final report

September 29, 2014

Trip Generation and Distribution

Stapleton Ridge
15528 Aiken Road
Louisville, KY

Prepared for

Louisville Metro Public Works

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INTRODUCTION

The subdivision plan for Stapleton Ridge shows 125 detached lots and 80 attached lots. Access to the subdivision will be through two entrances on Aiken Road. The purpose of this study is to examine the traffic generated by the proposed plan. For this study, the impact area was defined to be the proposed intersections with Aiken Road. A map of the site is shown in **Figure 1**.

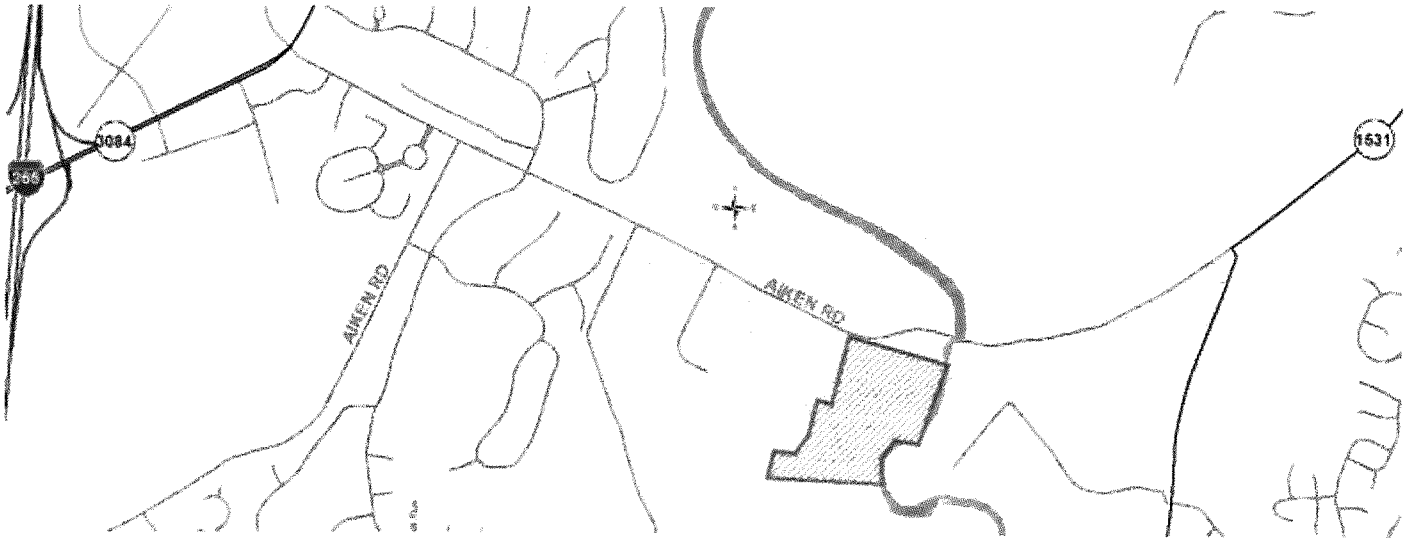

Figure 1. Site Map

EXISTING CONDITIONS

Aiken Road is a Metro maintained road with an estimated 2014 ADT of 7,000 vehicles per day at the proposed entrance, as estimated from the turning movement count. The road is a two lane highway with ten-foot lanes with a one foot shoulder through the study area. The speed limit is 35 mph. There are no sidewalks.

A.m. and p.m. peak hour traffic counts for the proposed intersection were made on September 17, 2014. The a.m. peak hour occurred between 7:15 and 8:15 a.m. The p.m. peak hour occurred between 4:45 and 5:45 p.m. **Figure 2** illustrates the existing a.m. and p.m. peak hour traffic volumes.

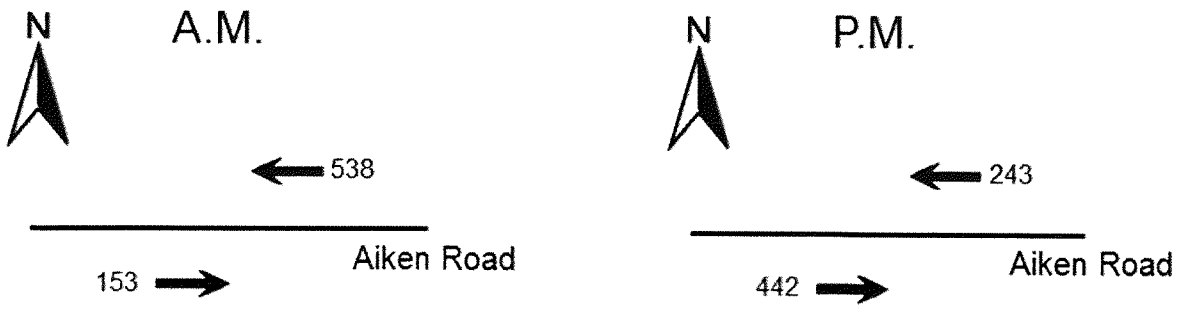

Figure 2. Existing (2014) Peak Hour Volumes

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation Manual, 9th Edition contains trip generation rates for a wide range of developments. The land use of "Single-Family Detached Housing (210)" and "Residential Condominium/Townhouse (230)" best describe this development. The trip generation results are listed in **Table 1**. The results of the trip generation analysis are that this additional development will generate 140 a.m. peak hour trips and 178 p.m. peak hour trips. The trips for the development were assigned to the highway network with percentages shown on **Figure 3**. **Figure 4** shows the trips generated by this development and distributed throughout the road network during the peak hours.

Table 1. Peak Hour Trips Generated by Site

	A.M.			P.M.		
	Total Trips	**Entering**	**Exiting**	**Total Trips**	**Entering**	**Exiting**
125 Detached lots (210)	97	24	73	128	81	47
80 Attached lots (230)	43	7	36	50	34	16
Total Peak Hour	140	31	109	178	115	63

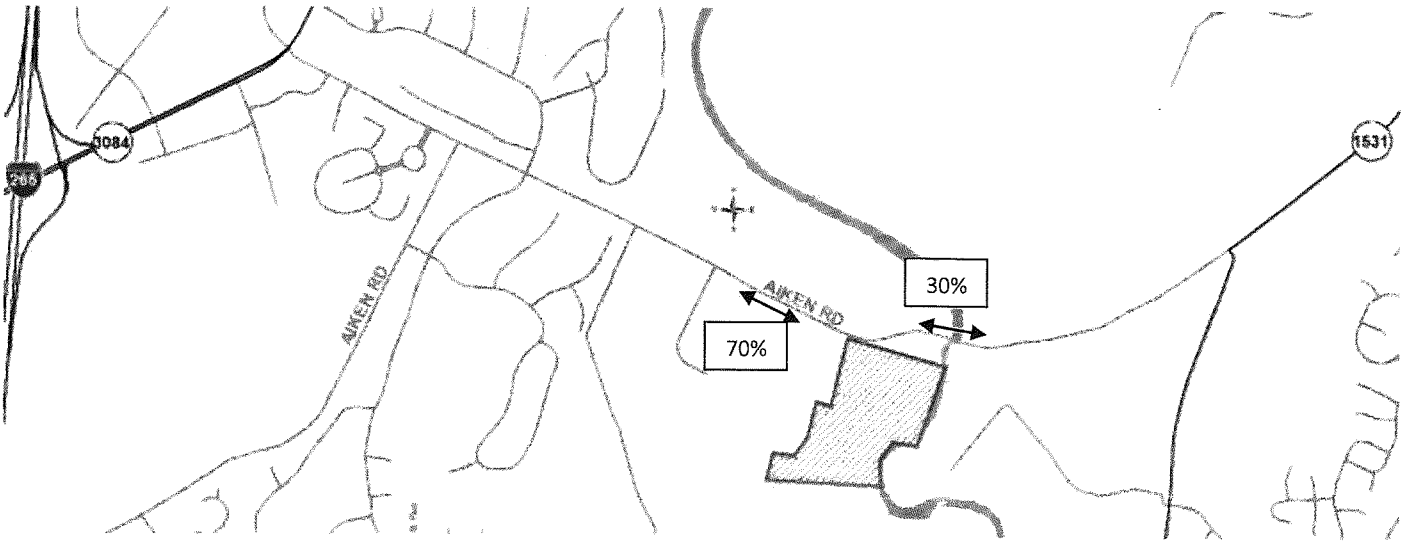

Figure 3. Peak Hour Trips Distribution Percentages

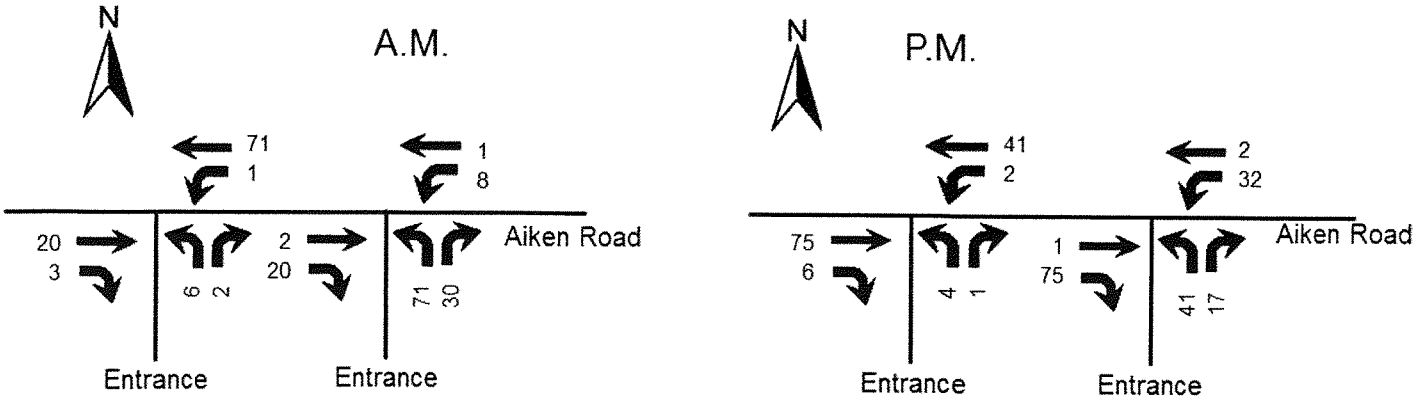

Figure 4. Peak Hour Trips Generated by Site

APPENDIX

Traffic Counts

9.17.14

Interval Start Time	Aiken Road From West				Aiken Road From East			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00		8				114		
7:15		21				168		
7:30		28				136		
7:45		64				99		
8:00		40				135		
8:15		20				115		
8:30		19				113		
8:45		42				101		
AM TOTALS		**242**				**981**		
16:00		104				31		
16:15		64				61		
16:30		105				61		
16:45		104				63		
17:00		84				63		
17:15		130				54		
17:30		124				63		
17:45		103				57		
PM TOTALS		**818**				**453**		

PEAK HOURS								
7:15		21				168		
7:30		28				136		
7:45		64				99		
8:00		40				135		
AM TOTALS		**153**				**538**		
16:45		104				63		
17:00		84				63		
17:15		130				54		
17:30		124				63		
PM TOTALS		**442**				**243**		