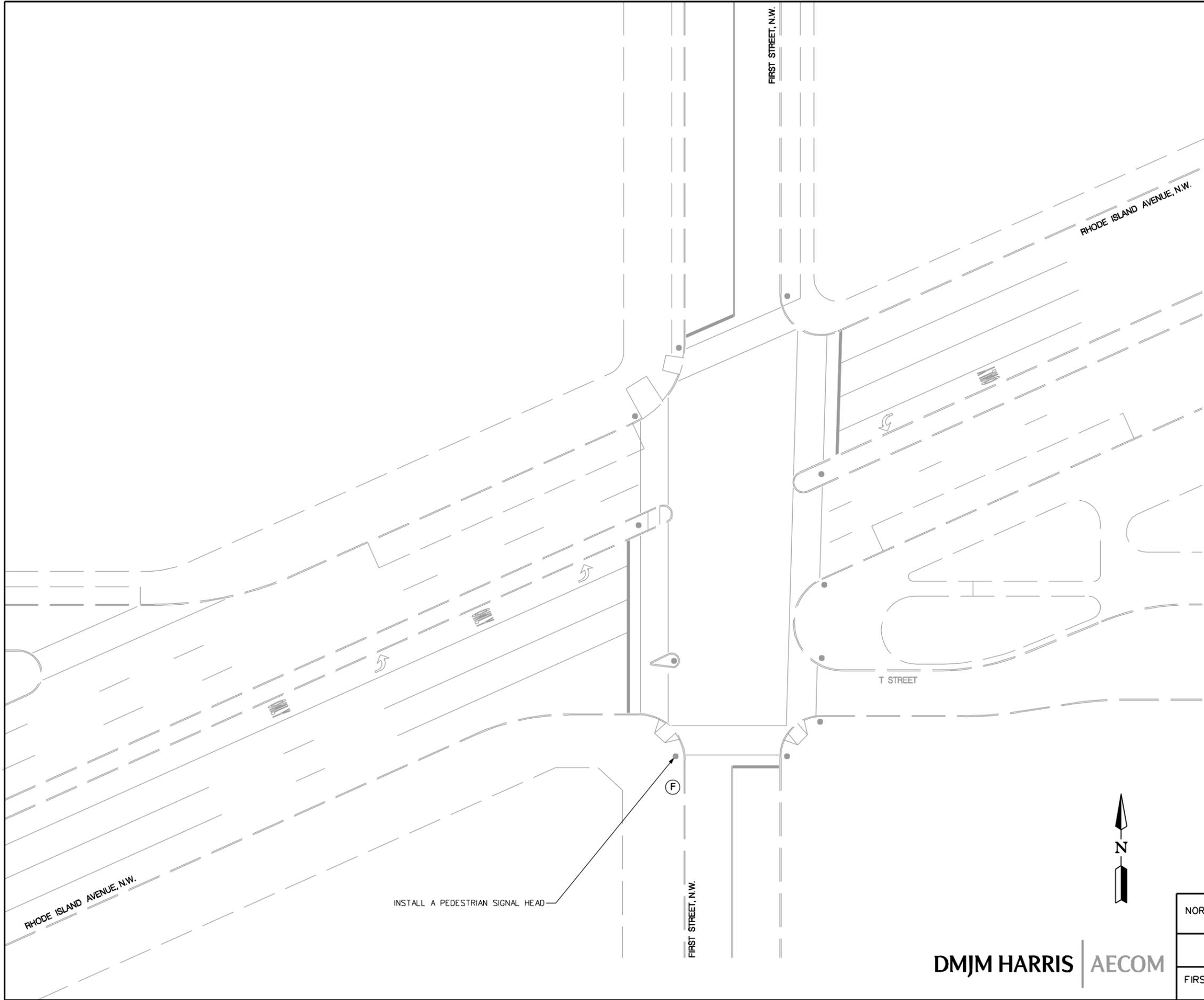
F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



DMJM HARRIS | AECOM

NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE 11/05
	SCALE 1" = 20'
SIGNALS	DRAWING NO.
FIRST STREET N.W. AND Q STREET N.W.	45 OF 46

F.H.W.A REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	D.C.			



NORTH CAPITOL STREET TRANSPORTATION STUDY	DATE	11/05
	SCALE	1" = 20'
SIGNALS	DRAWING NO.	46 OF 46
FIRST STREET N.W., RHODE ISLAND AVENUE N.W. AND T STREET N.W.		

DMJM HARRIS | AECOM