

FINAL REPORT

STANFORD UNIVERSITY  
TRAFFIC MONITORING REPORT  
2006

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Prepared for:

**Santa Clara County  
Department of Planning Development**



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## **FOREWORD FROM THE COUNTY OF SANTA CLARA PLANNING OFFICE**

### **Background**

The purpose of this report is to compare traffic volumes entering and exiting Stanford campus during the inbound AM peak and the outbound PM commute peak to a traffic baseline. This comparison is completed on an annual basis. The requirements for establishment of the traffic baseline and performing annual comparisons to the baseline are contained within the December 2000 Stanford Community Plan/General Use Permit (GUP)/Environmental Impact Report (EIR) and within the 2000 Stanford General Use Permit. These documents can be reviewed at the County website or at the County Planning Office. Essentially, Stanford is required to attain a “no net new commute trip” standard as defined in the GUP and EIR.

### **The Process**

Following the adoption of the GUP by the County Board of Supervisors in December 2000, the County Planning Office selected Korve Engineering (KORVE) to conduct the monitoring process outlined in the conditions of approval. Because of the type of data to be collected (particularly license plate numbers), the data could not be collected until after the start of daylight savings time in Spring 2001. The data collection involved three, 2-week periods in the Spring and one, 2-week period in the Fall 2001.

Condition of Approval G.7 outlines the process for establishing the baseline counts and for continuing monitoring in subsequent years. The process can be summarized as follows:

- Peak hour traffic is counted at least three times per year for a two-week period each time. The three counts shall be averaged to determine the annual traffic level.
- All counts are recorded at the 16 campus entry and exit points forming a cordon around the campus.
- License plate numbers are recorded for each entering and exiting vehicle to determine the amount of non-campus traffic.
- Cordon volumes are adjusted for parking lots within the cordon used by the hospital (these volumes are subtracted from the cordon line counts) and parking lots outside the cordon used by the university (these volumes are added to the cordon line counts).
- A peak hour is then established for the campus based on the counts, adjusted for cut through and parking lot location.

Condition of Approval G.6 defines the peak commute directions as entering the campus in the morning peak commute period and leaving the campus in the evening commute period. The peak commute period is defined as the one-hour period of time between 7 AM and 9 AM and again between 4 PM and 6 PM with the highest volume of traffic, as defined by the counts.



Therefore, the two peak hours are considered to be independent events. For example, an increase in AM peak traffic for two out of three years would trigger the additional elements of the monitoring program without a change, or even a decrease, in PM peak traffic, or the reverse. Also, a significant increase during one year in the AM and a sufficient increase in the PM for the following year would not trigger additional mitigation.

### **Activities Related to Traffic Baseline and Annual Monitoring Counts to Date**

#### ***Stanford University Traffic Monitoring Report -- 2001 GUP Baseline***

The 2001 Baseline Report was originally issued on July 3, 2002. An update to that report was issued on October 15, 2003. Per the provisions of the GUP, this original Traffic Baseline Report established the standard for measuring future traffic impacts to the “no net new commute” standard.

The following were the count dates of the 2001 Baseline Report:

- Week of April 2, 2001
- Week of April 9, 2001
- Week of April 23, 2001
- Week of April 30, 2001
- Week of May 7, 2001
- Week of May 14, 2001
- Week of October 22, 2001
- Week of October 29, 2001

The following were the results of the 2001 Baseline Monitoring:

#### Inbound AM:

Average count	3,319
90% confidence interval	+/- 120
significant traffic increase	3,439
1% increase trigger	3,474

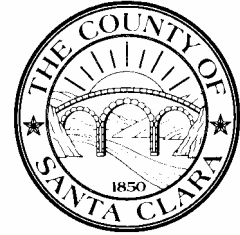
#### Outbound PM:

Average	3,446
90% confidence interval	+/- 109
significant traffic increase	3,555
1% trigger	3,591

#### ***Stanford University Traffic Monitoring Report – 2002 Monitoring Report***

The 2002 Monitoring Report was originally issued in July 2003. The count dates for the 2002 Monitoring Report were as follows:

- Week of April 15, 2002
- Week of April 22, 2002
- Week of April 29, 2002
- Week of May 6, 2002
- Week of May 13, 2002
- Week of May 20, 2002
- Week of October 14, 2002
- Week of October 21, 2002



The 2002 Monitoring Report concluded that the adjusted AM inbound count totaled 3,390 vehicles. This represented an increase of 71 vehicles, which fell within the 90 percent confidence interval and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,678 vehicles which was an increase of 232 vehicles from the baseline, which was higher than the 90 percent confidence interval. This count exceeded the 1 percent trigger of 3,591 vehicles by 87. The following is a summary of the results of the 2002 Monitoring Report as contained in the July 2003 document.

Inbound AM:

Adjusted average 2002 count	3,390
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 1% trigger by 84)	-84

Outbound PM:

Adjusted average 2002 count	3,678
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (232 increase in vehicles exceeds the trigger by 87 vehicles)	+87

**Adjustment 1 to 2002 Monitoring Report**

An update to the original 2002 Monitoring Report was issued on October 15, 2003. Following the publication of the July 2003 report, Stanford and the County separately analyzed traffic data for the Stanford Homecoming Week. Based on consultation with Stanford and independent analysis of County consultant traffic data, the County determined that data collected for the week of Homecoming should not be included in the comparison data set. The rationale for this decision was that this event (Homecoming) had been ongoing for years, was not included in the baseline count, and would continue to be an annual event. The County communicated to Stanford that other future "large events" would not be excluded from future counts. The revised report substituted the week of October 28, 2002 for the previously counted week of October 14, 2002. The following are the results of the Revised 2002 Monitoring Report.

Inbound AM:

Adjusted average 2002 count	3,287
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 1% trigger by 187)	-187



**Outbound PM:**

Adjusted average 2002 count	3,598
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (152 increase in vehicles exceeds the trigger by 7 vehicles)	+7

**Adjustment 2 to the 2002 Monitoring Report**

Subsequent to the first adjustment to the 2002 Monitoring Report, Stanford informed the County that additional Marguerite shuttle runs had been introduced to campus since the completion of the baseline count, and thus counted in the Year 1 (2002) comparison counts. This resulted in an increase of 12 vehicles in each peak hour. County staff determined that these new bus lines should be subtracted from the comparison count. This provided an end result as follows:

**Inbound AM:**

Adjusted average 2002 count	3,275
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 1% trigger by 199)	-199

**Outbound PM:**

Adjusted average 2002 count	3,586
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls below the 1% trigger by 5 vehicles)	-5

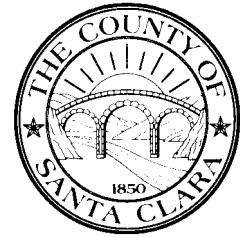
***Stanford University Traffic Monitoring Report – 2003 Monitoring Report***

This report represents the 2003 Monitoring Report. The count dates for the 2003 Monitoring Report were as follows:

- Week of April 7, 2003
- Week of April 21, 2003
- Week of April 28, 2003
- Week of May 5, 2003
- Week of May 12, 2003
- Week of May 19, 2003
- Week of September 29, 2003
- Week of October 20, 2003

The 2003 Monitoring Report concluded that the adjusted AM inbound count totaled 3,413 vehicles. This represented an increase of 94 vehicles, which fell within the 90 percent confidence interval and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,476 vehicles which was an increase of 30 vehicles from the baseline,





which also fell within the 90 percent confidence interval. The following is a summary of the results of the 2003 Monitoring Report.

Inbound AM:

Adjusted average 2003 count	3,413
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 26)	-26
Result (falls below the 1% trigger by 61 vehicles)	-61

Outbound PM:

Adjusted average 2003 count	3,476
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls below the 90% confidence interval by 79 vehicles)	-79
Result (falls below the 1% trigger by 115 vehicles)	-115

**Stanford University Traffic Monitoring Report – 2004 Monitoring Report**

This report represents the 2004 Monitoring Report. The count dates for the 2004 Monitoring Report were as follows:

- Week of April 12, 2004
- Week of April 19, 2004
- Week of April 26, 2004
- Week of May 3, 2004
- Week of May 10, 2004
- Week of May 17, 2004
- Week of September 27, 2004
- Week of October 4, 2004

The 2004 Monitoring Report concluded that the adjusted AM inbound count totaled 3,176 vehicles. This represented a decrease of 143 vehicles, which fell within the 90 percent confidence interval and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,642 vehicles which was an increase of 196 vehicles from the baseline, which is 87 vehicles above 90 percent confidence interval and 51 vehicles more than the 1 percent established trigger. The following is a summary of the results of the initial 2004 Monitoring Report.

Inbound AM:

Adjusted average 2004 count	3,176
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 263)	-263
Result (falls below the 1% trigger by 298 vehicles)	-298



Outbound PM:

Adjusted average 2004 count	3,642
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 87 vehicles)	+87
Result (falls above the 1% trigger by 51 vehicles)	+51

Outbound PM:

Adjusted average 2004 count	3,642
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 87 vehicles)	+87
Result (falls above the 1% trigger by 51 vehicles)	+51
2004 trip credit	-66
Result with trip credit (falls below the 1% trigger by 15 vehicles)	-15

***Stanford University Traffic Monitoring Report – 2005 Monitoring Report***

This report represents the 2005 Monitoring Report. The count dates for the 2005 Monitoring Report were as follows:

- Week of April 4, 2005
- Week of April 11, 2005
- Week of April 18, 2005
- Week of April 25, 2005
- Week of May 2, 2005
- Week of May 9, 2005
- Week of September 26, 2005
- Week of October 3, 2005

The 2005 Monitoring Report concluded that the adjusted AM inbound count totaled 3,383 vehicles. This represented an increase of 64 vehicles, which fell within the 90 percent confidence interval and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,868 vehicles which was an increase of 422 vehicles from the baseline, which is above the 90 percent confidence interval by 313 vehicles and above the 1 percent increase trigger by 277 vehicles. The following is a summary of the results of the 2005 Monitoring Report.

Inbound AM:

Adjusted average 2005 count	3,383
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 56)	-56
Result (falls below the 1% trigger by 91 vehicles)	-91



Outbound PM:

Adjusted average 2005 count	3,735
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 313 vehicles)	+180
Result (falls above the 1% trigger by 277 vehicles)	+144

The 2000 Stanford GUP Condition G.8 specifies that the County will recognize and “credit” Stanford off-campus trip reduction efforts within defined geographic boundaries. These credits will be applied to Stanford’s attainment of the “no net new commute trip” standard. In 2003, Stanford and the County discussed potential methodologies for providing credits to Stanford. The County developed draft guidelines, which were reviewed by the Community Resource Group, and the Planning Office approved the final guidelines on October 9, 2003. These guidelines are presented in the “Stanford Traffic Cordon Count Credit Guidelines” dated October 28, 2003.

On April 24, 2006, Stanford submitted a 2005 trip credit report that was reviewed by Korve Engineering. This report documented a credit of 174 trips for the increase in the number of bus trips across the cordon points and the number of transit passengers served outside the cordon area in the PM peak hour between the 2001 baseline and 2005. Using the new Marguerite shuttle Automated Transportation Management System, the number of passengers getting on and off the shuttle at each stop was counted. Most of the trip credits claimed are for passengers (primarily Stanford Hospital employees) getting on the shuttle outside the cordon area and traveling to the Palo Alto Caltrain station. As outlined in the adopted guidelines, full credits are claimed for trips in the peak commute direction and 1/3 credit claimed for trips in the reverse direction. Pass through credits are claimed for those passengers who board outside the cordon, pass through the campus, and then alight outside the campus based on onboard surveys. As summarized below, with the trip credit of 174 trips Stanford did not exceed the no net new commute trip standard based on the 2005 monitoring program.

Outbound PM:

Adjusted average 2005 count	3,735
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 313 vehicles)	+180
Result (falls above the 1% trigger by 277 vehicles)	+144
2005 trip credit	-174
Result with trip credit (falls below the 1 percent trigger by 30 vehicles)	-30



***Stanford University Traffic Monitoring Report – 2006 Monitoring Report***

This report represents the 2006 Monitoring Report. The count dates for the 2006 Monitoring Report were as follows:

- Week of April 17, 2006
- Week of April 24, 2006
- Week of May 1, 2006
- Week of May 8, 2006
- Week of May 15, 2006
- Week of May 22, 2006
- Week of October 16, 2006
- Week of October 23, 2006

The 2006 Monitoring Report concluded that the adjusted AM inbound count totaled 3,048 vehicles. This represented a decrease of 271 vehicles from the baseline and does not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,427 vehicles which was a decrease of 19 vehicles from the baseline, which is 128 vehicles below the 90 percent confidence interval and 164 vehicles below the 1 percent established trigger. The following is a summary of the results of the 2006 Monitoring Report.

Inbound AM:

Adjusted average 2006 count	3,048
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 391 vehicles)	-391
Result (falls below the 1% increase trigger by 426 vehicles)	-426

Outbound PM:

Adjusted average 2006 count	3,427
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls below the 90% confidence interval by 128 vehicles)	-128
Result (falls below the 1% trigger by 164 vehicles)	-164

# County of Santa Clara

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## INTRODUCTION

This report presents the traffic and parking data that has been collected at Stanford University by Korve Engineering during the monitoring periods of 2006. Traffic volumes were collected for six weeks during the Spring. The Spring counts were conducted for the weeks of April 17, April 24, May 1, May 8, May 15 and May 22. The Fall counts were conducted for the weeks of October 16 and October 23. The data include vehicle counts at all of the access points to the campus and parking lots. Parking lot counts and cut-through percentages were used to adjust the raw traffic counts in order to determine the total amount of peak hour traffic generated by Stanford University. The parking data were used to add in campus traffic that park outside of the count area and subtract out hospital traffic from parking inside the count area. License plate surveys were used to calculate the amount of traffic that cuts through the campus and thus is not University-generated traffic. Data collection methodology is described in greater detail in Task 1. A description of the data analysis procedures is presented in Task 2. The data collected in calendar year 2006 is compared to the baseline counts collected in calendar year 2001. Differences between the two years are then analyzed to determine if traffic is increasing to a significant degree.

### Task 1.0 Traffic Monitoring Data Collection Methodology

Data collection is a critical component of the traffic monitoring program. The following work elements were conducted to collect all relevant traffic data for the monitoring program.

#### **Task 1.1 Machine Cordon Line Traffic Counts**

Directional traffic counts were collected at Stanford University for eight weeks in 2006 on each of the 16 roadways that provide access to and from the campus. The location of the 16 cordon counts are listed below and shown graphically in Figures 1 and 2.

1. Campus Drive West, north of Junipero Serra Boulevard
2. Stock Farm Road, east of Sand Hill Road
3. Welch Road, north of Oak Road
4. Quarry Road, north of Campus Drive West
5. Palm Drive, south of Arboretum Road
6. Lasuen Street, south of Arboretum Road
7. Galvez Street, south of Arboretum Road
8. Serra Street, southwest of El Camino Real
9. Yale Street, west of Stanford Avenue
10. Wellesley Street, west of Stanford Avenue
11. Oberlin Street, west of Stanford Avenue
12. Olmsted Road, north of Escondido Road
13. Bowdoin Street, west of Stanford Avenue
14. Raimundo Way, west of Stanford Avenue
15. Santa Maria Avenue, north of Junipero Serra Boulevard
16. Campus Drive East, east of Junipero Serra Boulevard

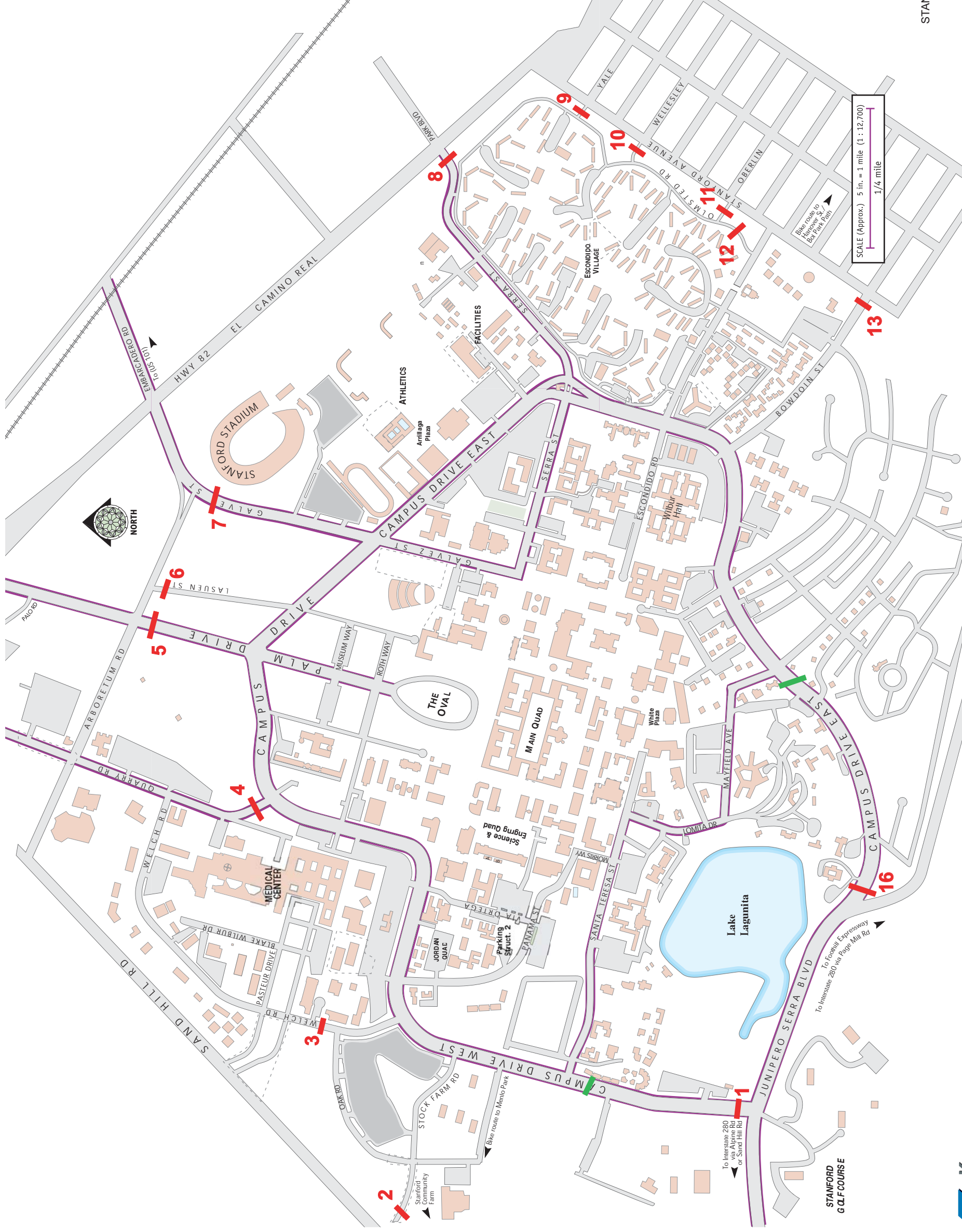
## Cordon Count Locations

1. Campus Drive West north of Junipero Serra Blvd.
2. Stock Farm Road east of Sand Hill Road
3. Welch Road north of Oak Road
4. Quarry Road north of Campus Drive
5. Palm Drive south of Arboretum Road
6. Lasuen Street south of Arboretum Road
7. Galvez Street south of Arboretum Road
8. Serra Street southwest of El Camino Real
9. Yale Street west of Stanford Avenue
10. Wellesley Street west of Stanford Avenue
11. Oberlin Street west of Stanford Avenue
12. Olmsted Road north of Escondido Road
13. Bowdoin west of Stanford Avenue
14. Raimundo west of Stanford Avenue
15. Santa Maria Avenue north of Junipero Serra Blvd.
16. Campus Drive East east of Junipero Serra Blvd.

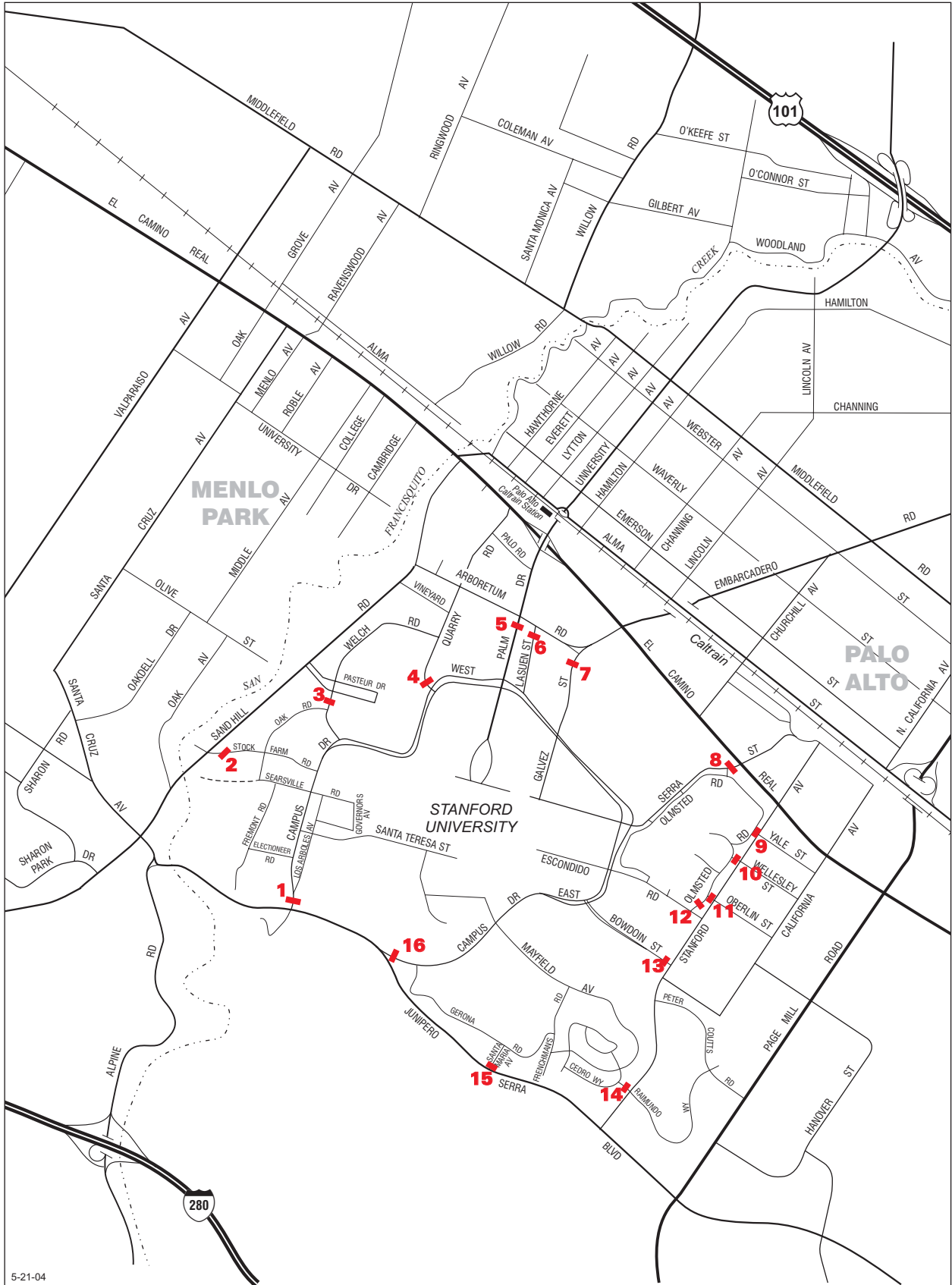
### NOTES

License plate survey for Location 1 and Location 16 shifted for more accurate recording. Cordon tube counts continued at campus boundary.

Escondido Drive no longer continuous street from Campus Drive East to Stanford Avenue.



For count locations 14 and 15 see Figure 2



5-21-04



The detailed traffic counts at the 16 cordon locations are presented in Appendix A and are summarized in Table 1. Table 1 shows the AM inbound and PM outbound peak hour volumes for each day that traffic was monitored. As indicated in Table 1, the AM peak hour usually occurred from 7:45 to 8:45 and the PM peak hour generally occurred between 5:00 to 6:00. The unadjusted AM inbound traffic volumes ranged from a low of 3,602 on Friday, May 26 to a high of 4,275 on Tuesday, April 25. The PM peak hour traffic volumes ranged from a low of 3,931 on Monday, October 16 to a high of 4,920 on Friday, May 12.

### **Task 1.2 Parking Lot Driveway Counts**

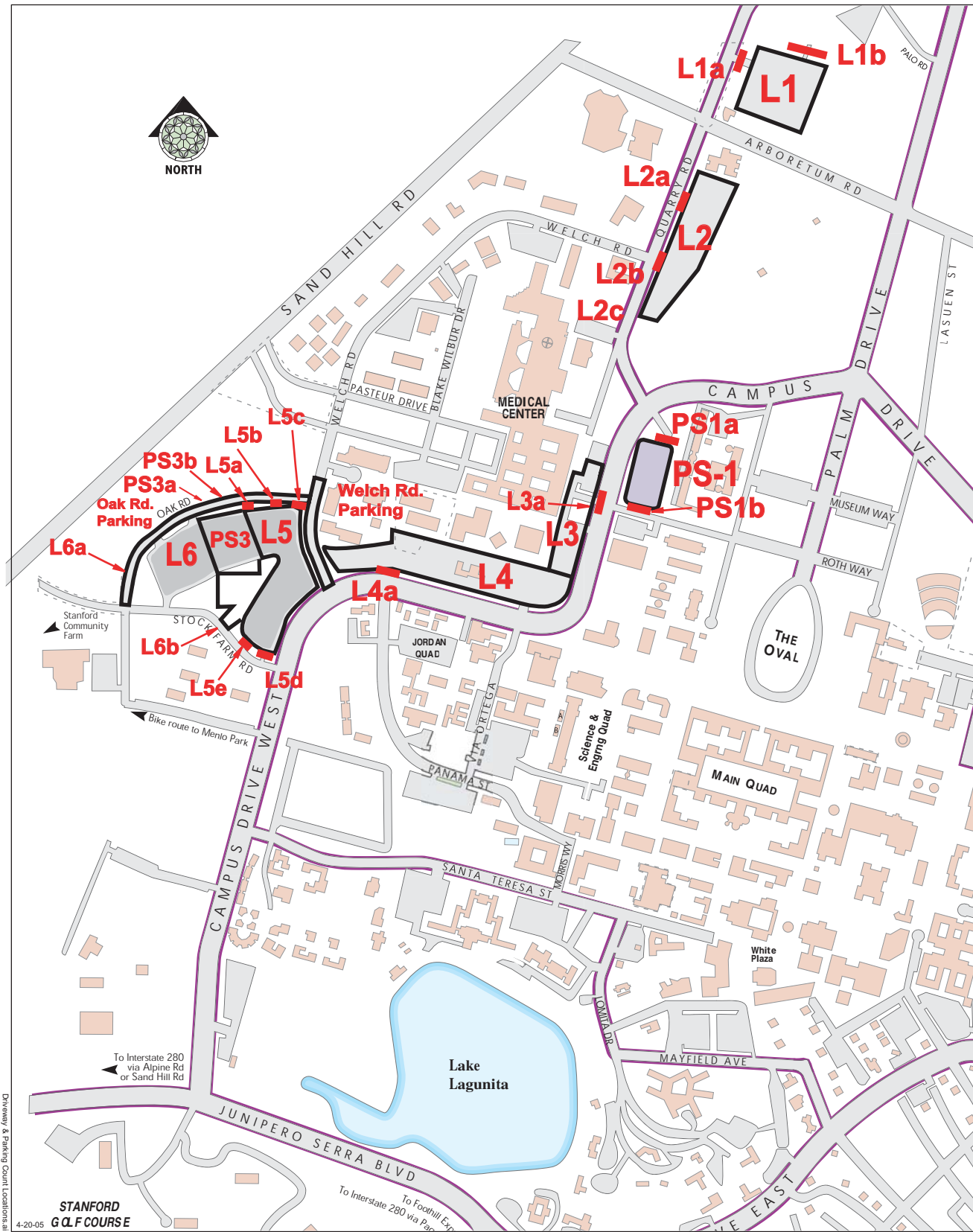
There are two parking lots (L1 – Rectangle Lot and L2 – Quarry Lot) outside the cordon line that serve some campus uses. There are also several parking lots (L3, L4 – Beckman Lot, L5 – Stock Farm Road Lot, and L6) along with parking structures 1 (PS1) and 3 (PS3) that are inside the established cordon line that serve some hospital uses. Traffic was counted by direction into and out of these parking lots during the entire count period. The detailed count sheets for the driveway traffic at these lots are included in Appendix B.

The driveway count locations are presented below and in Figure 3.

1. PS1a – Parking Structure 1 North Access to Campus Drive
2. PS1b – Parking Structure 1 South Access to Roth Way
3. PS3a – Parking Structure 3 Northwest Access
4. PS3b – Parking Structure 3 Northeast Access
5. L1a – Rectangle Lot (Lot 1) Quarry Road Access
6. L1b – Rectangle Lot (Lot 1) North Access
7. L2a – Quarry Lot (Lot 2) North Access to Quarry Road
8. L2b – Quarry Lot (Lot 2) Middle Access to Quarry Road
9. L2c – Quarry Lot (Lot 2) South Access to Quarry Road
10. L3a – Near Medical Drive, west of Campus Drive
11. L4a – Driveway to Lot 4 from Campus Drive West
12. L5a – West Driveway to Lot 5 from Oak Road
13. L5b – Center Driveway to Lot 5 from Oak Road
14. L5c – East Driveway to Lot 5 from Oak Road
15. L5d – East Driveway to Lot 5 from Stock Farm Road
16. L5e – West Driveway to Lot 5 from Stock Farm Road
17. L6a – West Driveway to Lot 6 from Oak Road
18. L6b – South Driveway to Lot 6 from Stockfarm Road

**Table 1 2006 Raw Traffic Count Summary**

Date	AM Inbound			PM Outbound		
	Weather	Volume	Period	Weather	Volume	Period
Week 1						
April 17, 2006	Partly Cloudy	3981	7:45 to 8:45	Scattered Clouds	4227	4:45 to 5:45
April 18, 2006	Clear	4055	7:45 to 8:45	Scattered Clouds	4177	5:00 to 6:00
April 19, 2006	Partly Cloudy	4047	7:45 to 8:45	Clear	4249	5:00 to 6:00
April 20, 2006	Mostly Cloudy	4088	7:45 to 8:45	Overcast	4408	5:00 to 6:00
April 21, 2006	Overcast	3956	7:45 to 8:45	Mostly Cloudy	4556	5:00 to 6:00
Week 2						
April 24, 2006	Overcast	4031	7:45 to 8:45	Mostly Cloudy	4132	5:00 to 6:00
April 25, 2006	Overcast	4275	7:45 to 8:45	Overcast	4208	5:00 to 6:00
April 26, 2006	Mostly Cloudy	3943	8:00 to 9:00	Partly Cloudy	4268	5:00 to 6:00
April 27, 2006	Clear	4078	7:45 to 8:45	Clear	4314	4:45 to 5:45
April 28, 2006	Overcast	3943	7:45 to 8:45	Clear	4284	4:45 to 5:45
Week 3						
May 1, 2006	Partly Cloudy	4024	7:45 to 8:45	Partly Cloudy	4334	5:00 to 6:00
May 2, 2006	Partly Cloudy	4257	7:45 to 8:45	Clear	4226	4:45 to 5:45
May 3, 2006	Mostly Cloudy	3956	7:45 to 8:45	Clear	4228	5:00 to 6:00
May 4, 2006	Scattered Clouds	4008	7:45 to 8:45	Clear	4249	5:00 to 6:00
May 5, 2006	Overcast	4000	7:45 to 8:45	Partly Cloudy	4409	5:00 to 6:00
Week 4						
May 8, 2006	Clear	3815	7:45 to 8:45	Clear	4306	5:00 to 6:00
May 9, 2006	Clear	3965	7:45 to 8:45	Clear	4218	5:00 to 6:00
May 10, 2006	Clear	3867	7:45 to 8:45	Overcast	4455	5:00 to 6:00
May 11, 2006	Mostly Cloudy	4036	7:45 to 8:45	Scattered Clouds	4363	5:00 to 6:00
May 12, 2006	Partly Cloudy	4019	8:00 to 9:00	Overcast	4920	4:45 to 5:45
Week 5						
May 15, 2006	Mostly Cloudy	3894	7:45 to 8:45	Partly Cloudy	4292	4:45 to 5:45
May 16, 2006	Partly Cloudy	3963	7:45 to 8:45	Clear	4292	5:00 to 6:00
May 17, 2006	Mostly Cloudy	3906	7:45 to 8:45	Clear	4370	5:00 to 6:00
May 18, 2006	Overcast	3943	7:45 to 8:45	Scattered Clouds	4379	5:00 to 6:00
May 19, 2006	Overcast	3768	7:45 to 8:45	Overcast	4278	4:45 to 5:45
Week 6						
May 22, 2006	Scattered Clouds	4008	8:00 to 9:00	Scattered Clouds	4306	4:45 to 5:45
May 23, 2006	Overcast	3981	8:00 to 9:00	Scattered Clouds	4235	5:00 to 6:00
May 24, 2006	Scattered Clouds	3937	8:00 to 9:00	Partly Cloudy	4269	5:00 to 6:00
May 25, 2006	Scattered Clouds	3922	8:00 to 9:00	Partly Cloudy	4388	5:00 to 6:00
May 26, 2006	Mostly Cloudy	3602	8:00 to 9:00	Scattered Clouds	3975	5:00 to 6:00
Week 7						
October 16, 2006	Mostly Cloudy	3876	7:45 to 8:45	Scattered Clouds	3931	4:45 to 5:45
October 17, 2006	Clear	4021	7:45 to 8:45	Clear	4073	5:00 to 6:00
October 18, 2006	Clear	3984	8:00 to 9:00	Partly Cloudy	3991	4:45 to 5:45
October 19, 2006	Clear	4029	7:45 to 8:45	Clear	3979	4:45 to 5:45
October 20, 2006	Clear	3912	7:45 to 8:45	Clear	4105	5:00 to 6:00
Week 8						
October 23, 2006	Mostly Cloudy	3933	7:45 to 8:45	Scattered Clouds	3932	4:45 to 5:45
October 24, 2006	Overcast	4117	7:45 to 8:45	Mostly Cloudy	4010	5:00 to 6:00
October 25, 2006	Clear	4012	8:00 to 9:00	Partly Cloudy	4097	4:45 to 5:45
October 26, 2006	Clear	3958	8:00 to 9:00	Clear	4099	4:45 to 5:45
October 27, 2006	Clear	3724	7:45 to 8:45	Clear	4176	4:45 to 5:45



Driveway & Parking Count Locations as of 4-20-05

STANFORD GOLF COURSE  
4-20-05



**Figure 3**  
**DRIVEWAY AND PARKING COUNT LOCATIONS**

Hospital trips from parking lots inside the cordon line were subtracted from the cordon counts, while campus trips from lots outside the cordon line were added to the raw counts. This was done to properly identify all trips generated by Stanford University and not by other adjacent land uses, particularly the medical complex.

### **Task 1.3 Parking Permit Scanning/Count**

At the beginning and end of both the morning and evening peak period, the number of vehicles in each of the lots identified in Figure 3 was counted. Each vehicle permit was also scanned to determine if it was related to campus or hospital uses. During the spring season both Campus and Medical related parking stickers were Purple, Orange or Grey in color with white lettering. During the fall season the sticker continue to be Purple or Orange with white lettering for Campus and purple or orange lettering for Hospital related vehicles. Both Medical Center and Campus vehicles were identified by a windshield sticker stating hospital or Campus on the bottom right or left hand corner.

On-street parking on Oak Road between Stock Farm Road and Welch Road, and on Welch Road between Campus Drive West and the cordon station just north of Oak Road was counted and classified in the same manner as described above. Since these on-street parking facilities are located within the cordon line, hospital vehicles were subtracted out of the cordon count and no adjustment was made to add in campus trips. The parking lot and on-street parking occupancy data is included in Appendix B along with the parking counts.

Korve Engineering used the traffic counts in Task 1.1 and the parking counts in Tasks 1.2 and 1.3 to adjust the raw traffic counts. If campus parking permits were observed in lots outside the cordon area, they were added back into the cordon count. If hospital trips were observed inside the cordon area, they were subtracted from the cordon count. All vehicles without a parking permit were assumed to be campus trips.

### **Task 1.4 License Plate Survey**

The purpose of the license plate survey was to identify vehicles that are only passing through the Stanford campus, not beginning or ending their trip there. License plate numbers were recorded for vehicles entering and leaving each cordon location. Vehicles that entered the cordon and left within a period of 15 minutes were considered to be "cut-through" vehicles. Surveys were done during one day each week for both of the peak hours. The license plate matching process showed that during the Spring counts the average AM and PM cut-through percentages were 13.94 percent and 15.72 percent, respectively. During the Fall count, the AM cut-through percentage was 12.73 percent, while the PM was 15.50 percent. The average Spring and Fall percentages were used to adjust their respective vehicle counts.

## **Task 2.0 Traffic Monitoring Data Analysis**

### **Task 2.1 Daily Cordon Count Spreadsheets**

First, the raw cordon count numbers were entered into spreadsheets. Two spreadsheets – one for the AM peak period and one for the PM peak period – were created for each weekday that a cordon count was conducted. Each spreadsheet shows the AM inbound and PM outbound vehicles passing all 16 cordon locations during five hourly increments. For the AM peak, the hours were 7:00-8:00, 7:15-8:15, 7:30-8:30, 7:45-8:45, and 8:00-9:00. For the PM peak, the hours were 4:00-5:00, 4:15-5:15, 4:30-5:30, 4:45-5:45, and 5:00-6:00. Since cordon counts were collected for eight weeks, there are a total of 80 daily cordon count spreadsheets (40 AM and 40 PM). These sheets are included in Appendix C of this report.

### **Task 2.2 Daily Parking Spreadsheets**

The number of vehicles coming in and out of the parking lots in the vicinity of the Stanford Medical Center was also monitored during the eight-week period. The AM inbound and PM outbound volumes at all lot entrances were entered into spreadsheets for the AM and PM peak periods of each day just as described for the cordon counts in Task 2.1. All 80 daily parking spreadsheets are included in Appendix D.

### **Task 2.3 Adjustments For Parking and Cut-Through Vehicles**

The parking sticker counts performed at the lots were used to compute the percentage of campus and hospital vehicles present in each lot during the AM and PM peak hours. Since a sticker survey was done at the beginning and end of each two-hour peak period count, the two values for every lot were averaged. Sticker surveys were completed for both peak hours of one day during each week.

The parking lot AM inbound and PM outbound volumes were used along with the averaged campus and hospital vehicle percentages in order to adjust the cordon count spreadsheets. Since Lots 1 and 2 are outside of the cordon boundary, some campus-related vehicles will park in those lots and not get counted in the cordon count. To add them in, the average percentage of campus vehicles in those lots was multiplied by the AM inbound and PM outbound volumes at each corresponding lot entrance (from Task 2.2), and then added to the cordon counts.

Lots 3, 4, 5, and 6, as well as the two parking structures (PS-1 and PS-3) are located inside the cordon boundary. Thus, hospital-related vehicles parking in these lots need to be subtracted out of the cordon counts. To do this, the average percentage of hospital-related vehicles was multiplied by the AM inbound and PM outbound volumes at each respective lot entrance (from Task 2.2), and then subtracted from the cordon counts.

A parking sticker survey was also conducted at two on-street locations during the same days as the surveys for the parking lots. The streets surveyed were Oak Road and the portion of Welch Road between Campus Drive West and the cordon location just north of Oak Road. Since both streets were inside the cordon, only the hospital

vehicles were of importance. If more hospital vehicles were present at the end of the period than at the beginning, the change in vehicles was subtracted from the inbound totals for that period. If fewer hospital vehicles were present at the end of the period, the difference was subtracted from the outbound totals.

The average observed cut-through traffic percentages during the Spring monitoring period were about 13.94 percent during the AM peak hour and 15.72 percent during the PM peak hour. During the Fall count, the AM cut-through percentage was 12.73%, while the PM was 15.50%. The traffic counts were reduced by these percentages in order to subtract out vehicles lacking a destination within the Stanford University campus. Spreadsheets showing the detailed license plate matching data are shown in Appendix E. A summary table showing the 80 daily cordon counts adjusted for parking lot factors and cut-through traffic is shown in Table 2 along with the average AM inbound and PM outbound traffic volume. Table 3 shows the traffic data collected in the 2001 baseline Stanford Traffic Monitoring Program, including the baseline average and the 90 percent confidence interval.

## **INBOUND AM TRAFFIC**

The 2001 baseline counts determined that an average of 3,439 inbound vehicles during the AM peak hour would constitute a significant increase in traffic at the 90 percent confidence level. The 2006 AM average of 3,048 vehicles does not represent a statistically significant increase over the AM baseline average with an upper threshold of 3,439 at the 90 percent confidence level. The average AM inbound volume of 3,048 is in fact 391 vehicles lower than the +90 percent confidence level. A scatter plot of the 2006 AM inbound data is shown in Figure 4. Lines representing the baseline average, baseline 90 percent confidence interval, and 2006 average are also shown in this figure. As shown in the figure the average 2006 volume is lower than the upper 90 percent confidence boundary established from 2001.

## **OUTBOUND PM TRAFFIC**

The 2001 baseline counts determined that an average of 3,555 outbound vehicles during the PM peak hour would constitute a significant increase in traffic at the 90 percent confidence level. The 2006 PM outbound adjusted average shows a decrease of 19 vehicles from the baseline count, this decrease falls below the +90 percent confidence interval by 128 vehicles. The 1 percent significant increase trigger was developed from 2001 baseline counts as 3,591 vehicles. The average 2006 PM outbound volume is calculated as 3,427 vehicles which falls below the 1 percent increase trigger by 164 vehicles. Since the established 1 percent increased trigger requirement is not met, no additional mitigation is required.

A scatter plot of the 2006 PM outbound data is shown in Figure 5. Lines representing the baseline average, baseline 90 percent confidence interval, and 2001 average are shown in this figure. As shown in Figure 5, the average 2006 data line falls below the +90 percent confidence level.

**Table 2 2006 Adjusted Traffic Totals**

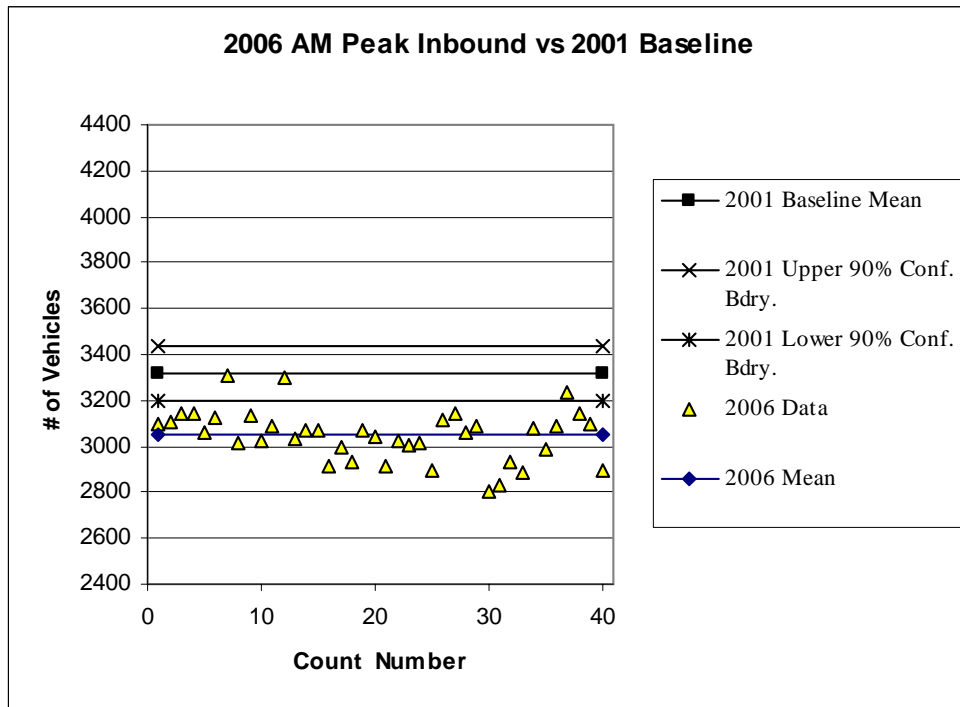
Date	AM Inbound		PM Outbound	
	Volume	Period	Volume	Period
Week 1				
April 17, 2006	3098	7:45 to 8:45	3424	4:45 to 5:45
April 18, 2006	3015	7:45 to 8:45	3397	5:00 to 6:00
April 19, 2006	3145	7:45 to 8:45	3463	5:00 to 6:00
April 20, 2006	3143	7:45 to 8:45	3590	5:00 to 6:00
April 21, 2006	3065	7:45 to 8:45	3703	5:00 to 6:00
Week 2				
April 24, 2006	3127	7:45 to 8:45	3344	5:00 to 6:00
April 25, 2006	3305	7:45 to 8:45	3395	5:00 to 6:00
April 26, 2006	3012	8:00 to 9:00	3454	5:00 to 6:00
April 27, 2006	3130	7:45 to 8:45	3501	4:45 to 5:45
April 28, 2006	3027	7:45 to 8:45	3464	4:45 to 5:45
Week 3				
May 1, 2006	3084	7:45 to 8:45	3538	5:00 to 6:00
May 2, 2006	3295	7:45 to 8:45	3437	4:45 to 5:45
May 3, 2006	3035	7:45 to 8:45	3446	5:00 to 6:00
May 4, 2006	3067	7:45 to 8:45	3447	5:00 to 6:00
May 5, 2006	3071	7:45 to 8:45	3583	5:00 to 6:00
Week 4				
May 8, 2006	2917	7:45 to 8:45	3494	5:00 to 6:00
May 9, 2006	2997	7:45 to 8:45	3398	5:00 to 6:00
May 10, 2006	2933	7:45 to 8:45	3608	5:00 to 6:00
May 11, 2006	3070	7:45 to 8:45	3537	5:00 to 6:00
May 12, 2006	3039	8:00 to 9:00	4001	4:45 to 5:45
Week 5				
May 15, 2006	2918	7:45 to 8:45	3447	4:45 to 5:45
May 16, 2006	3028	7:45 to 8:45	3481	5:00 to 6:00
May 17, 2006	3001	7:45 to 8:45	3554	5:00 to 6:00
May 18, 2006	3012	7:45 to 8:45	3565	5:00 to 6:00
May 19, 2006	2899	7:45 to 8:45	3469	4:45 to 5:45
Week 6				
May 22, 2006	3117	8:00 to 9:00	3484	4:45 to 5:45
May 23, 2006	3144	8:00 to 9:00	3413	5:00 to 6:00
May 24, 2006	3058	8:00 to 9:00	3453	5:00 to 6:00
May 25, 2006	3089	8:00 to 9:00	3566	5:00 to 6:00
May 26, 2006	2804	8:00 to 9:00	3220	5:00 to 6:00
Week 7				
October 16, 2006	2832	7:45 to 8:45	3118	4:45 to 5:45
October 17, 2006	2936	7:45 to 8:45	3234	5:00 to 6:00
October 18, 2006	2884	8:00 to 9:00	3179	4:45 to 5:45
October 19, 2006	3079	7:45 to 8:45	3179	4:45 to 5:45
October 20, 2006	2989	7:45 to 8:45	3265	5:00 to 6:00
Week 8				
October 23, 2006	3091	7:45 to 8:45	3124	4:45 to 5:45
October 24, 2006	3238	7:45 to 8:45	3200	5:00 to 6:00
October 25, 2006	3143	8:00 to 9:00	3276	5:00 to 6:00
October 25, 2006	3096	8:00 to 9:00	3280	5:00 to 6:00
October 27, 2006	2899	7:45 to 8:45	3342	5:00 to 6:00
<b>Average</b>	<b>3,048</b>		<b>3,427</b>	

**Table 3 2001 Baseline Adjusted Traffic Totals**

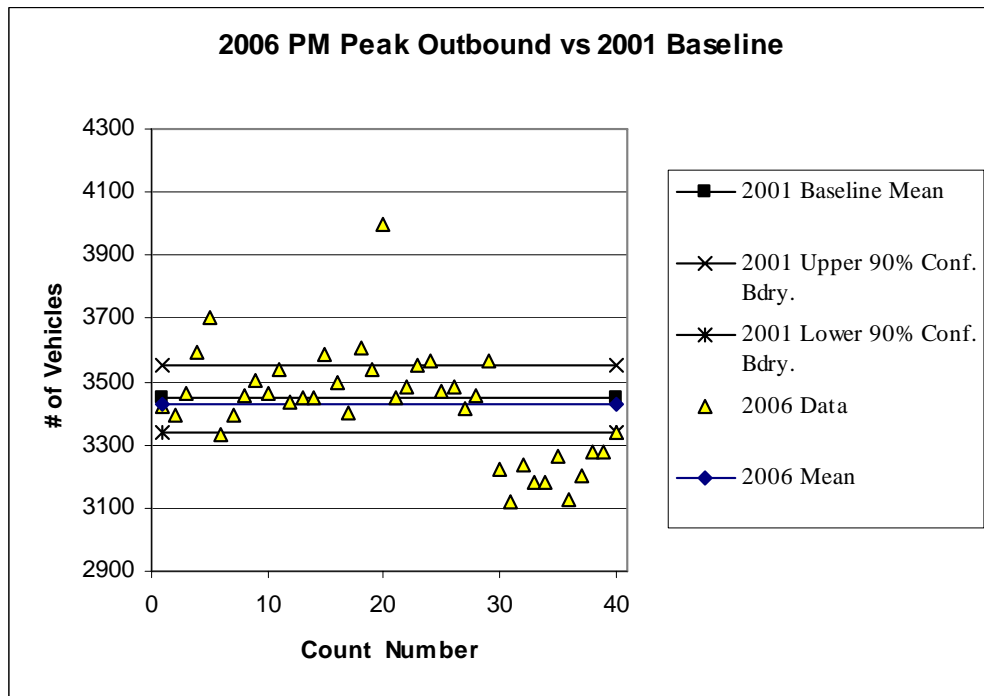
Date	AM INBOUND		PM OUTBOUND	
	Volume	Period	Volume	Period
Week 1				
April 2, 2001	3036	7:45 to 8:45	3323	5:00 to 6:00
April 3, 2001	3059	7:45 to 8:45	3285	4:45 to 5:45
April 4, 2001	2884	8:00 to 9:00	3334	4:45 to 5:45
April 5, 2001	3000	7:45 to 8:45	3216	5:00 to 6:00
April 6, 2001	2610	8:00 to 9:00	3092	4:45 to 5:45
Week 2				
April 9, 2001	3265	8:00 to 9:00	3329	5:00 to 6:00
April 10, 2001	3141	8:00 to 9:00	3362	5:00 to 6:00
April 11, 2001	3107	8:00 to 9:00	3473	4:45 to 5:45
April 12, 2001	3081	8:00 to 9:00	3397	5:00 to 6:00
April 13, 2001	2973	8:00 to 9:00	3413	4:45 to 5:45
Week 3				
April 23, 2001	3285	7:45 to 8:45	3311	4:30 to 5:30
April 24, 2001	3322	7:45 to 8:45	3281	5:00 to 6:00
April 25, 2001	3186	7:30 to 8:30	3326	4:45 to 5:45
April 26, 2001	3129	7:45 to 8:45	3286	5:00 to 6:00
April 27, 2001	2723	8:00 to 9:00	3154	4:45 to 5:45
Week 4				
April 30, 2001	2502	7:30 to 8:30	2681	4:15 to 5:15
May 1, 2001	2826	7:45 to 8:45	2967	5:00 to 6:00
May 2, 2001	2742	7:45 to 8:45	2912	5:00 to 6:00
May 3, 2001	2632	8:00 to 9:00	2861	5:00 to 6:00
May 4, 2001	2595	8:00 to 9:00	2744	4:45 to 5:45
Week 5				
May 7 2001	3604	8:00 to 9:00	3410	4:45 to 5:45
May 8, 2001	3559	8:00 to 9:00	3422	5:00 to 6:00
May 9, 2001	3455	8:00 to 9:00	3326	5:00 to 6:00
May 10, 2001	3478	8:00 to 9:00	3396	4:45 to 5:45
May 11, 2001	3393	8:00 to 9:00	3090	5:00 to 6:00
Week 6				
May 14 2001	3479	8:00 to 9:00	3235	4:45 to 5:45
May 15, 2001	3756	8:00 to 9:00	3450	5:00 to 6:00
May 16, 2001	3830	8:00 to 9:00	3374	5:00 to 6:00
May 17, 2001	3533	8:00 to 9:00	3456	5:00 to 6:00
May 18, 2001	3246	8:00 to 9:00	3386	4:45 to 5:45
Week 7				
October 22, 2001	3221	8:00 to 9:00	3505	5:00 to 6:00
October 23, 2001	3835	8:00 to 9:00	3805	5:00 to 6:00
October 24, 2001	3550	8:00 to 9:00	3959	5:00 to 6:00
October 25, 2001	3908	7:45 to 8:45	3991	5:00 to 6:00
October 26, 2001	3371	8:00 to 9:00	4072	4:45 to 5:45
Week 8				
October 29, 2001	4241	8:00 to 9:00	4115	5:00 to 6:00
October 30, 2001	4251	8:00 to 9:00	4217	5:00 to 6:00
October 31, 2001	4139	8:00 to 9:00	4394	5:00 to 6:00
November 1, 2001	4037	8:00 to 9:00	4193	5:00 to 6:00
November 2, 2001	3789	7:45 to 8:45	4277	5:00 to 6:00
Average	3319		3446	
90% confidence interval	+/- 120		+/- 109	



**Figure 4 2006 AM Peak Inbound vs. 2001 Baseline**



**Figure 5 2006 PM Peak Outbound vs. 2001 Baseline**



## CONCLUSION

The AM inbound adjusted average shows a decrease of 271 vehicles from the baseline count to the 2006 average count. The 2006 AM inbound volume also shows a decrease from the 90 percent confidence interval of  $\pm 120$  by -391 vehicles and -151 vehicles, respectively. Since the AM inbound volumes are lower in 2006 compared to the 2001 baseline 90 percent confidence boundary by 391 vehicles, no mitigation measures are required if the trigger is not exceeded in two out of three consecutive years for the same peak hour.

The 2006 PM outbound count totaled 3,427 vehicles which is a decrease of 19 vehicles from the baseline, which is 128 vehicles lower than the 90 percent confidence interval and 164 vehicles lower than the 1 percent established trigger. Therefore, this increase is not significant. Mitigation measures are required if the trigger is exceeded in two out of three consecutive years for the same peak hour.

Table 4 summarizes the comparison between the baseline 2001 counts and the 2006 monitoring counts.

**Table 4      2006 Monitoring Comparison to Baseline**

Inbound AM:

Adjusted average 2006 count	3,048
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 391 vehicles)	-391
Result (falls below the 1% increase trigger by 426 vehicles)	-426

Outbound PM:

Adjusted average 2006 count	3,427
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls below the 90% confidence interval by 128 vehicles)	-128
Result (falls below the 1% trigger by 164 vehicles)	-164

## SUMMARY AND COMPARISON OF PREVIOUS REPORTS

### INTRODUCTION

The purpose of the Stanford University Traffic Monitoring Program is to compare traffic volumes entering and exiting the Stanford Campus during the inbound AM peak and the outbound PM commute peak to a traffic baseline. This comparison is completed on annual basis. The requirements for establishment of the traffic baseline and performing annual comparisons to the baseline are contained within the December 2000 Stanford Community Plan/General Use Permit (GUP)/Environmental Impact Report (EIR) and within the 2000 Stanford General Use Permit. Stanford is required to attain a “no net new commute trip” standard as defined in the GUP and EIR.

Condition of Approval G.7 outlines the process for establishing the baseline counts and for continuing monitoring in subsequent years. The process can be summarized as follows:

- Peak hour traffic is counted at least three times per year for a two-week period each time. The three counts shall be averaged to determine the annual traffic level.
- All counts are recorded at the 16 campus entry and exit points forming a cordon around the campus.
- License plate numbers are recorded for each entering and exiting vehicle to determine the amount of non-campus traffic.
- Cordon volumes are adjusted for parking lots within the cordon used by the hospital (these volumes are subtracted from the cordon line counts) and parking lots outside the cordon used by the university (these volumes are added to the cordon line counts).
- A peak hour is then established for the campus based on the counts, adjusted for cut through and parking lot location.

Condition of Approval G.6 defines the peak commute directions as entering the campus in the morning peak commute period and leaving the campus in the evening commute period. The peak commute period is defined as the one-hour period of time between 7 AM and 9 AM and again between 4 PM and 6 PM with the highest volume of traffic, as defined by the counts. Therefore, the two peak hours are considered to be independent events. An increase in traffic during the AM peak hour is independent from an increase in traffic during the PM peak hour. An increase in traffic for two out of three years in one peak hour would trigger the additional element of the monitoring program, even if there is no change or even a decrease in traffic in the other peak hour. Also, a significant increase during one year in the AM and a sufficient increase in the PM for the following year would not trigger additional mitigation.

The following is a summary of the Baseline report prepared in 2001 and the subsequent five years of monitoring from 2002 through 2006.

## Traffic Baseline Report

The Traffic Baseline Report represents the first year of traffic monitoring. This report established the baseline conditions to which subsequent years are compared.

<b>Data Collection:</b>	Week of April 2, 2001 through week of May 14 2001 and week of October 22, 2001 through week of October 29, 2001.																
<b>Final Report Issued:</b>	July 2002 and updated on October 2003.																
<b>Findings:</b>	<p>The following were the results of the 2001 Baseline Monitoring:</p> <p><u>Inbound AM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Average Count</td> <td style="text-align: right;">3,319</td> </tr> <tr> <td style="padding-left: 20px;">90% Confidence Interval</td> <td style="text-align: right;">+/- 120</td> </tr> <tr> <td style="padding-left: 20px;">Significant Traffic Increase</td> <td style="text-align: right;">3,439</td> </tr> <tr> <td style="padding-left: 20px;">1% Increase Trigger</td> <td style="text-align: right;">3,474</td> </tr> </table> <p><u>Outbound PM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Average</td> <td style="text-align: right;">3,446</td> </tr> <tr> <td style="padding-left: 20px;">90% Confidence Interval</td> <td style="text-align: right;">+/- 109</td> </tr> <tr> <td style="padding-left: 20px;">Significant Traffic Increase</td> <td style="text-align: right;">3,555</td> </tr> <tr> <td style="padding-left: 20px;">1% Trigger</td> <td style="text-align: right;">3,591</td> </tr> </table>	Average Count	3,319	90% Confidence Interval	+/- 120	Significant Traffic Increase	3,439	1% Increase Trigger	3,474	Average	3,446	90% Confidence Interval	+/- 109	Significant Traffic Increase	3,555	1% Trigger	3,591
Average Count	3,319																
90% Confidence Interval	+/- 120																
Significant Traffic Increase	3,439																
1% Increase Trigger	3,474																
Average	3,446																
90% Confidence Interval	+/- 109																
Significant Traffic Increase	3,555																
1% Trigger	3,591																
<b>Conclusion</b>	The Traffic Baseline Report established the baseline thresholds, no conclusions are drawn from this report.																

## Traffic Report #1

Traffic Report #1 was the first year of monitoring compared back to the Traffic Baseline Report.

<b>Data Collection:</b>	Week of April 15, 2002 through week of May 20 2002 and week of October 14, 2002 through week of October 21, 2002.																				
<b>Final Report Issued:</b>	July 2003																				
<b>Final Report Revised:</b>	October 2003																				
<b>Findings:</b>	<p>The following were the results of the Report #1, 2002 Traffic Monitoring:</p> <p><u>Inbound AM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2002 Count</td> <td style="text-align: right;">3,275</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 120</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,439</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,474</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 1% Trigger by 199)</td> <td style="text-align: right;">-199</td> </tr> </table> <p><u>Outbound PM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2002 Count</td> <td style="text-align: right;">3,586</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 109</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,555</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,591</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 1% Trigger by 5 vehicles)</td> <td style="text-align: right;">-5</td> </tr> </table>	Adjusted Average 2002 Count	3,275	Baseline-established 90% Confidence Interval (2001)	+/- 120	Baseline-established Significant Traffic Increase (2001)	3,439	Baseline-established 1% Increase Trigger (2001)	3,474	Result (Falls below the 1% Trigger by 199)	-199	Adjusted Average 2002 Count	3,586	Baseline-established 90% Confidence Interval (2001)	+/- 109	Baseline-established Significant Traffic Increase (2001)	3,555	Baseline-established 1% Increase Trigger (2001)	3,591	Result (Falls below the 1% Trigger by 5 vehicles)	-5
Adjusted Average 2002 Count	3,275																				
Baseline-established 90% Confidence Interval (2001)	+/- 120																				
Baseline-established Significant Traffic Increase (2001)	3,439																				
Baseline-established 1% Increase Trigger (2001)	3,474																				
Result (Falls below the 1% Trigger by 199)	-199																				
Adjusted Average 2002 Count	3,586																				
Baseline-established 90% Confidence Interval (2001)	+/- 109																				
Baseline-established Significant Traffic Increase (2001)	3,555																				
Baseline-established 1% Increase Trigger (2001)	3,591																				
Result (Falls below the 1% Trigger by 5 vehicles)	-5																				
<b>Conclusion</b>	<p>The AM inbound adjusted average shows a decrease of 44 vehicles from the baseline, this decrease falls within the 90% confidence interval of +/- 120. The established 1% increase trigger requirement is not met and no additional mitigation is required.</p> <p>The PM inbound adjusted average shows an increase of 140 vehicles from the baseline count, this increase falls above the +90% confidence interval by 31 vehicles. This increase falls below the 1% increase trigger by 5 vehicles. Since the established 1% increased trigger requirement is not met, no additional mitigation is required. The 2002 volumes compared to 2001 baseline volumes do not constitute a statistical significant increase in either the AM or the PM peak hours and no mitigation measure is required.</p>																				

## Traffic Report #2

Traffic Report #2 was the second year of monitoring compared back to the Traffic Baseline Report.

<b>Data Collection:</b>	Week of April 7, 2003 and week of April 21, 2003 through week of May 19, 2003, week of September 29, 2003 and week of October 20, 2003.																								
<b>Final Report Issued:</b>	January 2004																								
<b>Final Report Revised:</b>	October 2004																								
<b>Findings:</b>	<p>The following were the results of the Report #2, 2003 Traffic Monitoring:</p> <p><u>Inbound AM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2003 Count</td> <td style="text-align: right;">3,413</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 120</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,439</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,474</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 90% Confidence Interval by 26)</td> <td style="text-align: right;">-26</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 1% Trigger by 61 vehicles)</td> <td style="text-align: right;">-61</td> </tr> </table> <p><u>Outbound PM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2003 Count</td> <td style="text-align: right;">3,476</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 109</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,555</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,591</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 90% Confidence Interval by 79 vehicles)</td> <td style="text-align: right;">-79</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 1% Trigger by 115 vehicles)</td> <td style="text-align: right;">-115</td> </tr> </table>	Adjusted Average 2003 Count	3,413	Baseline-established 90% Confidence Interval (2001)	+/- 120	Baseline-established Significant Traffic Increase (2001)	3,439	Baseline-established 1% Increase Trigger (2001)	3,474	Result (Falls below the 90% Confidence Interval by 26)	-26	Result (Falls below the 1% Trigger by 61 vehicles)	-61	Adjusted Average 2003 Count	3,476	Baseline-established 90% Confidence Interval (2001)	+/- 109	Baseline-established Significant Traffic Increase (2001)	3,555	Baseline-established 1% Increase Trigger (2001)	3,591	Result (Falls below the 90% Confidence Interval by 79 vehicles)	-79	Result (Falls below the 1% Trigger by 115 vehicles)	-115
Adjusted Average 2003 Count	3,413																								
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Result (Falls below the 90% Confidence Interval by 79 vehicles)	-79																								
Result (Falls below the 1% Trigger by 115 vehicles)	-115																								
<b>Conclusion</b>	<p>Although the AM inbound adjusted average shows an increase of 94 vehicles from the Baseline count, this increase falls within the 90% confidence interval of <math>\pm 120</math>. Therefore, this 94-vehicle increase does not represent a significant increase in traffic during the AM peak hour and no additional mitigation is required.</p> <p>The PM peak outbound adjusted average increased by 30 vehicles from the Baseline PM counts. This increase is also not significant because it falls within the 90% confidence boundary of <math>\pm 109</math>, no additional mitigation is required.</p> <p>The 2003 volumes compared to 2001 baseline volumes do not constitute a statistical significant increase in either the AM or the PM peak hours.</p>																								

### Traffic Report #3

Traffic Report #3 was the third year of monitoring compared back to the Traffic Baseline Report.

<b>Data Collection:</b>	Week of April 12, 2004 through week of May 17, 2004 and week of September 27, 2004 through week of October 4, 2004.																												
<b>Final Report Issued:</b>	March 2005																												
<b>Findings:</b>	<p>The following were the results of the Report #3, 2004 Traffic Monitoring:</p> <p><u>Inbound AM:</u></p> <table> <tr> <td>Adjusted Average 2004 Count</td> <td>3,176</td> </tr> <tr> <td>Baseline-established 90% Confidence Interval (2001)</td> <td>+/- 120</td> </tr> <tr> <td>Baseline-established Significant Traffic Increase (2001)</td> <td>3,439</td> </tr> <tr> <td>Baseline-established 1% Increase Trigger (2001)</td> <td>3,474</td> </tr> <tr> <td>Result (Falls below the 90% Confidence Interval by 263)</td> <td>-263</td> </tr> <tr> <td>Result (Falls below the 1% Trigger by 298 vehicles)</td> <td>-298</td> </tr> </table> <p><u>Outbound PM:</u></p> <table> <tr> <td>Adjusted Average 2004 Count</td> <td>3,642</td> </tr> <tr> <td>Baseline-established 90% Confidence Interval (2001)</td> <td>+/- 109</td> </tr> <tr> <td>Baseline-established Significant Traffic Increase (2001)</td> <td>3,555</td> </tr> <tr> <td>Baseline-established 1% Increase Trigger (2001)</td> <td>3,591</td> </tr> <tr> <td>Result (Falls above the 90% Confidence Interval by 87 vehicles)</td> <td>+87</td> </tr> <tr> <td>Result (Falls above the 1% Trigger by 51 vehicles)</td> <td>+51</td> </tr> <tr> <td>2004 Trip Credit</td> <td>-66</td> </tr> <tr> <td>Result with Trip Credit (Falls below the 1% Trigger by 15 vehicles)</td> <td>-15</td> </tr> </table>	Adjusted Average 2004 Count	3,176	Baseline-established 90% Confidence Interval (2001)	+/- 120	Baseline-established Significant Traffic Increase (2001)	3,439	Baseline-established 1% Increase Trigger (2001)	3,474	Result (Falls below the 90% Confidence Interval by 263)	-263	Result (Falls below the 1% Trigger by 298 vehicles)	-298	Adjusted Average 2004 Count	3,642	Baseline-established 90% Confidence Interval (2001)	+/- 109	Baseline-established Significant Traffic Increase (2001)	3,555	Baseline-established 1% Increase Trigger (2001)	3,591	Result (Falls above the 90% Confidence Interval by 87 vehicles)	+87	Result (Falls above the 1% Trigger by 51 vehicles)	+51	2004 Trip Credit	-66	Result with Trip Credit (Falls below the 1% Trigger by 15 vehicles)	-15
Adjusted Average 2004 Count	3,176																												
Baseline-established 90% Confidence Interval (2001)	+/- 120																												
Baseline-established Significant Traffic Increase (2001)	3,439																												
Baseline-established 1% Increase Trigger (2001)	3,474																												
Result (Falls below the 90% Confidence Interval by 263)	-263																												
Result (Falls below the 1% Trigger by 298 vehicles)	-298																												
Adjusted Average 2004 Count	3,642																												
Baseline-established 90% Confidence Interval (2001)	+/- 109																												
Baseline-established Significant Traffic Increase (2001)	3,555																												
Baseline-established 1% Increase Trigger (2001)	3,591																												
Result (Falls above the 90% Confidence Interval by 87 vehicles)	+87																												
Result (Falls above the 1% Trigger by 51 vehicles)	+51																												
2004 Trip Credit	-66																												
Result with Trip Credit (Falls below the 1% Trigger by 15 vehicles)	-15																												
<b>Conclusion:</b>	<p>The AM inbound adjusted average shows a decrease of 143 vehicles from the Baseline, this decrease falls below the +90% confidence interval by 263. The established 1% increase trigger requirement is not met, no additional mitigation is required.</p> <p>The PM peak outbound adjusted average increased by 196 vehicles from the Baseline counts. This increase is above the +90% confidence interval by 87 vehicles. This increase is significant because it falls above the 1% increase trigger by 51 vehicles. However, after applying 66 trip credits the PM peak outbound traffic was within the 1% trigger, therefore, no additional mitigation is required.</p>																												

## Traffic Report #4

Traffic Report #4 was the fourth year of monitoring compared back to the Traffic Baseline Report.

<b>Data Collection:</b>	Week of April 4, 2005 through week of May 9, 2005 and week of September 26 through week of October 3, 2005.																												
<b>Final Report Issued:</b>	May 2006																												
<b>Findings:</b>	<p>The following were the results of the Report #4, 2005 Traffic Monitoring:</p> <p><u>Inbound AM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2005 Count</td> <td style="text-align: right;">3,383</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 120</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,439</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,474</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 90% Confidence Interval by 56)</td> <td style="text-align: right;">-56</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 1% Trigger by 91 vehicles)</td> <td style="text-align: right;">-91</td> </tr> </table> <p><u>Outbound PM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2005 Count (Including 2 modifications)</td> <td style="text-align: right;">3,735</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 109</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,555</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,591</td> </tr> <tr> <td style="padding-left: 20px;">Result (falls above the 90% confidence Interval by 180 vehicles)</td> <td style="text-align: right;">+180</td> </tr> <tr> <td style="padding-left: 20px;">Result (falls above the 1% trigger by 144 vehicles)</td> <td style="text-align: right;">+144</td> </tr> <tr> <td style="padding-left: 20px;">2005 trip credit</td> <td style="text-align: right;">-174</td> </tr> <tr> <td style="padding-left: 20px;">Result with trip credit (falls below the 1 %trigger by 30 vehicles)</td> <td style="text-align: right;">-30</td> </tr> </table>	Adjusted Average 2005 Count	3,383	Baseline-established 90% Confidence Interval (2001)	+/- 120	Baseline-established Significant Traffic Increase (2001)	3,439	Baseline-established 1% Increase Trigger (2001)	3,474	Result (Falls below the 90% Confidence Interval by 56)	-56	Result (Falls below the 1% Trigger by 91 vehicles)	-91	Adjusted Average 2005 Count (Including 2 modifications)	3,735	Baseline-established 90% Confidence Interval (2001)	+/- 109	Baseline-established Significant Traffic Increase (2001)	3,555	Baseline-established 1% Increase Trigger (2001)	3,591	Result (falls above the 90% confidence Interval by 180 vehicles)	+180	Result (falls above the 1% trigger by 144 vehicles)	+144	2005 trip credit	-174	Result with trip credit (falls below the 1 %trigger by 30 vehicles)	-30
Adjusted Average 2005 Count	3,383																												
Baseline-established 90% Confidence Interval (2001)	+/- 120																												
Baseline-established Significant Traffic Increase (2001)	3,439																												
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Result (falls above the 90% confidence Interval by 180 vehicles)	+180																												
Result (falls above the 1% trigger by 144 vehicles)	+144																												
2005 trip credit	-174																												
Result with trip credit (falls below the 1 %trigger by 30 vehicles)	-30																												
<b>Conclusion:</b>	<p>The AM inbound adjusted average shows an increase of 64 vehicles from the Baseline, this increase falls below the + 90% confidence interval by 56. The established 1% increase trigger requirement is not met, no additional mitigation is required.</p> <p>The PM peak outbound adjusted average increased by 289 vehicles from the Baseline counts. This increase is above the +90% confidence interval by 180 vehicles. This increase is significant because it falls above the 1% increase trigger by 144 vehicles. However, after applying 174 trip credits the PM peak hour outbound traffic was within the 1% trigger, therefore, no additional mitigation is required.</p>																												



## Traffic Report #5

Traffic Report #5 was the fifth year of monitoring compared back to the Traffic Baseline Report.

<b>Data Collection:</b>	Week of April 17, 2006 through week of October 27, 2006.																								
<b>Final Report Issued:</b>	November 20, 2006																								
<b>Findings:</b>	<p>The following were the results of the Report #5, 2006 Traffic Monitoring:</p> <p><u>Inbound AM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2006 Count</td> <td style="text-align: right;">3,048</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 120</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,439</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,474</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 90% Confidence Interval by 391)</td> <td style="text-align: right;">-391</td> </tr> <tr> <td style="padding-left: 20px;">Result (Falls below the 1% Trigger by 426 vehicles)</td> <td style="text-align: right;">-426</td> </tr> </table> <p><u>Outbound PM:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Adjusted Average 2006 Count</td> <td style="text-align: right;">3,427</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 90% Confidence Interval (2001)</td> <td style="text-align: right;">+/- 109</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established Significant Traffic Increase (2001)</td> <td style="text-align: right;">3,555</td> </tr> <tr> <td style="padding-left: 20px;">Baseline-established 1% Increase Trigger (2001)</td> <td style="text-align: right;">3,591</td> </tr> <tr> <td style="padding-left: 20px;">Result (falls below the 90% confidence Interval by 128 vehicles)</td> <td style="text-align: right;">-128</td> </tr> <tr> <td style="padding-left: 20px;">Result (falls below the 1% trigger by 164 vehicles)</td> <td style="text-align: right;">-164</td> </tr> </table>	Adjusted Average 2006 Count	3,048	Baseline-established 90% Confidence Interval (2001)	+/- 120	Baseline-established Significant Traffic Increase (2001)	3,439	Baseline-established 1% Increase Trigger (2001)	3,474	Result (Falls below the 90% Confidence Interval by 391)	-391	Result (Falls below the 1% Trigger by 426 vehicles)	-426	Adjusted Average 2006 Count	3,427	Baseline-established 90% Confidence Interval (2001)	+/- 109	Baseline-established Significant Traffic Increase (2001)	3,555	Baseline-established 1% Increase Trigger (2001)	3,591	Result (falls below the 90% confidence Interval by 128 vehicles)	-128	Result (falls below the 1% trigger by 164 vehicles)	-164
Adjusted Average 2006 Count	3,048																								
Baseline-established 90% Confidence Interval (2001)	+/- 120																								
Baseline-established Significant Traffic Increase (2001)	3,439																								
Baseline-established 1% Increase Trigger (2001)	3,474																								
Result (Falls below the 90% Confidence Interval by 391)	-391																								
Result (Falls below the 1% Trigger by 426 vehicles)	-426																								
Adjusted Average 2006 Count	3,427																								
Baseline-established 90% Confidence Interval (2001)	+/- 109																								
Baseline-established Significant Traffic Increase (2001)	3,555																								
Baseline-established 1% Increase Trigger (2001)	3,591																								
Result (falls below the 90% confidence Interval by 128 vehicles)	-128																								
Result (falls below the 1% trigger by 164 vehicles)	-164																								
<b>Conclusion:</b>	<p>The AM inbound adjusted average shows a decrease of 271 vehicles from the Baseline, this decrease falls below the + 90% confidence interval by 391 vehicles. The established 1% increase trigger requirement is not met, no additional mitigation is required.</p> <p>The PM peak outbound adjusted average decreased by 19 vehicles from the Baseline counts. This decrease is below the +90% confidence interval by 128 vehicles. The established 1% increase trigger requirement is not met, no additional mitigation is required.</p>																								