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Board of Zoning Adjustment
District of Columbia
CASE NO. 17276
EXHIBIT NO. 22A2

Revised Traffic Impact Analysis

Dunmarlin

Washington, DC

January 13, 2005

Prepared By:

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Associates, Inc.



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INTRODUCTION

This report presents the results of a traffic impact analysis for Dunmarlin, a proposed residential development located near the intersection of W Street with Foxhall Road, NW; Figure 1 displays a map of the site location. The development will consist of 46 single-family homes with main access from Foxhall Road via a new driveway between W Street and Whitehaven Parkway. Twelve of the houses on Dunmarlin are 'by-right', and can be constructed without further analysis or approval.

This report is an update to the Phillips Property Traffic Impact Analysis prepared by Gorove/Slade Associates, Inc., dated October 7, 2004. During the approval process for this development, the proponent has met several times with community members and solicited comments from a second transportation consultant, Street Traffic Studies, Ltd. This revision addresses these citizen generated and peer review comments. Appendix A to this study contains the original October report; Appendix B contains a memorandum containing and discussing the comments made by Street Traffic Studies, Ltd.

Study Scope

In preparation for this analysis, Gorove/Slade Associates, Inc. (G/SA) discussed the scope and assumptions of this report with District Department of Transportation (DDOT) staff. These discussions set the project study to two intersections: (1) Foxhall Road and Whitehaven Parkway, and (2) Foxhall Road and W Street. In addition, background development and trip generation assumptions were agreed upon, and DDOT expressed a desire for this report to address the impact of Dunmarlin traffic on the Field School traffic signal located north of the site, and traffic associated with St. Patrick's on Whitehaven Parkway. As part of the study revisions, G/SA also collected turning movement counts at the intersection of Foxhall Road and the signalized Field School Driveway, as well as a week long 'tube' count on Foxhall Road.

Steps in this report included:

1) Collecting existing traffic data;
2) Assembling traffic volumes for three scenarios: existing conditions (based on the data collection), future background conditions (including the matter of right properties) and total future conditions (including the complete Dunmarlin residential development);
3) Analyzing the traffic capacity of the existing and future conditions within the study area;
4) Discussing the impacts of traffic generated by Dunmarlin on the signalized Field School driveway and traffic generated by St. Patrick's; and
5) Summarizing the impact of the development and recommending mitigation measures.

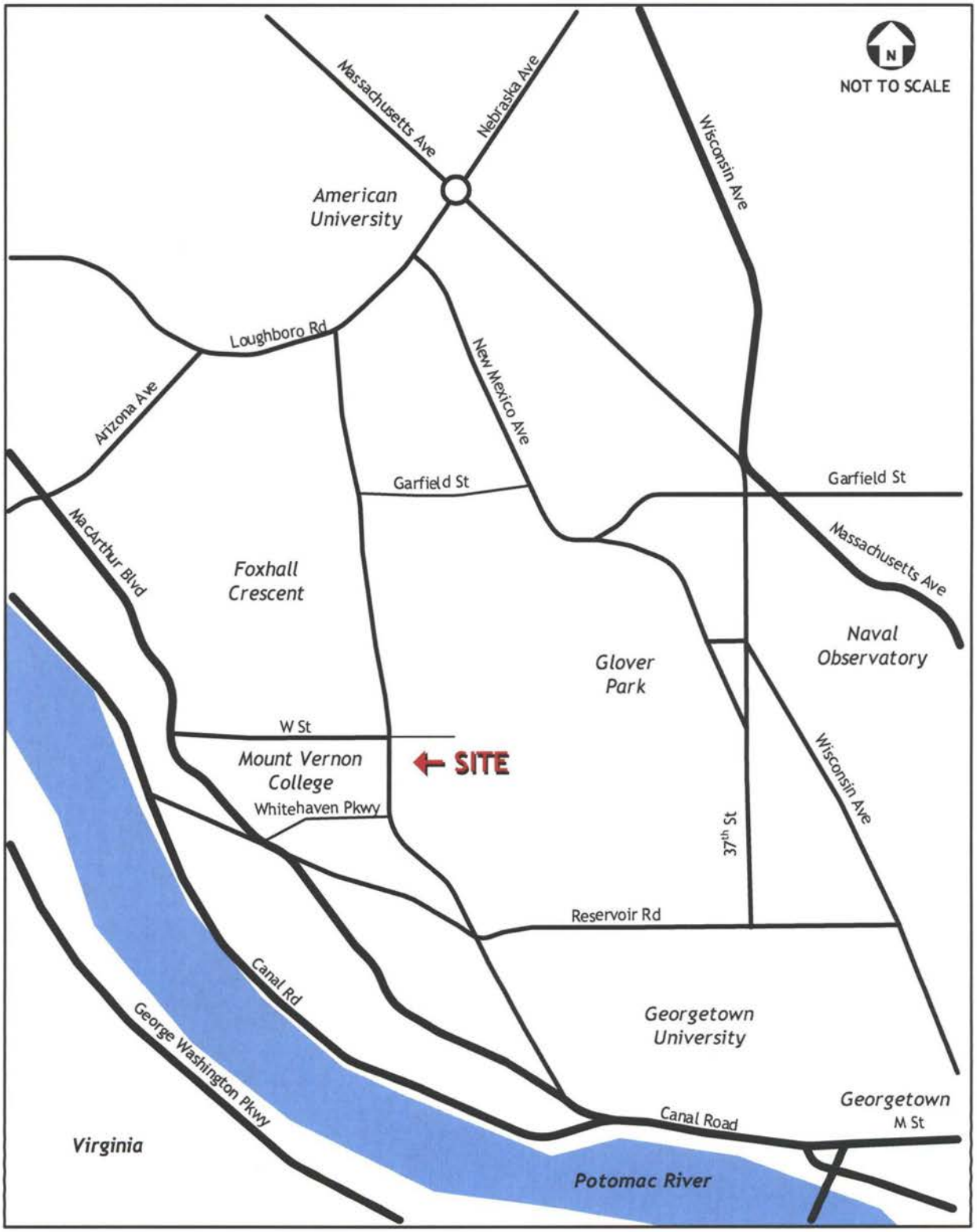


Figure 1 – Site Location Map

DATA COLLECTION

The following is a description of the roadways within the study area.

- *Foxhall Road*
  Foxhall Road is a major local north-south roadway that extends from the north at its intersection with Nebraska Avenue and Loughboro Road south to its intersection with MacArthur Boulevard and Canal Road.

- *W Street*
  W Street is a local east-west roadway that primarily serves residential traffic. It provides a connection between MacArthur Boulevard, west of site, and Foxhall Road. W Street also offers access to the George Washington University at Mount Vernon College. East of Foxhall Road, W Street has no outlet; all residential properties on W Street East of Foxhall must use the intersection of W Street and Foxhall Road.

- *Whitehaven Parkway*
  Whitehaven Parkway Street is a short, east west roadway that connects Reservoir Road and MacArthur Boulevard with Foxhall Road. St Patrick's Episcopal Church and Day Care is located on Whitehaven Parkway.

Field Visit

G/SA visited the study area to collect data on traffic controls (locations of stop signs, timings of traffic signals), lane designations and roadway cross-sections. Figure 2 displays the existing lane designations and traffic controls observed in the study area.

Turning Movement Counts

G/SA conducted turning movement counts at the two study intersections on Thursday, September 9, 2004. The combined commuter peak hours within the study area were 7:30 to 8:30 am, and 5:30 to 6:30 pm. As part of the study revisions, G/SA performed additional turning movement counts at the intersection of Foxhall Road and the signalized Field School Driveway on Thursday, December 16, 2004. Due to an incident along Foxhall Road during the evening rush hour, the PM turning movement counts were not used in this analysis. A recount was not conducted for the Field School driveway for the evening rush hour for two reasons; the original October study showed that the PM peak hour was not critical for this analysis, and the Field School does not generate a significant amount of traffic between 5:30 and 6:30 PM. Instead, G/SA estimated volumes for this intersection based on through volumes for Foxhall Road and prior work performed for the Field School. Figure 3 shows a summary of these volumes; detailed turning movement count sheets are contained in the Appendix.

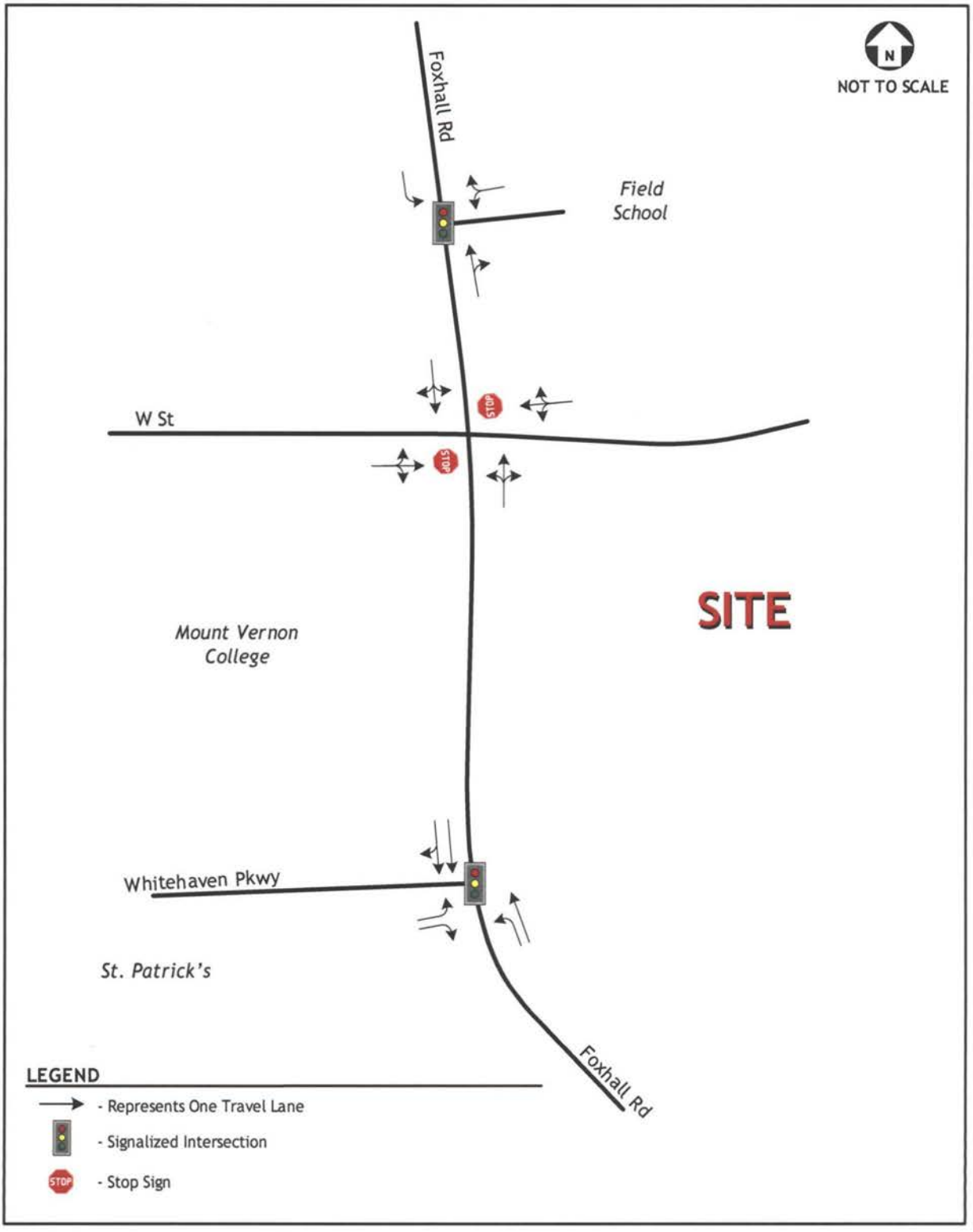


Figure 2 – Existing Lane Designations and Traffic Controls

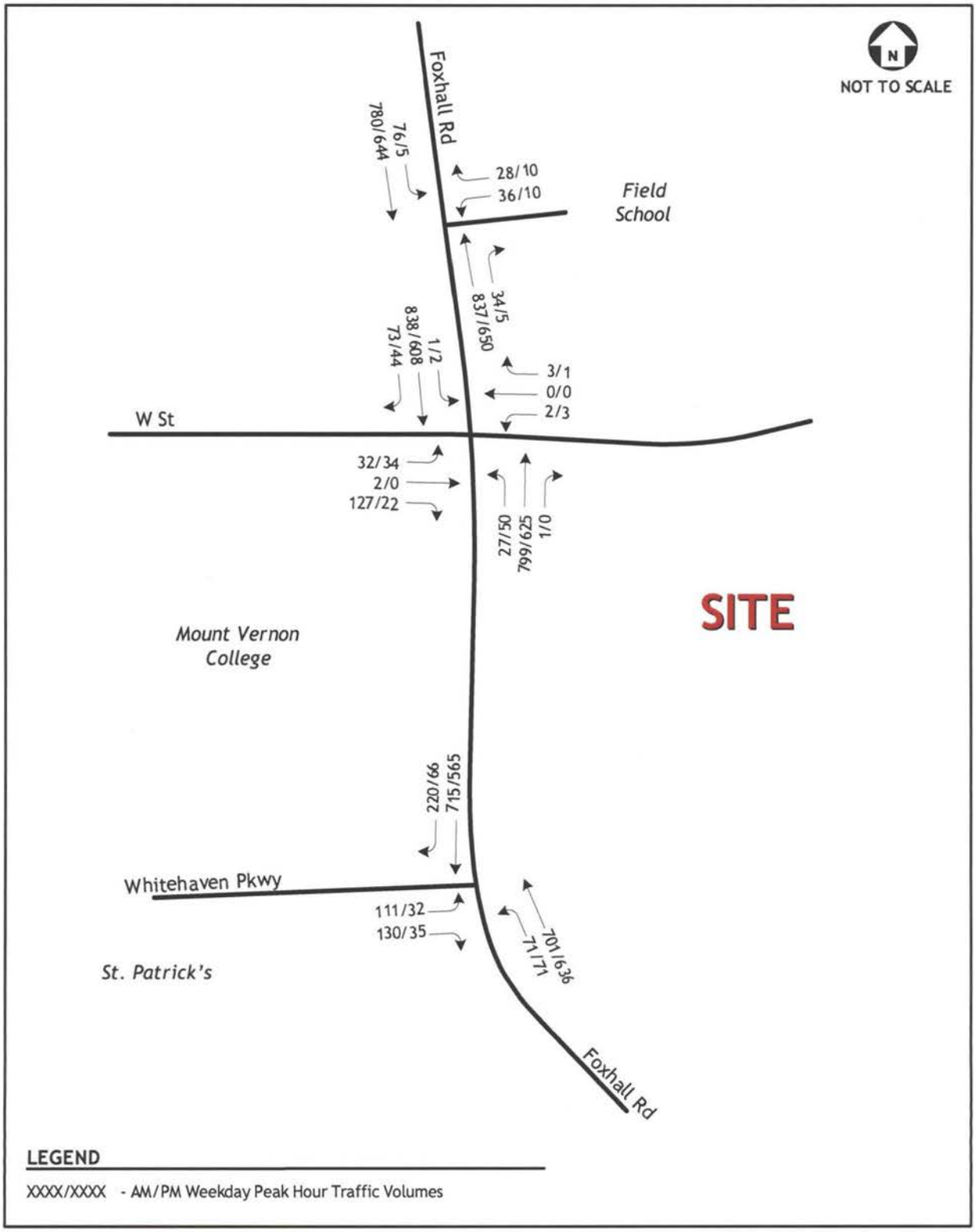


Figure 3 – Existing Peak Hour Traffic Volumes

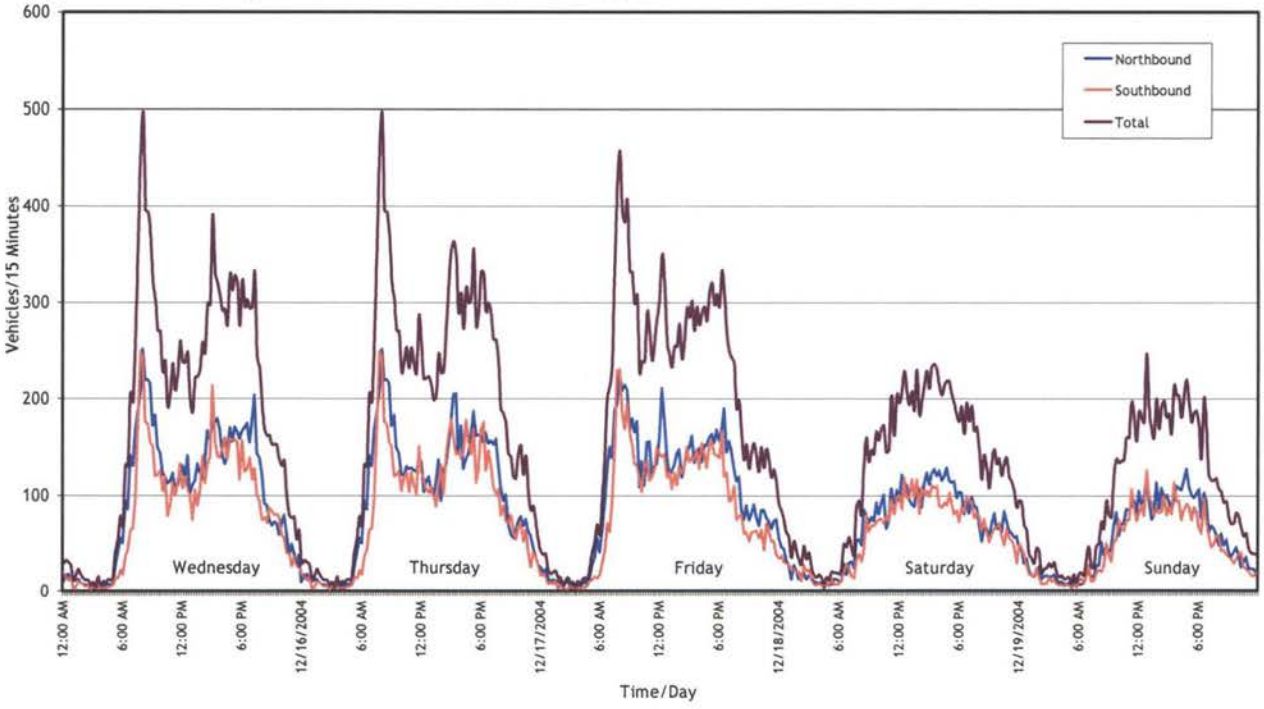
Foxhall Road Traffic Profile

In addition the turning movement counts, G/SA collected a five day long count of traffic on Foxhall Road. The purpose of this five day count is to determine the traffic profile of the roadway, which is used to identify major patterns in traffic. These counts were conducted from Wednesday December 15th, to Sunday, December 19th (additional counts were taken, but the following week was affected by changes in traffic patterns due to the holidays and was discounted). Table 1 displays the daily traffic levels for these counts; Figure 4 shows a graphic representation of weekly traffic on Foxhall Road.

Table 1 – Daily Traffic Totals on Foxhall Road

Day (Date)	Daily Traffic (No. of Vehicles)		
	Southbound	*Northbound*	*Total*
Wednesday (12/15)	8,199	9,761	17,960
Thursday (12/16)	8,379	9,703	18,082
Friday (12/17)	8,410	10,048	18,458
Saturday (12/18)	5,733	6,441	12,174
Sunday (12/19)	4,592	5,273	9,865

Figure 4 – Five-Day Traffic Profile on Foxhall Road



The Foxhall Road data shows a weekday daily traffic of approximately 18,000 vehicles, centered on a highly concentrated AM peak hour, and a more spread out PM peak hour. This indicates that the major influence on Foxhall Road traffic is commuting vehicles (office-to-work, and vice versa). In addition, the data shows a near even split of commuting traffic in each direction. Data collected on Friday shows an even more spread out PM peak hour and a higher mid-day peak. Weekend traffic on Foxhall Road is significantly lower than weekday traffic and more concentrated during the mid-day.

FUTURE TRAFFIC VOLUMES

Two sets of future volumes are compiled for this analysis: (1) 'future background' volumes, which represent future conditions in the study area if the Dunmarlin development were not constructed, and (2) 'total future' volumes, which represent future volumes including the Dunmarlin development.

Background Growth

Background traffic volumes represent a growth in traffic due to future developments other than Dunmarlin. Previous studies performed near the study area did not include background traffic projections, usually limited to already approved, but not yet constructed developments. Recent projects near the site, such as the Field School, Mount Vernon College, and St. Patrick's are complete and thus included in the turning movement counts. A conservative assumption was made to include a 1% per year growth percentage for a three year period to traffic on Foxhall Road. The purpose of adding a growth percentage is to account for both local background developments, and regional growth in traffic using Foxhall Road as a through route.

Site Trip Generation

G/SA used methodology contained in the ITE *Trip Generation* Manual, 7th Edition, to calculate the amount of commuter peak hour trips Dunmarlin will generate. Table 2 summarizes these calculations.

Table 2 – Dunmarlin Trip Generation Summary

Land Use/Details	AM Peak Hour			PM Peak Hour			Weekday (24 Hour)		
	In	*Out*	*Total*	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Single-Family Detached Housing (Land Use Code 210)									
Rates	0.75 per Unit			1.01 per Unit			9.75 per Unit		
Directional Split	25%	75%	100%	63%	37%	100%	50%	50%	100%
Matter of Right: 12 Houses	2	7	9	8	4	12	59	59	118
Additional Units: 34 Houses	7	19	26	22	13	35	166	166	332
Total: 46 Houses	**9**	**26**	**35**	**30**	**17**	**47**	**229**	**229**	**458**

Note: Trip rates used instead of equations due to the low number of dwelling units compared to the average ITE data point for this land use.

Table 2 shows the trip generation for the entire development of 46 houses broken down by the matter of right units and the remaining 34 houses. The trips generated by the matter of right houses are included in the future background and total future traffic volumes; traffic generated by the additional 34 units is only included in the total future volumes.

Site Access

For the future background volumes, four of the matter of right houses were assumed to have driveways on Foxhall Road, with the remaining eight having driveways on W Street. Full build-out of the 46 houses would incorporate a new driveway on Foxhall Road south of W Street[1], in addition to access from W Street. The new access drive would incorporate a separate southbound left turn lane and right and left turn lanes exiting the development. Full build-out would also eliminate the need for individual driveway access for the matter of right houses, which would have driveway access from the rear of their properties within the development. Figure 5 shows the future traffic controls and lane designations for total future conditions. In addition, the design of the Dunmarlin development would incorporate features to create interconnection between the existing houses on W Street and the new internal Dunmarlin roadways. Existing traffic on W Street would have the option of using the new access point for Dunmarlin, which is expected to operate at better levels of service than the intersection of W Street and Foxhall Road. This analysis assumes that the existing residents on W Street take advantage of this opportunity and change traffic patterns to use the new access point.

Trip Assignment

Trips generated for Dunmarlin were assigned to the roadway network based on the existing turning movement counts at the intersection of W Street with Foxhall Road. The east leg of this intersection consists of a short segment of W Street that leads only to several single family houses, similar to the ones proposed in the Dunmarlin development. This analysis assumed that the proposed Dunmarlin generated traffic would behave in a similar fashion to the existing traffic generated on W Street east of Foxhall Road. Table 3 contains the resulting trip distribution numbers based on this assumption.

Table 3 – Site Generation Traffic Trip Distribution

Direction of Approach	Inbound Distribution	Outbound Distribution
To/from north on Foxhall Road	60%	45%
To/from west on W Street	10%	15%
To/from south on Foxhall Road	30%	40%

The trip distribution of current W Street residents shows that many drivers travel to and from the north, rather than to and from the south, which at first appears to be the most direct connection to downtown. This is probably due to drivers using Garfield Street and Massachusetts Avenue as an east-west route downtown, whether because it is more direct or because the conjunction of Foxhall Road, MacArthur Boulevard and Canal Street is congested during peak hours.

[1] The October study assumed initially access from W Street and then developed mitigation measures to alleviate congestion at the intersection of W Street and Foxhall Road. The final conclusion was to add a new access point on Foxhall Road with an appropriate left turn lane. (A copy of the October report is included in the Appendix).

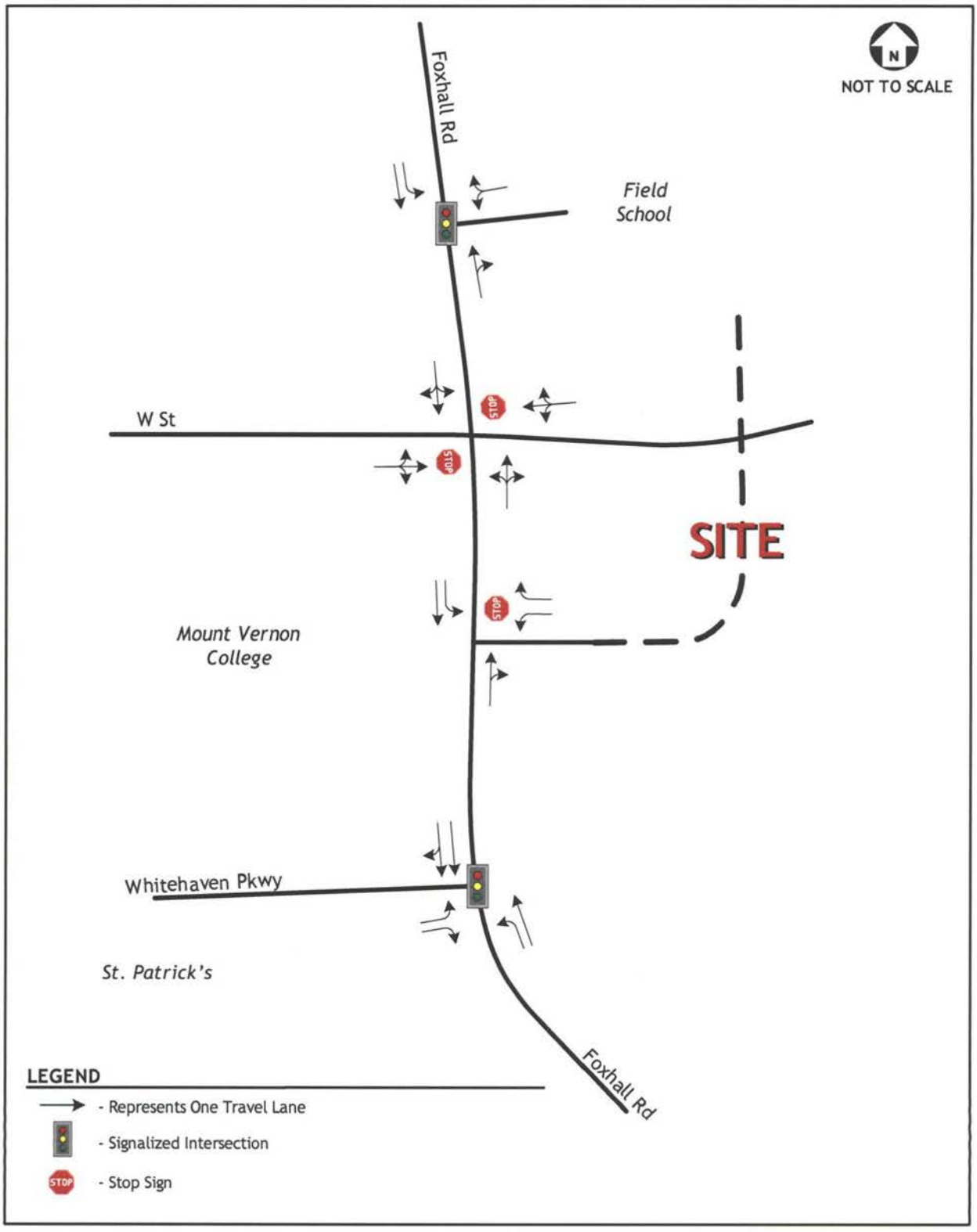


Figure 5 – Total Future Lane Designations and Traffic Controls

Future Volumes

The future background peak hour volumes within the study area were assembled by adding the following:

1) The existing peak hour volumes (Figure 3);
2) The 1% per year growth factor applied for three years; and
3) The trips generated by the 12 matter of right houses (Table 2), assigned to the roadway network based on the site developed trip distribution (Table 3), and assuming individual driveways on Foxhall Road and W Street.

Similarly, the total future peak hour volumes within the study area were assembled by adding the following:

1) The existing peak hour volumes (Figure 3);
2) The 1% per year growth factor applied for three years;
3) The trips generated by the 46 Dunmarlin houses (Table 2), assigned to the roadway network based on the site developed trip distribution (Table 3), and using the new access driveway on Foxhall Road; and
4) A redistribution of existing W Street traffic to use the new Dunmarlin driveway on Foxhall Road.

Figures 6 and 7 show the resulting future background and total future peak hour traffic volumes, respectively.

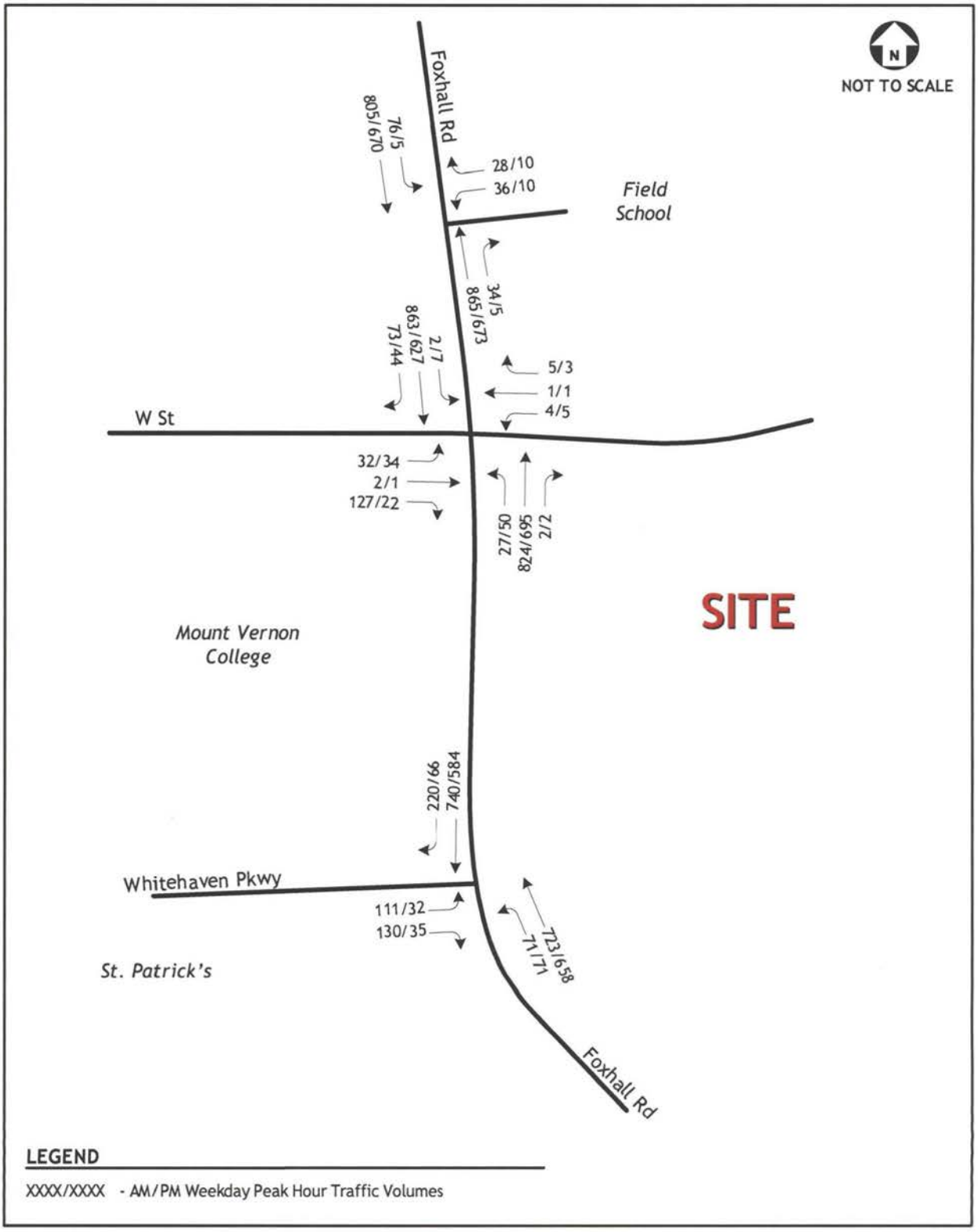


Figure 6 – Future Background Peak Hour Traffic Volumes

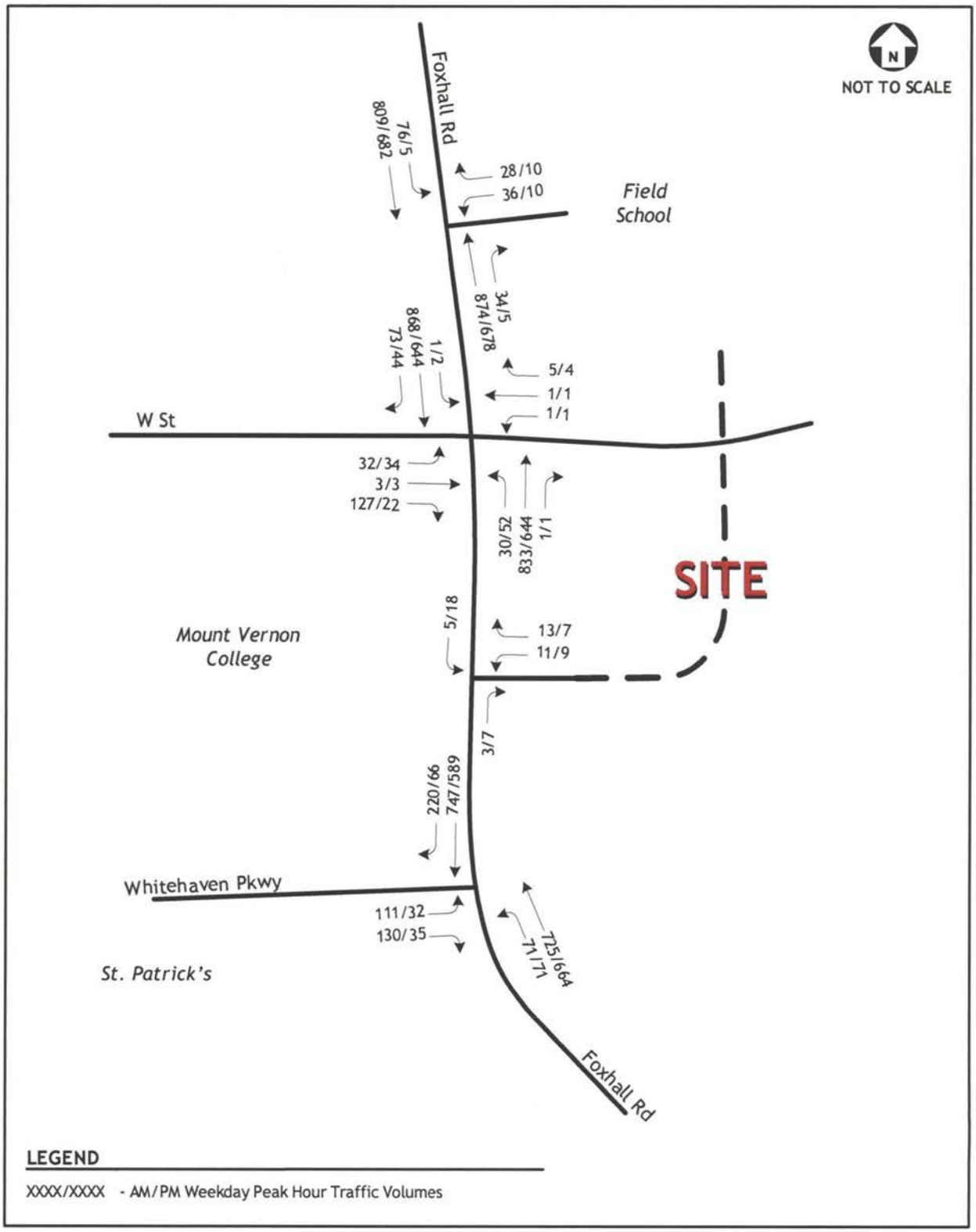


Figure 7 – Total Future Peak Hour Traffic Volumes

CAPACITY ANALYSES

Using the existing and future peak hour traffic volumes, G/SA performed capacity analysis for the intersections within the study area. These analyses were completed using the Synchro/SimTraffic 6.0 software package. G/SA used traffic simulation software because it can evaluate complex elements within a roadway system, such as in this study area where a busy unsignalized intersection (Foxhall Road and W Street) is located between two signalized intersections (Foxhall Road's intersections with Whitehaven Parkway and the signalized Field School driveway). The simulation was used to better evaluate how drivers use gaps in traffic to turn from east or westbound W Street onto Foxhall Road. Table 4 presents the results of the capacity analysis for the AM peak hour. Results are presented as Level of Service (LOS) and average delay per vehicle in seconds, for the entire intersection and each approach. LOS is a 'letter-grade' based measure of traffic conditions, which for intersections is based on the average delay. DDOT generally considers LOS D an acceptable condition, although in urbanized areas, LOS E is considered acceptable.

Table 4 – Capacity Analysis Results: AM Peak Hour

Intersection	AM Peak Hour Capacity Analysis					
	Existing		*Future Background*		*Total Future*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & Whitehaven Parkway						
Overall	A	8.1	A	8.2	A	7.2
Eastbound	C	23.3	C	22.6	C	21.4
Northbound	A	6.1	A	6.6	A	6.6
Southbound	A	5.9	A	6.0	A	4.3
Foxhall Road & W Street						
Overall	C	23.8	E	47.9	D	26.0
Eastbound	F	224.8	F	504.7	F	276.4
Westbound	D	27.7	F	58.3	F	50.1
Northbound	A	7.3	B	11.0	A	6.2
Southbound	A	3.8	A	3.9	A	3.6
Foxhall Road & Field School						
Overall	A	9.0	B	10.1	B	10.3
Westbound	B	12.7	B	13.4	B	13.7
Northbound	A	8.7	B	10.4	B	10.3
Southbound	A	9.1	A	9.7	B	10.1
Foxhall Road & New Site Driveway						
Overall	...	...	...	...	A	2.7
Westbound	...	...	...	...	C	24.0
Northbound	...	...	...	...	A	3.1
Southbound	...	...	...	...	A	1.9

The results contained in Table 4 indicate the following:

- The intersections of Foxhall Road with Whitehaven Parkway and the signalized Field School driveway operate at acceptable levels of service, in all existing and future scenarios;

- Overall, the intersection of Foxhall Road and W Street operates at an average LOS C, although the eastbound approach operates at failing levels of service. The traffic simulation shows that although drivers approaching stop signs on the east and westbound approaches are using gaps created by the nearby traffic signals, these gaps are not large enough to create acceptable levels of service;
- With the inclusion of general background growth and the matter-of-right units, delays experienced by drivers at the east and westbound approaches to W Street increases significantly; and
- The total future conditions, including traffic generated by the full build-out of Dunmarlin and the new driveway on Foxhall Road show an improvement over future background conditions. The capacity analyses show improved traffic conditions in the study area with the Dunmarlin development compared to without. This is due to the use of the new access driveway on Foxhall Road, which the capacity analyses show would operate at acceptable levels of service and would be an improvement over the use of W Street as an access drive.

Table 5 presents the capacity analysis results for the PM peak hour.

Table 5 – Capacity Analysis Results: PM Peak Hour

Intersection	PM Peak Hour Capacity Analysis					
	Existing		*Future Background*		*Total Future*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & Whitehaven Parkway						
Overall	A	3.8	A	3.9	A	3.2
Eastbound	A	8.4	A	9.1	A	9.1
Northbound	A	3.6	A	3.6	A	3.4
Southbound	A	3.5	A	3.7	A	2.4
Foxhall Road & W Street						
Overall	A	4.6	A	6.0	A	4.5
Eastbound	D	29.7	D	32.6	D	28.9
Westbound	C	16.1	C	17.4	C	18.0
Northbound	A	4.6	A	6.7	A	4.4
Southbound	A	2.3	A	2.8	A	2.4
Foxhall Road & Field School						
Overall	A	5.5	A	5.7	A	5.8
Westbound	A	7.9	A	7.1	A	9.0
Northbound	A	4.6	A	4.6	A	4.9
Southbound	A	6.3	A	6.9	A	6.6
Foxhall Road & New Site Driveway						
Overall	...	...	...	...	A	1.9
Westbound	...	...	...	...	B	13.6
Northbound	...	...	...	...	A	1.8
Southbound	...	...	...	...	A	1.6

The results contained in Table 5 indicate the following:

- The intersections of Foxhall Road with Whitehaven Parkway and the signalized Field School driveway operate at acceptable levels of service, in all existing and future scenarios;
- The intersection of Foxhall Road and W Street operates under acceptable conditions in all scenarios, a significant difference from the AM peak hour conditions;
- Under total future conditions, the proposed access drive on Foxhall Road operates at acceptable levels of service.

Overall, the AM and PM peak hour capacity analysis results show that traffic conditions with the Dunmarlin development are improved compared to without the development. The improvement is due to the proposed new driveway to Dunmarlin on Foxhall Road and the interconnectivity between Dunmarlin and the existing residential houses on W Street. Even with this improvement, the eastbound approach of W Street to Foxhall Road will still operate at failing levels of service. During this analysis, G/SA identified two improvements to this intersection that could further improve traffic conditions:

1) The addition of short turn lanes to the W Street approaches to Foxhall Road to separate left and right turns.
2) 'Tweaking' the signal timings at the two traffic signals in the study area (Whitehaven Parkway and Field School) to provide more gaps in traffic that could be used at the unsignalized intersection of W Street and Foxhall Road. This improvement would need further study to determine its impact not only on W Street traffic but Foxhall Road congestion and safety as a whole.

While these improvements may be beneficial to traffic in the study area, they are not included as part of the Dunmarlin development proposal because traffic generated by Dunmarlin is already being mitigated through the addition of the new driveway on Foxhall Road.

IMPACT ON ST. PATRICK'S AND FIELD SCHOOL DRIVEWAY

DDOT specifically requested that this analysis evaluate the impact of the proposed development on the operations of St. Patrick's and the Fields School signalized intersection. This section provides a brief summary of these impacts, based on the traffic volumes and capacity analyses.

St Patrick's

St Patrick's Episcopal Day School (nursery through grade 8) is located on Whitehaven Parkway approximately 500 feet from the intersection of Foxhall Road and Whitehaven Parkway. Some School generated traffic overlaps the AM peak hour of Dunmarlin generated traffic, generating concern that

Dunmarlin traffic might elevate traffic volumes at the intersection of Foxhall Road and Whitehaven Parkway and disrupt St. Patrick's operations. Based on the capacity results contained in Table 4, the impact of both the growth percentage on Foxhall Road and the traffic generated by the proposed development will not significantly impact the intersection operations of Foxhall Road with Whitehaven Parkway. The afternoon peak hour of the School and the evening commuter rush hour do not overlap, so there will be no conflicts between the Dunmarlin development and traffic generated by St. Patrick's during the afternoon.

Field School Signal

The traffic signal located at the Field School southern driveway is relatively close to the intersection of Foxhall Road and W Street (approximately 200 feet). There is concern that added traffic on both W Street and Foxhall Road could negatively impact the operations of this traffic signal. The traffic simulation results showed no deterioration in level of service at the Field School driveway due to the background growth factor or traffic generated by the proposed development.

CONCLUSIONS

The analyses contained in this report provided the following results:

- The proposed Dunmarlin residential development contains 46 single family houses, of which 12 can be constructed as by-right, without any further approvals.
- The proposed development will generate over 450 new vehicle trips per weekday, 34 and 46 of which will occur during the AM and PM peak hours, respectively.
- There will be no negative impact to the operations of St Patrick's Day School or the Field School traffic signal generated by the proposed development.
- Capacity analyses of study area intersections show acceptable levels of service for both existing and future scenarios, except for the stop-sign controlled east and westbound approaches of W Street to Foxhall Road in the AM peak hour.
- The proposed new access drive to Dunmarlin on Foxhall Road will operate at acceptable levels of service.
- Overall, the future capacity analysis results show that traffic conditions in the study area are improved through the addition of the Dunmarlin development. This is due to the proposed new driveway to Dunmarlin on Foxhall Road and the interconnectivity between Dunmarlin and the existing residences on W Street.

APPENDIX A

Phillips Property TIA, October 7, 2004

Traffic Impact Analysis

Phillips Property

Washington, D.C.

October 7, 2004

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INTRODUCTION

This report presents the results of a traffic impact analysis for the Phillips Property, a proposed residential development located near the intersection of W Street with Foxhall Road, NW; Figure 1 displays a map of the site location. The development will consist of 47 single-family homes; access will be from W Street east of Foxhall Road. Twelve of the houses on the Phillips Property are 'by-right', and can be constructed without further analysis or approval. This analysis contains the entire development to better show the overall picture of future traffic conditions.

Study Scope

In preparation for this analysis, Gorove/Slade Associates, Inc. (G/SA) discussed the scope and assumptions of this report with District Department of Transportation (DDOT) staff. These discussions set the project study to two intersections: (1) Foxhall Road and Whitehaven Parkway, and (2) Foxhall Road and W Street. In addition, background development and trip generation assumptions were agreed upon, and DDOT expressed a desire for this report to address the impact of Phillips traffic on the Field School traffic signal located north of the site, and traffic associated with St. Patrick's on Whitehaven Parkway.

Steps in this report included:

1) Collecting existing traffic data;
2) Assembling traffic volumes for both existing conditions (based on the data collection) and future conditions (including the addition of traffic generated by the Phillips Property);
3) Analyzing the traffic capacity of the existing and future conditions within the study area;
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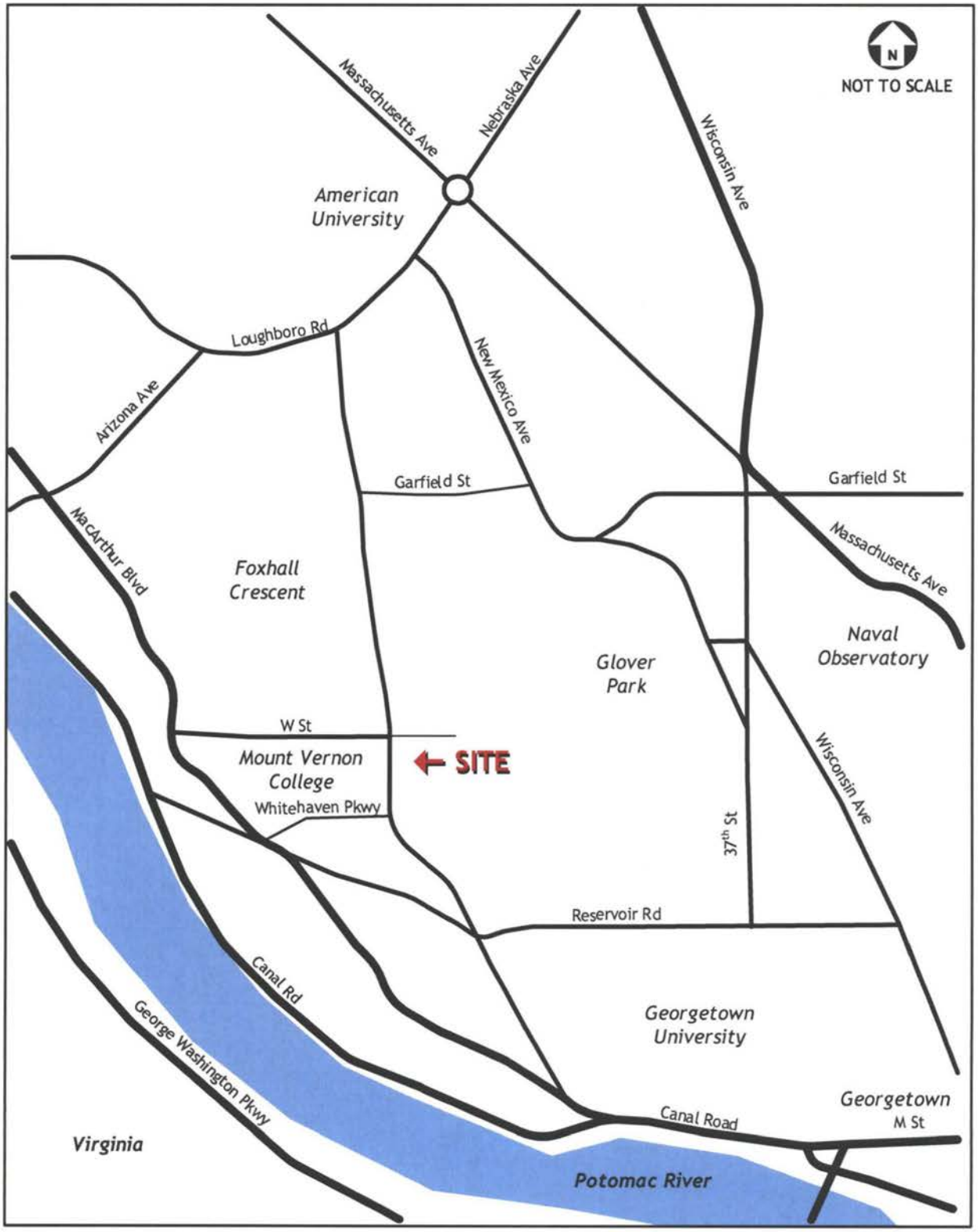


Figure 1 – Site Location Map

DATA COLLECTION

The following is a description of the roadways within the study area.

- *Foxhall Road*
  Foxhall Road is a major local north-south roadway that extends from the north at its intersection with Nebraska Avenue and Loughboro Road south to its intersection with MacArthur Boulevard and Canal Road.

- *W Street*
  W Street is a local east-west roadway that primarily serves residential traffic. It provides a connection between MacArthur Boulevard, west of site, and Foxhall Road. W Street also offers access to the George Washington University at Mount Vernon College.

- *Whitehaven Parkway*
  Whitehaven Parkway Street is a short, east west roadway that connects Reservoir Road and MacArthur Boulevard with Foxhall Road. St Patrick's Episcopal Church and Day Care is located on Whitehaven Parkway.

Field Visit

G/SA visited the study area to collect data on traffic controls (locations of stop signs, timings of traffic signals), lane designations and roadway cross-sections. Figure 2 displays the lane designations and traffic controls observed in the study area.

Turning Movement Counts

G/SA conducted turning movement counts at the two study intersections on Thursday, September 9, 2004. The combined commuter peak hours within the study area were 7:30 to 8:30 am, and 5:30 to 6:30 pm. Figure 3 shows a summary of these volumes; detailed turning movement count sheets are contained in the Appendix.

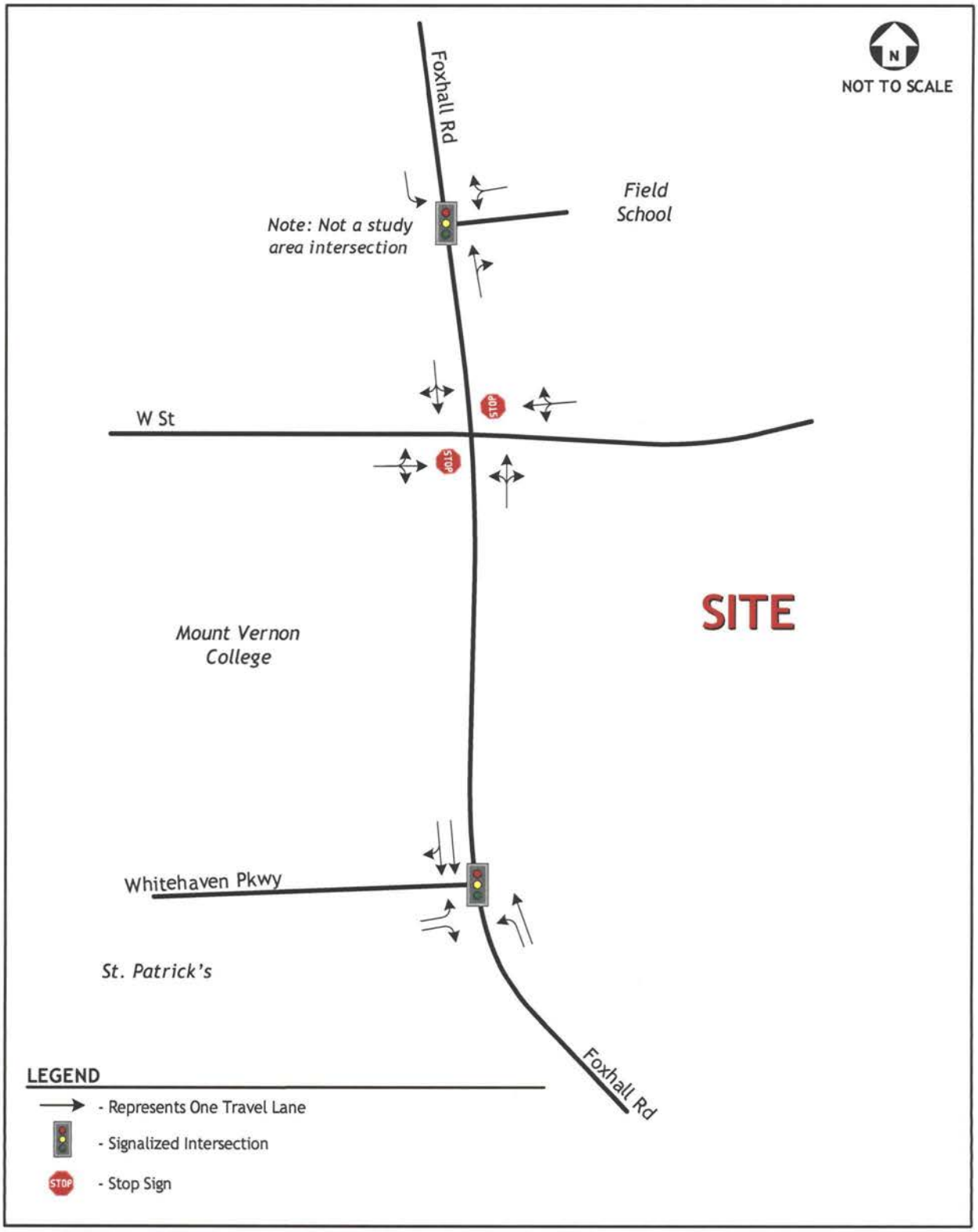


Figure 2 – Lane Designations and Traffic Controls

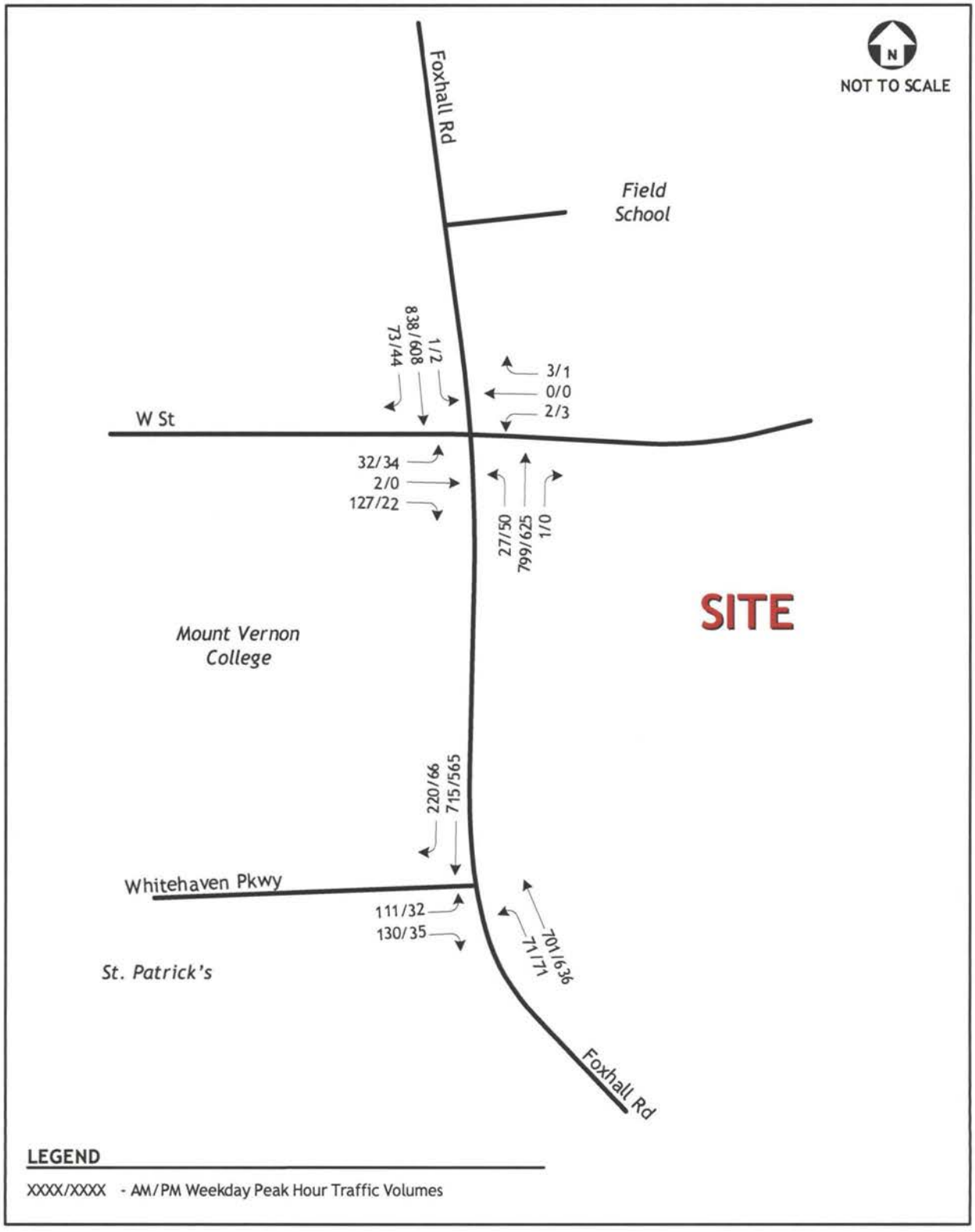


Figure 3 – Existing Peak Hour Traffic Volumes

FUTURE TRAFFIC VOLUMES

Background Growth

Background traffic volumes represent a growth in traffic due to future developments other than the proposed Phillips Property. Previous studies performed near the study area did not include background traffic projections, usually limited to already approved, but not yet constructed developments. Recent projects near the site, such as the Field School, Mount Vernon College, and St. Patrick's are complete and thus included in the turning movement counts. A conservative assumption was made to include a 1% per year growth percentage for a three year period to traffic on Foxhall Road. The purpose of adding a growth percentage is to account for both local background developments, and regional growth in traffic using Foxhall Road as a through route.

Site Trip Generation

G/SA used methodology contained in the ITE *Trip Generation* Manual, 7th Edition, to calculate the amount of commuter peak hour trips the Phillips Property will generate. Table 1 summarizes these calculations.

Table 1 – Phillips Property Trip Generation Summary

Land Use	Details	AM Peak Hour			PM Peak Hour			Weekday (24 Hour)		
		In	*Out*	*Total*	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Single-Family Detached Housing (Land Use Code 210)										
	Rates	0.75 per Unit			1.01 per Unit			9.75 per Unit		
	Directional Split	25%	75%	100%	63%	37%	100%	50%	50%	100%
	Amount: 47 Houses	**9**	**26**	**35**	**30**	**17**	**47**	**229**	**229**	**458**

Note: Trip rates used instead of equations due to the low number of dwelling units compared to the average ITE data point for this land use (201 for AM peak, 214 for PM Peak, and 197 for Weekday)

Table 1 shows a development level of 47 houses, which includes the 12 by-right parcels contained in the Phillips Property. This is done to perform a more complete analysis of future conditions, even though the 12 by-right homes do not need further approvals.

The calculations in Table 1 show that the amount of trips generated by the proposed Phillips Property development will only slightly impact traffic levels in the study area. For example, at the intersection of Foxhall Road and W Street, Phillips generated traffic will only constitute 1.8% and 3.2% of the AM and PM future traffic, respectively.

Trip Assignment

Site access to the Phillips Property will be from W Street, east of Foxhall Road. This analysis assumes that all of the 47 houses on the property will use the internal roadway system to exit onto W Street, including the 12 by-right houses. If the by-right houses were built separate from the Phillips Property, they would use individual driveways onto Foxhall Road and W Street.

Trips generated for the Phillips Property were assigned to the roadway network based on the existing turning movement counts at the intersection of W Street with Foxhall Road. The east leg of this intersection consists of a short segment of W Street that leads only to several single family houses, similar to the ones proposed in the Phillips development. This analysis assumed that the proposed Phillips generated traffic would behave in a similar fashion to the existing traffic generated on W Street east of Foxhall Road. Table 2 contains the resulting trip distribution numbers based on this assumption.

Table 2 – Site Generation Traffic Trip Distribution

Direction of Approach	Inbound Distribution	Outbound Distribution
To/from north on Foxhall Road	60%	45%
To/from west on W Street	10%	15%
To/from south on Foxhall Road	30%	40%

The trip distribution of current W Street residents shows that many drivers travel to and from the north, rather than to and from the south, which at first appears to be the most direct connection to downtown. This is probably due to drivers using Garfield Street and Massachusetts Avenue as an east-west route downtown, whether because it is more direct or because the conjunction of Foxhall Road, MacArthur Boulevard and Canal Street is congested during peak hours.

Future Volumes

The future peak hour volumes within the study area were assembled by adding the following:

1) The existing peak hour volumes (Figure 3);
2) The 1% per year growth factor applied for three years; and
3) The Phillips Property trip generation (Table 1), assigned to the roadway network based on the site developed trip distribution (Table 2).

Figure 4 shows the resulting future peak hour traffic volumes.

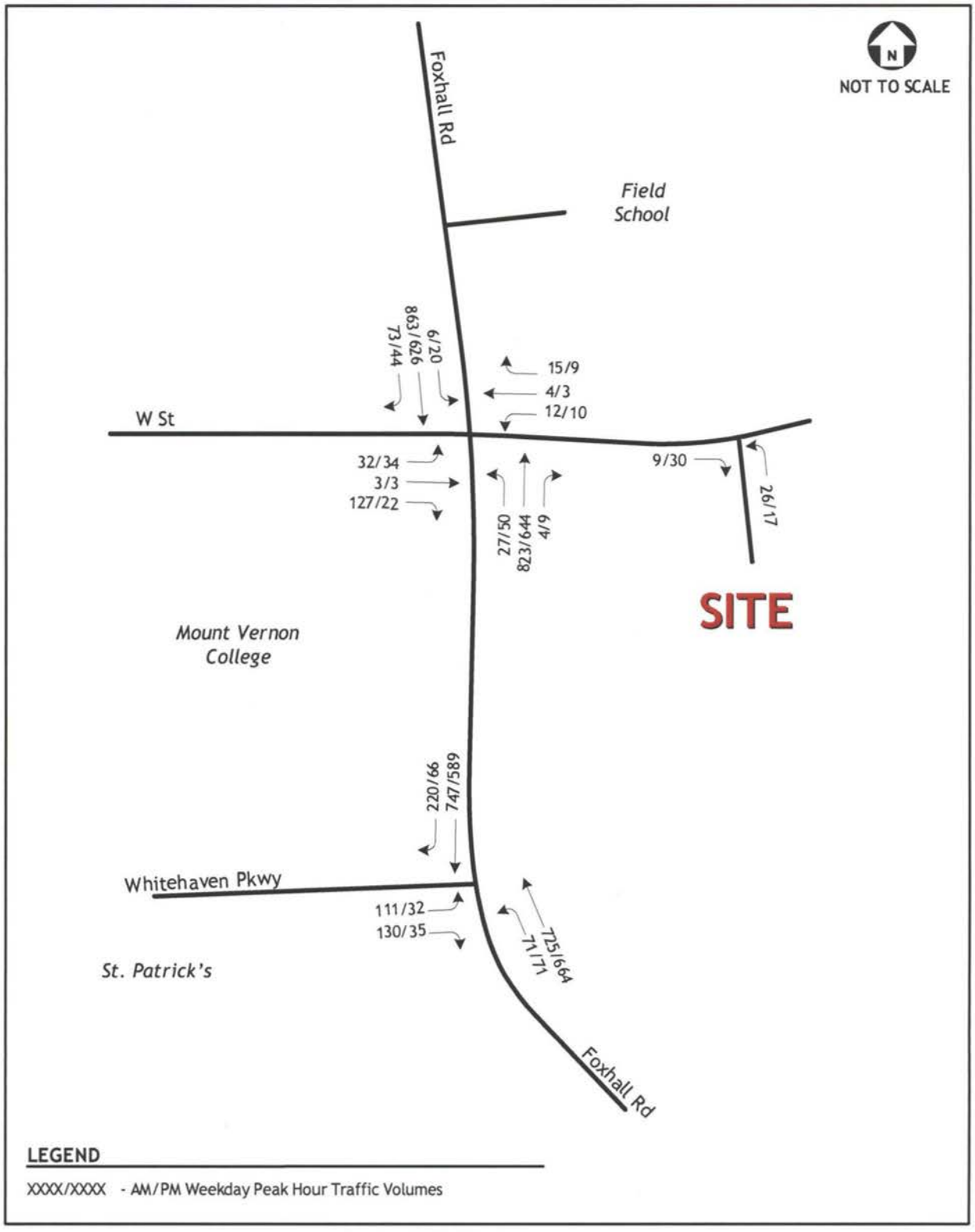


Figure 4 – Future Peak Hour Traffic Volumes

CAPACITY ANALYSES

Using the existing and future peak hour traffic volumes, G/SA performed capacity analysis for the intersections within the study area. These analyses were completed using the Synchro 6.0 software program, using two separate methodologies. First, Synchro was used to analyze traffic capacity based on methodology contained in the *Highway Capacity Manual* (HCM), a national standard within the industry. In addition to using the HCM method, G/SA modeled the study area using the SimTraffic software program. The HCM methodology is based on proven empirical data and statistical analyses; the SimTraffic simulation is a microscopic traffic model that simulates traffic vehicle-by-vehicle. G/SA used both because a traffic simulation can evaluate complex elements within a roadway system, such as in this study area where a busy unsignalized intersection (Foxhall Road and W Street) is located between two signalized intersections (Foxhall Road's intersections with Whitehaven Parkway and the Field School driveway). The simulation was used to better evaluate how drivers use gaps in traffic to turn from east or westbound W Street onto Foxhall Road. In order to simulate the gaps in traffic created by these traffic signals, the signalized intersection of the Field School driveway with Foxhall Road was added to the traffic simulation.

Table 3 presents the results of the capacity analysis for the AM peak hour. Results are presented as Level of Service (LOS) and average delay per vehicle in seconds, for the entire intersection and each approach. LOS is a 'letter-grade' based measure of traffic conditions, which for signalized intersections is based on the average delay. DDOT generally considers LOS D an acceptable condition, although in urbanized areas, LOS E is considered acceptable.

Table 3 – Capacity Analysis Results: AM Peak Hour

Intersection (Approach/Movement)	AM Peak Hour Capacity Analysis							
	Existing Conditions				*Future Conditions*			
	HCM		*Simulation*		*HCM*		*Simulation*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & Whitehaven Parkway								
Overall	A	7.2	A	8.8	A	7.4	A	8.7
Eastbound	C	29.2	C	24.4	C	31.1	C	26.8
Northbound	A	5.0	A	6.6	A	5.1	A	6.3
Southbound	A	3.4	A	6.4	A	3.4	A	6.4
Foxhall Road & W Street NW								
Overall	C	21.2	C	23.4	E	38.2	E	46.5
Eastbound	F	232.9	F	229.3	F	341.3	F	568.1
Westbound	F	129.5	E	39.1	F	579.3	F	75.1
Northbound	A	2.3	A	7.0	A	2.7	A	9.5
Southbound	A	0.1	A	3.3	A	0.4	A	3.5

The results contained in Table 3 indicate the following:

- The intersection of Whitehaven Parkway with Foxhall Road currently operates at an acceptable LOS. With the inclusion of traffic generated by the Phillips residential development, it will continue to operate at an acceptable LOS; and
- Drivers on the stop sign controlled approaches to Foxhall Road on W Street experience significant delays. The traffic simulation shows that these drivers are using gaps created by the nearby intersections, but in both the existing and future conditions, these gaps are not enough to create acceptable levels of service.

Table 4 presents the capacity analysis results for the PM peak hour.

Table 4 – Capacity Analysis Results: PM Peak Hour

Intersection (Approach/Movement)	PM Peak Hour Capacity Analysis							
	Existing Conditions				*Future Conditions*			
	HCM		*Simulation*		*HCM*		*Simulation*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & Whitehaven Parkway								
Overall	A	3.2	A	3.8	A	3.2	A	4.2
Eastbound	C	34.3	A	8.4	C	34.9	A	9.6
Northbound	A	1.9	A	3.6	A	2.0	A	3.9
Southbound	A	1.4	A	3.6	A	1.4	A	3.9
Foxhall Road & W Street NW								
Overall	A	3.6	A	4.6	A	5.7	A	5.4
Eastbound	F	62.1	D	25.9	F	92.3	C	24.9
Westbound	E	45.0	C	20.8	F	51.5	D	25.7
Northbound	A	2.0	A	4.8	A	2.1	A	5.4
Southbound	A	0.1	A	2.4	A	0.7	A	3.0

The results contained in Table 4 indicate the following:

- The intersection of Whitehaven Parkway with Foxhall Road currently operates at acceptable levels of service. With the inclusion of traffic generated by the Phillips Property, it will continue to operate at an acceptable LOS;
- Although the traditional HCM methodology indicates that drivers on W Street turning onto Foxhall road experience long delays, the traffic simulation shows that these drivers are using gaps created by the nearby intersections to achieve an acceptable levels of service. This is the case even with the inclusion of traffic generated by the Phillips Property; and
- Overall traffic levels are lower in the PM peak hour then in the AM peak hour, where failing levels of service are observed at the intersection of Foxhall Road and W Street.

IMPACT ON ST. PATRICK'S AND FIELD SCHOOL DRIVEWAY

DDOT specifically requested that this analysis evaluate the impact of the proposed development on the operations of St. Patrick's and the Fields School signalized intersection. This section provides a brief summary of these impacts, based on the traffic volumes and capacity analyses.

St Patrick's

St Patrick's is an Episcopal Church and Day Care located on Whitehaven Parkway approximately 500 feet from the intersection of Foxhall Road and Whitehaven Parkway. Day Care generated traffic overlaps with the AM peak hour of Phillips generated traffic. There is concern that Phillips traffic might elevate traffic volumes at the intersection of Foxhall Road and Whitehaven Parkway and disrupt St. Patrick's operations. Based on the capacity results contained in Table 3, the impact of both the growth percentage on Foxhall Road and the traffic generated by the proposed development will not significantly impact the intersection of Foxhall Road with Whitehaven Parkway.

Field School Signal

The traffic signal located at the Field School southern driveway is relatively close to the intersection of Foxhall Road and W Street (approximately 200 feet). There is concern that added traffic on both W Street and Foxhall Road could negatively impact the operations of this traffic signal. The traffic simulation used for the capacity analysis included the Field School signal based on prior studies performed for the traffic signal. The simulation showed no deterioration in level of service at the Field School driveway due to the background growth factor or traffic generated by the proposed development.

Another issue regarding a conflict between the Field School signal and traffic along W Street is the sight distance between these two intersections required to ensure safe operations of Foxhall Road. During the site visit to the study area, G/SA photographed these sight distances between these intersections northbound and southbound, displayed in Figure 5. The second photograph shown in Figure 5, looking south from the traffic signal towards W Street, shows that the spacing, grade and vegetation along Foxhall Road can limit sight distance southbound, a factor which should influence possible mitigation measures for the proposed development.

Looking north from W Street towards Field School Driveway



Looking south from Field School Driveway towards W Street



Figure 5 – Intersection Spacing Photographs

MITIGATION MEASURES (W STREET & FOXHALL ROAD)

Based on the capacity analysis and impacts generated by the Phillips residential development, G/SA developed several ideas to help mitigate the development's impact on the intersection of W Street and Foxhall Road. These mitigations measures, depicted on Figure 6, are the following:

1) Adding short right turn bays to eastbound and westbound W Street;
2) Altering operations of the Field School Signal to decrease delays at W Street;
3) Adding a right-in/right-out driveway for the proposed development on Foxhall Road; and
4) Adding a full access driveway for the proposed development on Foxhall Road.

Previous projects near the site have attempted to mitigate traffic congestion at this intersection through similar measures, including the addition of a traffic signal. These measures, especially a traffic signal, have been met with strong community opposition.

These mitigations measures were compared based on two criteria: (1) their ability to decrease long delays shown at the intersection of W Street and Foxhall Road in the morning commuter peak hour, and (2) any increases in the safety and efficiency of the roadway system, especially in improving sight distance issues.

W Street Right Turn Bays

The addition of short right turn bays to the westbound and eastbound approaches to W Street at Foxhall Road separates right turning traffic from through and left turning traffic, increasing the ability for drivers to use gaps created by nearby traffic signals. To evaluate this impact, 50 foot long turn bays were added to W Street and HCM and simulation analyses performed; Table 5 contains the results.

Table 5 – Capacity Analysis Results: W St Right Turn Bay Mitigation Measure

Intersection (Approach/Movement)	AM Peak Hour Capacity Analysis							
	Future Conditions (from Table 3)				*With Right Turn Bays*			
	HCM		*Simulation*		*HCM*		*Simulation*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & W Street NW								
Overall	E	38.2	E	46.5	B	12.6	C	13.3
Eastbound	F	341.3	F	568.1	F	92.7	F	198.0
Westbound	F	579.3	F	75.1	F	239.6	F	83.5
Northbound	A	2.7	A	9.5	A	2.7	A	9.6
Southbound	A	0.4	A	3.5	A	0.4	A	4.0

The capacity results including the short turn bays show that these turn bays have a significant impact in decreasing the delay experienced by drivers. The simulation results show that with these turn bays, the delays in the future would be lower than those seen in the existing conditions (Table 3).

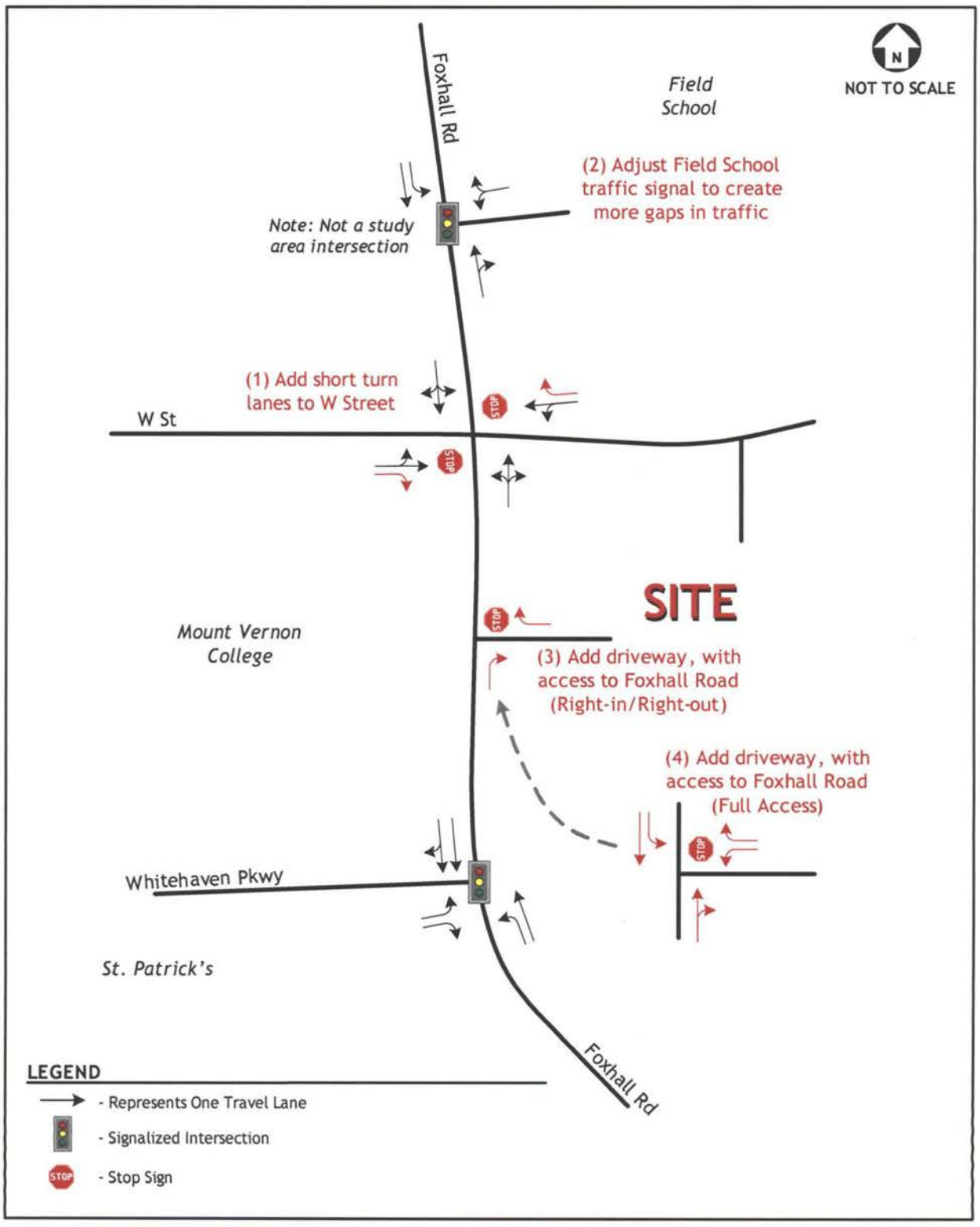


Figure 6 – W Street & Foxhall Road Mitigation Measures

Although this mitigation measure decreases the delays shown at W Street, it does not address the sight distance issues on W Street. In addition, this improvement aids overall W Street traffic instead of directly negating the impact of Phillips Property traffic.

Implementation of this mitigation measure would require additional land at the eastbound and westbound approaches, including adding pavement, lane marking and possible removal of some on-street parking. The Phillips Property would consider partially funding such an improvement, because a portion of their traffic is generating the projected future delays.

Altering Operations of the Field School Signal

This mitigation measure would involve adjusting the traffic signal at the Field School to create more gaps in traffic, allowing turning vehicles time to access Foxhall Road. Currently, the Field School is an actuated signal, only stopping through traffic when there are vehicles turning into or out of the School. The signal can be adjusted to routinely stop north and southbound traffic regardless of School traffic, and the length of the stopped time increased. Alternatively, sensors can be placed on W Street, stopping traffic when waiting turning vehicles are detected.

Although this would reduce waiting times for turning vehicles it would degrade the north and southbound through traffic. This mitigation measure would require approval from DDOT and possibly access to property to install new sensors.

Access to Proposed Development from Foxhall Road

The addition of a driveway to the Phillips Property directly to Foxhall Road would displace some turning traffic from W Street, helping mitigate the future AM peak hour traffic conditions. In addition, the new access point could be located to provide an alternative to turning vehicles at W Street with an improved sight distance.

This report compares two different access drives to Foxhall Road; (1) a right turn in/right turn out only driveway, and (2) a full access driveway with a southbound left turn lane and separate left turn lane exiting the Phillips Property. These driveways would be located approximately 400-420 feet south of the intersection of W Street and Foxhall Road. At this point, Foxhall Road is straight and relatively flat. With proper landscaping, an access point would have proper sight distance, and would present an improvement over conditions at W Street.

These two options were analyzed using HCM and traffic simulation; Tables 6 and 7 display the results.

Table 6 – Capacity Analysis Results: Right-In/Right-Out Driveway

Intersection (Approach/Movement)	AM Peak Hour Capacity Analysis							
	Future Conditions (from Table 3)				*With Second Driveway*			
	HCM		*Simulation*		*HCM*		*Simulation*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & W Street NW								
Overall	E	38.2	E	46.5	D	34.8	D	32.4
Eastbound	F	341.3	F	568.1	F	320.4	F	350.0
Westbound	F	579.3	F	75.1	F	741.3	F	61.0
Northbound	A	2.7	A	9.5	A	2.7	A	6.4
Southbound	A	0.4	A	3.5	A	0.4	A	3.8
Foxhall Road & Second Driveway								
Overall	-	-	-	-	A	0.1	A	2.3
Westbound	-	-	-	-	C	20.7	B	11.0
Northbound	-	-	-	-	A	0.0	A	2.6
Southbound	-	-	-	-	A	0.0	A	2.2

The results contained in Table 6 show that right-in/right-out second driveway would operate under acceptable levels of service. Since the second driveway does not alleviate long delays experienced by left turning vehicles from W Street to Foxhall Road, the average westbound delay at this intersection is still significantly large. This mitigation measure does not improve traffic at the intersection of Foxhall Road and W Street on the whole; instead it helps alleviate delays directly generated by the small addition of Phillips Property traffic.

Table 7 – Capacity Analysis Results: Full Access Driveway

Intersection (Approach/Movement)	AM Peak Hour Capacity Analysis							
	Future Conditions (from Table 3)				*With Second Driveway*			
	HCM		*Simulation*		*HCM*		*Simulation*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & W Street NW								
Overall	E	38.2	E	46.5	E	28.3	C	19.1
Eastbound	F	341.3	F	568.1	F	323.6	F	182.6
Westbound	F	579.3	F	75.1	F	105.2	E	40.2
Northbound	A	2.7	A	9.5	A	2.7	A	5.6
Southbound	A	0.4	A	3.5	A	0.1	A	3.3
Foxhall Road & Second Driveway								
Overall	-	-	-	-	A	0.5	A	2.6
Westbound	-	-	-	-	E	39.6	E	40.1
Northbound	-	-	-	-	A	0.0	A	2.5
Southbound (left turn)	-	-	-	-	B	11.8	B	10.0

The results contained in Table 7 show that a full access point on Foxhall Road would operate under acceptable levels of service. In addition, this mitigation measure helps alleviate delays at W Street by diverting some W Street traffic to the new access point. This mitigation measure also directly addresses the traffic movements increased by the proposed development.

Implementation of this mitigation measure would involve having the Phillips development construct this access point as part of their site plan.

Mitigation Recommendation

Based on the mitigation measure analyses, G/SA recommends that an access road to the Phillips Property be added to Foxhall Road for the following reasons:

- An increase in safety on Foxhall Road by providing another option, with improved sight distance, for vehicles currently turning into and out of W Street.
- The decrease in delays shown in the capacity analyses for the intersection of Foxhall Road and W Street, which currently operates with significant eastbound and westbound delays.
- The measure would directly address trips generated by the Phillips Property.

Table 8 compares the delays at W Street and Foxhall Road between existing conditions and future conditions with this recommended mitigation measure. The results in this table show that even with a regional growth percentage on Foxhall Road, the inclusion of the recommended mitigation measure generates traffic conditions at W Street and Foxhall Road in the future similar to, or improved over existing conditions. The AM peak hour results show improved conditions; the PM peak hour experiences an increase in delay attributable to regional growth on Foxhall Road. The impacts of the Phillips Property are limited.

Table 8 – Capacity Analysis Summary of Recommended Mitigation

Intersection (Approach/Movement)	Time Period (Simulation Results)							
	AM Peak Hour				*PM Peak Hour*			
	Existing		*Future (with Mitigation)*		*Existing*		*Future (with Mitigation)*	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Foxhall Road & W Street NW								
Overall	C	23.4	C	19.1	A	4.6	A	4.6
Eastbound	F	229.3	F	182.6	D	25.9	E	36.7
Westbound	E	39.1	E	40.2	C	20.8	D	28.1
Northbound	A	7.0	A	5.6	A	4.8	A	4.0
Southbound	A	3.3	A	3.3	A	2.4	A	2.3

This mitigation measure, after being recommended by G/SA was added to the site planning for the Phillips Property.

CONCLUSIONS

The analyses contained in this report provided the following results:

- The proposed Phillips Property residential development contains 47 single family houses, of which 12 can be constructed as by-right, without any further approvals. This analysis examined the impacts of the combined 47 houses to provide a more accurate projection of future traffic.
- The approval of the entire Phillips Property, instead of only the by-right parcels, would have a beneficial impact on future traffic for several reasons: (1) it would eliminate the driveways of the by-right units, as they would use the internal roadway network for the Phillips Property, (2) by moving traffic towards a new access point on Foxhall Road (the recommended mitigation measure), these by-right units would have a more efficient and safer place to access Foxhall Road, especially compared to individual driveways.
- The proposed development will generate over 450 new vehicle trips per weekday, 35 and 47 of which will occur during the AM and PM peak hours, respectively. This represents a very small increase to study area traffic; only 1.8% and 3.2% of the AM and PM future traffic at the intersection of W Street with Foxhall Road.
- There will be no negative impact to the operations of St Patrick's or the Field School traffic signal generated by the proposed residential development.
- Existing and future capacity analyses show unacceptable levels of service occur at the intersection of W Street and Foxhall Road, on the stop-sign controlled east and westbound approaches. Other intersections within the study area will operate at acceptable levels of service.
- Since the original site plan called for access on W Street, this report examined several mitigation measures that the proposed development could include or contribute towards, which would improve future traffic conditions.
- Of the mitigation measures analyzed, G/SA recommends the addition of a full service access point to the Phillips Property on Foxhall Road, south of its intersection with W Street. This mitigation measure directly addresses traffic generated by the Phillips Property, mitigates excessive delays observed at W Street, and can provide improved sight distance compared to access from the intersection of W Street and Foxhall Road. Since the recommendation of this measure, it has been incorporated into the site planning for the Phillips Property.

APPENDIX B

Memorandum re: TIA Comments

GOROVE/SLADE ASSOCIATES, INC.
1140 Connecticut Ave / Suite 700 / Washington, DC 20036
Toll Free: 888.212.4242
Phone: 202.296.8625
Fax: 202.785.1276

MEMORANDUM

TO: Ted Visnic

FROM: Robert B. Schiesel, P.E.

DATE: December 22, 2004

SUBJECT: Discussion with Stephen Petersen Regarding Dunmarlin TIA Comments

This memorandum summarizes my conversation with Stephen Petersen regarding his comments on the Dunmarlin Traffic Impact Analysis, dated October 7, 2004. We discussed each of his comments, and the scope of a revised study. At the end of our conversation it was decided that a revised traffic impact analysis would be prepared addressing his comments and incorporating additional data and analysis. This revised study will contain the October 7, 2004 study as an appendix for reference.

The following is a list of Mr. Petersen's comments, my response, and any changes to the revised analysis as a result.

1) *"Although this comment does not change the results of the study, it is my opinion that it would have been better to divide the proposed project into two parts. The first part would be to take the 12 units that can be developed as a mater of right and add these to the "background" traffic conditions. The remaining 35 units would then become the subject of the study and the basis of the application. The difference is a subtle one but for the citizen reader it focuses on the subject of the application without encumbering that which can be done without any special processing."*

   - I agree with the comment; the revised traffic study will contain two separate future scenarios, the first with only the percentage growth of Foxhall Road traffic and traffic generated by the matter of right units, and the second with the addition of the remaining 35 units.

2) *"On page 3, in the section on roadway descriptions, the fact that W Street east of Foxhall Road has no outlet is an important characteristic that should be mentioned here. To omit appears to downplay this fact."*

   - I agree with this comment; appropriate text will be added to the revised study.

3) *"The traffic counts were done on September 9, the Thursday in Labor Day week. I believe that the DC public schools had just opened which can raise a question about the character of traffic flow and whether or not is had stabilized after the summer vacation season. Granted, we don't always have the luxury of selecting count dates but, if there was an option, I would have preferred to wait until the following week. Further, lay people often question the validity of a 'one-day' count. Although we make significant decisions based on counting traffic for*

a single day, a machine count on Foxhall Road for five to seven days would provide a rebuttal to this citizen generated comment"

- DC public schools opened on September 1st, 2004, thus the traffic counts were conducted the second week schools were open. Mr. Petersen agreed that the second week of school operations should provide proper counts on Foxhall Road. In addition, the revised study will present a five to seven day count on Foxhall Road.

4) *"On Figure 2 a note indicates that the Field School intersection was not in the study area. However, later in the report is becomes an end-point for the traffic model. The natural question is why shouldn't data be collected at this location is it is later used as part of the analysis (see page 9)."*

- I agree with this comment; this was an oversight from our original scoping meetings with DDOT. Updated traffic counts for the Field School traffic signal will be incorporated into the revised study.

5) *"The section on Background Growth on page 6 is the place where I would have inserted the 12 matter of right units."*

- Noted; the structure of the revised study will reflect this.

6) *"The trip generation rate selected for this site analysis produces seven less trips in each direction of the peak hours than the "equations". Why select a lower ratio if the ultimate recommendation is to provide a new access point to Foxhall Road. The seven extra trips have minimal impact but set up an opportunity for criticism from the community. Along these same lines, ITE is a fine guideline but why not use a nearby project to confirm the validity of the rates. It strikes me that The Crescents would be an ideal surrogate not only for trip data but for directional distribution of trips discusses on page 7 as well (although trip distribution for The Crescents may be affected by its location on the west side of Foxhall Road instead of the east side)."*

- Using ITE rates for the site trip generation was agreed to at our DDOT scoping meeting. I agree that using a comparable neighborhood in the same area could produce more accurate trip generation results, but our initial data collection efforts showed a significantly lower rate than ITE in the neighborhood. DDOT and Gorove/Slade Associates agreed to use the more conservative approach of ITE data in this instance. We used ITE rates over ITE equations because the equations were not accurate for a housing development this small. The ITE rates proved to be a compromise between the accuracy of basing trip generation on neighborhood developments and the conservative numbers contained in the ITE data.

7) *"On page 7, would separate driveways be "required" if the site was developed as a matter of right project or could the units have been built with a shared access to Foxhall Road? If the latter, the comment in the first*

paragraph becomes a weak argument."

- It is our understanding that individual driveways are permitted for a matter of right project, although it is our experience that DDOT would work to provide a single access point (from Foxhall Road) for the entire development as has been suggested in this study. This argument will be revised in the updated study.

8) *"Paragraph under Table 2 – Or is the reason people on the east side don't head south a function of the difficulty in making a left turn in the morning peak period which shows close to a 50/50 split north south on Foxhall Road."*

- Although this argument appears to make sense, our data does not show this to be the case as over half of cars entering in the PM peak hour (work to home) arrive from the north. This suggests that drivers do use alternate routes to reach downtown, most likely due to the congestion at the confluence of Canal Road, MacArthur Boulevard and Foxhall Roads.

9) *"Synchro is an acceptable alternative to the Highway Capacity Manual but the Highway Capacity Manual Software may produce a different result. From a technical review perspective, I would like to see a comparison of the result from the two packages to be sure somebody did not blind-side me at a hearing with a result that could be shown to be a "worse" conditions."*

- The capacity analysis contained in the report was performed using the Highway Capacity Manual methodology. We believe that the Synchro software program interprets this methodology better than the Highway Capacity Software, and provides more accurate results (regardless of whether the Highway Capacity Software results are better or worse). Synchro is widely used and accepted in this Metro region, including by DDOT and its consultants.

10) *"Last bullet on page 10 – The statement seems to be the opposite of what the tables show."*

- This will be corrected in the revised study.

11) *Page 18 – Conclusions – I agree with the idea of providing direct access to Foxhall Road rather than trying to use W Street as the site access. Was it necessary to make such a big issue of comparing alternative access scenarios? Or could this have been a "given" of the development plan?*

- Due to the history of controversial transportation issues near this site, we thought it best to show our thought processes for developing mitigation measures for the proposal. The revised study will show this improvement as a "given" and include the original analysis in the appendix.

APPENDIX C
Traffic Data

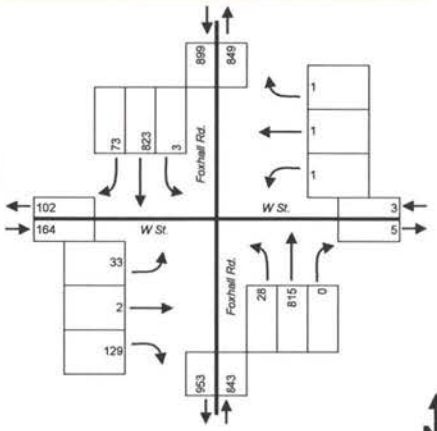
Intersection:	Foxhall Rd. at W St.															
AM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Rd.				W St.				Foxhall Rd.				W St.			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
6:00 AM to 6:15 AM	1	28	0	0	0	0	0	0	0	70	0	0	0	0	0	0
6:15 AM to 6:30 AM	1	38	0	0	0	0	0	0	0	77	0	0	2	0	2	0
6:30 AM to 6:45 AM	3	46	0	0	0	0	0	0	0	94	2	0	1	0	4	0
6:45 AM to 7:00 AM	4	65	1	0	3	1	3	0	1	143	3	0	5	0	1	0
7:00 AM to 7:15 AM	2	74	0	0	0	1	1	0	3	143	2	0	3	0	3	0
7:15 AM to 7:30 AM	4	118	0	0	3	0	1	0	1	160	4	0	3	0	4	0
7:30 AM to 7:45 AM	10	175	0	0	2	0	2	0	1	176	5	0	23	0	9	0
7:45 AM to 8:00 AM	18	253	0	0	0	0	0	0	0	203	6	0	49	0	5	0
8:00 AM to 8:15 AM	29	217	0	0	1	0	0	0	0	209	8	0	35	1	13	0
8:15 AM to 8:30 AM	16	193	1	0	0	0	0	0	0	211	8	0	20	1	5	0
8:30 AM to 8:45 AM	10	160	2	0	0	1	1	0	0	192	6	0	25	0	10	0
8:45 AM to 9:00 AM	7	161	1	0	0	0	0	0	1	202	3	0	22	0	15	0
PM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Rd.				W St.				Foxhall Rd.				W St.			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM to 4:15 PM	5	128	2	0	0	0	1	0	0	121	8	0	6	1	2	0
4:15 PM to 4:30 PM	6	110	0	0	1	0	0	0	1	116	6	0	5	0	8	0
4:30 PM to 4:45 PM	18	125	0	0	1	1	0	0	0	138	3	0	3	0	6	0
4:45 PM to 5:00 PM	5	131	1	0	0	0	1	0	1	143	3	0	3	0	10	0
5:00 PM to 5:15 PM	8	140	0	0	1	0	1	0	0	169	8	0	3	0	4	0
5:15 PM to 5:30 PM	9	142	0	0	0	0	0	0	0	163	10	0	9	0	7	0
5:30 PM to 5:45 PM	12	149	1	0	0	0	0	0	0	137	9	0	5	0	1	0
5:45 PM to 6:00 PM	14	167	0	0	1	0	1	0	0	156	12	0	9	0	16	0
6:00 PM to 6:15 PM	8	157	1	0	0	0	1	0	0	151	16	0	2	0	10	0
6:15 PM to 6:30 PM	10	135	0	0	0	0	1	0	0	181	13	0	6	0	7	0
6:30 PM to 6:45 PM	9	137	3	0	0	0	0	0	1	147	9	0	4	0	6	0
6:45 PM to 7:00 PM	5	107	0	0	0	0	0	0	0	133	10	0	10	0	9	0
PEAK HOURS																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Rd.				W St.				Foxhall Rd.				W St.			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																
7:45 AM to 8:45 AM	73	823	3	0	1	1	1	0	0	815	28	0	129	2	33	0
PM INTERSECTION PEAK HOUR																
5:45 PM to 6:45 PM	41	596	4	0	1	0	3	0	1	635	50	0	21	0	39	0
AM SYSTEM PEAK HOUR																
7:30 AM to 8:30 AM	73	838	1	0	3	0	2	0	1	799	27	0	127	2	32	0
PM SYSTEM PEAK HOUR																
5:30 PM to 6:30 PM	44	608	2	0	1	0	3	0	0	625	50	0	22	0	34	0
PEAK HOUR FACTORS	Southbound Foxhall Rd.				Westbound W St.				Northbound Foxhall Rd.				Eastbound W St.			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK HOUR	0.63	0.83	0.50	n/a	0.67	0.50	0.58	n/a	0.50	0.97	0.88	n/a	0.66	0.50	0.72	n/a
PM PEAK HOUR	0.61	0.92	0.33	n/a	0.75	0.25	0.75	n/a	0.50	0.88	0.78	n/a	0.65	0.25	0.61	n/a
Overall AM PEAK HOUR FACTOR = #####									Overall PM PEAK HOUR FACTOR = 0.92							

Notes:

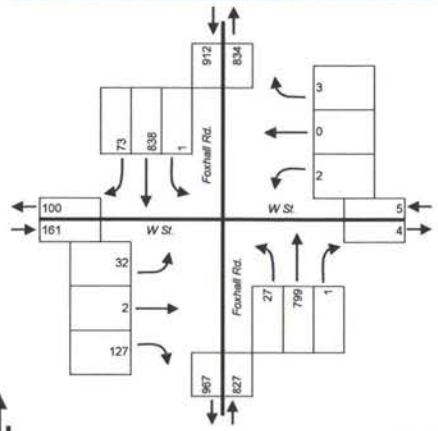
Date of Counts: September 9, 2004

Weather Conditions: Fair

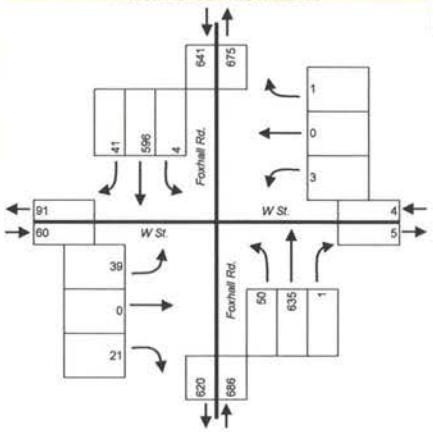
AM INTERSECTION PEAK



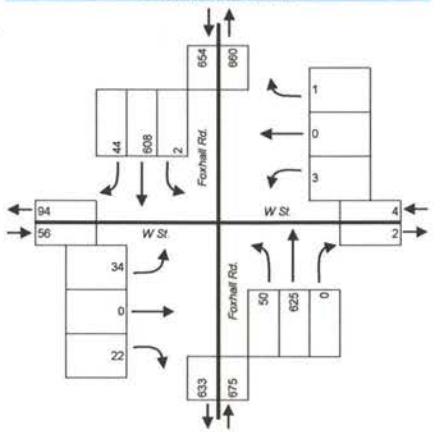
AM SYSTEM PEAK



PM INTERSECTION PEAK



PM SYSTEM PEAK



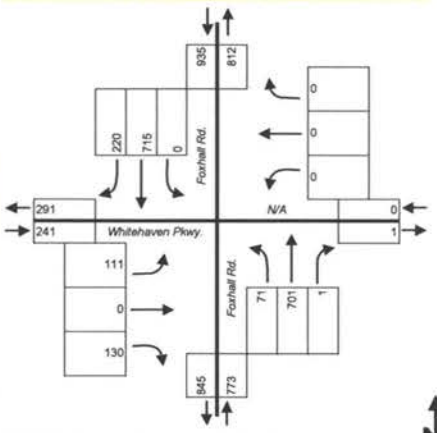
Intersection:	Foxhall Rd. at Whitehaven Pkwy.															
AM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Rd.				N/A				Foxhall Rd.				Whitehaven Pkwy.			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
6:00 AM to 6:15 AM	2	28	0	0	0	0	0	0	0	39	1	0	0	4	1	0
6:15 AM to 6:30 AM	3	35	0	0	0	0	0	0	0	99	3	0	2	0	1	0
6:30 AM to 6:45 AM	4	49	0	0	0	0	0	0	0	112	6	0	2	0	5	0
6:45 AM to 7:00 AM	0	72	0	0	0	0	0	0	0	144	7	0	2	0	9	0
7:00 AM to 7:15 AM	4	79	0	0	0	0	0	0	0	150	11	0	7	0	5	0
7:15 AM to 7:30 AM	15	125	0	0	0	0	0	0	0	145	18	0	10	1	10	1
7:30 AM to 7:45 AM	41	177	0	0	0	0	0	0	0	179	21	0	19	0	16	0
7:45 AM to 8:00 AM	99	188	0	0	0	0	0	0	0	173	21	0	37	0	27	2
8:00 AM to 8:15 AM	64	172	0	0	0	0	0	0	0	167	17	0	40	0	36	1
8:15 AM to 8:30 AM	16	178	0	0	0	0	0	0	1	182	12	0	34	0	32	2
8:30 AM to 8:45 AM	3	175	0	0	0	0	0	0	2	179	5	0	21	0	14	0
8:45 AM to 9:00 AM	21	162	0	0	0	0	0	0	0	163	8	0	29	0	22	0
PM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Rd.				N/A				Foxhall Rd.				Whitehaven Pkwy.			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM to 4:15 PM	9	113	0	0	0	0	0	0	0	112	14	0	8	0	13	1
4:15 PM to 4:30 PM	11	119	0	0	0	0	0	0	0	115	11	0	8	0	6	0
4:30 PM to 4:45 PM	4	114	0	0	0	0	0	0	0	128	7	0	5	0	15	0
4:45 PM to 5:00 PM	8	134	0	0	0	0	0	0	0	140	12	1	8	0	5	0
5:00 PM to 5:15 PM	13	134	0	0	0	0	0	0	0	161	7	0	10	0	10	1
5:15 PM to 5:30 PM	16	117	0	0	0	0	0	0	0	172	12	0	7	0	5	0
5:30 PM to 5:45 PM	19	131	0	1	0	0	0	0	0	141	18	0	9	0	8	2
5:45 PM to 6:00 PM	27	148	0	0	0	0	0	0	0	159	26	0	13	0	7	0
6:00 PM to 6:15 PM	9	141	0	0	0	0	0	0	0	155	9	0	7	0	9	0
6:15 PM to 6:30 PM	11	145	0	1	0	0	0	0	0	181	18	0	6	0	8	0
6:30 PM to 6:45 PM	8	130	0	0	0	0	0	0	0	156	9	0	5	0	0	0
6:45 PM to 7:00 PM	13	110	0	0	0	0	0	0	0	138	11	0	5	0	5	0
PEAK HOURS																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Rd.				N/A				Foxhall Rd.				Whitehaven Pkwy.			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																
7:30 AM to 8:30 AM	220	715	0	0	0	0	0	0	1	701	71	0	130	0	111	5
PM INTERSECTION PEAK HOUR																
5:30 PM to 6:30 PM	66	565	0	2	0	0	0	0	0	636	71	0	35	0	32	2
AM SYSTEM PEAK HOUR																
7:30 AM to 8:30 AM	220	715	0	0	0	0	0	0	1	701	71	0	130	0	111	5
PM SYSTEM PEAK HOUR																
5:30 PM to 6:30 PM	66	565	0	2	0	0	0	0	0	636	71	0	35	0	32	2
PEAK HOUR FACTORS	Southbound				Westbound				Northbound				Eastbound			
	Foxhall Rd.				N/A				Foxhall Rd.				Whitehaven Pkwy.			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK HOUR	0.56	0.95	n/a	n/a	n/a	n/a	n/a	n/a	0.38	0.96	0.92	n/a	0.83	0.25	0.77	0.63
PM PEAK HOUR	0.69	0.95	n/a	0.50	n/a	n/a	n/a	n/a	n/a	0.90	0.68	0.25	0.75	n/a	0.65	0.38
Overall AM PEAK HOUR FACTOR = #####									Overall PM PEAK HOUR FACTOR = 0.93							

Notes:

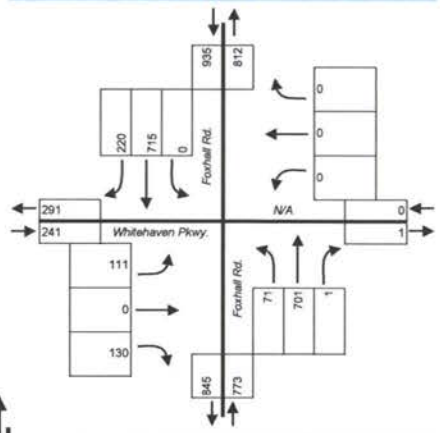
Date of Counts: September 9, 2004

Weather Conditions: Fair

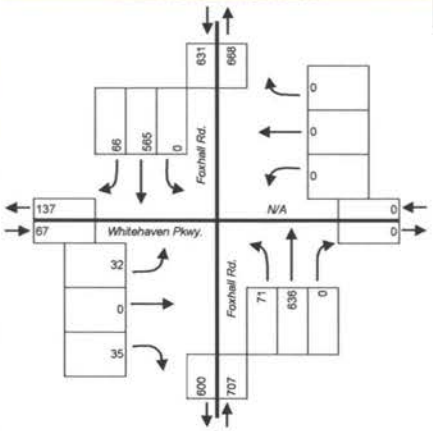
AM INTERSECTION PEAK



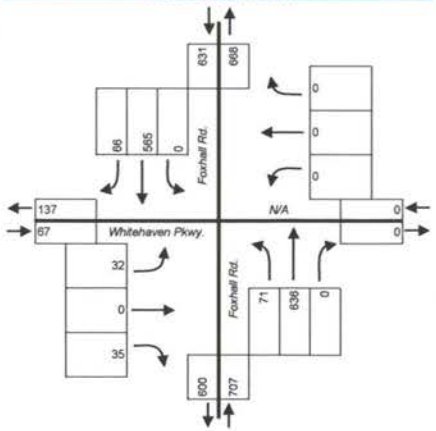
AM SYSTEM PEAK



PM INTERSECTION PEAK



PM SYSTEM PEAK

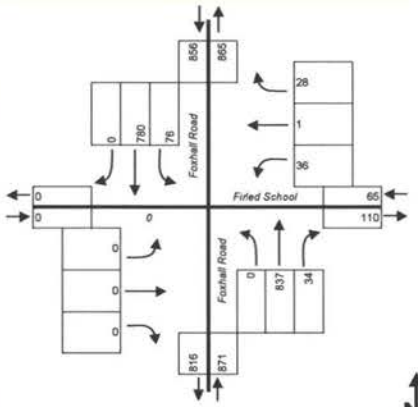


Intersection:	Foxhall Road & Field School Driveway															
AM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Road				Firled School				Foxhall Road							
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
7:00 AM to 7:15 AM																
7:15 AM to 7:30 AM																
7:30 AM to 7:45 AM	0	175	14	0	5	0	7	0	4	184	0	0	0	0	0	0
7:45 AM to 8:00 AM	0	238	12	0	4	0	3	0	8	194	0	0	0	0	0	0
8:00 AM to 8:15 AM	0	211	23	0	4	1	9	0	12	231	0	0	0	0	0	0
8:15 AM to 8:30 AM	0	156	27	0	15	0	17	0	10	228	0	0	0	0	0	0
8:30 AM to 8:45 AM																
8:45 AM to 9:00 AM																
9:00 AM to 9:15 AM																
9:15 AM to 9:30 AM																
9:30 AM to 9:45 AM																
9:45 AM to 10:00 AM																
PM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Road				Firled School				Foxhall Road							
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
5:00 PM to 5:15 PM																
5:15 PM to 5:30 PM																
5:30 PM to 5:45 PM																
5:45 PM to 6:00 PM																
6:00 PM to 6:15 PM																
6:15 PM to 6:30 PM																
6:30 PM to 6:45 PM																
6:45 PM to 7:00 PM																
7:00 PM to 7:15 PM																
7:15 PM to 7:30 PM																
7:30 PM to 7:45 PM																
7:45 PM to 8:00 PM																
PEAK HOURS																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Foxhall Road				Firled School				Foxhall Road							
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																
7:30 AM to 8:30 AM	0	780	76	0	28	1	36	0	34	837	0	0	0	0	0	0
PM INTERSECTION PEAK HOUR																
5:00 PM to 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM SYSTEM PEAK HOUR																
7:30 AM to 8:30 AM	0	780	76	0	28	1	36	0	34	837	0	0	0	0	0	0
PM SYSTEM PEAK HOUR																
5:00 PM to 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR FACTORS	Southbound				Westbound				Northbound				Eastbound			
	Foxhall Road				Firled School				Foxhall Road							
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK HOUR	n/a	0.82	0.70	n/a	0.47	0.25	0.53	n/a	0.71	0.91	n/a	n/a	n/a	n/a	n/a	n/a
PM PEAK HOUR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Overall AM PEAK HOUR FACTOR = #DIV/0!									Overall PM PEAK HOUR FACTOR = #####							

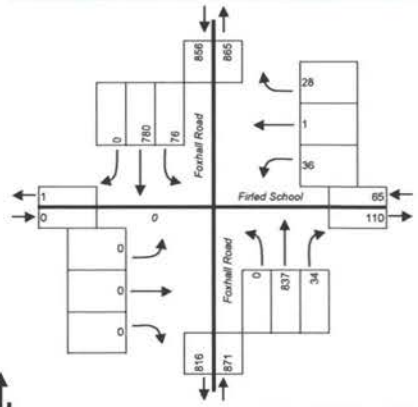
Date of Counts: December 16, 2004

Weather Conditions: 40s

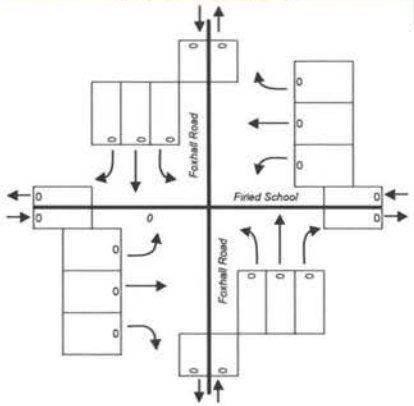
AM INTERSECTION PEAK



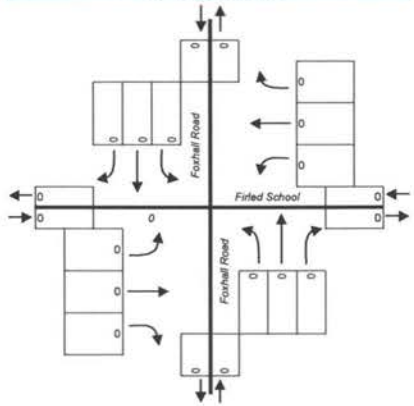
AM SYSTEM PEAK



PM INTERSECTION PEAK



PM SYSTEM PEAK



APPENDIX D
Simulation Results

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:27	7:27	7:27	7:27	7:27	7:27
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	2267	2345	2300	2181	2272	2272
Vehs Exited	2274	2316	2306	2178	2263	2267
Starting Vehs	61	40	59	42	52	50
Ending Vehs	54	69	53	45	61	56
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	0	2	0	0	4	0
Travel Distance (mi)	1473	1489	1502	1417	1464	1469
Travel Time (hr)	59.1	89.4	59.3	55.0	62.4	65.0
Total Delay (hr)	17.9	47.4	17.1	15.0	21.1	23.7
Total Stops	1291	1643	1247	1279	1351	1361
Fuel Used (gal)	101.8	129.9	111.1	103.1	111.5	111.4

Interval #0 Information Seeding

Start Time	7:27
End Time	7:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	564	591	536	539	523	550
Vehs Exited	562	541	535	523	520	535
Starting Vehs	61	40	59	42	52	50
Ending Vehs	63	90	60	58	55	65
Denied Entry Before	1	0	0	0	0	0
Denied Entry After	0	1	0	1	2	0
Travel Distance (mi)	362	360	351	345	337	351
Travel Time (hr)	14.6	15.2	13.8	13.4	12.6	13.9
Total Delay (hr)	4.5	5.0	3.9	3.6	3.0	4.0
Total Stops	332	341	304	307	302	318
Fuel Used (gal)	25.1	29.5	25.3	25.8	24.7	26.1

Interval #2 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	594	623	606	574	625	604
Vehs Exited	586	604	583	588	607	594
Starting Vehs	63	90	60	58	55	65
Ending Vehs	71	109	83	44	73	76
Denied Entry Before	0	1	0	1	2	0
Denied Entry After	0	1	3	2	1	1
Travel Distance (mi)	378	390	398	377	392	387
Travel Time (hr)	16.8	25.3	15.4	14.8	19.0	18.3
Total Delay (hr)	6.1	14.2	4.3	4.2	7.9	7.3
Total Stops	324	569	339	393	413	409
Fuel Used (gal)	26.9	35.0	29.8	27.5	31.4	30.1

Interval #3 Information

Start Time	8:00
End Time	8:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1109	1131	1158	1068	1124	1117
Vehs Exited	1126	1171	1188	1067	1136	1138
Starting Vehs	71	109	83	44	73	76
Ending Vehs	54	69	53	45	61	56
Denied Entry Before	0	1	3	2	1	1
Denied Entry After	0	2	0	0	4	0
Travel Distance (mi)	733	738	752	695	735	731
Travel Time (hr)	27.7	49.0	30.0	26.7	30.8	32.8
Total Delay (hr)	7.3	28.1	8.9	7.1	10.1	12.3
Total Stops	635	733	604	579	636	639
Fuel Used (gal)	49.8	65.4	55.9	49.7	55.4	55.2

2: W St & Foxhall Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	10.0	0.1	1.7	1.0	12.7
Delay / Veh (s)	224.8	27.7	7.3	3.8	23.8

5: Whitehaven Pkwy & Foxhall Road Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	1.5	1.3	1.6	4.5
Delay / Veh (s)	23.3	6.1	5.9	8.1

8: Field School & Foxhall Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.2	2.1	2.2	4.5
Delay / Veh (s)	12.7	8.7	9.1	9.0

Total Network Performance

Total Delay (hr)	23.7
Delay / Veh (s)	37.6

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:27	7:27	7:27	7:27	7:27	7:27
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	2366	2344	2354	2245	2347	2330
Vehs Exited	2346	2311	2338	2238	2334	2313
Starting Vehs	63	41	54	47	70	53
Ending Vehs	83	74	70	54	83	70
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	2	0	0	0	0
Travel Distance (mi)	1532	1491	1521	1453	1514	1502
Travel Time (hr)	77.1	94.1	76.1	64.2	91.3	80.6
Total Delay (hr)	34.2	52.2	33.4	23.3	48.7	38.3
Total Stops	1428	1604	1453	1384	1788	1532
Fuel Used (gal)	115.0	132.2	121.9	109.1	129.7	121.6

Interval #0 Information Seeding

Start Time	7:27
End Time	7:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	612	620	548	530	547	574
Vehs Exited	611	562	545	513	556	557
Starting Vehs	63	41	54	47	70	53
Ending Vehs	64	99	57	64	61	69
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	3	0	0	0	4	1
Travel Distance (mi)	400	377	357	337	361	366
Travel Time (hr)	16.3	16.5	15.0	12.6	15.4	15.2
Total Delay (hr)	5.2	5.9	4.9	3.1	5.1	4.8
Total Stops	393	389	352	314	362	361
Fuel Used (gal)	28.4	30.1	27.3	24.1	27.1	27.4

Interval #2 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	609	607	642	601	653	621
Vehs Exited	595	607	601	595	596	599
Starting Vehs	64	99	57	64	61	69
Ending Vehs	78	99	98	70	118	90
Denied Entry Before	3	0	0	0	4	1
Denied Entry After	0	14	2	1	1	3
Travel Distance (mi)	383	391	408	388	394	393
Travel Time (hr)	19.5	26.7	19.6	16.9	25.9	21.7
Total Delay (hr)	8.6	15.7	8.2	6.0	14.9	10.7
Total Stops	340	538	409	373	668	466
Fuel Used (gal)	28.1	37.5	32.3	27.9	34.3	32.0

Interval #3 Information

Start Time	8:00
End Time	8:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1145	1117	1164	1114	1147	1137
Vehs Exited	1140	1142	1192	1130	1182	1157
Starting Vehs	78	99	98	70	118	90
Ending Vehs	83	74	70	54	83	70
Denied Entry Before	0	14	2	1	1	3
Denied Entry After	0	2	0	0	0	0
Travel Distance (mi)	749	723	757	729	758	743
Travel Time (hr)	41.3	50.9	41.5	34.8	50.0	43.7
Total Delay (hr)	20.4	30.5	20.3	14.3	28.7	22.8
Total Stops	695	677	692	697	758	703
Fuel Used (gal)	58.5	64.7	62.3	57.1	68.3	62.2

2: W St & Foxhall Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	22.6	0.2	2.6	1.1	26.4
Delay / Veh (s)	504.7	58.3	11.0	3.9	47.9

5: Whitehaven Pkwy & Foxhall Road Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	1.5	1.4	1.7	4.6
Delay / Veh (s)	22.6	6.6	6.0	8.2

8: Field School & Foxhall Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.2	2.6	2.4	5.2
Delay / Veh (s)	13.4	10.4	9.7	10.1

Total Network Performance

Total Delay (hr)	38.3
Delay / Veh (s)	59.5

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:27	7:27	7:27	7:27	7:27	7:27
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	2351	2409	2388	2299	2407	2370
Vehs Exited	2361	2375	2396	2291	2377	2360
Starting Vehs	67	45	53	44	48	51
Ending Vehs	57	79	45	52	78	61
Denied Entry Before	0	1	0	0	1	0
Denied Entry After	1	1	0	0	2	0
Travel Distance (mi)	1510	1526	1544	1479	1539	1520
Travel Time (hr)	64.2	76.1	74.9	66.8	67.6	69.9
Total Delay (hr)	21.8	33.6	31.5	25.5	24.4	27.3
Total Stops	1530	1493	1503	1442	1586	1511
Fuel Used (gal)	115.1	119.7	127.1	109.9	119.7	118.3

Interval #0 Information Seeding

Start Time	7:27
End Time	7:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	562	595	591	574	580	577
Vehs Exited	569	582	596	548	574	574
Starting Vehs	67	45	53	44	48	51
Ending Vehs	60	58	48	70	54	56
Denied Entry Before	0	1	0	0	1	0
Denied Entry After	0	1	4	1	3	1
Travel Distance (mi)	357	375	379	359	375	369
Travel Time (hr)	13.9	15.5	15.4	13.8	14.4	14.6
Total Delay (hr)	3.8	5.0	4.6	3.7	3.9	4.2
Total Stops	381	397	394	362	338	374
Fuel Used (gal)	30.0	28.1	30.5	24.4	31.1	28.8

Interval #2 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	645	625	644	619	655	637
Vehs Exited	626	603	593	602	610	608
Starting Vehs	60	58	48	70	54	56
Ending Vehs	79	80	99	87	99	86
Denied Entry Before	0	1	4	1	3	1
Denied Entry After	0	2	2	2	2	1
Travel Distance (mi)	405	390	393	394	399	396
Travel Time (hr)	19.2	18.2	19.2	20.6	19.1	19.3
Total Delay (hr)	7.8	7.5	8.1	9.7	7.9	8.2
Total Stops	494	421	432	463	458	452
Fuel Used (gal)	31.2	27.7	33.4	28.8	32.7	30.7

Interval #3 Information Recording

Start Time	8:00
End Time	8:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1144	1189	1153	1106	1172	1153
Vehs Exited	1166	1190	1207	1141	1193	1181
Starting Vehs	79	80	99	87	99	86
Ending Vehs	57	79	45	52	78	61
Denied Entry Before	0	2	2	2	2	1
Denied Entry After	1	1	0	0	2	0
Travel Distance (mi)	748	762	771	726	765	754
Travel Time (hr)	31.2	42.4	40.4	32.4	34.1	36.1
Total Delay (hr)	10.2	21.1	18.9	12.1	12.5	15.0
Total Stops	655	675	677	617	790	681
Fuel Used (gal)	53.9	63.9	63.3	56.7	55.9	58.7

2: W St & Foxhall Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	11.7	0.1	1.5	1.0	14.3
Delay / Veh (s)	276.4	50.1	6.2	3.8	26.0

5: Whitehaven Pkwy & Foxhall Road Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	1.4	1.5	1.2	4.1
Delay / Veh (s)	21.4	6.6	4.3	7.2

8: Field School & Foxhall Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.3	2.6	2.5	5.4
Delay / Veh (s)	13.7	10.3	10.1	10.3

10: Foxhall Road & Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.1	0.7	0.5	1.4
Delay / Veh (s)	24.0	3.1	1.9	2.7

Total Network Performance

Total Delay (hr)	27.3
Delay / Veh (s)	41.6

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	5:27	5:27	5:27	5:27	5:27	5:27
End Time	6:30	6:30	6:30	6:30	6:30	6:30
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	1518	1500	1495	1514	1514	1509
Vehs Exited	1515	1494	1491	1513	1525	1507
Starting Vehs	32	27	39	29	46	35
Ending Vehs	35	33	43	30	35	33
Denied Entry Before	0	0	0	0	2	0
Denied Entry After	1	0	3	0	0	1
Travel Distance (mi)	1059	1051	1047	1059	1061	1055
Travel Time (hr)	35.3	34.2	34.2	35.2	35.9	35.0
Total Delay (hr)	6.5	5.9	6.1	6.5	7.2	6.4
Total Stops	597	520	568	597	587	573
Fuel Used (gal)	68.0	62.8	67.9	66.2	70.5	67.1

Interval #0 Information Seeding

Start Time	5:27
End Time	5:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	381	378	356	359	376	369
Vehs Exited	388	368	368	364	398	377
Starting Vehs	32	27	39	29	46	35
Ending Vehs	25	37	27	24	24	27
Denied Entry Before	0	0	0	0	2	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	267	262	255	251	272	261
Travel Time (hr)	8.7	8.6	8.2	8.2	9.1	8.6
Total Delay (hr)	1.4	1.5	1.4	1.4	1.7	1.5
Total Stops	124	144	137	133	138	135
Fuel Used (gal)	17.6	16.0	16.5	15.9	16.3	16.4

Interval #2 Information

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	405	379	359	398	432	393
Vehs Exited	401	379	354	373	414	384
Starting Vehs	25	37	27	24	24	27
Ending Vehs	29	37	32	49	42	37
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	283	266	249	273	288	272
Travel Time (hr)	9.6	8.6	8.2	9.2	10.4	9.2
Total Delay (hr)	1.9	1.4	1.4	1.9	2.6	1.8
Total Stops	169	117	134	160	182	151
Fuel Used (gal)	19.0	15.1	16.1	16.9	19.2	17.3

Interval #3 Information Recording

Start Time	6:00
End Time	6:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	732	743	780	757	706	744
Vehs Exited	726	747	769	776	713	746
Starting Vehs	29	37	32	49	42	37
Ending Vehs	35	33	43	30	35	33
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	1	0	3	0	0	1
Travel Distance (mi)	509	522	543	534	502	522
Travel Time (hr)	17.0	17.0	17.8	17.7	16.4	17.2
Total Delay (hr)	3.1	3.0	3.3	3.3	2.9	3.1
Total Stops	304	259	297	304	267	286
Fuel Used (gal)	31.4	31.7	35.3	33.4	35.0	33.4

2: W St & Foxhall Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.0	0.9	0.4	1.7
Delay / Veh (s)	29.7	16.1	4.6	2.3	4.6

5: Whitehaven Pkwy & Foxhall Road Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	0.7	0.6	1.5
Delay / Veh (s)	8.4	3.6	3.5	3.8

8: Field School & Foxhall Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.0	0.8	1.1	2.0
Delay / Veh (s)	7.9	4.6	6.3	5.5

Total Network Performance

Total Delay (hr)	6.4
Delay / Veh (s)	15.4

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	5:27	5:27	5:27	5:27	5:27	5:27
End Time	6:30	6:30	6:30	6:30	6:30	6:30
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	1667	1597	1673	1573	1608	1620
Vehs Exited	1665	1607	1667	1566	1625	1627
Starting Vehs	34	40	38	29	40	33
Ending Vehs	36	30	44	36	23	34
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	1152	1099	1132	1082	1102	1113
Travel Time (hr)	40.3	36.9	38.3	35.9	37.2	37.7
Total Delay (hr)	9.0	7.3	7.6	6.8	7.6	7.6
Total Stops	701	587	694	574	647	637
Fuel Used (gal)	74.7	66.0	68.1	68.3	73.3	70.1

Interval #0 Information Seeding

Start Time	5:27
End Time	5:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	466	395	424	345	400	407
Vehs Exited	455	403	412	347	408	404
Starting Vehs	34	40	38	29	40	33
Ending Vehs	45	32	50	27	32	36
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	320	275	284	238	280	279
Travel Time (hr)	10.9	9.4	9.9	7.6	9.2	9.4
Total Delay (hr)	2.2	2.0	2.1	1.2	1.7	1.9
Total Stops	159	163	216	106	143	157
Fuel Used (gal)	19.1	17.0	16.9	15.0	20.6	17.7

Interval #2 Information

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	432	391	433	414	444	425
Vehs Exited	438	378	449	399	431	419
Starting Vehs	45	32	50	27	32	36
Ending Vehs	39	45	34	42	45	40
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	298	263	298	282	294	287
Travel Time (hr)	11.7	8.8	9.8	9.5	10.4	10.0
Total Delay (hr)	3.6	1.7	1.8	1.8	2.4	2.3
Total Stops	264	159	154	157	190	183
Fuel Used (gal)	22.6	16.2	18.4	18.7	19.8	19.1

Interval #3 Information Recording

Start Time	6:00
End Time	6:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	769	811	816	814	764	793
Vehs Exited	772	826	806	820	786	803
Starting Vehs	39	45	34	42	45	40
Ending Vehs	36	30	44	36	23	34
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	1	0	0	0	0	0
Travel Distance (mi)	533	562	550	562	527	547
Travel Time (hr)	17.7	18.6	18.6	18.8	17.7	18.3
Total Delay (hr)	3.2	3.5	3.6	3.7	3.5	3.5
Total Stops	278	265	324	311	314	299
Fuel Used (gal)	33.0	32.8	32.8	34.6	32.9	33.2

2: W St & Foxhall Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	0.0	1.4	0.5	2.5
Delay / Veh (s)	32.6	17.4	6.7	2.8	6.0

5: Whitehaven Pkwy & Foxhall Road Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	0.7	0.7	1.6
Delay / Veh (s)	9.1	3.6	3.7	3.9

8: Field School & Foxhall Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.0	0.9	1.3	2.3
Delay / Veh (s)	7.1	4.6	6.9	5.7

Total Network Performance

Total Delay (hr)	7.6
Delay / Veh (s)	16.9

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	5:27	5:27	5:27	5:27	5:27	5:27
End Time	6:30	6:30	6:30	6:30	6:30	6:30
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	1615	1637	1688	1565	1676	1636
Vehs Exited	1616	1642	1692	1563	1687	1640
Starting Vehs	34	34	43	35	47	37
Ending Vehs	33	29	39	37	36	34
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	1120	1138	1167	1082	1163	1134
Travel Time (hr)	38.7	38.3	39.1	36.5	39.0	38.3
Total Delay (hr)	8.2	7.5	7.5	7.0	7.6	7.5
Total Stops	717	642	609	607	654	647
Fuel Used (gal)	70.9	72.6	73.5	67.3	76.0	72.1

Interval #0 Information Seeding

Start Time	5:27
End Time	5:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	407	402	418	360	368	391
Vehs Exited	400	395	413	363	384	391
Starting Vehs	34	34	43	35	47	37
Ending Vehs	41	41	48	32	31	35
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	279	283	291	248	260	272
Travel Time (hr)	9.9	9.3	9.8	8.2	8.5	9.1
Total Delay (hr)	2.4	1.8	1.8	1.4	1.4	1.8
Total Stops	192	149	135	147	110	145
Fuel Used (gal)	17.0	18.5	17.3	15.4	18.0	17.2

Interval #2 Information

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	427	431	417	428	457	434
Vehs Exited	437	437	426	424	450	435
Starting Vehs	41	41	48	32	31	35
Ending Vehs	31	35	39	36	38	36
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	1	0
Travel Distance (mi)	299	296	288	296	317	299
Travel Time (hr)	10.3	10.1	9.8	10.1	10.9	10.3
Total Delay (hr)	2.2	2.0	1.9	2.0	2.5	2.1
Total Stops	204	180	166	155	210	183
Fuel Used (gal)	19.4	18.2	17.6	17.8	19.9	18.6

Interval #3 Information Recording

Start Time	6:00
End Time	6:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	781	804	853	777	851	811
Vehs Exited	779	810	853	776	853	815
Starting Vehs	31	35	39	36	38	36
Ending Vehs	33	29	39	37	36	34
Denied Entry Before	0	0	0	0	1	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	543	559	587	538	586	563
Travel Time (hr)	18.4	18.8	19.6	18.2	19.6	18.9
Total Delay (hr)	3.7	3.6	3.8	3.5	3.7	3.7
Total Stops	321	313	308	305	334	317
Fuel Used (gal)	34.5	35.9	38.7	34.1	38.0	36.2

2: W St & Foxhall Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	0.0	0.9	0.5	1.9
Delay / Veh (s)	28.9	18.0	4.4	2.4	4.5

5: Whitehaven Pkwy & Foxhall Road Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	0.7	0.5	1.3
Delay / Veh (s)	9.1	3.4	2.4	3.2

8: Field School & Foxhall Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.1	1.0	1.3	2.3
Delay / Veh (s)	9.0	4.9	6.6	5.8

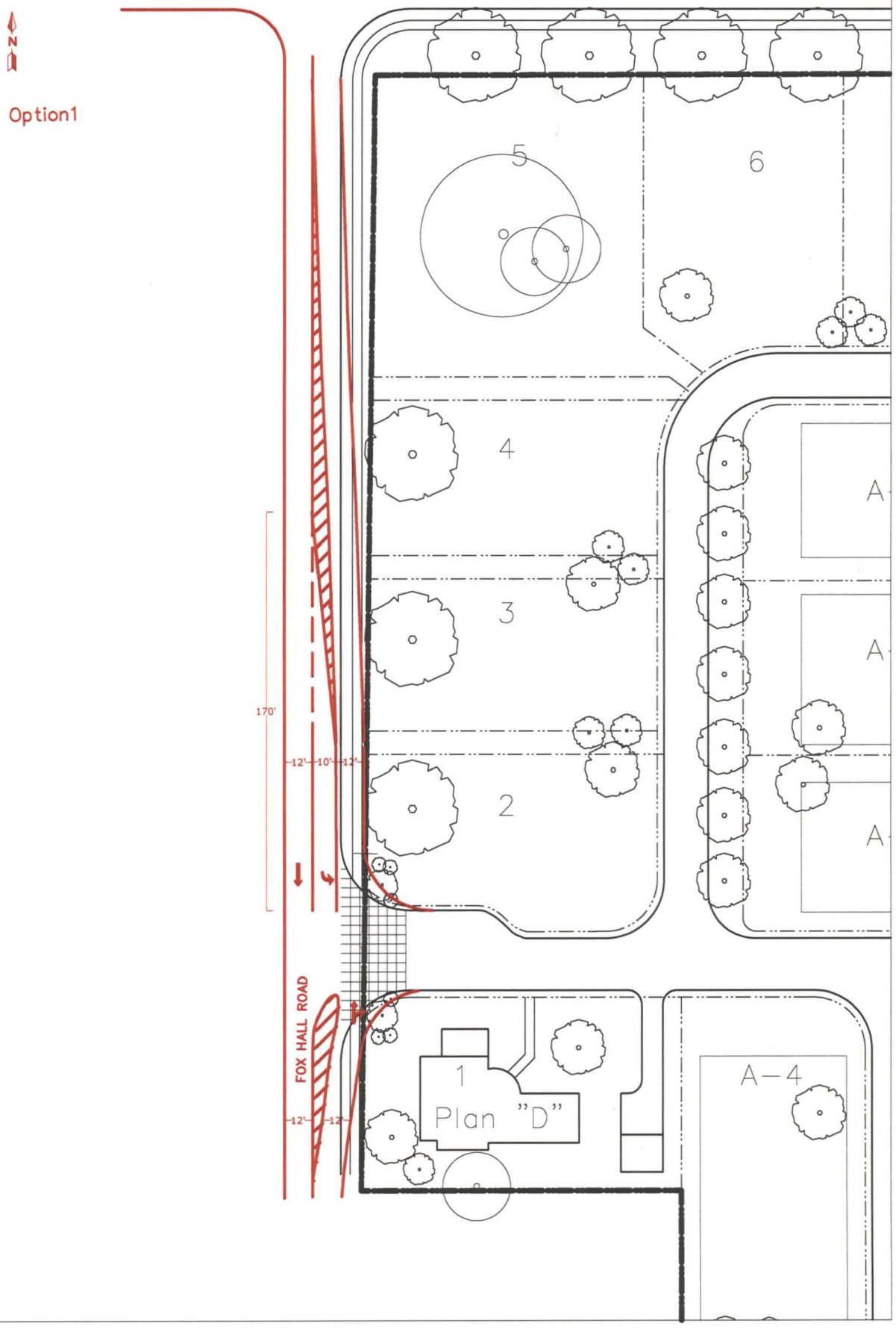
10: Foxhall Road & Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.1	0.3	0.3	0.7
Delay / Veh (s)	13.6	1.8	1.6	1.9

Total Network Performance

Total Delay (hr)	7.5
Delay / Veh (s)	16.6

7


N
Option1
5
6
4
3
2
1
Plan "D"
A-4
170'
12'
10'
12'
FOX HALL ROAD
12'
12'

8

Louis J. Slade, PE, PTOE

Vice President and Principal

Mr. Slade's diverse experience bridges the disciplines of civil engineering design, urban transportation planning, traffic engineering, land development, environmental analysis, and transportation systems design. Mr. Slade has directed major regional comprehensive transportation planning studies and corridor studies, traffic circulation and transit studies, and parking needs and design optimization studies for central business districts and new developments. He has devised and analyzed alternative public transportation modal options. He is familiar with road rating and sufficiency evaluation systems for primary and secondary roads. He has performed analytical assessments of air quality and noise levels of transportation facilities and systems. He has performed traffic impact assessments for residential, office, shopping and convention centers, and institutional complexes. He has been responsible for the transportation and parking components for academic, government, and corporate campuses.

Professional Certification

Registered Professional Engineer: District of Columbia and Maryland
Certified PTOE (Professional Traffic Operations Engineer)

Education

Master of Science, Civil Engineering
Northwestern University, Chicago, IL

Bachelor of Science, Civil Engineering
Northwestern University, Chicago, IL

Professional Associations

Fellow: ITE
Urban Land Institute
Lambda Alpha International Land Economics Society

Representative Projects

ARCHITECT OF THE CAPITOL EXPERIENCE

Mr. Slade has extensive transportation planning experience in the Capitol Complex area. He was Principal-in-charge on the traffic management plan for the Capitol Visitor Center construction. He is currently responsible for the transportation and parking planning for the House Office Building component of the Capitol Complex Plan, and is the designated transportation planner for the selected planning team for the entire Capitol Complex.

DOWNTOWN PROJECT PLANNING

Mr. Slade has directed all of the firm's projects in downtown Washington D.C. including transportation management and traffic operations planning for the MCI Center Sports Arena, and the new Washington Convention Center, and traffic, loading and parking plans for the National Gallery of Art, the Newseum, the Arts and Industries Building, and the National Museum of Native Americans. He has been a consultant to both the Downtown and Georgetown Business Improvement Districts, and he has directed the firm's assignments on numerous large-scale in-town residential and mixed-use development projects.

CONSTRUCTION TRAFFIC MANAGEMENT PLANS

WWII Memorial Truck Access
Principal-in-Charge. Seven months into a 30-month construction schedule, Gorove/Slade Associates, was given the challenge of developing a construction truck access plan to improve construction access to the site on the National Mall. G/SA balanced construction access needs with tourist and pedestrian safety . G/SA proposed four creative alternatives including rerouting pedestrians, and changing lane configuration to accommodate left-turning trucks, and ensuring that trucks could safely navigate between trees. The National Park Service

mandated strict observance of environmental issues including the protection, relocation and in some cases the removal of mature trees.

U.S. Capitol Visitors' Center, Construction Traffic Management Plan, Washington, DC
Principal-in-Charge. G/SA developed a traffic management plan for the construction of the new underground visitors' center in front of the U.S. Capitol. Construction is expected to last until mid 2005. The traffic management plan will minimize the impact of truck traffic upon the neighboring residential districts and downtown DC. Key issues for this project include taking into consideration the security issues resulting from recent terrorism events.

RAIL STATION PLANNING AND DESIGN

Mr. Slade has extensive experience with the planning and design of the vehicular and pedestrian components of commuter rail stations and bus terminals. This includes roadway access, circulation, and parking planning for several Metrorail stations on the Washington, D.C. system for the Transit Authority, the planning of major commuter heavy and light rail stations at the Meadowlands Sports Complex and the Carlstadt New Town Center in Bergen County, N.J., the planning of the station modifications associated with the new MCI Center sports arena at the Gallery Place Station in Washington, D.C., and planning studies for joint public/private developments at several Metrorail stations in the Washington metropolitan area.

TRANSPORTATION PLANNING STUDIES

Nashua Area Transportation Study, New Hampshire; Genessee/Finger Lakes Regional Study, Rochester, New York; Hartford County Thoroughfare Plan, Maryland; James City County Thoroughfare Plan, Virginia.

TRANSIT IMPACT STUDIES AND TRANSIT ALTERNATIVES ANALYSES

York County, Pennsylvania; Crystal City in Arlington, Virginia; Albany, New York.

CENTRAL BUSINESS DISTRICT CIRCULATION STUDIES

Washington D.C.; Alexandria, Virginia; Herndon, Virginia; Leesburg, Virginia; Baltimore, Maryland; Atlantic City, New Jersey; Indianapolis, Indiana; Albany, New York; Quincy, Massachusetts; Bowling Green, Kentucky, Takoma Center, DC.

UNIQUE AND SPECIAL TRAFFIC STUDIES AND ASSIGNMENTS

District of Columbia Comprehensive Bikeway Study; U.S. Army Museum, Arlington, Virginia; The Challenger Center for Space, Washington, D.C.; The Universal Ballet School, Washington, DC; The Capital Centre Arena, Prince George's County, Maryland; Convention Centers in Atlantic City and Trenton, New Jersey and Baltimore, Maryland; Casino Hotels in Atlantic City, New Jersey; Civil War Battle Reenactment, Fairfax, Virginia; Highway noise barrier design and design guidelines, Federal Highway Administration; Salvation Army headquarters and residence for the homeless, Washington, D.C.

TRANSPORTATION MANAGEMENT EXPERIENCE

Developed management programs to reduce peak hour traffic loads and parking requirements and development of traffic monitoring systems for various private developments in the Northern Virginia suburbs of Washington, D.C. and for federal agencies in the metropolitan area.

The National Institutes of Health (NIH)
As part of the Master Plan, Mr. Slade developed a cost-effectiveness matrix for candidate demand management programs that NIH used to advance their overall efforts to reduce trip generation. This work was presented at the I.T.E. Conference in February 1994. Gorove/Slade Associates has had an ongoing contract with NIH to expand and monitor the effectiveness of their demand management program.

The City of Alexandria, Virginia
Virginia passed a demand management ordinance in 1988 which required that all new development include a demand management program customized for the particular site based on proximity to transit, characteristics of the tenants, etc. Gorove/Slade Associates, Inc. worked with a number of clients to help interpret this new ordinance and to prepare the required program.

Institutions
Gorove/Slade Associates has developed demand management plans for a number of schools, hospitals, and performance facilities where constrained or sensitive conditions required a special means to control the generation, routing, and storage of vehicle traffic.

Anacostia Waterfront, Washington, DC
Gorove/Slade developed an area wide demand management plan for the Anacostia Waterfront in Washington, D.C. as part of a master planning study for the Office of Planning. Mr. Slade is currently Principal in Charge of the firm's involvement in the Anacostia Waterfront Initiative with the Office of Planning.