



MEMORANDUM

TO: Ken Laden, DDOT
Chris Delfs, DDOT

FROM: Gorove/Slade Associates, Inc.

DATE: February 23, 2007

SUBJECT: Marina View, Discussion of Additional Analysis

Introduction

This memorandum presents the findings of an additional analysis that was requested by DDOT to address development that will be occurring in the same roadway corridors as Marina View, but this development is anticipated to come online later than the completion of the development of Marina View. For that reason, this specific development was not included in the initial scope of the Marina View Transportation Impact Study (TIS).

A description of the scope of this additional analysis is contained in the first attachment to this memo in a memorandum to DDOT dated February 14th, 2007. DDOT was asked to respond to that scope and did so affirmatively in an email from Ken Laden dated February 16th, 2007: "We concurred with the approach you outlined for the traffic analysis."

Analysis

In the TIS report dated December 4, 2006, Gorove/Slade included a conservative 2% per year estimate of growth along M Street to account for background traffic volume. In this reanalysis, the 2% growth is included, and in addition, estimates of traffic that will be generated by specific development are also included. This analysis incorporates developments expected to come online in the first few years after the build-out of Marina View, and addresses DDOT's questions regarding future traffic in the study area when Waterside Mall is redeveloped.

The horizon year for this additional analysis is 2012. The specific developments are shown on Figure 1, and are listed below:

- USDOT
- Waterside Mall
- Re-distribution of traffic due to 4th St Improvement

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- Monument Realty @ Ballpark, Phase I
- The Yards (SEFC), Parcels E1, M, K, D1, D2, L, O1, N1, O2
- Capper Carrollsburg
- Florida Rock, Phases 1 and 2
- Additional M Street SE Corridor development, through the use of a growth percentage

We utilized the traffic studies that have been completed for these developments (with the exception of Capper Carrollsburg) to estimate the volume of additional traffic through the Marina View study area during the a.m. and p.m. peak hours. The reports on all of these studies are on file in our office and can be provided to DDOT if necessary. For Capper Carrollsburg, trips were generated based on known information about the development and distributed based on distribution patterns for nearby residential developments. We did not reduce traffic volumes through the study area intersections to account for pass-by trips or synergy and therefore, these forecasts are on the high conservative side. To account for additional development, not included in the above list, a growth percentage was applied to through traffic of 1% per year.

Note that the development of Waterside Mall includes a plan to reopen 4th Street SW through the Mall site between K Street and M Street SW. The Waterside Mall traffic study includes estimates of traffic pattern changes that will result from that change in the street network. We included those pattern change estimates in these forecasts.

Net Additional Traffic in the study area for the specific developments listed above (no including additional trips due to the growth percentage) is summarized in Figure 2, and Total Future Traffic in the study area for the additional analysis is summarized in Figure 3.

The analysis of Total Future Traffic representing the year 2012 peak hour conditions was made using Synchro software (version 6.0), and assuming existing lane use and traffic controls, with changes to the intersection at 4th Street and Eye Street SW as indicated in the Waterside Mall Traffic Impact Study. The traffic signals at 4th Street and Eye Street SW, and M Street and 4th Street SW were re-timed in expectation of the new traffic patterns generated by the 4th Street connection. The results of the analysis are summarized in Table 1 (which also includes the total future results from the traffic impact study) and described below:

Table 1 – Total Future Levels of Service

Intersection (Approach)	Future Conditions with Marina View (from Traffic Impact Study)				Future Conditions with Marina View With Additional Background Volumes (2012)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service	Delay (sec/veh)	Level of Service
7th St, SW and Eye St, SW								
Overall	6.7	A	6.3	A	7.9	A	10.1	B
Westbound	12.4	B	14.5	B	14.5	B	36.0	D
Northbound	4.4	A	3.3	A	5.2	A	4.1	A
Southbound	5.4	A	5.7	A	5.5	A	5.7	A
6th St, SW and Eye St, SW								
Overall	12.3	B	13.1	B	11.5	B	14.2	B
Eastbound	3.3	A	5.3	A	3.4	A	5.5	A
Westbound	0.7	A	2.6	A	0.4	A	6.9	A
Northbound	32.6	C	27.3	C	33.4	C	28.2	C
Southbound	35.7	D	40.4	D	35.7	D	41.3	D
4th St, SW and Eye St, SW								
Overall	22.4	C	39.6	D	31.7	C	33.0	C
Eastbound	15.3	B	35.1	D	12.3	B	46.3	D
Westbound	23.3	C	46.5	D	40.7	D	37.7	D
Northbound	---	---	---	---	31.2	C	14.0	B
Southbound	27.3	C	39.5	D	34.4	C	25.0	C
6th St, SW and Maine Ave, SW								
Overall	10.8	B	14.6	B	11.2	B	14.5	B
Eastbound	10.3	B	15.1	B	11.5	B	16.4	B
Westbound	9.5	A	8.8	A	9.6	A	9.1	A
Northbound	27.0	C	26.2	C	27.0	C	26.3	C
Southbound	28.5	C	47.3	D	25.9	C	40.5	D
4th St, SW and M St, SW								
Overall	17.4	B	42.8	D	22.8	C	56.7	E
Eastbound	12.1	B	49.0	D	16.9	B	71.8	E
Westbound	15.3	B	23.7	C	23.4	C	29.7	C
Northbound	39.2	D	34.1	C	35.4	D	44.0	D
Southbound	57.0	E	111.7	F	58.3	E	114.6	F

The results show that the study area intersections will experience an increase in delay the first few years after Marina View is completed. This is due to an increase in through volumes on M Street, and the effects of the 4th Street SW connection through Waterside Mall, and the traffic generated by Waterside Mall. The capacity results show the same or next letter grade down Level of Service for all of the intersections. The only area of concern is at the intersection of 4th Street and M Street SW, where the Level of Service in the PM peak hour is expected to be 'E', which is the lowest grade considered acceptable in urban conditions. This indicates that based on these projections, in 2012 this intersection will be nearing its capacity.

The Level of Service 'E' capacity analysis result for the intersection of 4th Street and M Street SW brings up an interesting question of how will this intersection handle additional traffic post-2012, since even more development is expected in this area of the District. We expect that, similar to other urban areas, intersections along M Street such as the one at 4th Street SW will reach their capacity, and then dynamics within the transportation network will change in order to absorb new traffic demand. For example,

motorists may shift their work schedules to leave earlier or later, decide to carpool, telecommute, take transit, or use alternate routes. Thus, it is important for this area of the District be planned and developed with this in mind, setting goals to create a flexible network with choices within and between modes.

The improvements to the 11th Street Bridges, expected in 2011, will give regional commuters who use M Street more options and will help provide flexibility and alternate routes. Developments coming online after 2012 can use some of the capacity created by these improvements. Additionally, as the areas gets denser, transportation demand management measures, such as car-sharing and walking/biking will become more viable. We expect existing apartment buildings to have a higher percentage of residents not commuting via automobile as years pass by. In order to achieve this result, requiring and monitoring these demand management programs, and increasing transit quality and service (such as adding streetcar service to M Street) should be given priority.

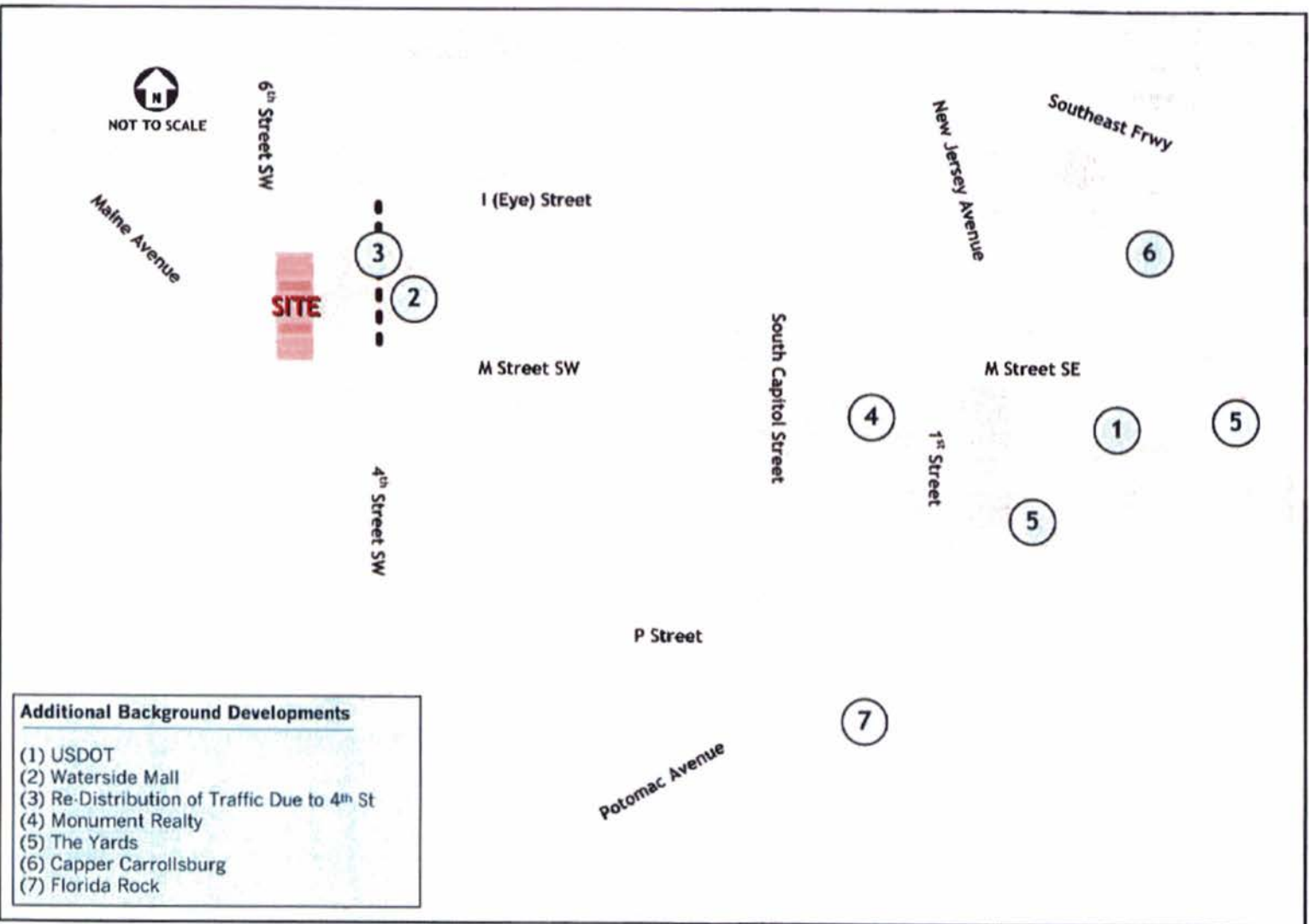


Figure 1: Locations of Additional Background Developments

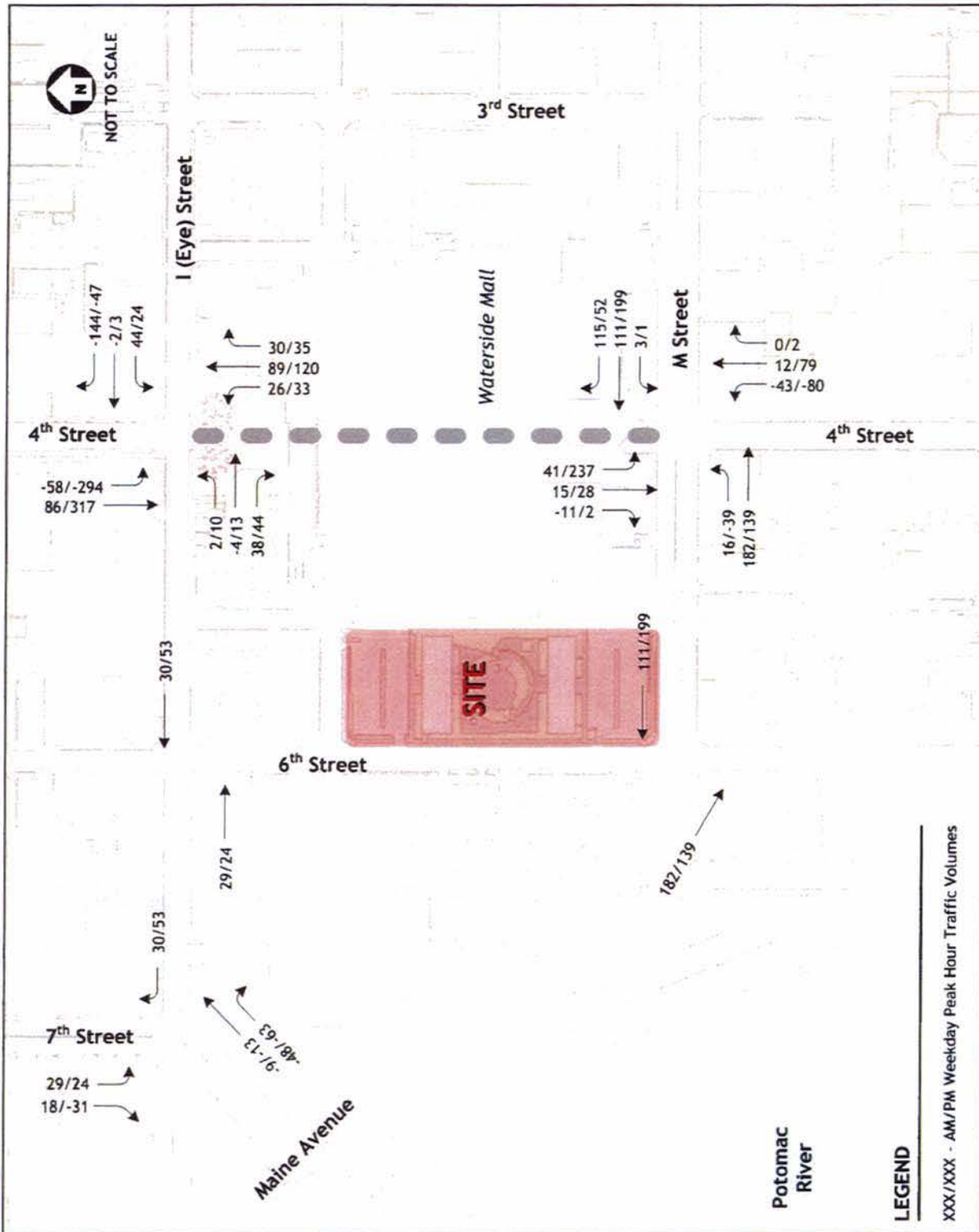


Figure 2: Peak Hour Traffic Volumes Generated by Additional Background Developments

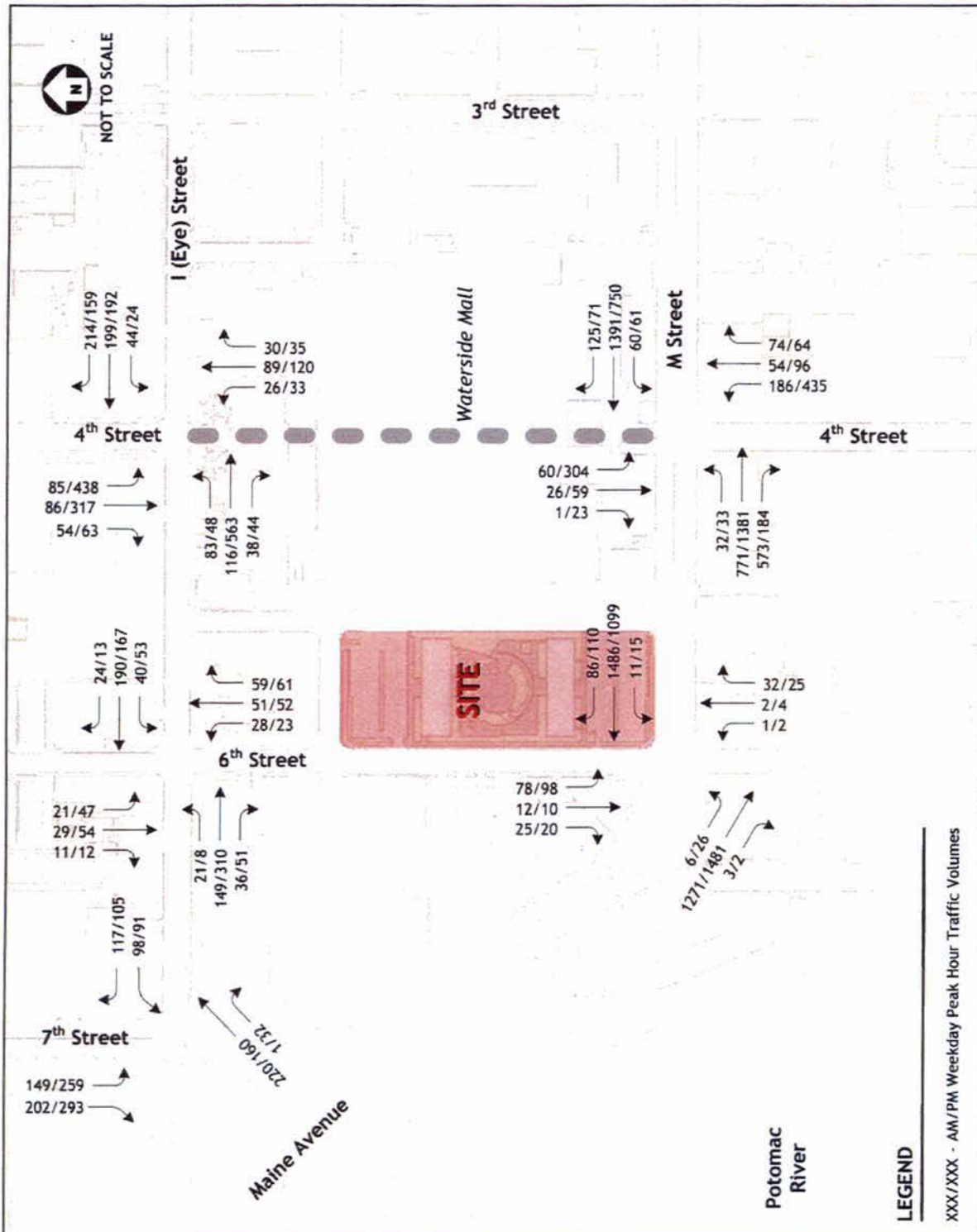


Figure 3: Total Future Peak Hour Traffic Volumes Including Additional Background Development (2012)