Technical Memorandum:

TRAFFIC IMPACT ASSESSMENT- BOARD OF ZONING ADJUSTMENT APPLICATION FOR GRANDVIEW ESTATES, SOUTHEAST, WASHINGTON, D.C.

(BZA Case No.17360)

Prepared for:
Mr. Yosief Maharaiai
c/o ACE DESIGNS AND CONSTRUCTION MANAGEMENT
3686 King Street, Suite 113
Alexandria, VA 22302

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Land use Counsel:
Stephen N. Gell, Esquire
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Prepared by:
O. R. GEORGE & ASSOCIATES, INC.
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10210 Greenbelt Road, Suite 310
Greenbelt, MD 20706-2218
Tel: (301) 794-7700

January 30, 2006

BOARD OF ZONING ADJUSTMENT
District of Columbia
CASE NO. 17360
EXHIBIT NO. 34

Board of Zoning Adjustment
District of Columbia
CASE NO. 17360
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TECHNICAL MEMORANDUM

DATE: January 30, 2006

TO: Mr. Yosief Maharaiai
c/o ACE DESIGNS AND CONSTRUCTION MANAGEMENT

FROM: Osborne R. George/Iain J. Banks

RE: Traffic Impact Assessment – Board of Zoning Adjustment Application No. 17360, 1270 - 1280 Talbert Street, Southeast, Washington, D.C.

INTRODUCTION

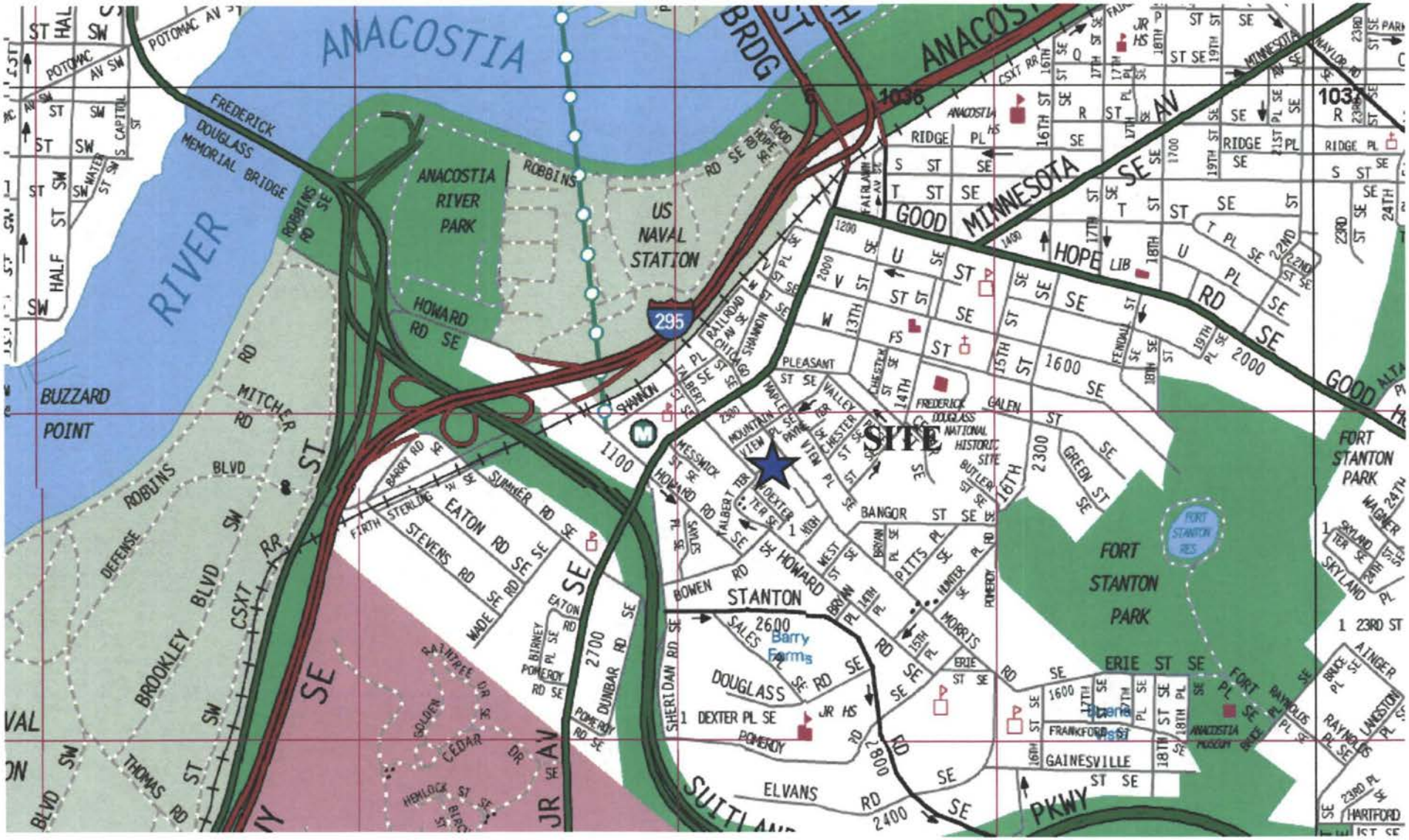
The Applicant, Mr. Yosief Maharaiai, plans to develop twenty three (23) 2-unit flats on a property located within the 1200 block of Talbert Street within the Anacostia area of Southeast Washington, D.C. The site is located within Square 5807, which is zoned Row Dwellings and Flats (R-4) and is currently unimproved. The developer is seeking a Variance and Special Exception from the Board of Zoning Adjustment (BZA) with respect to minimum lot area, and to allow groups of residential buildings and location of the parking at the front of the structures (respectively) under various sections of the City's Zoning Regulations.

A total of thirty-four (34) flats (i.e., 68 residential units) are allowed on the property as a matter-of-right. The development process requires the Applicant to demonstrate that the proposed use will not have adverse or objectionable impacts on neighboring properties based on traffic and parking considerations, among other factors. This memorandum addresses this requirement and is intended to support the public review process of the applicant. Exhibit 1 shows the location of the subject site.

As part of the study process, discussions were held with the Policy and Planning Administration staff of the District Department of Transportation (DDOT). Relevant correspondence is included in Appendix A. The study involved the following key tasks:

- Site visit and reconnaissance of the adjacent roadway network;
- Field observations of traffic volumes on the adjacent roadway network;
- Consideration of other developments planned for the immediate site area, as well as annual traffic growth trends for the adjacent roadways; and
- Analyses and general assessments of the information and perspectives gained from the above tasks, relative to the subject application.

This study concludes that the proposed development would not adversely impact traffic, access, and parking, such that it will affect the quality of life in the surrounding neighborhood. As such, it satisfies the stated requirements of the City's Zoning Regulations. The basis for this conclusion is presented in the sections following.



O. R. GEORGE &ASSOCIATES, INC.

Traffic Engineers - Transportation Planners

EXHIBIT 1

SITE LOCATION MAP
Grandview Estates, Anacostia, Washington D.C.

SITE LOCATION AND ACCESS SITUATION

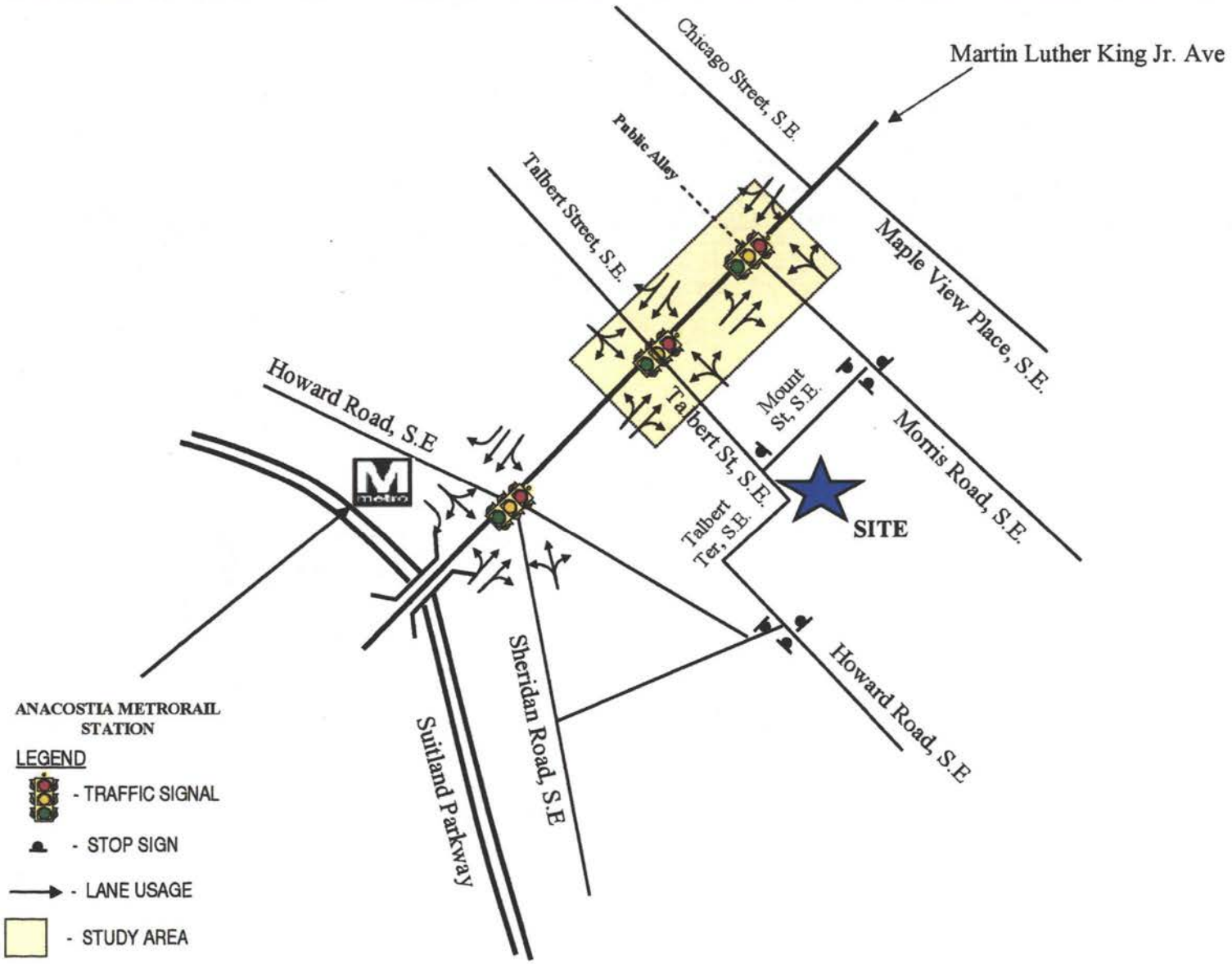
The subject site is located just east of the Martin Luther King, Jr., Avenue corridor within the Anacostia area. The site is situated approximately 1,000ft from the Washington Metropolitan Area Transit Authority (WMATA) Anacostia Metrorail Station. Land uses in the local area are largely mixed, with residential (R-3, R-4 and R-5-A) zoning dominating the area east and west of Martin Luther King, Jr., Avenue, and commercial (C-3-A and C-2-A) zoning along the Martin Luther King, Jr., Avenue corridor. The area is largely developed consistent with those zoning categories.

The location of the subject property is well suited for residential development. This is largely due to its proximity to regional and local roadways and transit services, including the following:

- Setting within the Anacostia neighborhood, in proximity to shopping, services, restaurants, churches and other institutional and community uses;
- Proximity to the Anacostia Metro Station on the WMATA Green Line; as well as ease of access to Metrobus routes along the Martin Luther King, Jr., Avenue and Morris Road corridors.

The above location and transit accessibility factors provide indicators that vehicle trips generated by the proposed development will be relatively low, even for market housing. Immediate vehicular access to the proposed development would be provided exclusively off Talbert Street, which is accessible from both Martin Luther King, Jr., Avenue and Morris Road. These roadways have the following characteristics and Exhibit 2 shows the roadway configuration and traffic control devices provided at the study area intersections.

- **Martin Luther King, Jr., Avenue**; is a four-lane undivided minor arterial on the City's Functional Roadway Classification Map. This facility runs in a general north - south direction, connecting the study area with the City's primary commuter routes to the north and the suburban areas of Prince George's County to the south. It is, therefore, an important commuter route serving the study area site. This roadway carries an average daily volume of approximately 14,700 vehicles in the vicinity of the subject development. The posted speed is 25 MPH.
- **Talbert Street, S.E.;** is designated as a local roadway on the City's roadway system. It is a typical City residential facility with a width of 30 feet and a posted speed limit of 25 MPH. Talbert Street provides direct access to the proposed site. (The 30-Ft roadway width and permitted parking situation is somewhat unusual, and is discussed in later sections of this memorandum.)
- **Morris Road, S.E.;** is classified as a collector roadway on the City's roadway system. This road runs in a general east-west direction and carries an average daily volume of approximately 3,300 vehicles. The posted speed limit is 25 MPH.



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EXHIBIT 2

EXISTING ROADWAY LANE CONFIGURATION

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Sidewalks are provided along all roadways in the vicinity of the subject site, and there are relatively high volumes of pedestrians along Martin Luther King, Jr., Avenue due to the proximity of the Anacostia Metro Station. Crosswalks and pedestrian signals are provided at the study area intersections.

EXISTING TRAFFIC SITUATION

In order to assess the existing traffic situation, field observations were made of typical weekday traffic flow conditions within the study area during the morning and afternoon peak periods. Additionally, peak period traffic turning movement counts were conducted on typical weekdays at all the study intersections. Based on these counts, the morning and afternoon peak hours for the study intersections were determined to be 7:30 - 8:30 AM and 4:30 - 5:30 PM.

Exhibit 3 shows the existing peak hour turning movement volumes. The count summaries are presented in Appendix B. In accordance with DDOT requirements, the peak hour volumes were analyzed using the Highway Capacity Manual (HCM) procedures for signalized intersections. The capacity analysis results are presented in Table 1 below. These results show that the study area intersections currently operate at quite acceptable Levels of Service[1] (LOS), during both morning and afternoon peak periods. The capacity analysis worksheets are presented in Appendix C.

TABLE 1

SUMMARY OF CAPACITY ANALYSIS RESULTS –
EXISTING WEEKDAY PEAK HOUR TRAFFIC SITUATION

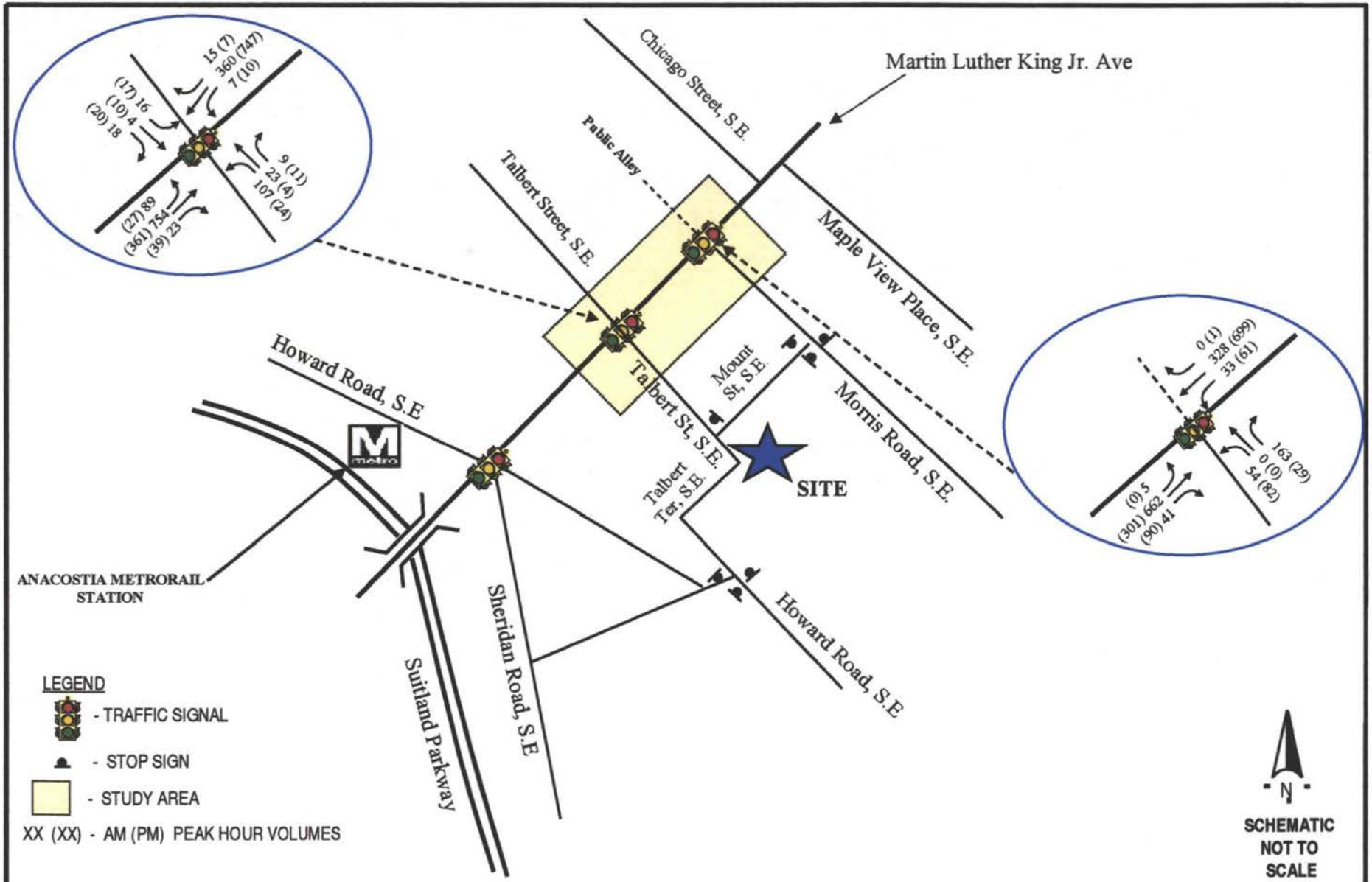
Intersection	AM Peak Hour		PM Peak Hour	
	Level of Service	Average Delay*	Level of Service	Average Delay*
1. Martin Luther King, Jr., Avenue @ Talbert Street, S.E	B	12.4	A	9.7
2. Martin Luther King, Jr., Avenue @ Morris Road, S.E	B	15.0	B	10.7

* Average Delay is expressed in seconds.

Source: O. R. George & Associates.

[1] Level of Service is a qualitative measure describing operational conditions within a traffic stream or at an intersection, and their perception by road users. Principal considerations are factors such as speed and travel time, delay, freedom to maneuver, traffic interruptions, comfort, convenience and safety. Current engineering practice defines six (6) levels of service ranging from A to F. Level of Service A represents the best (free flow) conditions where drivers are unaffected by the presence of others in the traffic stream, and are free to change speeds and maneuver, etc., at will. Level of Service F represents the worst (forced flow) conditions where road users experience considerable delay and inconvenience. The District of Columbia has adopted Level of Service D as the minimum acceptable standard for planning purposes.

The computed levels of service are in keeping with field observations made during the data collection and field reconnaissance phases of the study. These observations showed no excessive queuing, delays, or other situations indicating significant capacity and safety deficiencies for either pedestrian or vehicular traffic. Accordingly, this analysis concludes that the study area roadway network currently operates without any significant operational or capacity deficiencies with respect to the City's planning standards.



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EXHIBIT 3

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES

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FUTURE TRAFFIC SITUATION

As noted earlier, the Applicant proposes to develop twenty-three (23) 2-unit flats, which is eleven (11) 2-unit flats below the number allowed as a matter-of-right. In accordance with DDOT's guidelines, trip generation estimates were developed for the site using rates recommended by the Institute of Transportation Engineers (ITE) *"Trip Generation Manual"* (2003). The ITE data is representative of sites within suburban stand-alone uses. The trip rates and projected vehicle trips for both the maximum allowable matter-of-right development and proposed development are shown for comparison in Table 2 below.

TABLE 2

PROJECTED TRIP GENERATION –
PROPOSED GRANDVIEW ESTATES DEVELOPMENT

Trip Rates	**AM Peak Hour**			**PM Peak Hour**		
	In	**Out**	**Total**	**In**	**Out**	**Total**
• Trips/Condominium (flats) Unit	0.07	0.37	0.44	0.35	0.17	0.52
Trip Generation						
• Matter-of-Right Development Trips 68 (34x2) Condominium (flats) Units	5	25	30	24	12	36
• Proposed Development 46 (23x2) Condominium (flats) Units	3	17	20	16	8	24
-With 25 % Transit Trips	2	13	15	12	6	18

Source: O. R. George & Associates.

The above table shows that the proposed development would likely have a low impact, in terms of its projected trip generation. This is to be expected considering the low number of proposed dwelling units. It is noteworthy that typical DDOT and WMATA surveys suggest a trip reduction factor of forty percent (40%) could be utilized for residential locations in proximity to Metrorail Stations, as this site is to the Anacostia Station. In order to be conservative a twenty-five (25 %) percent transit trip reduction was applied for the proposed development.

Review of historical Average Daily Traffic (ADT) provided by DDOT indicates that traffic volumes on the study area roadways have remained stable and actually decreased slightly during the period 2000 - 2002. Also, the *"Economic Development Map"* of the DC Office the Deputy Mayor of Planning and Economic Development, shows that there are no planned developments within the vicinity of the site. It is understood that the City is planning to relocate the DDOT headquarters nearby to the intersection of Martin Luther King, Jr., Avenue and Good Hope Road. Based on this consideration and bearing in mind the potential for background developments planned within the study area, an annual growth rate of two and a half percent (2.5%) was applied to existing traffic volumes.

Assuming build-out of the development within the 2007/2008 timeframe, he future (2007/2008) traffic situation evaluated in the study was therefore derived by combining the year 2007/2008 base traffic volumes (which reflects the 2.5% annual growth factor and is presented as Appendix D), and the projected site traffic assignment (Exhibit 4). The year 2007/2008 total traffic situation is shown in Exhibit 5. These volumes were analyzed, as was done for the existing traffic situation. The analysis results are provided in Table 3; and the analysis worksheets are provided as Appendix E.

TABLE 3

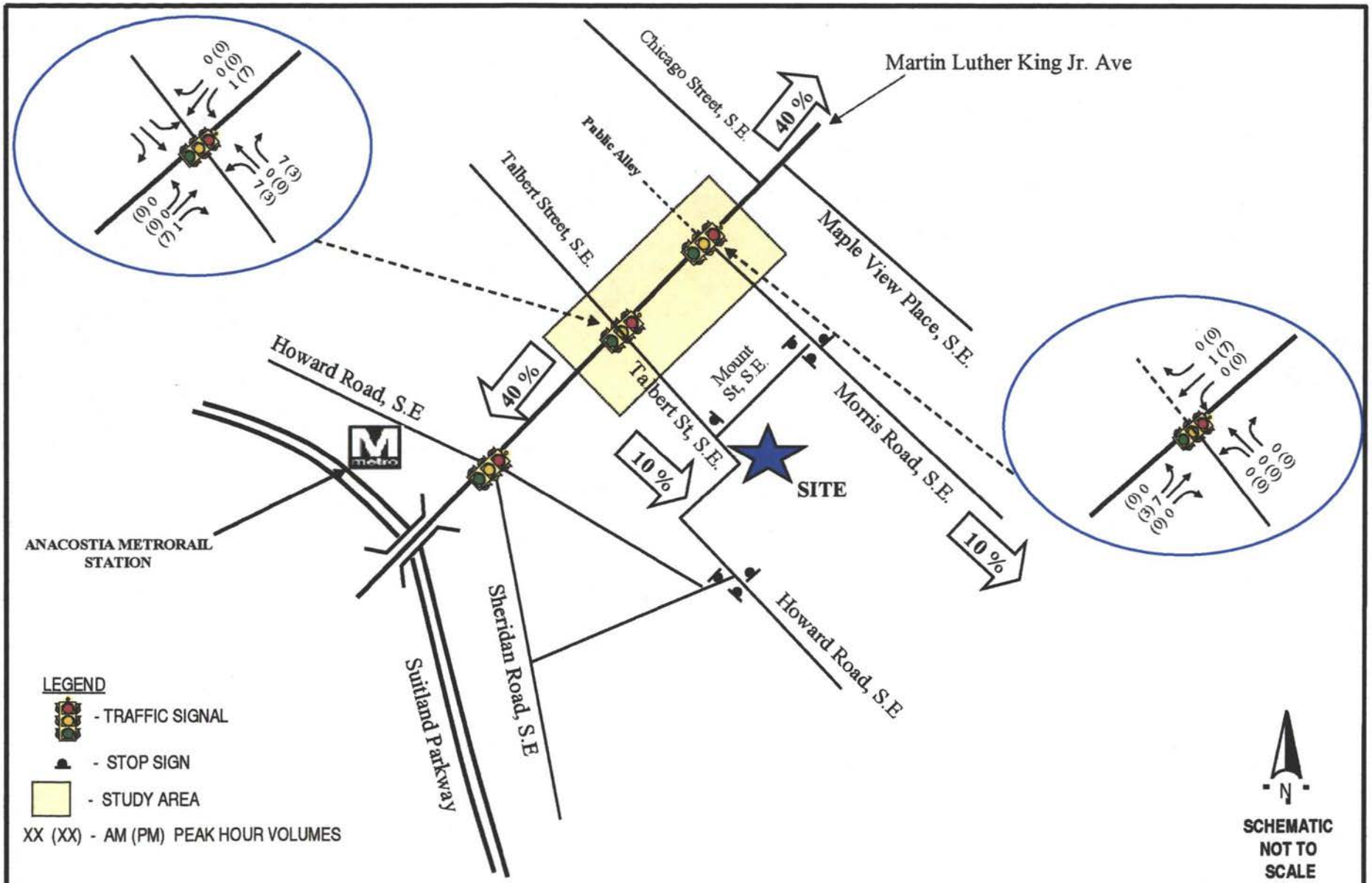
SUMMARY OF CAPACITY ANALYSIS RESULTS – PROJECTED 2007 TOTAL TRAFFIC SITUATION

Intersection	AM Peak Hour		PM Peak Hour	
	Level of Service	Average Delay*	Level of Service	Average Delay*
1. Martin Luther King, Jr., Avenue @ Talbert Street, S.E	B	13.0	B	10.1
2. Martin Luther King, Jr., Avenue @ Morris Road, S.E	B	15.4	B	10.9

* Average Delay is expressed in seconds.

***Source**: O. R. George & Associates.*

The traffic impact of the subject development can readily be seen by comparing Table 1 (Existing Traffic Situation) on page 5 with Table 3 (Total Projected 2007 Traffic Situation). The comparison shows that the future Levels-of Service situation at the study intersections would remain substantially the same as for the current situation, and would satisfy DDOT requirements.



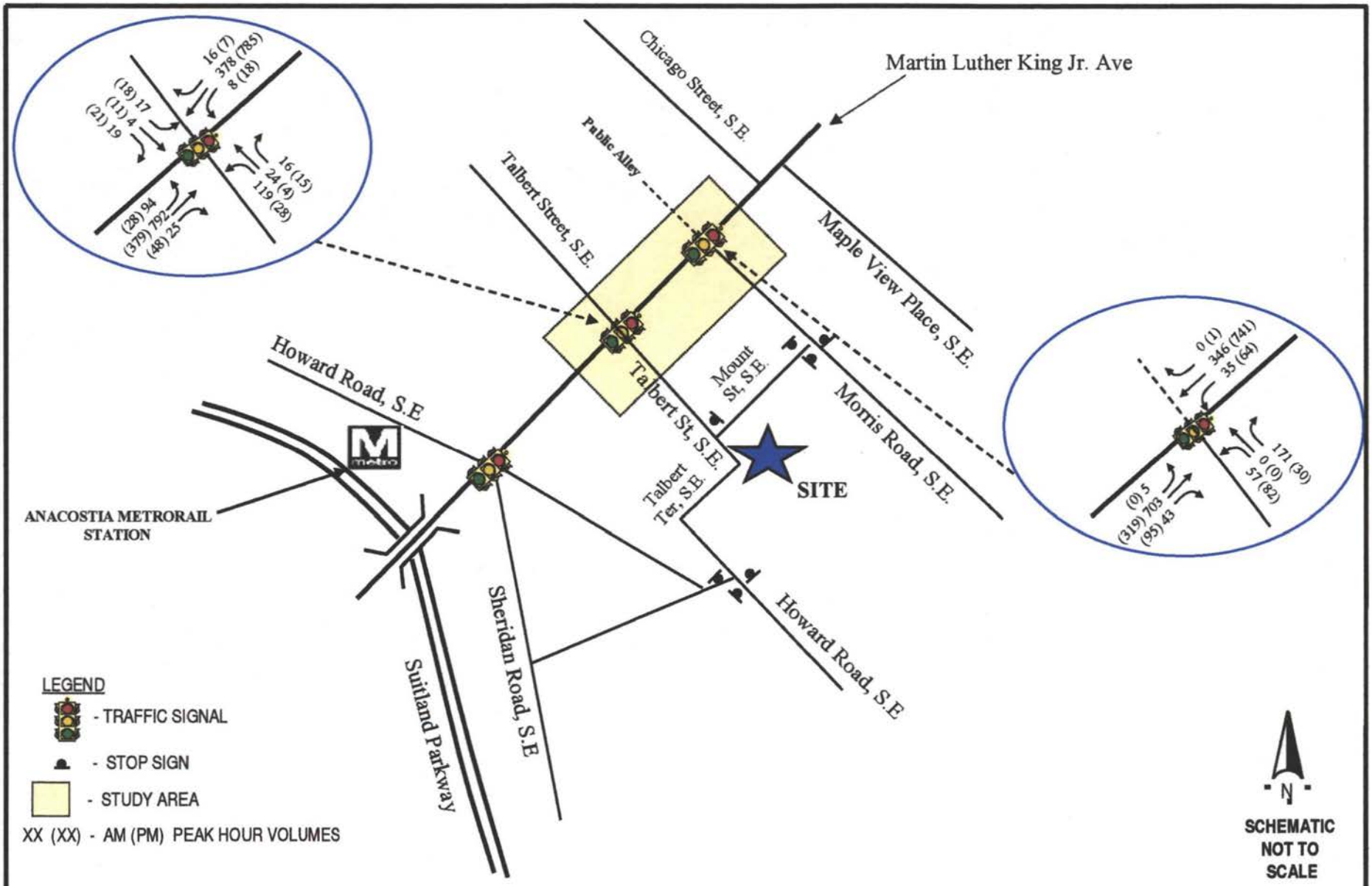
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EXHIBIT 4

PROJECTED SITE PEAK HOUR TRAFFIC ASSIGNMENT

Grandview Estates BZA Application Case No. 17360



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EXHIBIT 5

PROJECTED YEAR 2007 TOTAL TRAFFIC SITUATION

Grandview Estates BZA Application Case No. 17360

SITE ACCESS AND PARKING EVALUATION

As noted earlier, the proposed development would be accessed exclusively off Talbert Street via a 26 ft driveway. *We understand from the Applicant that this driveway width was a recommendation of the D.C. Fire Department.* It is relevant to note that Section 2117.8 of the Zoning Regulations stipulate that driveways accessing any use, which serves more than one (1) parking space shall be not more than 25 ft in width. It is also relevant to note that the abutting streets (Talbert Street and Talbert Terrace) have curb-to-curb widths of only 30ft with parking allowed along both sides of these roadways. DDOT's standards call for a minimum roadway (curb-to-curb) width of 38 ft to accommodate two-way traffic and parking along both sides of the roadway. However, the existing situation appears to have a favorable traffic calming impact, in that it helps to moderate travel speeds and discourage cut-through traffic.

The alignment and configuration of the proposed driveway and adjacent roadways have a significant bearing on the parking proposals for the subject site, as is discussed below in this section. In order to facilitate the discussions Exhibits 6 and 7 present photographs of the existing roadway cross-section and current parking situation along Talbert Street and Talbert Terrace.

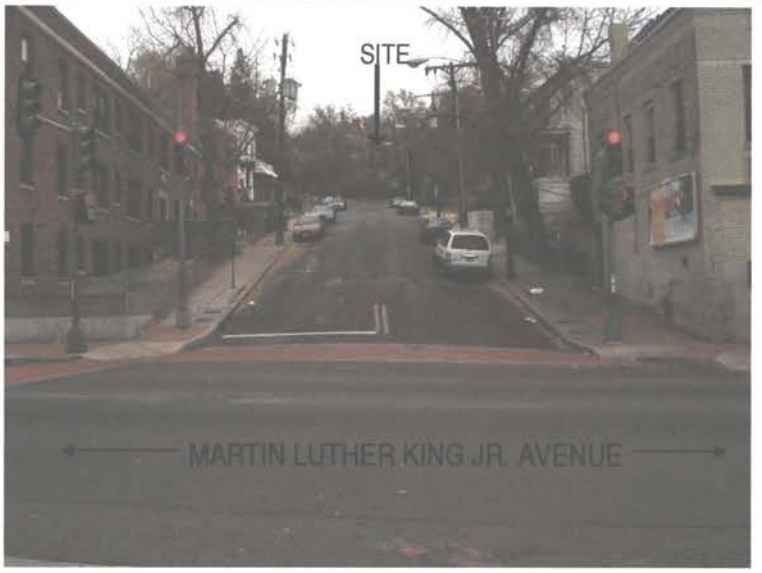
With respect to the parking requirements, Section 2101.1 of the Zoning Regulations requires one parking space for every two (2) dwelling units of the subject property. The required and proposed parking spaces are shown below:

	Parking Spaces	
Land Use	**Required**	**Proposed**
• 46 Condominium (flats)	23	30

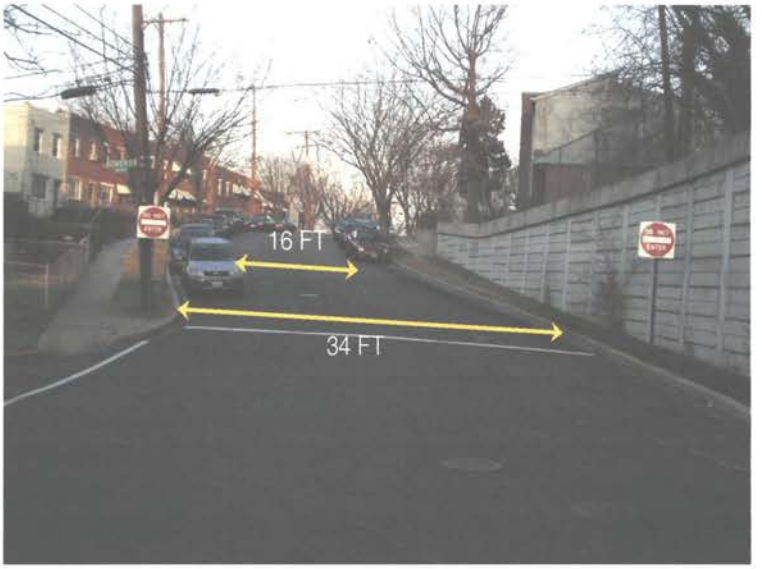
The above table shows that the proposed parking exceeds the stipulated requirements by 30%. *However, the Applicant has advised that the Advisory Neighborhood Commission has expressed concern, and is desirous for further supporting confirmation that the parking would be adequate and would not result in adverse impacts on the neighborhood.* The following factors are therefore noted from field observations and parking inventory surveys:

- As noted earlier, the adjacent roadways are approximately 30 feet in width and parking is allowed on both sides of the roadway. *This equates to approximately 14 feet of drive aisle for the two-way traffic operations.*
- The City's Residential Parking Permit (RPP) program is in operation on both sides of Talbert Street and Talbert Terrace, with the exception of the frontage along the subject site, where no parking is allowed.
- Parking inventory surveys on the adjacent roadways indicated a moderate utilization during the daytime, with the evening hours showing higher usage.

Street Section	Available Parking Spaces	OBSERVED PARKING USAGE	
		Daytime Noon – 3 PM	Night Time 9:00 – 10:00 PM
Talbert Street	33	10	15
Talbert Terrace	35	29	34



Talbert Street at Martin Luther King Jr Avenue looking south

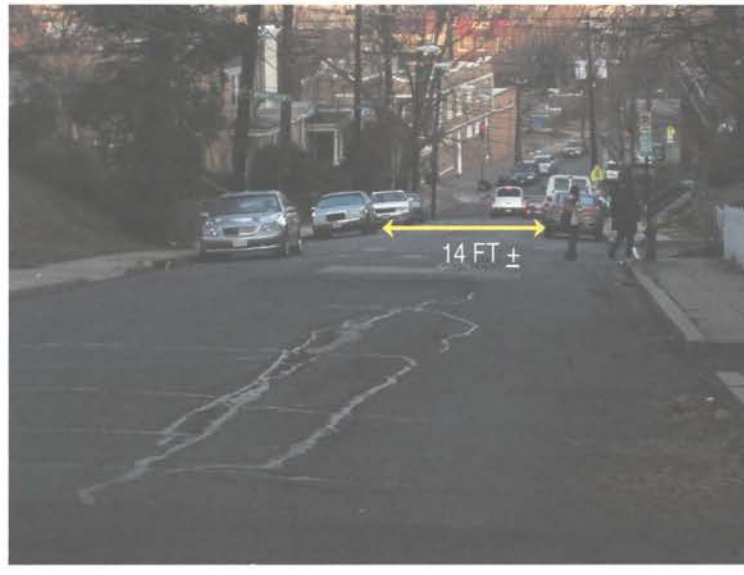


Talbert Terrace at Bowen Road

O. R. GEORGE & ASSOCIATES, INC. *Traffic Engineers – Transportation Planners*	**EXHIBIT 6** **PHOTOGRAPHS OF STUDY AREA ROADWAYS** Grandview Estates BZA Application Case No. 17360



Talbert Street at Talbert Terrace



Talbert Street at Mount View Place looking north

O. R. GEORGE & ASSOCIATES, INC. *Traffic Engineers – Transportation Planners*	**EXHIBIT 7** **PHOTOGRAPHS OF STUDY AREA ROADWAYS** Grandview Estates BZA Application Case No. 17360

In projecting the future parking demand for residential communities such as the subject property, an important consideration is the likely levels of vehicle ownership within the new community. This study notes that the existing vehicle ownership as reported in the most recent census data (Year 2000) would be a useful guide and these are summarized below:

VEHICLE OWNERSHIP DATA
(For Anacostia Area/Census Tract 74.01)

- No Vehicles 61 %
- 1.0 Vehicles 22 %
- 1.0+ Vehicles 17 %

Source: U.S Census Bureau

The data shows that only approximately 40% of residents own vehicles. This suggests that the requirements of the Zoning Regulations based on 50% [i.e., based on one (1) parking space for every two (2) units] provides for a "factor of safety" and is well-founded. This is underscored by the fact that the Zoning Regulations has a City-wide application, covering areas having demographics substantially different, most notably vehicle ownership, and differing levels of access to transit modes. For comparison census tract data are shown below (with the corresponding data sheets attached as Appendix F).

Ownership Category	Adams Morgan (Census Tract No. 42.01)	Shepherd Park (Census Tract No.- 18.03)	Georgetown Census Tract No. 2.02	Anacostia Census Tract No. 74.01
No vehicles	32.1 %	10.4 %	11.5 %	61 %
1.0 Vehicles	54.4 %	60.3 %	57.7 %	22 %
1.0+ Vehicles	13.5 %	29.3 %	30.8 %	17 %

Source: U.S Census Bureau (2000)

This development requires a Special Exception from Section 2116 to allow off-street parking to be located in front of the structures. It is our assessment that this relief will have no adverse impact on traffic generation, or on parking demand. The census data presented above strongly supports the parking requirements stipulated in the Zoning Regulations; and as such, the 23 parking spaces required should be adequate. We have also developed a concept that would provide for five (5) additional spaces to be provided along one side of the 26 ft wide driveway. This concept is illustrated in Exhibit 8. The table on page 16 summarizes the proposed and potential parking supply for the new community.

GRANDVIEW ESTATES
PROPOSED OFF-STREET PARKING SUPPLY

No of Units	= 46
Parking Required (@ 1 per 2 units)	= 23
Parking Provided	= 30 (Surface lot)
	5 (Along 26ft driveway)
Total	= **35**

Based on the above, this study concludes that the proposed parking would be adequate, and would not create adverse impacts within the development or the adjacent residential streets.

SUMMARY AND CONCLUSION

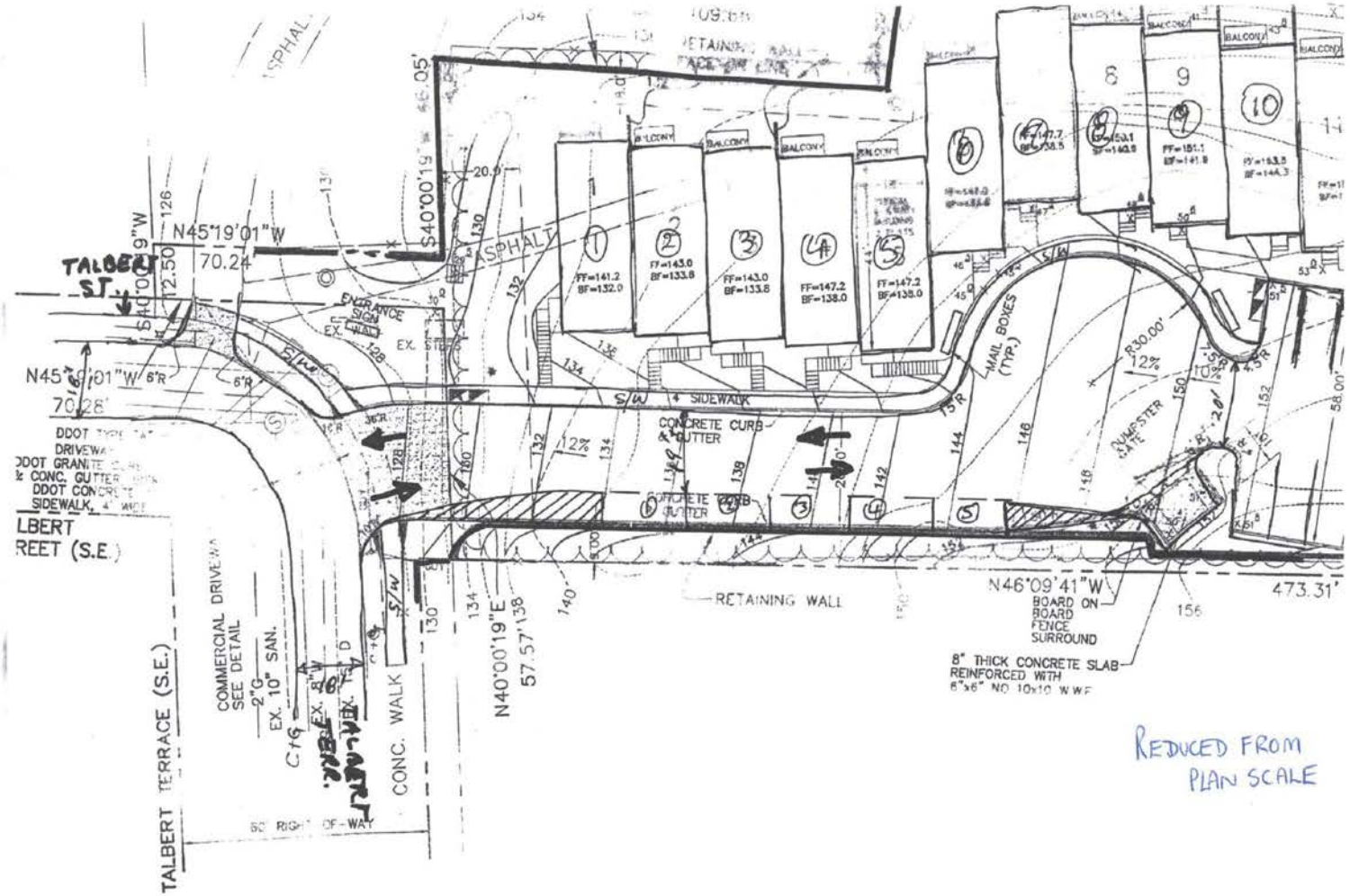
The foregoing data, discussion and analysis have shown that development of twenty-three (23) duplexes, as currently proposed, would have no significant adverse impacts on the operational efficiency and safety of the study area roadways. More specifically, the analysis has determined the following:

a) Current traffic operational conditions at the adjacent intersections are quite acceptable, and are well within the City's Level-of-Service standards.
b) The proposed development is favorably situated relative to public transportation facilities and would generate an average of seventeen (17) vehicle trips during the peak hours and would therefore have a minimal impact on traffic and parking conditions within the local area;
c) Analysis of the future total traffic situation shows very little change compared with the existing situation and the computed levels of service;
d) The proposed on-site parking and driveway access to the site would provide a safe and efficient operational situation in regard to the adjacent streets; and
e) The 35 off-street parking spaces proposed would be 50% in excess of the City's requirements (0f 23 spaces)..

This study concludes that development of the subject site, per the submitted application, would satisfy the requirements of the Zoning Regulations, from the perspective of impacts associated with transportation (i.e., vehicular access and parking).

We trust that the above satisfies your requirements. If we can be of further assistance in this matter, please let us know. Thank you.

ORG/IJB



REDUCED FROM PLAN SCALE

BUILDER:

ORGA 1/27/06

O. R. GEORGE &ASSOCIATES, INC.

Traffic Engineers - Transportation Planners

EXHIBIT 8

PROPOSED PARKING CONCEPT PLAN

Grandview Estates BZA Application Case No. 17360

APPENDIX

A

TRAFFIC STUDY SCOPING AGREEMENT
AND RELEVANT CORRESPONDENCE
WITH DDOT STAFF

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Greenbelt, MD 20706
Tel: (301) 794-7700 • Fax: (301) 794-4400

October 12, 2005

Mr. Abdoulaye Bah, Sr. Transportation Engineer
Transportation Policy and Planning Administration
District of Columbia Department of Transportation
2000 14th Street, N.W. (7th Floor)
Washington, D.C. 20009

Re: Grandview Estates, Board of Zoning
Adjustment Application No 17360, Southeast, Washington, D.C.

Dear Mr. Bah:

Please be advised that we have been retained to provide consulting services to the applicant, Mr Yosief Maharaiai, in connection with the referenced matter.

As background, the subject application proposes the development of twenty-four (24) 2-unit flats located within the 1200 block of Talbert Street, S.E in the Anacostia area of the City. The site is zoned R-4; and is currently vacant. For your reference a location map showing the site and the surrounding roadway network is attached.

The Applicant is seeking relief with respect to the location of the required parking spaces in the residential (R-4) zone district. In order to address the requirements of the BZA, we propose to evaluate traffic and parking conditions within the adjacent roadway network, i.e. Martin Luther King Jr Avenue at Talbert Street, and Martin Luther King Jr Avenue at Morris Road intersections. We will consider traffic growth and background developments in projecting future traffic conditions, in accordance with your Department's usual requirements.

Should your Department have any particular issues, concerns, or information that may be pertinent to this matter, please let us know. Thanks for your usual cooperation and assistance in this matter.

Sincerely,
O. R. GEORGE & ASSOCIATES, INC.

Osborne George
President

ORG/ijb

cc: Mr. Yosief Maharaiai
Mr. Michael Diggs (Ace Designs and Construction Management)

APPENDIX

B

TRAFFIC TURNING MOVEMENT COUNT
SUMMARIES - EXISTING TRAFFIC
SITUATION

O.R.George & Associates
10210 Greenbelt Road, Suite 310
Lanham, MD 20706 - 2218
Tel: (301) 974-7700 Fax: (301) 794-4400

Counter: D1-0758
Counted By: TD
Weather: CLOUDY/WARM
Other:

File Name : mlk@tal
Site Code : 23456789
Start Date : 10/05/2005
Page No : 1

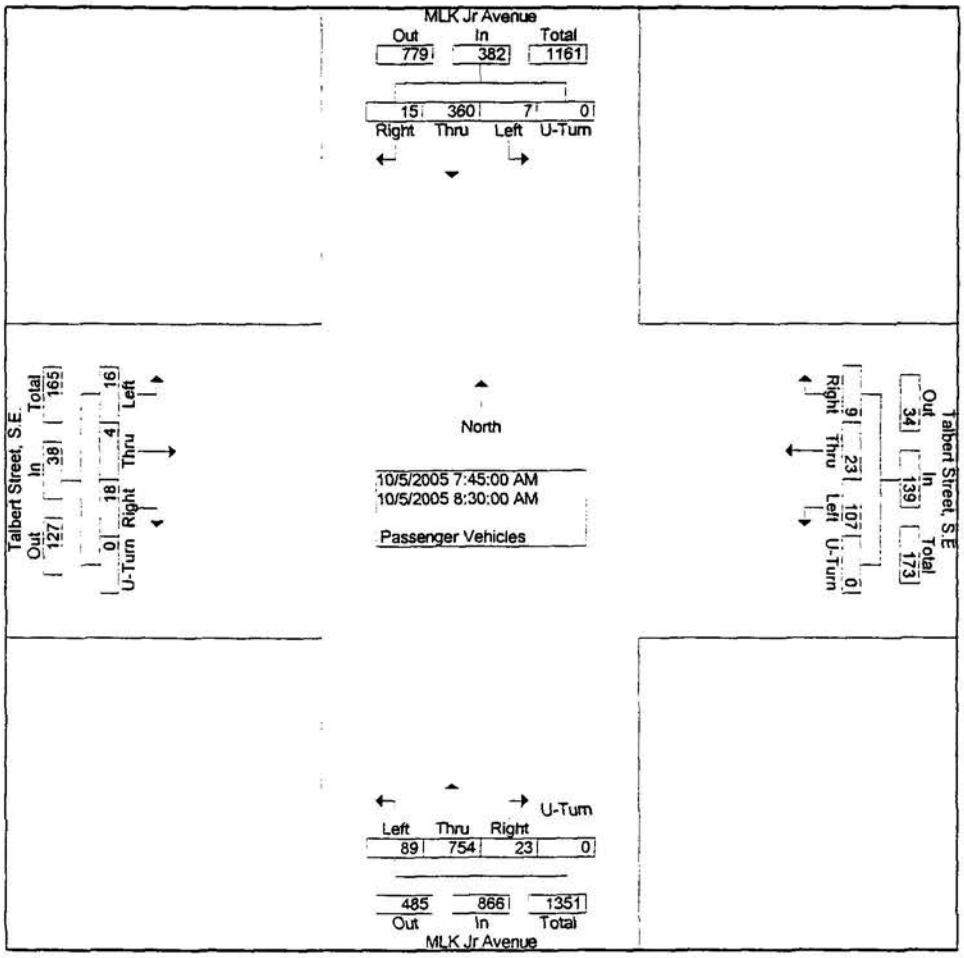
Groups Printed- Passenger Vehicles

	MLK Jr Avenue From North					Talbert Street, S.E From East					MLK Jr Avenue From South					Talbert Street, S.E. From West					
End Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:45	5	89	1	0	95	1	8	14	0	23	6	199	20	0	225	6	1	2	0	9	352
08:00	3	98	3	0	104	1	5	35	0	41	6	191	17	0	214	2	1	5	0	8	367
Total	8	187	4	0	199	2	13	49	0	64	12	390	37	0	439	8	2	7	0	17	719
08:15	4	88	2	0	94	3	4	27	0	34	5	180	24	0	209	7	1	4	0	12	349
08:30	3	85	1	0	89	4	6	31	0	41	6	184	28	0	218	3	1	5	0	9	357
08:45	3	70	1	0	74	5	3	28	0	36	6	177	30	0	213	4	1	4	0	9	332
09:00	2	93	1	0	96	7	9	20	0	36	4	185	27	0	216	5	1	2	0	8	356
Total	12	336	5	0	353	19	22	106	0	147	21	726	109	0	856	19	4	15	0	38	1394
16:15	5	188	0	0	193	2	2	8	0	12	6	85	3	0	94	3	3	4	0	10	309
16:30	2	191	2	0	195	1	0	6	0	7	9	82	8	0	99	4	4	6	0	14	315
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17:15	1	186	2	0	189	2	2	6	0	10	11	102	6	0	119	8	3	2	0	13	331
17:30	3	195	4	0	202	4	1	3	0	8	6	97	5	0	108	1	2	6	0	9	327
17:45	3	190	5	0	198	2	1	4	0	7	7	64	4	0	75	3	1	3	0	7	287
18:00	2	186	2	0	190	3	2	5	0	10	8	102	5	0	115	3	1	4	0	8	323
Total	9	757	13	0	779	11	6	18	0	35	32	365	20	0	417	15	7	15	0	37	1268
Grand Total	39	2025	28	0	2092	40	44	202	0	286	102	1810	193	0	2105	60	25	56	0	141	4624
Apprch %	1.9	96.8	1.3	0.0		14.0	15.4	70.6	0.0		4.8	86.0	9.2	0.0		42.6	17.7	39.7	0.0		
Total %	0.8	43.8	0.6	0.0	45.2	0.9	1.0	4.4	0.0	6.2	2.2	39.1	4.2	0.0	45.5	1.3	0.5	1.2	0.0	3.0	

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Site Code : 23456789
Start Date : 10/05/2005
Page No : 2

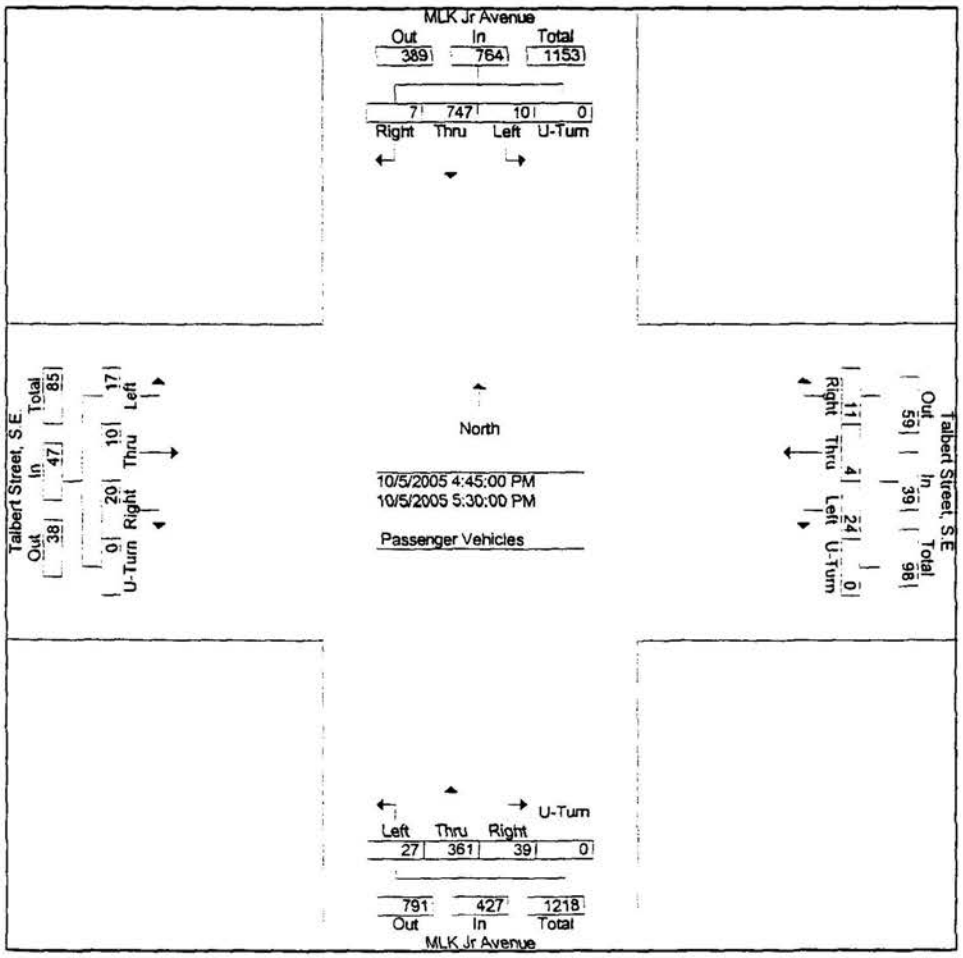
	MLK Jr Avenue From North					Talbert Street, S.E From East					MLK Jr Avenue From South					Talbert Street, S.E. From West					
End Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour From 07:45 to 11:45 - Peak 1 of 1																					
Intersection	07:45																				
Volume	15	360	7	0	382	9	23	107	0	139	23	754	89	0	866	18	4	16	0	38	1425
Percent	3.9	94.2	1.8	0.0		6.5	16.5	77.0	0.0		2.7	87.1	10.3	0.0		47.4	10.5	42.1	0.0		
Volume	15	360	7	0	382	9	23	107	0	139	23	754	89	0	866	18	4	16	0	38	1425
Volume	3	98	3	0	104	1	5	35	0	41	6	191	17	0	214	2	1	5	0	8	367
Peak Factor																					0.971
High Int.	08:00					08:00					07:45					08:15					
Volume	3	98	3	0	104	1	5	35	0	41	6	199	20	0	225	7	1	4	0	12	
Peak Factor					0.918					0.848					0.962					0.792	



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	MLK Jr Avenue From North					Talbert Street, S.E From East					MLK Jr Avenue From South					Talbert Street, S.E. From West					
End Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour From 12:00 to 18:15 - Peak 1 of 1																					
Intersection	16:45																				
Volume	7	747	10	0	764	11	4	24	0	39	39	361	27	0	427	20	10	17	0	47	1277
Percent	0.9	97.8	1.3	0.0		28.2	10.3	61.5	0.0		9.1	84.5	6.3	0.0		42.6	21.3	36.2	0.0		
Volume	7	747	10	0	764	11	4	24	0	39	39	361	27	0	427	20	10	17	0	47	1277
Volume	1	186	2	0	189	2	2	6	0	10	11	102	6	0	119	8	3	2	0	13	331
Peak Factor																					0.965
High Int.	17:30					17:00					17:15					16:45					
Volume	3	195	4	0	202	3	1	8	0	12	11	102	6	0	119	6	3	5	0	14	
Peak Factor					0.946					0.813					0.897					0.839	



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Counted by: IJB
Board : D1-0758A
City/County: D.C
Weather : CLOUDY/WARM

File Name : MLK@MOR
Site Code : 12345678
Start Date : 10/05/2005
Page No : 1

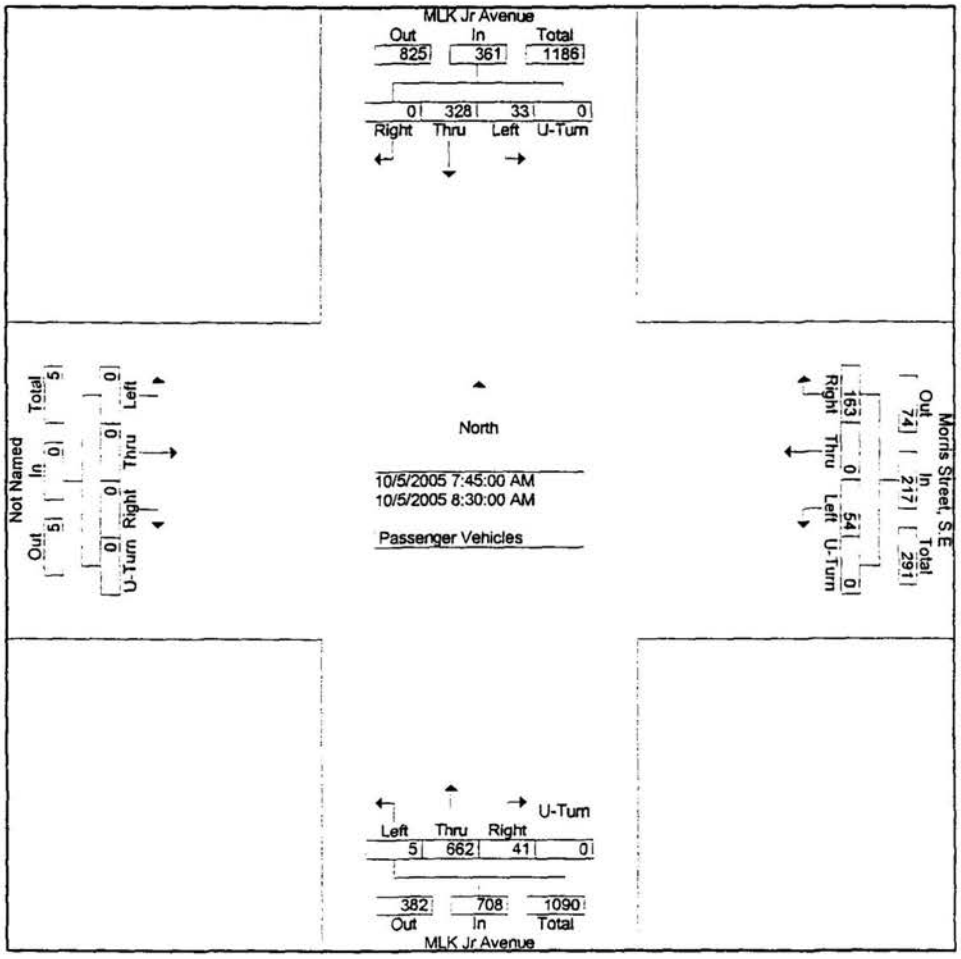
Groups Printed- Passenger Vehicles

	MLK Jr Avenue From North					Morris Street, S.E From East					MLK Jr Avenue From South					From West					
End Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:45	0	85	7	0	92	31	0	10	0	41	9	172	2	0	183	0	0	0	0	0	316
08:00	0	90	6	0	96	40	0	14	0	54	11	179	1	0	191	0	0	0	0	0	341
Total	0	175	13	0	188	71	0	24	0	95	20	351	3	0	374	0	0	0	0	0	657
08:15	0	79	9	0	88	58	0	15	0	73	10	148	2	0	160	0	0	0	0	0	321
08:30	0	74	11	0	85	34	0	15	0	49	11	163	0	0	174	0	0	0	0	0	308
08:45	0	61	8	0	69	42	0	13	0	55	12	170	1	0	183	0	0	0	0	0	307
09:00	0	85	7	0	92	35	0	11	0	46	10	175	1	0	186	0	0	0	0	0	324
Total	0	299	35	0	334	169	0	54	0	223	43	656	4	0	703	0	0	0	0	0	1260
16:15	0	168	12	0	180	5	0	17	0	22	17	74	0	0	91	0	0	0	0	0	293
16:30	0	166	14	0	180	7	0	19	0	26	16	73	0	0	89	0	0	0	0	0	295
16:45	0	164	18	0	182	6	0	22	0	28	19	65	0	0	84	0	0	0	0	0	294
17:00	0	166	10	0	176	8	0	21	0	29	18	74	0	0	92	0	0	0	0	0	297
Total	0	664	54	0	718	26	0	79	0	105	70	286	0	0	356	0	0	0	0	0	1179
17:15	0	170	11	0	181	5	0	20	0	25	20	86	0	0	106	0	0	0	0	0	312
17:30	0	179	15	0	194	9	0	23	0	32	24	83	0	0	107	0	0	0	0	0	333
17:45	1	180	13	0	194	4	0	18	0	22	15	54	0	0	69	0	0	0	0	0	285
18:00	0	170	22	0	192	11	0	21	0	32	31	78	0	0	109	0	0	0	0	0	333
Total	1	699	61	0	761	29	0	82	0	111	90	301	0	0	391	0	0	0	0	0	1263
Grand Total	1	1837	163	0	2001	295	0	239	0	534	223	1594	7	0	1824	0	0	0	0	0	4359
Apprch %	0.0	91.8	8.1	0.0		55.2	0.0	44.8	0.0		12.2	87.4	0.4	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	42.1	3.7	0.0	45.9	6.8	0.0	5.5	0.0	12.3	5.1	36.6	0.2	0.0	41.8	0.0	0.0	0.0	0.0	0.0	

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Site Code : 12345678
Start Date : 10/05/2005
Page No : 2

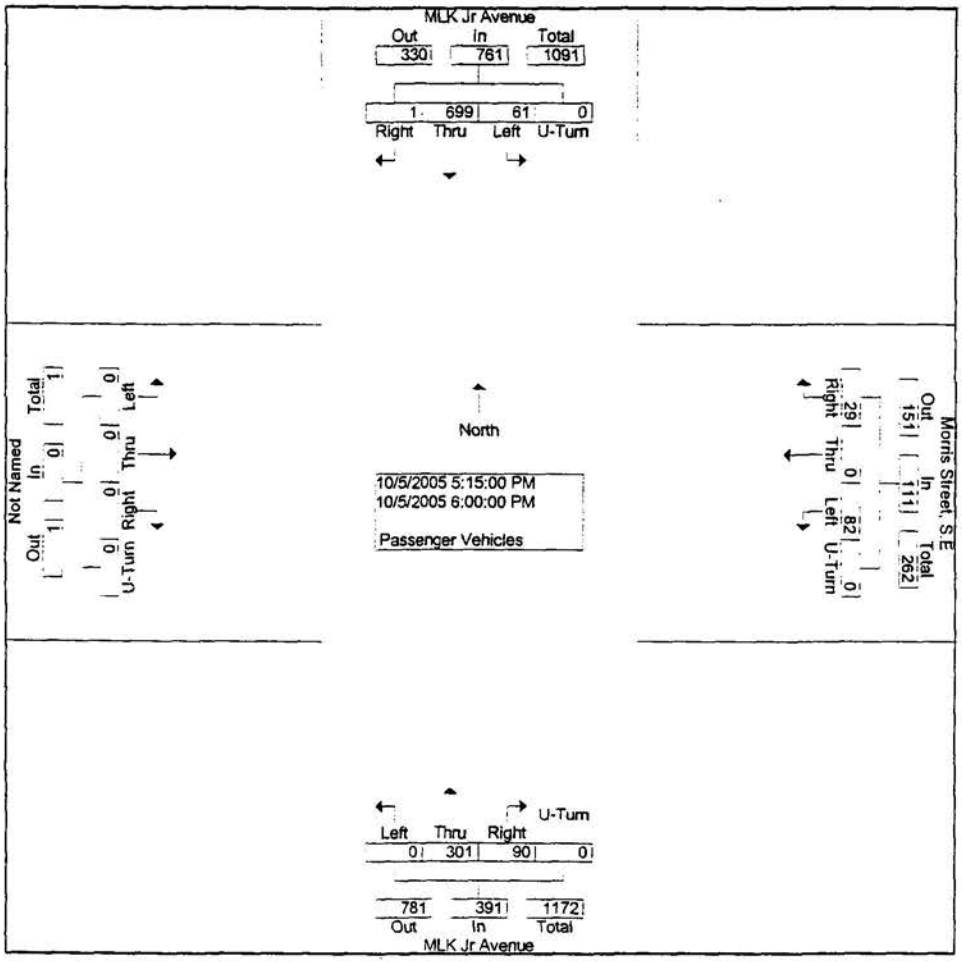
	MLK Jr Avenue From North					Morris Street, S.E From East					MLK Jr Avenue From South					From West					
End Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour From 07:45 to 11:45 - Peak 1 of 1																					
Intersection	07:45																				
Volume	0	328	33	0	361	163	0	54	0	217	41	662	5	0	708	0	0	0	0	0	1286
Percent	0.0	90.9	9.1	0.0		75.1	0.0	24.9	0.0		5.8	93.5	0.7	0.0		0.0	0.0	0.0	0.0		
Volume	0	328	33	0	361	163	0	54	0	217	41	662	5	0	708	0	0	0	0	0	1286
Volume	0	90	6	0	96	40	0	14	0	54	11	179	1	0	191	0	0	0	0	0	341
Peak Factor																					0.943
High Int.	08:00					08:15					08:00					7:30:00 AM					
Volume	0	90	6	0	96	58	0	15	0	73	11	179	1	0	191						
Peak Factor					0.940					0.743					0.927						



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Site Code : 12345678
Start Date : 10/05/2005

	MLK Jr Avenue From North					Morris Street, S.E From East					MLK Jr Avenue From South					From West					
End Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour From 12:00 to 18:15 - Peak 1 of 1																					
Intersection	17:15																				
Volume	1	699	61	0	761	29	0	82	0	111	90	301	0	0	391	0	0	0	0	0	1263
Percent	0.1	91.9	8.0	0.0		26.1	0.0	73.9	0.0		23.0	77.0	0.0	0.0		0.0	0.0	0.0	0.0		
Volume	1	699	61	0	761	29	0	82	0	111	90	301	0	0	391	0	0	0	0	0	1263
Volume	0	170	22	0	192	11	0	21	0	32	31	78	0	0	109	0	0	0	0	0	333
Peak Factor																					0.948
High Int.	17:30					17:30					18:00										
Volume	0	179	15	0	194	9	0	23	0	32	31	78	0	0	109						
Peak Factor					0.981					0.867					0.897						



APPENDIX

C

CAPACITY ANALYSIS WORKSHEETS -
EXISTING TRAFFIC SITUATION

SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Morris Rd
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	AM PEAK HOUR	Analysis Year	2005

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	0	0	0	1	0	0	2	0	0	2	0
Lane group					LTR			LTR			LTR	
Volume (vph)				54	0	163	5	662	41	33	328	0
% Heavy veh				0	0	0	0	0	0	0	0	0
PHF				0.74	0.74	0.74	0.93	0.93	0.93	0.94	0.94	0.94
Actuated (P/A)				P	P	P	P	P	P	P	P	P
Startup lost time					2.0			2.0			2.0	
Ext. eff. green					2.0			2.0			2.0	
Arrival type					3			3			3	
Unit Extension					3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0			0		0	0		0	0		0
Lane Width					12.0			12.0			12.0	
Parking/Grade/Parking	N		N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr					0			0			0	
Unit Extension					3.0			3.0			3.0	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 26.4	G =	G =	G =	G = 63.6	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate		293	761	384
Lane group cap.		445	2174	1947
v/c ratio		0.66	0.35	0.20
Green ratio		0.26	0.64	0.64
Unif. delay d1		32.8	8.5	7.6
Delay factor k		0.50	0.50	0.50
Increm. delay d2		7.4	0.4	0.2
PF factor		1.000	1.000	1.000
Control delay		40.2	9.0	7.8
Lane group LOS		D	A	A
Apprch. delay		40.2	9.0	7.8
Approach LOS		D	A	A
Intersec. delay	15.0	Intersection LOS		B

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Morris Rd
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	PM PEAK HOUR	Analysis Year	2005

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	0	0	0	1	0	0	2	0	0	2	0
Lane group					LTR			LTR			LTR	–
Volume (vph)				82	0	29	0	301	90	61	699	1
% Heavy veh				0	0	0	0	0	0	0	0	0
PHF				0.87	0.87	0.87	0.90	0.90	0.90	0.98	0.98	0.98
Actuated (P/A)				P	P	P	P	P	P	P	P	P
Startup lost time					2.0			2.0			2.0	
Ext. eff. green					2.0			2.0			2.0	
Arrival type					3			3			3	
Unit Extension					3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0			0		0	0		0	0		0
Lane Width					12.0			12.0			12.0	
Parking/Grade/Parking	N		N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr					0			0			0	
Unit Extension					3.0			3.0			3.0	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 26.0	G =	G =	G =	G = 64.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate		127	434	776
Lane group cap.		460	2236	2024
v/c ratio		0.28	0.19	0.38
Green ratio		0.26	0.64	0.64
Unif. delay d1		29.5	7.4	8.6
Delay factor k		0.50	0.50	0.50
Increm. delay d2		1.5	0.2	0.6
PF factor		1.000	1.000	1.000
Control delay		31.0	7.6	9.1
Lane group LOS		C	A	A
Apprch. delay		31.0	7.6	9.1
Approach LOS		C	A	A
Intersec. delay	10.7	Intersection LOS		B

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Talbert Street
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	AM PEAK HOUR	Analysis Year	2005

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Lane group		LTR			LTR			LTR			LTR	
Volume (vph)	16	4	18	107	23	9	89	754	23	7	360	15
% Heavy veh	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.79	0.79	0.79	0.85	0.85	0.85	0.96	0.96	0.96	0.90	0.92	0.92
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0		0	0		0	0		0	0		0
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr		0			0			0			0	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.0	G =	G =	G =	G = 65.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	48	164	902	415
Lane group cap.	384	350	1978	2194
v/c ratio	0.13	0.47	0.46	0.19
Green ratio	0.25	0.25	0.65	0.65
Unif. delay d1	29.0	31.9	8.7	7.0
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	0.7	4.5	0.8	0.2
PF factor	1.000	1.000	1.000	1.000
Control delay	29.7	36.3	9.5	7.2
Lane group LOS	C	D	A	A
Apprch. delay	29.7	36.3	9.5	7.2
Approach LOS	C	D	A	A
Intersec. delay	12.4	Intersection LOS		B

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Talbert Street
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	PM PEAK HOUR	Analysis Year	2005

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Lane group		LTR			LTR			LTR			LTR	–
Volume (vph)	17	10	20	24	4	11	27	361	39	10	747	7
% Heavy veh	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.90	0.90	0.90	0.95	0.95	0.95
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0		0	0		0	0		0	0		0
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr		0			0			0			0	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.0	G =	G =	G =	G = 65.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

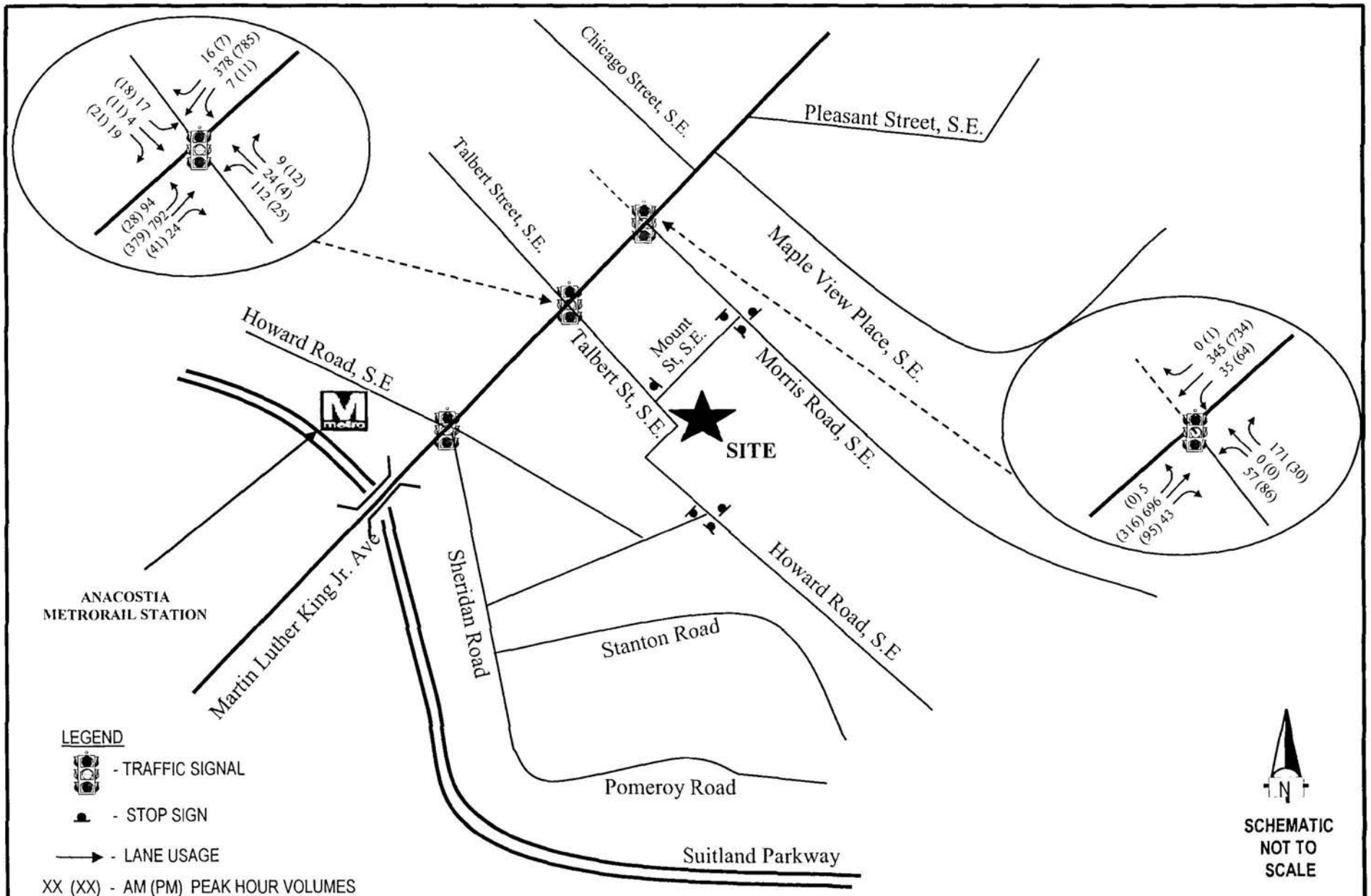
	EB	WB	NB	SB
Adj. flow rate	56	49	474	804
Lane group cap.	408	383	2027	2226
v/c ratio	0.14	0.13	0.23	0.36
Green ratio	0.25	0.25	0.65	0.65
Unif. delay d1-	29.1	29.1	7.2	8.0
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	0.7	0.7	0.3	0.5
PF factor	1.000	1.000	1.000	1.000
Control delay	29.8	29.7	7.5	8.5
Lane group LOS	C	C	A	A
Apprch. delay	29.8	29.7	7.5	8.5
Approach LOS	C	C	A	A
Intersec. delay	9.7	Intersection LOS		A

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APPENDIX

D

2007 'BASE' TRAFFIC SITUATION



D-1

O. R. GEORGE &ASSOCIATES, INC.

Traffic Engineers - Transportation Planners

APPENDIX D

BASE YEAR 2007 TRAFFIC SITUATION

Maharaiai BZA Application Case No. 17360

APPENDIX

E

CAPACITY ANALYSIS WORKSHEETS -
2007 TOTAL TRAFFIC SITUATION

SHORT REPORT

General Information

Analyst	ORGA-IJB
Agency or Co.	O.R.GEORGE & ASSOCIATES
Date Performed	10/7/2005
Time Period	AM PEAK HOUR - Future

Site Information

Intersection	MLK Jr Ave @ Morris Rd
Area Type	All other areas
Jurisdiction	D.C.
Analysis Year	2007

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	0	0	0	1	0	0	2	0	0	2	0
Lane group					LTR			LTR			LTR	–
Volume (vph)				57	0	171	5	703	43	35	346	0
% Heavy veh				0	0	0	0	0	0	0	0	0
PHF				0.74	0.74	0.74	0.93	0.93	0.93	0.94	0.94	0.94
Actuated (P/A)				P	P	P	P	P	P	P	P	P
Startup lost time					2.0			2.0			2.0	
Ext. eff. green					2.0			2.0			2.0	
Arrival type					3			3			3	
Unit Extension					3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0			0		0	0		0	0		0
Lane Width					12.0			12.0			12.0	
Parking/Grade/Parking	N		N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr					0			0			0	
Unit Extension					3.0			3.0			3.0	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 26.4	G =	G =	G =	G = 63.6	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate				308			807			405		
Lane group cap.				445			2174			1926		
v/c ratio				0.69			0.37			0.21		
Green ratio				0.26			0.64			0.64		
Unif. delay d1				33.1			8.7			7.6		
Delay factor k				0.50			0.50			0.50		
Increm. delay d2				8.6			0.5			0.2		
PF factor				1.000			1.000			1.000		
Control delay				41.7			9.2			7.9		
Lane group LOS				D			A			A		
Apprch. delay				41.7			9.2			7.9		
Approach LOS				D			A			A		
Intersec. delay	15.4			Intersection LOS			B					

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Morris Rd
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	PM PEAK HOUR -Future	Analysis Year	2007

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	0	0	0	1	0	0	2	0	0	2	0
Lane group					LTR			LTR			LTR	–
Volume (vph)				86	0	30	0	319	95	64	741	1
% Heavy veh				0	0	0	0	0	0	0	0	0
PHF				0.87	0.87	0.87	0.90	0.90	0.90	0.98	0.98	0.98
Actuated (P/A)				P	P	P	P	P	P	P	P	P
Startup lost time					2.0			2.0			2.0	
Ext. eff. green					2.0			2.0			2.0	
Arrival type					3			3			3	
Unit Extension					3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0			0		0	0		0	0		0
Lane Width					12.0			12.0			12.0	
Parking/Grade/Parking	N		N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr					0			0			0	
Unit Extension					3.0			3.0			3.0	

Phasing	WB Only	02	03	04	NS Perm	06	07	08
Timing	G = 26.0	G =	G =	G =	G = 64.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate					133			460			822	
Lane group cap.					460			2236			2013	
v/c ratio					0.29			0.21			0.41	
Green ratio					0.26			0.64			0.64	
Unif. delay d1					29.6			7.5			8.8	
Delay factor k					0.50			0.50			0.50	
Increm. delay d2					1.6			0.2			0.6	
PF factor					1.000			1.000			1.000	
Control delay					31.2			7.7			9.4	
Lane group LOS					C			A			A	
Apprch. delay				31.2			7.7			9.4		
Approach LOS				C			A			A		
Intersec. delay	10.9			Intersection LOS						B		

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Talbert Street
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	AM PEAK HOUR - Future	Analysis Year	2007

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Lane group		LTR			LTR			LTR			LTR	–
Volume (vph)	17	4	19	119	24	16	94	792	25	8	378	16
% Heavy veh	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.79	0.79	0.79	0.85	0.85	0.85	0.96	0.96	0.96	0.90	0.92	0.92
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0		0	0		0	0		0	0		0
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr		0			0			0			0	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.0	G =	G =	G =	G = 65.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	51	187	949	437
Lane group cap.	378	350	1962	2186
v/c ratio	0.13	0.53	0.48	0.20
Green ratio	0.25	0.25	0.65	0.65
Unif. delay d1	29.1	32.5	8.9	7.0
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	0.7	5.7	0.9	0.2
PF factor	1.000	1.000	1.000	1.000
Control delay	29.8	38.2	9.8	7.2
Lane group LOS	C	D	A	A
Apprch. delay	29.8	38.2	9.8	7.2
Approach LOS	C	D	A	A
Intersec. delay	13.0	Intersection LOS		B

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA-IJB	Intersection	MLK Jr Ave @ Talbert Street
Agency or Co.	O.R.GEORGE & ASSOCIATES	Area Type	All other areas
Date Performed	10/7/2005	Jurisdiction	D.C.
Time Period	PM PEAK HOUR - Future	Analysis Year	2007

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Lane group		LTR			LTR			LTR			LTR	–
Volume (vph)	18	11	21	28	4	15	28	279	48	18	785	7
% Heavy veh	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.90	0.90	0.90	0.95	0.95	0.95
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0		0	0		0	0		0	0		0
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr												
Bus stops/hr		0			0			0			0	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.0	G =	G =	G =	G = 65.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 | Cycle Length C = 100.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	59	59	394	852
Lane group cap.	406	379	1966	2211
v/c ratio	0.15	0.16	0.20	0.39
Green ratio	0.25	0.25	0.65	0.65
Unif. delay d1	29.2	29.3	7.0	8.2
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	0.8	0.9	0.2	0.5
PF factor	1.000	1.000	1.000	1.000
Control delay	29.9	30.1	7.3	8.7
Lane group LOS	C	C	A	A
Apprch. delay	29.9	30.1	7.3	8.7
Approach LOS	C	C	A	A
Intersec. delay	10.1	Intersection LOS		B

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APPENDIX

F

CENSUS TRACT DATA

QT-H11. **Vehicles Available and Household Income in 1999: 2000**
Data Set: Census 2000 Summary File 4 (SF 4) - Sample Data
Geographic Area: **Census Tract 42.01, District of Columbia, District of Columbia**

NOTE: Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/datanotes/expsf4.htm.

Subject	Number	Percent
TENURE BY VEHICLES AVAILABLE		
Owner-occupied housing units	**713**	**100.0**
No vehicle available	229	32.1
1 vehicle available	388	54.4
2 vehicles available	88	12.3
3 vehicles available	0	0.0
4 vehicles available	8	1.1
5 or more vehicles available	0	0.0
Vehicles per household	0.8	(X)
Renter-occupied housing units	**1,454**	**100.0**
No vehicle available	733	50.4
1 vehicle available	594	40.9
2 vehicles available	127	8.7
3 vehicles available	0	0.0
4 vehicles available	0	0.0
5 or more vehicles available	0	0.0
Vehicles per household	0.6	(X)
TENURE BY HOUSEHOLD INCOME IN 1999		
Owner-occupied housing units	**713**	**100.0**
Less than $5,000	0	0.0
$5,000 to $9,999	17	2.4
$10,000 to $14,999	32	4.5
$15,000 to $19,999	17	2.4
$20,000 to $24,999	43	6.0
$25,000 to $34,999	40	5.6
$35,000 to $49,999	66	9.3
$50,000 to $74,999	149	20.9
$75,000 to $99,999	95	13.3
$100,000 to $149,999	114	16.0
$150,000 or more	140	19.6
Median (dollars)	70,417	(X)
Renter-occupied housing units	**1,454**	**100.0**
Less than $5,000	49	3.4
$5,000 to $9,999	69	4.7
$10,000 to $14,999	94	6.5
$15,000 to $19,999	35	2.4
$20,000 to $24,999	97	6.7
$25,000 to $34,999	251	17.3
$35,000 to $49,999	235	16.2
$50,000 to $74,999	243	16.7
$75,000 to $99,999	174	12.0
$100,000 to $149,999	167	11.5
$150,000 or more	40	2.8
Median (dollars)	41,949	(X)

(X) Not applicable.
Source: U.S. Census Bureau, Census 2000 Summary File 4, Matrices HCT2, HCT32, HCT34, HCT35, and HCT36.

QT-H11. **Vehicles Available and Household Income in 1999: 2000**
Data Set: Census 2000 Summary File 4 (SF 4) - Sample Data
Geographic Area: **Census Tract 2.02, District of Columbia, District of Columbia**

NOTE: Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/datanotes/expsf4.htm.

Subject	Number	Percent
TENURE BY VEHICLES AVAILABLE		
Owner-occupied housing units	**1,075**	**100.0**
No vehicle available	124	11.5
1 vehicle available	620	57.7
2 vehicles available	281	26.1
3 vehicles available	33	3.1
4 vehicles available	9	0.8
5 or more vehicles available	8	0.7
Vehicles per household	1.3	(X)
Renter-occupied housing units	**839**	**100.0**
No vehicle available	240	28.6
1 vehicle available	445	53.0
2 vehicles available	140	16.7
3 vehicles available	0	0.0
4 vehicles available	0	0.0
5 or more vehicles available	14	1.7
Vehicles per household	0.9	(X)
TENURE BY HOUSEHOLD INCOME IN 1999		
Owner-occupied housing units	**1,075**	**100.0**
Less than $5,000	23	2.1
$5,000 to $9,999	23	2.1
$10,000 to $14,999	14	1.3
$15,000 to $19,999	17	1.6
$20,000 to $24,999	8	0.7
$25,000 to $34,999	16	1.5
$35,000 to $49,999	48	4.5
$50,000 to $74,999	73	6.8
$75,000 to $99,999	159	14.8
$100,000 to $149,999	191	17.8
$150,000 or more	503	46.8
Median (dollars)	138,579	(X)
Renter-occupied housing units	**839**	**100.0**
Less than $5,000	104	12.4
$5,000 to $9,999	68	8.1
$10,000 to $14,999	69	8.2
$15,000 to $19,999	15	1.8
$20,000 to $24,999	24	2.9
$25,000 to $34,999	103	12.3
$35,000 to $49,999	69	8.2
$50,000 to $74,999	127	15.1
$75,000 to $99,999	101	12.0
$100,000 to $149,999	55	6.6
$150,000 or more	104	12.4
Median (dollars)	41,989	(X)

(X) Not applicable.
Source: U.S. Census Bureau, Census 2000 Summary File 4, Matrices HCT2, HCT32, HCT34, HCT35, and HCT36.

QT-H11. **Vehicles Available and Household Income in 1999: 2000**
Data Set: Census 2000 Summary File 4 (SF 4) - Sample Data
Geographic Area: **Census Tract 18.03, District of Columbia, District of Columbia**

NOTE: Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/datanotes/expsf4.htm.

Subject	Number	Percent
TENURE BY VEHICLES AVAILABLE		
Owner-occupied housing units	**307**	**100.0**
No vehicle available	32	10.4
1 vehicle available	185	60.3
2 vehicles available	61	19.9
3 vehicles available	18	5.9
4 vehicles available	11	3.6
5 or more vehicles available	0	0.0
Vehicles per household	1.3	(X)
Renter-occupied housing units	**1,199**	**100.0**
No vehicle available	514	42.9
1 vehicle available	606	50.5
2 vehicles available	68	5.7
3 vehicles available	0	0.0
4 vehicles available	0	0.0
5 or more vehicles available	11	0.9
Vehicles per household	0.7	(X)
TENURE BY HOUSEHOLD INCOME IN 1999		
Owner-occupied housing units	**307**	**100.0**
Less than $5,000	28	9.1
$5,000 to $9,999	8	2.6
$10,000 to $14,999	0	0.0
$15,000 to $19,999	7	2.3
$20,000 to $24,999	16	5.2
$25,000 to $34,999	21	6.8
$35,000 to $49,999	52	16.9
$50,000 to $74,999	27	8.8
$75,000 to $99,999	52	16.9
$100,000 to $149,999	52	16.9
$150,000 or more	44	14.3
Median (dollars)	67,708	(X)
Renter-occupied housing units	**1,199**	**100.0**
Less than $5,000	70	5.8
$5,000 to $9,999	76	6.3
$10,000 to $14,999	73	6.1
$15,000 to $19,999	103	8.6
$20,000 to $24,999	103	8.6
$25,000 to $34,999	236	19.7
$35,000 to $49,999	269	22.4
$50,000 to $74,999	128	10.7
$75,000 to $99,999	68	5.7
$100,000 to $149,999	53	4.4
$150,000 or more	20	1.7
Median (dollars)	32,019	(X)

(X) Not applicable.
Source: U.S. Census Bureau, Census 2000 Summary File 4, Matrices HCT2, HCT32, HCT34, HCT35, and HCT36.

QT-H11. **Vehicles Available and Household Income in 1999: 2000**
Data Set: Census 2000 Summary File 4 (SF 4) - Sample Data
Geographic Area: **Census Tract 74.01, District of Columbia, District of Columbia**

NOTE: Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/datanotes/expsf4.htm.

Subject	Number	Percent
TENURE BY VEHICLES AVAILABLE		
Owner-occupied housing units	**59**	**100.0**
No vehicle available	36	61.0
1 vehicle available	13	22.0
2 vehicles available	10	16.9
3 vehicles available	0	0.0
4 vehicles available	0	0.0
5 or more vehicles available	0	0.0
Vehicles per household	0.6	(X)
Renter-occupied housing units	**834**	**100.0**
No vehicle available	595	71.3
1 vehicle available	234	28.1
2 vehicles available	5	0.6
3 vehicles available	0	0.0
4 vehicles available	0	0.0
5 or more vehicles available	0	0.0
Vehicles per household	0.3	(X)
TENURE BY HOUSEHOLD INCOME IN 1999		
Owner-occupied housing units	**59**	**100.0**
Less than $5,000	6	10.2
$5,000 to $9,999	10	16.9
$10,000 to $14,999	0	0.0
$15,000 to $19,999	0	0.0
$20,000 to $24,999	0	0.0
$25,000 to $34,999	20	33.9
$35,000 to $49,999	7	11.9
$50,000 to $74,999	0	0.0
$75,000 to $99,999	6	10.2
$100,000 to $149,999	10	16.9
$150,000 or more	0	0.0
Median (dollars)	32,679	(X)
Renter-occupied housing units	**834**	**100.0**
Less than $5,000	256	30.7
$5,000 to $9,999	96	11.5
$10,000 to $14,999	107	12.8
$15,000 to $19,999	71	8.5
$20,000 to $24,999	76	9.1
$25,000 to $34,999	82	9.8
$35,000 to $49,999	77	9.2
$50,000 to $74,999	42	5.0
$75,000 to $99,999	17	2.0
$100,000 to $149,999	0	0.0
$150,000 or more	10	1.2
Median (dollars)	12,941	(X)

(X) Not applicable.
Source: U.S. Census Bureau, Census 2000 Summary File 4, Matrices HCT2, HCT32, HCT34, HCT35, and HCT36.