

**TRANSPORTATION IMPACT STUDY
FOR
ABDO NEW YORK, LLC
WASHINGTON, D.C.**

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Section I INTRODUCTION

OVERVIEW

Abdo New York, LLC is proposing to construct a mixed-use urban center consisting of approximately 3,600 residential units including high-rise and mid-rise condominiums and/or apartments and approximately 148,400 square feet (SF)¹ of retail uses on a 16-acre tract of land located in northeast Washington, D.C. The site generally is bounded by New York Avenue, Bladensburg Road, and Montana Avenue in the northeast section of Washington, D.C., as shown on Figure I-1.

The subject site currently is developed and zoned C-M-1 (Low Bulk Commercial and Light Manufacturing).

A Planned Unit Development (PUD) application has been submitted to the Office of Planning for the proposed development. The application also will include a rezoning of the site from C-M-1 to CR (Mixed Use Commercial Residential). The proposed site plan for the development is shown on Figure I-2.

STUDY SCOPE

Overview

In order to assess the impacts of the proposed rezoning on the surrounding roadway network, the Applicant commissioned this multi-modal transportation impact study. This study evaluates vehicular, transit, and pedestrian impacts.

Representatives of the development team met with representatives of the District Department of Transportation (DDOT) to identify the study scope and agree on specific study parameters. A summary of the scoping meeting is included in Appendix A.

¹ The retail component subsequently increased from 140,400 SF to 148,120 SF. Because the increase in trips associated with the additional 7,720 SF would represent an increase of one percent or less during each of the peak hours, the change was considered negligible and the analysis of the retail component was not updated.

Study Area

The study area was selected based on those intersections that potentially could be affected by the proposed development. The following intersections were selected for detailed analysis:

1. New York Avenue/16th Street,
2. New York Avenue/Bladensburg Road,
3. West Virginia Avenue/Mount Olivet Road,
4. Montana Avenue/17th Street,
5. Bladensburg Road/Montana Avenue,
6. Bladensburg Road/Queens Chapel Road,
7. New York Avenue/Montana Avenue, and
8. Proposed site driveways.

Study Objectives and Methodology

The objectives of this study were to: (1) evaluate existing transportation conditions, (2) evaluate future (2013) transportation conditions with and without the proposed re-development, and (3) identify transportation impacts related to the proposed redevelopment.

Tasks undertaken in this study included the following:

1. A review of development plans and other background materials provided by Abdo New York, LLC.
2. A review of the New York Avenue Corridor Study commissioned by the District Department of Transportation (DDOT).
3. A field reconnaissance of the subject site, adjacent properties, surrounding public roadways, and traffic conditions.

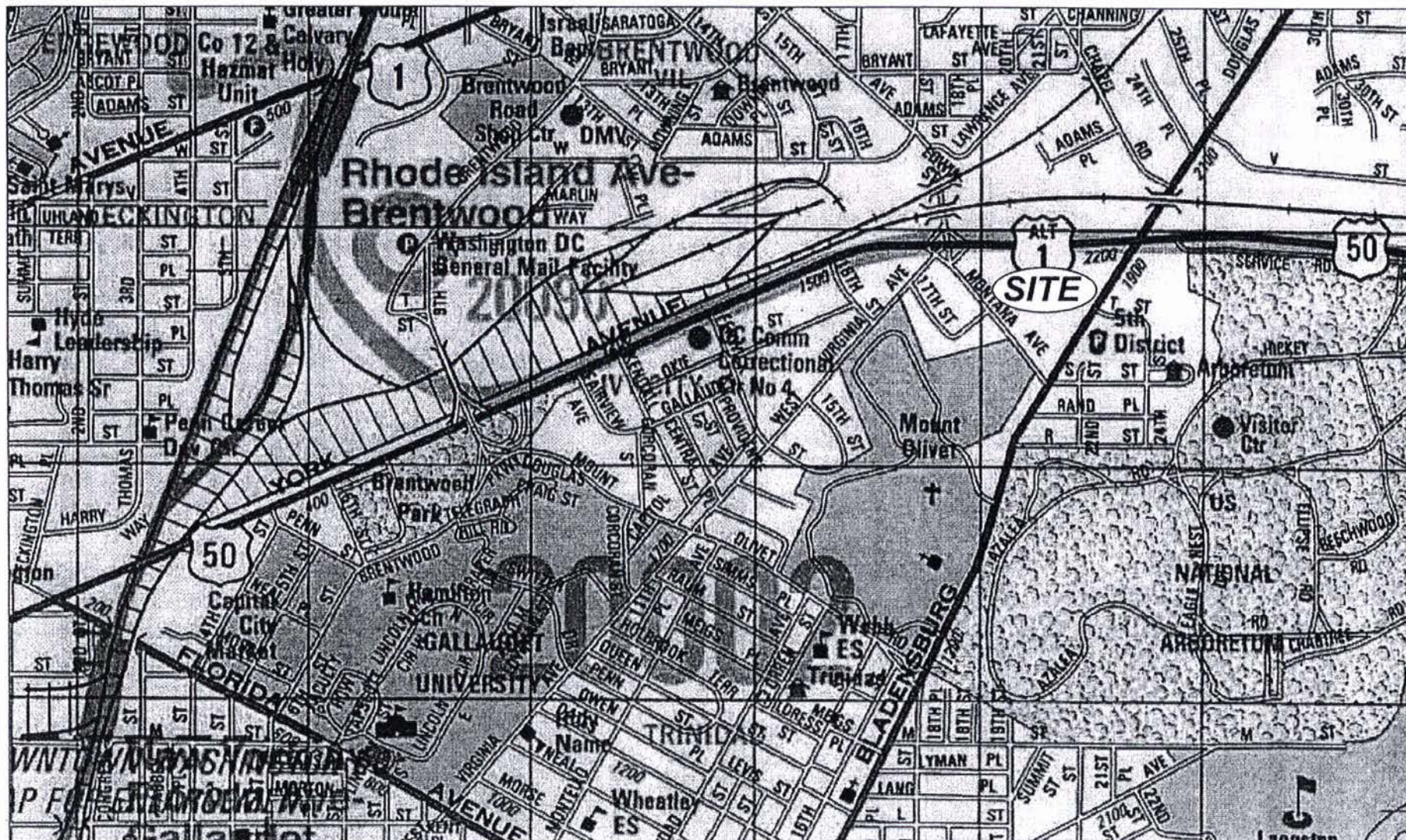


Figure 1-1
Site Location





Figure 1-2
Proposed PUD

4. A meeting with DDOT representatives to identify the transportation issues that must be addressed in this case and to establish study parameters and procedures.
5. Turning movement counts at the study intersections during typical weekday AM and PM peak periods.
6. Analyses of existing and projected levels of service at the study intersections.
7. Estimation of the number of AM and PM peak hour trips that would be generated by the proposed development.
8. Determination of a non-auto mode split based on available bus routes and proximity to Metrorail.
9. Identification of traffic operations and/or road improvements, if any, required to adequately accommodate total future traffic forecasts.
10. A review of site access, egress, and on-site circulation.

Section 2 EXISTING CONDITIONS

LAND USE

Several industrial and commercial buildings, including automobile repair shops, currently occupy the site. The area surrounding the site is comprised primarily of industrial and commercial uses. The US National Arboretum is located immediately east of the site. Additionally, a small number of residences are located southeast of the site, off of Bladensburg Road.

The 16-acre site currently is zoned C-M-1 (Low Bulk Commercial and Light Manufacturing). According to the District of Columbia Municipal Regulations (DCMR),³ this district is “intended to provide sites for heavy commercial and light manufacturing activities employing large numbers of people and requiring some heavy machinery under controls that minimize any adverse effect on other nearby, more restrictive districts”. Heavy truck traffic and loading and unloading operations are expected to be characteristics of this district.⁴

TRANSPORTATION FACILITIES

Roadway Network

Regional access to the site is provided primarily via I-66 to the west, I-295 and I-395 to the south, and New York Avenue to the north. Local site access is facilitated by Bladensburg Road, Montana Avenue, Mount Olivet Road, Queens Chapel Road, West Virginia Avenue, 16th Street, and 17th Street. A description of roadways in the immediate study area is provided below. The existing lane use and traffic control for each study intersection is shown on Figure 2-1.

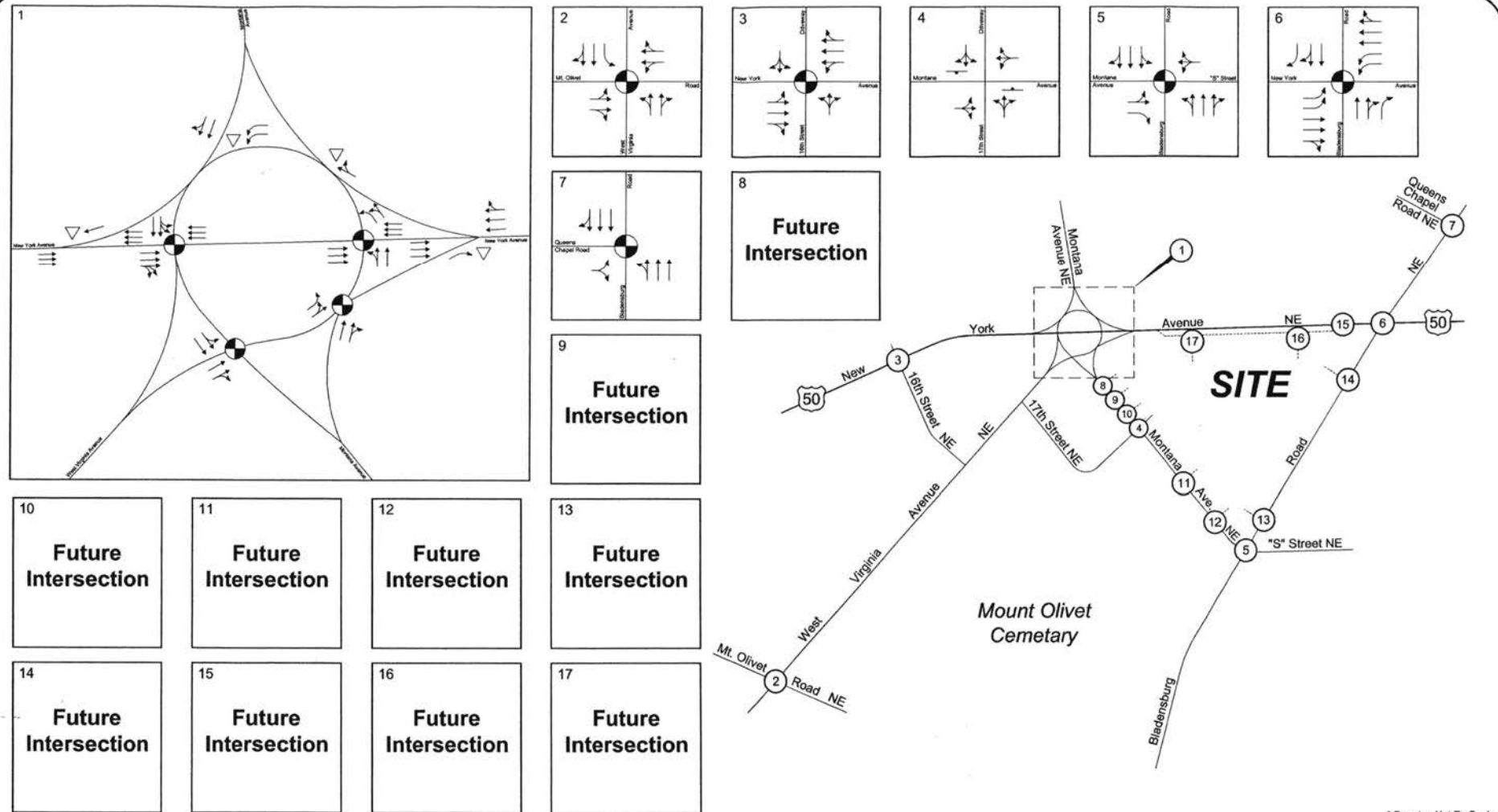
New York Avenue is a six-lane divided principal arterial that provides access Route 50 and the Baltimore-Washington Parkway. As such, New York Avenue is heavily used by high-speed, long-distance traffic destined to downtown Washington and beyond.

The intersections of New York Avenue with 16th Street, West Virginia Avenue, Montana Avenue and Bladensburg Road are controlled by traffic signals. Between Montana Avenue and South Dakota Avenue, New York Avenue carries average daily traffic volumes ranging from 63,000 to 75,000 vpd.⁵ Curb and gutter are present along both sides of the roadway.

Bladensburg Road is a six-lane divided minor arterial. The intersections of Bladensburg Road with New York Avenue, Queens Chapel Road, and Montana Avenue are controlled by traffic signals. Between V Street and Mount Olivet Road, Bladensburg Road carries an average daily traffic volume ranging from 26,700 to 27,100 vehicles per day (vpd).⁶ A resurfacing project was recently completed on Bladensburg Road within the study area; therefore, the pavement is in good condition. Curb and gutter is present along both sides of the roadway.

Montana Avenue is an undivided collector roadway. The roadway is four lanes wide north of New York Avenue and two lanes wide south of New York Avenue. The intersections with New York Avenue, West Virginia Avenue and Bladensburg Road are controlled by traffic signals. Parking is permitted on both sides of Montana Avenue, in the vicinity of 17th Street and Bladensburg, during the AM and PM peak periods. Montana Avenue, between Rhode Island Avenue and Bladensburg Road, carries average daily traffic volumes ranging from 6,100 to 7,000 vpd.⁷ Pavement along Montana Avenue is in relatively good condition. Curbs are present along both sides of the roadway.

Mount Olivet Road is a four-lane undivided minor arterial. The West Virginia Avenue/Mount Olivet Road intersection is controlled by a traffic signal. Mount Olivet Road carries an average daily traffic volume of 14,800 vpd west of West Virginia Avenue and 19,300 vpd east of West Virginia Avenue.⁸



* Drawing Not To Scale

Figure 2-1
Existing Lane Use And Traffic Control

- ← Represents One Travel Lane
- ⬤ Signalized Intersection
- ⊥ Stop Sign
- ▽ Yield Sign



Queens Chapel Road is a two-lane collector roadway. The Bladensburg Road/Queen Chapel Road intersection is controlled by a traffic signal. Between Franklin Street and Bladensburg Road, Queens Chapel Road carries an average daily traffic volumes ranging from 3,000 to 3,900 vpd.⁹

West Virginia Avenue is a four-lane undivided minor arterial. The intersections of West Virginia Avenue with New York Avenue and Mount Olivet Road are controlled by traffic signals. Parking is permitted along West Virginia Avenue in the vicinity of Mount Olivet Road during the AM and PM peak periods. Between Montana Avenue and Mount Olivet Road, West Virginia Avenue carries an average daily traffic volume of 11,400 vpd.¹⁰

16th Street is a two-lane local roadway. The intersection of 16th Street with New York Avenue is controlled by a traffic signal.

17th Street is a two-lane local roadway. The intersection of 17th Street with Montana Avenue is stop-controlled. Parking is permitted on 17th Street, south of Montana Avenue, during the AM and PM peak periods.

Public Transportation Facilities and Services

The Rhode Island Metro Station, which serves the Red Line, is located approximately one mile, "as the crow flies," from the subject site. The Rhode Island Metro Station has 350 all-day parking spaces as well as 40 short-term metered parking spaces and has a designated 'Kiss-and-Ride' area.

The New York Avenue Metro Station, which also serves the Red Line, is located approximately 1.75 miles from the site. Parking is not available at the New York Avenue Metro Station. Additionally, no 'Kiss-and-Ride' area is provided at the New York Avenue Metro Station.

Metrobus service is limited in the study area, as shown on Figure 2-2. Six bus stops are located within a one mile radius of the site. Of those, three are located within a ½ mile radius of the site. These stops are located on Bladensburg Road at New York Avenue, 26th Street, and South Dakota Avenue. Bus stops are also located on New York Avenue at 16th Street, on Rhode Island Avenue at 18th Street and on Mount Olivet Road at Montello Avenue. Bus trips to/from the New York Avenue/Bladensburg Road stop operate only when public school is open and only provide service during off-peak times.

The Bladensburg Road–Anacostia Line (Metrobus Route B2), Fort Lincoln Shuttle Line (Metrobus Route B8, B9), Ivy City–Union Station Line (Metrobus Route D4), Hospital Center Line (Metrobus Route D8), Military Road–Crosstown Line (Metrobus Route E2, E3), National Arboretum Line (Metrobus Route X6), provide bus service in the study area.

Route B2 provides service to the Anacostia Metro Station. Routes B8 and B9 provide service to the Rhode Island Avenue–Brentwood Metro Station. Routes D4, D8, and X6 provide service to the Union Station Metro Station. Route D8 also provides service to the Rhode Island Avenue–Brentwood Metro Station. Routes E2 and E3 provide service to the Fort Totten Metro Station and the Friendship Heights Metro Station.

Pedestrian/Bicycle Routes

Within the study area, sidewalks are present along both sides of New York Avenue, both sides of Bladensburg Road, both sides of Montana Avenue, both sides of West Virginia Avenue, and both sides of Mount Olivet Road. No sidewalks are present along 16th Street and 17th Street. Pedestrian signals with clearly marked crosswalks are located at all signalized study intersections.

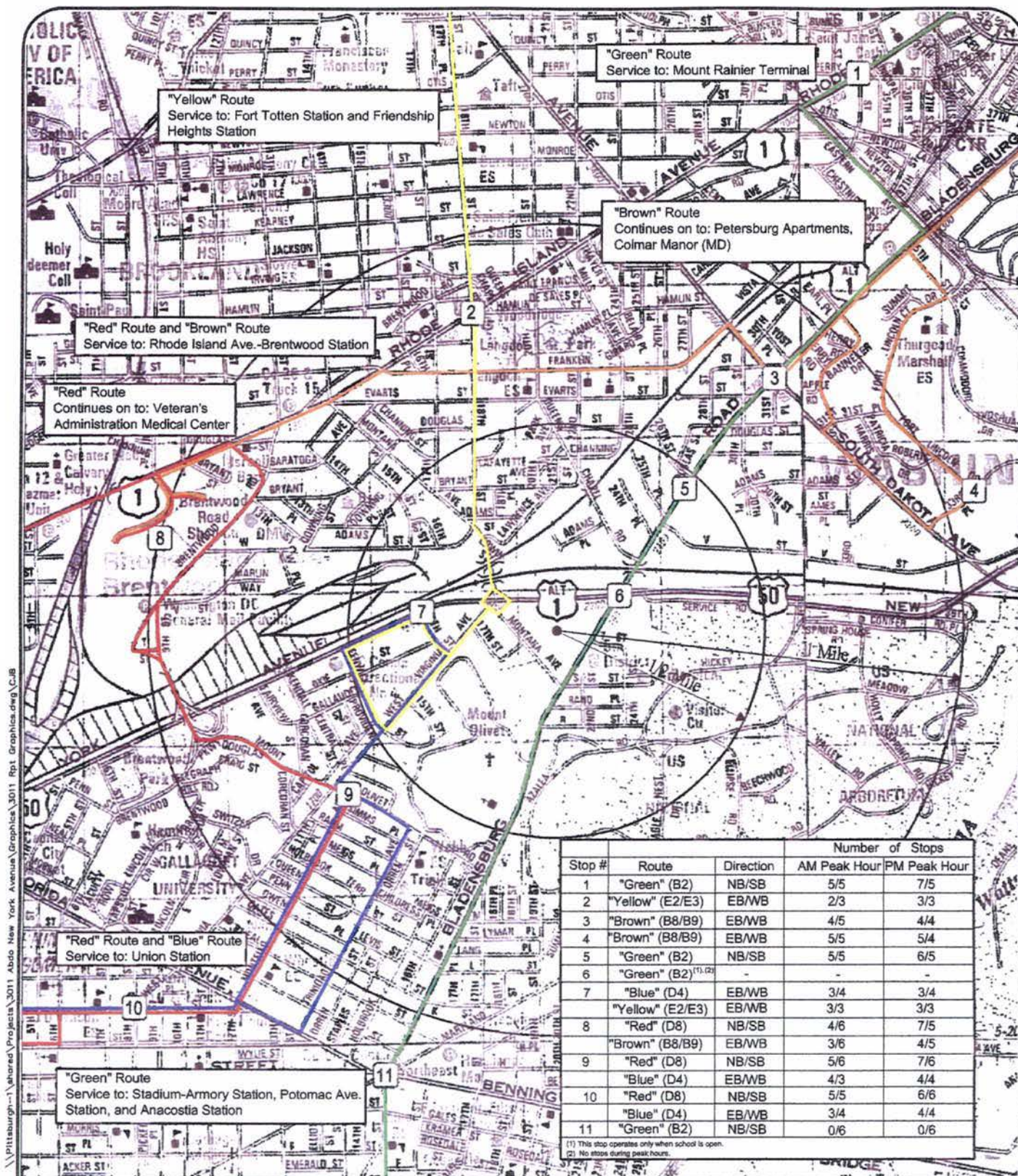


Figure 2-2
Metrobus Service



DDOT published a draft District of Columbia Bicycle Master Plan in August 2002.¹¹ That document evaluates existing bicycling facilities, policies, and other bicycle-related matters. It also establishes goals, makes recommendations for achieving those goals, and presents an implementation plan.

According to the Master Plan, the Bicycle Level of Service (BLOS) on Bladensburg Road is BLOS "D" and the BLOS on New York Avenue is BLOS "E".

The Plan recommends new multi-use trails on both New York Avenue and Bladensburg Road in the vicinity of the site as shown on Figure 2-3.

TRAFFIC VOLUMES

Vehicular turning movement counts and pedestrian counts were conducted at the New York Avenue/16th Street, West Virginia Avenue/Mount Olivet Road, Montana Avenue/17th Street, and Bladensburg Road/Montana Avenue intersections on Tuesday, January 31, 2006 from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM. Vehicular turning movement counts were conducted at the Bladensburg Road/Queens Chapel Road intersection on Wednesday, February 15, 2006 from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM.

Based on the data collected, a common AM peak hour and a common PM peak hour were selected for the entire study area. The common AM peak hour occurred from 8:00 AM to 9:00 AM; the common PM peak hour occurred from 4:45 PM to 5:45 PM.

Vehicular turning movement counts for the New York Avenue/Bladensburg Road and New York Avenue/Montana Avenue intersections were taken from the New York Avenue Corridor Study.¹² A two percent growth rate, compounded annually, was applied to the 2003 peak hour volumes for these intersections to obtain existing traffic volumes.

Existing traffic volumes at the intersections along New York Avenue and at the Bladensburg Road/Queens Chapel Road intersection were adjusted to balance with adjacent intersections with some allowance for driveways or roadways located between the intersections.

After accounting for the numerous driveways located between the remaining intersections, it was determined that traffic volumes at adjacent intersections balanced within reason.

Vehicular peak hour baseline traffic volumes are shown on Figure 2-4 and pedestrian peak hour volumes are shown on Figure 2-5. Traffic count data are included in Appendix B.

OPERATIONAL ANALYSIS

Capacity/level of service (LOS) analyses were conducted based on the existing lane use and traffic control shown on Figure 2-1, existing vehicular traffic volumes shown on Figure 2-4, existing pedestrian volumes shown on Figure 2-5 and existing DDOT traffic signal timings shown in Appendix C.

Synchro software (version 6, build 612) was used to evaluate levels of service at each of the study intersections during the AM and PM peak hours. Synchro is a macroscopic model used to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings and to optimize traffic signal timings. The levels of service reported for the signalized intersections were taken from the Highway Capacity Manual 2000¹³ (HCM) reports generated by Synchro. Levels of service descriptions are included in Appendix D.

The Synchro results are presented in Appendix E and summarized in Table 2-1.

District of Columbia Bicycle Master Plan Proposed Bicycle Facilities Map

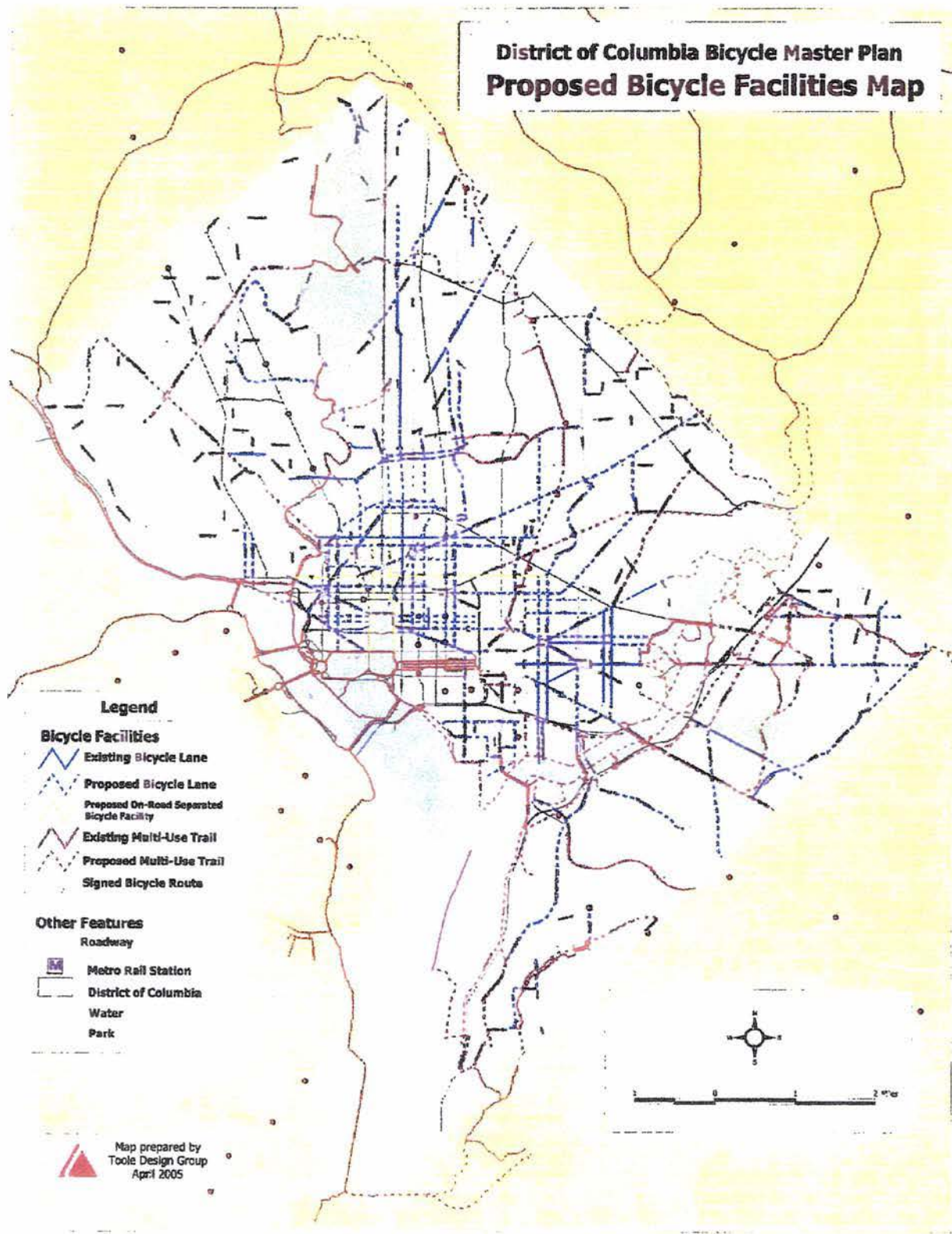
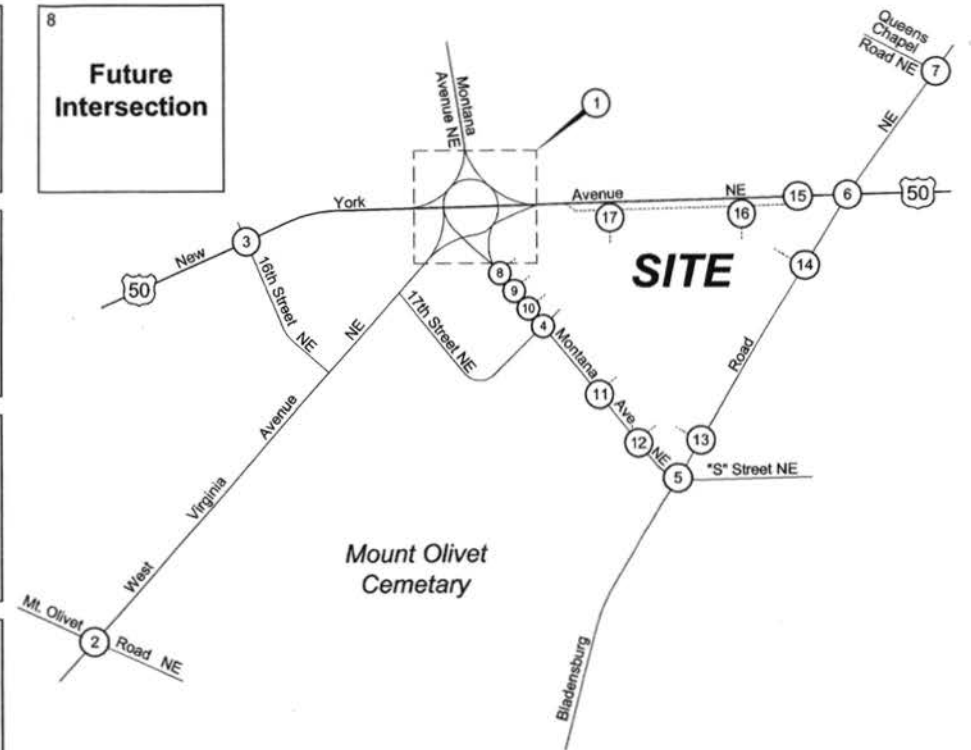
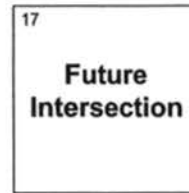
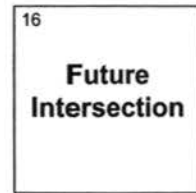
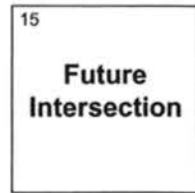
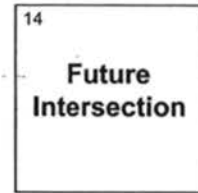
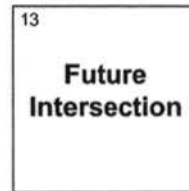
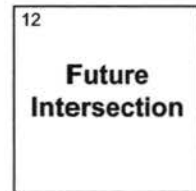
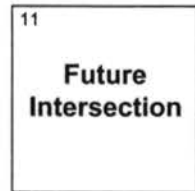
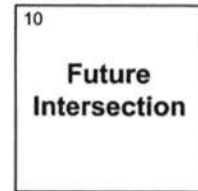
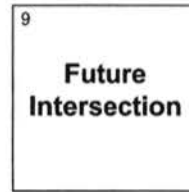
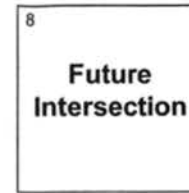
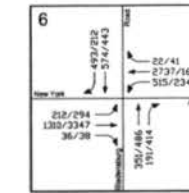
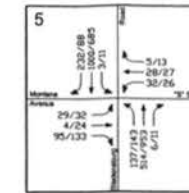
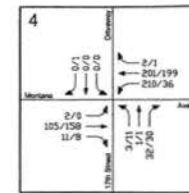
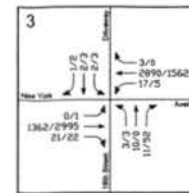
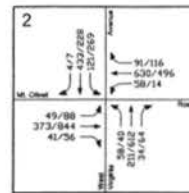
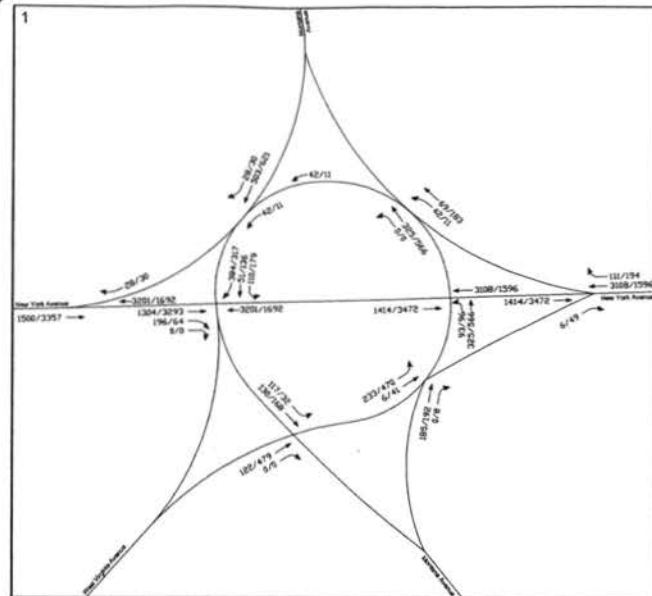


Figure 2-3
Proposed Bicycle Facilities Map





* Drawing Not To Scale

Figure 2-4
Baseline Peak Hour Traffic Volumes

AM PM
PM PM
000/000



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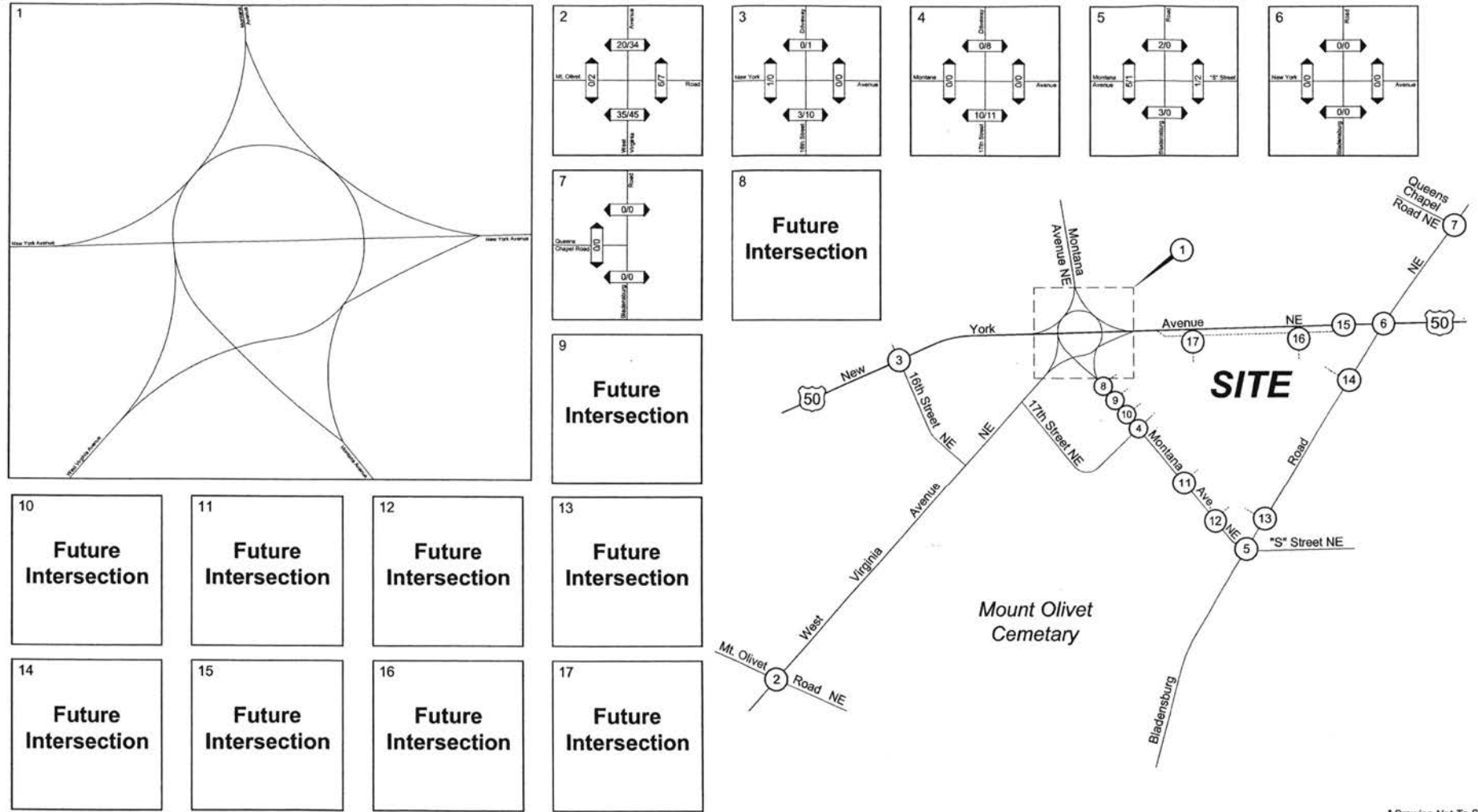


Figure 2-5
Pedestrian Peak Hour Volumes

AM Peak Hour
PM Peak Hour
000/000



Table 2-1
Summary of Intersection Levels of Service

INTERSECTION	EXISTING CONDITIONS		2013 BACKGROUND CONDITIONS		2013 TOTAL FUTURE CONDITIONS		2013 TOTAL FUTURE CONDITIONS WITH IMPROVEMENTS*	
	AM	PM	AM	PM	AM	PM	AM	PM
New York Avenue/16th Street								
EB	A (1.8)	A (7.3)	A (1.8)	B (10.4)	A (4.5)	E (63.2)	A (3.4)	D (52.4)
WB	A (1.7)	A (5.4)	A (3.2)	A (6.3)	E (70.8)	A (8.7)	D (50.7)	A (5.8)
NB	D (42.7)	D (52.8)	D (42.8)	D (52.9)	D (39.9)	D (51.4)	D (47.4)	E (57.3)
SB	D (42.1)	D (49.1)	D (42.1)	D (49.0)	C (34.9)	D (44.8)	D (37.4)	D (46.7)
Overall	A (2.0)	A (7.3)	A (3.0)	A (9.6)	D (49.9)	D (44.6)	D (36.3)	D (36.8)
New York Avenue/Bladensburg Road								
EB	C (33.0)	E (77.1)	D (42.0)	F (111.0)	D (50.0)	F (130.1)	D (44.9)	F (172.1)
WB	E (64.1)	D (41.5)	F (92.3)	D (47.0)	F (89.2)	F (97.2)	F (107.9)	D (42.5)
NB	D (36.0)	F (107.6)	D (36.5)	F (134.4)	C (31.5)	F (172.7)	C (34.1)	F (99.2)
SB	C (35.0)	D (47.4)	D (46.8)	E (56.7)	D (50.5)	F (103.1)	D (51.9)	E (78.4)
Overall	D (49.4)	E (68.9)	E (67.9)	F (92.0)	E (67.6)	F (124.3)	E (76.2)	F (118.9)
West Virginia Avenue/Mount Olivet Road								
EB	C (25.2)	F (117.4)	C (26.9)	F (174.5)	C (27.0)	F (178.3)	C (27.0)	F (199.5)
WB	C (31.7)	C (26.8)	D (36.8)	C (29.3)	D (37.2)	C (29.6)	D (37.2)	C (31.6)
NB	C (29.1)	F (99.0)	C (30.6)	F (141.5)	C (31.5)	F (173.8)	C (31.5)	F (143.0)
SB	B (15.4)	D (39.3)	B (15.5)	E (59.2)	B (15.6)	E (77.8)	B (14.6)	E (77.1)
Overall	C (25.6)	E (78.8)	C (28.1)	F (113.6)	C (28.2)	F (126.3)	C (27.9)	F (125.7)
Montana Avenue/17th Street								
EB	A [0.1]	A [0.0]	A [0.1]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
WB	A [4.8]	A [1.4]	A [4.9]	A [1.4]	A [5.6]	A [2.3]	A [5.6]	A [2.3]
NB	B [10.4]	B [10.6]	B [10.6]	B [10.9]	B [12.3]	C [15.2]	B [12.3]	C [15.2]
SB	A [0.0]	A [9.5]	A [0.0]	A [9.6]	N/A	N/A	N/A	N/A
* Improvements do not include SPUI at the New York Avenue/Bladensburg Road intersection. [23.3] = unsignalized intersection control delay in veh/sec (23.3) = signalized intersection control delay in veh/sec								

Table 2-1 (continued)
Summary of Intersection Levels of Service

INTERSECTION	EXISTING CONDITIONS		2013 BACKGROUND CONDITIONS		2013 TOTAL FUTURE CONDITIONS		2013 TOTAL FUTURE CONDITIONS WITH IMPROVEMENTS*	
	AM	PM	AM	PM	AM	PM	AM	PM
Bladensburg Road/Montana Avenue								
EB	D (51.6)	C (31.5)	D (49.0)	C (31.7)	D (35.4)	D (38.0)	D (35.4)	C (27.4)
WB	C (29.3)	C (32.2)	C (29.5)	C (32.4)	C (29.8)	C (32.5)	C (29.8)	C (24.9)
NB	A (7.0)	A (6.8)	A (7.1)	A (7.1)	A (7.2)	A (7.7)	A (7.2)	B (12.9)
SB	B (18.8)	B (17.3)	C (20.3)	B (17.7)	C (26.1)	B (18.6)	D (35.9)	C (26.1)
Overall	B (17.4)	B (13.6)	B (18.2)	B (13.9)	C (21.9)	B (16.0)	C (27.5)	B (19.8)
Bladensburg Road/Queens Chapel Road								
EB	D (38.5)	D (52.9)	D (39.9)	E (56.1)	D (39.7)	E (55.6)	D (39.7)	E (55.6)
NB	A (1.1)	A (2.3)	A (1.1)	A (2.4)	A (1.1)	A (2.6)	A (1.5)	A (0.4)
SB	C (24.5)	B (15.2)	C (25.4)	B (15.4)	C (25.6)	B (15.9)	C (25.6)	B (15.9)
Overall	B (18.4)	B (14.8)	B (19.0)	B (15.4)	B (18.4)	B (15.2)	B (18.6)	B (14.3)
New York Avenue/Montana Avenue (West 1)								
SB	C [17.4]	B [11.1]	C [17.5]	B [11.3]	C [17.5]	B [11.5]	C [18.6]	B [10.6]
New York Avenue/Montana Avenue (West 2)								
EB	B (16.1)	F (228.1)	B (16.7)	F (273.5)	B (19.0)	F (376.7)	C (32.6)	F (281.7)
WB	B (14.9)	A (0.5)	D (47.1)	A (0.6)	F (115.7)	A (3.1)	F (100.5)	A (4.5)
SB	D (42.4)	F (223.2)	D (45.1)	F (264.9)	D (45.9)	F (305.1)	D (54.9)	F (155.6)
Overall	B (18.1)	F (159.8)	D (38.2)	F (191.2)	F (82.0)	F (256.1)	E (77.2)	F (184.6)
Montana Avenue/West Virginia Avenue (West)								
EB	C (30.2)	D (39.2)	C (31.1)	D (40.2)	C (31.0)	D (41.4)	C (31.0)	D (41.4)
SB	A (6.0)	A (7.8)	A (5.6)	A (7.8)	A (4.9)	B (11.7)	A (5.2)	A (9.5)
Overall	B (14.0)	C (29.9)	B (14.0)	C (30.7)	B (12.5)	C (25.7)	B (12.7)	C (24.5)
* Improvements do not include SPUI at the New York Avenue/Bladensburg Road intersection. [23.3] = unsignalized intersection control delay in veh/sec (23.3) = signalized intersection control delay in veh/sec								

Table 2-1 (continued)
Summary of Intersection Levels of Service

INTERSECTION	EXISTING CONDITIONS		2013 BACKGROUND CONDITIONS		2013 TOTAL FUTURE CONDITIONS		2013 TOTAL FUTURE CONDITIONS WITH IMPROVEMENTS*	
	AM	PM	AM	PM	AM	PM	AM	PM
Montana Avenue/West Virginia Avenue (East)								
EB	A (0.5)	A (1.2)	A (0.5)	A (1.3)	A (1.1)	A (0.8)	A (0.9)	A (0.9)
NB	D (44.5)	E (62.4)	D (50.4)	E (65.0)	F (281.0)	F (486.7)	D (42.5)	E (67.5)
Overall	B (19.7)	B (18.4)	C (22.2)	B (19.2)	F (208.2)	F (245.4)	C (31.7)	C (34.4)
New York Avenue/Montana Avenue (East)								
EB	A (1.6)	F (157.9)	A (1.6)	F (200.7)	A (1.5)	F (224.3)	A (1.2)	F (227.6)
WB	E (70.1)	A (6.5)	F (106.5)	A (6.9)	F (103.9)	A (6.9)	F (110.7)	C (26.8)
NB	C (27.9)	D (48.7)	C (28.1)	D (50.0)	E (64.2)	E (67.2)	D (46.3)	D (54.0)
Overall	D (46.9)	F (103.1)	E (69.9)	F (129.3)	E (69.9)	F (144.0)	E (70.7)	F (148.9)
New York Avenue/West Virginia Avenue (West)								
NB	A [9.1]	B [14.0]	A [9.2]	B [14.0]	A [9.5]	B [15.0]	A [9.5]	B [15.0]
New York Avenue/Montana Avenue (Northeast)								
WB	B [10.2]	B [10.6]	B [10.4]	B [11.0]	B [11.9]	B [14.2]	B [11.9]	B [14.2]
New York Avenue/Montana Avenue (Northwest)								
WB	B [10.7]	B [11.2]	B [10.9]	B [11.5]	B [11.0]	B [11.7]	B [10.1]	B [11.7]
Frontage Road/West Driveway								
NB	N/A	N/A	N/A	N/A	A [8.6]	A [9.3]	A [8.6]	A [9.3]
Frontage Road/East Driveway								
NB	N/A	N/A	N/A	N/A	A [8.5]	A [9.0]	A [8.5]	A [9.0]
Montana Avenue/North Site Driveway								
EB	N/A	N/A	N/A	N/A	A [0.5]	A [0.5]	A [0.5]	A [0.5]
SB	N/A	N/A	N/A	N/A	C [15.3]	C [18.6]	C [15.3]	C [18.6]
* Improvements do not include SPUI at the New York Avenue/Bladensburg Road intersection. [23.3] = unsignalized intersection control delay in veh/sec (23.3) = signalized intersection control delay in veh/sec								

Table 2-1 (continued)
Summary of Intersection Levels of Service

INTERSECTION	EXISTING CONDITIONS		2013 BACKGROUND CONDITIONS		2013 TOTAL FUTURE CONDITIONS		2013 TOTAL FUTURE CONDITIONS WITH IMPROVEMENTS*	
	AM	PM	AM	PM	AM	PM	AM	PM
Montana Avenue/Middle Site Driveway								
EB	N/A	N/A	N/A	N/A	A [0.0]	A [0.0]	A [0.0]	A [0.0]
SB	N/A	N/A	N/A	N/A	C [19.7]	D [27.1]	C [19.7]	D [27.1]
Montana Avenue/Emergency Access								
EB	N/A	N/A	N/A	N/A	A [2.2]	A [5.3]	A [2.2]	A [5.3]
SB	N/A	N/A	N/A	N/A	C [17.0]	B [14.8]	C [17.0]	B [14.8]
Montana Avenue/South Site Driveway								
EB	N/A	N/A	N/A	N/A	A [2.3]	A [4.6]	A [2.3]	A [4.6]
SB	N/A	N/A	N/A	N/A	D [26.7]	D [32.3]	D [26.7]	D [32.3]
Montana Avenue/Lower Site Driveway								
SB	N/A	N/A	N/A	N/A	B [14.9]	B [13.0]	B [14.9]	B [13.0]
Bladensburg Road/South Site Driveway								
EB	N/A	N/A	N/A	N/A	B [12.7]	B [10.8]	B [12.7]	B [10.8]
Bladensburg Road/Site Driveway								
EB	N/A	N/A	N/A	N/A	B [12.2]	B [11.2]	B [12.2]	B [10.8]
New York Avenue/Frontage Road (East)								
NB	N/A	N/A	N/A	N/A	A [9.9]	C [15.6]	A [9.8]	C [15.6]
* Improvements do not include SPUI at the New York Avenue/Bladensburg Road intersection. [23.3] = unsignalized intersection control delay in veh/sec (23.3) = signalized intersection control delay in veh/sec								

In oversaturated conditions, the volume of traffic actually counted can vary significantly from day-to-day depending on upstream and downstream conditions. In congested conditions, the volume of traffic traversing a particular intersection in a given period of time actually could be less than it would be under uncongested conditions because congested conditions at upstream and downstream signals prevent some of the traffic from arriving at or departing from the subject intersection.

Volume-to-capacity (v/c) ratios were examined as a second method of evaluating operational characteristics along New York Avenue, as shown in Table 2-2. A v/c ratio of 0.9 to 1.0 represents conditions at or approaching capacity. A v/c ratio greater than 1.0 represents conditions over capacity.

Due to the high volume of traffic that passes through the New York Avenue/Bladensburg Road and New York Avenue/Montana Avenue intersections, certain approaches currently operate at or above capacity.

New York Avenue Corridor Study¹⁴

In order to address transportation deficiencies along the New York Avenue Corridor, DDOT initiated a study of the New York Avenue Corridor in July 2002. The purpose of the study was to develop a plan for the Corridor that would:

- Provide multimodal transportation, including automobiles, public transit, railroad, bicycles and pedestrians;
- Facilitate smooth traffic flow;
- Ensure an ability to accommodate local and regional vehicular transportation and transit needs foreseeable over the next thirty to fifty years;
- Create capacity for major commercial and residential development;
- Avoid displacement of existing residents or exclusion of income diversity.

The study recommended construction of a new single-point urban interchange (SPUI) at the New York Avenue/Bladensburg Road intersection. Under the SPUI configuration, New York Avenue would pass underneath Bladensburg Road, as shown below.



Crash Data Analysis

The New York Avenue Corridor Study¹⁵ also provides data regarding the total number of vehicular accidents for the top 40 intersections in the District. Nine of the 36 worst intersections in the District are located along the New York Avenue Corridor. The number one worst ranked intersection is the New York Avenue/Bladensburg Road intersection. The study reported 87 crashes at this intersection in 2001.

Table 2-2
Summary of Intersection volume-to-capacity Ratios

INTERSECTION	EXISTING CONDITIONS		2013 BACKGROUND CONDITIONS		2013 TOTAL FUTURE CONDITIONS		2013 TOTAL FUTURE CONDITIONS WITH TIMING ADJUSTMENTS	
	AM	PM	AM	PM	AM	PM	AM	PM
New York Avenue/16th Street								
EB	0.37	0.85	0.39	0.91	0.47	1.11	0.46	1.08
WVB	0.84	0.46	0.90	0.50	1.15	0.65	1.10	0.63
NB	0.11	0.41	0.12	0.44	0.51	0.54	0.62	0.62
SB	0.03	0.04	0.03	0.04	0.02	0.03	0.02	0.03
Overall	0.77	0.81	0.83	0.87	1.03	1.02	1.03	1.02
New York Avenue/Bladensburg Road								
EB	0.91	1.08	0.98	1.16	1.01	1.21	0.79	1.36
WVB	1.00	0.86	1.08	0.92	1.08	1.04	1.15	0.74
NB	0.40	1.07	0.43	1.14	0.52	1.24	0.55	1.06
SB	0.92	0.74	0.99	0.79	1.00	0.95	1.01	0.89
Overall	1.02	1.12	1.10	1.20	1.10	1.29	1.12	1.27
New York Avenue/Montana Avenue (West 2)								
EB	0.63	1.45	0.67	1.55	0.74	1.79	0.92	1.59
WVB	1.02	0.48	1.09	0.51	1.24	0.59	1.21	0.62
SB	0.76	1.36	0.81	1.45	0.82	1.58	0.90	1.24
Overall	0.95	1.15	1.02	1.23	1.14	1.40	1.14	1.34
New York Avenue/Montana Avenue (East)								
EB	0.52	1.35	0.55	1.44	0.57	1.49	0.58	1.49
WVB	1.13	0.62	1.21	0.66	1.21	0.64	1.23	0.64
NB	0.44	0.61	0.48	0.65	1.23	0.99	1.19	0.99
Overall	0.90	1.06	0.96	1.14	1.16	1.30	1.16	1.30

Vehicle Gap Study

A gap study was conducted on Wednesday, May 17, 2006 at the intersection of New York Avenue and the proposed service road (which currently is a public alley) located west of the New York Avenue/Bladensburg Road intersection in northeast Washington, DC. The purpose of the gap study was to address DDOT concerns regarding the egress of vehicles turning on to New York Avenue and the delay the vehicles would experience as a result of traffic congestion along New York Avenue.

The number of gaps between the vehicles that were traveling in the curb-lane in the eastbound direction of New York Avenue was observed. A summary of the vehicle gaps observed during the AM and PM peak hours is shown on Table 2-3.

As shown in the Table 2-3, approximately 53.6 percent of the vehicle gaps during the AM peak hour were greater than 6 seconds. During the PM peak hour, 99.8 percent of the vehicle gaps were less than 6 seconds. However, it was noted that most of the vehicles exiting the alley did not wait more than 20 seconds to turn right on to New York Avenue, due to the courtesy of the vehicles stopped at the signal for New York Avenue and Bladensburg Road. That is, eastbound vehicles joining the queue from the signal stopped prior to the alley to allow vehicles to exit. Additionally, as the queue began to disperse following a green signal for eastbound traffic, motorists also allowed vehicles to exit the alley.

Table 2-3
Vehicle Gaps

Peak Hours	gap ≤ 2 seconds	2 seconds < gap ≤ 4 seconds	4 seconds < gap ≤ 6 seconds	gap > 6 seconds	Total
8:00 – 9:00 AM	37	55	31	142	265
% of total gaps	14.0%	20.7%	11.7%	53.6%	100.0%
4:45 – 5:45 PM	204	300	41	1	546
% of total gaps	37.4%	54.9%	7.5%	0.2%	100.0%

Section 3

FUTURE BACKGROUND CONDITIONS

TRANSPORTATION FACILITIES

As previously mentioned, DDOT initiated a study of the New York Avenue Corridor in July 2002. The study recommended construction of a new single-point urban interchange (SPUI) at the New York Avenue/Bladensburg Road intersection. To-date, design of the interchange has not been initiated nor has funding for the improvement been allocated. Therefore, under future conditions, the New York Avenue/Bladensburg Road intersection was analyzed under its existing configuration.

FUTURE BACKGROUND TRAFFIC FORECASTS

In order to account for regional traffic growth outside the immediate site vicinity, a 1.0 percent growth rate, compounded annually, was applied to the baseline traffic volumes. Traffic generated by the existing site uses, shown on Figure 3-1, was not factored. The projected 2013 background traffic forecasts are shown on Figure 3-2.

OPERATIONAL ANALYSIS

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the existing lane use and traffic control shown on Figure 2-1, the 2013 future background traffic forecasts shown on Figure 3-2, pedestrian volumes shown on Figure 2-5 and the existing DDOT traffic signal timings shown in Appendix C.

The Synchro results for the 2013 background conditions without the proposed development are presented in Appendix F and summarized in Table 2-1.

As with existing conditions, the v/c ratios for intersections along New York Avenue are reported for background conditions in Table 2-2.

As reflected in Table 2-1 and Table 2-2, the level of congestion along New York Avenue is expected to increase over time as a result of increased regional traffic growth.

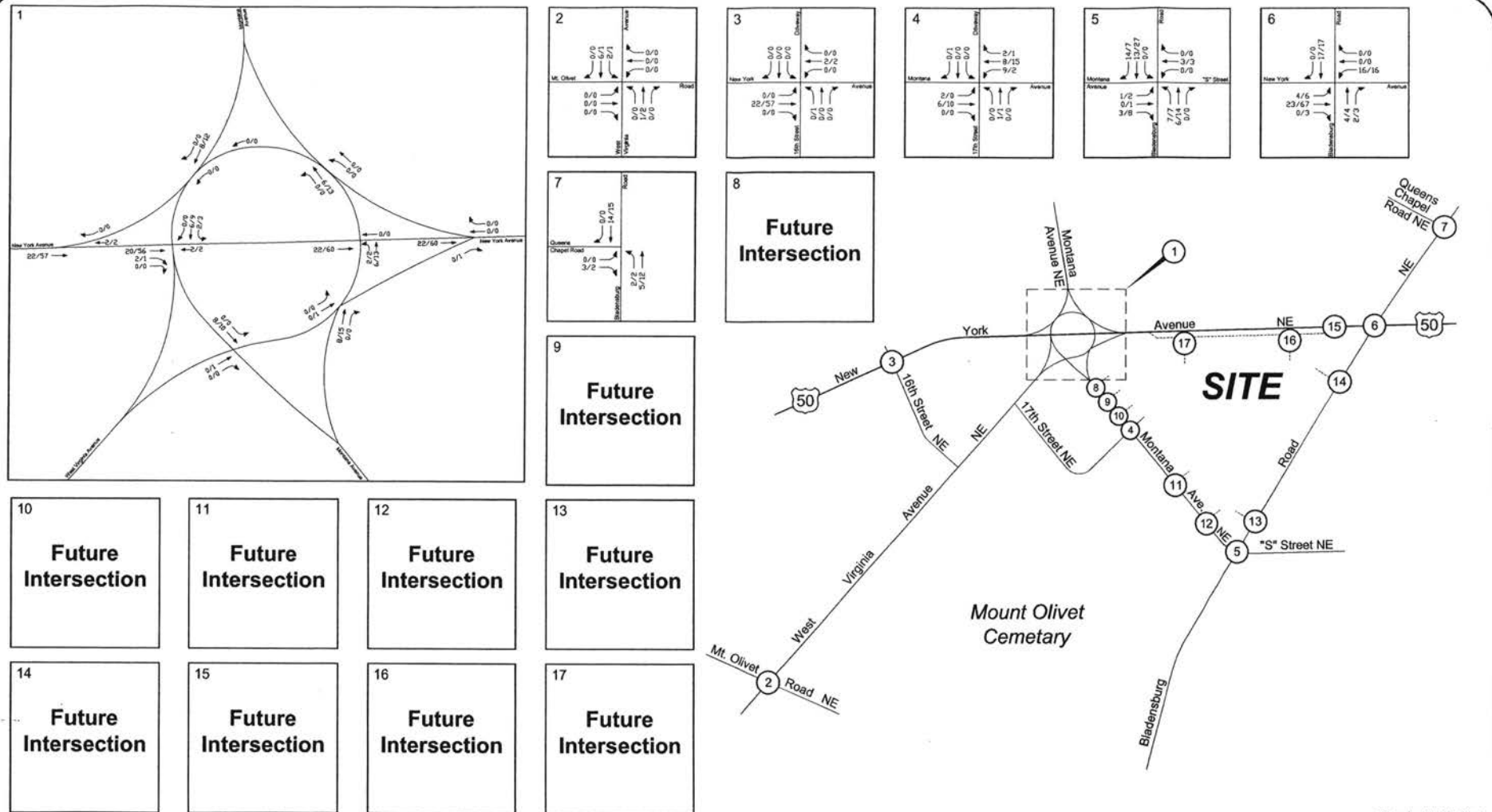
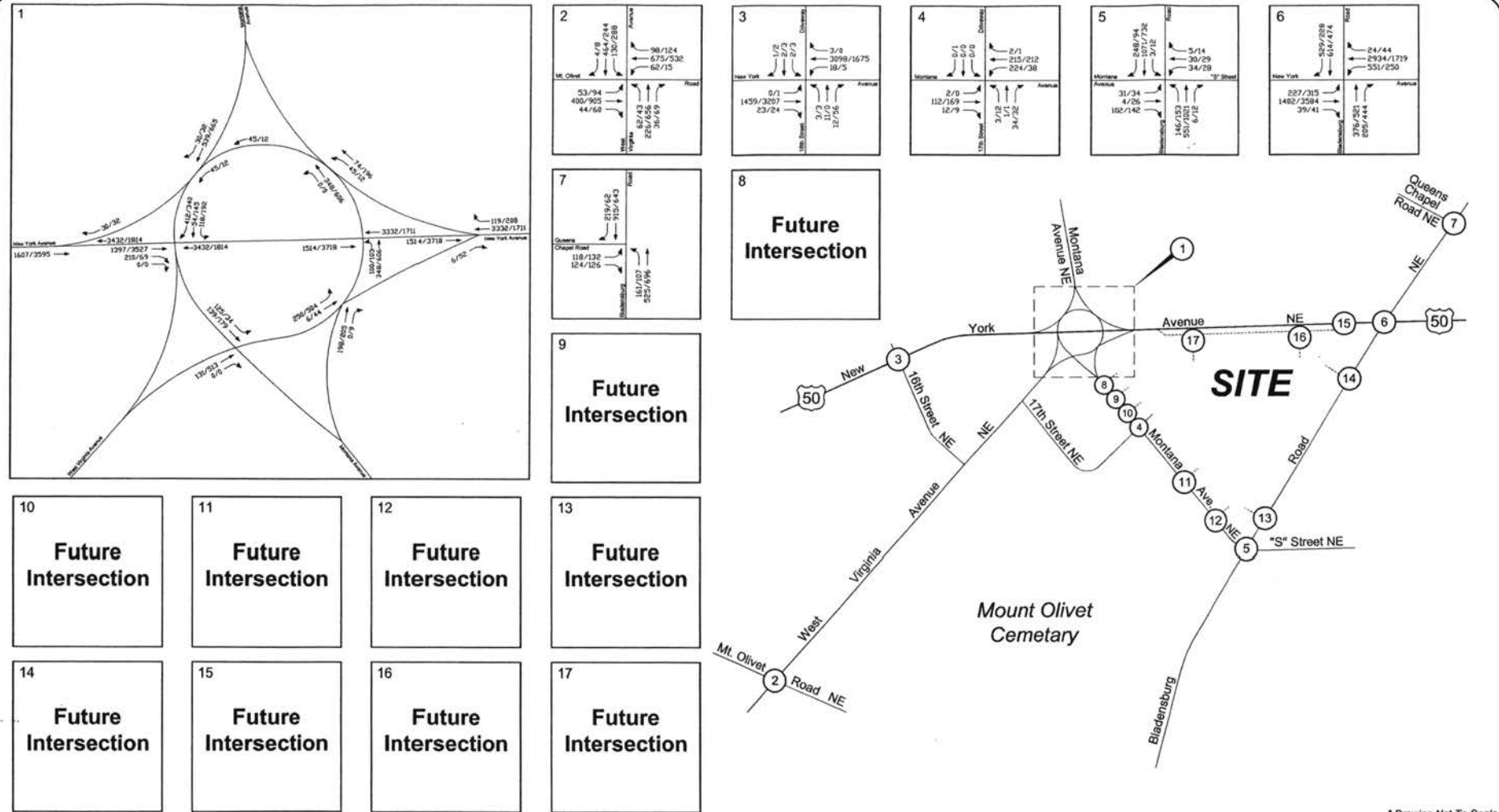


Figure 3-1
Existing Peak Hour Site Trips



* Drawing Not To Scale

Figure 3-2
2013 Future Background Peak Hour Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
600/000



Section 4 SITE ANALYSIS

TRIP GENERATION ANALYSIS

Overview

The total number of trips generated by the proposed development would be comprised of vehicular trips, pedestrian/bicycle trips, and transit trips. Additionally, the total number of trips would be made up of both internal (occurring within the confines of the site) and external trips.

Total Trips

The proposed redevelopment will consist of 3,600 residential units, a 68,300 SF supermarket, and 72,100 SF of community serving retail uses². For purposes of this study the split between apartment and condominium units was assumed to be 50/50.

The number of trips anticipated to be generated by the proposed redevelopment was estimated based on the Institute of Transportation Engineers' (ITE) Trip Generation.¹⁶ Land Use Code 220 (Apartment) and Land Use Code 230 (Condominium/Townhouse) were used for the residential components with the number of dwelling units as the independent variable. Land Use Code 850 (Supermarket), Land Use Code 814 (Specialty Retail), and Land Use Code 820 (Shopping Center) were used for the retail components, respectively, with the square footage as the independent variable. For purposes of this study, 34,800 SF of retail space was generated using Land Use Code 814, while 37,300 SF of retail space was generated using Land Use Code 820. The trip generation summary for the proposed redevelopment is shown in Figure 4-1.

The proposed development would generate 1,844 AM peak hour trips and 2,773 PM peak hour trips based on standard ITE rates/equations.

² The community serving retail component subsequently increased from 72,100 SF to 79,820 SF. Because the increase in trips associated with the additional 7,720 SF would represent an increase of one percent or less during each of the peak hours, the change was considered negligible and the analysis of the retail component was not updated.

Internal Trips

A portion of the site generated trips would be captured internally within the mixed-use development. By its nature and character of uses, the proposed development would experience a naturally occurring synergy. For example, a portion of individual residential trips may utilize proposed retail uses. As a result of this naturally occurring synergy, the volume of external trips generated by the site would be reduced.

For purposes of this analysis, the internal capture rates outlined in the ITE Trip Generation Handbook¹⁷ were used. Based on the ITE methodology, 164 AM peak hour trips and 407 PM peak hour trips would be projected to occur internally.

Appendix G provides the calculations used to determine the number of captured trips used in the analysis.

External Trips

Taking into account internal trips stemming from the synergistic relationship of the uses, the proposed development would generate an estimated 1,680 AM peak hour external vehicular trips and 2,366 PM peak hour external vehicular trips.

Non-auto Mode Split

The percentage of site generated trips that would utilize public transportation is dependent on the proximity of the site to transit stops and the degree to which the use of public transit is encouraged, such as by implementation of a transportation demand management (TDM) program.

Table 4-1
Trip Generation Summary¹

Land Use	Land Use Code	Size	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
Apartment Total Trips									
	220	1,800 DU	177	709	886	655	353	1,008	10,968
Internal to other uses			15	14	29	41	31	72	719
External Trips (Total – Internal)			162	695	857	614	322	936	10,249
Person Trips ²			207	888	1,095	785	411	1,196	13,096
Site Specific External Vehicle Trips ³			127	546	673	483	253	736	8,059
Condominium/Townhouse Total Trips									
	230	1,800 DU	89	432	521	431	212	643	7,489
Internal to other uses			8	8	16	27	19	45	491
External Trips (Total – Internal)			81	424	505	404	193	598	6,998
Person Trips ²			104	541	645	516	247	763	8,942
Site Specific External Vehicle Trips ³			64	333	397	318	152	470	5,503
Supermarket Total Trips									
	850	68,300 SF	135	87	222	352	338	690	6,983
Internal to other uses			32	28	60	77	81	159	2,183
External Trips (Total – Internal)			103	59	162	275	257	531	4,800
TDM Reduction			21	12	33	55	51	106	960
External Vehicle Trips (External – TDM)			82	47	129	220	206	425	3,840
Retail Total Trips									
	814, 820 ⁴	72,100 SF	114	101	215	203	229	432	5,119
Internal to other uses			27	32	60	59	73	131	1,996
External Trips (Total – Internal)			87	69	155	144	156	301	3,123
TDM Reduction			17	14	31	29	31	60	624
External Vehicle Trips (External – TDM)			70	55	124	115	125	241	2,499
Total External Vehicle Trips			342	981	1,323	1,136	736	1,872	19,901

¹ Vehicle trips generated using Institute of Transportation Engineers (ITE) Trip Generation, Seventh Edition.

² Based on non-auto mode split of 10% and an average auto occupancy of 1.15.

³ Based on non-auto mode split of 20% and an average auto occupancy of 1.30.

⁴ 34,800 SF of retail space was generated as LUC 814, while 37,300 square feet of retail space was generated as LUC 820.

According to the U.S. Census Bureau,¹⁸ nearly 50 percent of persons currently residing in the study area utilize non-auto modes of transportation to get to work, as shown in Table 4-2. This data is based on an average of data collected in the six census tracts highlighted on Figure 4-1. In order to provide a conservative analysis and based on input from DDOT a 20 percent non-auto mode split was assumed for the subject site. The TDM reduction is shown in Table 4-1.

Table 4-2
U.S. Census Bureau Data
Journey to Work

Total - All Census Tracts	Total	Percent
	6,965	100%
Car, Truck, or Van		
Drove Alone	1,639	23.5%
Carpooled	721	10.4%
Total	2,360	34%
Public Transportation		
Bus	1,645	23.6%
Streetcar	10	0.1%
Subway	542	7.8%
Railroad	21	0.3%
Ferryboat	0	0.0%
Taxicab	59	0.8%
Total	2,277	33%
Other		
Motorcycle	15	0.2%
Bicycle	0	0.0%
Walked	432	6.2%
Other means	15	0.2%
Stayed Home	86	1.2%
Total	548	8%

After taking into account a non-auto mode split of 20 percent, 1,323 AM peak hour external vehicular trips and 1,872 PM peak hour external vehicular trips would be generated.

Pass-by Trips

A portion of the trips entering and leaving retail and service establishments are vehicles using adjacent roads to reach a different destination but stop at the site in passing. This is called a pass-by trip, and is defined by Trip Generation Handbook¹⁹ as a trip in which the retail or service destination is the secondary part of a primary trip, such as a work-to-shopping-to-home trip. An example of a pass-by trip would be one in which a driver stops at the retail uses on his/her way home from work.

Typical pass-by trip percentages for various land uses are published by ITE in the Trip Generation Handbook.²⁰ A pass-by trip rate of 36 percent was applied to the proposed supermarket use during the PM peak hour. Similarly, a pass-by trip rate of 34 percent was applied to the remaining retail uses during the PM peak hour. Since no data were available for the AM peak hours, a 15 percent pass-by trip reduction was applied to the supermarket and additional retail uses. Accordingly, 38 of the AM peak hour trips and 235 of the PM peak hour trips are anticipated to be pass-by trips.

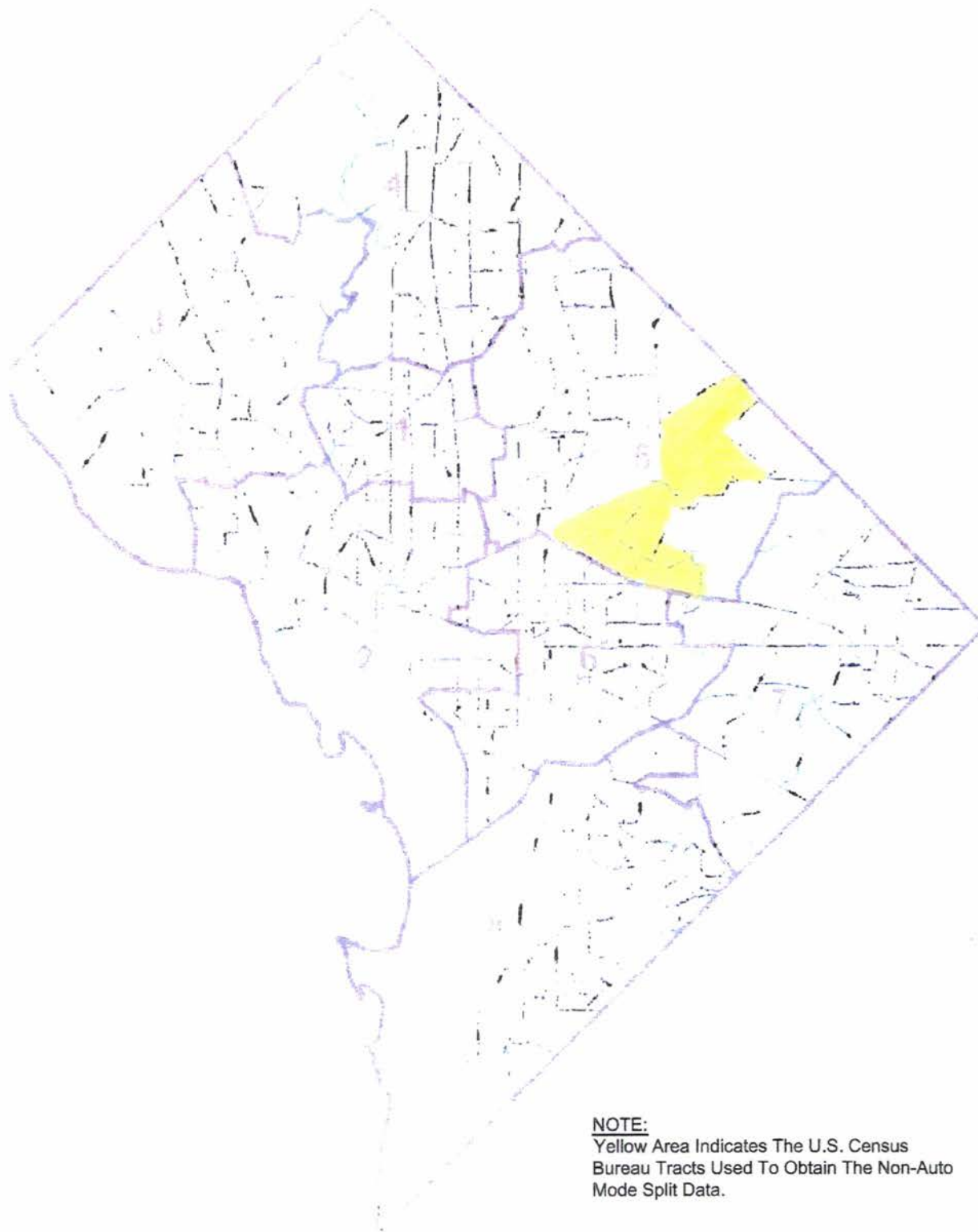
New External Vehicle Trips

The number of new external vehicle trips added to the adjacent roadways was calculated by subtracting the number of pass-by trips from the number of total external vehicle trips.

The proposed development, therefore, would generate an estimated 1,285 new AM peak hour external vehicular trips and 1,637 new PM peak hour external vehicular trips.

TRIP DISTRIBUTION

The distribution of peak hour retail site trips was based on existing traffic patterns in the study area. The distribution of peak hour residential site trips was based on existing traffic patterns in the study area and the location of the site with respect to employment centers.



NOTE:
Yellow Area Indicates The U.S. Census
Bureau Tracts Used To Obtain The Non-Auto
Mode Split Data.

Figure 4-1
U.S. Census Bureau Tracts



For the residential component, an estimated 60 percent of traffic generated by the proposed development would depart/approach the site to/from the west on New York Avenue and approximately 10 percent would depart/approach the site to/from the east on New York Avenue.

An estimated five percent of traffic generated by the proposed development would depart/approach the site to/from the north on Montana Avenue. Approximately ten percent would depart/approach the site to/from the southwest on Bladensburg Road.

Approximately five percent of traffic generated by the proposed development would depart/approach the site to/from the west on West Virginia Avenue.

An estimated ten percent of traffic generated by the proposed development would depart/approach the site to/from the northeast on Bladensburg Road.

For the retail component, an estimated 34 percent of traffic generated by the proposed development would depart/approach the site to/from the west on New York Avenue and approximately 28 percent would depart/approach the site to/from the east on New York Avenue.

An estimated six percent of traffic generated by the proposed development would depart/approach the site to/from the north on Montana Avenue. Approximately ten percent would depart/approach the site to/from the southwest on Bladensburg Road.

Approximately five percent of traffic generated by the proposed development would depart/approach the site to/from the west on West Virginia Avenue. Approximately five percent of traffic generated by the proposed development would depart/approach the site to/from the west on Mount Olivet Road via West Virginia Avenue.

An estimated twelve percent of traffic generated by the proposed development would depart/approach the site to/from the northeast on Bladensburg Road.

The resulting site traffic assignments for the residential component and each of the retail components are included in Appendix H.

SITE TRAFFIC ASSIGNMENT

The site-generated traffic volumes shown in Table 4-1 were assigned to the public roadway network according to the directional distribution described above and the location of the proposed site accesses. The resulting site traffic assignments are shown on Figure 4-2.

PROPOSED SITE ACCESS

The proposed residential development would be served by two right-in/right-out driveways on Bladensburg Road and by two full access driveways and a right-in/right-out driveway on Montana Avenue. The proposed retail development would be served by two additional full access driveways on Montana Avenue and by a new frontage road to the north of the site parallel to New York Avenue. The frontage road would be a one-way, two-lane road providing two access points to the retail uses. On-street parking is proposed along the frontage road.

The frontage road provides benefits over existing conditions: 1) it allows for the accommodation of the future construction of the New York Avenue/Bladensburg Road interchange, 2) it eliminates 16 access points directly on New York Avenue by providing one point of ingress from New York Avenue and one point of egress onto New York Avenue.

Drop-off lanes are proposed on Bladensburg Road and on Montana Avenue.

The distance from the proposed drop-off location along Bladensburg Road to T Street is 168 feet (centerline to centerline).

Trucks will access the site from Montana Avenue and will leave the site via New York Avenue. The applicable truck turning template is shown in Figure 4-3. As depicted in the figure, a WB-50 truck could make the turn out of the proposed loading area. Furthermore, the truck would make the turn without interference from the existing overhead structure located east of the proposed service road on New York Avenue.

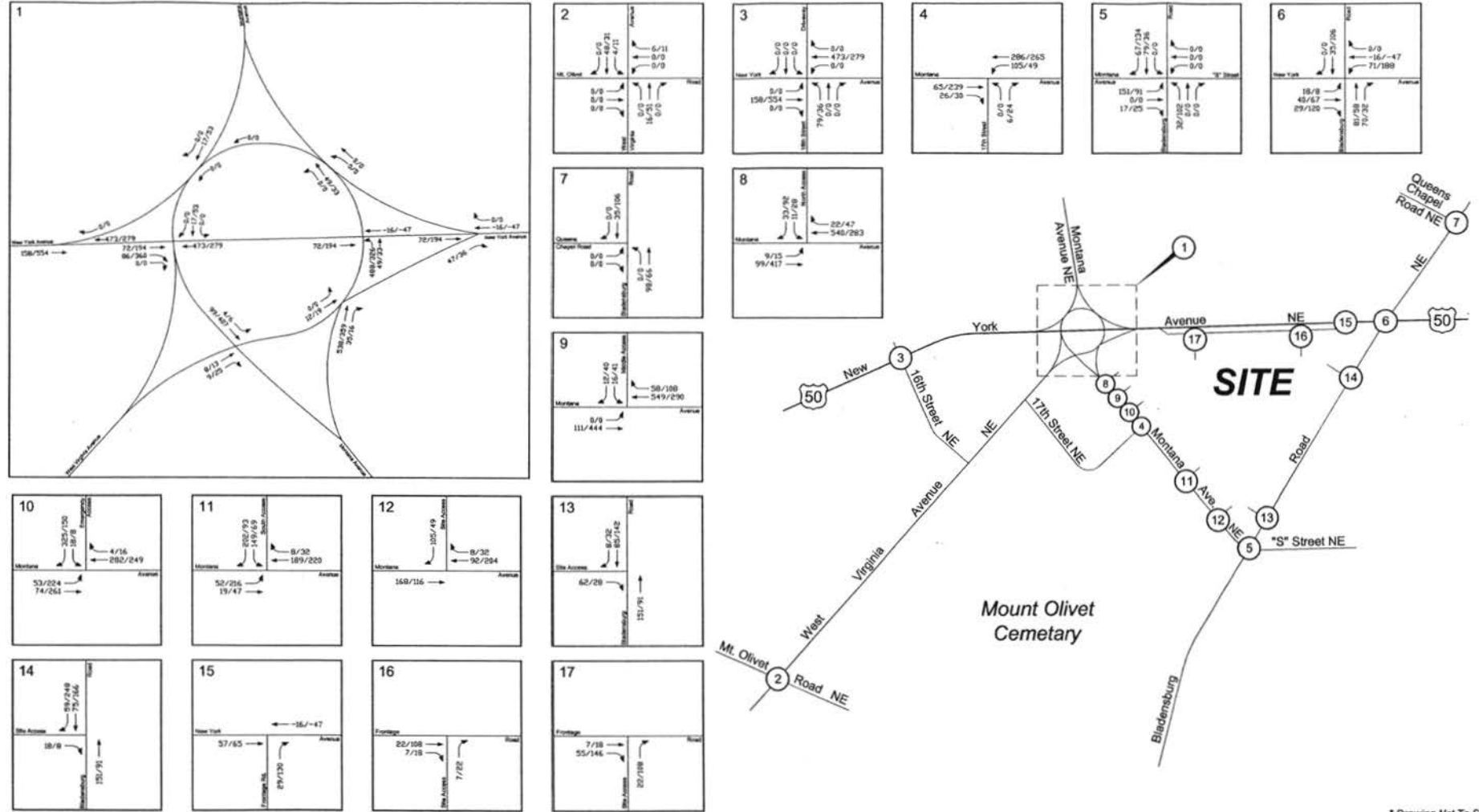
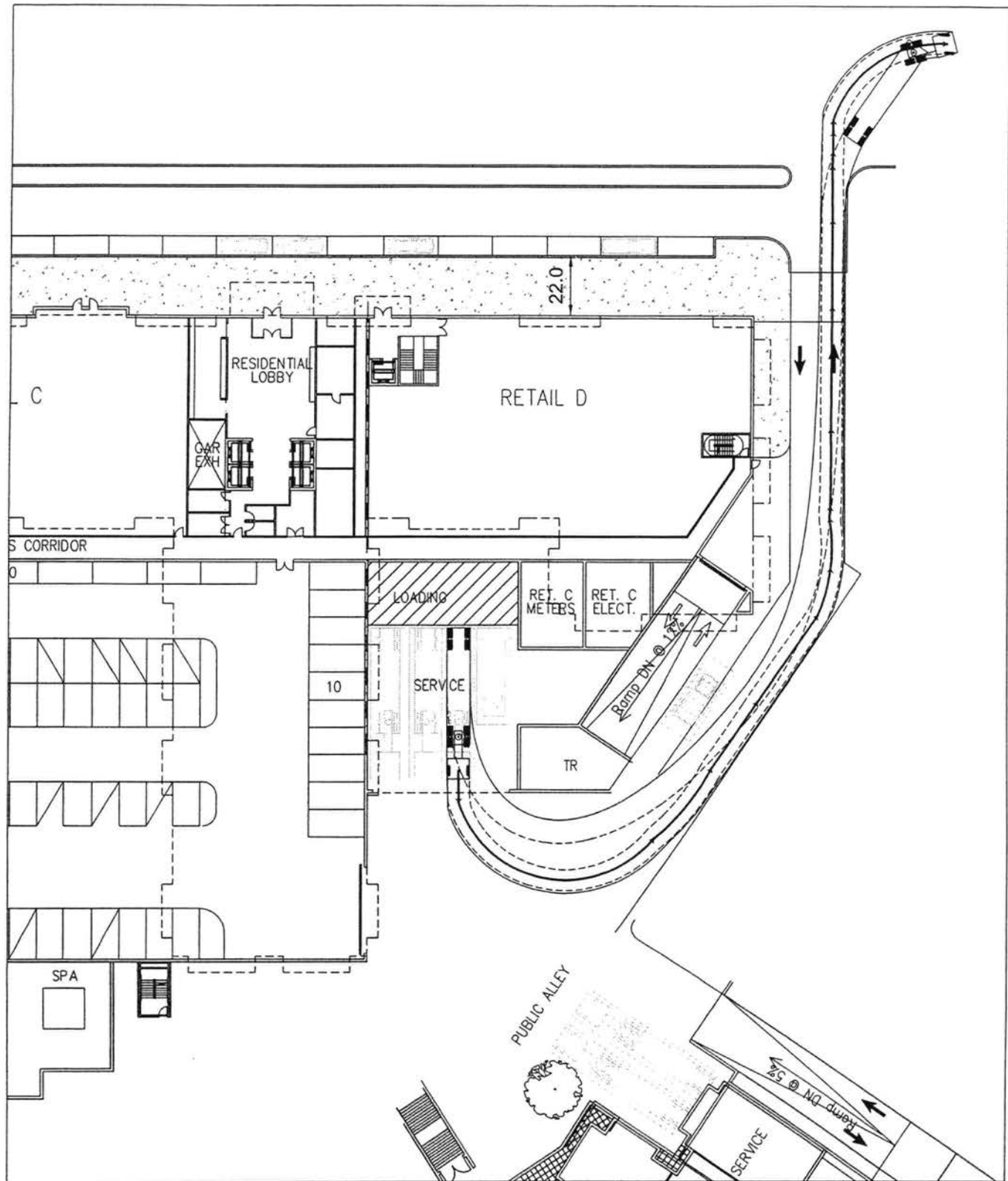


Figure 4-2
Peak Hour Site Trip Assignments

Abdo New York Avenue
Washington, D.C.



Scale: 1" = 50'

Figure 4-3
WB-50 Truck Turning Template

Note: Base Plan provided by Torti Gallas and Partners



Section 5 TOTAL FUTURE CONDITIONS

LAND USE

As part of the PUD, the 16-acre site would be rezoned from C-M-1 to CR. According to the District of Columbia Municipal Regulations (DCMR),²¹ the CR district is intended to “encourage a diversity of compatible land uses that may include a mixture of residential, office, retail, recreational, light industrial, and other miscellaneous uses.”

TRANSPORTATION FACILITIES

A preliminary evaluation was performed to determine how many, if any, existing bus routes could be altered to provide service to the proposed site. The analysis showed that the Ivy City-Union Station Line (Route D4) and the Hospital Center Line (Route D8) both could be modified to provide a stop adjacent to the proposed development without altering the existing route significantly. Also, the Bladensburg Road-Anacostia Line (Route B2) currently operates along Bladensburg Road past the proposed site. However, this bus line would have to be extended to operate year round and during peak hours. It is anticipated that as redevelopment in the area continues, bus service could be expanded. In fact, WMATA has made some short-, medium-, and long-term recommendations for transit service in the area. The medium-term recommendations include enhancing the bus service on the existing lines in the area through increased schedule frequency and the introduction of new transit stops at specific locations. In the interim, operation of a shuttle between the proposed site and the Rhode Island Metro Station would be critical in reducing the number of vehicle trips generated by the site.

It should be noted that the analyses presented herein were predicated on a 20 percent non-auto mode split, as discussed in the previous section. This mode split was based on the existing metrobus service in the area and the operation of a shuttle bus to the Rhode Island Metro Station.

If metrobus service in the area is expanded to include stops adjacent to the proposed site with routes to the Rhode Island Metro Station and Union Station (and other locations), an increased non-auto mode split would be expected.

TOTAL FUTURE TRAFFIC FORECASTS

Total future traffic forecasts with the proposed development were determined by combining the 2013 background traffic forecasts shown in Figure 3-2 with the site traffic volumes shown on Figure 4-2. The vehicles that would be displaced by razing the existing buildings on the proposed site (shown on Figure 3-1) were then subtracted. The resulting volumes are shown on Figure 5-1.

LEFT-TURN LANE EVALUATION

The need for a southeastbound left-turn lane on Montana Avenue at the southernmost full-access driveway was evaluated using the Volume Warrants for Left Turn Storage Lanes at Unsignalized Grade Intersections by Harmelink.²² Under the 2013 conditions with the proposed development, a left turn lane into the site would be warranted. The detailed left-turn lane analysis is included in Appendix I. Although not needed from a capacity standpoint, consideration should be given to re-striping that section of Montana Avenue to include an eastbound left-turn lane into the south site driveway. Note that the on-street parking would need to be restricted to accommodate a left-turn lane.

The future lane use and traffic controls are shown on Figure 5-2.

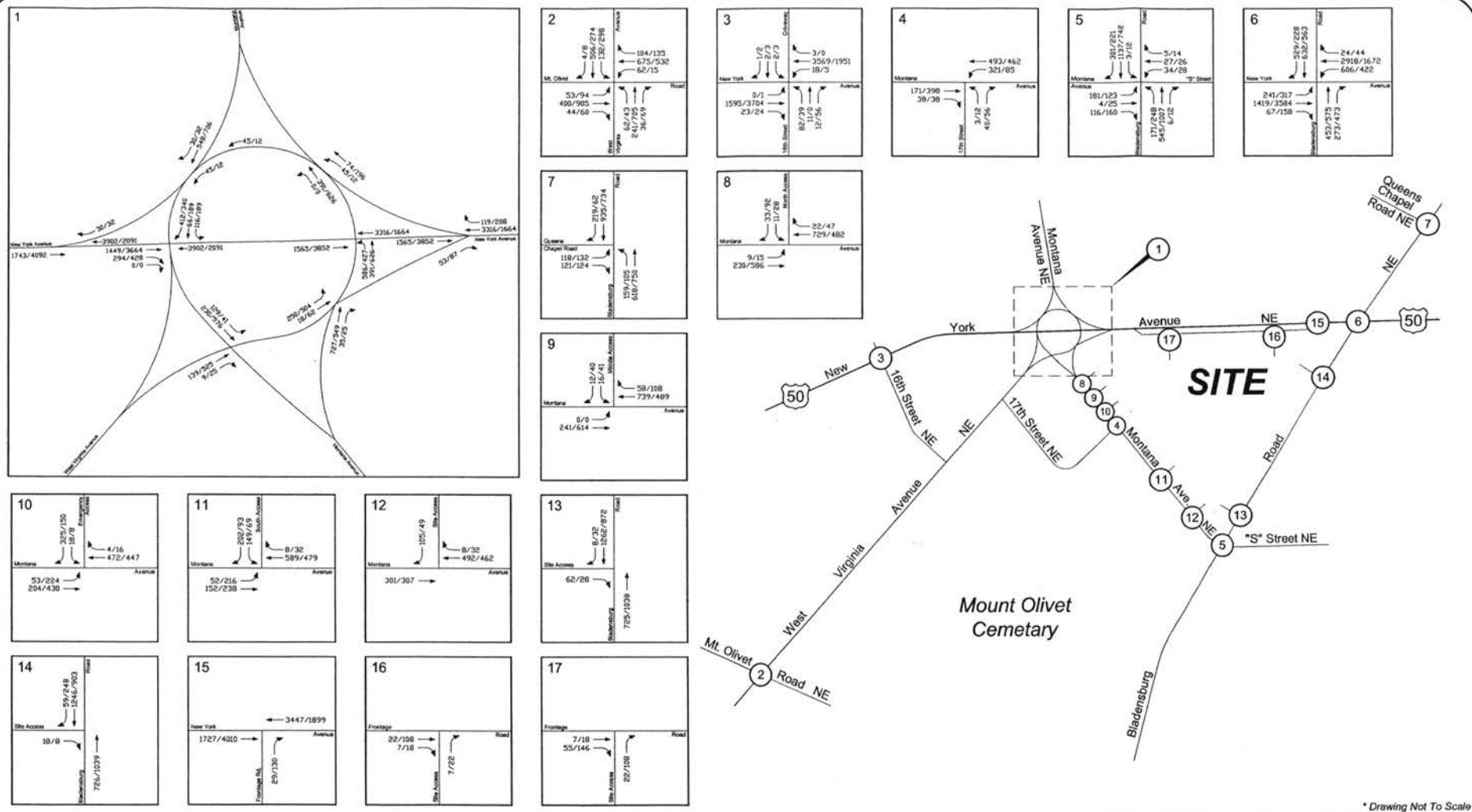
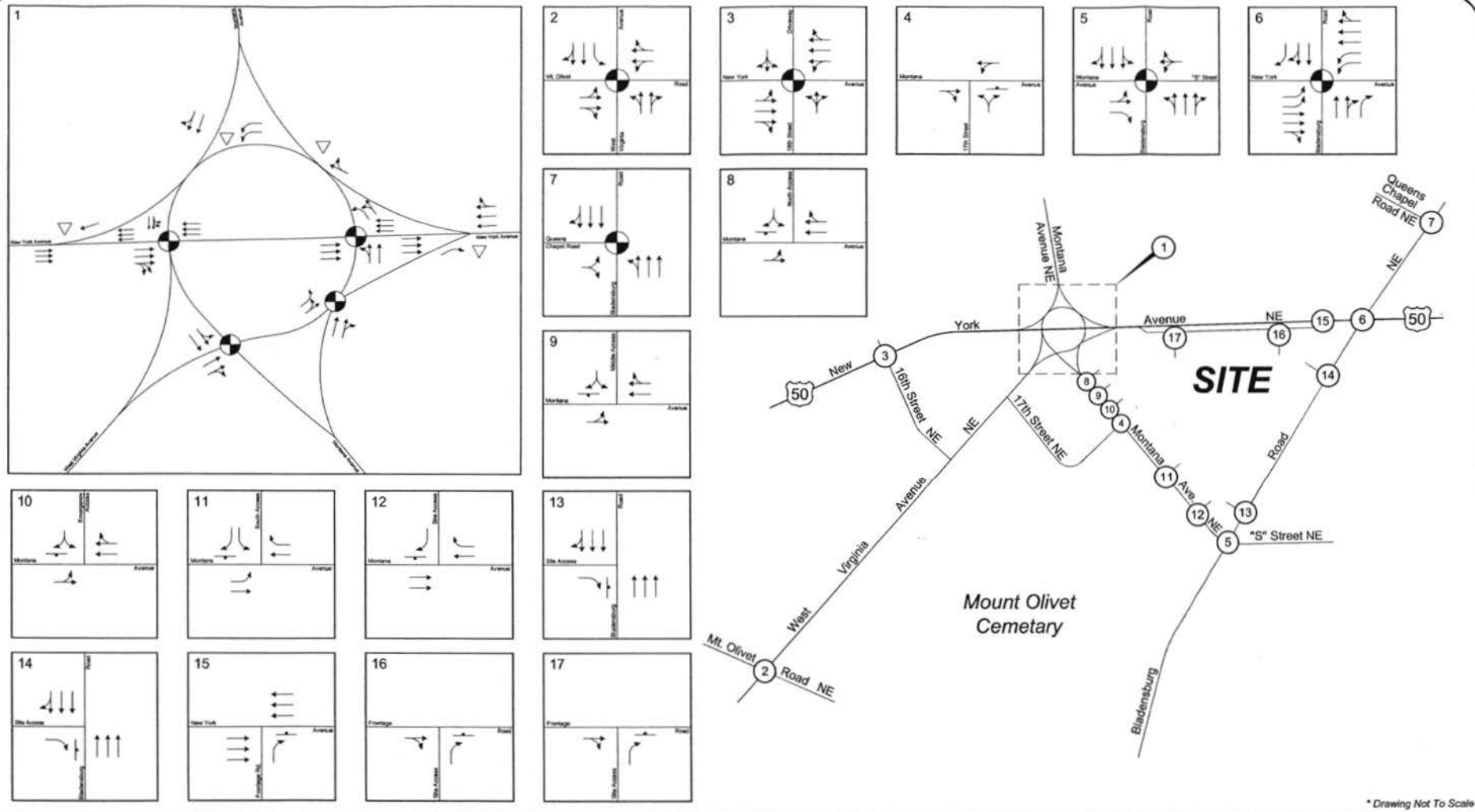


Figure 5-1
2013 Total Future Peak Hour Traffic Forecasts

Abdo New York Avenue
Washington, D.C.

WELLS & ASSOCIATES, LLC
TRAFFIC, TRANSPORTATION, and PARKING CONSULTANTS



* Drawing Not To Scale

Figure 5-2
Future Lane Use And Traffic Control

- ← Represents One Travel Lane
- Signalized Intersection
- Stop Sign
- ▽ Yield Sign



OPERATIONAL ANALYSIS

Capacity analyses were conducted at the study intersections based on 2013 total future traffic forecasts shown on Figure 5-1, pedestrian volumes shown on Figure 2-5, the future lane use and traffic controls shown on Figure 5-2 and the existing DDOT traffic signal timings shown in Appendix C. The results are presented in Appendix J and summarized in Table 2-1.

The proposed redevelopment would have some traffic impacts on the study area intersections. These impacts can be partially mitigated by reasonable traffic signal timing changes, as shown in Table 2-1. A summary of the proposed signal timing changes at the relevant study intersections is shown in Table 5-1. As shown, with the exception of the New York Avenue/Bladensburg Road intersection, all proposed timing changes involve simply shifting green time. At the New York Avenue/Bladensburg Road intersection, the phasing was reordered to provide more conventional phasing. Currently, the eastbound left turn movement has a lead phase and the westbound left turn movement has a lag phase; eastbound and westbound left turns never run concurrently. Under the proposed timing changes, the eastbound and westbound left turn movements would operate concurrently as an advance phase. Following termination of the dual left turn phase, operation would either revert to mainline green or to another lead left turn phase for whichever left turn movement has the highest volume.

Intersections that were forecasted to operate at a LOS "D" or better would continue to operate at LOS "D" or better, with build out of the proposed redevelopment and implementation of the proposed traffic signal timing changes with the exception of the New York Avenue/16th Street intersection. At this location the northbound, 16th Street approach would drop from a LOS D to a LOS E during the PM peak hour. However, the overall level of service of the intersection would remain unchanged at a LOS D.

Intersections that were forecasted to operate at LOS "E" or "F" would continue to operate at LOS "E" or "F" with build out of the proposed redevelopment and implementation of the proposed traffic signal timing changes.

Egress movements from the proposed frontage road are projected to operate at a LOS A during the AM peak hour and a LOS C during the PM peak hour.

Field observations indicate that the eastbound queues along New York Avenue extend past the existing alley (point of egress from the frontage road) during the peak hours. Vehicles exiting the alley during peak hours do so utilizing gaps created by eastbound motorists as they decelerate approaching a red signal.

Traffic generated by the proposed development would account for only 3.6 to 5.2 percent of all 2013 peak hour traffic at the New York Avenue/Bladensburg Road intersection. It would account for only 10.3 percent of all 2013 peak hour traffic at the New York Avenue/Montana Avenue intersection.

Site impacts of five percent or less are low and generally reflect negligible effects on traffic operations and delays. Site impacts between five and 15 percent are generally considered moderate and minor effects on traffic operations and delays could be expected. Site impacts of more than 15 percent are generally considered significant.²³

Additional lane capacity may provide localized improvements to these intersections; however, additional lane capacity is not recommended for the following reasons:

1. Right-of-way is limited;
2. Wider streets make pedestrian crossings more difficult;
3. Construction of additional lanes would increase congestion during construction, would provide a limited benefit in the short-term, and would provide no benefit in the long term, as shown on Figure 5-3.

Regional improvements, such as those recommended in the New York Avenue Corridor Study, would address existing and projected regional travel demands.

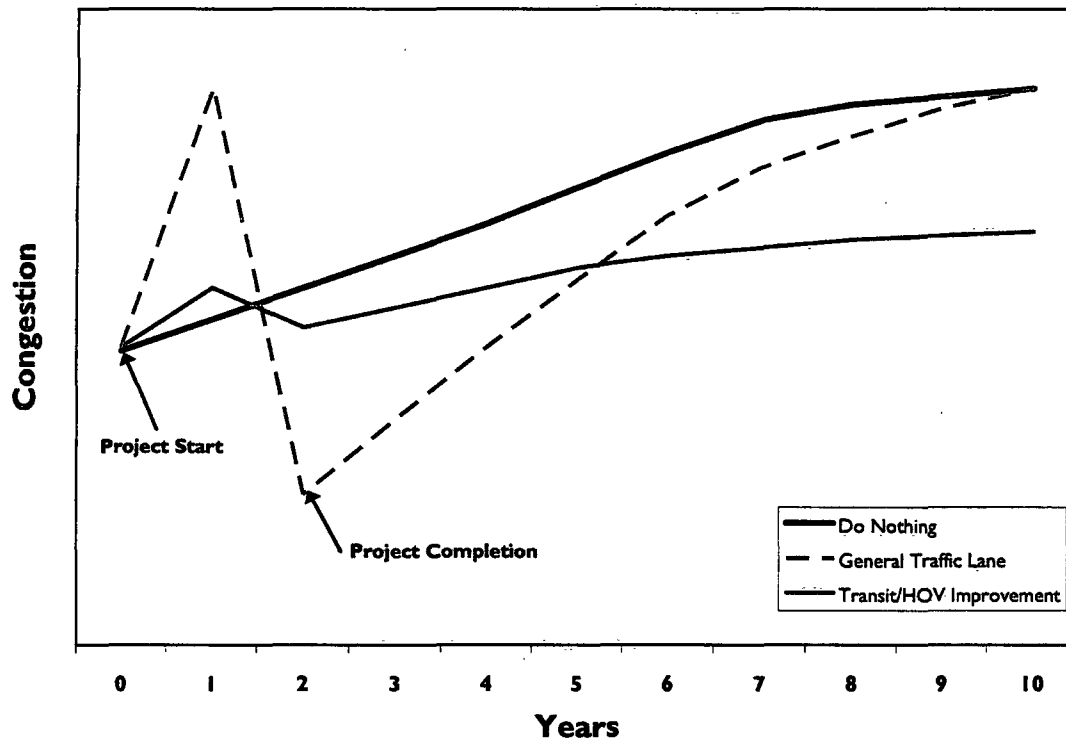
In addition, the improvements recommended in the New York Avenue Corridor Study at the New York Avenue/Bladensburg Road intersection would reduce the number of vehicular accidents by reducing the number of conflict points at this intersection.

Table 5-1
Signal Timing Adjustments¹

INTERSECTION (SYNCHRO NODE NUMBER)	AM	PM
New York Avenue/16 th Street (Node 1)	EB/WB = +9 sec NB/SB = -9 sec	EB/WB = +24 sec NB/SB = -24 sec
New York Avenue/Bladensburg Road (Node 2)	EBL = +3 sec WBL = -8 sec EBT = +9 sec WBT = -2 sec NB/SB = -1 sec	EBL = -25 sec WBL = +4 sec EBT = -7 sec WBT = +22 sec NB/SB = +3 sec
Mount Olivet Road/West Virginia Avenue (Node 3)	None	NB/SB = +2 sec EB/WB = -1 sec SB = -1 sec
Montana Avenue/Bladensburg Road (Node 5)	None	NB/SB = -9 sec EB/WB = +9 sec
Bladensburg Road/Queens Chapel Road (Node 6)	None	None
New York Avenue/Montana Avenue (Node 8)	EB/WB = -11 sec WB = +13 sec SB = -2 sec	EB/WB = +8 sec WB = -13 sec SB = +5 sec
Montana Avenue/West Virginia Avenue (Westernmost Intersection) (Node 9)	None	None
Montana Avenue/West Virginia Avenue (Easternmost Intersection) (Node 10)	EB = -13 sec NB = +13 sec	EB = -13 sec NB = +13 sec
New York Avenue/Montana Avenue (Node 11)	EB/WB = -1 sec NB = +1 sec	None

¹All timing adjustments are referenced to the existing signal timings at the various intersections.

Figure 5-3
Relationship of Congestion and Additional Lane Capacity Over Time



Source: Downtown Congestion Task Force Kick-off Presentation, DDOT, May 6, 2006,
[http://www.ddot.dc.gov/ddot/frames.asp?doc=/ddot/lib/ddot/information/studies/dc_congestion_taskforce/pdf/Kick_Off_Presentation.pdf]

Section 6 TRANSPORTATION DEMAND MANAGEMENT

In an effort to decrease reliance on the personal automobile and encourage the use of transit, ridesharing, bicycling, and walking, a Transportation Demand Management (TDM) Program should be implemented. "TDM is a general term for strategies that result in more efficient use of transportation resources. There are many different TDM strategies with a variety of impacts. Some improve the transportation options available to consumers, while others provide an incentive to choose more efficient travel patterns. Some reduce the need for physical travel through mobility substitutes or more efficient land use. TDM strategies can change travel timing, route, destination, or mode."²⁴

The following strategies should be considered:

- A. Designate a Transportation Management Coordinator (TMC) to implement the TDM program and advise residents, tenants, and employees of the availability and location of the TDM coordinator and program at least once a year. The position may be part of other duties assigned to the individual. Duties of the Transportation Management Coordinator would include the following:
 1. Assist residents and employees in making effective and efficient commuting choices.
 2. Disseminate Metrorail, Metrobus, ridesharing, and other relevant transit options to new residents, tenants and employees.
 3. Solicit support from the Metropolitan Washington Council of Governments (MWCOG) Commuter Connections program, the Washington Metropolitan Area Transit Authority (WMATA), and others.
 4. Provide on-site assistance to residents and employees in forming and maintaining carpools and vanpools.
 5. Disseminate park-and-ride lot information to prospective carpoolers and vanpoolers.
6. Register carpool/vanpool participants, transit users, bicyclists, and walkers in the Guaranteed Ride Home (GRH) program.
7. Encourage residents and employees to ride bikes or walk to work.
8. Market and promote the TDM Program among residents and employees through printed materials and web sites (if available).
- B. Commuter Center.
 1. Designate a centralized space on-site as a Commuter Center and staff the center with the TMC and others. The TMC functions would take place in this space.
 2. Install display racks and an electronic kiosk that would provide information on the various aspects of the TDM Program.
 3. Sell transit fare media, such as SmarTrip cards, Metro fare cards, and Metrobus passes.
 4. Allow residents and employees to purchase transit fare media by check or credit card.
 5. Consider allowing other employers and nearby residents to use the Commuter Center.
- C. Incentives to use transit, including:
 1. Provide information on Metrorail, Metrobus, and other public transportation facilities, services, routes, schedules, and fares.
 2. Disseminate information to transit users regarding free guaranteed rides home in cases of emergency.
 3. At the time of initial lease/sales, provide SmarTrip cards to residents.
 4. Provide safe, convenient, and attractive pedestrian connections on-site.

D. Carpool programs, including:

1. Provide personalized assistance and ride-matching services among residents and employees through the Commuter Center and TMC.
2. Inform residents and employees of High Occupancy Vehicle (HOV) lanes on I-95, I-395, I-66, and other highways that are available for use by HOV's, but not by Single Occupancy Vehicles (SOV's), during commuter peak periods.
3. Disseminate information to carpoolers regarding free guaranteed rides home in cases of emergency.

E. Vanpool programs, including:

1. Assist groups of residents or employees in leasing a van from a vanpool vendor.
2. Coordinate training vanpool drivers.
3. Provide personalized assistance and ride-matching services among residents and employees through the Commuter Center and TMC.
4. Provide ride-matching assistance and services among residents and employees and other area residents and employees through the Commuter Connections program of MWCOG.
5. Inform residents and employees of HOV lanes on I-95, I-395, I-66, and other highways that are available for use by HOV's, but not by SOV's, during commuter peak periods.
6. Disseminate information to vanpoolers regarding free guaranteed rides home in cases of emergency.

F. Parking management, including:

1. Unbundling of parking.
2. Provide parking spaces on site for a car sharing service (e.g. Zip or Flex Car).

G. Bicycle and pedestrian programs, including:

1. Encourage residents and employees to ride bikes or walk to work.
2. Provide convenient, attractive, and secure bike parking facilities.
3. Provide on-site showers and lockers for bikers and walkers.

H. Telecommuting and teleworking programs, including:

1. Pre-wire all residential units with broadband, high capacity data/network connections in multiple rooms, in addition to standard phone lines.
2. Provide and maintain at least one on-site business center (including at a minimum access to a copier and fax and internet services), which shall be made available and open to all residents who choose to work from home.

I. Provide shuttle bus service to the Rhode Island Metro Station.

J. Notify residents and employees of on-site restaurants, retail stores, and service facilities (such as dry cleaners, bank, hair salons) available on-site, thereby reducing mid-day and peak hour auto travel.

K. Design secure, off-street loading bays and docks for office and residential buildings.

Section 7 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of this study are as follows:

1. The New York Avenue Corridor currently carries a significant volume of regional traffic. As such, congestion is present along the Corridor and the intersections along the Corridor operate at or above capacity under existing conditions. Regional improvements currently are required to adequately accommodate the existing traffic volumes along the Corridor.
2. The New York Avenue Corridor Study²⁵ identified improvements along the Corridor to promote multimodalism, to facilitate traffic flow, and to create capacity for additional residential and commercial development along the Corridor. Specifically, the Study recommended a single-point urban interchange for the New York Avenue/Bladensburg Road intersection.
3. Under background conditions, the level of congestion along New York Avenue is expected to increase as the result of increased regional traffic.
4. The proposed redevelopment is anticipated to generate 1,285 *new* AM peak hour external vehicle trips and 1,637 *new* PM peak hour external vehicle trips.
5. To reduce the number of peak hour vehicle trips, a TDM plan should be implemented for the proposed development.
6. WMATA currently is developing recommendations, which include enhancing the bus service on the existing lines in the area through increased schedule frequency and the introduction of new transit stops at specific locations.
7. The TDM Plan should include provisions for a shuttle bus service between the proposed site and the Rhode Island Metro Station until such time that bus service in the area is expanded.
8. Optimization of signal timings at the study intersections would assist in making the most efficient use of available capacity and, at many locations, would offset the impact of the proposed redevelopment.
9. Along the New York Avenue Corridor, the proposed redevelopment would account for ten percent or less of the total traffic at the study intersections. Regional improvements, such as those recommended in the New York Avenue Corridor Study, would provide the capacity that truly is needed along the Corridor.
10. The proposed driveways would operate at acceptable levels of service under full build out of the redevelopment.

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