



Street Traffic Studies, Ltd.

██████████

**TRAFFIC IMPACT ANALYSIS
ARCOLA ELEMENTARY SCHOOL
WHEATON, MARYLAND**

██████████

**Prepared For:
Montgomery County Public Schools**

**June 9, 2004
Project Manager: Carl F. Starkey, P.E.
STS Job No.: 4634**

INTRODUCTION

Montgomery County Public Schools proposes to construct a new school (Arcola Elementary School) at the intersection of Channing Drive and Franwall Avenue in the Wheaton area of the County. The school is planned to accommodate 645 students and staff. The subject site currently houses the Washington Christian Academy.

Street Traffic Studies, Ltd. (STS LTD) has prepared a traffic impact analysis in relation to the proposed school. The objective of the analysis was to evaluate the potential traffic impacts due to development of the subject property on the local road network.

The methodology used to perform the analysis followed guidelines established by the Maryland-National Capital Park & Planning Commission (MNCPPC) contained in their publication on *Local Area Review Guidelines* dated July 2002. A copy of the correspondence between STS LTD and MNCPPC staff is contained in Appendix A.

The principle scope of services performed as part of this study included:

- o Field inspection of the roadway system in the vicinity of the site to determine the existing pavement widths and traffic controls.
- o Peak period manual turning movement counts at three intersections in the vicinity of the site.
- o Research of State Highway Administration, and Montgomery County Department of Public Works & Transportation records to determine the status of planned road improvements in the study area.

- o Trip generation and distribution for the planned developments, as well as the subject site.
- o Analysis of the above data to determine the impact of the proposed development on the surrounding roadway system.
- o Preparation of a report detailing the results of the analysis.

✓ Based upon the field studies and analyses performed as part of this study, it is concluded that the proposed development will not adversely impact the local roadway system.

The methodology used to perform the analysis is detailed in the sections that follow.

BACKGROUND TRAFFIC

Planned Road Improvements

Montgomery County Capital Improvement Program (CIP) lists the improvement of the intersection of Arcola Avenue and Georgia Avenue in its Intersection and Spot Improvements Project #50717. The project will widen the east leg of the intersection, and improve the westbound approach of Arcola Avenue to provide separate left, thru and right turn lanes. The project is scheduled for construction to begin in Fiscal Year 2005 (begins July 2004).

Planned Developments

In accordance with procedures established by the LATR guidelines, the analysis of the traffic impact of proposed office development must include traffic projections for other planned developments in the "vicinity" of the site. Information concerning additional developments within the study area was obtained from discussions with staff.

Based on the information provided by staff, there is one project in the area which will impact traffic operations. The site Good Counsel is located in the southeast quadrant of the intersection of Arcola Avenue and Georgia Avenue and is planned for 189 town homes. STS LTD also included the Wheaton Fire Station located on the south side of Arcola Avenue, immediately east of Georgia Avenue.

Trip Generation

To determine the traffic associated with each of the background developments, trip generation rates were obtained from the *Local Area Review Guidelines* dated July 2002, and ST LTD files for the

Wheaton Fire Station. The generation rates and the resulting trips are shown in Table 2.

**TABLE 2
BACKGROUND TRIP GENERATION**

<u>DEVELOPMENT</u>	<u>MORNING PEAK HOUR</u>			<u>EVENING PEAK HOUR</u>		
	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>
<i>Generation Rate</i>						
Townhouse						
Trips/DU						
>100 DU	T=0.53(x)-5			T=0.48(x)+35		
	17%	83%	100%	67%	33%	100%
<i>Fire Station¹</i>						
Trips/Station	2	3	5	6	6	12
<i>Generated Trips</i>						
Good Counsel						
Trips/189 du	16	79	95	84	42	126
<i>Wheaton Rescue Station</i>						
Trips/Station	2	3	5	6	6	12

X - Number of units

¹ Trip values obtained from driveway counts at the existing station located at the intersection of Blueridge and Grandview Avenues.

Trip Distribution

The trip distribution for the planned projects was derived through a review of the trip distribution for the Kensington/Wheaton Super District 5, as well as, data from traffic studies completed within the greater study area. It should be noted that the distribution for the Rescue Station is based on existing turning movement data and the proximity of other stations. The assumed distribution is shown below.

TRIP DISTRIBUTION BACKGROUND DEVELOPMENTS

<u>DIRECTION</u>	<u>PERCENTAGE</u>
<i>Residential</i>	
North on Georgia Ave	25%
Northeast via Kemp Mill Rd	5%
East on Arcola Ave	10%
South on Georgia Ave	60%
<i>Fire Station</i>	
North on Georgia Ave	25%
Northeast via Kemp Mill Rd	7%
East on Arcola Ave	15%
West on Arcola Ave	5%
South on Georgia Ave	48%

The total trips generated by the planned developments are shown in Exhibit 4. These trips were combined with the existing traffic volumes to derive the background traffic volumes shown in Exhibit 5.

CONCLUSIONS

Based on the analyses presented in this study, it has been shown that the proposed Arcola Elementary School can be constructed without adversely impacting traffic operations within the immediate vicinity of the site.

The foregoing analysis was performed using a conservative approach for the trip generation of the site. No pass-by or diverted trips were assumed in the analysis as provided for in the LATR guidelines. Additionally, all existing traffic at the school driveway was incorporated into the analysis, and students which walk to school were not taken into account. Therefore, it can be concluded that future traffic operations will be better than projected in this evaluation.