

Saint Mary's College High School Traffic Study

Submitted to

Saint Mary's College High School

March 17, 2005

Submitted by



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1.0 INTRODUCTION

The purpose of the Saint Mary's College High School traffic study is to evaluate current traffic conditions in the vicinity of the school and assess commuting transportation characteristics. In particular, this report compares the February 2005 data with May 2003 data to identify any changes. This report includes the results of the speed survey, pedestrian and vehicular activity observations, traffic counts, parking occupancy counts, and questionnaires. This data is used to evaluate perceived problems such as speeding on Albina Avenue and Posen Avenue, on-street parking in non-designated areas, and use of Hopkins Court by school traffic.

In 2003, KORVE studied and documented existing traffic and parking conditions around Saint Mary's College High School in Albany. The study included recommendations for projects that might improve transportation related operations at the school. In order to evaluate the effectiveness of the various improvements that have been implemented, current traffic and parking operations were evaluated and compared to conditions identified in the 2003 study.

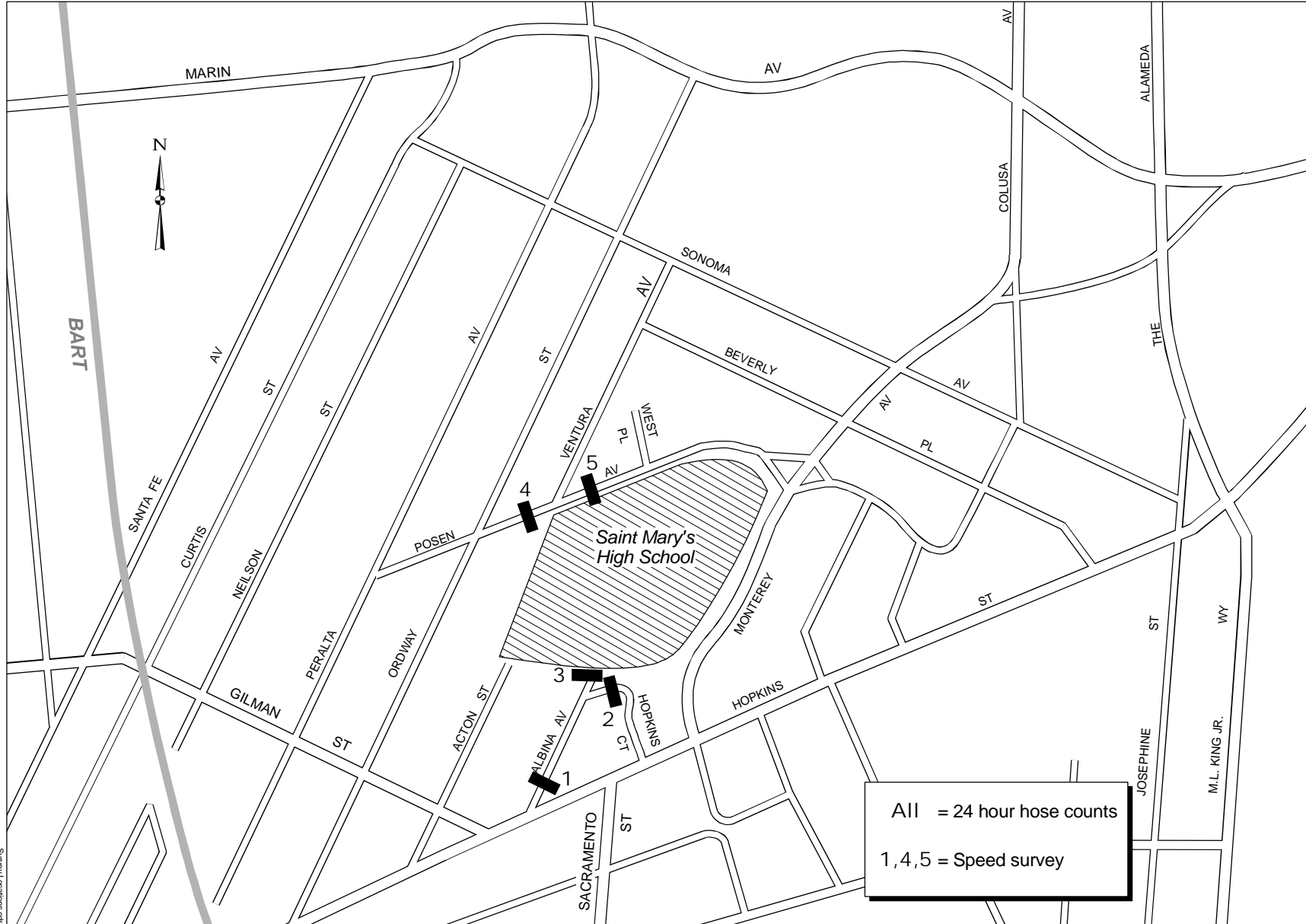
2.0 DATA COLLECTION METHODS

The Saint Mary's College High School Traffic Analysis utilized speed surveys, 24 hour traffic counts, pedestrian and vehicular activity observations, and questionnaires which were completed by students and school staff. This data was then used to validate and quantify various traffic and parking related concerns.

Speed surveys and traffic counts were conducted on Tuesday May 20, Wednesday May 21, and Thursday May 22, 2003. The follow-up speed surveys and traffic counts were conducted on Tuesday February 1 and Thursday February 3, 2005. The survey locations for 24 hour vehicle counts and speed surveys are illustrated in Figure 1.

KORVE staff observed morning (before school), midday (lunch break) and after school pedestrian and vehicular activities in the vicinity of Saint Mary's High School along Posen Avenue and the Albina Avenue/Hopkins Court intersection. In addition, we observed parking occupancy in the vicinity of the school. Details of the speed survey and traffic counts are included in an attachment.

In addition, 587 students and 67 staff and faculty completed questionnaires in May, 2003. In February, 2005, 596 students and 69 staff and faculty completed questionnaires. In both cases this is close to a 95% response rate. The survey included questions about modes of arrival and departure, arrival and departure routes and arrival and departure time.



Survey Locations.dwg

3.0 SETTING

3.1 EXISTING CONDITIONS

The Saint Mary's College High School campus is bordered by the Posen Avenue to the north, Monterey Avenue to the east, houses fronting on Ordway Street to the west, and Cordonices Creek to the south. The main driveway entrance is at the north end of Albina Avenue. Pedestrian accesses are provided from Albina Avenue, Posen Avenue and Monterey Avenue. Saint Mary's College High School had 623 students enrolled in 9th through 12th grades and 68 staff and faculty members as of May 2003 and 623 students and 70 staff and faculty as of February 2005.

Currently students with school issued permits are allowed to park on-site or on the south side of Posen Avenue along the school frontage. The on-site student parking is accessed via Albina Avenue. The staff/faculty parking is accessed via Posen Avenue. Vehicles heading to and from the Saint Mary's College High School entrance on Albina Avenue are prohibited by school policy from using Hopkins Court.

3.2 TRANSPORTATION IMPROVEMENTS

After the 2003 study, some of the recommendations have been implemented. These improvements include a pick-up/drop-off zone on Posen Avenue, school personnel monitoring traffic at the pick-up/drop-off zone, monitoring the Albina Avenue/Hopkins Court intersection, installation of a bicycle rack and opening the Monterey Avenue pedestrian entrance with a small pick-up/drop-off zone.

In addition to improvements by the school, the City of Albany installed a traffic circle at the Posen Avenue/Ordway Avenue intersection in 2004. The objective of the traffic circle is to reduce traffic speeds on Ordway Avenue and Posen Avenue.

4.0 SURVEY RESULTS

4.1 TRAFFIC VOLUMES

Figures 2 through 11 and Tables 1 through 5 illustrate weekday traffic volumes. Traffic volumes peak at all locations, except on Hopkins Court (Location 2), in the period between 7:45am and 8:00am. This data indicates that only a small number of school trips use Hopkins Court. There are lesser peak periods from 12:00pm to 1:00pm and from 2:00pm to 3:30pm.

On Tuesday May 20, 2003 and Thursday February 3, 2005, turning movement counts were observed at the Albina Avenue/Hopkins Court intersection between 7:45am and 8:00am. During the May 2003 survey, four cars (about five percent) that were going to the school used Hopkins Court. The majority of school trips arrived via Albina Avenue. This observation confirms that few cars access the school via Hopkins Court. During the February 2005 survey, one car entered the school between 7:45am and 8:00am from the Albina Avenue entrance via Hopkins Court. This is an improvement relative to the previous condition. Traffic monitoring by the school near the Albina Avenue/Hopkins Court intersection may have discouraged the use of Hopkins Court.

Overall, traffic volumes and patterns are similar in 2003 and 2005. The before school and after school peak hour volumes have decreased on Albina Avenue. The before

school and after school peak hour volumes have also decreased on Posen Avenue in the westbound direction. The drop-off/pick-up zone has likely led to the increased traffic volumes on Posen Avenue in the eastbound direction.

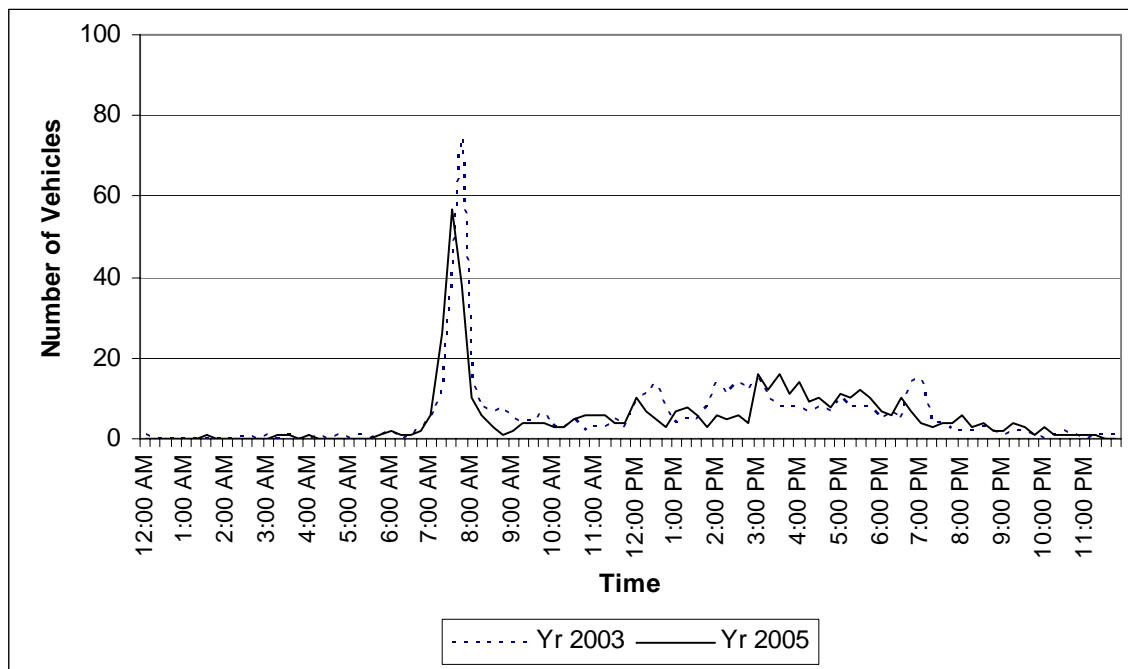


FIGURE 2: WEEKDAY VEHICLE COUNTS AT LOCATION 1 (SOUTH ALBINA AVE) – NB

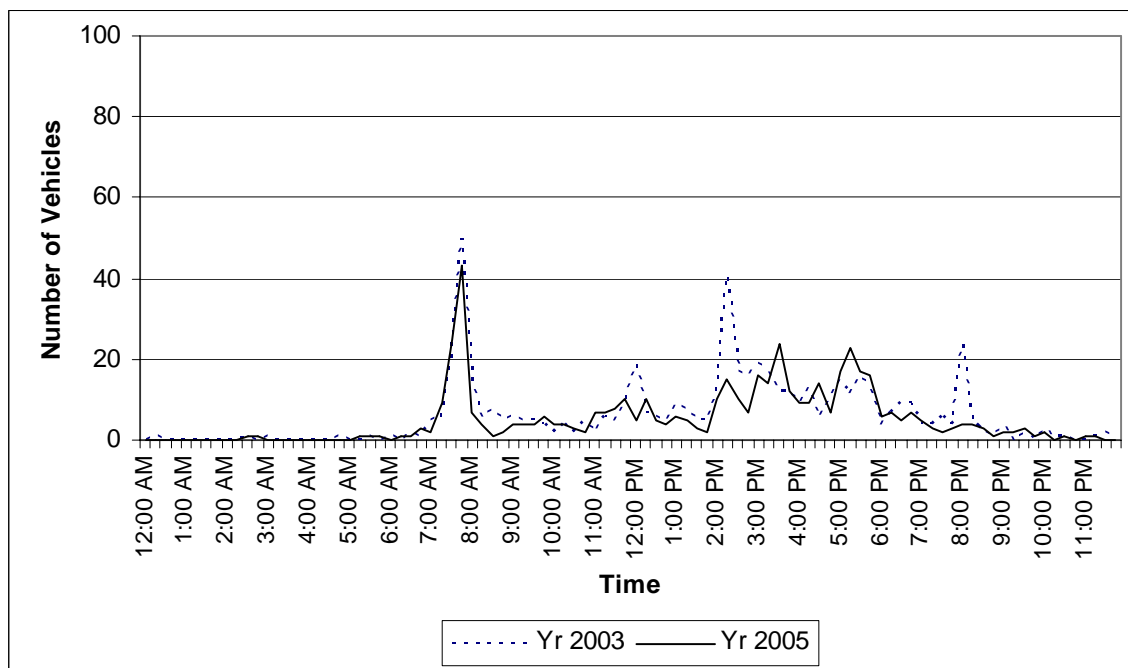


FIGURE 3: WEEKDAY VEHICLE COUNTS AT LOCATION 1 (SOUTH ALBINA AVE) – SB

TABLE 1: PEAK PERIOD TRAFFIC VOLUMES AT LOCATION 1 (SOUTH ALBINA AVE)

Time	Entering (Northbound)			Exiting (Southbound)		
	2003	2005	Change	2003	2005	Change
7:00am - 7:15am	5	6	1	5	2	(3)
7:15am - 7:30am	11	26	15	6	9	3
7:30am - 7:45am	39	57	18	22	25	3
7:45am - 8:00am	75	38	(37)	50	43	(7)
8:00am - 8:15am	14	10	(4)	15	7	(8)
8:15am - 8:30am	8	6	(2)	6	4	(2)
<i>AM Peak Period Total</i>	<i>149</i>	<i>143</i>	<i>(9)</i>	<i>104</i>	<i>90</i>	<i>(14)</i>
2:00pm - 2:15pm	14	6	(8)	11	10	(1)
2:15pm - 2:30pm	11	5	(6)	41	15	(26)
2:30pm - 2:45pm	14	6	(8)	17	10	(7)
2:45pm - 3:00pm	12	4	(8)	16	7	(9)
3:00pm - 3:15pm	15	16	1	19	16	(3)
3:15pm - 3:30pm	11	12	1	17	14	(3)
<i>PM Peak Period Total</i>	<i>77</i>	<i>49</i>	<i>(28)</i>	<i>121</i>	<i>72</i>	<i>(49)</i>

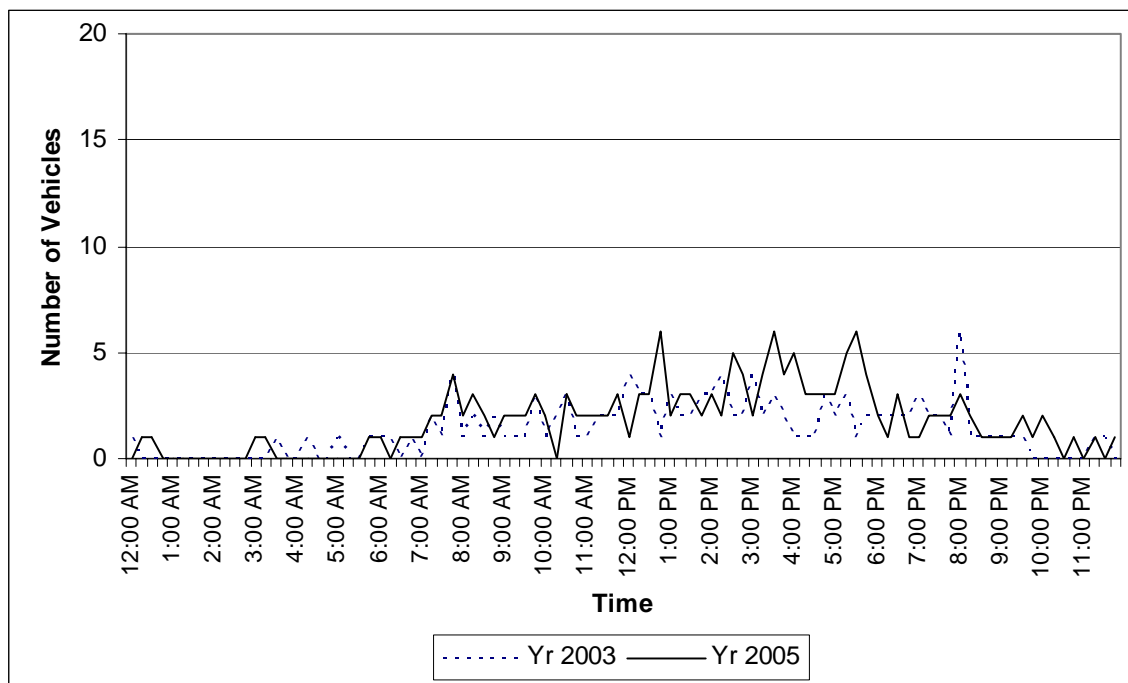


FIGURE 4: WEEKDAY VEHICLE COUNTS AT LOCATION 2 (HOPKINS COURT) – EB

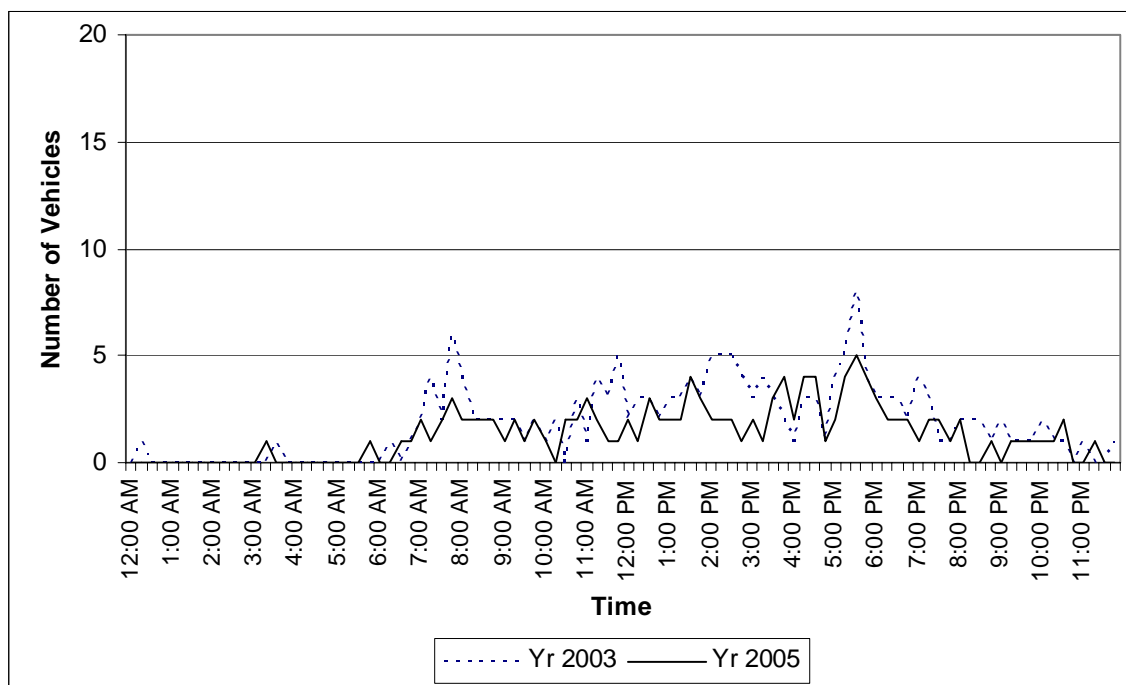


FIGURE 5: WEEKDAY VEHICLE COUNTS AT LOCATION 2 (HOPKINS COURT) – WB

TABLE 2: PEAK PERIOD TRAFFIC VOLUMES AT LOCATION 2 (HOPKINS COURT)

Time	From Hopkins St To Albina Ave			From Albina Ave To Hopkins St		
	2003	2005	Change	2003	2005	Change
7:00am - 7:15am	0	1	1	2	2	0
7:15am - 7:30am	2	2	0	4	1	(3)
7:30am - 7:45am	1	2	1	2	2	0
7:45am - 8:00am	4	4	0	6	3	(3)
8:00am - 8:15am	1	2	1	4	2	(2)
8:15am - 8:30am	2	3	1	2	2	0
<i>AM Peak Period Total</i>	<i>10</i>	<i>14</i>	<i>4</i>	<i>20</i>	<i>12</i>	<i>(8)</i>
2:00pm - 2:15pm	3	3	0	5	2	(3)
2:15pm - 2:30pm	4	2	(2)	5	2	(3)
2:30pm - 2:45pm	2	5	3	5	2	(3)
2:45pm - 3:00pm	2	4	2	4	1	(3)
3:00pm - 3:15pm	4	2	(2)	3	2	(1)
3:15pm - 3:30pm	2	4	2	4	1	(3)
<i>PM Peak Period Total</i>	<i>17</i>	<i>20</i>	<i>3</i>	<i>26</i>	<i>10</i>	<i>(16)</i>

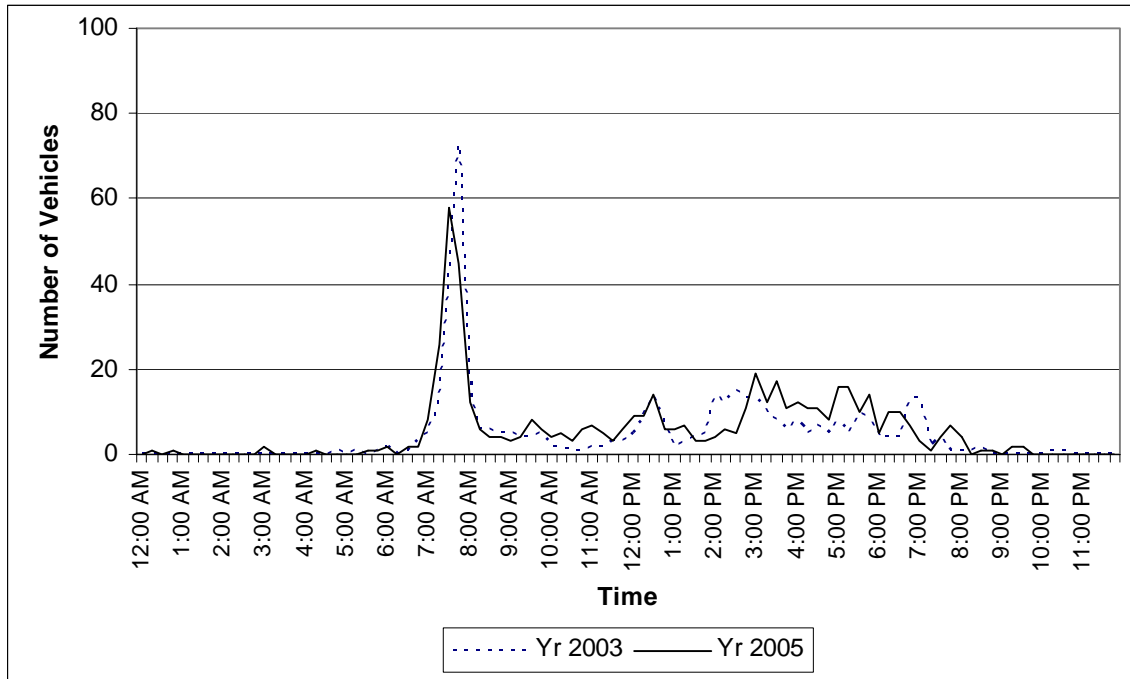


FIGURE 6: WEEKDAY VEHICLE COUNTS AT LOCATION 3 (SAINT MARY'S GATE) – ENTERING

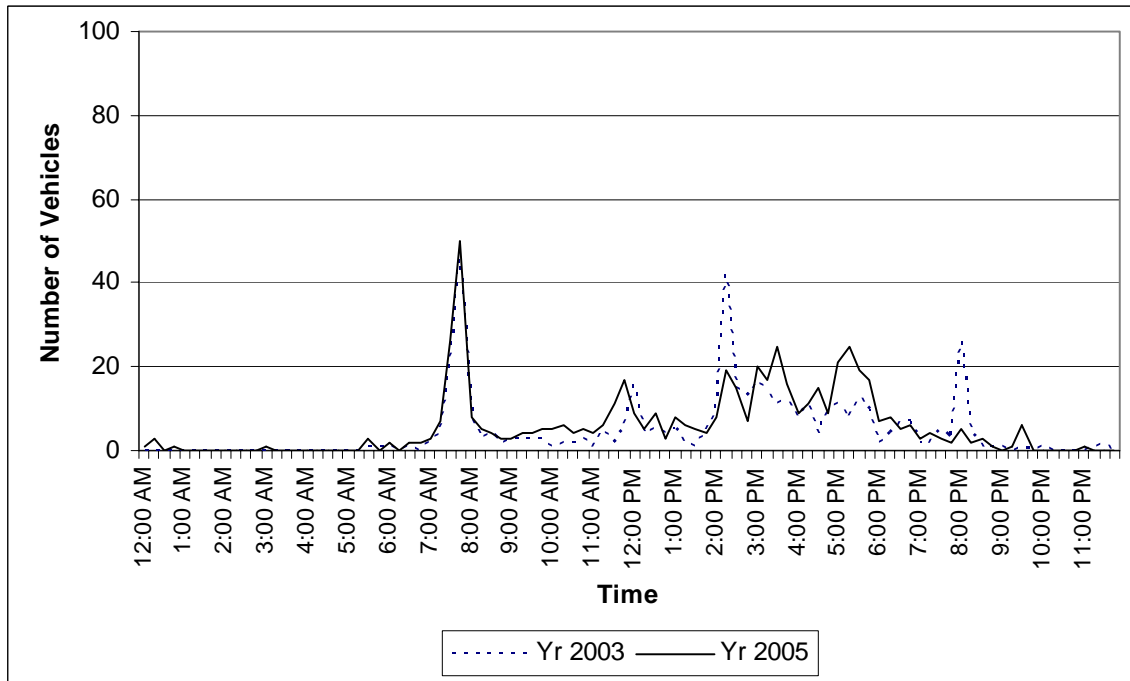


FIGURE 7: WEEKDAY VEHICLE COUNTS AT LOCATION 3 (SAINT MARY'S GATE) – EXITING

TABLE 3: PEAK PERIOD TRAFFIC VOLUMES AT LOCATION 3 (SAINT MARY'S GATE)

Time	Entering (Northbound)			Exiting (Southbound)		
	2003	2005	Change	2003	2005	Change
7:00am - 7:15am	5	6	1	3	2	(1)
7:15am - 7:30am	12	26	14	4	9	5
7:30am - 7:45am	40	57	17	20	25	5
7:45am - 8:00am	73	38	(35)	46	43	(3)
8:00am - 8:15am	13	10	(3)	8	7	(1)
8:15am - 8:30am	6	6	0	3	4	1
<i>AM Peak Period Total</i>	<i>149</i>	<i>143</i>	<i>(6)</i>	<i>84</i>	<i>90</i>	<i>6</i>
2:00pm - 2:15pm	14	6	(8)	9	10	1
2:15pm - 2:30pm	12	5	(7)	42	15	(27)
2:30pm - 2:45pm	15	6	(9)	15	10	(5)
2:45pm - 3:00pm	13	4	(9)	13	7	(6)
3:00pm - 3:15pm	13	16	3	17	16	(1)
3:15pm - 3:30pm	10	12	2	14	14	0
<i>PM Peak Period Total</i>	<i>77</i>	<i>49</i>	<i>(28)</i>	<i>110</i>	<i>72</i>	<i>(38)</i>

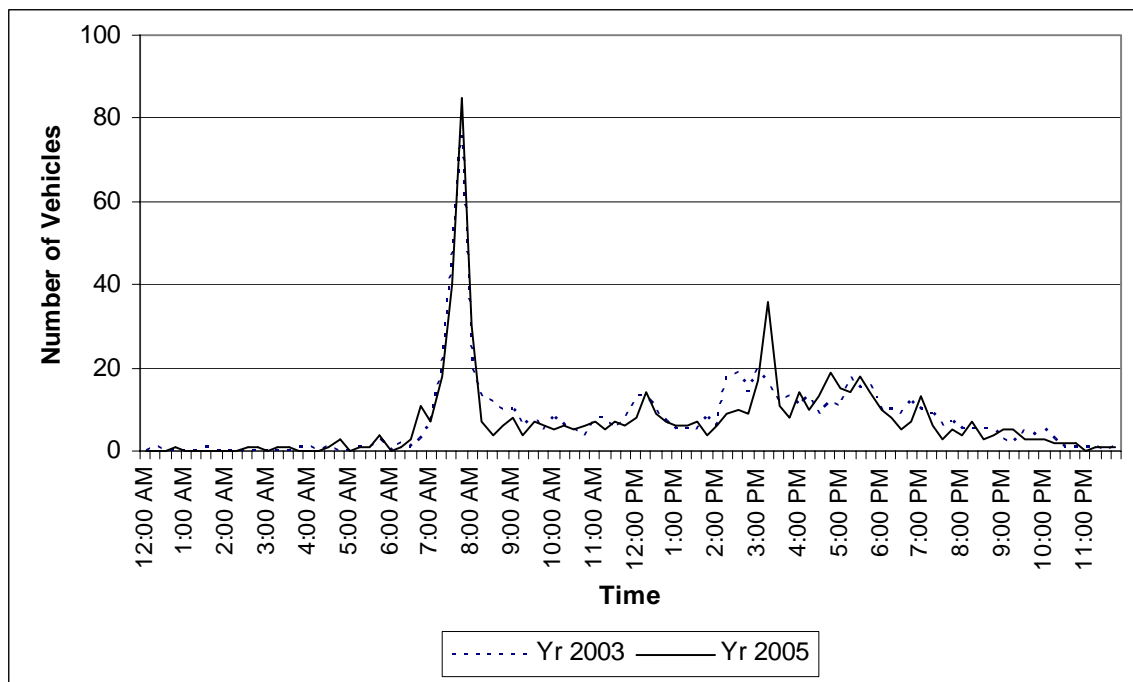


FIGURE 8: WEEKDAY VEHICLE COUNTS AT LOCATION 4 (POSEN AVE WEST OF VENTURA AVE) - EB

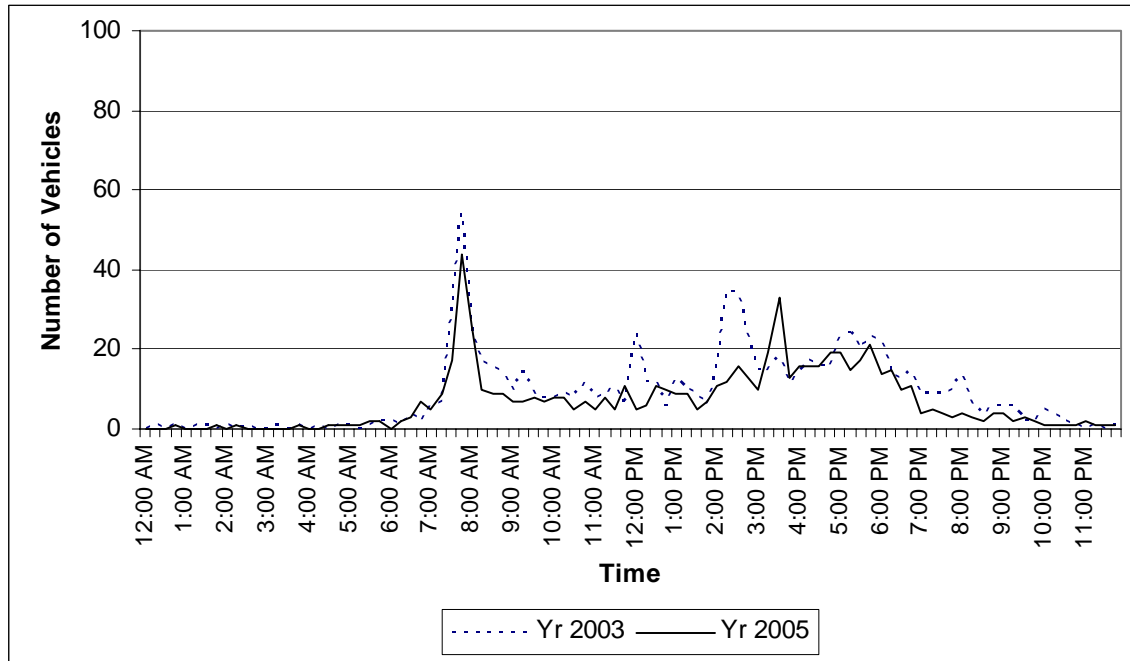


FIGURE 9: WEEKDAY VEHICLE COUNTS AT LOCATION 4 (POSEN AVE WEST OF VENTURA AVE) – WB

TABLE 4: PEAK PERIOD TRAFFIC VOLUMES AT LOCATION 4 (POSEN AVE WEST OF VENTURA AVE)

Time	Eastbound			Westbound		
	2003	2005	Change	2003	2005	Change
7:00am - 7:15am	7	7	0	6	5	(1)
7:15am - 7:30am	20	18	(2)	7	9	2
7:30am - 7:45am	45	40	(5)	29	17	(12)
7:45am - 8:00am	76	85	9	54	44	(10)
8:00am - 8:15am	20	30	10	24	26	2
8:15am - 8:30am	13	7	(6)	17	10	(7)
<i>AM Peak Period Total</i>	<i>181</i>	<i>187</i>	<i>6</i>	<i>137</i>	<i>111</i>	<i>(26)</i>
2:00pm - 2:15pm	6	6	0	15	11	(4)
2:15pm - 2:30pm	18	9	(9)	35	12	(23)
2:30pm - 2:45pm	19	11	(8)	34	16	(18)
2:45pm - 3:00pm	14	16	2	22	13	(9)
3:00pm - 3:15pm	20	13	(7)	15	10	(5)
3:15pm - 3:30pm	16	31	15	15	19	4
<i>PM Peak Period Total</i>	<i>93</i>	<i>86</i>	<i>(7)</i>	<i>136</i>	<i>81</i>	<i>(55)</i>

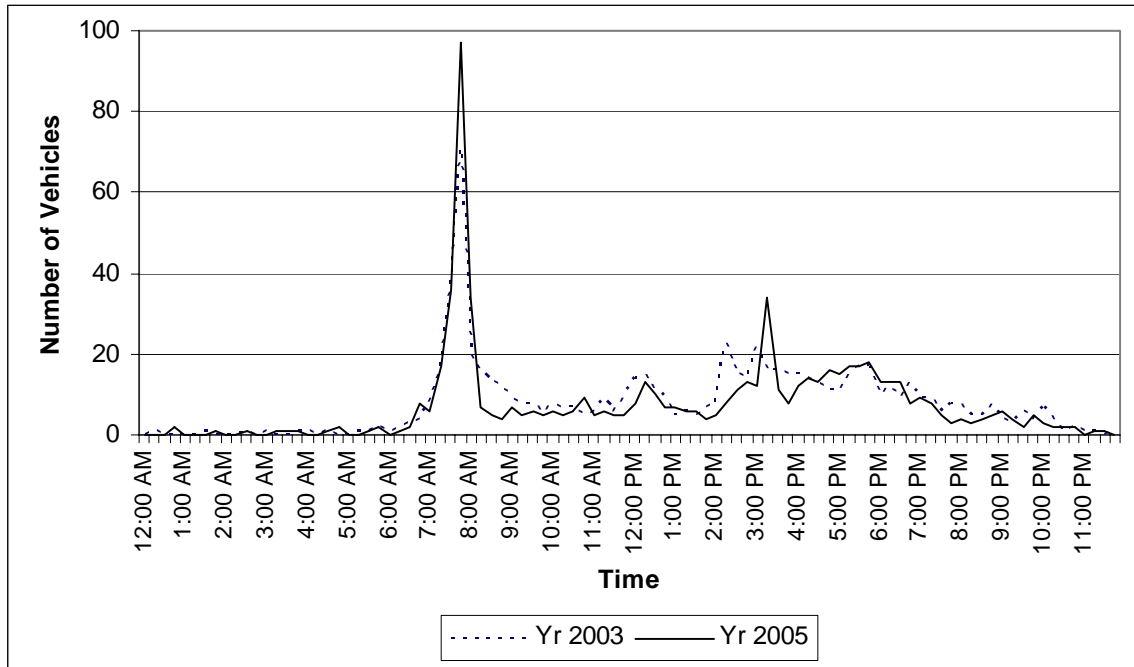


FIGURE 10: WEEKDAY VEHICLE COUNTS AT LOCATION 5 (POSEN AVE EAST OF VENTURA AVE) – EB

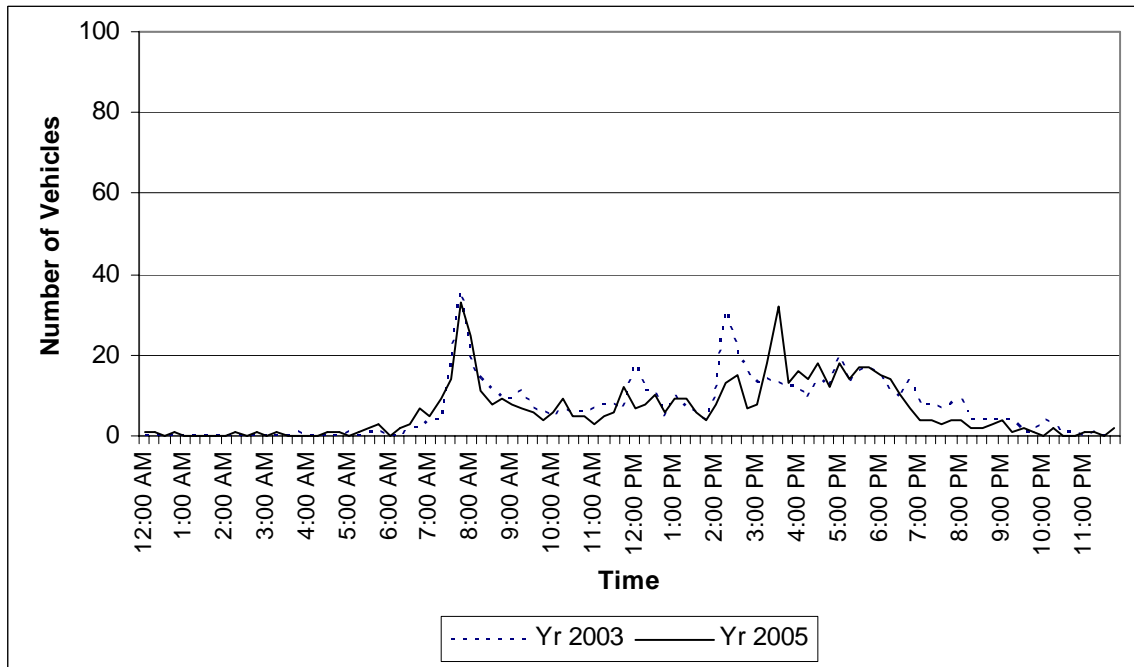


FIGURE 11: WEEKDAY VEHICLE COUNTS AT LOCATION 5 (POSEN AVE EAST OF VENTURA AVE) – WB

TABLE 5: PEAK PERIOD TRAFFIC VOLUMES AT LOCATION 5 (POSEN AVE EAST OF VENTURA AVE)

Time	Eastbound			Westbound		
	2003	2005	Change	2003	2005	Change
7:00am - 7:15am	8	6	(2)	4	5	1
7:15am - 7:30am	17	17	0	4	9	5
7:30am - 7:45am	37	36	(1)	18	14	(4)
7:45am - 8:00am	71	97	26	36	33	(3)
8:00am - 8:15am	20	34	14	18	25	7
8:15am - 8:30am	16	7	(9)	14	11	(3)
<i>AM Peak Period Total</i>	<i>169</i>	<i>197</i>	<i>28</i>	<i>94</i>	<i>97</i>	<i>3</i>
2:00pm - 2:15pm	8	5	(3)	10	8	(2)
2:15pm - 2:30pm	23	8	15	31	13	(18)
2:30pm - 2:45pm	15	11	(4)	21	15	(6)
2:45pm - 3:00pm	14	13	(1)	16	7	(9)
3:00pm - 3:15pm	22	12	(10)	13	8	(5)
3:15pm - 3:30pm	16	34	18	14	18	4
<i>PM Peak Period Total</i>	<i>169</i>	<i>197</i>	<i>28</i>	<i>94</i>	<i>97</i>	<i>3</i>

Figures 12 and 13 illustrate school and non-school traffic volumes on Albina Avenue south of Hopkins Court in 2005. Typical weekday traffic volumes on Albina Avenue south of Hopkins Court were approximately 1,140 vehicles and 1,030 vehicles in 2003 and 2005 respectively. School traffic was approximately 70 percent (800 vehicles), and non-school traffic was 30 percent (340 vehicles) in 2003. School traffic was approximately 97 percent (1,000 vehicles) of traffic on Albina Avenue in 2005.

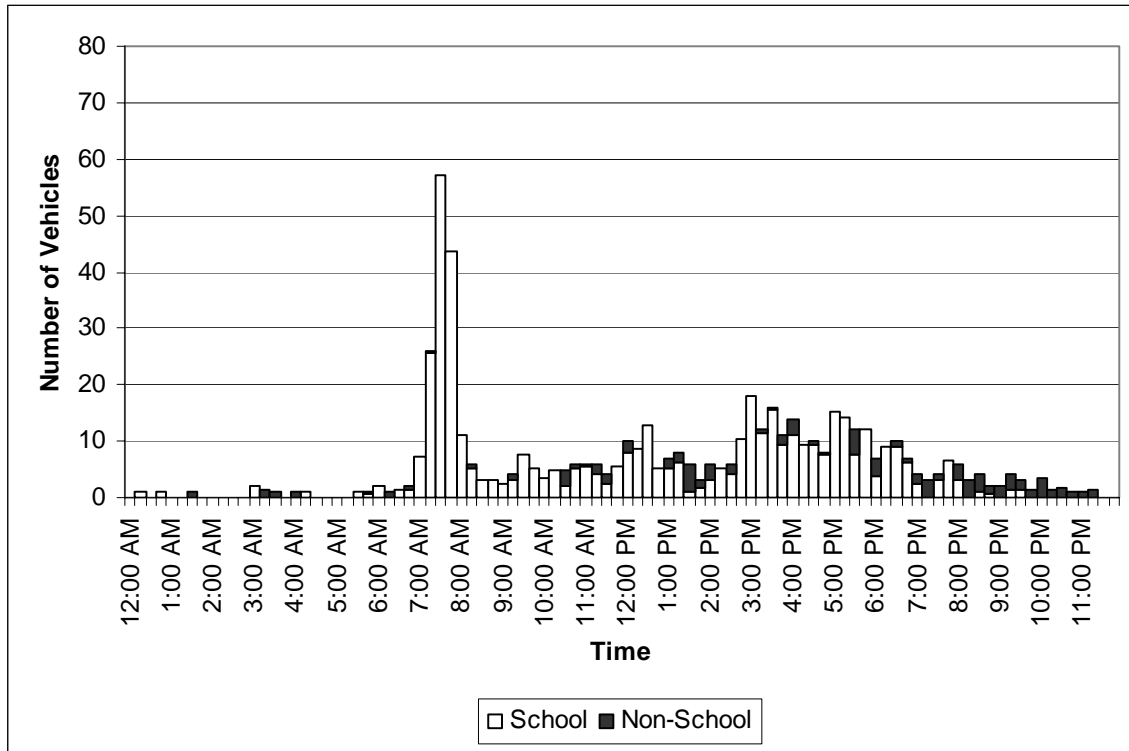


FIGURE 12: ALBINA AVENUE NORTHBOUND– SCHOOL VS. NON SCHOOL TRAFFIC VOLUMES – 2005

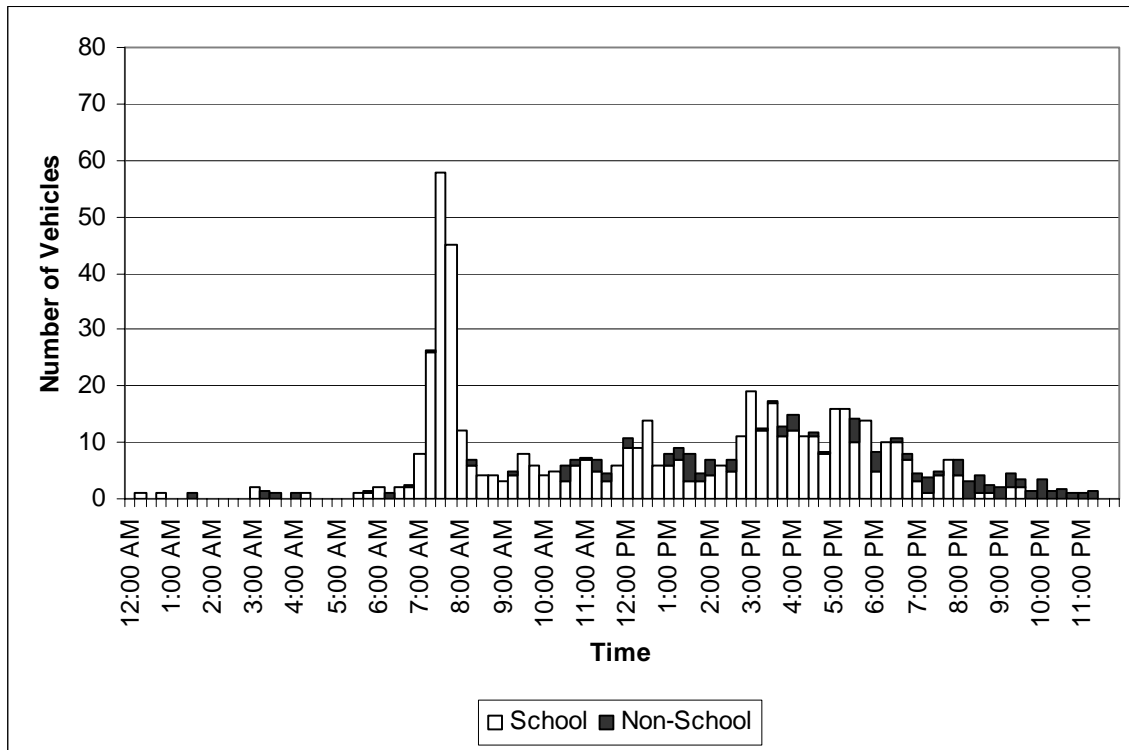


FIGURE 13: ALBINA AVENUE SOUTHBOUND - SCHOOL VS NON-SCHOOL TRAFFIC VOLUMES – 2005

4.2 SPEED SURVEY

The posted speed limit on Posen Avenue, Albina Avenue, and Hopkins Court is 25 miles per hour. Speed surveys were conducted on Albina Avenue (Location 1) and Posen Avenue (Locations 4 and 5). On Posen Avenue, two survey locations were selected to see if the peak speeds appeared to be attributable to school related traffic rather than general background traffic. In particular, speeding traffic at location 4 (between Ordway and Ventura Avenues) would be attributable to both school traffic and other background traffic, while speeding at location 5 (between Ventura Avenue and the School driveway) would be largely attributable to non-school related background traffic because at this location school related traffic would be slowing to park or complete student drop-offs. Thus any significant difference in peak speeds at the two locations could be used to demonstrate a difference in speeding behavior of school related and background traffic.

Reasonable drivers perceive the 85th percentile speed as the speed the roadway was actually designed to accommodate regardless of the posted speed limit. Traveling at this speed is the "comfort zone" of most prudent drivers.

Figure 14 and 15 summarizes 50th and 85th percentile speeds at the two locations on Posen Avenue. In general, all day and peak hour 50th and 85th percentile speed at Locations 4 and 5 have increased between 2003 and 2005. As provided in Figures 14 and 15, differences in observed speed at the two locations on Posen Avenue were small, indicating that Saint Mary's traffic is no more responsible for speeding on Posen Avenue than background traffic.

It should be noted that the 85th percentile speeds on Posen Avenue are lower than the 85th percentile speeds for other local streets reported in the *City of Albany Traffic Management Plan*. In particular, 85th percentile speeds on Posen Avenue ranged from 27 to 32 mph, while 85th Percentile speeds on Ordway, Peralta, Curtis, Santa Fe, Pomona, and Sonoma Avenues ranged from 30 to 37 mph. This also indicates that there does not appear to be a significant speeding problem associated with Saint Mary's traffic as compared to other traffic in Albany.

Observations of reduced drop-off congestion correlate with the increase of average speeds above the <15 mph range. With the reduction of traffic blockages and double parking at the drop-off zone, traffic is able to travel closer to the free flow speed thus increasing relative to constrained conditions.

FIGURE 14: LOCATION 4 – POSEN AVENUE BETWEEN ORDWAY AVENUE AND VENTURA AVENUE

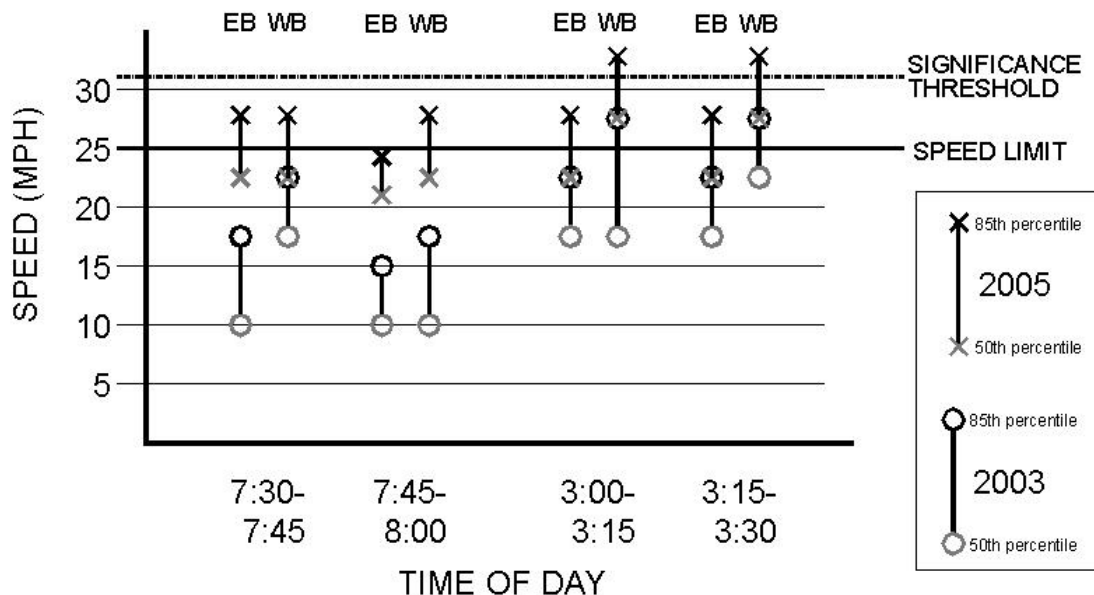


FIGURE 15: LOCATION 5 – POSEN AVENUE EAST OF VENTURA AVENUE

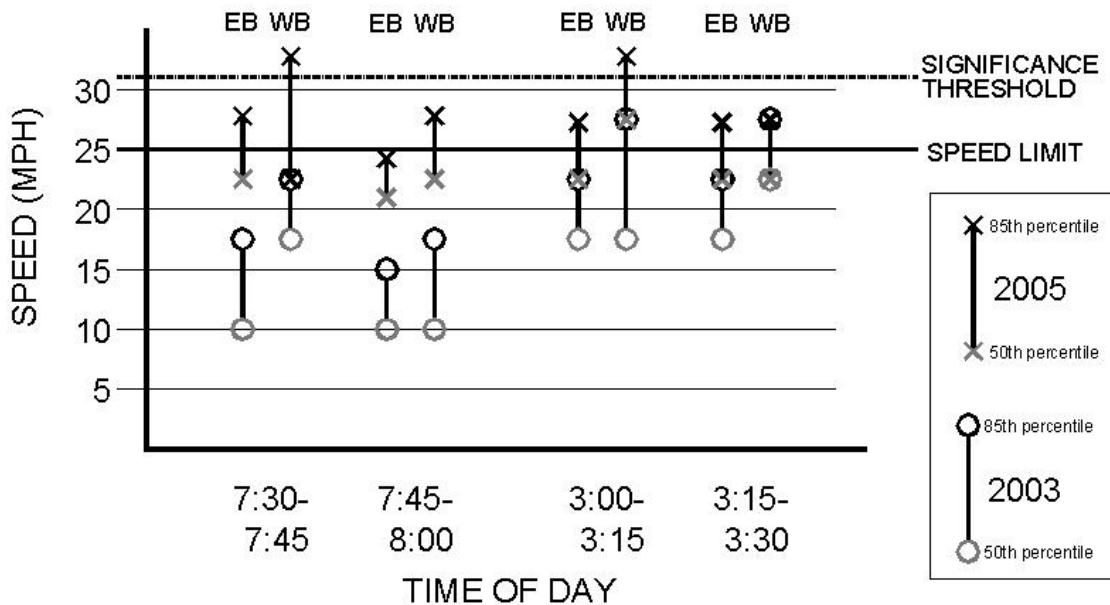


Table 6 summarizes the 50th and 85th percentile daily speeds at these two locations along Posen Avenue. This table shows that the 85th percentile speed of drivers during non-school peak periods is faster westbound, and slower eastbound.

TABLE 6: DAILY 50TH AND 85TH PERCENTILE SPEEDS ALONG POSEN AVENUE

Percentile	Dir	Speed at Location 4 (mph)		Speed at Location 5 (mph)	
		2003	2005	2003	2005
50th Percentile	EB	23	24	21	25
	WB	23	31	26	26
85th Percentile	EB	29	30	28	31
	WB	31	31	32	32

Tables 7 and 8 summarize number of cars on Posen Avenue exceeding the 31 mph significance threshold at Locations 4 and 5 respectively. During the before school peak period and the after school peak period, some cars drove 30 to 40 mph, that is five to 15 miles over the speed limit on Posen Avenue. During the before and after school peak periods, no vehicles were observed to travel at speeds over 40 mph. In general, the peak speeds at location 5 (between Ventura Avenue and the school driveway) were not lower than at location 4 (between Ventura Avenue and Ordway Avenue). Number of vehicles driving over 30mph during peak periods has slightly increased.

TABLE 7: NUMBER OF VEHICLES SPEEDING OVER 30MPH – LOCATION 4

Time	Direction	30 to 35 mph			35 to 40 mph		
		2003	2005	Change	2003	2005	Change
7:30am – 8:00am	EB	1	3	2	0	0	0
	WB	3	13	10	1	3	2
3:00pm – 3:30pm	EB	5	4	(1)	1	1	0
	WB	12	16	4	0	3	3

TABLE 8: NUMBER OF VEHICLES SPEEDING OVER 30MPH – LOCATION 5

Time	Direction	30 to 35 mph			35 to 40 mph		
		2003	2005	Change	2003	2005	Change
7:30am – 8:00am	EB	1	12	11	1	4	3
	WB	2	7	5	2	1	(1)
3:00pm – 3:30pm	EB	4	7	3	2	4	2
	WB	13	9	(4)	0	1	1

Table 9 summarizes the 50th percentile and 85th percentile speed on Albina Avenue between Hopkins Street and Hopkins Court (Location 1). In general, 50th percentile and 85th percentile speed on Albina Avenue have slightly increased. However, most of the 85th percentile speeds were at or below the speed limit of 25 mph. This is unusual except in locations (unlike this one) were severe congestion limit traffic speeds. Even the highest 85th percentile speeds of school related traffic were below the 31 mph significance threshold.

TABLE 9: SPEED SURVEY ON ALBINA AVENUE NEAR THE SCHOOL ENTRANCE

Time	Dir	50 th Percentile Speed (Miles per Hour)		85 th Percentile Speed (Miles per Hour)	
		2003	2005	2003	2005
7:30 – 7:45 am	NB	16 - 20	16 - 20	16 - 20	21 - 25
	SB	16 - 20	16 - 20	21 - 25	16 - 20
7:45 – 8:00 am	NB	0 – 15	16 - 20	16 - 20	21 - 25
	SB	16 - 20	16 - 20	16 - 20	21 - 25
3:00 – 3:15 pm	NB	16 - 20	21 - 25	16 - 20	26 – 30
	SB	0 – 15	21 - 25	16 - 20	26 – 30
3:15 – 3:30 pm	NB*	0 – 15	21 - 25	21 - 25	26 – 30
	SB	16 - 20	16 - 20	26 – 30	21 - 25
All Day	NB	19	20	24	25
	SB	19	20	24	25

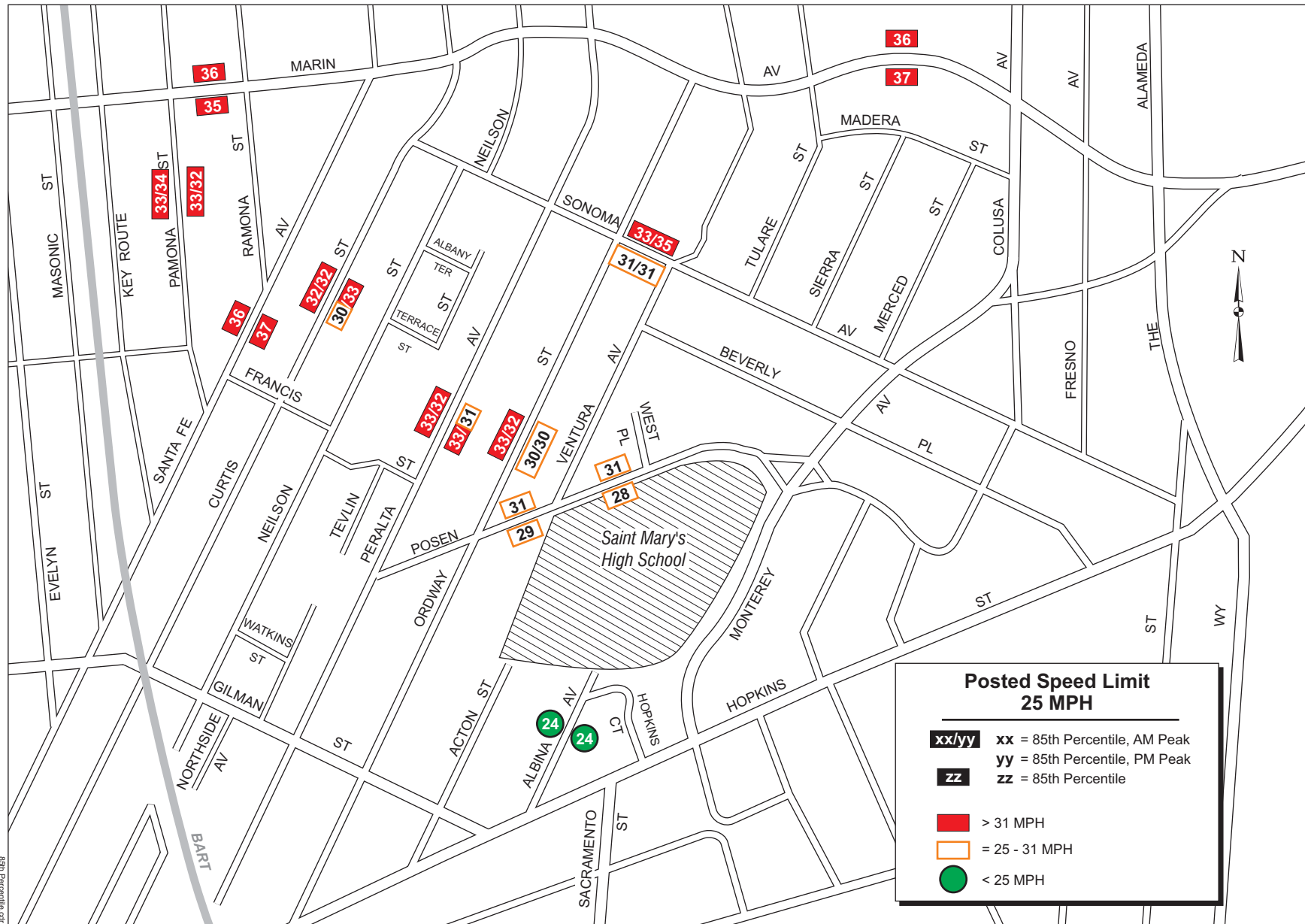
Table 10 summarizes number of cars exceeding the speed limit by 6 miles per hour or more on Albina Avenue. During the before school peak period and the after school peak period, a few cars drove over 30mph both in 2003 and 2005. The number of cars driving above 30mph slightly decreased on Albina Avenue.

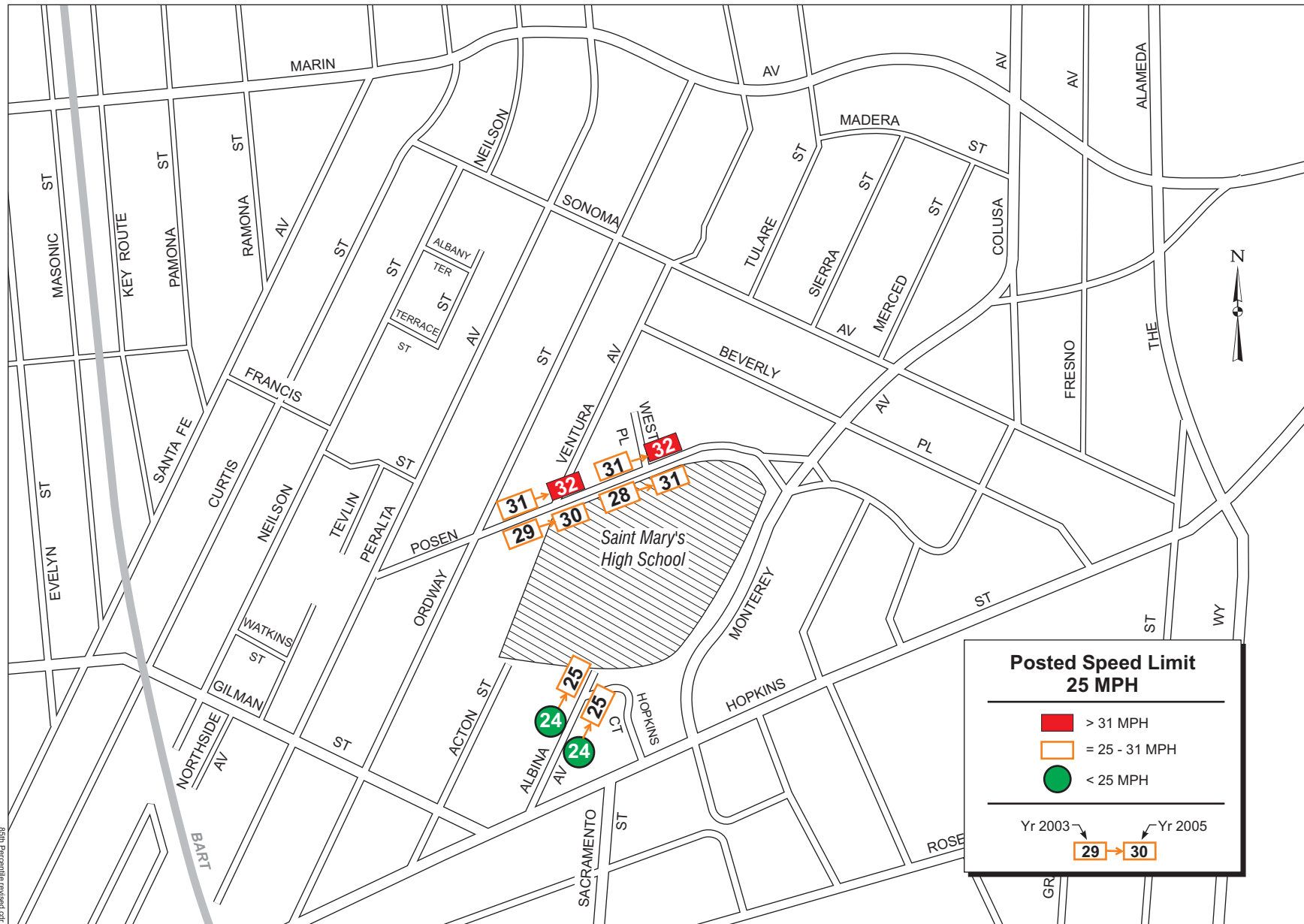
TABLE 10: NUMBER OF VEHICLES SPEEDING OVER 30MPH – ALBINA AVENUE

Time	Dir	30 to 35 mph			35 to 40 mph		
		2003	2005	Change	2003	2005	Change
7:30am – 8:00am	NB	0	2	2	0	0	0
	SB	2	0	(2)	0	1	1
3:00pm – 3:30pm	NB	1	0	(1)	0	0	(0)
	SB	7	0	(7)	2	1	(1)

Figure 16 illustrates 85th percentile speed on nearby roadways. On most nearby roadways including Ordway Street and Peralta Avenue, 85th percentile speeds exceed the 31 mph significance threshold. The 85th percentile speeds on these streets are higher than those on Albina Avenue and Posen Avenue. Figure 16 illustrates 85th percentile speed in vicinity of the Saint Mary's College High School from the May 2003 study and the City of Albany TMP. Figure 17 illustrates current changes in 85th percentile speed on the roadway adjacent to Saint Mary's College High School. The 85th percentile speed on Posen Avenue and Albina Avenue increased. However, the 85th percentile on Posen Avenue and Albina Street are lower than historical values for nearby streets in Albany despite increases in 85th percentile speed on Posen Avenue and Albina Avenue since 2003.

Speeding is not significant (i.e. greater than 31 mph) either on Albina Avenue or Posen Avenue near the school. During the before and after school peak periods, 50th and 85th percentile speeds are lower than the all day 50th and 85th percentile speeds. Based on speed trends throughout the day, speeding seems not to be related to school traffic.





85th Percentile revised.cdr

4.3 ON-STREET PARKING SURVEY

The parking occupancy survey compares parking occupancy in the vicinity of the school. The survey was conducted on Thursday May 22, 2003 and Thursday February 3, 2005 between 1:00pm and 2:00pm while school was in session.

Students are permitted to park either in the school parking lot accessible from Albina Avenue or on the south side of Posen Avenue along the school frontage. However, students are requested not to park at any other location in the surrounding neighborhood. This is in contrast with Albany High School where students do not have on-street parking restrictions.

The south side of Posen Avenue along the school was surveyed four times on Tuesday May 20, 2003 and Thursday February 3, 2005, as summarized in Table 11. At 8:00a.m., 11:55am and 12:30pm, parking occupancy rates for the on-street parking spaces on the south side of Posen Avenue along the school were found to be high (above 71 percent) At 3:15pm, there were 13 to 15 cars parked on the south side of Posen Avenue.

TABLE 11: ON-STREET PARKING SPACES– SOUTH SIDE OF POSEN AVENUE

Time	May 2003			February 2005			Change in Occupancy
	Capacity	Number of Cars Parked	% Occupied	Capacity	Number of Cars Parked	% Occupied	
8:00am	33	31	94%	35	31	89%	-5%
11:55am	33	29	88%	35	25	71%	-17%
12:30pm	33	33	100%	35	31	89%	-11%
3:15pm	33	13	39%	35	15	43%	4%

Table 12 and Figure 18 summarize parking occupancy in the vicinity of the school site. In the study area approximately 883 on-street parking spaces are available. Thirty five of these spaces are along Posen Avenue adjacent to the school. In 2003, 51 percent of parking spaces (454 cars) were observed to be occupied. In 2005, 46 percent of parking spaces (410 cars) were observed to be occupied.

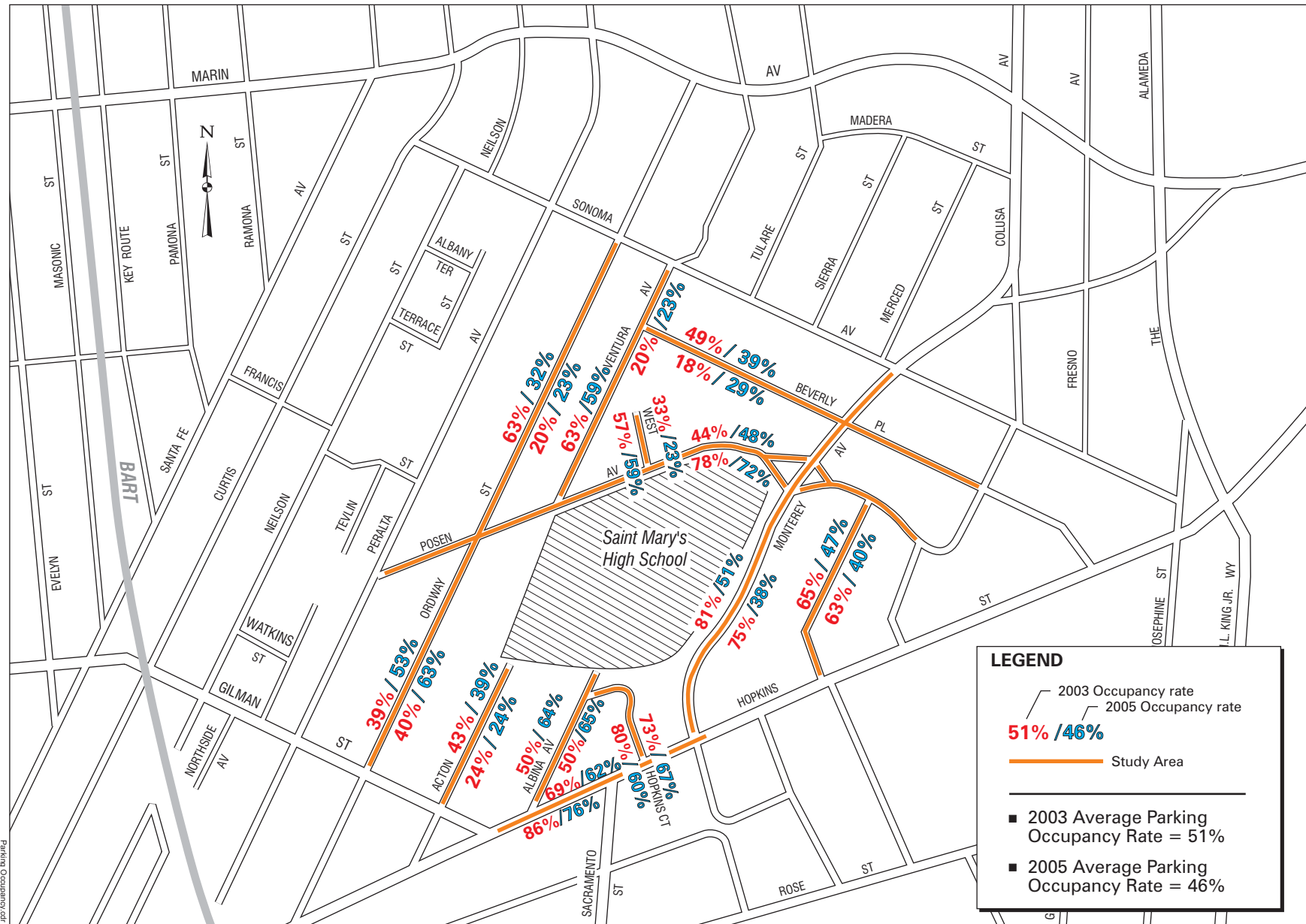
Although there has been a small decrease in overall parking occupancy, the observed parking for both 2003 and 2005 are well below 85 percent occupancy, which is considered by professional traffic engineering standards to be the effective parking capacity of a street. Drivers perceive a street to be effectively full at 85 percent occupancy, making it difficult to find a convenient parking space.

Parking occupancy rates around Saint Mary's College High School continue to be well below those observed in many other parts of Albany.

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TABLE 12: ON-STREET PARKING OCCUPANCY SURVEY

Roadway Segment	Side	Cap.	2003		2005		Change
			No. Cars Parked	% Occupied	No. Cars Parked	% Occupied	
Posen Ave. Between Peralta Ave. and Colusa Ave.	North	80	35	44%	38	48%	3
	South	83	65	78%	60	72%	(5)
Monterey Ave. Between Hopkins St. and Sonoma Ave.	East	51	38	75%	26	51%	(12)
	West	47	38	81%	18	38%	(20)
Beverly Pl. Between Ventura Ave. and Colusa Ave.	North	62	25	49%	24	39%	(1)
	South	65	12	18%	19	29%	7
Ventura Ave. Between Posen Ave. and Sonoma Ave.	East	40	8	20%	9	23%	1
	West	32	20	63%	19	59%	(1)
Ordway Street Between Gilman St. Sonoma Ave.	East	89	36	40%	37	42%	1
	West	89	35	39%	36	40%	1
West Pl. North of Posen Ave.	East	7	4	57%	4	57%	0
	West	6	2	33%	2	38%	0
Acton St. North of Gilman St.	East	29	7	24%	7	24%	0
	West	28	12	43%	11	39%	(1)
Hopkins Ct. Between Albina Ave. and Hopkins St.	East	15	11	73%	10	67%	(1)
	West	15	12	80%	9	60%	(3)
Hopkins Street Between Gilman St. and Monterey Ave.	North	13	9	69%	8	62%	(1)
	South	21	18	86%	16	76%	(2)
Albina Ave. North of Hopkins St.	East	20	10	50%	13	65%	3
	West	22	13	59%	14	64%	1
Carlotta Ave. Between Hopkins St. and Posen Ave.	East	35	22	63%	14	40%	(8)
	West	34	22	65%	16	47%	(6)
Total		883	454	51%	410	46%	(44)



Parking Occupancy.cdr

4.4 PEDESTRIAN/VEHICULAR ACTIVITIES SURVEY ON POSEN AVENUE

On Tuesday May 20, 2003 and Thursday February 3, 2005, pedestrian and vehicular activities were observed on Posen Avenue between 7:45am and 8:00am (before school peak period). On Thursday May 22, 2003 and Thursday February 3, 2005, pedestrian and vehicular activities were observed between 11:40am and 11:55am (midday peak period) and between 3:00pm and 3:15pm (after school peak period).

Table 13 summarizes behavioral observations on Posen Avenue before school, midday and after school peak periods. With the installation of a drop-off/pick-up zone on Posen Avenue, number of student drop-offs and pick-ups has increased during the peak periods. However, 38 percent in the morning (53 students) and 75 percent (21 students) of the students in the afternoon were dropped off or picked up outside of the designated loading area. This occurred partly due to the high demand of pick-up/drop-off activities during the peak 15-minute periods. However, the before-school peak hour had relatively high rates of drop-off/pick up area usage and a much lower number of u-turns and double parking than observed in 2003. Enforcement of traffic at the drop-off/pick-up zone by the school was more effective in the before school period. During the after school period several drivers parked their cars for a prolonged period, preventing others from using the loading area. Parking is prohibited in the drop-off/pick-up zone during the peak periods; however, it was not enforced in the afternoon.

TABLE 13: SUMMARY OF BEHAVIOR OBSERVATION – POSEN AVENUE

Behavior	8:00 – 8:15am			11:40 – 11:55am			3:00 – 3:15pm		
	2003	2005	Diff.	2003	2005	Diff.	2003	2005	Diff.
Number of Drop-off/Pick-up*	17	139	122	0	3	3	16	28	12
U-turn**	9	5	(4)	6	3	(3)	1	2	1
Double parking**	7	0	(7)	0	0	0	4	11	7
Parking on North Side of Posen St**	1	0	(1)	0	0	0	1	0	(1)
Pedestrian/ Vehicle conflicts	1	5	4	0	0	0	0	1	1

Notes:

* Number of students

** Number of vehicles

4.5 QUESTIONNAIRES

Saint Mary's College High School provided questionnaires to students, staff and faculty in May 2003 and February 2005. A total of 587 students and 67 staff and faculty participated in 2003. A total of 596 students and 69 staff and faculty participated in 2005. The questionnaires included modes of arrival and departure, arrival and departure routes and arrival and departure time. The results of the survey were tabulated and are summarized in this section of the report.

4.5.1 MODE OF TRANSPORTATION

As presented in Table 14, most students, faculty, and staff use automobiles as their primary mode of transportation when arriving at the school. For most students this

involves being dropped off or being part of a carpool. Most faculty and staff drove alone and parked on campus. The “Other” category includes carpools that park off-campus.

While the percentage driving alone or arriving via BART decreased, the percentage of walking, “carpool and park on campus”, and “drop off one passenger” increased. The percentage arriving by bus remained the same. Approximately 34 percent of all respondents arrived on campus by carpooling in 2003. This increased to 38 percent in 2005, indicating some success in efforts to encourage carpooling. The number of students who are dropped off has increased by nine percent. During the before school peak period (between 7:00am and 8:30am), number of vehicles on the adjacent city streets (Albina Avenue and Posen Avenue) has decreased slightly (approximately 20 vehicles). The school survey in 2005 showed that 62 percent of drivers who drop-off one student before school do so on their way to work.

TABLE 14: MODE OF TRANSPORTATION – ARRIVAL

Mode	Students		Faculty & Staff		Total	
	2003	2005	2003	2005	2003	2005
Drive Alone	16%	4%	82%	67%	22%	11%
Walk	4%	11%	10%	12%	5%	11%
Bus	2%	<1%	0%	0%	1%	1%
Bike	<1%	<1%	2%	1%	<1%	1%
BART	11%	5%	2%	4%	11%	5%
Carpool & park on campus	17%	22%	2%	15%	16%	21%
Carpool & drop off	20%	21%	2%	0%	18%	17%
Drop off one passenger	30%	39%	2%	1%	27%	35%
Other*	0%	7%	0%	0%	0%	6%
Total	100%	100%	100%	100%	100%	100%

* “Other” denotes respondents who do not have school-issued parking permits for parking on campus or on Posen Street and who drive alone or carpool to school and park in public streets beyond the streets designated for no student parking.

As shown in Table 15 the majority of students, faculty and staff leave the school in automobiles. More students take the bus or BART in the afternoon than in the morning. This is done by students who are dropped off in the morning, but not picked up in the afternoon. The total percentage of driving alone, bus, BART and walking have decreased while percentage of pick-up one passenger has increased. During the after school peak period (between 2:00pm and 3:30pm), the number of vehicles observed on the adjacent city streets (Albina Avenue and Posen Avenue) has decreased by approximately 120 vehicles. The school survey in 2005 showed that 47 percent of drivers who pick-up one student after school do so on their way home from work. These statistics are consistent with the observed and surveyed shift towards later departures from school.

TABLE 15: MODE OF TRANSPORTATION – DEPARTURE

Mode	Students		Faculty & Staff		Total	
	2003	2005	2003	2005	2003	2005
Drive Alone	18%	4%	81%	67%	23%	10%
Walk	6%	4%	10%	12%	7%	5%
Bus	4%	3%	0%	0%	4%	2%
Bike	<1%	<1%	2%	1%	<1%	<1%
BART	18%	16%	3%	4%	17%	15%
Carpool and park on campus	14%	14%	3%	13%	13%	14%
Carpool and pick up	14%	12%	0%	0%	13%	11%
Pick up one passenger	25%	35%	0%	3%	23%	32%
Other	0%	10%	0%	0%	0%	9%
No Answer	-	2%	-	0%	-	2%
Total	100%	100%	100%	100%	100%	100%

* "Other" denotes respondents who do not have school-issued parking permits for parking on campus or on Posen Street and who drive alone or carpool to school and park in public streets beyond the streets designated for no student parking.

Ninth and tenth grade students are not allowed to leave campus during lunch, and they were not included in the following question. Table 16 summarizes lunchtime transportation modes. The percentage of students who do not leave campus increased by 33 percent. This resulted in a slight reduction in lunch time traffic volumes.

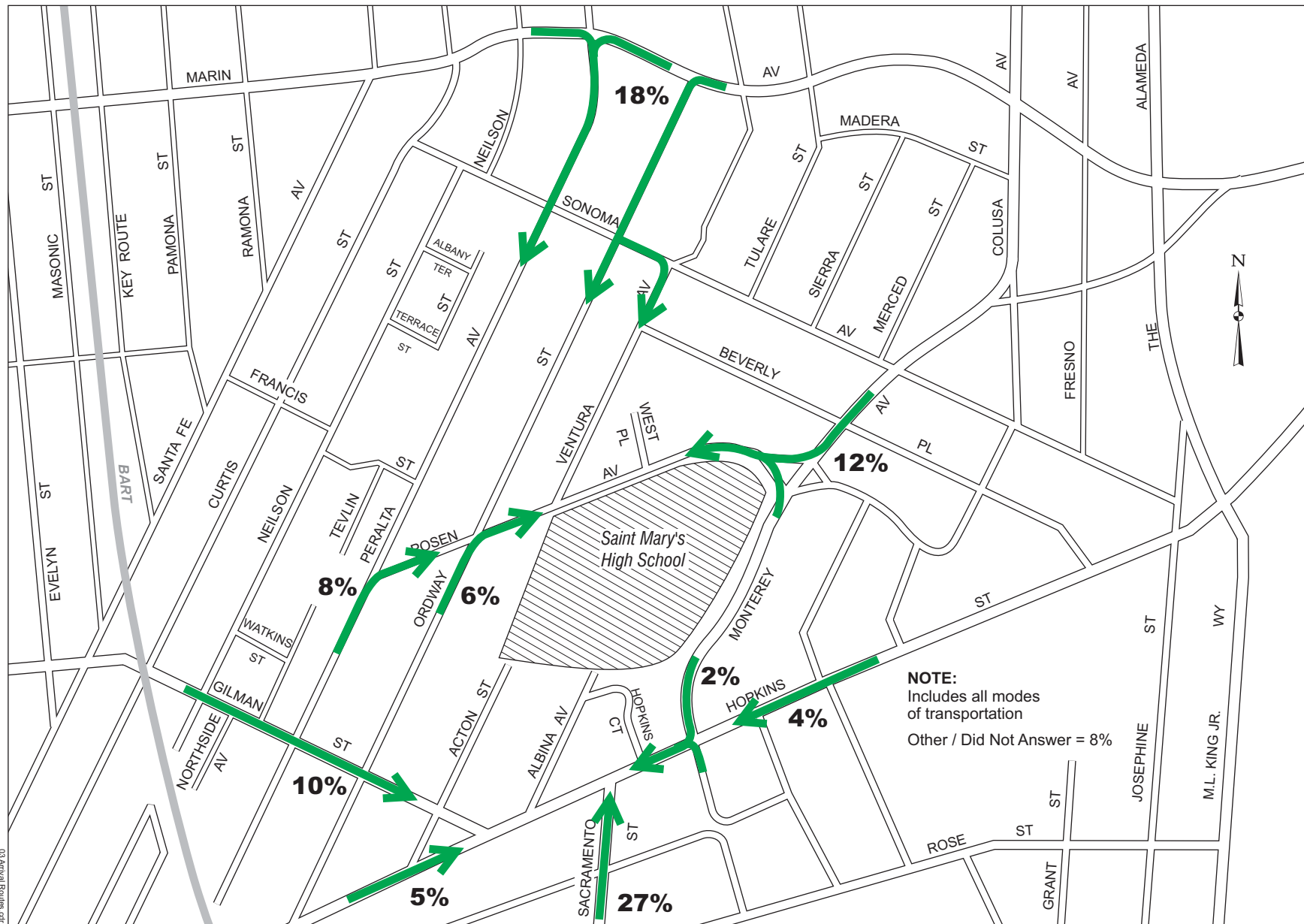
TABLE 16: MODE OF TRANSPORTATION – LUNCH TIME

Mode	Students		Faculty & Staff		Total	
	2003	2005	2003	2005	2003	2005
Walk	12%	11%	9%	12%	11%	11%
Drive	80%	1%	21%	11%	68%	3%
Carpool		45%		1%		36%
Do Not Leave Campus	8%	41%	70%	72%	21%	48%
No Answer	-	2%	-	4%		2%
Total	100%	100%	100%	100%	100%	100%

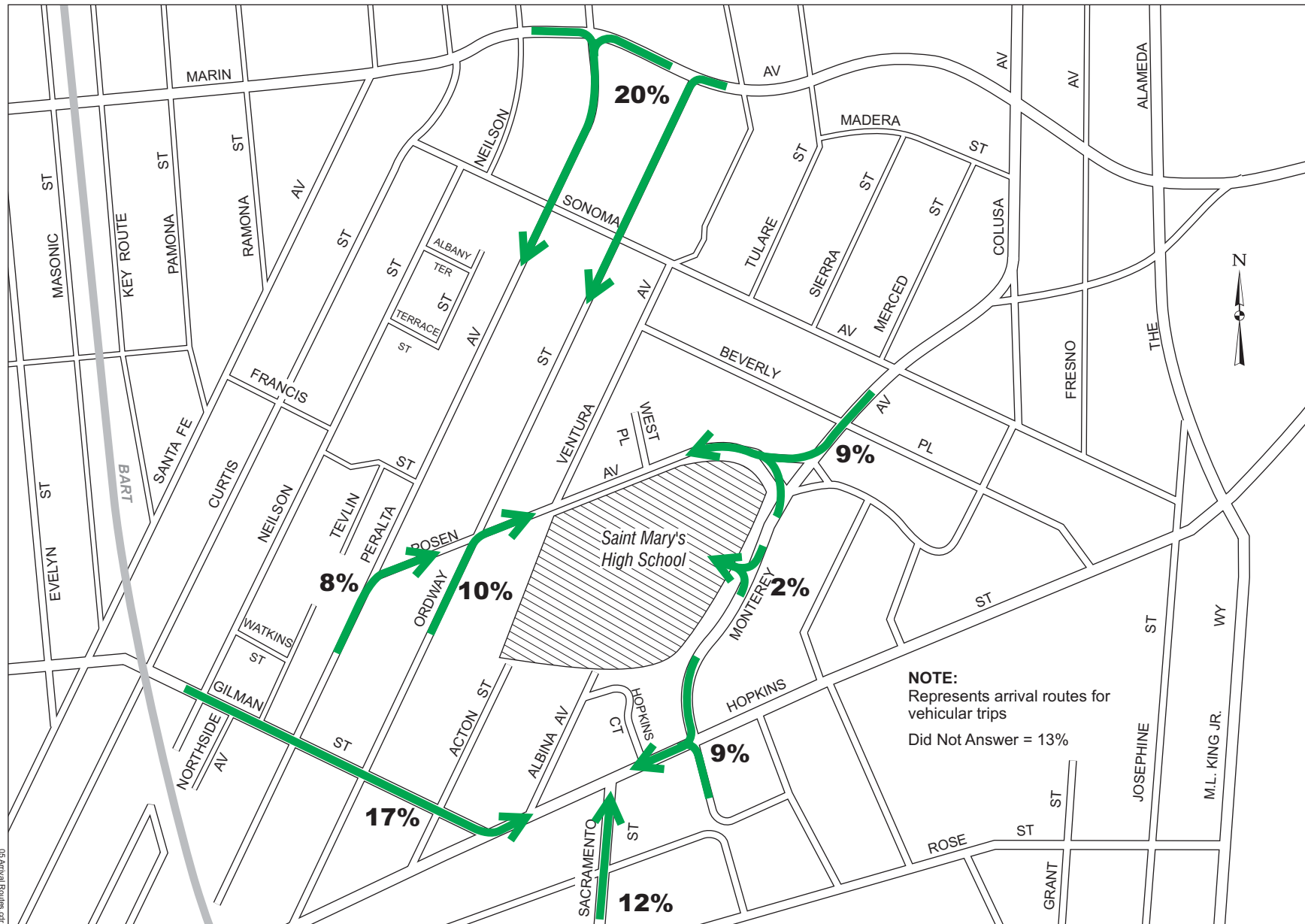
4.5.2 ARRIVAL/DEPARTURE ROUTE

Figures 19 and 20 summarize arrival routes in 2003 and 2005 respectively. Figures 21 and 22 summarize departure routes in 2003 and 2005 respectively. Arrival and departure routes in 2003 include trips made by all modes of transportation. Arrival and departure routes in 2005 include vehicular trips in order to capture an accurate count of vehicular trips generated by the school.

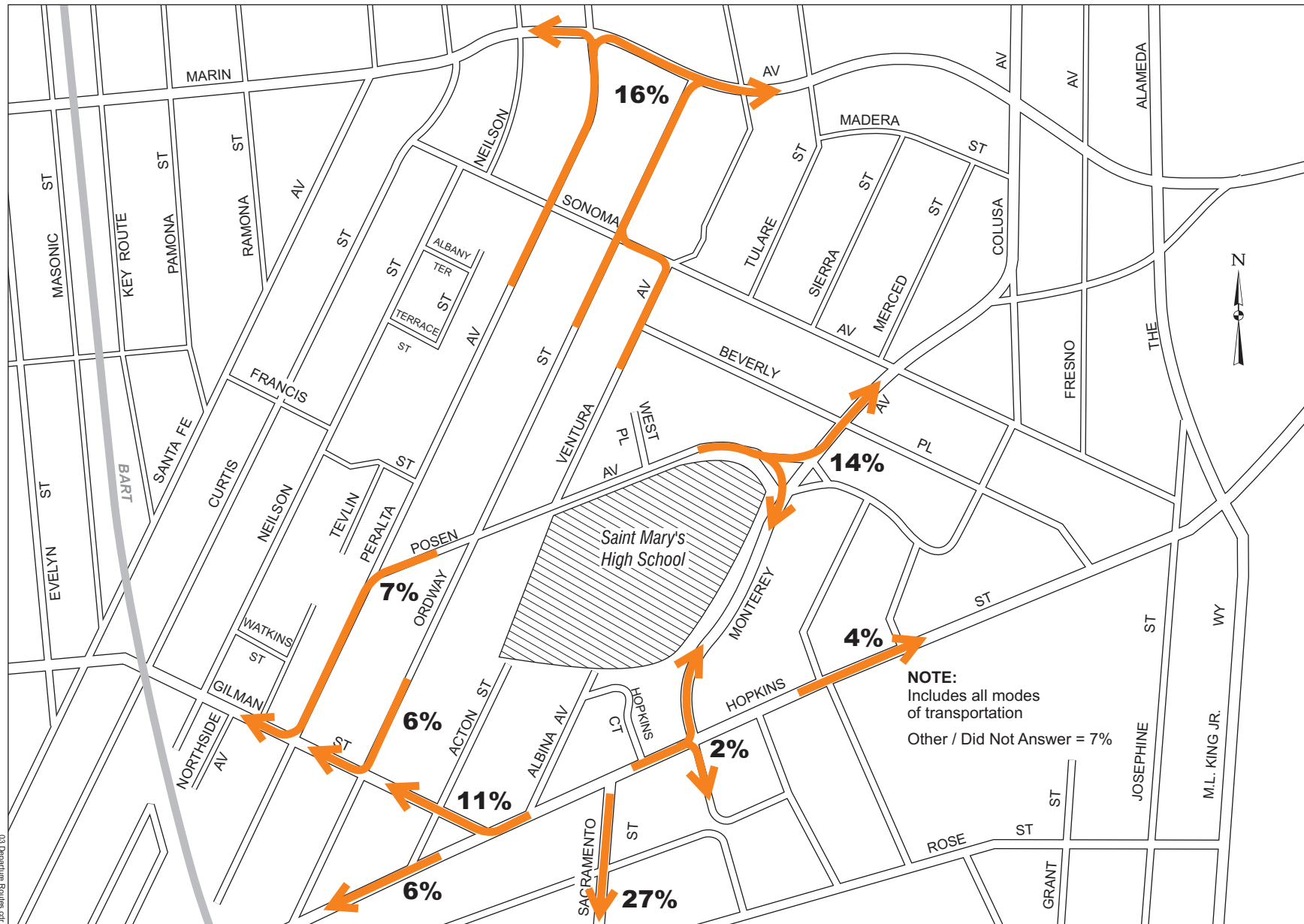
Vehicles entering the gate via Albina Avenue are able to access the on-site student parking, a small drop-off area at the internal traffic circle, or staff parking areas. Vehicles arriving at the north side of the school (Posen Avenue) may use on-street parking, the staff parking lot, or simply drop-off passengers. Pedestrians can access the gate on Monterey Avenue. Some students, faculty and staff may be dropped off or picked up at the Monterey Avenue gate or park near the gate and walk to the school.



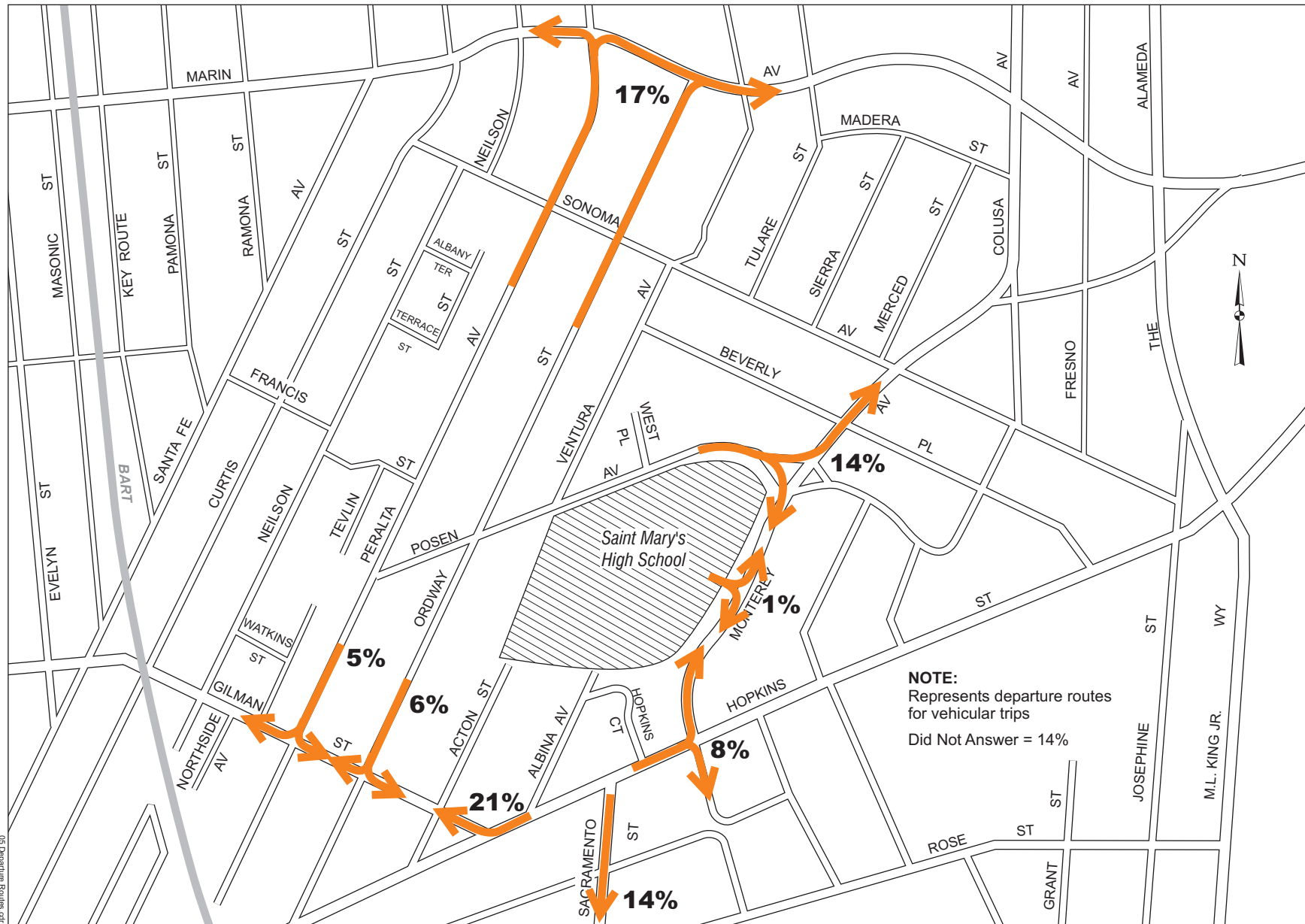
03 Arrival Routes.cdr



05 Arrival Routes.cdr



03 Departure Routes.cdr



05 Departure Routes.cdr

Table 17 summarizes entering and exiting gates for all traffic in 2003 and for vehicular traffic in 2005. A small percentage of vehicular trips accessed the school via Monterey Avenue. As might be expected, the departure patterns are similar to the arrival patterns.

TABLE 17: ENTERING AND EXITING CAMPUS

Gate	Students		Faculty & Staff		Total	
	2003	2005	2003	2005	2003	2005
Enter on Albina	41%	42%	70%	65%	44%	44%
Enter on Posen	59%	57%	30%	33%	56%	54%
Enter on Monterey	-	1%	-	2%	-	2%
Exit on Albina	52%	46%	70%	65%	54%	50%
Exit on Posen	48%	53%	30%	35%	46%	49%
Exit on Monterey	-	1%	-	0%	-	1%

Note: 2003 Survey includes all modes of transportation; however, 2005 survey includes only vehicular counts.

4.5.3 ARRIVAL/DEPARTURE TIME

As shown in Table 18, the majority of students arrive between 7:30am and 8:00am which coincides with the starting time for school. The largest percentage of faculty and staff arrive before 8:00am. As expected, faculty and staff tend to arrive slightly earlier than students. The percentage of arrivals by students between 7:30am and 8:00am has increased by seven percent.

TABLE 18: ARRIVAL TIME

Time	Students		Faculty & Staff		Total	
	2003	2005	2003	2005	2003	2005
Before 7:00am	1%	9%	4%	40%	1%	12%
7:00am to 7:30am	14%		39%		17%	
7:30am to 8:00am	84%	91%	37%	46%	79%	86%
8:00am to 8:30am	1%	0%	5%	5%	2%	0.5%
8:30am to 9:00am	0%	0%	4%	2%	0%	0.1%
Other*	0%	0%	12%	7%	1%	0.7%
Total	100%	100%	100%	100%	100%	100%

* "Other" represents some part-time faculty and some maintenance staff members.

Overall, students, faculty and staff indicated they leave the campus later in 2005 than they did in 2003, as shown in Table 19. This is consistent with the traffic counts which also show that peak volumes have shifted to later in the day.

TABLE 19: DEPARTURE TIME

Time	Students		Faculty & Staff		Total	
	2003	2005	2003	2005	2003	2005
2:30pm to 4:00pm	65%	49%	9%	19%	58%	47%
4:00pm to 5:00pm	8%	12%	38%	33%	12%	14%
5:00pm to 6:00pm	19%	28%	34%	31%	21%	28%
After 6:00pm	8%	11%	14%	17%	9%	11%
Other	0%	-	5%	-	1%	-
Total	100%	100%	100%	100%	100%	100%

5.0 CONCLUSIONS

This section identifies how the data has changed relative to previously identified issues and provides a discussion of potential causes and significance of each change.

5.1 POSEN AVENUE

5.1.1 SPEEDING ON POSEN AVENUE

The installation of a drop-off/pick-up area on Posen Avenue has reduced traffic congestion during peak periods, thus allowing traffic to travel closer to free flow speeds as it does the rest of the day when not influenced by school traffic. Specifically, 85th percentile traffic during the peak school periods now travels closer to but in most cases below the 85th percentile daily speeds. Although most speeding does not appear to be caused primarily by students or other school related traffic and speeding in this location appears to be less severe than most other streets in Albany, diagonal parking on the south side of Posen Avenue along the school property east of the driveway, as discussed in Korve's previous study, could narrow Posen Avenue and function as a traffic calming measure to reduce traffic speed throughout the day by reducing the speed at which drivers feel comfortable driving on Posen Avenue

5.1.2 PARKING ON THE NORTH SIDE OF POSEN AVENUE

Only one student was observed to park on the north side of Posen Avenue in 2003, and no student was observed parking on the north side of Posen Avenue in 2005. The school's policy of encouraging students not to park on the north side of the street appears to be mostly successful.

5.1.3 DOUBLE PARKING

The incidence of double parking has decreased during the before school peak period after the installation of the pick-up/drop-off zone on Posen Avenue. However, double parking has increased during the after school peak period when parents park and wait for students to come out of the school. This is consistent with the survey results which indicate that more students are being picked up and dropped off rather than driving themselves. Assuming that the number of parents picking up students does not change, the double parking problem would only be addressed by increasing parking capacity on Posen Avenue, perhaps by implementation of angled parking, or by encouraging

increased use of pick up areas on Monterrey or the internal parking lot accessed via Albina Avenue.

5.1.4 U-TURNS

The number of u-turns has decreased on Posen Avenue during the before school peak hour and midday peak hour. Most u-turns were observed near the Posen Avenue gate. Increased after school enforcement by the school may help to minimize u-turns on Posen Avenue.

5.2 ALBINA AVENUE

5.2.1 SPEEDING ON ALBINA AVENUE

Speeds on Albina Avenue increased approximately one mile an hour between 2003 and 2005. 85th percentile speeds remained at or below 25 miles per hour. The number of cars during the peak school periods that drove over 30 mph decreased from 12 in 2003 to 4 in 2005. No additional actions are suggested for this location though continued presence of school monitors is anticipated to reinforce positive behavior by drivers.

5.2.2 USE OF HOPKINS COURT

During the 15 minute before school peak period use of Hopkins Court to access the Saint Mary's College High School entrance has dropped from five percent in 2003 to one percent in 2005. Enforcement by the school to decrease number of cars using Hopkins Court to access the campus appears to have had a positive impact. Thus no other measure is being recommended at this time.

5.2.3 ON-STREET PARKING

The on-street parking occupancy rates in the study area have dropped from 52 percent in 2003 to 46 percent in 2005. There were not clear patterns to conclude that the school was responsible for the decreased level of on-street parking in all areas. However, student parking on Posen Avenue was observed to decrease and the surveys indicate a reduction in the number of vehicles driven to school by students.

6.0 SUMMARY

1. Additional traffic calming measures on Posen Avenue

The installation of a drop-off/pick-up area on Posen Avenue has been successful in reducing traffic congestion including double parking and illegal u-turns on Posen Avenue, particularly during the morning peak period. This has of course allowed peak period traffic on Posen Avenue to travel closer to free flow speeds as it does the rest of the day when not influenced by school traffic. Although Saint Mary's traffic was not found to cause disproportionate speeding problems, diagonal parking, as discussed in Korve's previous study, could narrow Posen Avenue and function as a traffic calming measure to reduce traffic speed throughout the day. Diagonal parking spaces are recommended east of the driveway on the south side of Posen Avenue along the school property. This would also provide greater capacity during after school pick-up periods.

2. Continue successful traffic enforcement on Posen Avenue and Albina Avenue

Saint Mary's College High School should continue providing enforcement of traffic at the Posen Avenue drop-off/pick-up zone and on Albina Avenue. Enforcement by the school has been effective in efficient use of the pick-up/drop-off zone, prohibition of accessing the school via Hopkins Court and reducing double parking and u-turns.

3. Encourage use of non-vehicular mode of transportation

Although the number of students driving alone to school has decreased and the number of students carpooling has increased, the percentage of trips by BART, bus, and walking have also decreased. The school should continue to encourage use of non-vehicular modes of transportation.