GOROVE/SLADE ASSOCIATES, INC.
1140 Connecticut Avenue / Suite 700 /Washington, DC 20036
Phone: 202.296.8625
Fax: 202.785.1276

MEMORANDUM

TO: Sam Simone

FROM: Leon F. Anderson
Robert Schiesel, P.E.

DATE: June 1, 2007

SUBJECT: Alexan NoMa West Traffic Analysis

This memorandum summarizes the findings of a traffic analysis conducted in conjunction with the Alexan NoMa West Planned Unit Development in Washington, DC.

BACKGROUND

Gorove/Slade Associates, Inc. conducted a traffic study for the subject site in conjunction with an earlier Planned Unit Development (PUD) and Zoning Map Amendment application (Z.C Case No. 05-23) for the Fairfield CSX (Capitol Commerce Center). The application was approved and supported by the District Department of Transportation (DDOT) after completion of an addendum. The Traffic Impact Study (TIS) for the Fairfield Capital Commerce Center PUD and the Addendum to the TIS are both attached to this memo. A new development program is being proposed. This memorandum summarizes an assessment of the potential impacts of the development on the surrounding network, based on a comparison the approved PUD program and the newly proposed NoMa West PUD program.

ANALYSIS

The tasks undertaken in this analysis include the following:

1) Compare development programs for approved PUD and the newly proposed Alexan NoMa West PUD;
2) Estimate and compare the trip generation between the proposed development program and the approved development program;
3) Compare trip distribution, immediate site access, connections to the existing surrounding network, and internal circulation;
4) Compare parking of both developments and the requirements for the District, as well as parking for comparable developments;
5) Compare amenities; and
6) Evaluate loading dock operations.

Development Program Comparison

The approved PUD proposed a mixed use development including:

- Approximately 669 residential units (636 condominium units and 33 single family townhouses)
- Approximately 15,000 square feet of ground floor retail.

The Alexan NOMA West development proposes a purely residential development with:

- Maximum 660 residential units
- No retail component.

Trip Generation Analysis

Trips generated by the Alexan NoMa West development were estimated using a combination of the Institute of Transportation Engineers (ITE) 7th edition Trip Generation rates and mode split assumptions from the "Development-Related Ridership Survey II", a study conducted by the Washington Metropolitan Area Transit Authority (WMATA). This coincides with the methodology employed in the trip estimates for the approved PUD. Table 1 summarizes the trip generation for both development programs.

As shown in Table 1, and with similar reductions in trips as a result of alternate mode reductions, the new development program would result in a 9% reduction in a.m. peak hour trips, an 18% reduction in p.m. peak hour trips and an 18% reduction in daily trips.

Table 1 – Trip Generation Comparison

PUD Component	ITE Code	Amounts	Trip Generation AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily Total
APPROVED PUD									
Residential Component									
Condominiums	230	636 Units	39	188	227	184	90	274	3,094
Townhouses		33 Units	4	17	21	16	8	24	252
Residential Subtotal			43	205	248	200	98	298	3,346
Alt. Mode Reductions		*(50%)*	21	102	123	100	49	149	1,673
Subtotal - Residential			**22**	**103**	**125**	**100**	**49**	**149**	**1,673**
Retail Component									
Specialty Retail	814	15,000 SF	6	5	11	25	32	57	680
Alt. Mode Reductions		*(60%)*	4	3	7	15	19	34	408
Subtotal - Retail			**2**	**2**	**4**	**10**	**13**	**23**	**272**
APPROVED - Total (without Reductions)			**49**	**210**	**259**	**225**	**130**	**355**	**4,026**
APPROVED - Total (With Reductions)			**24**	**105**	**129**	**110**	**62**	**172**	**1,945**
ALEXAN NOMA WEST									
Residential Component									
Condominiums	230	660 Units	40	194	234	189	93	282	3,194
Alt. Mode Reductions		*(50%)*	20	97	117	94	47	141	1,597
Subtotal - Residential			**20**	**97**	**117**	**95**	**46**	**141**	**1,597**
Trip Generation Difference (with Reductions)*			**-4**	**-8**	**-12**	**-15**	**-16**	**-31**	**-348**

**Note: The Trip Generation Difference = Alexan NoMa West – Approved PUD.*

It should be noted that the trip generation calculations in Table 1 does not take into account a possible increase in non-automobile use between the two proposals based on the lower parking count proposed at the Alexan NOMA West in comparison to the approved PUD. Although a higher non-automobile use would be expected, neither the *ITE Trip Generation* report nor the *WMATA Ridership Survey* contained definitive data proving a relationship between parking ratio and trip generation for this type of development (there were too few data points to draw a conclusion).

Trip Distribution, Site Access, and Internal Roadways

The ingress, egress and traffic distribution patterns proposed with the approved PUD will be generally maintained for the Alexan NoMa West development. Traffic would approach the new site in a similar manner since the extension of Q Street (proposed in the previous plan) to meet Harry Thomas Way at the eastern boundary of the site would also be included in the new plan. The previous south access road will not be maintained; however, preliminary traffic distribution suggests that this change in the site access configuration would not adversely affect the levels of service of either of the intersections as any differences in levels of service would be offset by the reduction in the site generated trips.

Parking Comparison

The Alexan NoMa West development will provide approximately 531 underground parking spaces at a parking ratio of 0.8 to 1.0 spaces per unit (depending on the maximum number of proposed units). The approved PUD contained approximately 875 underground parking spaces, or about 1.2 spaces per unit, a 39% reduction. As referenced in the approved PUD study, a minimum parking ratio of 0.25 is required for the District; the proposed 0.8 space per unit measures favorably with other comparable developments in the District with that average being approximately 0.88 spaces per unit.

Amenities Comparison

The Alexan NoMa West development will maintain the majority of the community benefits and amenities package outlined in the approved PUD. This includes a financial contribution to the pedestrian/bicycle link to the Metropolitan Branch Trail and the New York Avenue Metro Station.

Loading Docks Placement and Operation

Three loading docks will be provided with the proposed Alexan NoMa West PUD. A loading area will be provided to the northwestern-most end (off Eckington Place), the northeastern-most end of the site (off Harry Thomas Way) and to the south (off Harry Thomas Way and next to FedEx). Preliminary assessment of the loading areas shows that these would operate well. Auto-Turn analysis of the loading docks confirms that the wide geometry of Eckington Place and Harry Thomas Way would accommodate the maneuvering of the planned 55 foot and 20 foot service vehicles.

SUMMARY

The results of this analysis are as follows:

- The lower trip generation (18% per day versus the approved PUD) of the proposed Alexan NOMA West development plan well as the reduction in the parking ratio (39% reduction in parking spaces) will result in less impact on the surrounding road network and intersections.
- The Alexan NoMa West PUD proposes 660 residential units and no retail component, while the approved PUD proposed 669 residential units (636 condominiums and 33 townhouses) and 15,000 square feet of retail.
- The Alexan NoMa West PUD generates fewer peak hour trips (16% a.m. and 34% p.m.) and over 40% fewer daily trips than the approved PUD.
- The Alexan NoMa West PUD will provide parking spaces at a rate of 0.8 to 1.0 spaces per unit (depending on final unit count) which satisfies district requirements and measures favorably with approved PUD with 1.2 to 1.3 spaces per unit.
- The new development plan of the Alexan NoMa West PUD proposes slight changes in the internal road network and access points to the site; however these changes will not negatively affect levels of service on the surrounding road network.
- The Alexan NoMa West PUD will include approximately the same transportation amenities as the approved PUD, including a financial contribution to the pedestrian/bicycle link to the Metropolitan Branch Trail and the New York Avenue Metro Station.
- Analysis of the proposed loading docks shows acceptable operations for both 55 and 20 foot long trucks.

GOROVE/SLADE ASSOCIATES, INC.
1140 Connecticut Ave / Suite 700 / Washington, DC 20036

TECHNICAL MEMORANDUM

TO: District Department of Transportation

CC: Office of Planning
Fairfield at Capitol Commerce Center Team

FROM: Gorove/Slade Associates

DATE: August 9, 2006

SUBJECT: Fairfield at Capitol Commerce Center
Transportation Impact Analysis Addendum

INTRODUCTION

This memorandum contains a summary of additional transportation analyses performed for the proposed Fairfield at Capitol Commerce Center. This memorandum serves as an addendum to the Fairfield at Capitol Commerce Center Traffic Impact Analysis, dated March 31, 2006 by Gorove/Slade Associates, Inc. The purpose of this addendum is to respond to the questions and concerns of DDOT and the Zoning Commission raised during: (1) a July 7, 2006 meeting of the Fairfield team with DDOT, (2) the July 11, 2006 letter from DDOT to the Zoning Commission regarding the development, and (3) The Zoning Commission hearing for the project on July 13, 2006.

The July 11th DDOT letter contained a request for additional analysis, the basis of which was set during the July 7th meeting. The four topics are listed below:

1) Provide a diagram showing trip assignments (rush hour and average daily traffic) from the site through the intersections surrounding the confluence of Florida and New York Avenues, most notably the intersection of Florida Avenue with Eckington Place. These diagrams are needed to provide input for further analysis of this system, either by DDOT or other development-related study nearby.

2) Analyze traffic flows at the intersection of Eckington Place and Q Street, NE with the addition of the extension of Q Street across Eckington Place and through the proposed development. Although this intersection was included in the TIA scope, DDOT requested additional analysis and thoughts given to possible use of a four-way stop or traffic signal at this location, possibly for non-volume related reasons (such as a tool to control speeding).

3) Determine the need for a traffic signal at the intersection of Rhode Island Avenue and 3rd Street.

The TIA noted that the poor levels of service at this intersection calculated in the analysis were not observed in the field, and were due to the lack of upstream and downstream traffic signals outside of the study scope. DDOT requested additional analysis, including more detail on the impact of nearby traffic signals and a determination if the intersection warrants a traffic signal.

4) Analyze in more detail the traffic impacts at the intersections of R Street with Lincoln Road and North Capitol Street. This intersection was observed and discussed in the TIA; DDOT requested a more detailed analysis, with emphasis on mitigation of morning rush hour queuing on R Street.

In addition, DDOT requested that the TIA addendum address not only the impact of the Fairfield proposal, but consider future development in the Eckington neighborhood. During the meeting DDOT said they had no objection to the project (given the completion of these additional analyses), but were concerned about future development in Eckington. An additional purpose of this addendum was to set the stage for further DDOT or development-related studies.

During the Zoning Commission hearing on July 13th, the Commission requested that this addendum also expand on item (1) by providing Level of Service (LOS) analyses of the New York Avenue and Florida Avenue intersection area with and without the proposed interim improvement suggested by DDOT, taking into consideration the proposed development. In addition, the Commission also expressed concern that future development, which would otherwise be welcome in this area of the District, may be stalled due to traffic concerns. Thus, in similar fashion to DDOT, they also requested that this addendum examine and discuss future traffic.

This addendum addresses these issues in three ways:

1) The results of the four additional analyses are presented in the following sections of this memorandum.

2) After each section, a discussion is included regarding the impact of additional development. For example, if a traffic signal was found to be unnecessary, an analysis is performed to determine what approximate percentage increase of traffic would trigger the need for a signal.

3) A CD-ROM was assembled including this addendum, the TIA, and all analysis files used (including final Synchro files). In addition, copies of the Eckington Traffic Calming Study, the Eckington Rhode Island Avenue Study, and the draft New York Avenue Corridor Study were included. This CD was assembled to provide a starting point for future studies of Eckington neighborhood traffic.

NEW YORK AVENUE AND FLORIDA AVENUE, NE

As part of the on-going New York Avenue Corridor (NYAC) study, long term plans are being developed to reconfigure and reconstruct the intersection of New York Avenue with Florida Avenue, as well as other nearby intersections including Florida Avenue and Eckington Place. Approximately 95,000 vehicle trips pass through the New York Avenue and Florida Avenue intersection on a daily basis and these modifications would better accommodate the high volume of traffic.

In addition, DDOT has developed interim short-term improvements to ease congestion surrounding this intersection. The portion of Florida Avenue between Eckington Place and New York Avenue would be made one-way westbound, and First Street, between Florida Avenue and New York Avenue, would be made one-way southbound.

Under existing conditions, it is difficult for drivers to make the left-turn from Eckington Place to eastbound Florida Avenue because of the proximity of the New York Avenue and Florida Avenue signal. The distance between the signals allows a queue of six vehicles in each lane (two eastbound lanes) before the Eckington Place and Florida Avenue intersection is blocked, restricting the southbound left-turn movement of Eckington Place. Also, because the signal timing between both intersections does not allow enough clearance of the vehicles between the two signals prior to southbound movement from Eckington Place getting a green light, there is, for the most part, no space to accommodate the vehicles heading eastbound from Eckington Place. The new configuration would alleviate this congestion by converting all turns into right turns, thus allowing smoother flow of traffic from Eckington Place. Figure 1 shows the expected distribution of the Fairfield trips through the proposed New York Avenue/Florida Avenue reconfiguration.

DDOT provided their electronic Synchro files of the analyses of the proposed New York/Florida Avenue reconfiguration. Since DDOT's volumes represent 2002 traffic, a growth rate of 1.9 % per year was applied to all movements throughout the reconfigured study intersections. This rate is consistent with the recent New York Avenue Corridor Study. The growth was applied over 8 years to represent conditions at the 2010 build out of Fairfield development. Table 1 shows the results of the analysis under Future Background conditions.

The site trips shown in Figure 1 were then added to the new Synchro network representing background conditions to determine the Total Future traffic forecast. The network was then re-analyzed for the Total Future Traffic scenario. Table 2 shows the results of the Total Future analysis with the proposed reconfiguration and Fairfield trips included.

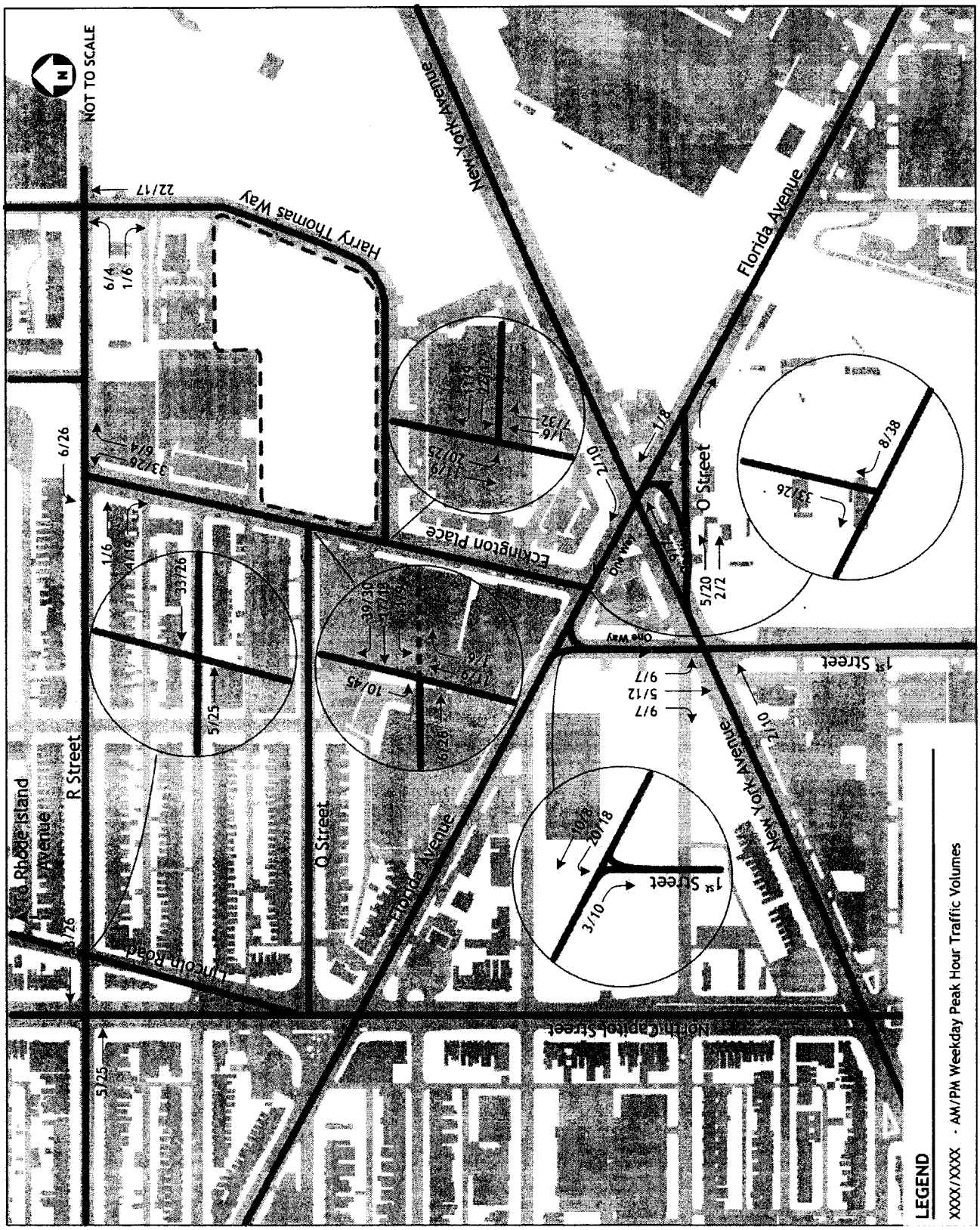

NOT TO SCALE
Harry Thomas Way
New York Avenue
Florida Avenue
Eckington Place
O Street
R Street
Rhode Island Avenue
Lincoln Road
North Capitol Street
1st Street
New York Avenue
LEGEND
XXXX/XXXX - AM/PM Weekday Peak Hour Traffic Volumes

Table 1 – 2010 Levels of Service (w/Interim Improvement & Percentage Growth)

Intersection (Approach)	Background (2010)			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
New York Avenue/Florida Avenue				
Overall	**100.0**	**F**	**35.9**	**D**
North-eastbound thru (NY Avenue NB)	17.3	B	28.3	C
South-westbound (NY Avenue SB)	154.0	F	34.4	C
Northbound-left (Ramp)	43.2	D	51.8	D
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New York Avenue/1st Street				
Overall	**22.9**	**C**	**23.2**	**C**
Eastbound	24.5	C	31.4	C
Westbound	2.0	A	2.4	A
Northbound	55.4	E	40.6	D
Southbound	39.6	D	25.3	C
Ramp to 1st Street/ 1st Street				
Overall	**14.1**	**B**	**26.5**	**C**
Westbound-left	10.4	B	33.1	C
Southbound-thru	17.6	B	19.5	B

Table 2 – 2010 Levels of Service (w/Improvement, Growth and Site Traffic)

Intersection (Approach)	Future (2010)			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
New York Avenue/Florida Avenue				
Overall	**100.1**	**F**	**36.5**	**D**
North-eastbound thru (NY Avenue NB)	17.4	B	28.6	C
South-westbound (NY Avenue SB)	154.3	F	34.7	C
Northbound-left (Ramp)	43.7	D	53.3	D
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New York Avenue/1st Street				
Overall	**23.0**	**C**	**23.3**	**C**
Eastbound	24.5	C	31.6	C
Westbound	2.0	A	2.4	A
Northbound	55.4	E	40.6	D
Southbound	39.6	D	25.3	C
Ramp to 1st Street/ 1st Street				
Overall	**14.1**	**B**	**26.2**	**C**
Westbound-left	10.4	B	32.4	C
Southbound-thru	17.6	B	19.5	B

This analysis shows that in the future, the New York Avenue/Florida Avenue intersection is expected to operate under LOS F for the morning peak and LOS D for the afternoon peak. The other signalized intersections surrounding the intersection of New York and Florida Avenue will operate under LOS B and C.

The addition of the site trips is not expected to cause s decline in LOS and would only marginally increase delay at a few intersections. The intersection of Florida Avenue and Eckington Place would operate at LOS B in both AM and PM peak hours.

Sensitivity Analysis

Looking towards future development within the Eckington neighborhood, a sensitivity analysis was performed to determine how much more traffic can be added to the southbound approach of Eckington Place during rush hour without the need for additional roadway capacity. To determine this, traffic was increased on the southbound Eckington Place approach until a LOS E was reached at the traffic signal at Florida Avenue and Eckington Place. This analysis shows that LOS E would be reached when the forecasted 2010 traffic increases threefold. Note that this analysis did not also increase traffic on Florida Avenue, as it was intended only to show how much more traffic Eckington Place (and thus additional development in the Eckington neighborhood) can handle prior to requiring mitigation.

ECKINGTON PLACE AND Q STREET, NE

As stated in the Traffic Impact Analysis, the peak hour levels of service for the intersection of Eckington Place and Q Street, NE were found to operate at acceptable conditions during all time periods. The following table shows the LOS findings for existing, future background, and total future condition (under two-way STOP control).

Table 3 – TIA Results: Q St and Eckington Pl, NE

Intersection (Approach)	Levels of Service			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Q St, NE & Eckington Pl, NE (Existing)				
Eastbound	5.1	A	4.0	A
Q St, NE & Eckington Pl NE (Background)				
Eastbound	12.0	B	9.6	A
Q St, NE & Eckington Pl, NE (Total Future)				
Eastbound	14.8	B	12.5	B
Westbound	15.2	C	13.1	B

No traffic flow interruptions or problems were noted during observations in the field of this intersection. Vehicles making the left or right from Q Street to Eckington Place did not experience undue delays since traffic flows along Eckington Place allowed many gaps for these motorists. There were no sight distance

problems, and no excessive speeding was observed along Eckington Place. This was also the conclusion of the 2004 Eckington Place, Q Street and Quincy Place Area, N.E. Traffic Calming Study, when speed lasers were used to collect speed data. The results of this study showed that the 85th percentile speed on Eckington Place was about 33 mph, or approximately 8 mph above the posted speed limit of 25 mph. This is less than the 10 mph (above the posted speed limit) threshold the District uses as a warrant for traffic calming measures.

As a requirement of this addendum, DDOT requested further analysis of the Eckington Place/Q Street intersection. In addition to the two-way stop control recommended and tested by Gorove/Slade, DDOT required analyses of the intersection under 4-way stop control and a traffic signal. Table 4 shows the results of these analyses.

As shown in Table 4, the intersection would operate favorably under any of the three conditions presented. Under 4-way stop control, the intersection operates at an overall LOS B in the morning and LOS A in the afternoon. All approaches would operate at LOS B or better. If the intersection was signalized, it would operate at overall LOS A in both morning and afternoon hours, however, the eastbound and westbound approaches would operate at LOS C for both scenarios (although these results could change based on signal timing).

While all options have acceptable levels of service, given the relatively low traffic volumes going through the intersection, it would not meet the warrants recommending signalization. No safety issues were observed for existing conditions, and it is not expected that the increase in traffic as a result of the new development would cause any such issues in the future.

Gorove/Slade does not recommend the use of a 4-way stop control, since sometimes the addition of stop signs to through routes can create an increase in the accident rate, notably rear-end collisions. In addition, even if speed were an issue on Eckington Place, traffic calming measures would be recommenced prior to the addition of stop signs. In addition, Gorove/Slade does not recommend the placement of a traffic signal at this location for because it is not warranted and its building and maintaining costs.

Sensitivity Analysis

A sensitivity analysis was performed to determine what level of Eckington Place through traffic would generate LOS E on the Q Street stop sign controlled approaches. This analysis revealed that traffic along Eckington Place could accommodate three times the total future traffic before the eastbound and westbound approaches would approach LOS E.

Table 4 – Q Street/Eckington Place (3 Scenarios)

Intersection (Approach)	Total Future Conditions			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Q Street NE/Eckington Place NE (2-Way Stop Control)				
Eastbound	14.8	B	12.5	B
Westbound	15.2	C	13.1	B
[illegible]				
Q Street NE/Eckington Place NE (Signal)				
Overall	**5.9**	**A**	**6.8**	**A**
Eastbound	25.5	C	25.0	C
Westbound	25.8	C	24.7	C
Northbound	3.1	A	2.7	A
Southbound	2.3	A	2.3	A

RHODE ISLAND AVENUE AND 3RD STREET, NE

Analysis of the Rhode Island Avenue/3rd Street NE intersection showed results of LOS E on the northbound approach, however this was not observed in the field. It was initially thought that the upstream signalized intersection of Rhode Island Avenue with Lincoln Avenue, NE would provide a break or gap in traffic flow, allowing vehicles from 3rd Street NE to merge unto Rhode Island Avenue. This upstream signalized intersection was included in a further analysis to see if the observation of the field could be replicated. This attempt was still unsuccessful for a combination of reasons which include:

1. All analyses and estimates were conservatively high. In addition to using higher volumes than is normally experienced on the roadways, the Synchro software (and Highway Capacity Manual, HCM) uses default critical gaps which are conservatively high. The effects of this conservative estimate are increased further with the fact that the left-turn movement requires a two stage gap acceptance (vehicles can make a left turn or cross Rhode Island Avenue in two movements, by first moving into the median).

2. Modeling of Nearby Signal. The HCM methodology software does not model the effect a nearby signal very well.

3. SimTraffic does not model two-stage gap acceptance. The SimTraffic software cannot effectively model the two-stage gap acceptance which is required for the analysis of the intersection.

Using the Synchro software and HCM methodology, the results observed in the field can be replicated if the assumption is made that the average gap accepted by drivers at this intersection is two-thirds the default

length. A lower gap acceptance is often found in urban areas with drivers accustomed to making the same movements everyday, which occurs at this intersection, so this explanation is feasible.

At the request of DDOT, Gorove/Slade conducted a preliminary signal warrant analysis to determine if the signal is need for the Rhode Island Avenue/ 3rd Street intersection. The eight warrants were examined with the data collected for the traffic study. Table 5 below shows the results of the warrant analysis.

Table 5 – Rhode Island Avenue/3rd Street NE Preliminary Signal Warrant Analysis

Warrant	Name	Evaluation
Warrant 1	Eight-Hour Vehicular Volume	Condition A is not met for the peak hour studied; while Condition B is just marginally met for the highest peak hours. More data required for other hours, but based on the peak hour volumes, it appears that Warrant 1 will not be met since volumes would be less outside of the peak hours.
Warrant 2	Four-Hour Vehicular Volume	Warrant 2 is not met.
Warrant 3	Peak hour	Warrant 3: Condition does not exist.
Warrant 4	Pedestrian Volume	Warrant 4 is not met.
Warrant 5	School Crossing	Warrant 5: Condition does not exist.
Warrant 6	Coordinated Signal system	Warrant 6: Condition appears not to exist - DDOT's discretion.
Warrant 7	Crash Experience	Crash data not available. Warrant 7 not examined.
Warrant 8	Roadway Network	Warrants 6 needs further evaluation (with warrant 1) but appears not to be met based on peak hour volumes, since volumes should be less for other hours.

Based on this review, it does not appear that the intersection of Rhode Island Avenue and 3rd Street NE would warrant a signal.

Additionally, placing a signal at this intersection may cause an unnecessary disruption in the traffic flow along Rhode Island Avenue, a principal arterial. It would also place added maintenance burden on the District and set precedence for unwarranted signals. Furthermore, the Rhode Island Avenue/4th Street NE signalized intersection provides sufficient capacity for neighborhood vehicles if it was the actual case that lengthy queues exist on the northbound approach of the Rhode Island Avenue/3rd Street NE intersection. Sensitivity analyses show that Eckington traffic could grow as much as two-times before any movement at the intersection of Rhode Island Avenue and 4th Street reaches LOS E.

Sensitivity Analysis

A stated above sensitivity analyses show that Eckington traffic could grow as much as two-times before any movement at the intersection of Rhode Island Avenue and 4th Street reaches LOS E. As more development occurs in the Eckington neighborhood, Gorove/Slade recommends no mitigation occur at Rhode Island and 3rd St, or Rhode Island and 2nd St (the second half of the one-way pair) until the LOS at the signalized intersection of Rhode Island Avenue and 4th Street reaches unacceptable conditions.

NORTH CAPITOL STREET/R STREET, NE & LINCOLN AVENUE, NE

Earlier observations of the North Capitol Street/R Street intersection revealed that, under existing conditions during the morning rush hour peak R Street, NE can experience westbound queues extending from North Capitol Street to Eckington Place. The vehicles in these queues are predominantly commercial vehicles leaving the Eckington neighborhood.

To accommodate a request by DDOT, existing AM and PM peak hour traffic counts were conducted at the R Street/North Capitol Street and R Street Lincoln Avenue intersections on Tuesday, August 1, 2006, between the hours of 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM. Counts were actually done for one-half hour segments for the AM and PM peak. These were then doubled to represent peak hour traffic and further increased by 15% to account for the effects of school closures. Signal timings and geometric data were also collected. The Synchro software was used to analyze the intersections with the results shown in Table 6.

Table 6 shows that, although motorists may experience lengthy queues and longer delays on the westbound approaches of these intersections, the intersections operate at acceptable levels of service in both the AM and PM scenarios. The North Capitol Street/R Street intersection operates at LOS B and LOS C during the morning and afternoon hours respectively, while the R Street/Lincoln Avenue intersection operates at LOS B for the morning and afternoon peaks. The high commercial vehicle volumes contribute significantly to the queues on the westbound approach in the AM peak.

With background growth in traffic of 1.5% per year up to the year 2010, the North Capitol Street/R Street intersection will experience an operational decline to LOS C and LOS D during the morning and afternoon hours respectively, while the R Street/Lincoln Avenue intersection will operate at LOS C and LOS B for the same. The addition of the Fairfield site trips would result in slight changes in delay, however levels of service remain consistent to background conditions.

Some of the traffic calming or traffic routing measures of the Eckington Place, Q Street and Quincy Place Area, N.E. Traffic Calming Study could be implemented to ease the heavy use and lengthy queues of R Street in the morning peak. However, this would require coordination and dialogue between DDOT Staff,

the Eckington residential community, and the Eckington industrial community. Also, it may be that the reconfiguration of the New York Avenue/Florida Avenue intersection would result in more commercial vehicles using the new intersection, since there will be reductions in delays at the intersection of Eckington Place and Florida Avenue.

Table 6 – Levels of Service of North Capitol Street/ R Street & R Street/Lincoln Avenue Intersection

Intersection (Scenario)	Level of Service			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/Veh)	Level of Service	Delay (sec/Veh)	Level of Service
EXISTING CONDITIONS				
North Capitol Street/R Street NE (Existing)				
Overall	**18.5**	**B**	**25.9**	**C**
Eastbound	24.2	C	29.5	C
Westbound	13.5	B	20.5	C
Northbound	17.2	B	35.6	D
Southbound	15.2	B	12.1	B
[illegible]				
2010 BACKGROUND CONDITIONS				
North Capitol Street/R Street NE				
Overall	**20.5**	**C**	**36.3**	**D**
Eastbound	24.4	C	29.8	C
Westbound	14.7	B	21.0	C
Northbound	18.5	B	53.9	D
Southbound	22.3	C	13.2	B
[illegible]				
2010 TOTAL FUTURE CONDITIONS				
North Capitol Street/R Street NE				
Overall	**20.6**	**C**	**36.2**	**D**
Eastbound	24.3	C	30.6	C
Westbound	15.4	B	20.5	C
Northbound	18.6	B	53.9	D
Southbound	22.3	C	13.2	B
[illegible]				

SUMMARY

Based on the analysis presented in this memorandum, the following summarizes the conclusions of this TIA addendum for the four requests made by District agencies.

1) *Detail assignments and provide capacity analysis results for the New York Avenue and Florida Avenue intersection and surrounding traffic signals.*

   Gorove/Slade has provided a graphic detailing assignments and tables of capacity analysis results for future conditions of the New York Avenue and Florida Avenue intersection and surrounding signalized intersections. The analysis concluded that intersection of Eckington Place with Florida Avenue will operate under acceptable conditions in the future, including traffic generated by Fairfield at Capitol Commerce Center.

2) *Further analysis of the intersection of Eckington Place and Q Street, considering differing traffic control measures.*

   Based on the analyses performed, Gorove/Slade recommends a 2-way stop control for this intersection, with the stop signs on the Q Street approach. Capacity analyses show this will create acceptable traffic conditions in the future and both 4-way stop sign and traffic signal controls are not warranted.

3) *Determine the need for a traffic signal at the intersection of Rhode Island Avenue and 3rd Street.*

   Based on the analysis performed, a traffic signal is not warranted for this location. A traffic signal should be considered at a point in the future when the intersection of Rhode Island Avenue and 4th Street operates at unacceptable conditions.

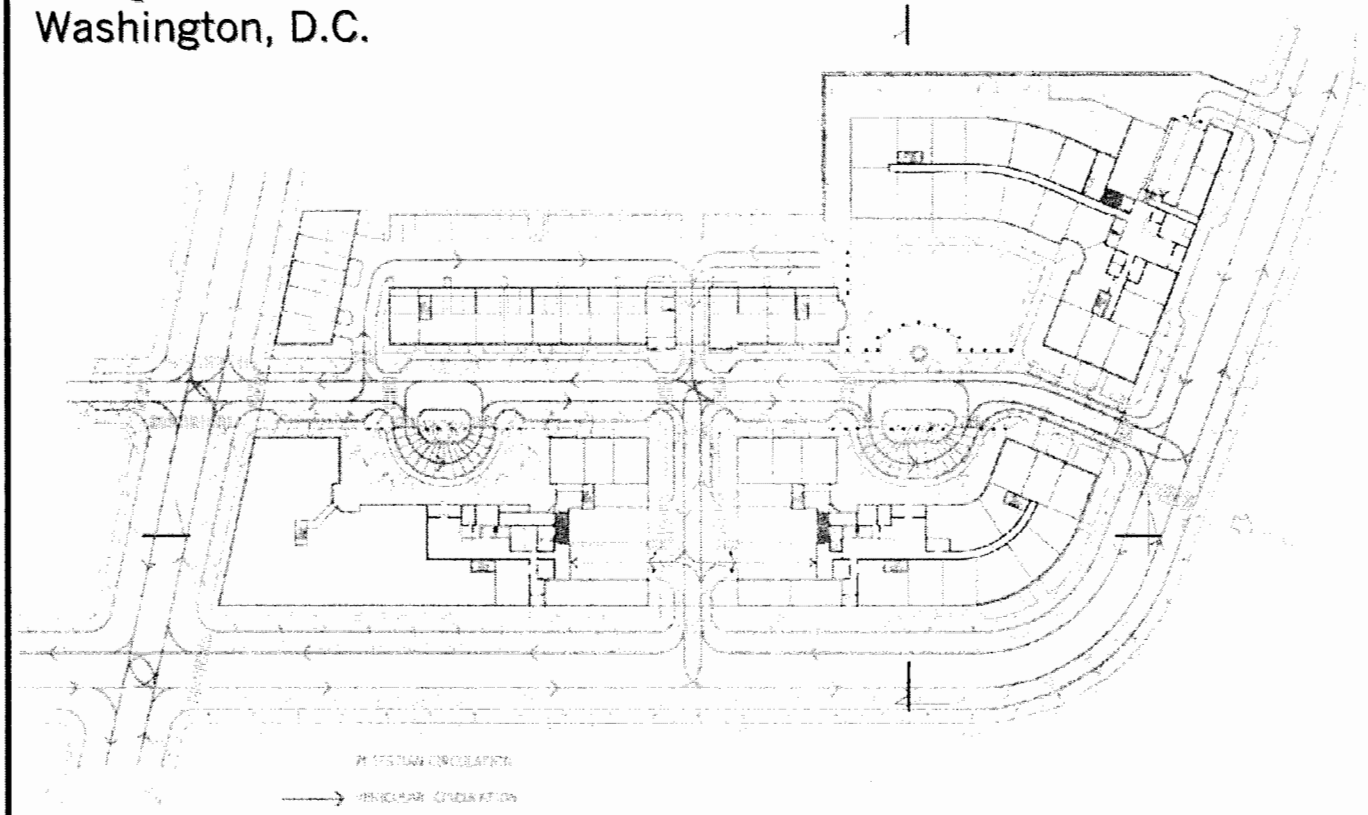
4) *Analyze in more detail the traffic impacts at the intersections of R Street with Lincoln Road and North Capitol Street.*

   Detailed capacity analyses of these intersections showed that they are expected to operate at acceptable conditions in the future. The long queues observed on R Street are generated by the large percentage of commercial vehicle traffic and are not due to overall heavy volumes on R Street. Gorove/Slade recommends that DDOT and the Eckington community, both residential and industrial, work towards a solution starting with the recommendations contained in the *Eckington Place, Q Street and Quincy Place Area, N.E. Traffic Calming Study.*

Traffic Impact Analysis

Capitol Commerce Center

Washington, D.C.



March 31, 2006

Prepared For:
Fairfield Realty, LLC
7200 Wisconsin Avenue
Bethesda, Maryland 20814
(301) 645.2884

Prepared By:
Gorove/Slade
Associates, Inc.

GOROVE/SLADE ASSOCIATES, INC.
Transportation, Traffic and Parking

PREPARED BY:

Gorove/Slade Associates, Inc.
1140 Connecticut Avenue
Suite 700
Washington, D.C 20036

Tel: 202.296.8625
Fax: 202.785.1276

3914 Centreville Road
Suite 330
Chantilly, VA 20151

Tel: 703.787.9595
Fax: 703.787.9905

www.goroveslade.com

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EXECUTIVE SUMMARY

The following report presents the findings of a traffic impact study prepared for the Planned Unit Development (PUD) and Zoning Map Amendment application for the Fairfield CSX (Capitol Commerce Center) in Washington, D.C.

The site, Lot 815 in Square 3576, is located in the Eckington area of Ward 5 in Washington, D.C and consists of approximately 187,958 square feet of land area. The site is presently in the M Zone District. The Applicant, Fairfield Realty (FF) LLC, proposes to construct a mixed-use project that will include approximately 625 to 675 residential units and approximately 15,000 square feet of neighborhood-serving retail. The Applicant also proposes to rezone the subject property to the C-3-C Zone District.

Several features of The Capitol Commerce Center development help to reduce potential traffic impacts. The development will encourage the use of multiple modes of travel to minimize traffic impacts on the community. The applicant proposes to facilitate a pedestrian link to the nearby New York Avenue Metrorail Station via the Metropolitan Branch Trail. The trail is an important non-motorized transportation route under development; it will provide direct pedestrian and bicycle access from Northeast D.C neighborhoods to the heart of Washington and seven of Metrorail's Red Line stations, including the one at New York Avenue.

The mixed-use plan for the development will reduce both the traffic generated by the community and automobile dependence, since residents will not need to travel by car to access retail amenities.

The traffic capacity analyses of the roadway intersections detailed in the study found the following conclusions:

- *Existing Conditions*

  Under existing conditions, all study area intersections operate at or better than the acceptable levels of service.

- *Future Background Conditions*

  The results of the future background capacity analyses show that all study area intersections are projected to operate at or above the acceptable levels of service, with negligible changes in delay.

- *Total Future Conditions*

  The total future conditions capacity analysis, including the Capitol Commerce Center site-generated traffic, showed similar results to the future background conditions. The study intersections will continue to operate at or better than the acceptable levels.

- *Parking*

  The development will provide approximately 875 new parking spaces (830 for residents and guests) at a parking ratio of more than one space per unit. Based on current trends and the District's requirements, this is adequate for the proposed development.

Based on these results, the proposed Capitol Commerce Center mixed-use development would have no negative impact on the surrounding road network. The close proximity and quality of access to Metrorail significantly reduces potential traffic impacts. The Capitol Commerce Center traffic would therefore have no significant impact on the roadways in the community and these additional vehicle-trips can be accommodated by the surrounding network.

INTRODUCTION

This report presents the findings of a traffic impact study submitted in conjunction with a Planned Unit Development (PUD) and Zoning Map Amendment application for the Fairfield CSX (Capitol Commerce Center) in Washington, D.C.

The Fairfield CSX site occupies Lot 815 in Square 357 of Ward 5 in Washington, D.C. and consists of approximately 187,958 square feet of vacant land area forming portions of the Capitol Commerce Center development. As reflected in Figure 1, the subject site is located in the Eckington area of Washington, D.C., and is bounded by Eckington Place to the west and Harry Thomas Way to the south and east. Directly to the north of the Site is a commercial center which houses the Washington Flower Center, a self-storage facility (the Storage Place), a State Farm Insurance Agency, and parking lots associated with these commercial uses.

Project Scope

The Site is presently in the M Zone District which prohibits the construction of residential communities. The applicants, CSX Realty Development Corporation and FF Realty, LLC, propose a Zoning Map Amendment to the C-3-C District to accommodate the construction of a mixed-use project that will include approximately 625 to 675 residential units, with approximately 59,000 square feet of affordable housing and approximately 15,000 square feet of ground floor retail. The primary purpose of this study is to evaluate the local traffic impacts of the proposed new development, focusing on 11 intersections near the site, and to identify transportation improvements needed to mitigate any impacts. Gorove/Slade Associates undertook the following steps while preparing this study:

- Performed field reconnaissance of existing roadway and intersection geometrics, traffic controls, speed limits and operations, and video imagery of the Eckington Place/Florida Avenue intersection;
- Discussed and met with District Department of Transportation (DDOT) staff regarding the study scope and methodology;
- Conducted peak hour turning movement counts at study intersections;
- Determined existing levels of service at the study intersections;
- Developed background traffic forecasts for project build-out in 2010 based on existing counts, traffic generated by other pending/future developments, and traffic pattern changes as a result of roadway improvements (where applicable);
- Calculated background levels of service at study intersections based on background traffic forecasts and existing traffic controls;

Figure 1 – Site Location

- Estimated the AM and PM peak hour and daily trips that would be generated by the new development, including mode split assumptions;
- Forecasted total future traffic volumes for project build-out in 2010 based on background future traffic forecasts and site traffic assignments; and
- Calculated total future levels of service at the study intersections based on total future traffic forecasts, existing and future traffic controls, and existing and future intersection geometrics.

Sources of data for this study include traffic counts conducted by Gorove/Slade, ITE's *Trip Generation*, 7th Edition, general site and circulation plans from WDG Architecture, the District Department of Transportation (DDOT), the CSX Realty Development Corporation and FF Realty, LLC PUD and Zoning Map Amendment Application (Z.C Case No. 05-23), the "Development-Related Ridership Survey II" prepared by the Washington Metropolitan Area Transit Authority (WMATA), and the files/library of Gorove/Slade.

This traffic impact study was conducted in general accordance with parameters in a scoping meeting held with DDOT staff on Tuesday, May 3, 2005. A subsequent meeting was held with DDOT staff on Thursday, March 3, 2006. A copy of the follow-up letter summarizing the details of the original study parameters is included in the Appendix to this report.

The following study intersections (shown in Figure 2) are included in this study:

1) Rhode Island Avenue, NE/4th Street, NE
2) T Street, NE/4th Street, NE
3) T Street, NE/3rd Street, NE
4) T Street, NE/2nd Street, NE
5) R Street, NE/3rd Street, NE
6) R Street, NE/2nd Street, NE
7) R Street, NE/Eckington Place, NE
8) Q Street, NE/Eckington Place, NE
9) Harry Thomas Way/Eckington Place, NE
10) Rhode Island Avenue, NE/3rd Street, NE
11) Rhode Island Avenue, NE/2nd Street, NE

The R Street NE/North Capitol Street, NE and the Eckington Place NE/Florida Avenue NE intersections were also observed based on the requests of residents. In-depth studies were not conducted of these intersections; however the technical issues were identified and ad-hoc

recommendations were made to improve present operations.

For purposes of this study, it was assumed that the Capital Commerce Center mixed-use development would be complete and occupied by the year 2010.

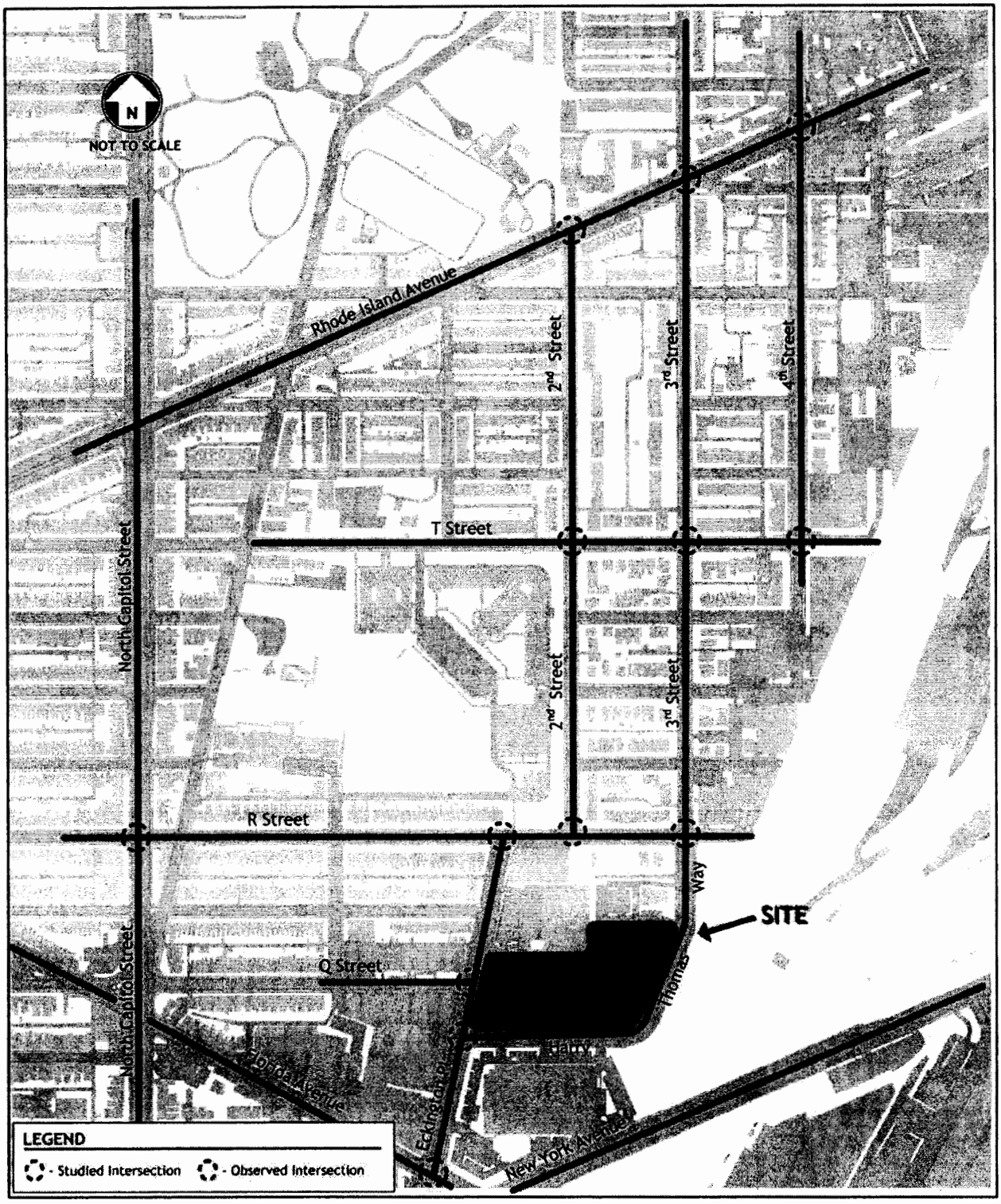


Figure 2 – Study Intersections

EXISTING CONDITIONS

Interstate 395 (I-395), New York Avenue, Rhode Island Avenue, North Capitol Street and Florida Avenue provide regional access to the site. Local access is via Eckington Place, NE Q Street, NE, R Street, NE, 2nd Street, NE, 3rd Street, NE and 4th Street, NE.

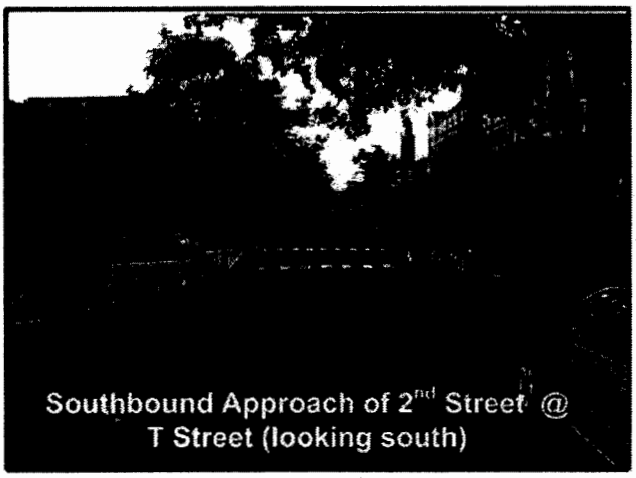
The roadways included in this analysis are primarily neighborhood streets; they are oriented on a city grid, and generally have one or two travel lanes in a direction controlled by stop signs. Four intersections equipped with traffic signals lie within the study area. The following is a description of the major and local roadways included as part of the study area:

Rhode Island Avenue, NE

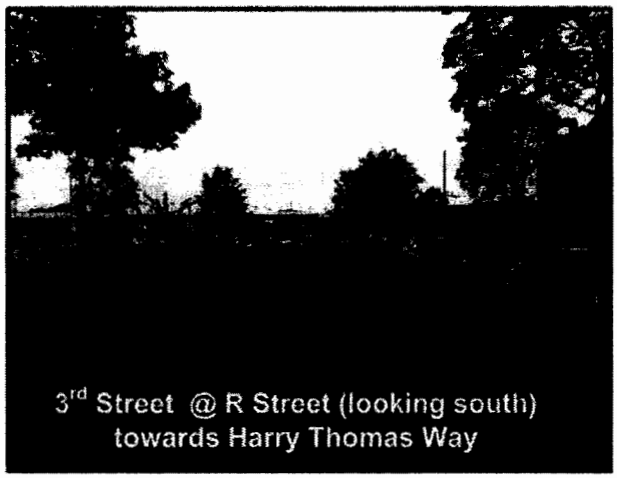
In the study area, Rhode Island Avenue, NE is a four-lane median-divided principal arterial which serves a major roadway linkage between the District of Columbia and Prince Georges County, Maryland. The portion of Rhode Island Avenue in Washington D.C is approximately four miles long and runs between 13th Street/Logan Circle and the D.C line. Parking is restricted on the westbound portion of the road in the morning and the eastbound portion in the afternoon to accommodate the higher traffic volumes during the AM and PM peak hours, respectively. The Annual Average Daily Traffic (AADT) volume on the portion of Rhode Island included in the study area is approximately 27,000 vehicle trips.

2nd Street, NE/3rd Street, NE/4th Street, NE

2nd Street NE, 3rd Street NE, and 4th Street NE are classified as collector roads providing connections between the principal arterial, Rhode Island Avenue, and the local roads in the Eckington Area. 2nd Street is one-way southbound with parking on either side of the street for most parts of the roadway. 3rd Street is one-way northbound with parking on either side of the street. 4th Street is a two-way four-lane roadway with parking on either side of the road. The posted speed limit on these roads is 25 mph.



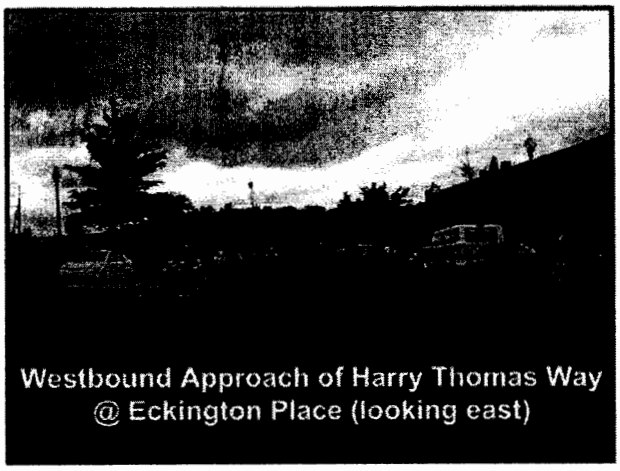
Southbound Approach of 2nd Street @ T Street (looking south)



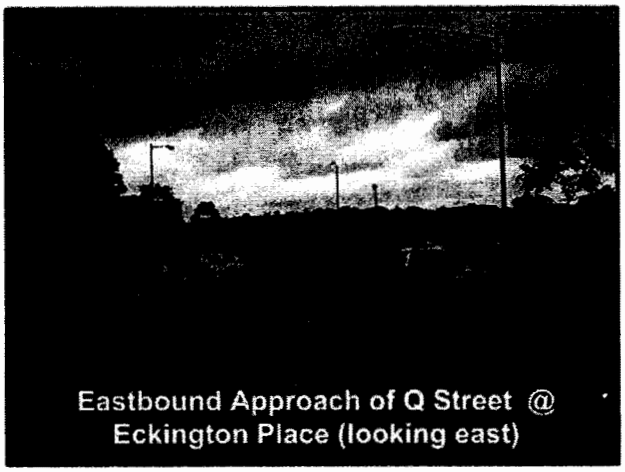
3rd Street @ R Street (looking south) towards Harry Thomas Way

Q Street, NE and Harry Thomas Way, NE

Q Street and Harry Thomas Way are classified as local streets in the study area. Harry Thomas Way is local access "spine road", connecting R Street, NE to Eckington Place, NE. The roadway was developed as part of the conditional approval of the original Large Tract Review for CSX Eckington Yard Redevelopments, Capital Commerce Center in 1989. Harry Thomas Way is a four-lane roadway with unrestricted parking on either side of the street, reducing the road to only two effective travel lanes (one in either direction).



Westbound Approach of Harry Thomas Way @ Eckington Place (looking east)



Eastbound Approach of Q Street @ Eckington Place (looking east)

R Street, NE

R Street is a collector road that runs in the east-west direction just north of the Site. The speed limit on R Street is 25 mph. Parking is allowed on either side of the roadway.

Eckington Place, NE

Eckington Place is a collector road that runs north-south from the signalized intersection with Florida Avenue, N.E. to a STOP controlled intersection with R Street, NE. Eckington Place bounds the subject Site on the west and has a posted speed limit of 25 mph. Parking is allowed on either side of the roadway.

Gorove/Slade conducted field reconnaissance to obtain the existing lane usage and traffic controls at the intersections within the study area. Figure 3 presents the local roadway network of the study area and existing lane use and configurations.

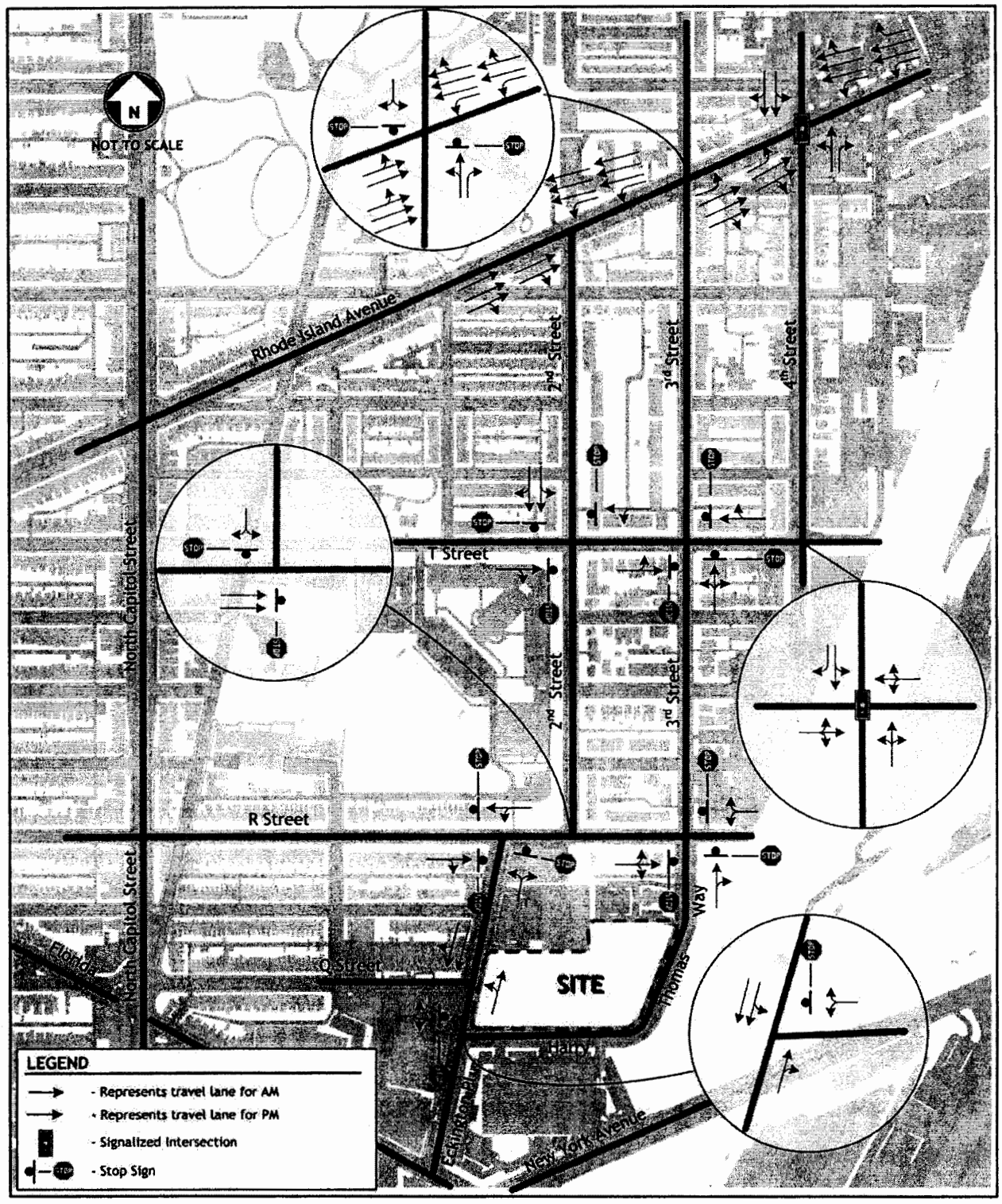


Figure 3 – Existing Lane Use and configuration

Public Transportation

WMATA Metrorail

The New York Avenue – Gallaudet University Metrorail Station provides access to the site. The station is located on the Red Line, serves Gallaudet University, and is located near the intersection of New York Avenue and Florida Avenues. The station has access point on M Street, NE and Florida Avenue, NE. The Red Line runs between the Shady Grove station and Glenmont metrorail stations.

WMATA Metrobus

A number of Metrobus routes serve the study area. The routes are shown in Figure 4 and include:

- The Anacostia-Eckington Line, Route P6, which has stops on R Street, 2nd Street, 3rd Street and 4th Street, travels between the Anacostia, Metro Center, and the Rhode Island Avenue Metrorail Stations.
- The Mackinly High School Line, Route M31, provides service between the Mackinly Technology High School and the Rhode Island Metrorail Station, via Rhode Island Avenue, North Capitol Street, T Street, and 4th Street.
- The U Street-Garfield Line, Routes 90, 92 and 93, which has stops along Florida Avenue in the vicinity of the Eckington Place/Florida Avenue intersection, travels between the New York Avenue-Gallaudet University, the Adams Morgan, the U Street-Cardozo, Eastern Market, Anacostia, and Congress Height Metrorail Stations.

Metropolitan Branch Trail

The Metropolitan Branch Trail (MBT) is an emerging 11-mile non-motorized multi-use trail system or transportation route providing direct access from Northeast D.C. neighborhoods to the heart of Washington and access to seven of Metrorails's Red Line Stations. Portions of the trail are already built adjacent to the New York Avenue – Gallaudet University Station. The trail provides connections to the Station and it is expected to be widely used for a variety of trip purposes as it is developed. The MBT will be discussed later in this report.

Existing Traffic Volumes

Existing AM and PM peak hour traffic counts were conducted at the eleven (11) study intersections on Thursday, June 10th, Tuesday, June 7th, and Thursday June 9th, 2005, between the hours of 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM by Gorove/Slade Associates at the study intersections. In addition to collecting turning movement counts, the geometry of the study area, and traffic control information including signal timings were also collected. Peak hour observations and video recordings were also made of the Eckington Place, NE/Florida Avenue, NE and R Street, NE/North Capitol Street, NE

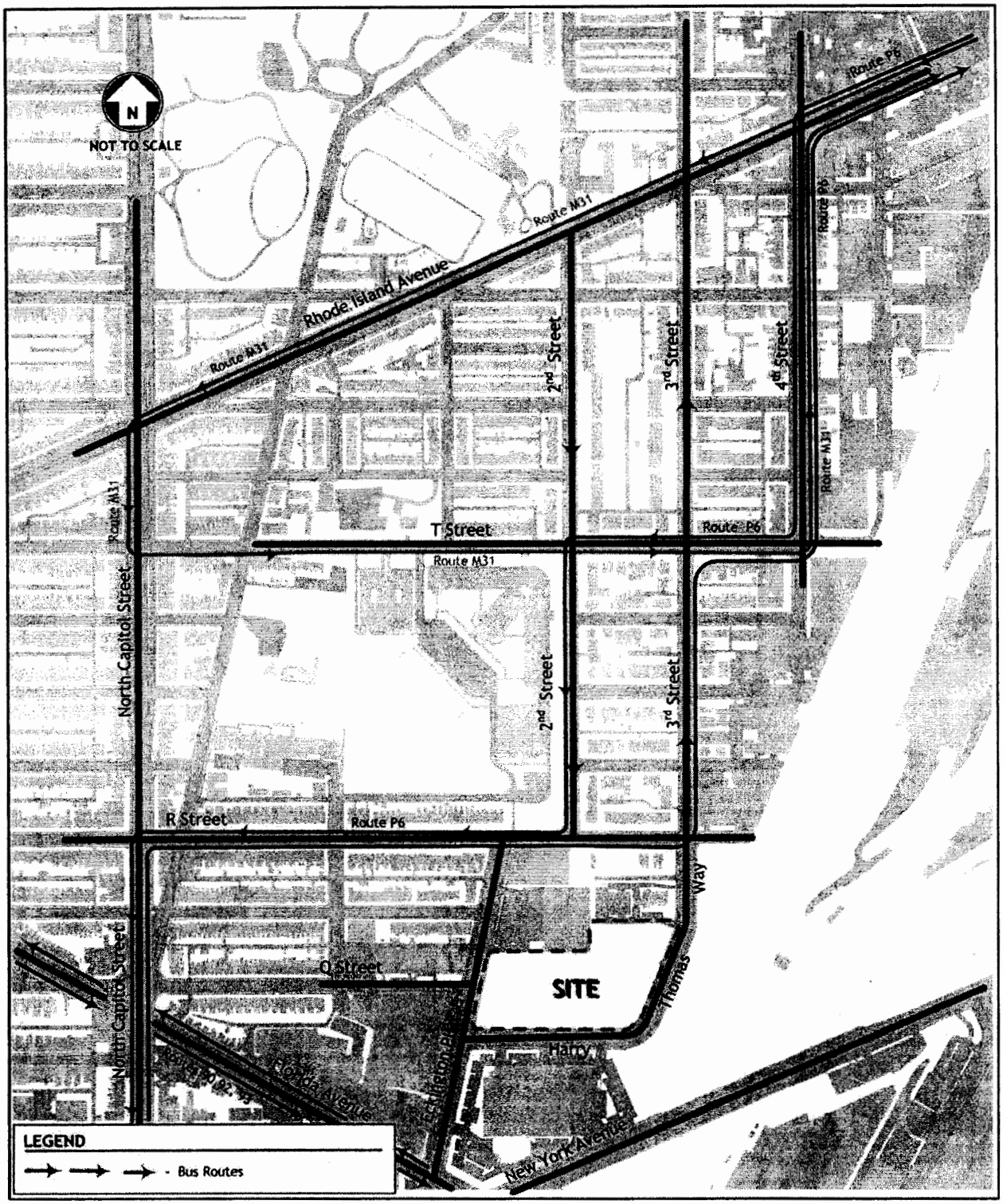


Figure 4 – Existing Bus Routes in the Study Area

intersections. The operations at these intersections were observed and localized congestion, blocking and queuing were noted. The results of the traffic counts are included in Appendix and summarized on Figure 5.

Figure 5 indicates that traffic on Rhode Island Avenue is primarily oriented westbound during the AM peak hour and to the eastbound during the PM peak hour. This coincides with commuter traffic moving into the District in the mornings and leaving in the afternoon. The AM peak hour for the system of intersections being studied occurred between 7:45 AM and 8:45 AM, while the PM peak hour occurred between 4:45 PM and 5:45 PM.

Existing Capacity Analysis

Existing peak hour levels of service (LOS) were calculated based on: (1) the existing lane use and traffic controls shown on Figure 3; (2) the peak hour traffic volumes of the each key intersections shown on Figure 5; (3) existing signal timings/phasings and (4) the Highway Capacity Manual 2000 (HCM) methodologies (using the Synchro 6 software). Copies of LOS calculation worksheets are included in the Appendix. Table 1 displays the results of the capacity analyses with existing LOS and delay, including LOS and average delay per vehicle (in seconds). The existing analysis reveals that traffic generally operates at or above acceptable levels of service during both the AM and PM peak periods. The signalized intersections located on 4th Street, NE with Rhode Island Avenue and T Street currently operate at acceptable levels in both peaks, without lengthy queues. The remaining intersections, which are unsignalized, operate above acceptable levels with little delay. Note that the LOS E experienced on northbound vehicles during the evening at the unsignalized intersection of 3rd Street, NE with Rhode Island Avenue was not observed during field observations. This may be as a result of the upstream signalized intersection of Rhode Island Avenue with 4th Street, NE one block away. This upstream signal provides a break or gap in the flow of traffic along Rhode Island Avenue, which allows vehicles from 3rd Street, NE to merge unto Rhode Island Avenue. This upstream signalized intersection was not included in the study scope and was therefore not included in the analysis.

Neighborhood Concerns

In various meetings with community members, concerns have been raised about traffic congestion at the Eckington Place, NE/Florida Avenue, NE and the R Street, NE/North Capitol Street, NE intersections. Gorove/Slade Associates observed and recorded (using a digital video recorder) these intersections for two 15-minute periods (one during the morning peak hour and another in the afternoon peak period) on Thursday, February 9, 2006.

Eckington Place/Florida Avenue

The observations show that the Eckington Place/Florida Avenue intersection operates acceptably in the AM peak. Vehicular traffic flowed easily from Eckington Place onto Florida Avenue, as well as in the

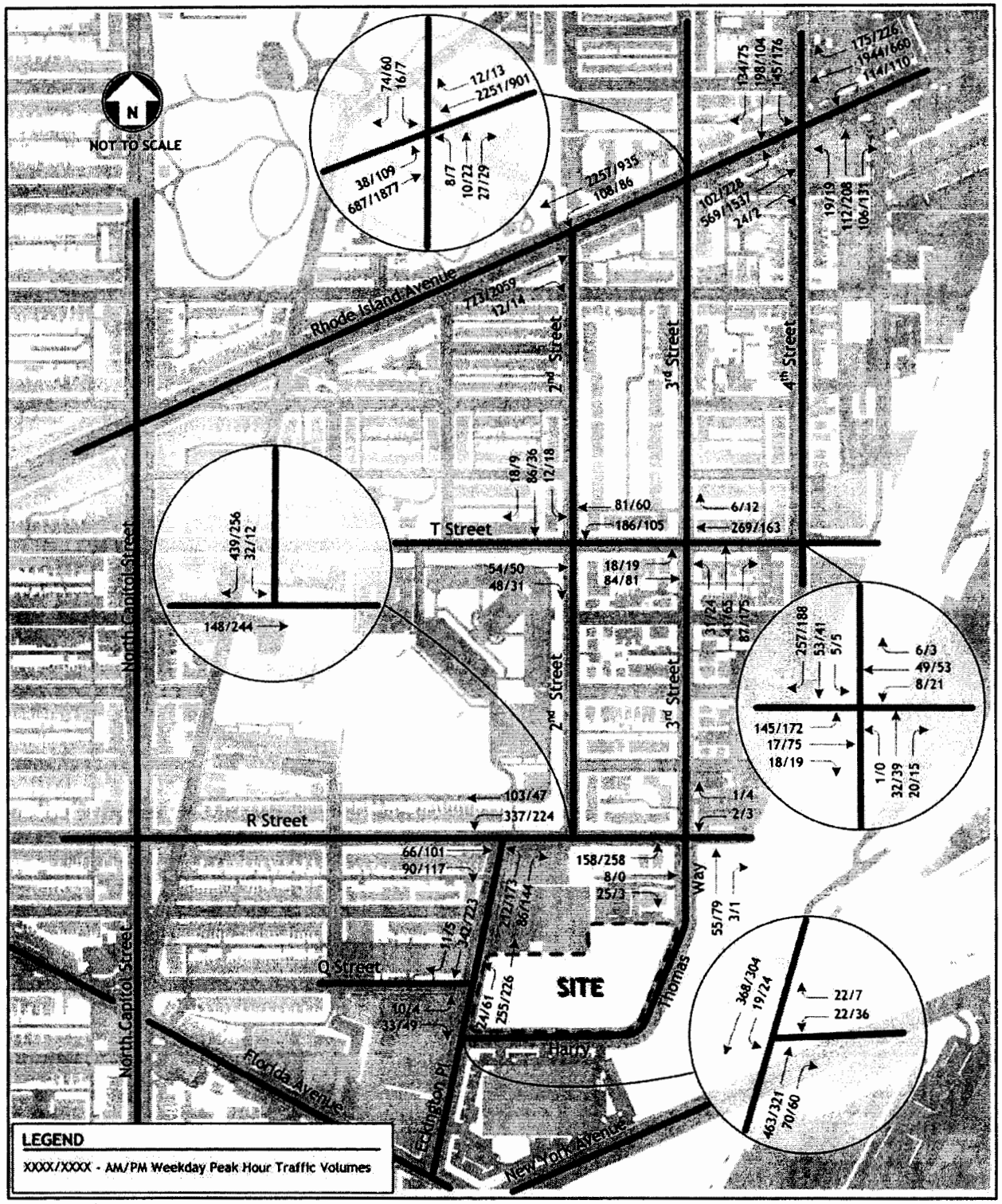


Figure 5 – Existing Traffic Volumes

Table 1 – Summary of Existing Capacity Analysis

Intersection (Approach)	Existing Conditions			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Rhode Island, NE & 4th Street, NE				
Overall	**28.2**	**C**	**23.2**	**C**
Eastbound	24.7	C	21.7	C
Westbound	30.9	C	22.9	C
Northbound	15.6	B	18.3	B
Southbound	27.3	C	37.2	D
[illegible]				
T Street, NE & 3rd Street, NE				
Overall	**5.9**	**A**	**5.4**	**A**
Eastbound	6.5	A	6.6	A
Westbound	6.7	A	5.5	A
Northbound	4.4	A	5.0	A
[illegible]				
R Street, NE & 3rd Street, NE				
Overall	**4.9**	**A**	**5.9**	**A**
Eastbound	3.7	A	6.1	A
Westbound	2.8	A	3.5	A
Northbound	5.5	A	5.6	A
R Street, NE & 2nd Street, NE				
Overall	**5.9**	**A**	**5.4**	**A**
Eastbound	5.6	A	6.0	A
Southbound	6.0	A	4.8	A
R Street, NE & Eckington Place, NE				
Overall	**6.6**	**A**	**6.2**	**A**
Eastbound	6.9	A	8.2	A
Westbound	6.2	A	5.1	A
Northbound	6.9	A	5.9	A
Q Street, NE & Eckington Place, NE				
Eastbound	5.1	A	4.0	A
Northbound Left Turn	3.2	A	2.8	A
Harry Thomas Way & Eckington Place, NE				
Westbound	8.2	A	8.0	A
Southbound Left Turn	4.7	A	2.9	A
Rhode Island, NE & 3rd Street, NE				
Northbound	15.8	C	48.3	E
Southbound	25.2	D	17.7	C
Eastbound Left Turn	17.5	C	11.4	B
Rhode Island, NE & 2nd Street, NE				
Westbound Left Turn	9.6	A	9.8	A

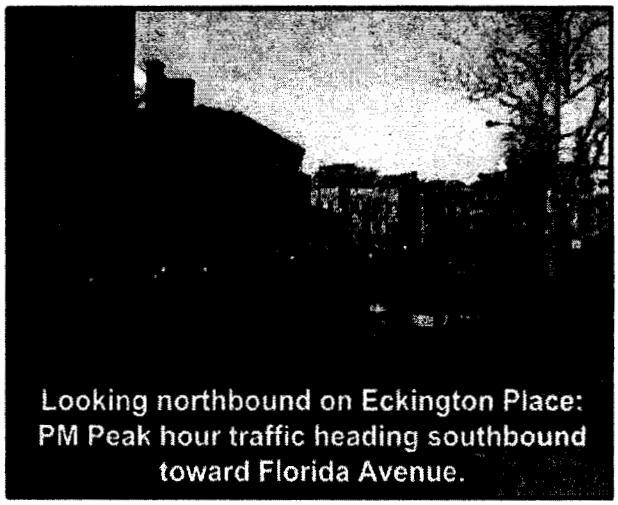
reverse direction. There was no bottle neck, congestion or blocking of the intersection during the morning peak period. In the PM peak period, the southbound leg of the Eckington Place/Florida Avenue intersection experienced delays and queues as vehicles leaving Eckington Place merge with traffic on Florida Avenue (see picture on the next page). In particular, vehicles find it difficult to make the left-turn from Eckington Place to eastbound Florida Avenue because of the proximity of the New York Avenue/Florida Avenue signal. The distance between the signals allows a queue of 6 cars in each lane (2 eastbound lanes) before the Eckington Place/Florida Avenue intersection is blocked. It therefore restricts the southbound left-turn movement of Eckington Place. Also, because the signal timing between both intersections does not allow enough clearance of the vehicles between the two signals prior to southbound movement from Eckington Place getting a green light, there is, for the most part, no space to accommodate the vehicles heading eastbound from Eckington Place.

An extensive study of the entire New York Avenue corridor is being conducted. DDOT plans to improve the design of the New York Avenue/Florida Avenue intersection. Interim measures are being planned which includes the creation of a "loop" around the existing Wendy's fast food outlet relieving traffic congestion at this intersection. This would translate into better traffic operations at the Eckington Place/Florida Avenue intersection. For this reason, an in-depth traffic analysis of this intersection was not included for the Capital Commerce Center Study (See Scoping Letter in the Appendix). Changes to the New York Avenue/Florida Avenue intersection are detailed further in the "Future Transportation Improvements" section of this report.

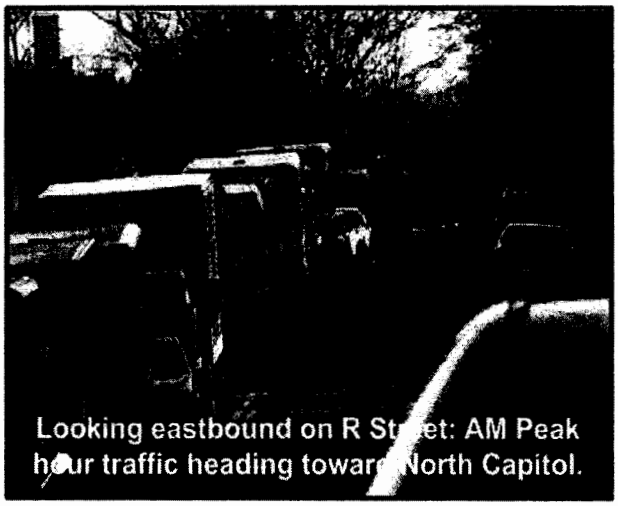
R Street/North Capitol Street

For the AM peak period, the R Street/North Capitol Street intersection experiences westbound queues along R Street extending from North Capitol Street to Eckington Place in the AM peak period. Vehicles in these queues are predominantly Federal Express (FedEx) vehicles leaving the FedEx facility on Eckington Place and heading towards Downtown, Washington, D.C. via R Street (see picture on the next page).

Traffic calming or traffic routing measures could be implemented to ease the heavy use of R Street in the morning peak. However, this would require coordination and dialogue between DDOT Staff, FedEx, and the Eckington Community.



Looking northbound on Eckington Place: PM Peak hour traffic heading southbound toward Florida Avenue.



Looking eastbound on R Street: AM Peak hour traffic heading toward North Capitol.

FUTURE BACKGROUND CONDITIONS

For the purposes of this analysis, it was assumed that the proposed Fairfield PUD at Capitol Commerce Center would be completed by 2010. In order to develop background traffic forecasts (or future traffic forecasts without the development of the subject site), a composite of existing traffic, ambient growth in traffic and traffic from other future area developments was developed.

Future Background Developments

Several background developments in and around the Eckington area of the subject site were accounted for in this study. The locations of the projects relative to the Capitol Commerce Center are shown on Figure 6; each project is discussed below:

The Potomac Electric Power Company (PEPCO) Site

The Potomac Electric Power Company (PEPCO) site is a part of the tract of land approved by the City in 1989 for large tract development. PEPCO's 6.5 acre portion is bounded by Harry Thomas Way to the north, the Federal Express distribution center to the west, and the Metrorail Red Line corridor to the south and east.

PEPCO plans to develop an electrical substation off Harry Thomas Way opposite to the south east corner of the Fairfield CSX site's boundary with Harry Thomas Way. The proposed substation would utilize 2.2 acres of the 6.5 acre site, and would contain a 14,000 gross square feet (GSF) electrical substation building with a 31,000 GSF site footprint.

According to PEPCO, trip generation for the station would be extremely low ("generally nil") during the peak hours since the substation itself would contain state-of-the-art equipment and technology, and would generally be unmanned for daily operations[1]. Occasional trips would otherwise be warranted, and based upon PEPCO's operational needs. This is supported by rates derived by ITE's *Trip Generation Manual*, 7th Edition and O. R. George and Associates, Inc. The electrical substation is expected to generate no more than 11 peak hour trips for any period of a typical weekday.

The Bureau of Alcohol, Tobacco and Firearms (ATF) Headquarters

The national headquarters of the Bureau of Alcohol, Tobacco and Firearms (ATF) is presently under construction near the intersection of New York and Florida Avenue, NE, Washington, D.C. The site, as shown in Figure 6, is bordered by O Street and New York Avenue on the northwest, Florida Avenue on the northeast, 1st Street on the west, N Street on the south, and 2nd Street on the east. The site also includes half of the N and 2nd Street former rights-of-way.

[1] Traffic Impact Assessment: PEPCO Large Tract Review Application, NE, Washington D.C., by O. R. George & Associate, Inc.

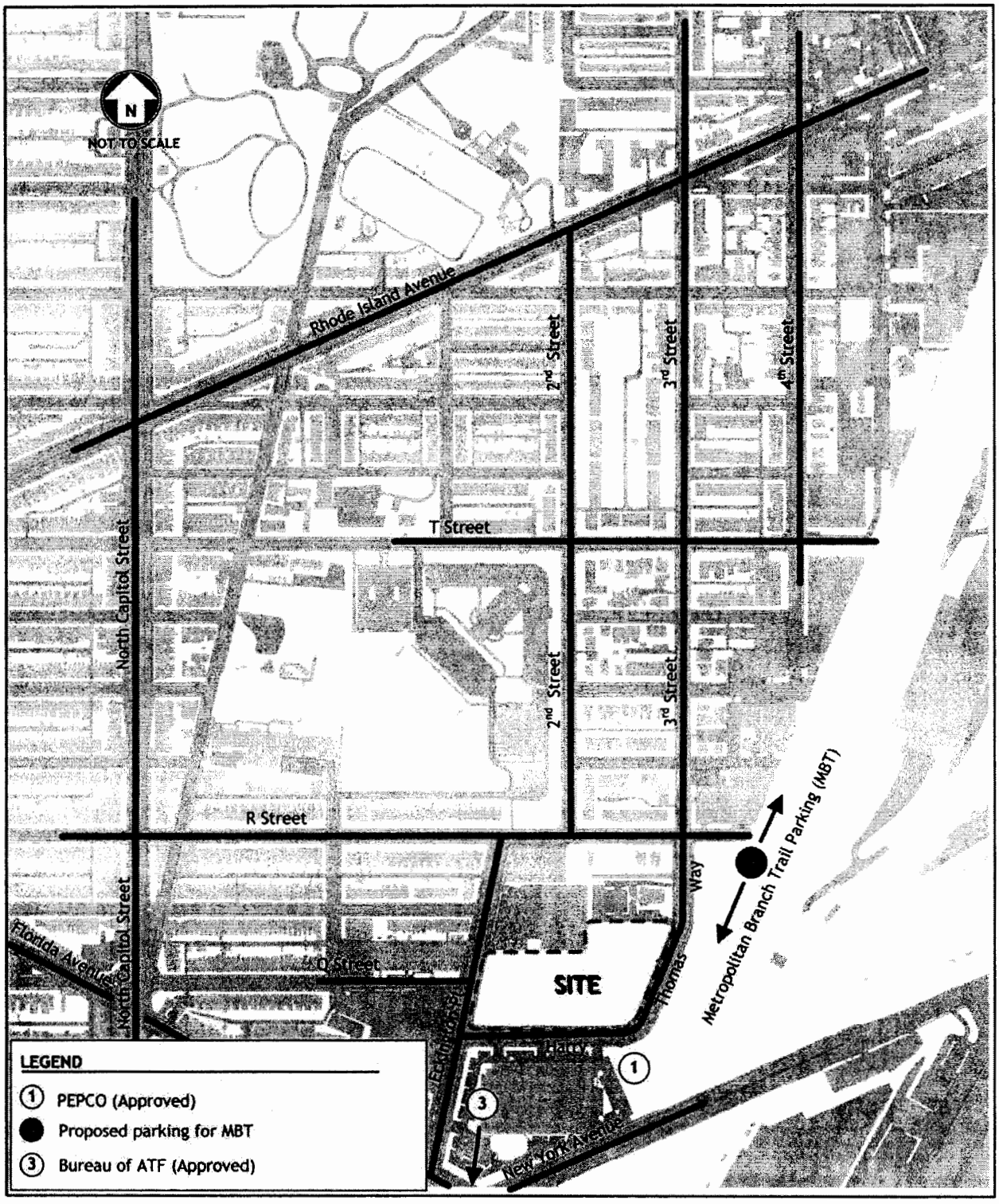


Figure 6 – Background Developments

The new ATF headquarters will contain approximately 422,000 gross square feet of office space, with approximately 1,100 employees and 200 parking spaces.

The vehicular trips generated by the new ATF headquarters are not expected to traverse the intersections within the study area for the Capitol Commerce Center.

Proposed Parking for the Metropolitan Branch Trail (MBT)

The proposed parking for the Metropolitan Branch Trail is another planned project in the vicinity of the Capitol Commerce Center. The parking site is expected to be to the northeast of the Site, running adjacent to the Metropolitan Branch Trail. Since this project has not been approved it was not included in the analyses.

Future Transportation Improvements

Several major roadway improvements are planned for areas surrounding the Capitol Commerce Center. Some of these may not directly affect the operations of the roadways in the study area. The potential transportation improvements include:

New York Avenue Corridor (NYAC) Study

The New York Avenue Corridor (NYAC)[2] study from the District of Columbia/Prince George's County line to 7th Street, NW, has been identified in the District's strategic transportation plan as an area for roadway improvements. New York Avenue is the principal vehicular commuter thoroughfare into the District from I-95 and the Baltimore-Washington Parkway, including US-50. As part of the NYAC study, there is to be a major reconstruction and reconfiguration of the New York Avenue/Florida Avenue intersection and other nearby intersections, including the Florida Avenue/Eckington Place intersection, to accommodate the high volume of traffic passing through those intersections daily. Approximately 95,000 trips pass through the New York Avenue/Florida Avenue intersection on a daily basis.

As proposed and agreed to by DDOT, since the NYAC study already includes the New York Avenue/Florida Avenue and Eckington Place/Florida Avenue intersections as part of the scope, these intersections were not included in this study. Additionally, it is estimated that the trips being generated by the Fairfield CSX development would contribute to only 1% or less of the traffic going through the intersections.

DDOT does however have interim or short term improvements which they plan to implement within a year to two years. A schematic of the recommended improvements is shown in Figure 7 below, and is defined by a one-way loop around Wendy's. The portion of Florida Avenue between Eckington Place

[2] http://www.ddot.dc.gov/ddot/cwp/view,a,1247,q,627756,ddotNav,|32399|.asp

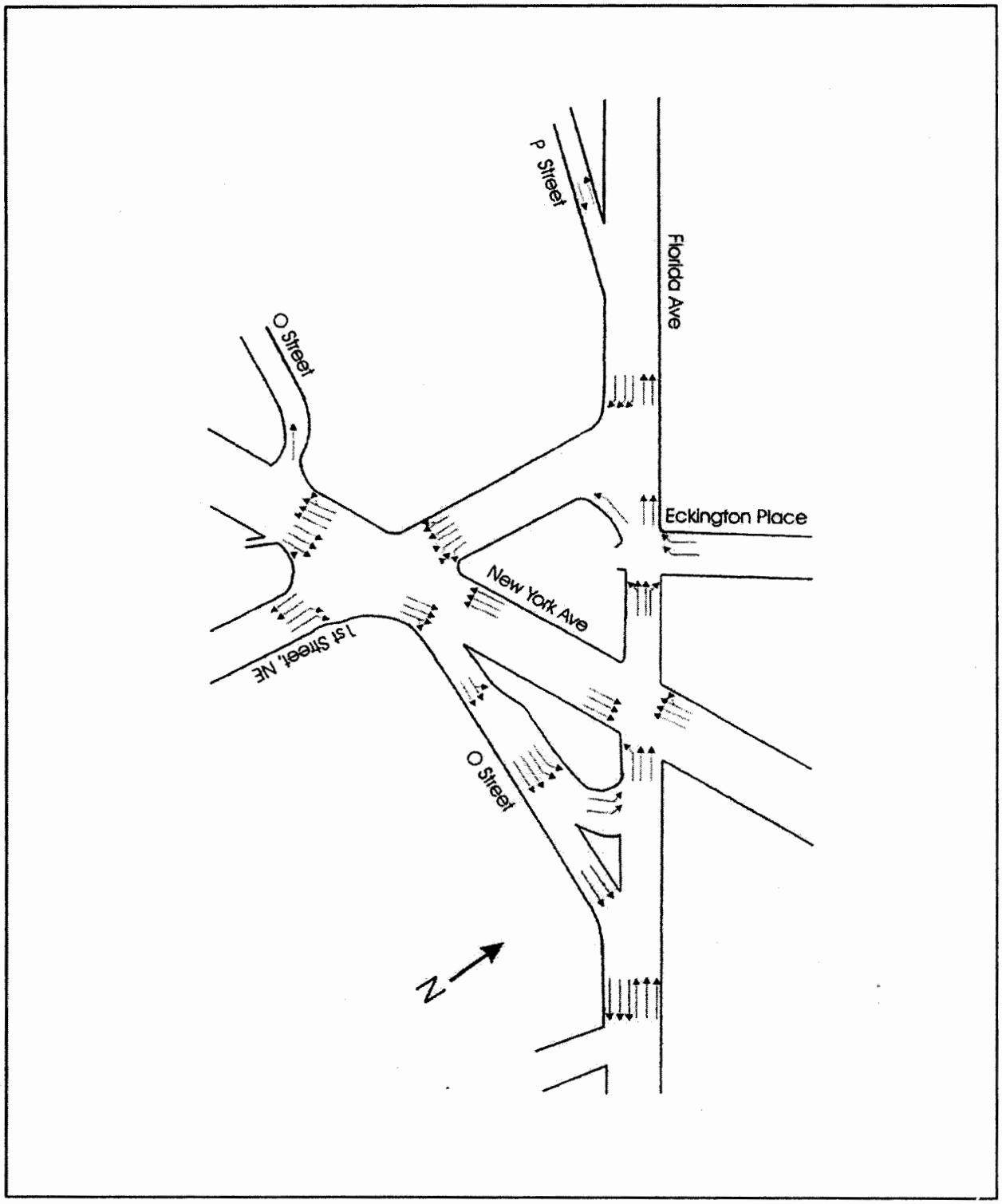


Figure 7 – Interim Improvements to New York Avenue/Florida Avenue Intersection

and New York Avenue would be made one-way westbound, and First Street, between Florida Avenue and New York Avenue, would be made one-way southbound. The design and simulations are still to be finalized by DDOT, but will be implemented as a temporary improvement to ease congestion in this area.

Brentwood Road Transportation Study[3]

The Brentwood Road Transportation Study is being conducted as a result of citizens' concerns on speeding traffic, traffic congestion, and transportation safety. Another objective of the study is to link residential areas with commercial areas by providing the residents with transportation facilities to easily access the area's commercial developments.

The proposed improvements to Brentwood may include minor and major changes and are categorized as:

- Traffic improvements, which are further divided into intersection, corridor, alley, and roadway improvements
- Parking improvements
- Transit improvements
- Pedestrian/Bicycle improvements

The study area is bounded to the north by Rhode Island Avenue, to the east by Montana Avenue, to the West by CSX railroad right of way, and to the south by New York Avenue. The defined area is not within the Fairfield CSX study area, and therefore will not affect the analysis. More information about the Brentwood Road Transportation Study can be found on DDOT's website[3].

Other Transportation Studies

Other transportation studies located around the study area include the T Street traffic study and the Eckington Area Traffic Calming Study. Detailed information on these studies were not available, however it is not expected that they would offer significant changes to the traffic patterns in the area.

Future Background Traffic Forecast

Since only a couple of approved developments are being considered for background and the trips generated by them would be insignificant to the study area, background traffic forecasts were thence developed based on a composite of existing traffic counts shown in Figure 5 and traffic growth of 1% on certain movements, to account for other developments (including those planned but not approved) that may contribute to traffic in the area. Figure 8 shows the future background traffic volumes with

[3] http://www.ddot.dc.gov/ddot/cwp/view,a,1249,q,619510,.asp

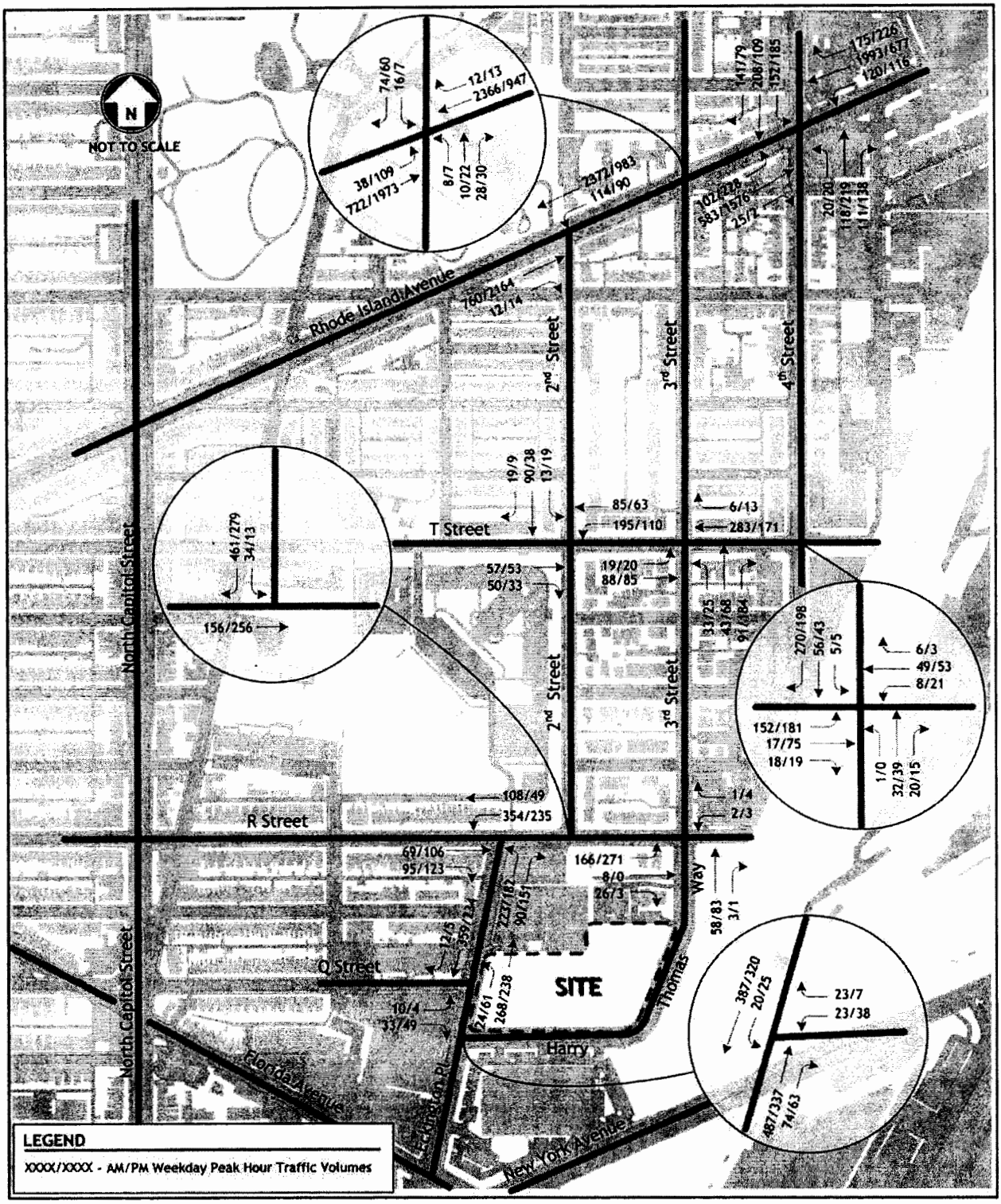


Figure 8 – Background Traffic Forecast

the applicable traffic growth applied to the existing traffic.

Future Background Analyses

Background peak hour levels of service (without the Capitol Commerce Center mixed-use development) were calculated based on: (1) existing lane use and traffic controls shown on Figure 3; (2) the background traffic volumes shown on Figures 8; and (3) the *Highway Capacity Manual* 2000 (HCM) methodologies (using Synchro 6 software). Copies of LOS calculation worksheets are included in the Appendix. Table 2 displays the results of the capacity analyses, including LOS and average delay per vehicle (in seconds).

Table 2 shows that that all study area intersections would continue to operate at acceptable conditions under background conditions with ambient growth applied. The signalized intersections of 4th Street, NE/Rhode Island Avenue, and T Street/Rhode Island Avenue would continue to operate at acceptable levels in both morning and afternoon peak hours. Table 2 also show a LOS F for the north and southbound approaches of the Rhode Island Avenue/3rd Street intersection, however as explained earlier, this is not expected to be the actual case in future background, since the upstream signal at Rhode Island Avenue and 1st Street would provide a break or gap in the flow of traffic along Rhode Island Avenue, allowing vehicles from 3rd Street to merge onto Rhode Island Avenue. This upstream signalized intersection was not included in the study scope and was therefore not included in the analysis.

Table 2 – Background Level of Service

Intersection (Approach)	Background Conditions			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Rhode Island, NE & 4th Street, NE				
Overall	**29.3**	**C**	**22.9**	**C**
Eastbound	30.2	C	17.4	B
Westbound	26.4	C	19.5	B
Northbound	44.2	D	45.2	D
Southbound	33.5	C	36.1	D
T Street, NE & 3rd Street, NE				
Overall	**9.7**	**A**	**9.5**	**A**
Eastbound	8.7	A	8.9	A
Westbound	10.4	B	9.4	A
Northbound	9.1	A	9.8	A
R Street, NE & 3rd Street, NE				
Overall	**8.3**	**A**	**10.3**	**B**
Eastbound	8.4	A	11.0	B
Westbound	7.4	A	7.4	A
Northbound	7.9	A	8.4	A
R Street, NE & 2nd Street, NE				
Overall	**11.2**	**B**	**8.8**	**A**
Eastbound	8.4	A	8.4	A
Southbound	12.1	B	9.1	A
R Street, NE & Eckington Place, NE				
Overall	**18.4**	**C**	**12.9**	**B**
Eastbound	10.4	B	10.9	B
Westbound	23.4	C	13.3	B
Northbound	15.3	C	13.9	B
Q Street, NE & Eckington Place, NE				
Eastbound	12.0	B	9.6	A
Harry Thomas Way & Eckington Place, NE				
Westbound	16.3	C	14.5	B
Rhode Island, NE & 3rd Street, NE				
Northbound	33.0	D	145.6	F
Southbound	132.6	F	16.3	C
Rhode Island, NE & 2nd Street, NE				
Westbound Left Turn	8.7	A	9.9	A

TOTAL FUTURE TRAFFIC CONDITIONS

Total future traffic conditions represent future traffic in the study area including existing traffic, background growth, and traffic generated by the Capital Commerce Center.

Capitol Commerce Center Mixed-Use Development Transportation Features

The Capitol Commerce Center plan provides for a mixed-used development of total gross floor area of approximately 755,035 square feet. An approximate 739,951 square feet would be used for 625 to 675 residential units (the mix includes 580 to 630 condominium units and 45 single family townhouses and piggy-back rownhouses) and an affordable housing component of approximately 59,000 square feet.

There will be approximately 15,084 square feet of ground floor retail. This retail plaza is expected to be more community-oriented and therefore would not necessarily contribute new traffic to the surrounding network. The total Floor Area Ratio (FAR) would be 4.01.

The future development will provide between approximately 875 parking spaces for residents, guests, and retail uses. Approximately 785 of those will be below-grade parking spaces provided beneath the larger buildings for residents and guests and approximately 45 spaces will be for visitors to the retail potion of the project. Additional parking will be available in the form of parking garages within each unit of the townhouses, and in parking lots to the north of certain units.

As shown in Figure 9, the internal site circulation is defined by the extension of Q Street from Eckington Place in an easterly direction through the center of the Site before terminating at a new two-way STOP intersection with the northernmost portion of Harry Thomas Way. Another new roadway would run north-south through the site, beginning at the southern portion of Harry Thomas Way just across from the Federal Express distribution facility and east of the Eckington Place/Harry Thomas Way intersection, forming a four-legged intersection with the extended Q Street before it reaches a surface parking lot just beyond a set of townhomes located on the north side of the extended Q Street. These new roads will accent the street grid system in the area and improve access to the new community through four access points; three of which are on Harry Thomas Way, while the other is at the restructured Eckington Place/ Q Street intersection.

Pedestrian Features

As a part of the community benefits and amenities package, the applicant proposes a financial contribution to facilitate a pedestrian/bicycle link to the New York Avenue Metro Station via the Metropolitan Branch Trail. Figure 10 shows the proposed connection to the MBT and the New York Avenue Metrorail Station.

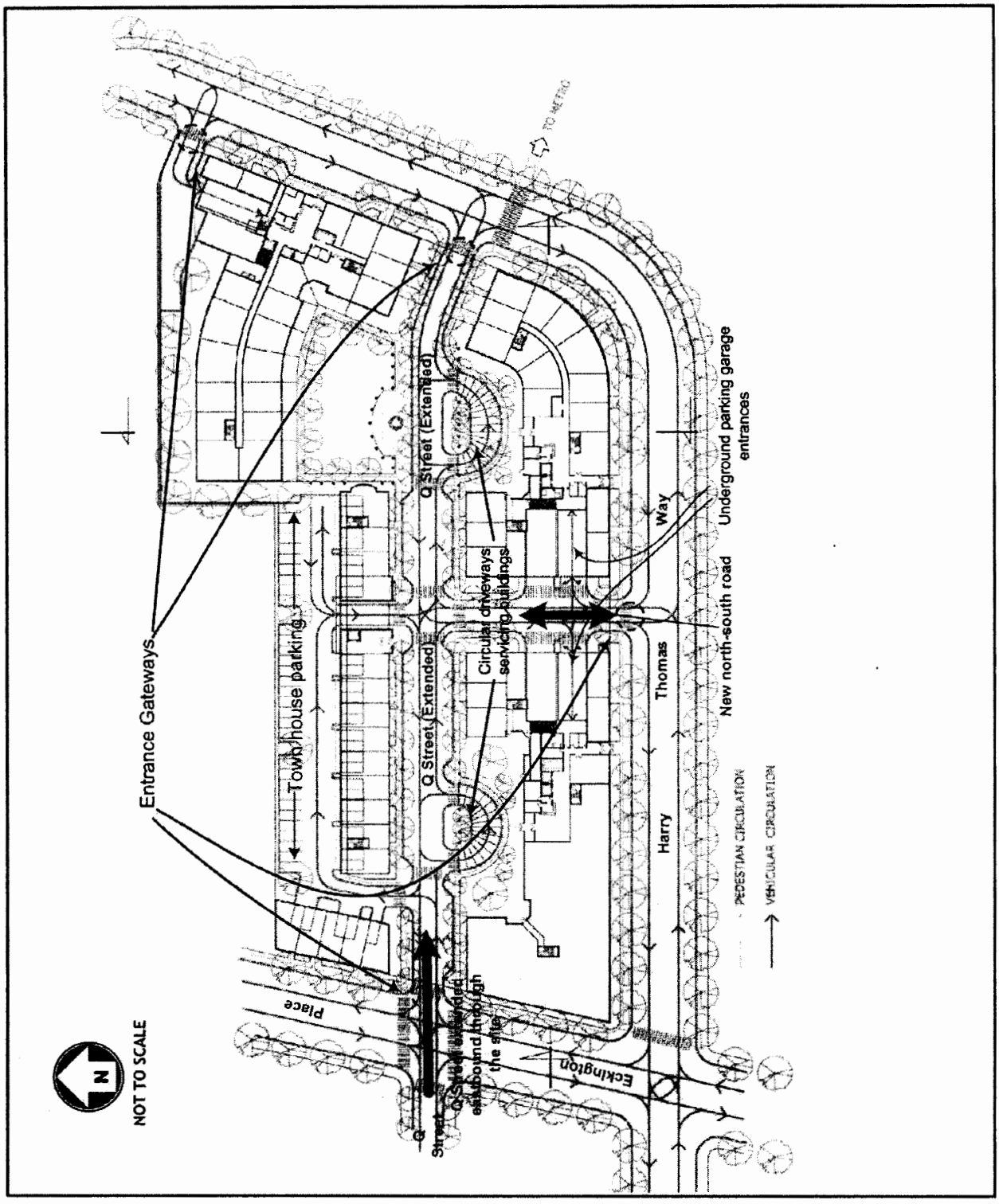


Figure 9 – Capitol Commerce Center Transportation Features

Figure 10 – Metropolitan Branch Trail

The MBT will also significantly improve pedestrian and bicycle access between the Capitol Commerce Center site and the new Metrorail Station at the intersection of New York and Florida Avenues.

The grade-separated design of the Trail segment between the new Metrorail Station and the Capitol Commerce Center negates the need for pedestrians and bicyclists to have to cross the busy and dangerous intersection of New York and Florida Avenues. A recently completed elevated trail structure takes the Trail over M Street, NE and Florida Avenue, NE. A portion of the Trail which is currently funded and under design will then pass under the existing New York Avenue, NE Bridge, adjacent to the Metrorail and other railroad tracks. The elevator and stairs at the Station entrance will provide access under the Americans with Disabilities Act (ADA) guidelines.

The short segment of the Trail from New York Ave to Harry Thomas Way is being designed by DDOT. It will connect the recently-completed elevated section adjacent to the new Metrorail station with the street system in the Eckington neighborhood, including designs for a connecting asphalt path at Harry Thomas Way and a Trail entrance at R Street.

Capitol Commerce Center Parking

Auto ownership tends to be relatively low at apartment and condominium developments within cities when adjacent to good public transportation services. Renters and condo owners trade off the cost and convenience of owning a car so they can pay higher rents or mortgage payments for in-town living. They have conveniences within walking distance and are more dependent on public transportation. Recently, the availability of car-sharing services like Flexcar and Zipcar has provided another mobility dimension. As a result, the trend in new development has been to lower parking ratios (number of spaces provided per unit). This also enables the developer to lower construction and ongoing maintenance costs and offer units at lower prices. The supply of parking at each apartment project creates a self-enforcing mechanism: apartment dwellers who desire more parking than what's available will seek another location.

Zoning within the District encourages this market-based approach to determining the number of spaces to provide. The parking required for a C-3-C zone is one space for every four units, a parking ratio of 0.25. Additionally, the 2000 Census reported that an average of 50% of total households in Census Tract 87.02, which contains the Fairfield-CSX development site, own automobiles.

Fairfield at Capitol Commerce Center will provide approximately 875 underground parking spaces, with 830 spaces for residents and guests. This equates to a parking ratio of more than one space per unit, around 1.2 to 1.3 depending on the final unit and space amount. This exceeds the zoning requirements of the District, and measures favorably when compared to other recently approved developments. Table 3 shows the parking ratios of twelve comparable developments in the District with an average of 0.88 parking spaces per unit. The proposed Fairfield development would be on the high end of parking ratios for new developments within the District.

National trends also support this parking ratio. Information contained in the Institute of Transportation Engineer's *Parking Generation*, 3rd Ed., report the results of vehicle ownership per household in urban areas. Within a third of a mile of a rail transit station and 10 miles of the center city, the average household owned 0.8 to 1.2 vehicles.

Based on this information, a parking ratio of one space per unit is adequate for the proposed development.

Table 3 – Parking Ratio of New District Developments

Development	Address	Located in CBD?	Parking Ratio (Spaces/Unit)
400 Massachusetts Avenue	400 Mass Ave, NW	Yes	0.85
Andover, The	1200 14th St, NW	No	1.00
Capitol Hill Towers	140 L St, SE	Yes	0.67
Fort Totten Metro Station Development	Fort Totten Metro Station	No	1.00
Highland Park	3000 14th St, NW	Yes	1.18
The Lexington and Concord Condos	800 3rd St, NE	Yes	1.11
Madrigal, The	811 4th St, NW	No	1.00
Massachusetts Court	300 Mass Ave, NW	Yes	0.84
Post Massachusetts Avenue	1499 Massachusetts Ave, NW	No	0.70
Radius at Logan Circle	1300 N St, NW	No	0.59
Sovereign at 2400 M Street	2400 M St, NW	Yes	0.58
Whitman, The	9th and M Streets, NW	No	1.10
		Average	***0.88 spaces/unit***

Capitol Commerce Center Trip Generation

The number of trips anticipated to be generated by the new development was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation* rates/equations, 7th Edition and the "Development-Related Ridership Survey II", a study conducted by the Washington Metropolitan Area Transit Authority (WMATA).

Table 4 shows that the proposed development would generate approximately 282 AM peak hour trips (60 in and 222 out), 461 PM peak hour trips (272 in and 189 out), and 5,908 daily trips without any alternate mode choice reduction.

Trip Reductions

By definition, ITE's trip generation rates were derived from data collected from single-use developments where virtually all access to the development would be by private automobile (Source- *Trip Generation Handbook*, 2nd Edition, Appendix B). *Trip Generation* does not account for the potential effects of Transit Demand Management (TDM) programs, transit availability, and interaction between various on-site uses (synergy), particularly when these uses are in walking distance of each other.

A high percentage of trips to and from residential developments near Metrorail stations use transit; it is therefore expected that some residents of the Capitol Commerce Center would take advantage of the nearby Metrorail station. The anticipated connection of Capitol Commerce Center with the Metropolitan Branch Trail and the convenience and close proximity of the New York Avenue Metro-station would make it easy for residents of the Capitol Commerce Center to ride the Metrorail and park personal vehicles – especially for those who will be working in the District, where parking is costly and limited.

Table 4 summarizes the trip generation for the Capitol Commerce Center. Based on the WMATA "Development-Related Ridership Survey II," the transit mode share for developments near Metrorail stations ranged from 30 to 70 percent. Using the models provided in the study, we estimate a 63.7% alternate mode reduction in trips for the residential portion due to transit mode share. A conservatively low 50% reduction was applied to the residential trips. No reduction was assumed for residents who will be using Metrobus, walking or biking. It is also expected that a further reduction would be applicable for the retail portion since the retail plaza is not expected to introduce new trips into community, but will be primarily used by members of the new community and those in the wider Eckington area. A 60% reduction was applied to the retail trips to account for alternate modes, which accounts for trips made walking from residences to retail. With the reductions applied, a total of 139 AM peak hour trips (29 in and 110 out), 214 PM peak hour trips (129 in and 85 out) and 2,698 daily trips would be generated by the development.

Table 4 – Capitol Commerce Center Trip Generation

Residential Component									
Condominiums	222	636 Units	39	188	227	184	90	274	3,094
Townhouses		33 Units	4	17	21	16	8	24	252
Residential Subtotal			43	205	248	200	98	298	3,346
Alt. Mode Reductions (50%)			21	102	123	100	49	149	1,673
Subtotal - Residential			**22**	**103**	**125**	**100**	**49**	**149**	**1,673**
Retail Component									
Specialty Retail	814	59,000 SF	17	17	34	72	91	163	2,562
Alt. Mode Reductions (60%)			10	10	20	43	55	98	1,537
Subtotal - Retail			**7**	**7**	**14**	**29**	**36**	**65**	**1,025**
Total (without Reductions)			**60**	**222**	**282**	**272**	**189**	**461**	**5,908**
Total (With Reductions)			**29**	**110**	**139**	**129**	**85**	**214**	**2,698**

Capitol Commerce Center Distribution

The site-generated traffic volumes reflected in Table 4 were assigned to the public road network based on existing travel patterns identified during data collection and knowledge of the area. The percent distributions and resulting trip assignments are shown in Figure 11. Figure 11 shows that Capitol Commerce Center would add little traffic to the neighborhood roadways, with approximately one car per every 2 or 3 minutes on 2nd and 3rd Streets.

Total Future Traffic Forecast

The site-generated traffic assignments depicted on Figure 11 were combined with the background traffic forecasts shown on Figure 8 to yield the total future traffic forecasts associated with the build-out of Capitol Commerce Center, shown on Figure 12.

Total Future Traffic Analyses

Total future peak hour levels of service (including the build-out of the Capitol Commerce Center) were calculated based on: (1) existing lane use and traffic controls shown on Figure 3; (2) the total future traffic volumes shown on Figures 12; and (3) the Highway Capacity Manual 2000 (HCM) methodologies (using Synchro 6 software). Copies of LOS calculation worksheets are included in the Appendix. Table 5 displays the results of the capacity analyses, including LOS and average delay per vehicle (in seconds).

The analysis shows that there would be little or no significant change in the levels of service of the study intersections as we move from background conditions to future conditions with the Capitol Commerce Center trips added. The intersections in the study area would maintain acceptable levels of service as reflected in background conditions, except for the north and southbound approaches of the Rhode Island Avenue/3rd Street intersection. Table 5 also shows a LOS F for the north and southbound approaches of the Rhode Island Avenue/3rd Street intersection, however as explained earlier, this will not be the actual case in future conditions, since the upstream signal at Rhode Island Avenue and 1st Street would provide a break or gap in the flow of traffic along Rhode Island Avenue, allowing vehicles from 3rd Street to merge onto Rhode Island Avenue. This upstream signalized intersection was not included in the study scope and was therefore not included in the analysis.

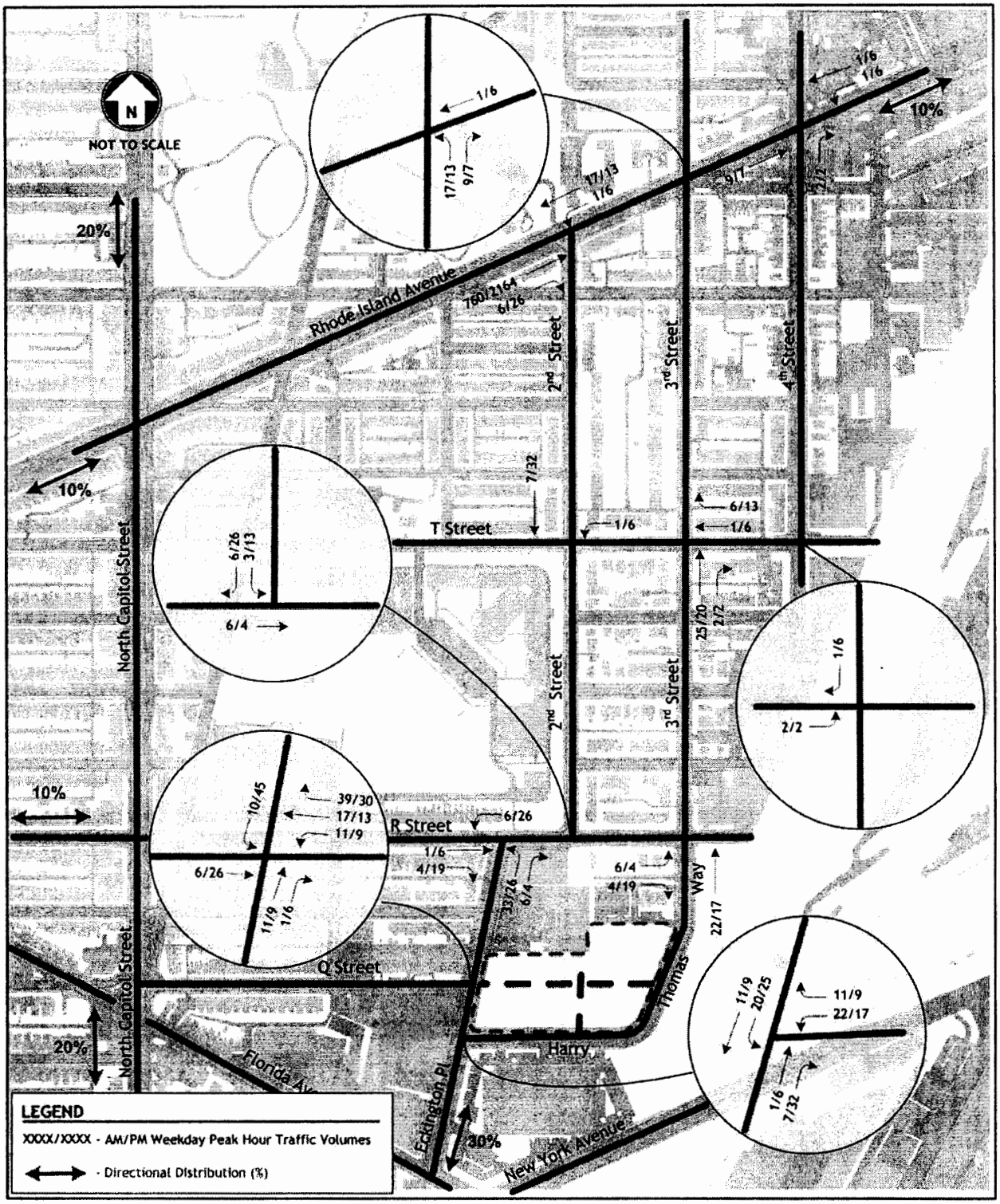


Figure 11 – Site Trips and Distribution

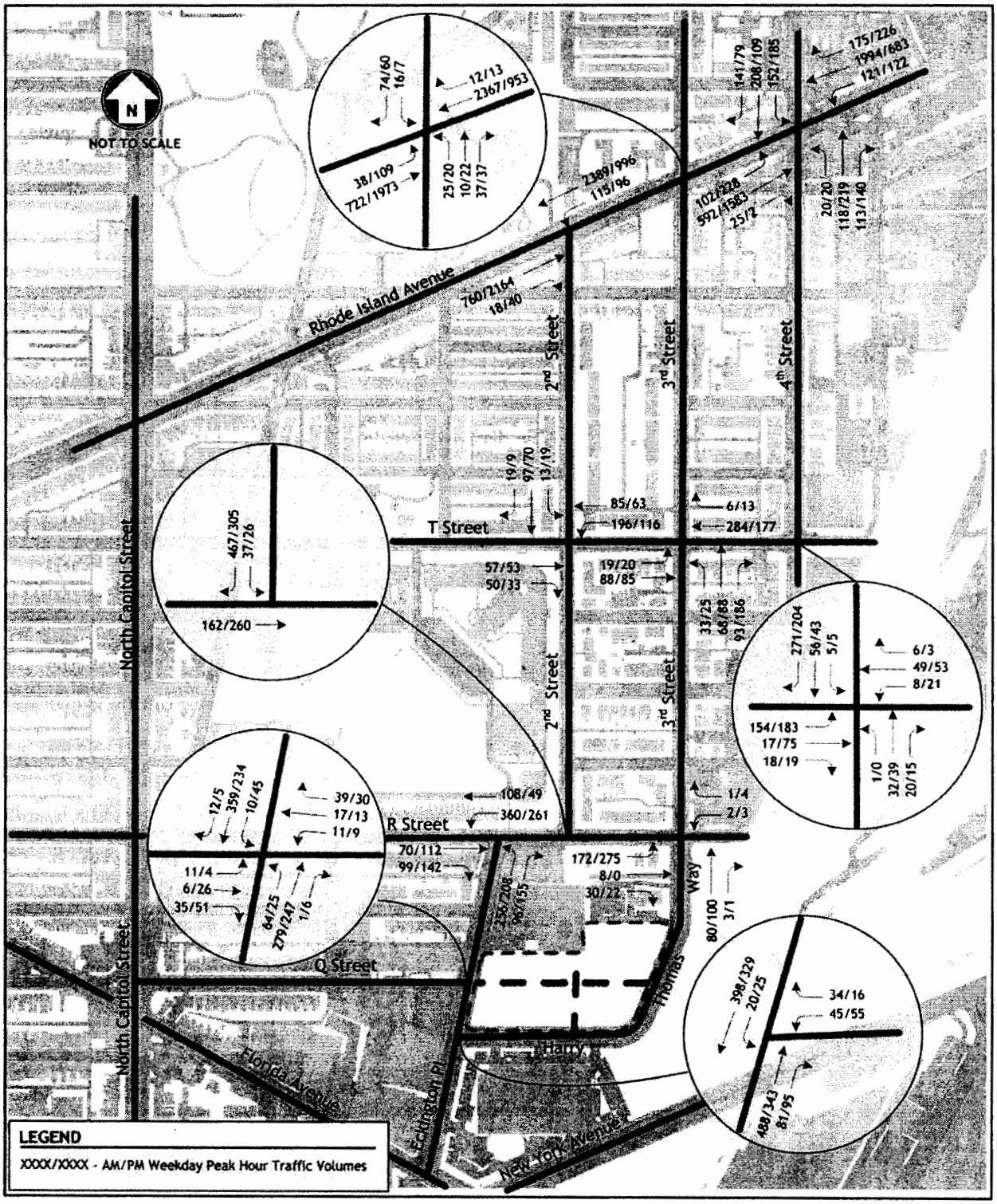


Figure 12 – Total Future Traffic Forecast

Table 5 – Total Future Levels of Service

Intersection (Approach)	Total Future Conditions			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Rhode Island, NE & 4th Street, NE				
Overall	**29.4**	**C**	**23.1**	**C**
Eastbound	30.3	C	17.5	B
Westbound	26.5	C	19.9	B
Northbound	44.9	D	45.5	D
Southbound	33.5	C	36.1	D
T Street, NE & 4th Street, NE				
Overall	30.8	C	29.2	C
Eastbound	14.7	B	17.1	B
Westbound	21.3	C	25.0	C
Northbound	12.1	B	12.2	B
Southbound	44.0	D	21.7	C
T Street, NE & 3rd Street, NE				
Overall	**10.0**	**A**	**9.8**	**A**
Eastbound	8.8	A	9.0	A
Westbound	10.7	B	9.7	A
Northbound	9.5	A	10.2	A
T Street, NE & 2nd Street, NE				
Overall	9.3	A	8.1	A
Eastbound	8.1	A	7.7	A
Westbound	10.5	B	8.8	A
Southbound	7.8	A	7.5	A
R Street, NE & 3rd Street, NE				
Overall	**8.7**	**A**	**10.3**	**B**
Eastbound	9.0	A	10.9	B
Westbound	7.4	A	7.5	A
Northbound	8.0	A	8.6	A
R Street, NE & 2nd Street, NE				
Overall	**11.4**	**B**	**9.1**	**A**
Eastbound	8.5	A	8.6	A
Southbound	12.4	B	9.5	A
R Street, NE & Eckington Place, NE				
Overall	**20.8**	**C**	**14.7**	**B**
Eastbound	10.9	B	12.0	B
Westbound	26.6	D	15.1	C
Northbound	17.9	C	16.2	C
Q Street, NE & Eckington Place, NE				
Eastbound	14.8	B	12.5	B
Westbound	15.2	C	13.1	B
Harry Thomas Way & Eckington Place, NE				
Westbound	18.5	C	15.5	B
Rhode Island, NE & 3rd Street, NE				
Northbound	28.7	D	408.9	F
Southbound	133.8	F	16.5	C
Rhode Island, NE & 2nd Street, NE				
Westbound Left Turn	8.7	A	10.0	A

CONCLUSION

The capacity analyses contained in this report provided the following results:

- *Existing Conditions*

  Under existing conditions, all study area intersections operate at or better than the acceptable Levels of Service.

- *Future Background Conditions*

  The results of the future background capacity analyses show that all study area intersections are projected to operate at or above the acceptable Levels of Service, with negligible changes in delay considering regional growth.

- *Total Future Conditions*

  The total future conditions capacity analysis, including the Capitol Commerce Center generated traffic, showed similar results to the future background conditions. The study intersections would continue to operate at or better than the acceptable levels.

- *Parking*

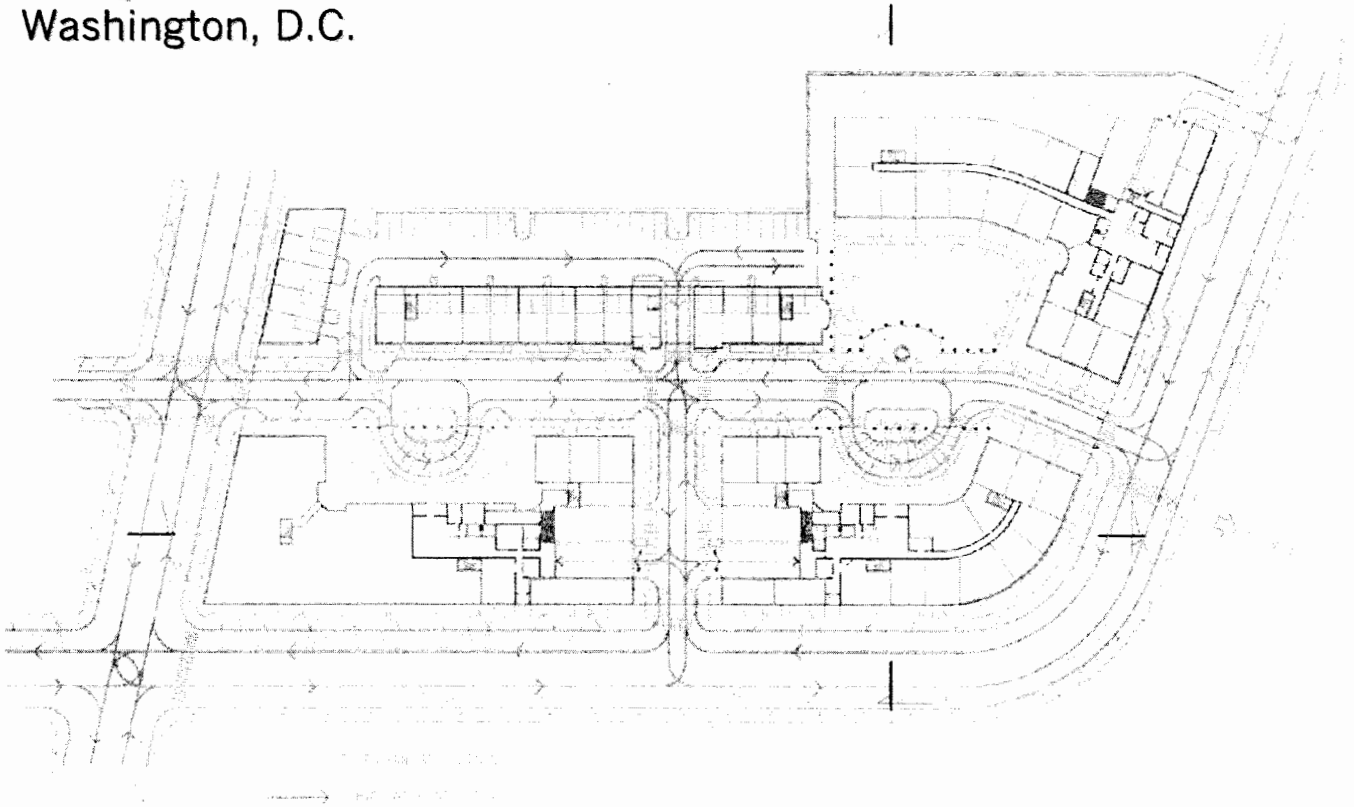
  The development will provide approximately 875 new parking spaces (approximately 830 for residents and guests) at a parking ratio of more than one space per unit. Based on current trends and the District's requirements, this is adequate for the proposed development.

Based on these results, the proposed Capitol Commerce Center mixed-use development would have no negative impact on the surrounding road network. The close proximity and quality of access to Metrorail significantly reduces potential traffic impacts. The Capitol Commerce Center traffic would therefore have no significant impact on the roadways in the community and these additional vehicle-trips can be accommodated by the surrounding network.

Traffic Impact Analysis

Capitol Commerce Center

Washington, D.C.



March 31, 2006

Prepared For:
Fairfield Realty, LLC
7200 Wisconsin Avenue
Bethesda, Maryland 20814
(301) 645.2884

Prepared By:
Gorove/Slade
Associates, Inc.

GOROVE/SLADE ASSOCIATES, INC.
Transportation, Traffic and Parking

PREPARED BY:

Gorove/Slade Associates, Inc.
1140 Connecticut Avenue
Suite 700
Washington, D.C 20036

Tel: 202.296.8625
Fax: 202.785.1276

3914 Centreville Road
Suite 330
Chantilly, VA 20151

Tel: 703.787.9595
Fax: 703.787.9905

www.goroveslade.com

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EXECUTIVE SUMMARY

The following report presents the findings of a traffic impact study prepared for the Planned Unit Development (PUD) and Zoning Map Amendment application for the Fairfield CSX (Capitol Commerce Center) in Washington, D.C.

The site, Lot 815 in Square 3576, is located in the Eckington area of Ward 5 in Washington, D.C and consists of approximately 187,958 square feet of land area. The site is presently in the M Zone District. The Applicant, Fairfield Realty (FF) LLC, proposes to construct a mixed-use project that will include approximately 625 to 675 residential units and approximately 15,000 square feet of neighborhood-serving retail. The Applicant also proposes to rezone the subject property to the C-3-C Zone District.

Several features of The Capitol Commerce Center development help to reduce potential traffic impacts. The development will encourage the use of multiple modes of travel to minimize traffic impacts on the community. The applicant proposes to facilitate a pedestrian link to the nearby New York Avenue Metrorail Station via the Metropolitan Branch Trail. The trail is an important non-motorized transportation route under development; it will provide direct pedestrian and bicycle access from Northeast D.C neighborhoods to the heart of Washington and seven of Metrorail's Red Line stations, including the one at New York Avenue.

The mixed-use plan for the development will reduce both the traffic generated by the community and automobile dependence, since residents will not need to travel by car to access retail amenities.

The traffic capacity analyses of the roadway intersections detailed in the study found the following conclusions:

- *Existing Conditions*

  Under existing conditions, all study area intersections operate at or better than the acceptable levels of service.

- *Future Background Conditions*

  The results of the future background capacity analyses show that all study area intersections are projected to operate at or above the acceptable levels of service, with negligible changes in delay.

- *Total Future Conditions*

  The total future conditions capacity analysis, including the Capitol Commerce Center site-generated traffic, showed similar results to the future background conditions. The study intersections will continue to operate at or better than the acceptable levels.

- *Parking*

  The development will provide approximately 875 new parking spaces (830 for residents and guests) at a parking ratio of more than one space per unit. Based on current trends and the District's requirements, this is adequate for the proposed development.

Based on these results, the proposed Capitol Commerce Center mixed-use development would have no negative impact on the surrounding road network. The close proximity and quality of access to Metrorail significantly reduces potential traffic impacts. The Capitol Commerce Center traffic would therefore have no significant impact on the roadways in the community and these additional vehicle-trips can be accommodated by the surrounding network.

INTRODUCTION

This report presents the findings of a traffic impact study submitted in conjunction with a Planned Unit Development (PUD) and Zoning Map Amendment application for the Fairfield CSX (Capitol Commerce Center) in Washington, D.C.

The Fairfield CSX site occupies Lot 815 in Square 357 of Ward 5 in Washington, D.C. and consists of approximately 187,958 square feet of vacant land area forming portions of the Capitol Commerce Center development. As reflected in Figure 1, the subject site is located in the Eckington area of Washington, D.C., and is bounded by Eckington Place to the west and Harry Thomas Way to the south and east. Directly to the north of the Site is a commercial center which houses the Washington Flower Center, a self-storage facility (the Storage Place), a State Farm Insurance Agency, and parking lots associated with these commercial uses.

Project Scope

The Site is presently in the M Zone District which prohibits the construction of residential communities. The applicants, CSX Realty Development Corporation and FF Realty, LLC, propose a Zoning Map Amendment to the C-3-C District to accommodate the construction of a mixed-use project that will include approximately 625 to 675 residential units, with approximately 59,000 square feet of affordable housing and approximately 15,000 square feet of ground floor retail. The primary purpose of this study is to evaluate the local traffic impacts of the proposed new development, focusing on 11 intersections near the site, and to identify transportation improvements needed to mitigate any impacts. Gorove/Slade Associates undertook the following steps while preparing this study:

- Performed field reconnaissance of existing roadway and intersection geometrics, traffic controls, speed limits and operations, and video imagery of the Eckington Place/Florida Avenue intersection;
- Discussed and met with District Department of Transportation (DDOT) staff regarding the study scope and methodology;
- Conducted peak hour turning movement counts at study intersections;
- Determined existing levels of service at the study intersections;
- Developed background traffic forecasts for project build-out in 2010 based on existing counts, traffic generated by other pending/future developments, and traffic pattern changes as a result of roadway improvements (where applicable);
- Calculated background levels of service at study intersections based on background traffic forecasts and existing traffic controls;

Figure 1 – Site Location

- Estimated the AM and PM peak hour and daily trips that would be generated by the new development, including mode split assumptions;
- Forecasted total future traffic volumes for project build-out in 2010 based on background future traffic forecasts and site traffic assignments; and
- Calculated total future levels of service at the study intersections based on total future traffic forecasts, existing and future traffic controls, and existing and future intersection geometrics.

Sources of data for this study include traffic counts conducted by Gorove/Slade, ITE's *Trip Generation*, 7th Edition, general site and circulation plans from WDG Architecture, the District Department of Transportation (DDOT), the CSX Realty Development Corporation and FF Realty, LLC PUD and Zoning Map Amendment Application (Z.C Case No. 05-23), the "Development-Related Ridership Survey II" prepared by the Washington Metropolitan Area Transit Authority (WMATA), and the files/library of Gorove/Slade.

This traffic impact study was conducted in general accordance with parameters in a scoping meeting held with DDOT staff on Tuesday, May 3, 2005. A subsequent meeting was held with DDOT staff on Thursday, March 3, 2006. A copy of the follow-up letter summarizing the details of the original study parameters is included in the Appendix to this report.

The following study intersections (shown in Figure 2) are included in this study:

1) Rhode Island Avenue, NE/4th Street, NE
2) T Street, NE/4th Street, NE
3) T Street, NE/3rd Street, NE
4) T Street, NE/2nd Street, NE
5) R Street, NE/3rd Street, NE
6) R Street, NE/2nd Street, NE
7) R Street, NE/Eckington Place, NE
8) Q Street, NE/Eckington Place, NE
9) Harry Thomas Way/Eckington Place, NE
10) Rhode Island Avenue, NE/3rd Street, NE
11) Rhode Island Avenue, NE/2nd Street, NE

The R Street NE/North Capitol Street, NE and the Eckington Place NE/Florida Avenue NE intersections were also observed based on the requests of residents. In-depth studies were not conducted of these intersections; however the technical issues were identified and ad-hoc

recommendations were made to improve present operations.

For purposes of this study, it was assumed that the Capital Commerce Center mixed-use development would be complete and occupied by the year 2010.

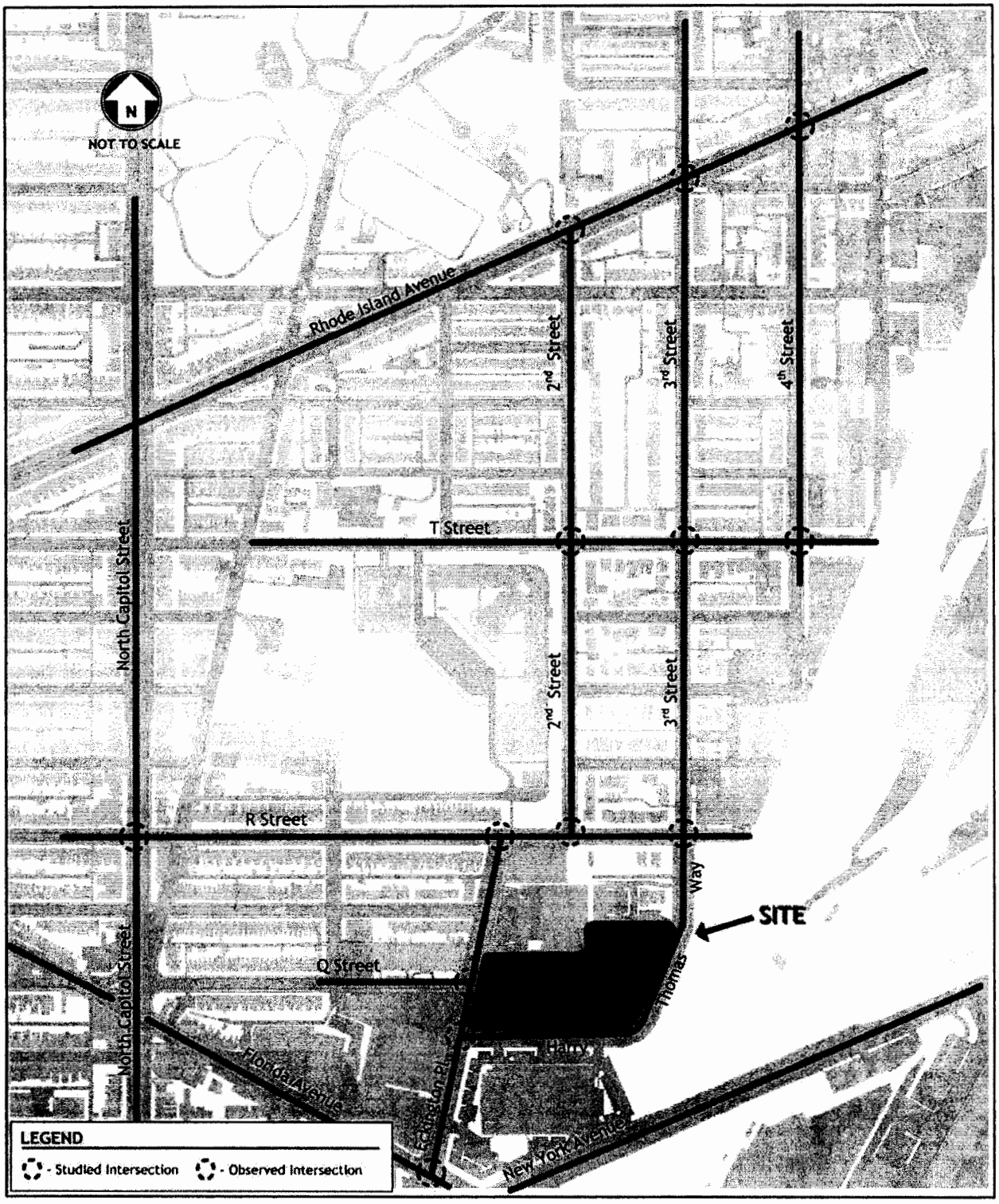


Figure 2 – Study Intersections

EXISTING CONDITIONS

Interstate 395 (I-395), New York Avenue, Rhode Island Avenue, North Capitol Street and Florida Avenue provide regional access to the site. Local access is via Eckington Place, NE Q Street, NE, R Street, NE, 2nd Street, NE, 3rd Street, NE and 4th Street, NE.

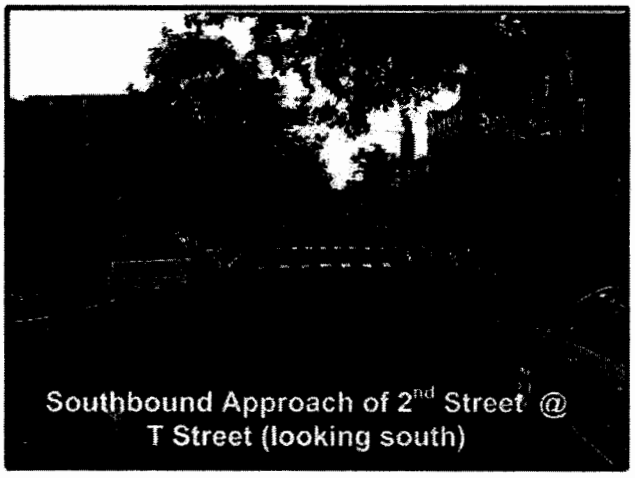
The roadways included in this analysis are primarily neighborhood streets; they are oriented on a city grid, and generally have one or two travel lanes in a direction controlled by stop signs. Four intersections equipped with traffic signals lie within the study area. The following is a description of the major and local roadways included as part of the study area:

Rhode Island Avenue, NE

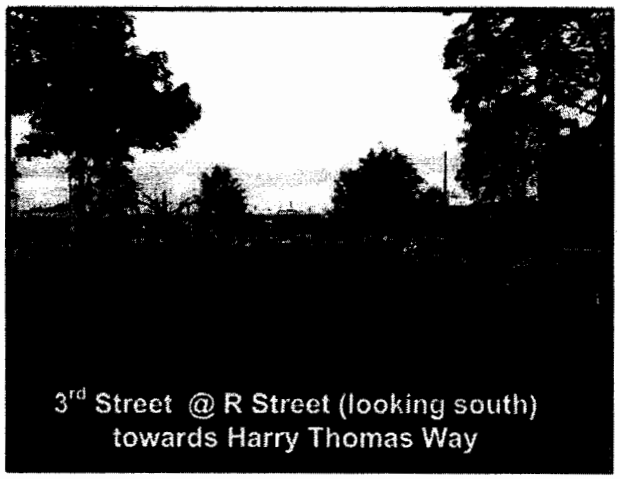
In the study area, Rhode Island Avenue, NE is a four-lane median-divided principal arterial which serves a major roadway linkage between the District of Columbia and Prince Georges County, Maryland. The portion of Rhode Island Avenue in Washington D.C is approximately four miles long and runs between 13th Street/Logan Circle and the D.C line. Parking is restricted on the westbound portion of the road in the morning and the eastbound portion in the afternoon to accommodate the higher traffic volumes during the AM and PM peak hours, respectively. The Annual Average Daily Traffic (AADT) volume on the portion of Rhode Island included in the study area is approximately 27,000 vehicle trips.

2nd Street, NE/3rd Street, NE/4th Street, NE

2nd Street NE, 3rd Street NE, and 4th Street NE are classified as collector roads providing connections between the principal arterial, Rhode Island Avenue, and the local roads in the Eckington Area. 2nd Street is one-way southbound with parking on either side of the street for most parts of the roadway. 3rd Street is one-way northbound with parking on either side of the street. 4th Street is a two-way four-lane roadway with parking on either side of the road. The posted speed limit on these roads is 25 mph.



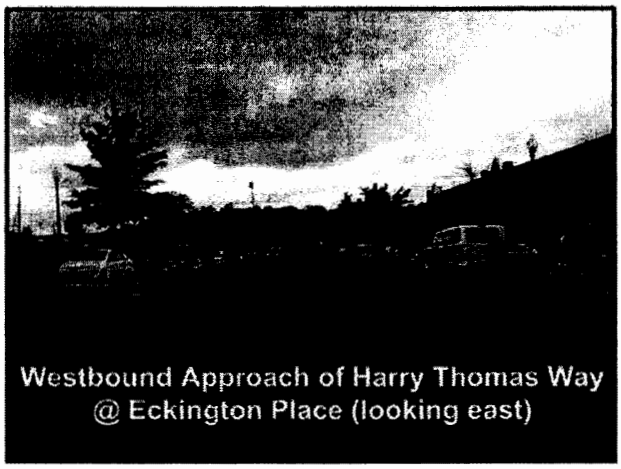
Southbound Approach of 2nd Street @ T Street (looking south)



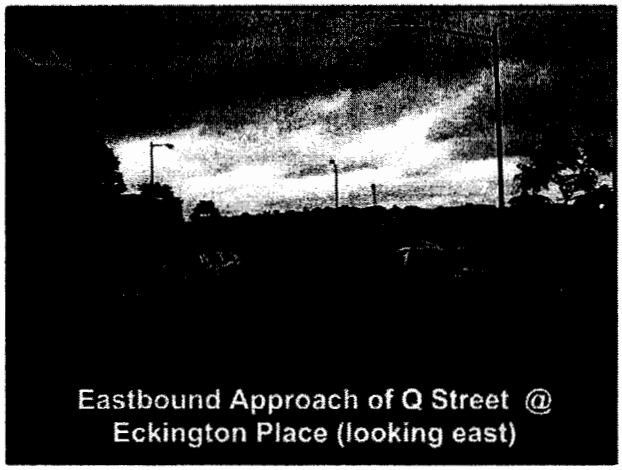
3rd Street @ R Street (looking south) towards Harry Thomas Way

Q Street, NE and Harry Thomas Way, NE

Q Street and Harry Thomas Way are classified as local streets in the study area. Harry Thomas Way is local access "spine road", connecting R Street, NE to Eckington Place, NE. The roadway was developed as part of the conditional approval of the original Large Tract Review for CSX Eckington Yard Redevelopments, Capital Commerce Center in 1989. Harry Thomas Way is a four-lane roadway with unrestricted parking on either side of the street, reducing the road to only two effective travel lanes (one in either direction).



Westbound Approach of Harry Thomas Way @ Eckington Place (looking east)



Eastbound Approach of Q Street @ Eckington Place (looking east)

R Street, NE

R Street is a collector road that runs in the east-west direction just north of the Site. The speed limit on R Street is 25 mph. Parking is allowed on either side of the roadway.

Eckington Place, NE

Eckington Place is a collector road that runs north-south from the signalized intersection with Florida Avenue, N.E. to a STOP controlled intersection with R Street, NE. Eckington Place bounds the subject Site on the west and has a posted speed limit of 25 mph. Parking is allowed on either side of the roadway.

Gorove/Slade conducted field reconnaissance to obtain the existing lane usage and traffic controls at the intersections within the study area. Figure 3 presents the local roadway network of the study area and existing lane use and configurations.

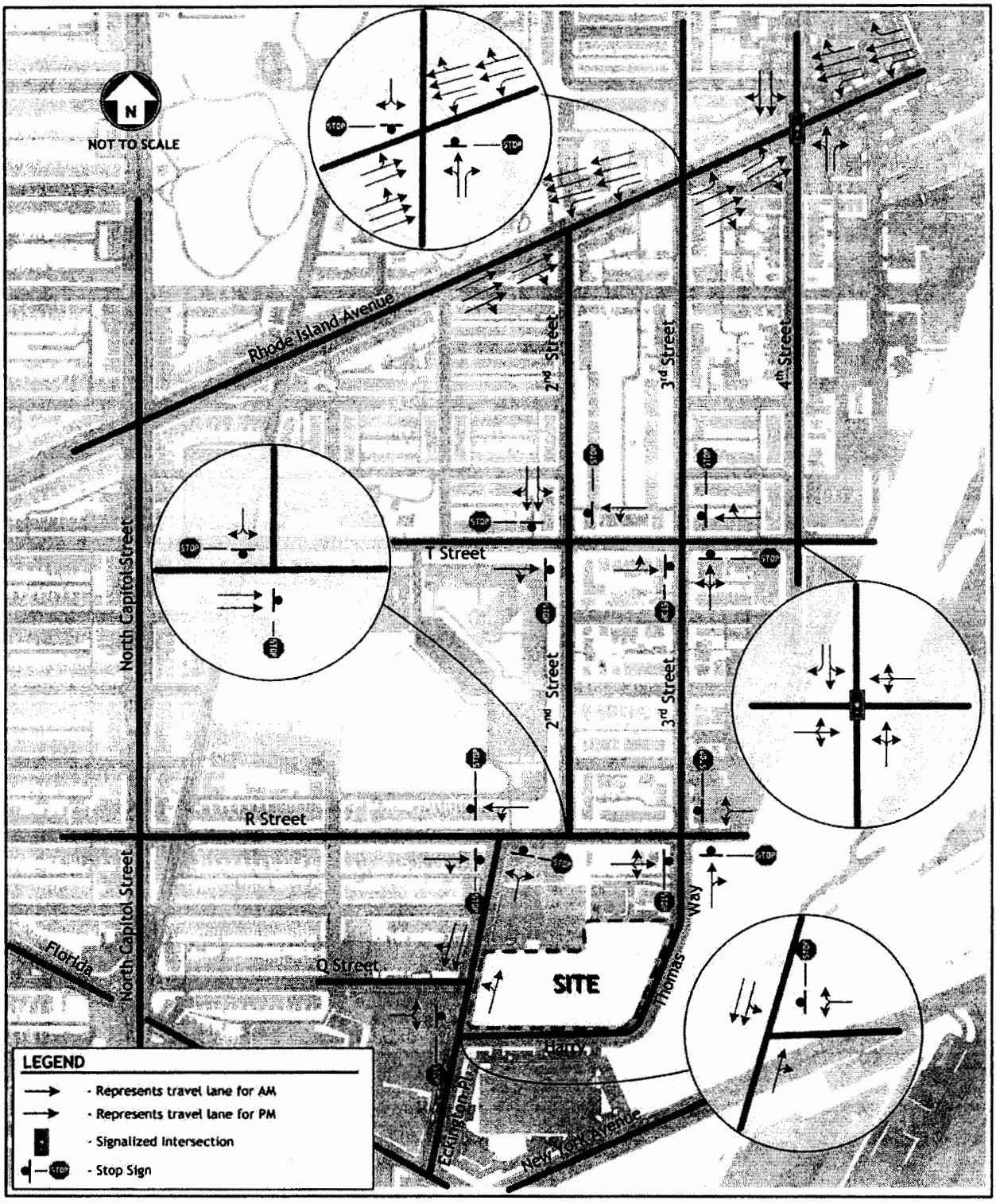


Figure 3 – Existing Lane Use and configuration

Public Transportation

WMATA Metrorail

The New York Avenue – Gallaudet University Metrorail Station provides access to the site. The station is located on the Red Line, serves Gallaudet University, and is located near the intersection of New York Avenue and Florida Avenues. The station has access point on M Street, NE and Florida Avenue, NE. The Red Line runs between the Shady Grove station and Glenmont metrorail stations.

WMATA Metrobus

A number of Metrobus routes serve the study area. The routes are shown in Figure 4 and include:

- The Anacostia-Eckington Line, Route P6, which has stops on R Street, 2nd Street, 3rd Street and 4th Street, travels between the Anacostia, Metro Center, and the Rhode Island Avenue Metrorail Stations.
- The Mackinly High School Line, Route M31, provides service between the Mackinly Technology High School and the Rhode Island Metrorail Station, via Rhode Island Avenue, North Capitol Street, T Street, and 4th Street.
- The U Street-Garfield Line, Routes 90, 92 and 93, which has stops along Florida Avenue in the vicinity of the Eckington Place/Florida Avenue intersection, travels between the New York Avenue-Gallaudet University, the Adams Morgan, the U Street-Cardozo, Eastern Market, Anacostia, and Congress Height Metrorail Stations.

Metropolitan Branch Trail

The Metropolitan Branch Trail (MBT) is an emerging 11-mile non-motorized multi-use trail system or transportation route providing direct access from Northeast D.C. neighborhoods to the heart of Washington and access to seven of Metrorails's Red Line Stations. Portions of the trail are already built adjacent to the New York Avenue – Gallaudet University Station. The trail provides connections to the Station and it is expected to be widely used for a variety of trip purposes as it is developed. The MBT will be discussed later in this report.

Existing Traffic Volumes

Existing AM and PM peak hour traffic counts were conducted at the eleven (11) study intersections on Thursday, June 10th, Tuesday, June 7th, and Thursday June 9th, 2005, between the hours of 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM by Gorove/Slade Associates at the study intersections. In addition to collecting turning movement counts, the geometry of the study area, and traffic control information including signal timings were also collected. Peak hour observations and video recordings were also made of the Eckington Place, NE/Florida Avenue, NE and R Street, NE/North Capitol Street, NE

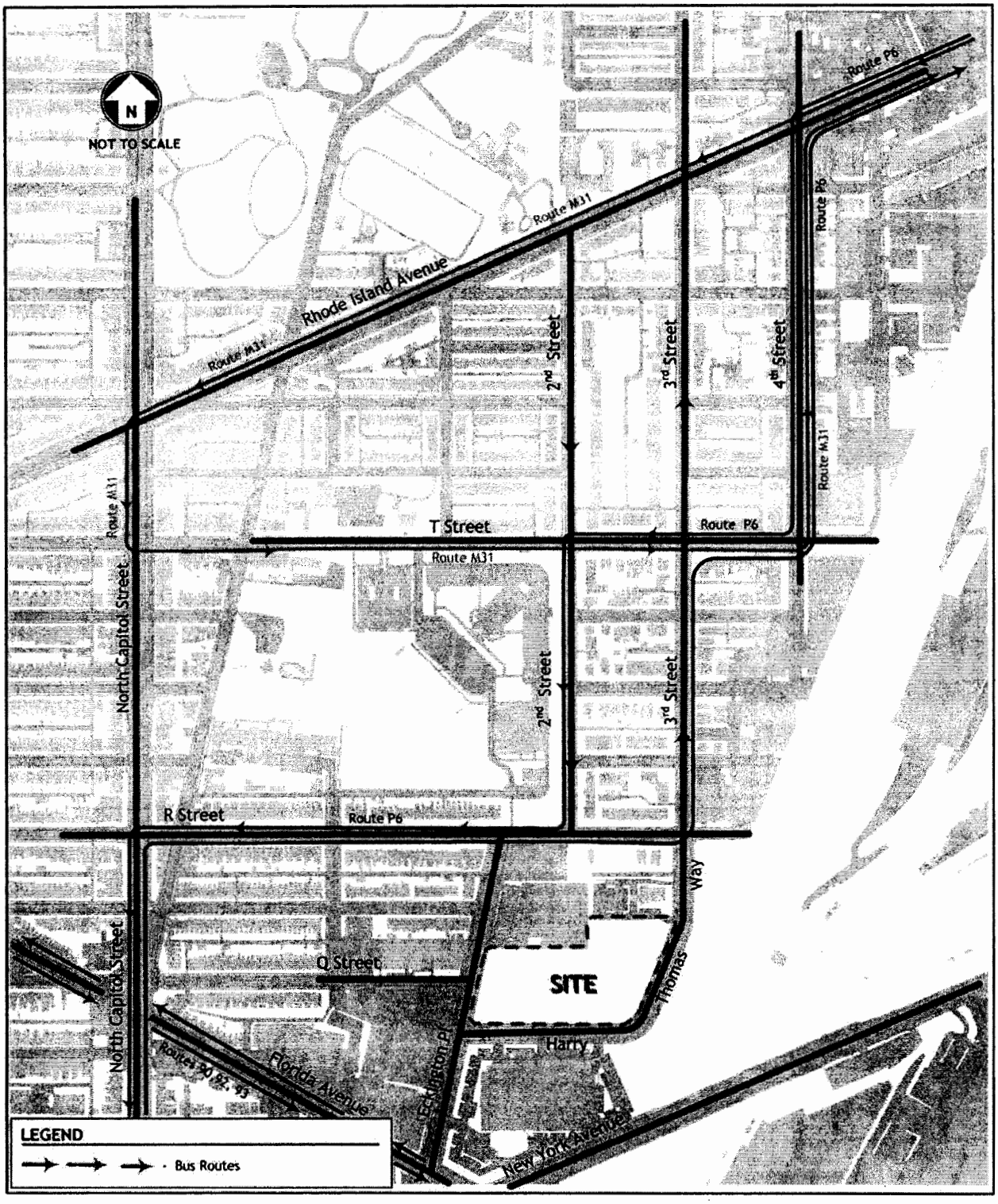


Figure 4 – Existing Bus Routes in the Study Area

intersections. The operations at these intersections were observed and localized congestion, blocking and queuing were noted. The results of the traffic counts are included in Appendix and summarized on Figure 5.

Figure 5 indicates that traffic on Rhode Island Avenue is primarily oriented westbound during the AM peak hour and to the eastbound during the PM peak hour. This coincides with commuter traffic moving into the District in the mornings and leaving in the afternoon. The AM peak hour for the system of intersections being studied occurred between 7:45 AM and 8:45 AM, while the PM peak hour occurred between 4:45 PM and 5:45 PM.

Existing Capacity Analysis

Existing peak hour levels of service (LOS) were calculated based on: (1) the existing lane use and traffic controls shown on Figure 3; (2) the peak hour traffic volumes of the each key intersections shown on Figure 5; (3) existing signal timings/phasings and (4) the Highway Capacity Manual 2000 (HCM) methodologies (using the Synchro 6 software). Copies of LOS calculation worksheets are included in the Appendix. Table 1 displays the results of the capacity analyses with existing LOS and delay, including LOS and average delay per vehicle (in seconds). The existing analysis reveals that traffic generally operates at or above acceptable levels of service during both the AM and PM peak periods. The signalized intersections located on 4th Street, NE with Rhode Island Avenue and T Street currently operate at acceptable levels in both peaks, without lengthy queues. The remaining intersections, which are unsignalized, operate above acceptable levels with little delay. Note that the LOS E experienced on northbound vehicles during the evening at the unsignalized intersection of 3rd Street, NE with Rhode Island Avenue was not observed during field observations. This may be as a result of the upstream signalized intersection of Rhode Island Avenue with 4th Street, NE one block away. This upstream signal provides a break or gap in the flow of traffic along Rhode Island Avenue, which allows vehicles from 3rd Street, NE to merge unto Rhode Island Avenue. This upstream signalized intersection was not included in the study scope and was therefore not included in the analysis.

Neighborhood Concerns

In various meetings with community members, concerns have been raised about traffic congestion at the Eckington Place, NE/Florida Avenue, NE and the R Street, NE/North Capitol Street, NE intersections. Gorove/Slade Associates observed and recorded (using a digital video recorder) these intersections for two 15-minute periods (one during the morning peak hour and another in the afternoon peak period) on Thursday, February 9, 2006.

Eckington Place/Florida Avenue

The observations show that the Eckington Place/Florida Avenue intersection operates acceptably in the AM peak. Vehicular traffic flowed easily from Eckington Place onto Florida Avenue, as well as in the

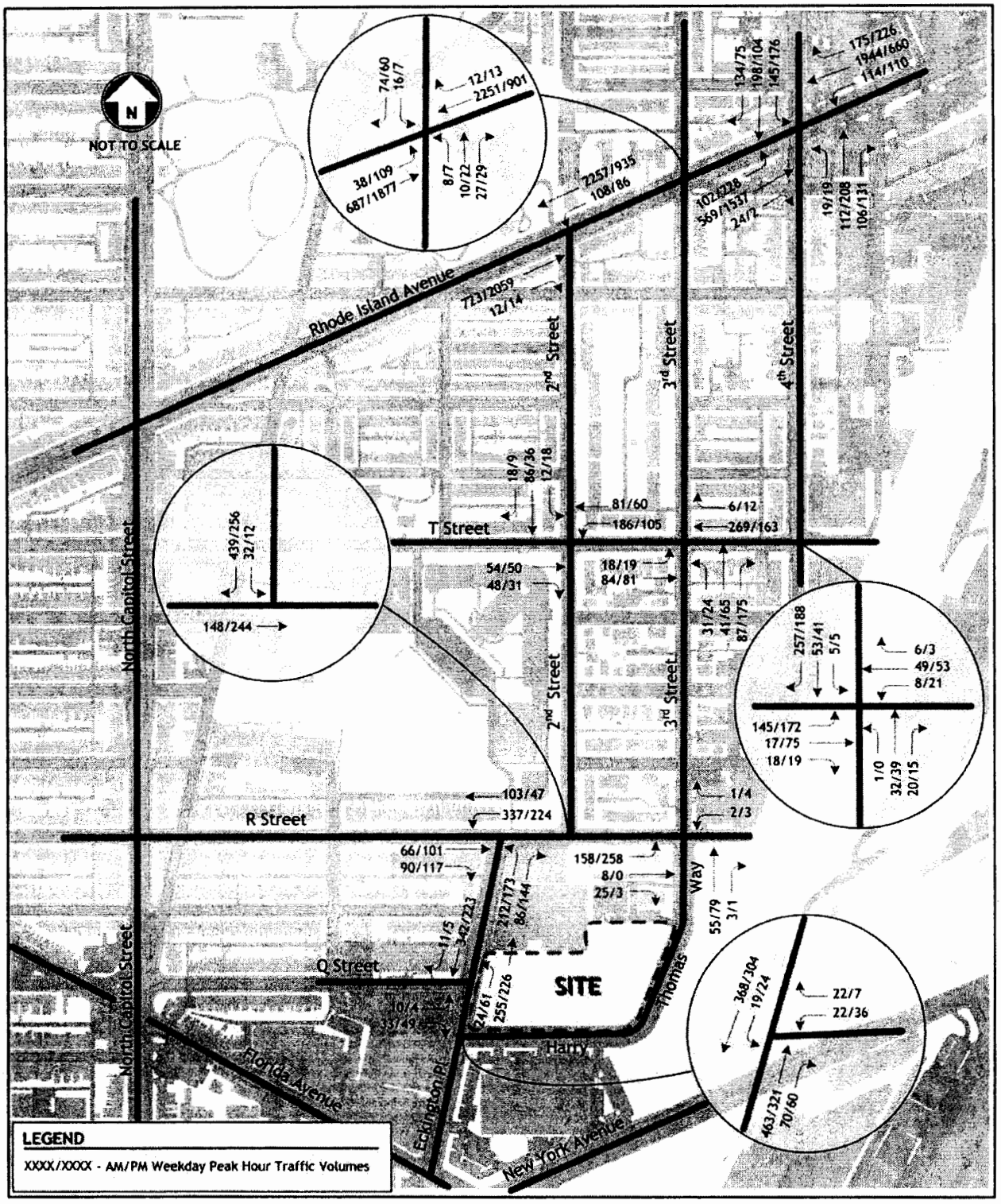


Figure 5 – Existing Traffic Volumes

Table 1 – Summary of Existing Capacity Analysis

Intersection (Approach)	Existing Conditions			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Rhode Island, NE & 4th Street, NE				
Overall	**28.2**	**C**	**23.2**	**C**
Eastbound	24.7	C	21.7	C
Westbound	30.9	C	22.9	C
Northbound	15.6	B	18.3	B
Southbound	27.3	C	37.2	D
T Street, NE & 4th Street, NE				
Overall	8.5	A	10.4	B
Eastbound	17.8	B	13.1	B
Westbound	17.4	B	16.8	B
Northbound	7.3	A	8.5	A
Southbound	5.4	A	5.6	A
T Street, NE & 3rd Street, NE				
Overall	**5.9**	**A**	**5.4**	**A**
Eastbound	6.5	A	6.6	A
Westbound	6.7	A	5.5	A
Northbound	4.4	A	5.0	A
T Street, NE & 2nd Street, NE				
Overall	6.5	A	5.7	A
Eastbound	5.4	A	5.7	A
Westbound	7.0	A	6.8	A
Southbound	6.0	A	3.6	A
R Street, NE & 3rd Street, NE				
Overall	**4.9**	**A**	**5.9**	**A**
Eastbound	3.7	A	6.1	A
Westbound	2.8	A	3.5	A
Northbound	5.5	A	5.6	A
R Street, NE & 2nd Street, NE				
Overall	**5.9**	**A**	**5.4**	**A**
Eastbound	5.6	A	6.0	A
Southbound	6.0	A	4.8	A
R Street, NE & Eckington Place, NE				
Overall	**6.6**	**A**	**6.2**	**A**
Eastbound	6.9	A	8.2	A
Westbound	6.2	A	5.1	A
Northbound	6.9	A	5.9	A
Q Street, NE & Eckington Place, NE				
Eastbound	5.1	A	4.0	A
Northbound Left Turn	3.2	A	2.8	A
Harry Thomas Way & Eckington Place, NE				
Westbound	8.2	A	8.0	A
Southbound Left Turn	4.7	A	2.9	A
Rhode Island, NE & 3rd Street, NE				
Northbound	15.8	C	48.3	E
Southbound	25.2	D	17.7	C
Eastbound Left Turn	17.5	C	11.4	B
Rhode Island, NE & 2nd Street, NE				
Westbound Left Turn	9.6	A	9.8	A

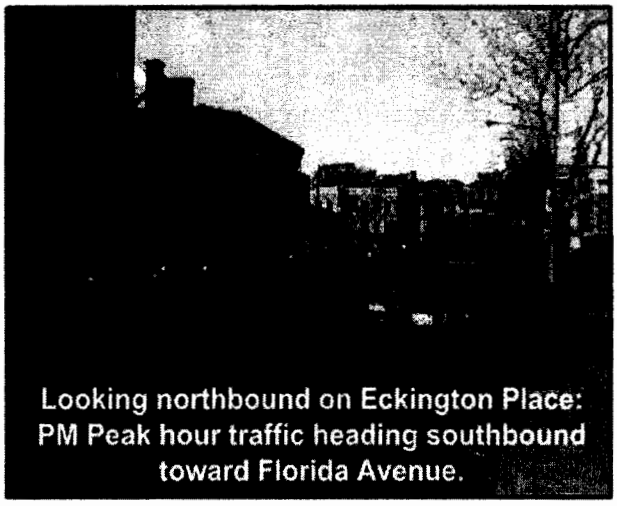
reverse direction. There was no bottle neck, congestion or blocking of the intersection during the morning peak period. In the PM peak period, the southbound leg of the Eckington Place/Florida Avenue intersection experienced delays and queues as vehicles leaving Eckington Place merge with traffic on Florida Avenue (see picture on the next page). In particular, vehicles find it difficult to make the left-turn from Eckington Place to eastbound Florida Avenue because of the proximity of the New York Avenue/Florida Avenue signal. The distance between the signals allows a queue of 6 cars in each lane (2 eastbound lanes) before the Eckington Place/Florida Avenue intersection is blocked. It therefore restricts the southbound left-turn movement of Eckington Place. Also, because the signal timing between both intersections does not allow enough clearance of the vehicles between the two signals prior to southbound movement from Eckington Place getting a green light, there is, for the most part, no space to accommodate the vehicles heading eastbound from Eckington Place.

An extensive study of the entire New York Avenue corridor is being conducted. DDOT plans to improve the design of the New York Avenue/Florida Avenue intersection. Interim measures are being planned which includes the creation of a "loop" around the existing Wendy's fast food outlet relieving traffic congestion at this intersection. This would translate into better traffic operations at the Eckington Place/Florida Avenue intersection. For this reason, an in-depth traffic analysis of this intersection was not included for the Capital Commerce Center Study (See Scoping Letter in the Appendix). Changes to the New York Avenue/Florida Avenue intersection are detailed further in the "Future Transportation Improvements" section of this report.

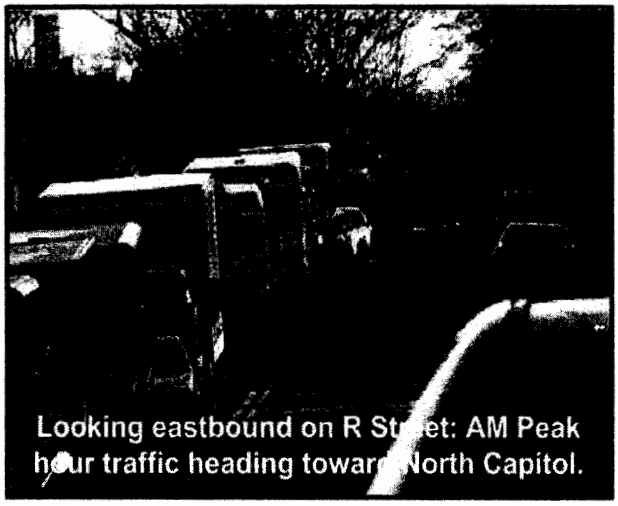
R Street/North Capitol Street

For the AM peak period, the R Street/North Capitol Street intersection experiences westbound queues along R Street extending from North Capitol Street to Eckington Place in the AM peak period. Vehicles in these queues are predominantly Federal Express (FedEx) vehicles leaving the FedEx facility on Eckington Place and heading towards Downtown, Washington, D.C. via R Street (see picture on the next page).

Traffic calming or traffic routing measures could be implemented to ease the heavy use of R Street in the morning peak. However, this would require coordination and dialogue between DDOT Staff, FedEx, and the Eckington Community.



Looking northbound on Eckington Place: PM Peak hour traffic heading southbound toward Florida Avenue.



Looking eastbound on R Street: AM Peak hour traffic heading toward North Capitol.

FUTURE BACKGROUND CONDITIONS

For the purposes of this analysis, it was assumed that the proposed Fairfield PUD at Capitol Commerce Center would be completed by 2010. In order to develop background traffic forecasts (or future traffic forecasts without the development of the subject site), a composite of existing traffic, ambient growth in traffic and traffic from other future area developments was developed.

Future Background Developments

Several background developments in and around the Eckington area of the subject site were accounted for in this study. The locations of the projects relative to the Capitol Commerce Center are shown on Figure 6; each project is discussed below:

The Potomac Electric Power Company (PEPCO) Site

The Potomac Electric Power Company (PEPCO) site is a part of the tract of land approved by the City in 1989 for large tract development. PEPCO's 6.5 acre portion is bounded by Harry Thomas Way to the north, the Federal Express distribution center to the west, and the Metrorail Red Line corridor to the south and east.

PEPCO plans to develop an electrical substation off Harry Thomas Way opposite to the south east corner of the Fairfield CSX site's boundary with Harry Thomas Way. The proposed substation would utilize 2.2 acres of the 6.5 acre site, and would contain a 14,000 gross square feet (GSF) electrical substation building with a 31,000 GSF site footprint.

According to PEPCO, trip generation for the station would be extremely low ("generally nil") during the peak hours since the substation itself would contain state-of-the-art equipment and technology, and would generally be unmanned for daily operations[1]. Occasional trips would otherwise be warranted, and based upon PEPCO's operational needs. This is supported by rates derived by ITE's *Trip Generation Manual*, 7th Edition and O. R. George and Associates, Inc. The electrical substation is expected to generate no more than 11 peak hour trips for any period of a typical weekday.

The Bureau of Alcohol, Tobacco and Firearms (ATF) Headquarters

The national headquarters of the Bureau of Alcohol, Tobacco and Firearms (ATF) is presently under construction near the intersection of New York and Florida Avenue, NE, Washington, D.C. The site, as shown in Figure 6, is bordered by O Street and New York Avenue on the northwest, Florida Avenue on the northeast, 1st Street on the west, N Street on the south, and 2nd Street on the east. The site also includes half of the N and 2nd Street former rights-of-way.

[1] Traffic Impact Assessment: PEPCO Large Tract Review Application, NE, Washington D.C., by O. R. George & Associate, Inc.

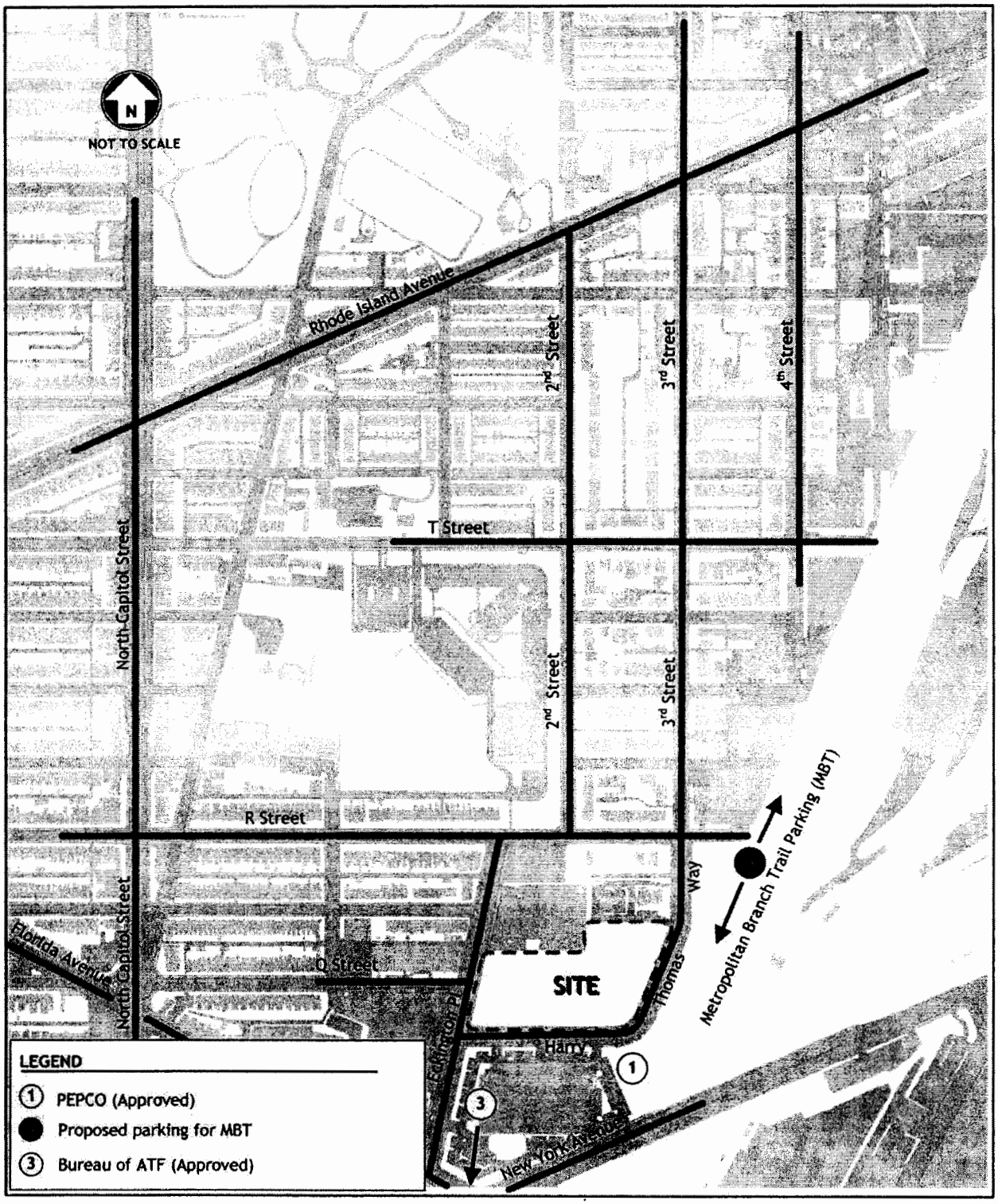


Figure 6 – Background Developments

The new ATF headquarters will contain approximately 422,000 gross square feet of office space, with approximately 1,100 employees and 200 parking spaces.

The vehicular trips generated by the new ATF headquarters are not expected to traverse the intersections within the study area for the Capitol Commerce Center.

Proposed Parking for the Metropolitan Branch Trail (MBT)

The proposed parking for the Metropolitan Branch Trail is another planned project in the vicinity of the Capitol Commerce Center. The parking site is expected to be to the northeast of the Site, running adjacent to the Metropolitan Branch Trail. Since this project has not been approved it was not included in the analyses.

Future Transportation Improvements

Several major roadway improvements are planned for areas surrounding the Capitol Commerce Center. Some of these may not directly affect the operations of the roadways in the study area. The potential transportation improvements include:

New York Avenue Corridor (NYAC) Study

The New York Avenue Corridor (NYAC)[2] study from the District of Columbia/Prince George's County line to 7th Street, NW, has been identified in the District's strategic transportation plan as an area for roadway improvements. New York Avenue is the principal vehicular commuter thoroughfare into the District from I-95 and the Baltimore-Washington Parkway, including US-50. As part of the NYAC study, there is to be a major reconstruction and reconfiguration of the New York Avenue/Florida Avenue intersection and other nearby intersections, including the Florida Avenue/Eckington Place intersection, to accommodate the high volume of traffic passing through those intersections daily. Approximately 95,000 trips pass through the New York Avenue/Florida Avenue intersection on a daily basis.

As proposed and agreed to by DDOT, since the NYAC study already includes the New York Avenue/Florida Avenue and Eckington Place/Florida Avenue intersections as part of the scope, these intersections were not included in this study. Additionally, it is estimated that the trips being generated by the Fairfield CSX development would contribute to only 1% or less of the traffic going through the intersections.

DDOT does however have interim or short term improvements which they plan to implement within a year to two years. A schematic of the recommended improvements is shown in Figure 7 below, and is defined by a one-way loop around Wendy's. The portion of Florida Avenue between Eckington Place

[2] http://www.ddot.dc.gov/ddot/cwp/view,a,1247,q,627756,ddotNav,|32399|.asp

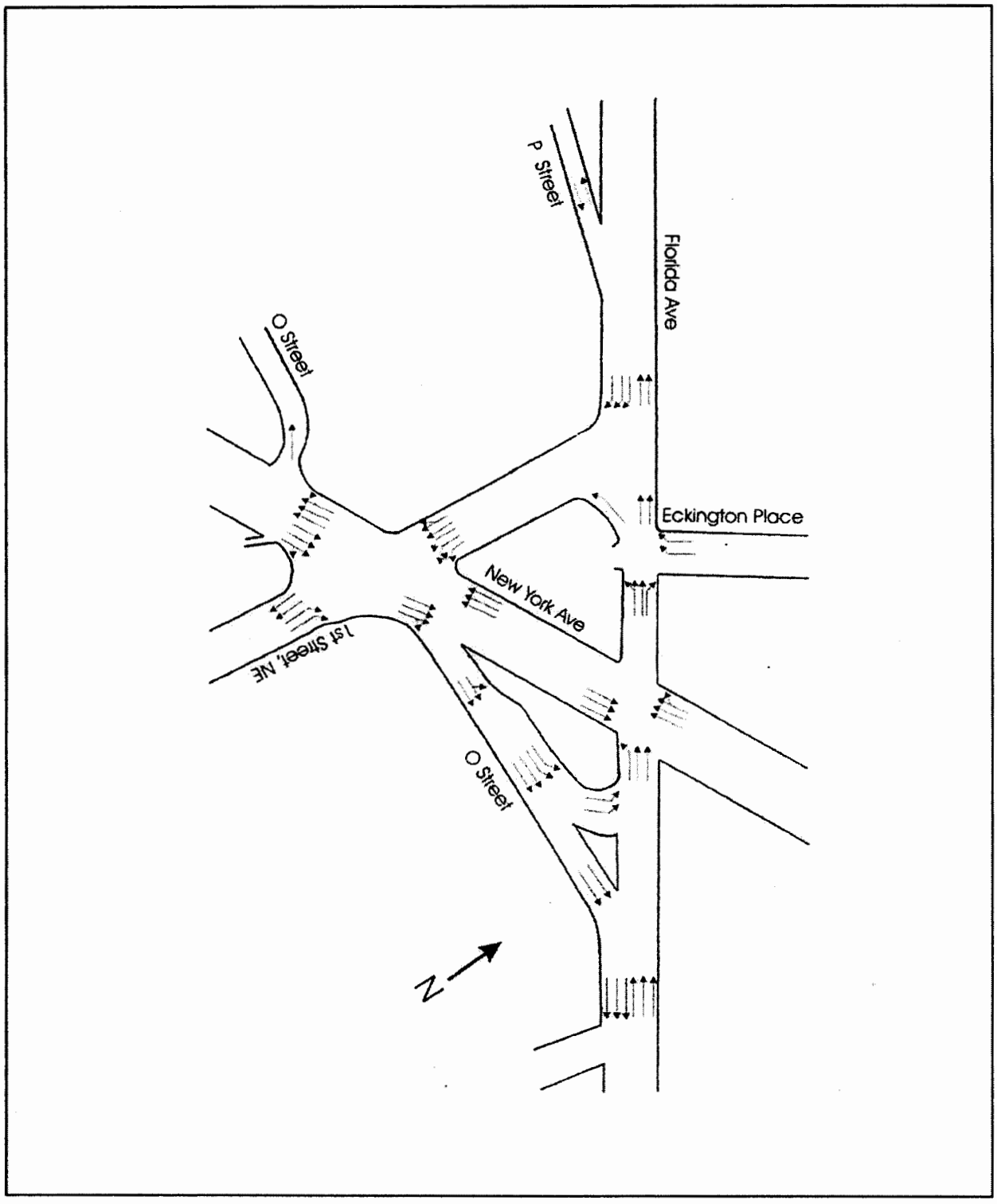


Figure 7 – Interim Improvements to New York Avenue/Florida Avenue Intersection

and New York Avenue would be made one-way westbound, and First Street, between Florida Avenue and New York Avenue, would be made one-way southbound. The design and simulations are still to be finalized by DDOT, but will be implemented as a temporary improvement to ease congestion in this area.

Brentwood Road Transportation Study[3]

The Brentwood Road Transportation Study is being conducted as a result of citizens' concerns on speeding traffic, traffic congestion, and transportation safety. Another objective of the study is to link residential areas with commercial areas by providing the residents with transportation facilities to easily access the area's commercial developments.

The proposed improvements to Brentwood may include minor and major changes and are categorized as:

- Traffic improvements, which are further divided into intersection, corridor, alley, and roadway improvements
- Parking improvements
- Transit improvements
- Pedestrian/Bicycle improvements

The study area is bounded to the north by Rhode Island Avenue, to the east by Montana Avenue, to the West by CSX railroad right of way, and to the south by New York Avenue. The defined area is not within the Fairfield CSX study area, and therefore will not affect the analysis. More information about the Brentwood Road Transportation Study can be found on DDOT's website[3].

Other Transportation Studies

Other transportation studies located around the study area include the T Street traffic study and the Eckington Area Traffic Calming Study. Detailed information on these studies were not available, however it is not expected that they would offer significant changes to the traffic patterns in the area.

Future Background Traffic Forecast

Since only a couple of approved developments are being considered for background and the trips generated by them would be insignificant to the study area, background traffic forecasts were thence developed based on a composite of existing traffic counts shown in Figure 5 and traffic growth of 1% on certain movements, to account for other developments (including those planned but not approved) that may contribute to traffic in the area. Figure 8 shows the future background traffic volumes with

[3] http://www.ddot.dc.gov/ddot/cwp/view,a,1249,q,619510,.asp

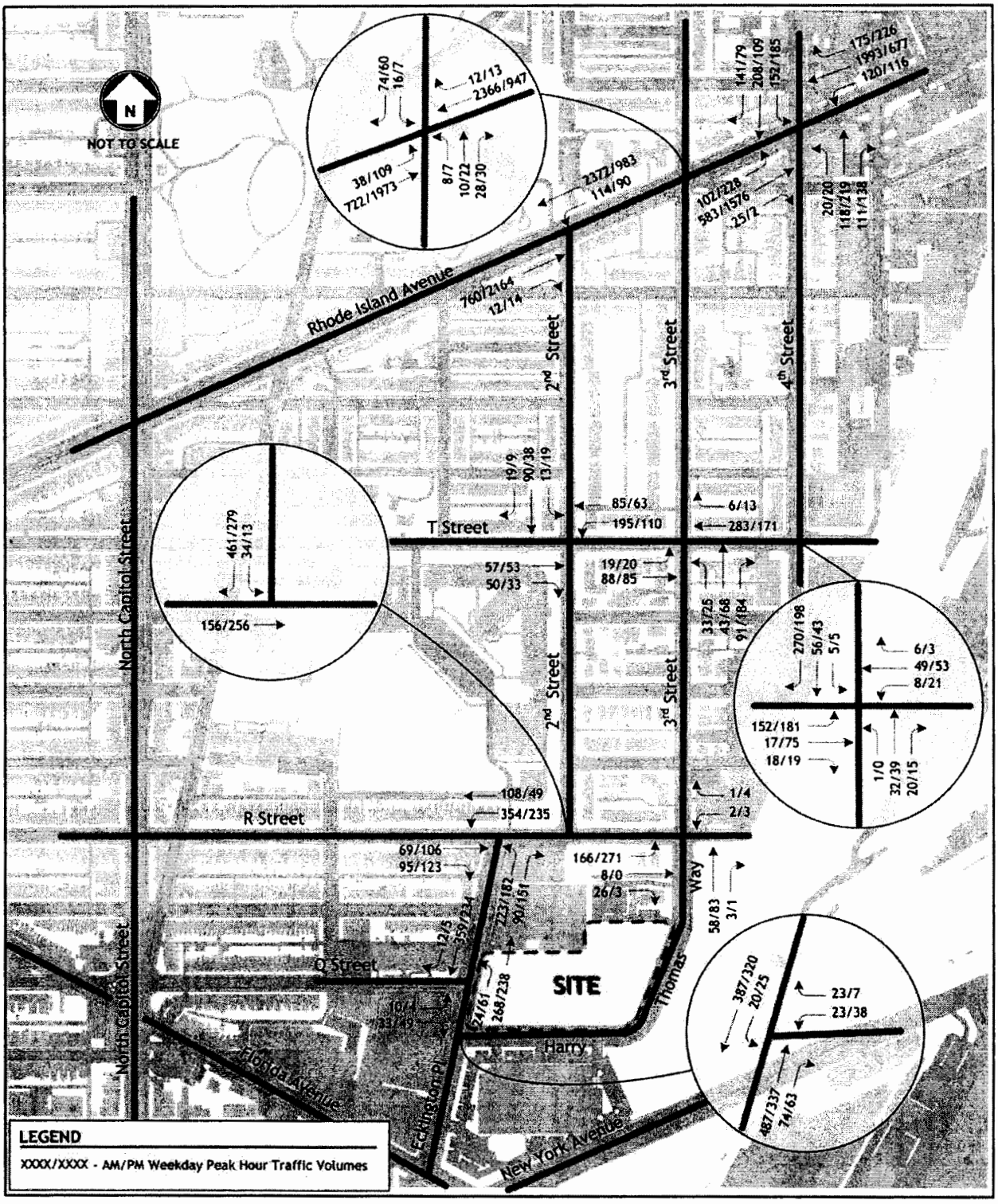


Figure 8 – Background Traffic Forecast

the applicable traffic growth applied to the existing traffic.

Future Background Analyses

Background peak hour levels of service (without the Capitol Commerce Center mixed-use development) were calculated based on: (1) existing lane use and traffic controls shown on Figure 3; (2) the background traffic volumes shown on Figures 8; and (3) the *Highway Capacity Manual* 2000 (HCM) methodologies (using Synchro 6 software). Copies of LOS calculation worksheets are included in the Appendix. Table 2 displays the results of the capacity analyses, including LOS and average delay per vehicle (in seconds).

Table 2 shows that that all study area intersections would continue to operate at acceptable conditions under background conditions with ambient growth applied. The signalized intersections of 4th Street, NE/Rhode Island Avenue, and T Street/Rhode Island Avenue would continue to operate at acceptable levels in both morning and afternoon peak hours. Table 2 also show a LOS F for the north and southbound approaches of the Rhode Island Avenue/3rd Street intersection, however as explained earlier, this is not expected to be the actual case in future background, since the upstream signal at Rhode Island Avenue and 1st Street would provide a break or gap in the flow of traffic along Rhode Island Avenue, allowing vehicles from 3rd Street to merge onto Rhode Island Avenue. This upstream signalized intersection was not included in the study scope and was therefore not included in the analysis.

Table 2 – Background Level of Service

Intersection (Approach)	Background Conditions			
	AM Peak Hour		*PM Peak Hour*	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Rhode Island, NE & 4th Street, NE				
Overall	**29.3**	**C**	**22.9**	**C**
Eastbound	30.2	C	17.4	B
Westbound	26.4	C	19.5	B
Northbound	44.2	D	45.2	D
Southbound	33.5	C	36.1	D
T Street, NE & 3rd Street, NE				
Overall	**9.7**	**A**	**9.5**	**A**
Eastbound	8.7	A	8.9	A
Westbound	10.4	B	9.4	A
Northbound	9.1	A	9.8	A
R Street, NE & 3rd Street, NE				
Overall	**8.3**	**A**	**10.3**	**B**
Eastbound	8.4	A	11.0	B
Westbound	7.4	A	7.4	A
Northbound	7.9	A	8.4	A
R Street, NE & 2nd Street, NE				
Overall	**11.2**	**B**	**8.8**	**A**
Eastbound	8.4	A	8.4	A
Southbound	12.1	B	9.1	A
R Street, NE & Eckington Place, NE				
Overall	**18.4**	**C**	**12.9**	**B**
Eastbound	10.4	B	10.9	B
Westbound	23.4	C	13.3	B
Northbound	15.3	C	13.9	B
Q Street, NE & Eckington Place, NE				
Eastbound	12.0	B	9.6	A
Harry Thomas Way & Eckington Place, NE				
Westbound	16.3	C	14.5	B
Rhode Island, NE & 3rd Street, NE				
Northbound	33.0	D	145.6	F
Southbound	182.6	F	16.3	C
Rhode Island, NE & 2nd Street, NE				
Westbound Left Turn	8.7	A	9.9	A

TOTAL FUTURE TRAFFIC CONDITIONS

Total future traffic conditions represent future traffic in the study area including existing traffic, background growth, and traffic generated by the Capital Commerce Center.

Capitol Commerce Center Mixed-Use Development Transportation Features

The Capitol Commerce Center plan provides for a mixed-used development of total gross floor area of approximately 755,035 square feet. An approximate 739,951 square feet would be used for 625 to 675 residential units (the mix includes 580 to 630 condominium units and 45 single family townhouses and piggy-back rownhouses) and an affordable housing component of approximately 59,000 square feet.

There will be approximately 15,084 square feet of ground floor retail. This retail plaza is expected to be more community-oriented and therefore would not necessarily contribute new traffic to the surrounding network. The total Floor Area Ratio (FAR) would be 4.01.

The future development will provide between approximately 875 parking spaces for residents, guests, and retail uses. Approximately 785 of those will be below-grade parking spaces provided beneath the larger buildings for residents and guests and approximately 45 spaces will be for visitors to the retail potion of the project. Additional parking will be available in the form of parking garages within each unit of the townhouses, and in parking lots to the north of certain units.

As shown in Figure 9, the internal site circulation is defined by the extension of Q Street from Eckington Place in an easterly direction through the center of the Site before terminating at a new two-way STOP intersection with the northernmost portion of Harry Thomas Way. Another new roadway would run north-south through the site, beginning at the southern portion of Harry Thomas Way just across from the Federal Express distribution facility and east of the Eckington Place/Harry Thomas Way intersection, forming a four-legged intersection with the extended Q Street before it reaches a surface parking lot just beyond a set of townhomes located on the north side of the extended Q Street. These new roads will accent the street grid system in the area and improve access to the new community through four access points; three of which are on Harry Thomas Way, while the other is at the restructured Eckington Place/Q Street intersection.

Pedestrian Features

As a part of the community benefits and amenities package, the applicant proposes a financial contribution to facilitate a pedestrian/bicycle link to the New York Avenue Metro Station via the Metropolitan Branch Trail. Figure 10 shows the proposed connection to the MBT and the New York Avenue Metrorail Station.

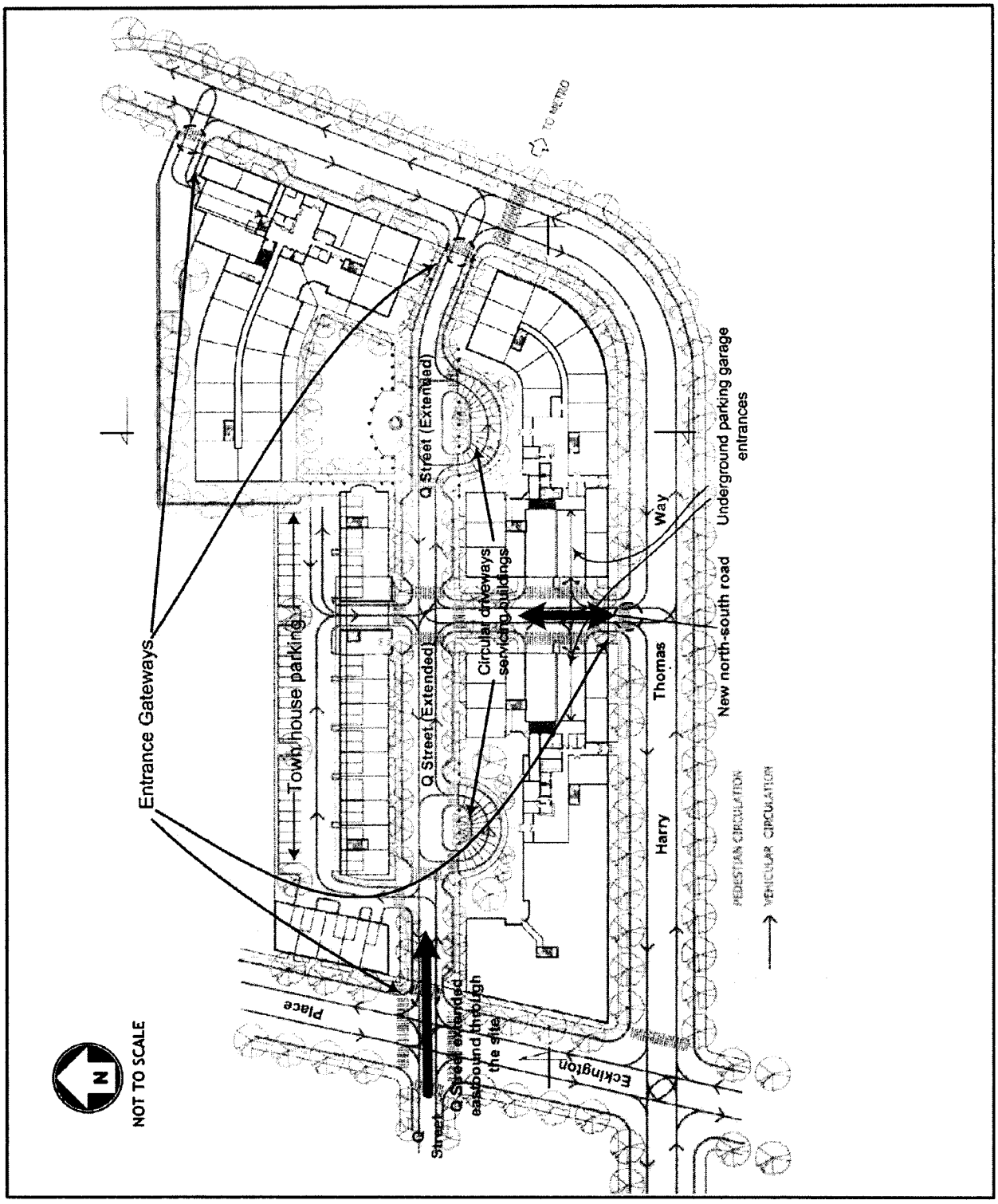


Figure 9 – Capitol Commerce Center Transportation Features

Figure 10 – Metropolitan Branch Trail

The MBT will also significantly improve pedestrian and bicycle access between the Capitol Commerce Center site and the new Metrorail Station at the intersection of New York and Florida Avenues.

The grade-separated design of the Trail segment between the new Metrorail Station and the Capitol Commerce Center negates the need for pedestrians and bicyclists to have to cross the busy and dangerous intersection of New York and Florida Avenues. A recently completed elevated trail structure takes the Trail over M Street, NE and Florida Avenue, NE. A portion of the Trail which is currently funded and under design will then pass under the existing New York Avenue, NE Bridge, adjacent to the Metrorail and other railroad tracks. The elevator and stairs at the Station entrance will provide access under the Americans with Disabilities Act (ADA) guidelines.

The short segment of the Trail from New York Ave to Harry Thomas Way is being designed by DDOT. It will connect the recently-completed elevated section adjacent to the new Metrorail station with the street system in the Eckington neighborhood, including designs for a connecting asphalt path at Harry Thomas Way and a Trail entrance at R Street.

Capitol Commerce Center Parking

Auto ownership tends to be relatively low at apartment and condominium developments within cities when adjacent to good public transportation services. Renters and condo owners trade off the cost and convenience of owning a car so they can pay higher rents or mortgage payments for in-town living. They have conveniences within walking distance and are more dependent on public transportation. Recently, the availability of car-sharing services like Flexcar and Zipcar has provided another mobility dimension. As a result, the trend in new development has been to lower parking ratios (number of spaces provided per unit). This also enables the developer to lower construction and ongoing maintenance costs and offer units at lower prices. The supply of parking at each apartment project creates a self-enforcing mechanism: apartment dwellers who desire more parking than what's available will seek another location.

Zoning within the District encourages this market-based approach to determining the number of spaces to provide. The parking required for a C-3-C zone is one space for every four units, a parking ratio of 0.25. Additionally, the 2000 Census reported that an average of 50% of total households in Census Tract 87.02, which contains the Fairfield-CSX development site, own automobiles.

Fairfield at Capitol Commerce Center will provide approximately 875 underground parking spaces, with 830 spaces for residents and guests. This equates to a parking ratio of more than one space per unit, around 1.2 to 1.3 depending on the final unit and space amount. This exceeds the zoning requirements of the District, and measures favorably when compared to other recently approved developments. Table 3 shows the parking ratios of twelve comparable developments in the District with an average of 0.88 parking spaces per unit. The proposed Fairfield development would be on the high end of parking ratios for new developments within the District.

National trends also support this parking ratio. Information contained in the Institute of Transportation Engineer's *Parking Generation*, 3rd Ed., report the results of vehicle ownership per household in urban areas. Within a third of a mile of a rail transit station and 10 miles of the center city, the average household owned 0.8 to 1.2 vehicles.

Based on this information, a parking ratio of one space per unit is adequate for the proposed development.

Table 3 – Parking Ratio of New District Developments

Development	Address	Located in CBD?	Parking Ratio (Spaces/Unit)
400 Massachusetts Avenue	400 Mass Ave, NW	Yes	0.85
Andover, The	1200 14th St, NW	No	1.00
Capitol Hill Towers	140 L St, SE	Yes	0.67
Fort Totten Metro Station Development	Fort Totten Metro Station	No	1.00
Highland Park	3000 14th St, NW	Yes	1.18
The Lexington and Concord Condos	800 3rd St, NE	Yes	1.11
Madrigal, The	811 4th St, NW	No	1.00
Massachusetts Court	300 Mass Ave, NW	Yes	0.84
Post Massachusetts Avenue	1499 Massachusetts Ave, NW	No	0.70
Radius at Logan Circle	1300 N St, NW	No	0.59
Sovereign at 2400 M Street	2400 M St, NW	Yes	0.58
Whitman, The	9th and M Streets, NW	No	1.10
		Average	***0.88 spaces/unit***

Capitol Commerce Center Trip Generation

The number of trips anticipated to be generated by the new development was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation* rates/equations, 7th Edition and the "Development-Related Ridership Survey II", a study conducted by the Washington Metropolitan Area Transit Authority (WMATA).

Table 4 shows that the proposed development would generate approximately 282 AM peak hour trips (60 in and 222 out), 461 PM peak hour trips (272 in and 189 out), and 5,908 daily trips without any alternate mode choice reduction.

Trip Reductions

By definition, ITE's trip generation rates were derived from data collected from single-use developments where virtually all access to the development would be by private automobile (Source- *Trip Generation Handbook*, 2nd Edition, Appendix B). *Trip Generation* does not account for the potential effects of Transit Demand Management (TDM) programs, transit availability, and interaction between various on-site uses (synergy), particularly when these uses are in walking distance of each other.

A high percentage of trips to and from residential developments near Metrorail stations use transit; it is therefore expected that some residents of the Capitol Commerce Center would take advantage of the nearby Metrorail station. The anticipated connection of Capitol Commerce Center with the Metropolitan Branch Trail and the convenience and close proximity of the New York Avenue Metro-station would make it easy for residents of the Capitol Commerce Center to ride the Metrorail and park personal vehicles – especially for those who will be working in the District, where parking is costly and limited.

Table 4 summarizes the trip generation for the Capitol Commerce Center. Based on the WMATA "Development-Related Ridership Survey II," the transit mode share for developments near Metrorail stations ranged from 30 to 70 percent. Using the models provided in the study, we estimate a 63.7% alternate mode reduction in trips for the residential portion due to transit mode share. A conservatively low 50% reduction was applied to the residential trips. No reduction was assumed for residents who will be using Metrobus, walking or biking. It is also expected that a further reduction would be applicable for the retail portion since the retail plaza is not expected to introduce new trips into community, but will be primarily used by members of the new community and those in the wider Eckington area. A 60% reduction was applied to the retail trips to account for alternate modes, which accounts for trips made walking from residences to retail. With the reductions applied, a total of 139 AM peak hour trips (29 in and 110 out), 214 PM peak hour trips (129 in and 85 out) and 2,698 daily trips would be generated by the development.

Table 4 – Capitol Commerce Center Trip Generation

Residential Component									
Condominiums	222	636 Units	39	188	227	184	90	274	3,094
Townhouses		33 Units	4	17	21	16	8	24	252
Residential Subtotal			43	205	248	200	98	298	3,346
Alt. Mode Reductions (50%)			21	102	123	100	49	149	1,673
Subtotal - Residential			**22**	**103**	**125**	**100**	**49**	**149**	**1,673**
Retail Component									
Specialty Retail	814	59,000 SF	17	17	34	72	91	163	2,562
Alt. Mode Reductions (60%)			10	10	20	43	55	98	1,537
Subtotal - Retail			**7**	**7**	**14**	**29**	**36**	**65**	**1,025**
Total (without Reductions)			**60**	**222**	**282**	**272**	**189**	**461**	**5,908**
Total (With Reductions)			**29**	**110**	**139**	**129**	**85**	**214**	**2,698**

Capitol Commerce Center Distribution

The site-generated traffic volumes reflected in Table 4 were assigned to the public road network based on existing travel patterns identified during data collection and knowledge of the area. The percent distributions and resulting trip assignments are shown in Figure 11. Figure 11 shows that Capitol Commerce Center would add little traffic to the neighborhood roadways, with approximately one car per every 2 or 3 minutes on 2nd and 3rd Streets.

Total Future Traffic Forecast

The site-generated traffic assignments depicted on Figure 11 were combined with the background traffic forecasts shown on Figure 8 to yield the total future traffic forecasts associated with the build-out of Capitol Commerce Center, shown on Figure 12.

Total Future Traffic Analyses

Total future peak hour levels of service (including the build-out of the Capitol Commerce Center) were calculated based on: (1) existing lane use and traffic controls shown on Figure 3; (2) the total future traffic volumes shown on Figures 12; and (3) the Highway Capacity Manual 2000 (HCM) methodologies (using Synchro 6 software). Copies of LOS calculation worksheets are included in the Appendix. Table 5 displays the results of the capacity analyses, including LOS and average delay per vehicle (in seconds).

The analysis shows that there would be little or no significant change in the levels of service of the study intersections as we move from background conditions to future conditions with the Capitol Commerce Center trips added. The intersections in the study area would maintain acceptable levels of service as reflected in background conditions, except for the north and southbound approaches of the Rhode Island Avenue/3rd Street intersection. Table 5 also shows a LOS F for the north and southbound approaches of the Rhode Island Avenue/3rd Street intersection, however as explained earlier, this will not be the actual case in future conditions, since the upstream signal at Rhode Island Avenue and 1st Street would provide a break or gap in the flow of traffic along Rhode Island Avenue, allowing vehicles from 3rd Street to merge onto Rhode Island Avenue. This upstream signalized intersection was not included in the study scope and was therefore not included in the analysis.

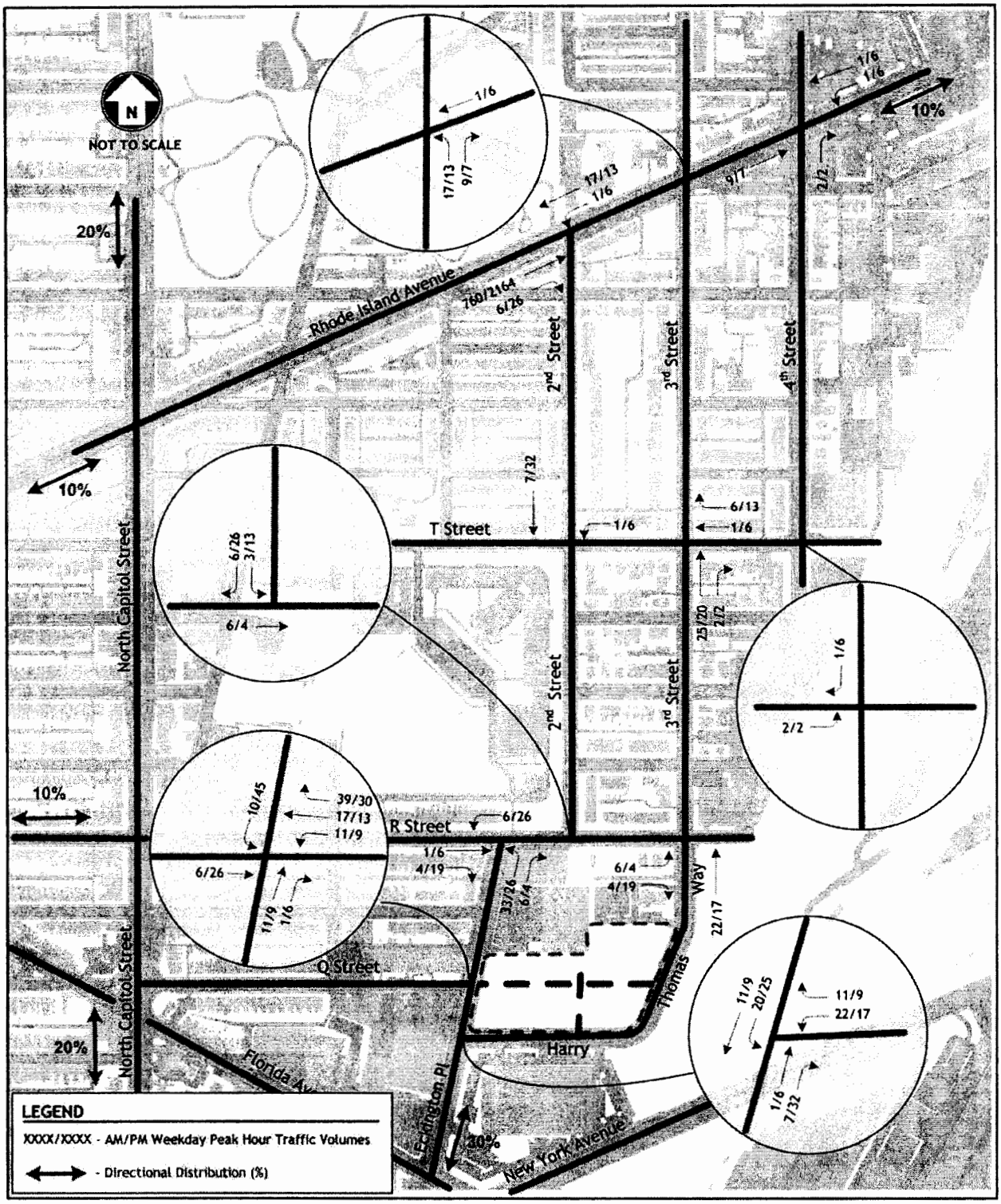


Figure 11 – Site Trips and Distribution

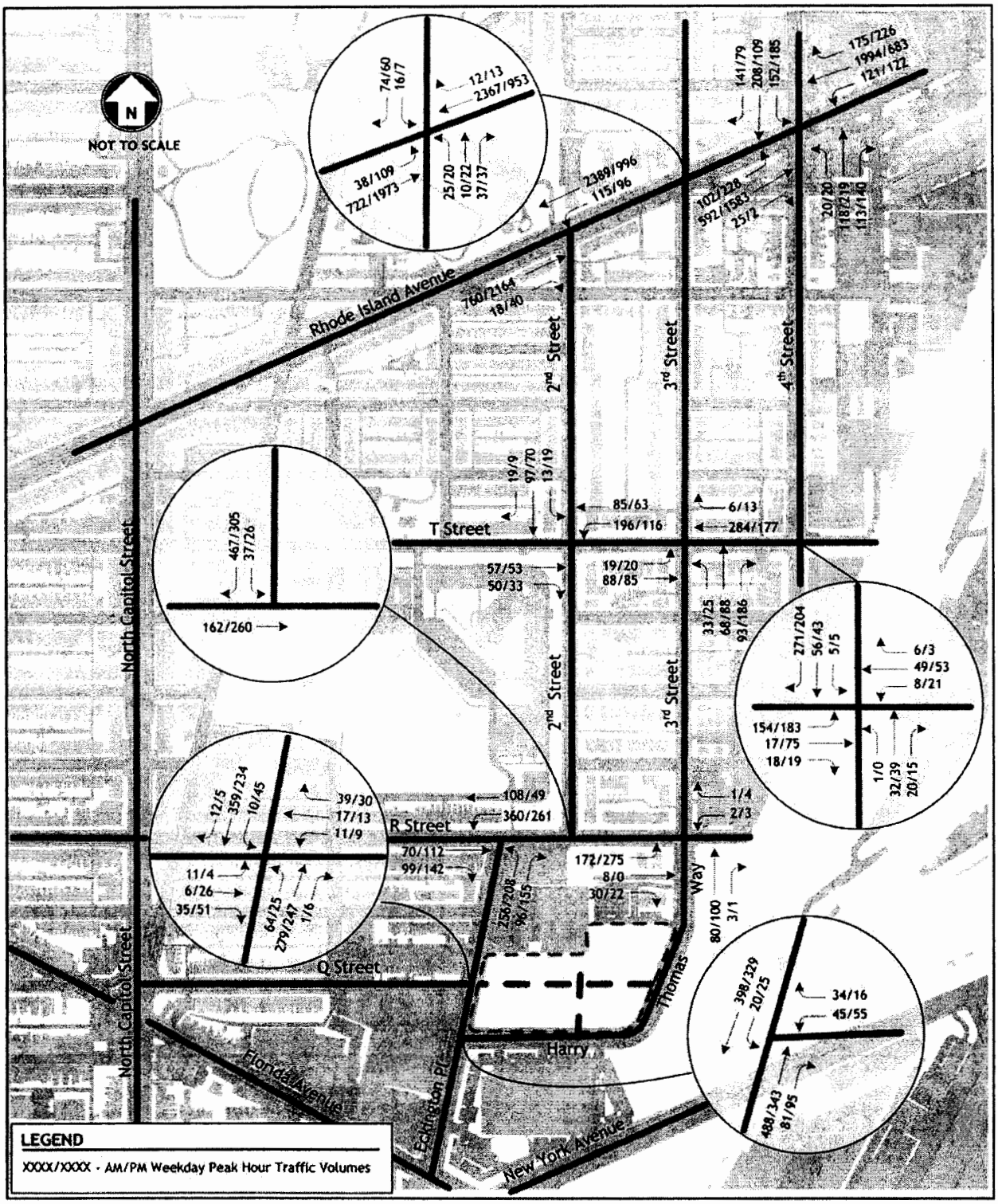


Figure 12 – Total Future Traffic Forecast

Table 5 – Total Future Levels of Service

Intersection (Approach)	Total Future Conditions			
	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
Rhode Island, NE & 4th Street, NE				
Overall	**29.4**	**C**	**23.1**	**C**
Eastbound	30.3	C	17.5	B
Westbound	26.5	C	19.9	B
Northbound	44.9	D	45.5	D
Southbound	33.5	C	36.1	D
T Street, NE & 4th Street, NE				
Overall	**30.6**	**C**	**20.2**	**C**
Eastbound	14.7	B	17.1	B
Westbound	23.3	C	25.0	C
Northbound	12.1	B	12.2	B
Southbound	44.0	D	23.7	C
T Street, NE & 3rd Street, NE				
Overall	**10.0**	**A**	**9.8**	**A**
Eastbound	8.8	A	9.0	A
Westbound	10.7	B	9.7	A
Northbound	9.5	A	10.2	A
T Street, NE & 2nd Street, NE				
Overall	**9.3**	**A**	**8.1**	**A**
Eastbound	8.1	A	7.7	A
Westbound	10.6	B	8.6	A
Southbound	7.9	A	7.5	A
R Street, NE & 3rd Street, NE				
Overall	**8.7**	**A**	**10.3**	**B**
Eastbound	9.0	A	10.9	B
Westbound	7.4	A	7.5	A
Northbound	8.0	A	8.6	A
R Street, NE & 2nd Street, NE				
Overall	**11.4**	**B**	**9.1**	**A**
Eastbound	8.5	A	8.6	A
Southbound	12.4	B	9.5	A
R Street, NE & Eckington Place, NE				
Overall	**20.8**	**C**	**14.7**	**B**
Eastbound	10.9	B	12.0	B
Westbound	26.6	D	15.1	C
Northbound	17.9	C	16.2	C
Q Street, NE & Eckington Place, NE				
Eastbound	14.8	B	12.5	B
Westbound	15.2	C	13.1	B
Harry Thomas Way & Eckington Place, NE				
Westbound	18.5	C	15.5	B
Rhode Island, NE & 3rd Street, NE				
Northbound	28.7	D	408.9	F
Southbound	133.8	F	16.5	C
Rhode Island, NE & 2nd Street, NE				
Westbound Left Turn	8.7	A	10.0	A

CONCLUSION

The capacity analyses contained in this report provided the following results:

- *Existing Conditions*

  Under existing conditions, all study area intersections operate at or better than the acceptable Levels of Service.

- *Future Background Conditions*

  The results of the future background capacity analyses show that all study area intersections are projected to operate at or above the acceptable Levels of Service, with negligible changes in delay considering regional growth.

- *Total Future Conditions*

  The total future conditions capacity analysis, including the Capitol Commerce Center generated traffic, showed similar results to the future background conditions. The study intersections would continue to operate at or better than the acceptable levels.

- *Parking*

  The development will provide approximately 875 new parking spaces (approximately 830 for residents and guests) at a parking ratio of more than one space per unit. Based on current trends and the District's requirements, this is adequate for the proposed development.

Based on these results, the proposed Capitol Commerce Center mixed-use development would have no negative impact on the surrounding road network. The close proximity and quality of access to Metrorail significantly reduces potential traffic impacts. The Capitol Commerce Center traffic would therefore have no significant impact on the roadways in the community and these additional vehicle-trips can be accommodated by the surrounding network.