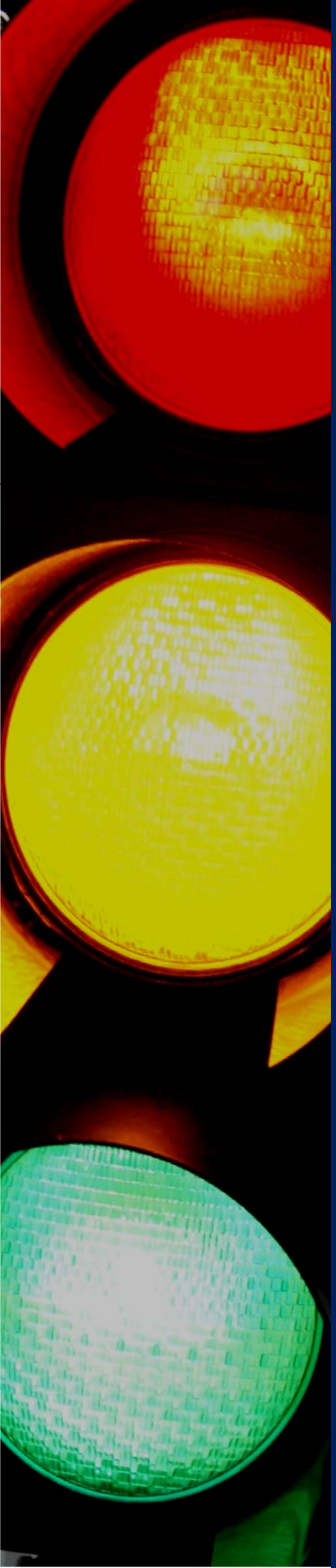

Systematic Signal Timing and Phasing Program

CUY-82 Royalton Road System Timing

Pearlview Drive to I-71 NB
City of Strongsville, Ohio
Task #12 (PID 94305)

Final Report
March 2014

TEC Engineering, Inc.

Professional Certification

"I certify that this TRAFFIC SIGNAL TIMING FINAL REPORT has been prepared by me or under my immediate supervision and that I have the experience and pre-qualifications in the appropriate fields of traffic and transportation engineering to prepare such a study."

ENGINEER'S SEAL

03/20/2014

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Revision History

Date	Version	Description	Author
02/14/2014	1.0	Final Report	TEC
03/24/2014	2.0	Final Report Revised	TEC

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1. Executive Summary

TEC Engineering, Inc. was retained by the Ohio Department of Transportation to conduct traffic signal timing analyses along SR-82 between Pearlview Drive and I-71 NB Exit. This section of SR 82 is located in the City of Strongsville in Cuyahoga County. The project section of SR 82 experiences significant traffic volumes because it serves as a major local east-west route as well as provides a connection to IR 71. There are numerous commercial and retail destinations along the corridor. Outside the commercial areas, the area is mostly residential. Due to the high number of commercial destinations along the SR 82 corridor, TEC was tasked with developing traffic signal timing for typical traffic volumes and patterns, as well as for during the holiday shopping season.

There are nine intersections controlled with traffic signals in the study area, operated by nine separate controllers. All the signals are operated by Econolite Model ASC/2s-2100 controllers. The City of Strongsville has jurisdiction over all the traffic signals within the study area. These nine local controllers are interconnected and the master is located at SR 82 & Howe Road. SR 82 has a speed limit of 35 mph throughout the study area. Signal locations can be found in *Figure 1* below.

Figure 1: SR 82 Intersection Locations

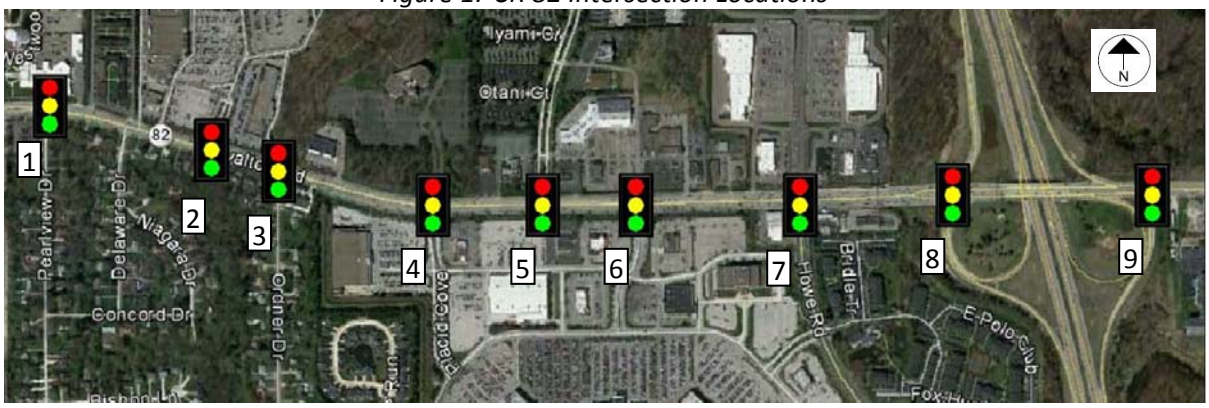


Table 1: Project Intersections

#	Intersection		
1	SR 82	at	Pearlview Drive
2	SR 82	at	Mall Drive (Target)
3	SR 82	at	Ordner Drive
4	SR 82	at	Placid Cove/West Mall Drive
5	SR 82	at	Falling Water Road
6	SR 82	at	Southpark Mall East Drive
7	SR 82	at	Howe Road
8	SR 82	at	I-71 SB Exit/Entrance
9	SR 82	at	I-71 NB Exit

The scope of the analysis was determined through discussions with the Ohio Department of Transportation District-12. As part of the study, field inspections of existing equipment were preformed to ensure the system is functioning properly. Manual and mechanical traffic counts were collected and pre-study travel time runs were completed. Models of the signal network,

roadway geometry, signal timing and phasing were completed for existing conditions during both typical operations (non-holiday) and the holiday shopping season. These models were modified and different scenarios were evaluated to develop the proposed timing. All basic timing parameters (minimum green, clearance intervals, walk, etc.) were calculated and updated where necessary for the proposed timing. The revised timing was input into the controllers in September 2013 and TEC performed field observations and split monitoring of the new timings. Fine-tuning was performed where necessary, and final travel time studies were completed. This report details the data collected and analyzed through completion of the Systematic Signal Timing and Phasing Program project.

In addition to development and implementation of the revised timing, TEC completed several additional tasks not typically included in a standard Systematic Signal Timing and Phasing Program Project. First, TEC provided technical assistance to the City of Strongsville to modify the display of the red ball/green arrow conflict for northbound Howe Road. Based on recommendations for wiring/controller modifications, this issue was resolved by the City in May 2013. Two additional tasks (performed under modifications to the existing ODOT Task) were also accomplished. The first mod included analysis and preparation of constructions plans to convert the eastbound left turn phase at SR 82 & Howe Road from protected permitted operation to a dual left turn protected operation. This modification was constructed prior to the holiday shopping season 2013. The second mod included additional monitoring (split monitoring and field observations) for fine-tuning of the holiday and non-holiday timing plans.

A comparison of the pre-study and optimized non-holiday and holiday peak MOE results indicates the proposed timing plans reduce delays and number of stops along the corridor and increase average speed and fuel economy. The network totals show improvements for all time periods. In some cases, the westbound results show a slight increase in delays and number of stops, and a decrease in average speed and fuel economy; however the eastbound direction and overall network totals show a net improvement for the corridor.

Comparison of the existing and optimized timing indicates that the optimized timing maintained or improved the levels of service at the majority of intersections within the study area for each study period. The intersection delay was also improved for many of the intersections. Based on the *Synchro* MOE comparison of the existing and proposed timing plans for the non-holiday periods, the network is most improved for the PM peak hour; however, significant improvement was made for the AM, Midday, and Saturday peak hours as well. The results for the holiday periods indicate significant network improvements for all peaks evaluated.

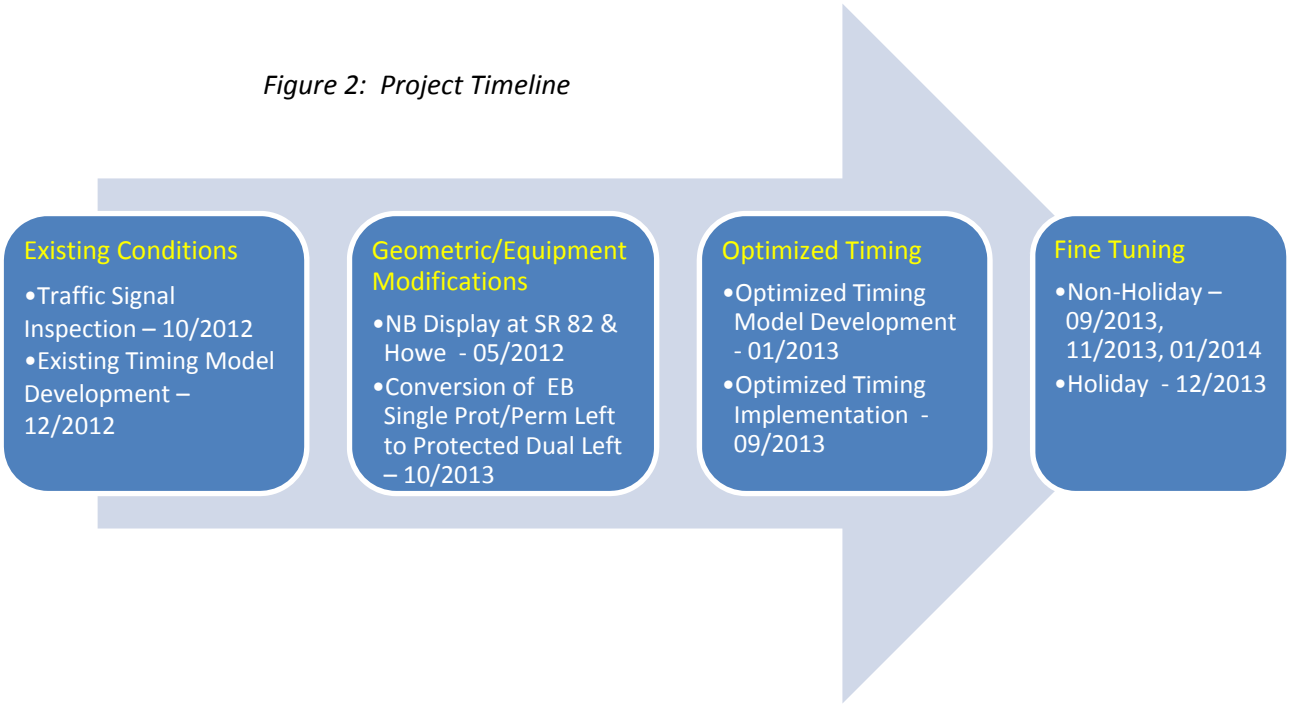
The results of the non-holiday travel time studies for the eastbound and westbound SR 82 routes indicate the revised timing has generally decreased travel time and delays for both directions during all evaluated time periods, especially during the times of peak traffic volumes including the PM and Saturday peak hours. The results of the travel time studies for the routes to and from I-71 show travel time and delay for these routes were increased. The optimized timing focused on reducing queues on the I-71 SB Ramp and between the I-71 SB Ramp and Howe Road. Motorists may now wait longer to turn to/from Howe Road, but overall movements through the corridor are improved.

The results of the holiday travel time studies for the eastbound and westbound SR 82 routes indicate the revised timing has generally decreased travel time and delays for both directions during all evaluated time periods.

The results of the signal timing analysis indicate the revised timing has overall improved travel conditions through the SR 82 (Royalton Road) signal system.

A project timeline is presented below for reference.

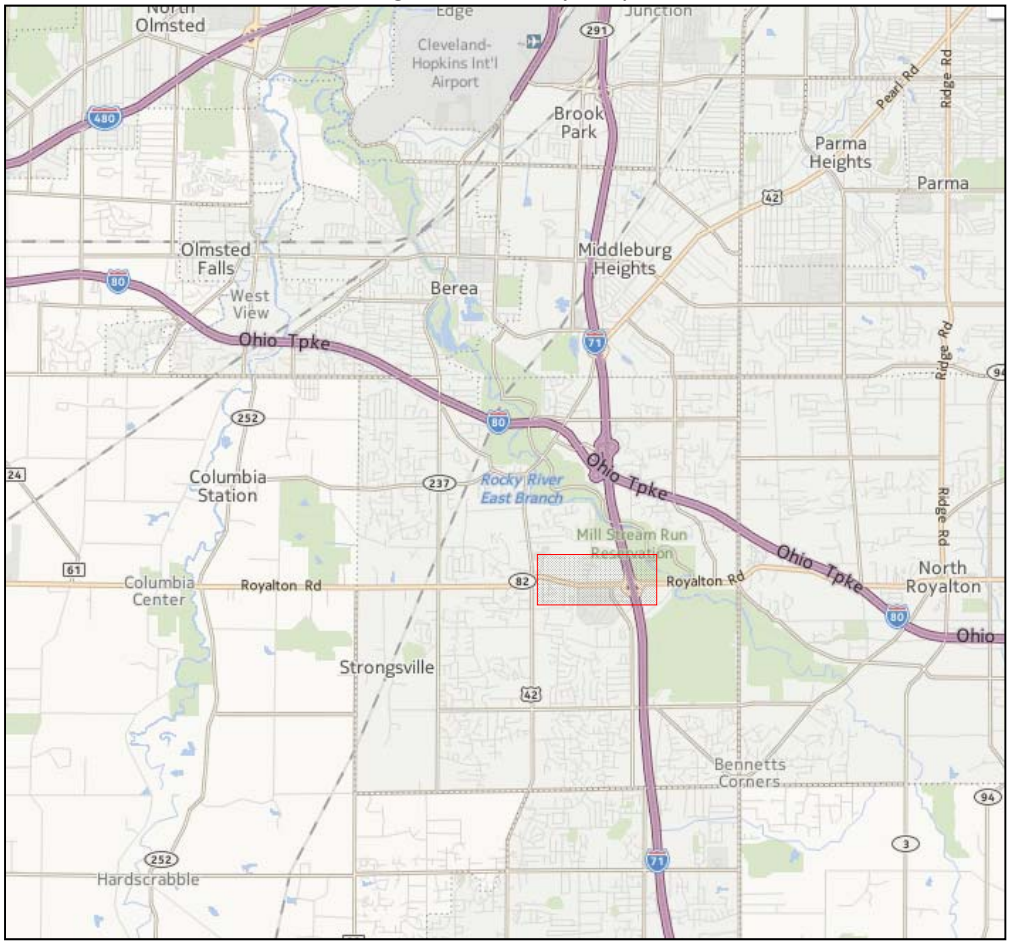
Figure 2: Project Timeline



2. Existing Traffic Signal System

The study area consists of SR-82 between Pearlview Drive and I-71 NB Exit. This section of SR 82 is located in the City of Strongsville in Cuyahoga County. The project section of SR 82 experiences significant traffic volumes because it serves as a major local east-west route as well as provides a connection to IR 71. There are numerous commercial and retail destinations along the corridor. Outside the commercial areas, the area is mostly residential. Due to the high number of commercial destinations along the SR 82 corridor, TEC was tasked with developing traffic signal timing for typical traffic volumes and patterns, as well as for during the holiday shopping season. *Figure 3* shows the location of the study area.

Figure 3: Vicinity Map



An existing conditions memo prepared for this project submitted 12/11/2013 is included in Appendix A.

3. Optimized Signal Timing

Cycle lengths were evaluated for each of the peak timing periods. Recommended pedestrian clearance timing and vehicle clearance timing were used in the proposed plans and for the most part are accommodated in the proposed signal timing plan. Splits were optimized based on capacity and field observations and were adjusted to maximize green time on SR 82.

During the AM peak the major problem areas are the eastbound SR 82 movement towards the I-71 ramps as well as the northbound right turn movement on Howe Road onto SR 82. TEC observed preferential lane utilization of the rightmost lane for eastbound SR 82 at Howe Road. Since both on-ramps are on the right side of the roadway, the rightmost lane receives the most use, while the other lanes are underutilized. At times, the rightmost eastbound lane was seen to back up to the East Mall intersection. In addition, the northbound right turn movement on Howe Road experiences lengthy queues, at times backing up to and through the traffic signal at Southpark Center Road. In addition, heavy volumes exiting I-71 SB cause queuing between Howe Road and the I-71 SB ramp. The close spacing of the I-71 SB Ramp and Howe Road limits the available storage of vehicles in the westbound direction. The goal of the optimized timing plans for the AM Peak was throughput in the eastbound direction from Howe Road through the I-71 interstate ramps, while attempting to limit the queue buildup in the westbound direction between Howe Road and the I-71 SB ramp.

During the Weekday Midday Peak, traffic volumes are moderate with no major issues noted. At the mall entrances, traffic turning into and out of the mall increases but did not exceed available turn bays. As in the AM Peak hour, at the eastern end of the corridor, preferential lane utilization of the rightmost eastbound lane is prevalent and sometimes causes queuing between the I-71 SB Ramp and Howe Road. The goal of the revised midday timing plan was to limit delays for the side streets (since through volumes on SR 82 are lower during this period) while still optimizing offsets along SR 82 for through movements.

During the PM Peak, traffic volumes build to their highest daily levels. The shopping center and mall side street approaches experience queuing, particularly for turns to the east (I-71 ramps). Preferential lane utilization of the rightmost eastbound lane near the I-71 interchange is prevalent. In the westbound direction, queues were noted between Howe Road and the I-71 SB ramp for the left turn onto Howe Road, as well as the through movement. During the PM Peak, traffic exiting I-71 to go both east and west on SR 82 is at its highest level and queues are notable, especially on the ramp from southbound I-71 to westbound SR 82. The first goal of the PM timing plan was to achieve the optimum splits and offsets to limit queues on westbound SR 82 at Howe Road from backing up to I-71 and blocking movements off the ramps (particularly off the SB ramp). For the remainder of the corridor, the splits and offsets were selected to balance delays and queues on the side streets while optimizing offsets for through traffic on SR 82.

The Saturday Midday Peak also experiences heavy traffic volumes, particularly related to the mall and shopping centers in the area. Queues are prevalent at some side street (shopping center) approaches because the existing timing plans heavily favor the eastbound/westbound SR 82 movements. Traffic volumes exiting I-71 SB to go west on SR 82 are significant and cause backups on the ramp. The left turn movements into the mall are heavy but were not seen to back up past their available bays. The eastbound left turn movements into the shopping centers north of SR 82 however, did experience backups exceeding their available bay lengths at East Mall and Howe Road. The goal of the revised Saturday Midday timing plan was to limit delays for the side streets while still optimizing offsets along

SR 82 for through movements. Special attention was again paid to the splits and offsets between Howe Road and the Ramps to limit queues on westbound SR 82 at Howe Road from backing up to I-71 and blocking movements off the ramps (particularly off the SB ramp).

The developed timing plans were evaluated for holiday conditions and slight modifications were made for the higher volumes which are typically experienced during the holiday shopping season. Holiday timing plans were coded into the controllers separately from non-holiday plans and are programmed to run the 46th week through the 1st week of the year.

The revised timing was input into the controllers in September 2013. The coordination time of day plans in the master controller are as follows:

Table 2: Coordination Time of Day Plans

Program Day	Step	Time	Plan	Cycle Length
1 MON-FRI	1	0:00	FREE	FREE
	2	6:00	111	140
	3	8:15	211	130
	4	15:00	311	140
	5	19:00	211	130
	6	21:30	FREE	FREE
2 SAT	7	0:00	FREE	FREE
	8	6:00	211	130
	9	9:00	411	140
	10	19:00	211	130
	11	22:30	FREE	FREE
3 SUN	12	0:00	FREE	FREE
	13	6:00	211	130
	14	9:00	411	140
	15	21:00	FREE	FREE
4 HOLIDAY MON-FRI	16	0:00	FREE	FREE
	17	6:00	111	140
	18	8:15	212	130
	19	11:00	312	140
	20	19:00	212	130
	21	21:30	FREE	FREE
5 HOLIDAY SAT-SUN	22	0:00	FREE	FREE
	23	6:00	212	130
	24	9:00	412	140
	25	23:00	FREE	FREE

4. Signal Timing LOS/Delay Results

The pre-study and optimized signal timing conditions were modeled in *Synchro 8.* Peak Hour Factors (PHF) for each intersection movement were calculated for each evaluated time period and an adjusted ideal saturation flow rate of 1900 veh/hr/lane were used in the models.

For signalized intersections, the Level of Service for the intersection is directly related to the average total delay per vehicle. The total delay is the sum of control delay and queue delay. Control delay is the component of delay caused by the downstream control device and is calculated using the Percentile Delay Method. Queue delay is an analysis of the affects of queues and blocking on short links and short turning bays. LOS is defined in terms of delay and is a measure of driver discomfort and intersection performance with respect to vehicular capacity and quality of service provided to road users. Delay refers to total average stopped delay experienced by motorists at the referenced intersection. The level of service is classified into six different levels, ranging from A to F. The LOS is classified in six different levels as described in Table 3 below.

Table 3: Level of Service Classifications

Level of Service	Description	Delay
A	Very low delay	<10 seconds per vehicle
B	Good progression	10-20 seconds per vehicle
C	Limit of acceptable delay	20-35 seconds per vehicle
D	Start of traffic breakdown	35-55 seconds per vehicle
E	High delay	55-80 seconds per vehicle
F	Congested conditions, unacceptable delay	>80 seconds per vehicle

During the course of the project, TEC was asked to evaluate the impact of providing a fully protected dual left turn movement for eastbound SR 82 at Howe Road. Due to the existing intersection geometry, conversion of the eastbound left to a dual protected movement requires lead-lag phasing of the left turn movements at the intersection. The westbound movement was chosen to be the leading phase due to queuing issues between Howe Road and the I-71 SB Ramps. This modification has negligible impact on overall network operations, but slightly improves intersection operation and capacity at the intersection of SR 82 & Howe Road. TEC prepared the construction plans for implementing the proposed phasing modification and the improvements were implemented in October, 2013. The optimized timing plan results below include the EB left improvements at SR 82 & Howe Road.

The optimized timing was developed in an attempt to mitigate the problem areas associated with each studied peak. The level of service and delay comparison between pre-study and optimized conditions for all signals within the study area are shown below in the following tables. Pre-study and optimized timing Synchro results are provided in *Appendix E*. **Negative delay reduction values represent an improvement and are indicated in green in the tables below.**

Table 4: AM Non-Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	AM PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	B	16.5	B	14.2	**-2.3**
SR 82 & Mall Drive (Target)	A	6.3	A	4.1	**-2.2**
SR 82 & Ordner Drive	A	8.3	A	9.0	0.7
SR 82 & Placid Cove/West Mall Dr.	A	8.3	A	5.1	**-3.2**
SR 82 & Falling Water Road	A	5.6	A	3.9	**-1.7**
SR 82 & Southpark Mall East Drive	B	12.1	A	8.5	**-3.6**
SR 82 & Howe Road	F	90.2	F	80.5	**-9.7**
SR 82 & I-71 SB Exit/Entrance	E	57.2	D	40.7	**-16.5**
SR 82 & I-71 NB Exit	B	16.5	B	18.2	1.7

Table 5: Midday Non-Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	Midday PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	C	26.8	B	18.7	**-8.1**
SR 82 & Mall Drive (Target)	B	11.8	B	12.2	0.4
SR 82 & Ordner Drive	B	16.4	B	11.5	**-4.9**
SR 82 & Placid Cove/West Mall Dr.	C	24.7	B	16.8	**-7.9**
SR 82 & Falling Water Road	A	8.7	A	7.3	**-1.4**
SR 82 & Southpark Mall East Drive	C	25.4	C	25.8	0.4
SR 82 & Howe Road	D	42.7	D	39.5	**-3.2**
SR 82 & I-71 SB Exit/Entrance	C	25.7	C	28.2	2.5
SR 82 & I-71 NB Exit	B	13.3	B	11.1	**-2.2**

Table 6: PM Non-Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	PM PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	C	32.2	C	20.3	**-11.9**
SR 82 & Mall Drive (Target)	B	14.0	B	11.1	**-2.9**
SR 82 & Ordner Drive	B	16.9	A	9.7	**-7.2**
SR 82 & Placid Cove/West Mall Dr.	C	30.3	C	27.0	**-3.3**
SR 82 & Falling Water Road	B	10.9	B	10.2	**-0.7**
SR 82 & Southpark Mall East Drive	C	27.1	C	27.9	0.8
SR 82 & Howe Road	F	111.2	F	102.8	**-8.4**
SR 82 & I-71 SB Exit/Entrance	F	146.1	F	91.7	**-54.4**
SR 82 & I-71 NB Exit	B	16.9	B	16.1	**-0.8**

Table 7: Sat Mid Non-Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	SAT MID PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	D	50.4	C	27.3	-23.1
SR 82 & Mall Drive (Target)	C	20.2	B	19.0	-1.2
SR 82 & Ordner Drive	C	23.9	B	18.5	-5.4
SR 82 & Placid Cove/West Mall Dr.	E	56.5	D	47.5	-9.0
SR 82 & Falling Water Road	B	12.1	B	13.8	1.7
SR 82 & Southpark Mall East Drive	D	46.5	D	49.4	2.9
SR 82 & Howe Road	D	52.4	D	50.8	-1.6
SR 82 & I-71 SB Exit/Entrance	D	41.4	D	38.5	-2.9
SR 82 & I-71 NB Exit	B	19.2	B	16.3	-2.9

Table 8: Midday Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	Midday PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	D	45.6	C	25.0	-20.6
SR 82 & Mall Drive (Target)	B	12.7	B	13.2	0.5
SR 82 & Ordner Drive	B	17.9	B	12.7	-5.2
SR 82 & Placid Cove/West Mall Dr.	C	27.1	C	22.5	-4.6
SR 82 & Falling Water Road	B	11.0	A	8.6	-2.4
SR 82 & Southpark Mall East Drive	C	31.9	C	32.8	0.9
SR 82 & Howe Road	D	51.0	D	38.5	-12.5
SR 82 & I-71 SB Exit/Entrance	C	29.7	C	31.8	2.1
SR 82 & I-71 NB Exit	B	16.8	B	14.0	-2.8

Table 9: PM Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	PM PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	C	32.9	C	20.2	-12.7
SR 82 & Mall Drive (Target)	B	14.9	B	11.4	-3.5
SR 82 & Ordner Drive	B	18.8	B	10.6	-8.2
SR 82 & Placid Cove/West Mall Dr.	D	46.6	C	33.2	-13.4
SR 82 & Falling Water Road	A	9.5	A	9.4	-0.1
SR 82 & Southpark Mall East Drive	C	29.1	C	30.7	1.6
SR 82 & Howe Road	F	90.8	F	83.1	-7.7
SR 82 & I-71 SB Exit/Entrance	F	142.6	F	91.1	-51.5
SR 82 & I-71 NB Exit	B	17.0	B	16.2	-0.8

Table 10: Sat Mid Holiday Peak Comparison between Pre-Study and Optimized Intersection LOS

Intersection	SAT MID PEAK				
	Existing		Optimized		Δ Delay
	LOS	*Delay*	*LOS*	*Delay*	
SR 82 & Pearlview Drive	D	41.8	C	22.8	**-19.0**
SR 82 & Mall Drive (Target)	C	20.6	B	19.7	**-0.9**
SR 82 & Ordner Drive	C	24.4	C	25.5	1.1
SR 82 & Placid Cove/West Mall Dr.	E	74.4	E	59.3	**-15.1**
SR 82 & Falling Water Road	B	13.4	B	15.5	2.1
SR 82 & Southpark Mall East Drive	D	47.9	D	45.9	**-2.0**
SR 82 & Howe Road	F	81.8	E	76.2	**-5.6**
SR 82 & I-71 SB Exit/Entrance	D	53.2	D	46.0	**-7.2**
SR 82 & I-71 NB Exit	C	28.1	B	19.8	**-8.3**

Optimized Timing Fine Tune

After the optimized timing was field implemented (September 2013), TEC's engineers provided monitoring and fine-tuning of the implemented timing. Weekday non-holiday field observations were completed on September 20, 2013. Weekend non-holiday observations were completed November 16, 2013. The offset at the I-71 SB ramp was modified slightly for the Saturday midday peak, and vehicle passage for the ramp phase was increased. In addition, the min green for the ramp phase was increased from 7 to 12 seconds to attempt to keep the ramp from gapping out to quickly. Weekday and weekend non-holiday observations were also completed in January 2014. Minor offset adjustments were made based on field conditions.

Holiday observations were completed December 13-14, 2013. Based on the holiday observations, it was determined that the midday plan was not giving the ramp enough time and volumes were quite high, so the time of day plan was modified to run the PM plan for the entire midday and PM period. In addition, based on the observations, splits during the PM peak at SR 82 and Howe Road were slightly modified to squeeze side street phases to provide an additional 10 seconds of green for WB Howe Road (Phase 6).

These minor adjustments are not reflected in the Synchro results presented above. However, at the conclusion of the report, updated Synchro files with the final fine tuning timing have been provided to ODOT and the City of Strongsville.

5. Synchro Arterial Level of Service and Measures of Effectiveness Results

The arterial Level of Service shows total signal delay for each direction. This is the total signal delay (in seconds) that a vehicle would experience by traveling the entire length of the arterial in each particular direction. Progression is generally affected by the offset at each intersection. Offset adjustments can reduce overall time travelling throughout the corridor. The comparison between the pre-study and optimized arterial parameters is shown in the following tables. **Improvements are indicted in green.** The pre-study and optimized arterial LOS reports for the evaluated time periods are provided in *Appendix F.* The time space diagrams for each optimized time-of-day plan are included in *Appendix G*.

Table 11: Comparisons of Non-Holiday Pre-Study and Optimized Arterial LOS Results

AM	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	389.6	331.4	-15%	269.6	227.6	-16%
Signal Delay (sec)	238.8	180.6	-24%	111.2	69.2	-38%
Arterial Speed (mph)	10.9	12.8	17%	16.7	19.8	19%
Arterial LOS	E	E		D	C	

MID	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	335.4	283.7	-15%	267.5	259.7	-3%
Signal Delay (sec)	184.6	132.9	-28%	109.1	101.3	-7%
Arterial Speed (mph)	12.7	15.0	18%	16.9	17.4	3%
Arterial LOS	E	D		D	D	

PM	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	661.5	603.4	-9%	302.0	300.0	-1%
Signal Delay (sec)	510.7	452.6	-11%	143.6	141.6	-1%
Arterial Speed (mph)	6.4	7.0	9%	15.0	15.1	1%
Arterial LOS	F	F		D	D	

MID SAT	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	441.1	368.9	-16%	338.9	355.4	5%
Signal Delay (sec)	290.3	218.1	-25%	180.5	197.0	9%
Arterial Speed (mph)	9.6	11.5	20%	13.3	12.7	-5%
Arterial LOS	F	E		E	E	

The results of the non-holiday arterial parameters comparison indicate the proposed timing improves conditions in both the eastbound and westbound directions during the AM and Midday peak periods. During the PM and Saturday Midday, arterial parameters are improved in the eastbound direction but slightly reduced in the westbound direction.

Table 12: Comparisons of Holiday Pre-Study and Optimized Arterial LOS Results

MID	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	394.5	321.4	-19%	297.8	303.5	2%
Signal Delay (sec)	243.7	170.6	-30%	139.4	145.1	4%
Arterial Speed (mph)	10.8	13.2	22%	15.2	14.9	-2%
Arterial LOS	E	E		D	D	

PM	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	654.2	574.8	-12%	322.2	328.7	2%
Signal Delay (sec)	503.4	424.0	-16%	163.8	170.3	4%
Arterial Speed (mph)	6.5	7.4	14%	14.0	13.7	-2%
Arterial LOS	F	F		D	E	

MID SAT	Eastbound			Westbound		
	Pre-Study	Optimized	%Δ	Pre-Study	Optimized	%Δ
Travel Time (sec)	479.8	419.2	-13%	417.5	455.4	9%
Signal Delay (sec)	329.0	268.4	-18%	259.1	297.0	15%
Arterial Speed (mph)	8.9	10.1	13%	10.8	9.9	-8%
Arterial LOS	F	F		E	F	

The results of the non-holiday comparison indicate arterial parameters are improved in both directions in the AM and Midday peak periods. During the PM peak, arterial parameters are improved in the eastbound direction but slightly reduced in the westbound direction. For the Saturday Midday period, parameters are improved for the eastbound direction, but are reduced in the westbound direction. During the Saturday proposed plans, through progression was impacted by giving more time to northbound/southbound shopping center approaches and eastbound/westbound left turn phases.

Another way to quantify the improvement is to compare the 'Measures of Effectiveness' (MOE's) between the pre-study and optimized *Synchro* traffic simulations. In *Table 13* and *Table 14* the control delay/vehicle, average speed, fuel economy and performance index are compared for the non-holiday and holiday traffic conditions, respectively.

Table 13: Measures of Effectiveness – Non-Holiday Peaks

AM	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	24	18	-25%	16	11	-31%	22	20	-9%
Total Delay (hr.)	85	64	-25%	43	29	-33%	191	170	-11%
Stops/Vehicle	0.29	0.29	0%	0.41	0.28	-32%	0.36	0.32	-11%
Avg Speed (mph)	13	16	23%	16	20	25%	13	14	8%
Fuel Economy (mpg)	11.4	12.7	11%	11.9	14.4	21%	10.4	11.2	8%

MID	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	17	13	-24%	14	14	0%	18	16	-11%
Total Delay (hr.)	66	48	-27%	48	47	-2%	171	152	-11%
Stops/Vehicle	0.39	0.33	-15%	0.37	0.37	0%	0.41	0.38	-7%
Avg Speed (mph)	16	18	13%	17	17	0%	14	15	7%
Fuel Economy (mpg)	11.8	13.4	14%	12.3	12.5	2%	10.7	11.3	6%

PM	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	50	44	-12%	23	21	-9%	42	33	-21%
Total Delay (hr.)	230	201	-13%	106	104	-2%	509	431	-15%
Stops/Vehicle	0.42	0.34	-19%	0.45	0.46	2%	0.47	0.44	-6%
Avg Speed (mph)	8	9	13%	13	13	0%	8	9	13%
Fuel Economy (mpg)	7.5	8.3	11%	10.1	10.1	0%	7.5	8.2	9%

SAT MID	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	29	21	-28%	22	24	4	28	25	-11%
Total Delay (hr.)	150	102	-32%	154	156	1%	414	357	-14%
Stops/Vehicle	0.43	0.41	-5%	0.47	0.45	-4%	0.48	0.46	-4%
Avg Speed (mph)	10	14	40%	11	10	-9%	10	11	10%
Fuel Economy (mpg)	9.1	10.7	18%	8.9	8.9	0%	8.4	9.1	8%

Table 14: Measures of Effectiveness – Holiday Peaks

MID	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	25	17	-32%	18	18	0%	24	20	-17%
Total Delay (hr.)	107	72	-33%	74	72	-3%	248	207	-17%
Stops/Vehicle	0.41	0.37	-10%	0.44	0.43	-2%	0.45	0.43	-4%
Avg Speed (mph)	12	16	33%	15	15	0%	12	14	17%
Fuel Economy (mpg)	10.1	11.8	17%	10.9	11.1	2%	9.5	10.3	8%

PM	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	50	41	-18%	20	22	10%	40	32	-20%
Total Delay (hr.)	244	196	-20%	99	104	5%	514	424	-18%
Stops/Vehicle	0.41	0.33	-20%	0.45	0.48	7%	0.46	0.44	-4%
Avg Speed (mph)	8	9	13%	13	13	0%	8	10	25%
Fuel Economy (mpg)	7.5	8.8	17%	10.4	10.1	-3%	7.6	8.4	11%

SAT MID	EB			WB			Network Totals		
	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ	Pre-Study	Opt.	%Δ
Control Delay/ Vehicle (sec)	33	27	-18%	34	37	9%	35	33	-6%
Total Delay (hr.)	180	135	-25%	277	275	-1%	610	551	-10%
Stops/Vehicle	0.49	0.48	-2%	0.59	0.55	-7%	0.55	0.53	-4%
Avg Speed (mph)	10	12	20%	8	8	0%	8	9	13%
Fuel Economy (mpg)	8.4	9.5	13%	6.9	7.0	1%	7.2	7.7	7%

A comparison of the pre-study and optimized non-holiday and holiday peak MOE results indicates the proposed timing plans reduce delays and number of stops along the corridor and increase average speed and fuel economy. The network totals show improvements for all time periods. In some cases, the westbound results show a slight increase in delays and number of stops, and a decrease in average speed and fuel economy; however, the eastbound direction and overall network totals show a net improvement for the corridor.

Comparison of the existing and optimized timing indicates that the optimized timing maintained or improved the levels of service at the majority of intersections within the study area for each study period. The intersection delay was also improved for many of the intersections. Based on the *Synchro* MOE comparison of the existing and proposed timing plans for the non-holiday periods, the network is most improved for the PM peak hour; however, significant improvement was made for the AM, Midday, and Saturday peak hours as well. The results for the holiday periods indicate significant network improvements for all peaks evaluated.

6. Travel Time Study Results

Travel Time Studies were performed before and after the optimized signal timing improvements were implemented. Travel time studies were conducted on SR 82 in the WB and EB directions between Pearlview Drive and the IR 71 NB Ramps and for routes to/from IR 71 to Howe Road (Howe Road NB to SR 82 EB to IR 71 NB and IR 71 SB to SR 82 WB to Howe Road SB). Travel time routes included EB/WB SR 82 for the AM, midday, off, and PM peak periods during a typical weekday, as well as during the weekend midday peak. Travel times were also completed for the same time periods (minus the AM peak) during a high volume day during the holiday shopping season. The Howe to IR 71 routes were completed for the non-holiday AM and PM peak periods. Multiple runs were made in each direction for each peak period. The pre-study and optimized timing Travel Time Studies are compared in terms of the following parameters:

- Average Speed (mph)
- Average Total Travel Time (sec)
- Average Number of Stops
- Average Total Delay (sec)

The results for the before and after travel time studies are summarized in the following tables. Before (pre-study) detailed reports are provided in *Appendix J.* The after (optimized) detailed reports are provided in *Appendix K*.

The results of the westbound after routes could have been slightly impacted by the addition of the dual left, protected left turn phase for the eastbound left turn movement at SR 82 & Howe Road, as the signal phasing was modified after the "before" runs but prior to the "after" runs.

EB/WB SR 82 Non-Holiday Travel Time Results

Table 15: Eastbound SR 82 (Royalton Road) NON HOLIDAY Travel Time Study Statistics

	AM Peak		Midday Peak		PM Off Peak		PM Peak		SAT Mid	
	Before	After	Before	After	Before	After	Before	After	Before	After
Avg Speed (mph)	30.5	29.6	24.6	26.3	19.2	25.1	24.3	25.7	26.6	30.1
Avg Travel Time (in sec)	202.7	202.2	241.8	213.0	297.6	253.2	262.8	246.0	285.0	199.8
Avg # Stops	2.1	1.5	2.3	1.6	4.3	2.1	2.6	2.0	2.8	1.2
Total Delay (in sec)	72.3	75.6	108.6	85.8	167.4	120.6	125.4	112.2	154.8	66.0

Table 16: Westbound SR 82 (Royalton Road) NON HOLIDAY Travel Time Study Statistics

	AM Peak		Midday Peak		PM Off Peak		PM Peak		SAT Mid	
	Before	After	Before	After	Before	After	Before	After	Before	After
Avg Speed (mph)	31.1	30.3	22.4	23.1	27.9	25.5	22.8	24.1	22.6	24.1
Avg Travel Time (in sec)	173.9	163.8	223.8	237.0	223.8	205.4	341.4	257.4	294.0	250.2
Avg # Stops	1.3	0.9	2.9	2.4	3.0	1.9	4.1	2.6	4.0	2.4
Total Delay (in sec)	41.2	34.8	87.0	104.4	87.0	72.6	214.8	127.2	156.0	106.2

Table 17: Overall SR 82 (Royalton Road) NON HOLIDAY Travel Time Study Statistics

	AM Peak		Midday Peak		PM Off Peak		PM Peak		SAT Mid	
	Before	After	Before	After	Before	After	Before	After	Before	After
Average Travel Time (sec)	376.6	366	465.6	450	521.4	458.6	604.2	503.4	579.0	450.0
Percent Reduction	-3%		-3%		-12%		-17%		-22%	
Overall Delay (sec)	113.5	110.4	195.6	190.2	254.4	193.2	340.2	239.4	310.8	172.2
Percent Reduction	-3%		-3%		-24%		-30%		-45%	

The results of the travel time studies for the eastbound and westbound SR 82 routes indicate the revised timing has generally decreased travel time and delays for both directions during all evaluated time periods, especially during the times of peak traffic volumes including the PM and Saturday peak hours.

IR 71/Howe Route Non-Holiday Travel Time Results

Table 18: IR 71/Howe Route Northbound to Eastbound NON HOLIDAY Travel Time Study Statistics

	AM Peak		PM Peak	
	Before	After	Before	After
Avg Speed (mph)	9.0	7.4	9.8	9.6
Avg Travel Time (in sec)	95.4	117.0	86.4	91.2
Avg # Stops	1.6	1.8	0.9	1.4
Total Delay (in sec)	78.0	99.0	66.0	72.0

Table 19: IR 71/Howe Route Southbound to Westbound NON HOLIDAY Travel Time Study Statistics

	AM Peak		PM Peak	
	Before	After	Before	After
Avg Speed (mph)	13.9	14.4	10.2	8.2
Avg Travel Time (in sec)	143.4	151.8	187.2	220.2
Avg # Stops	1.7	1.6	2.3	2.3
Total Delay (in sec)	112.2	120.0	156.0	191.4

Table 20: Overall IR 71/Howe Route NON HOLIDAY Travel Time Study Statistics

	AM Peak		PM Peak	
	Before	After	Before	After
Average Travel Time (sec)	238.8	268.8	273.6	311.4
Percent Reduction	13%		14%	
Overall Delay (sec)	190.2	219.0	222	263.4
Percent Reduction	15%		19%	

The results of the travel time studies for the routes to and from I-71/Howe Road show travel time and delay for these routes were increased. The optimized timing focused on reducing queues on the I-71 SB Ramp and between the I-71 SB Ramp and Howe Road. Offsets were set to clear the queues between Howe Road and the I-71 SB ramps so the SB ramp has the opportunity to use as much of its allotted split as possible. By the time the motorists from the I-71 SB ramp reach the WB turn onto Howe Road, with the revised timing they will likely not make it through without waiting for the intersection to cycle around to get the left turn arrow. Motorists may now wait longer to turn to/from Howe Road, but overall movements on a system-wide basis are improved and the queues on the I-71 SB ramp have decreased.

EB/WB Holiday Travel Time Results

Table 21: Eastbound SR 82 (Royalton Road) HOLIDAY Travel Time Study Statistics

	Midday Peak		PM Off Peak		PM Peak		SAT Mid	
	Before	After	Before	After	Before	After	Before	After
Avg Speed (mph)	23.4	24.6	22.9	23.2	21.4	21.8	22.6	28.2
Avg Travel Time (in sec)	253.8	216.6	251.4	239.4	313.8	252.0	269.4	196.8
Avg # Stops	2.4	2.2	2.0	2.4	3.4	1.7	2.5	1.7
Total Delay (in sec)	120.0	87.6	119.4	109.2	178.8	122.4	136.8	67.2

Table 22: Westbound SR 82 (Royalton Road) HOLIDAY Travel Time Study Statistics

	Midday Peak		PM Off Peak		PM Peak		SAT Mid	
	Before	After	Before	After	Before	After	Before	After
Avg Speed (mph)	23.7	20.8	20.1	22.2	20.5	21.3	21.2	19.1
Avg Travel Time (in sec)	301.0	294.6	306.0	284.4	407.4	320.1	300.3	340.2
Avg # Stops	3.8	3.7	4.2	2.7	7.2	4.0	4.3	4.3
Total Delay (in sec)	176.6	172.2	172.2	156.0	313.2	195.6	152.3	213.0

Table 23: Overall SR 82 (Royalton Road) HOLIDAY Travel Time Study Statistics

	Midday Peak		PM Off Peak		PM Peak		SAT Mid	
	Before	After	Before	After	Before	After	Before	After
Average Travel Time (sec)	554.8	511.2	557.4	523.8	721.2	572.1	569.7	537.0
Percent Reduction	-8%		-6%		-21%		-6%	
Overall Delay (sec)	296.6	259.8	291.6	265.2	492.0	318.0	289.1	280.2
Percent Reduction	-12%		-9%		-35%		-3%	

The results of the holiday travel time studies for the eastbound and westbound SR 82 routes indicate the revised timing has generally decreased travel time and delays for both directions during all evaluated time periods. During the Saturday Midday, the westbound travel time shows an increase while during

the same period the eastbound travel time shows a decrease. The averaged results for this period show an overall decrease in travel time and delay on the corridor during the Saturday Midday peak.

7. Additional Evaluation

In addition to development and implementation of the revised timing, TEC completed several additional tasks not typically included in a standard Systematic Signal Timing and Phasing Program Project. These additional tasks are described below.

Northbound Signal Display at SR 82 & Howe Road

TEC provided technical assistance to the City of Strongsville to modify the display of the red ball/green arrow conflict for northbound Howe Road. Based on recommendations for wiring/controller modifications, this issue was resolved by the City in May 2013.

Red ball/green arrow conflict which was resolved

Conversion of Eastbound Left Turn Phase at SR 82 & Howe Road

Two additional tasks (performed under modifications to the existing ODOT Task) were also accomplished. The first mod included analysis and preparation of construction plans to convert the eastbound left turn phase at SR 82 & Howe Road from protected-permitted operation to a dual left turn protected operation. Due to the existing intersection geometry, conversion of the eastbound left to a dual protected movement requires lead-lag phasing of the left turn movements at the intersection. The westbound movement was determined to be the leading phase due to queuing issues between Howe Road and the I-71 SB Ramps. This modification has negligible impact on overall network operations, but slightly improves intersection operation and capacity at the intersection of SR 82 & Howe Road. A memo was prepared summarizing the analysis related to this modification and has been included in *Appendix I*. TEC also prepared the construction plans and estimate for the conversion. This modification was constructed in October, 2013.

Signal Monitoring and Fine Tuning

The second mod included additional monitoring (split monitoring and field observations) for fine-tuning of the holiday and non-holiday timing plans. This included monitoring splits at intersections throughout the network, particularly at the I-71 SB Ramp and at Howe Road. In addition, TEC reviewed preemption reports for several Friday and Saturday afternoons/evenings to monitor how often preemption is impacting coordination during the peak travel periods.

TEC collected split data for weekdays 5pm-7pm and Saturdays 11am-7pm from November 30, 2013 – January 6, 2014. Analysis of the split reports indicates that at the I-71 SB Ramp, the ramp phase maxes out a majority of the time during the 5pm-7pm hour. On Saturdays, the ramp maxes out less than half the time. The vehicle gap was increased to 5 seconds on the ramp to help prevent the ramp from gapping out while traffic is still moving up the ramp towards Royalton Road. The offset at the I-71 SB Ramp was adjusted to get the westbound queue moving sooner. Otherwise, traffic from the SB ramp turns into the back of queue at Howe Road. Observations indicated that for a majority of the peak hours, the revised timing is able to keep traffic from backing up the ramp onto I-71 mainline.

At the intersection of SR 82 & Howe Road, during a majority of the hours evaluated, all phases are maxing their split out. Observations indicated that queues are managed at this intersection with the exception of during the worst periods, when westbound traffic backs up to and through the adjacent intersection of SR 82 and the I-71 SB Ramp.

TEC also collected emergency vehicle preemption reports for several Fridays and Saturdays during the holiday shopping season. An evaluation of the preemption reports indicates that the traffic signals along SR 82 are preempted an average of 3-6 times on a typical day. These occur sporadically over the course of the day, with preemption occurring 1-2 times during the PM peak on an average day. While preemption does significantly impact coordination when it occurs, it does not seem to be seriously disrupting traffic flows during an average day.

8. Further Action

TEC has been made aware that the City of Strongsville will soon be working on a project to upgrade the traffic signals throughout the City. TEC would recommend that the City consider the possibility of running the SR 82 signals under adaptive signal timing. Currently, the SR 82 system runs conventional, time of day signal operation using pre–programmed, daily signal timing schedules. Adaptive signal control technology adjusts the timing of phases to accommodate changing traffic patterns and ease traffic congestion. The main benefits of adaptive signal control technology over conventional signal systems are that it can:

- Continuously distribute green time equitably for all traffic movements.
- Improve travel time reliability by progressively moving vehicles through green lights.
- Reduce congestion by creating smoother flow.
- Prolong the effectiveness of traffic signal timing.

Adaptive signal systems are ideal in locations with unpredictable traffic patterns or quickly changing traffic patterns. During the design of the City of Strongsville's traffic signal system, TEC would recommend the designer include the appropriate hardware and software upgrades to allow adaptive traffic signal operation to be considered on the SR 82 signal system.

Index of Appendices

Appendix A:

Existing Conditions Memo

MEMORANDUM

To: Brian Blayney, PE, ODOT District 12

From: Mike Hafner, PE, PTOE, TEC Engineering Inc.

Date: December 11, 2012

Subject: Proposed Local Signal Timings & Existing Condition Synchro Models
SR 82 (Royalton Road)

Existing Traffic Signal System

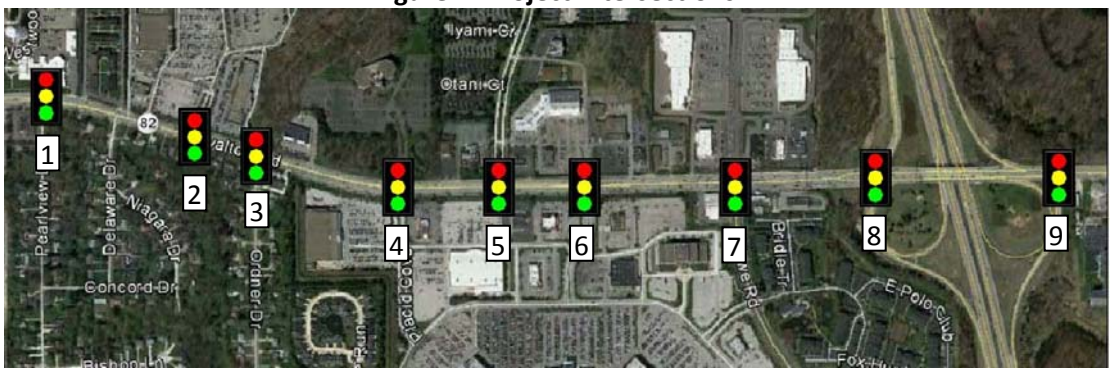
This study analyzes nine signalized intersections along SR 82 (Royalton Road). These intersections include:

Table 1: Project Intersections

#	Intersection			Maintaining Agency
1	SR 82	at	Pearlview Drive	City of Strongsville
2	SR 82	at	Mall Drive (Target)	City of Strongsville
3	SR 82	at	Ordner Drive	City of Strongsville
4	SR 82	at	Placid Cove/West Mall Drive	City of Strongsville
5	SR 82	at	Falling Water Road	City of Strongsville
6	SR 82	at	Southpark Mall East Drive	City of Strongsville
7	SR 82	at	Howe Road	City of Strongsville
8	SR 82	at	I-71 SB Exit/Entrance	City of Strongsville
9	SR 82	at	I-71 NB Exit	City of Strongsville

A map of the study area is provided in Figure 1 below.

Figure 1: Project Intersections



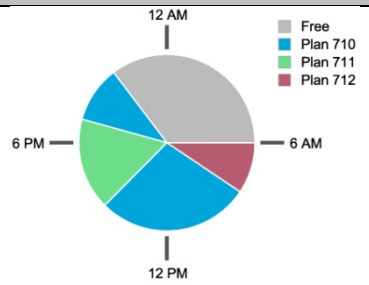
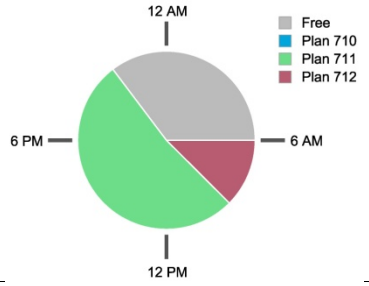
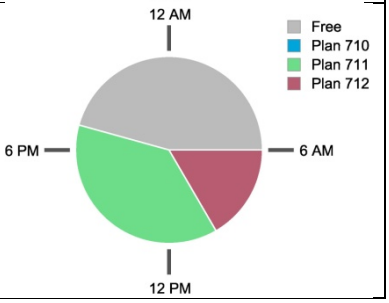
The master controller for these signals is located at SR 82 & Howe Road and is currently operating in time of day (TOD) system operation. All signals are operated and maintained by the City of Strongsville. Each intersection utilizes an Econolite Model ASC/2s-2100 controller for operation.

The current timing programs are as follows:

- Program 1: Monday through Friday
- Program 2: Saturday
- Program 3: Sunday

The coordination time of day plans in the master controller are as follows:

Table 2: Coordination Time of Day Plans

Program Day	Step	Time	Plan	Cycle Length	
1 MON-FRI	1	0:00	FREE	FREE	
	2	6:00	712	130	
	3	8:15	710	130	
	4	15:00	711	140	
	5	19:00	710	130	
	6	21:30	FREE	FREE	
2 SAT	7	0:00	FREE	FREE	
	8	6:00	712	130	
	9	9:00	711	140	
	10	21:30	FREE	FREE	
3 SUN	11	0:00	FREE	FREE	
	12	6:00	712	130	
	13	10:00	711	140	
	14	19:00	FREE	FREE	

Traffic Volume Data

DLZ performed turning movement counts at each intersection between November 7th and November 15th 2012. Data was collected for turning movement counts from 7:00-9:00AM, 11:00AM-2:00PM, and 3:00-6:00PM. In addition, mechanical tube counters were placed throughout the study area to collect 24-hour volume data from Wednesday – Sunday. A map of the mechanical count locations is provided in Figure 2. Graphic results of the mechanical tube counts are shown on the following pages. Count data sheets are provided in Appendix A.

Figure 2: Mechanical Count Locations

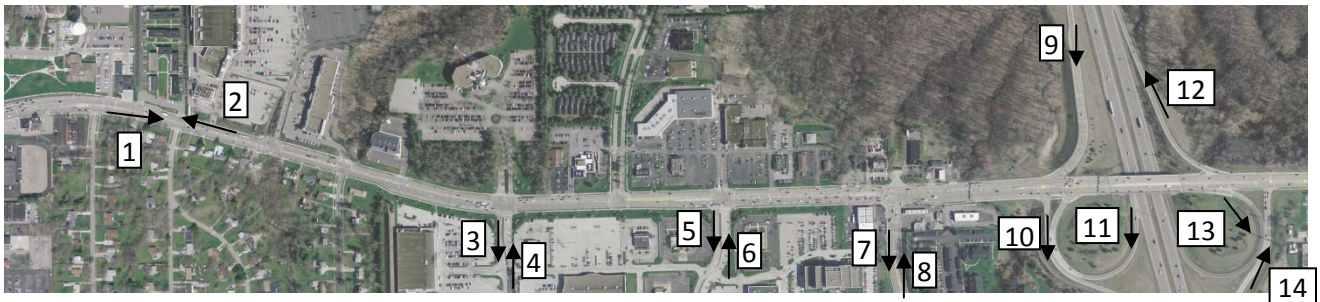


Figure 3: Location 1 - Eastbound Between Pearlview & Target

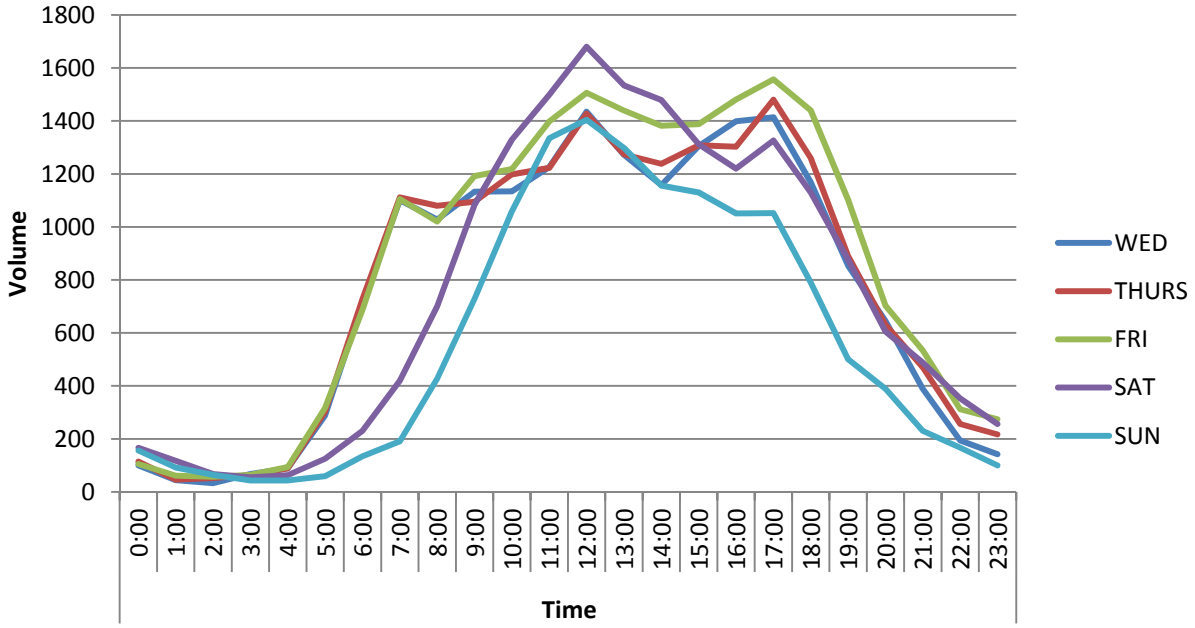


Figure 4: Location 2 - Westbound Between Pearlview & Target

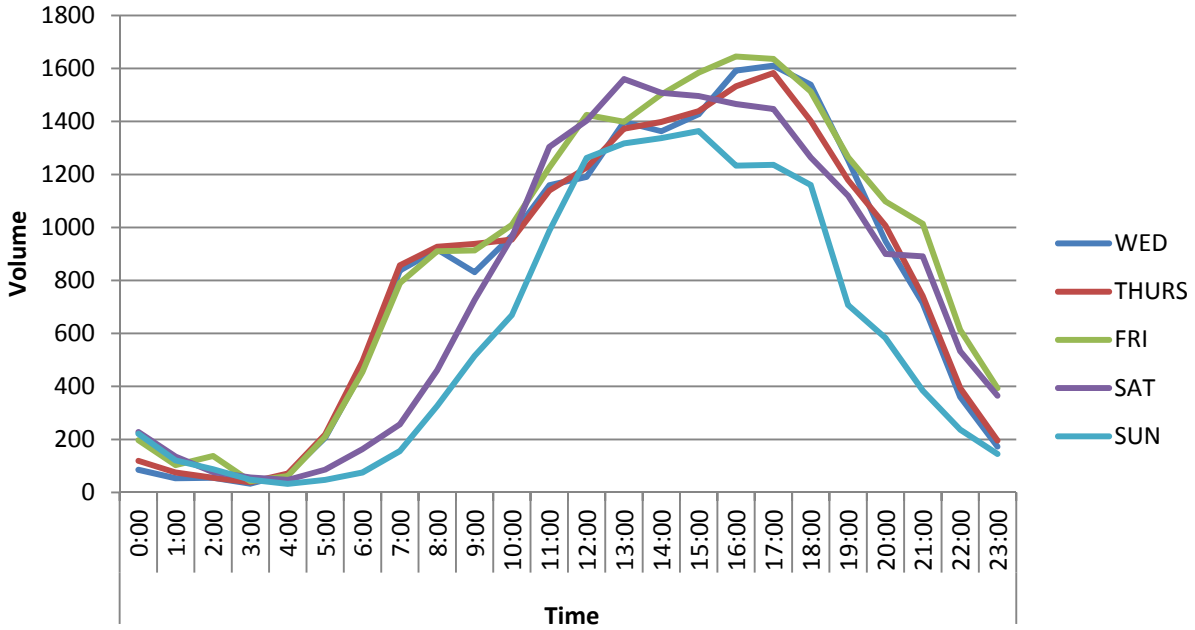


Figure 5: Location 3 - Southbound West Mall

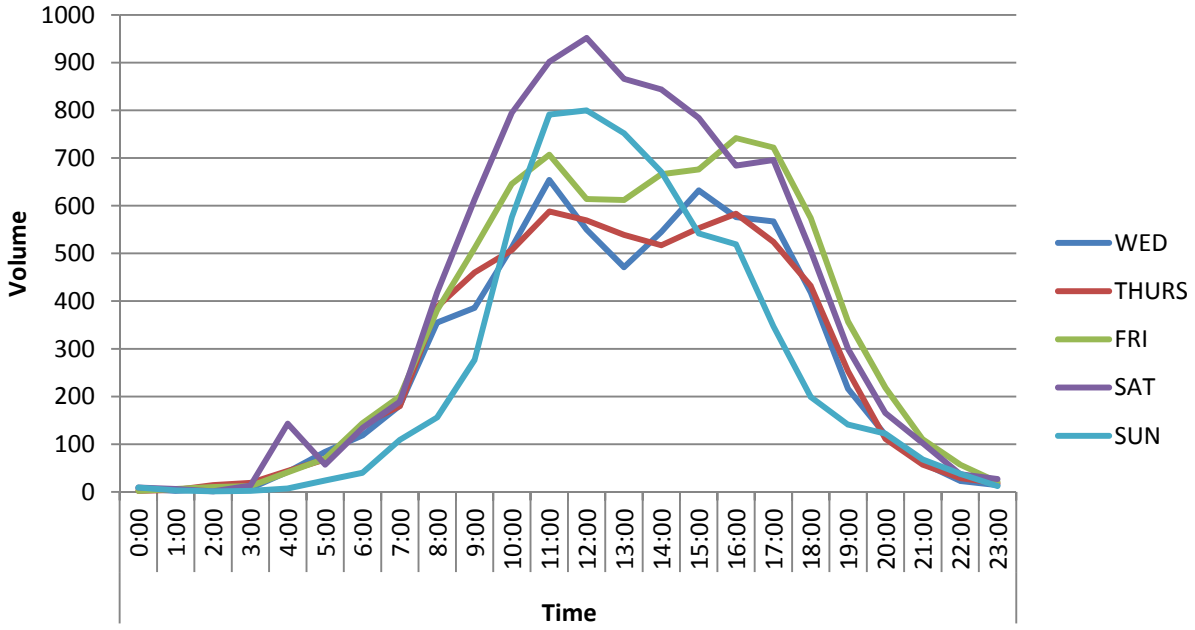


Figure 6: Location 4 - Northbound West Mall

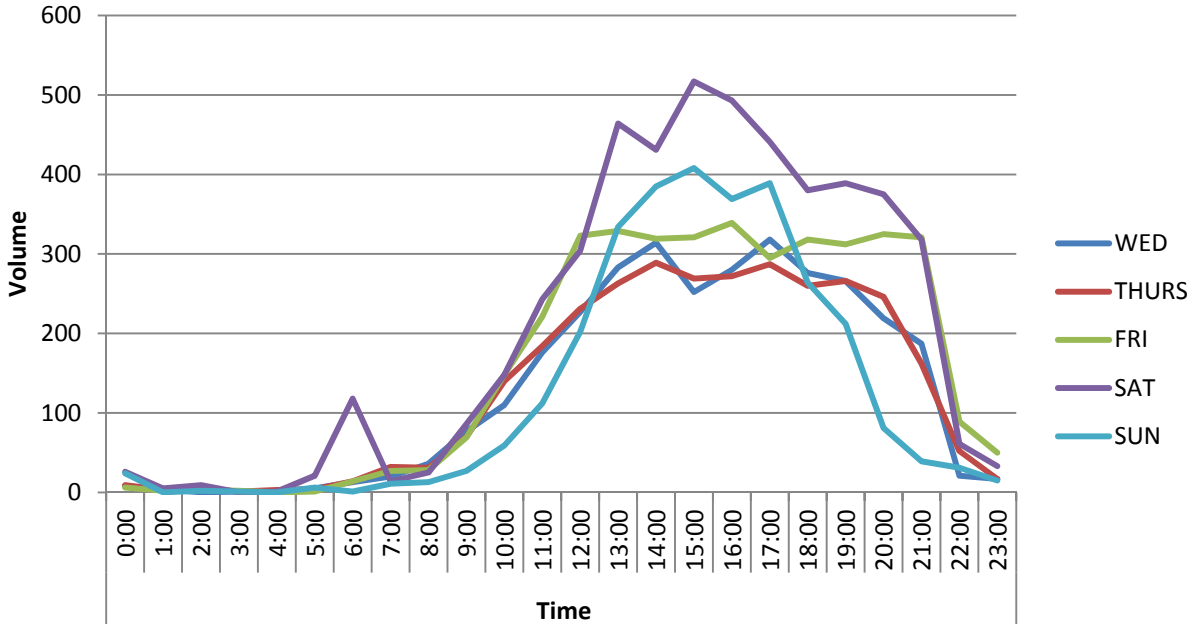


Figure 7: Location 5 - Southbound East Mall

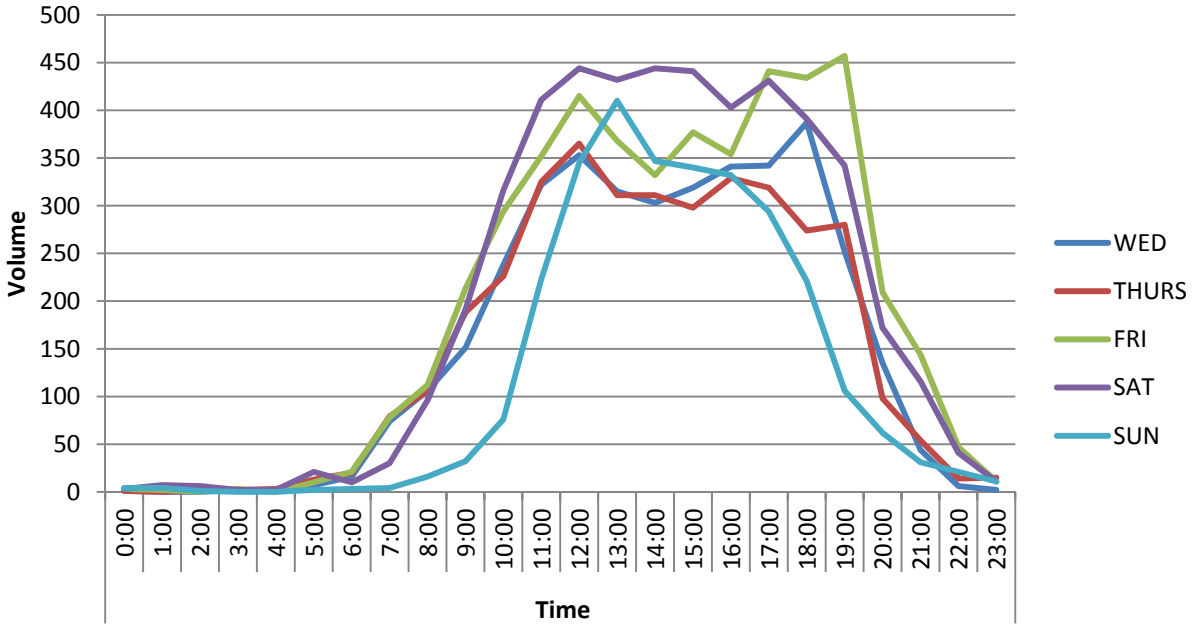


Figure 8: Location 6 - Northbound East Mall

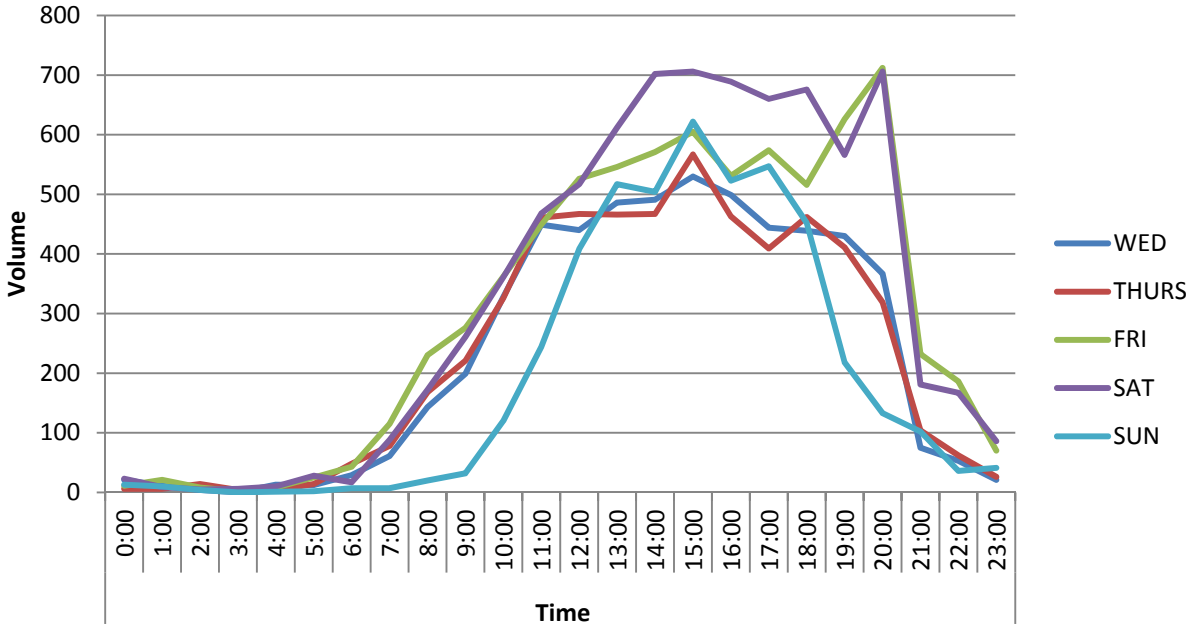


Figure 9: Location 7 - Southbound Howe

Figure 10: Location 8 - Northbound Howe

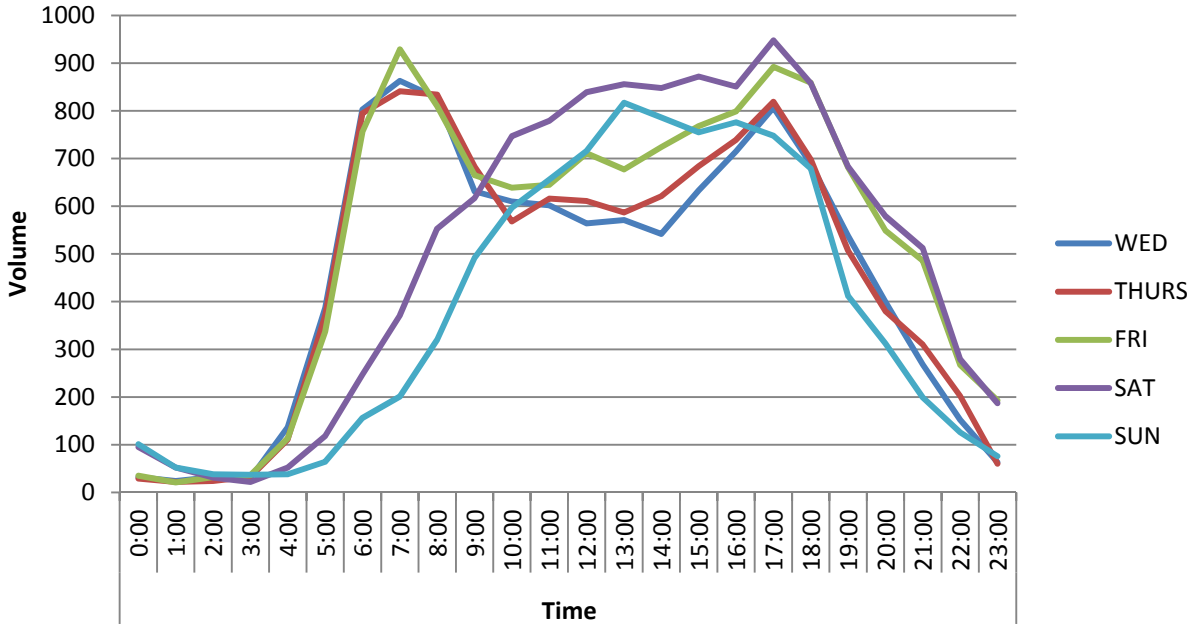


Figure 11: Location 9 - Ramp from Southbound I-71 to Westbound SR 82

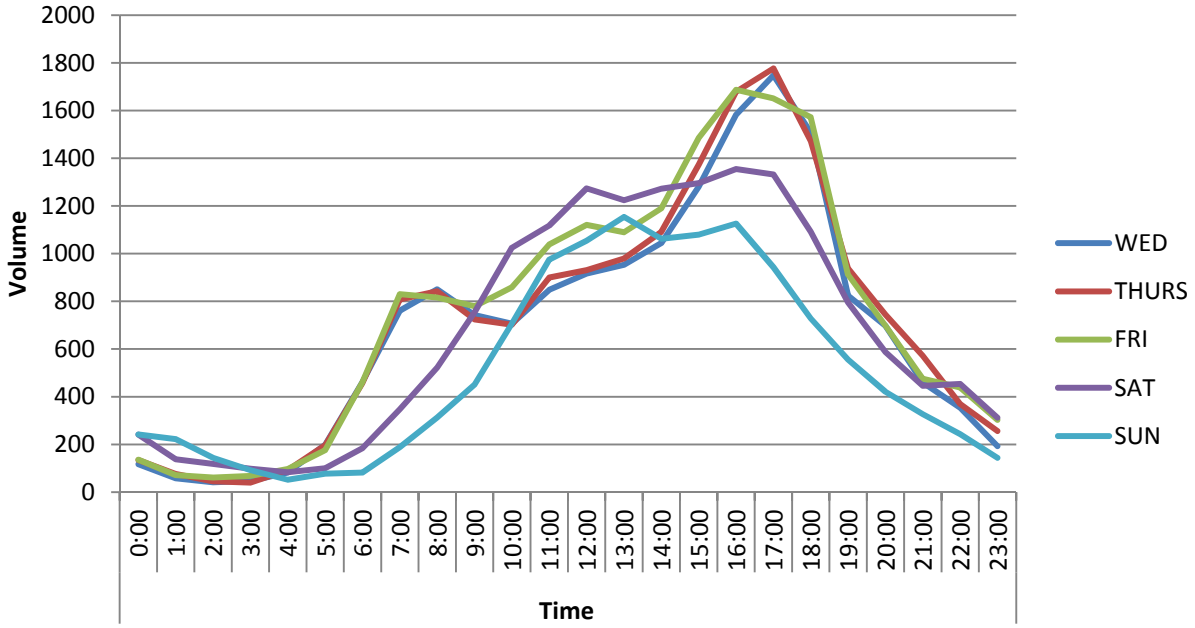


Figure 12: Location 10 - Ramp from SR 82 to I-71 Southbound

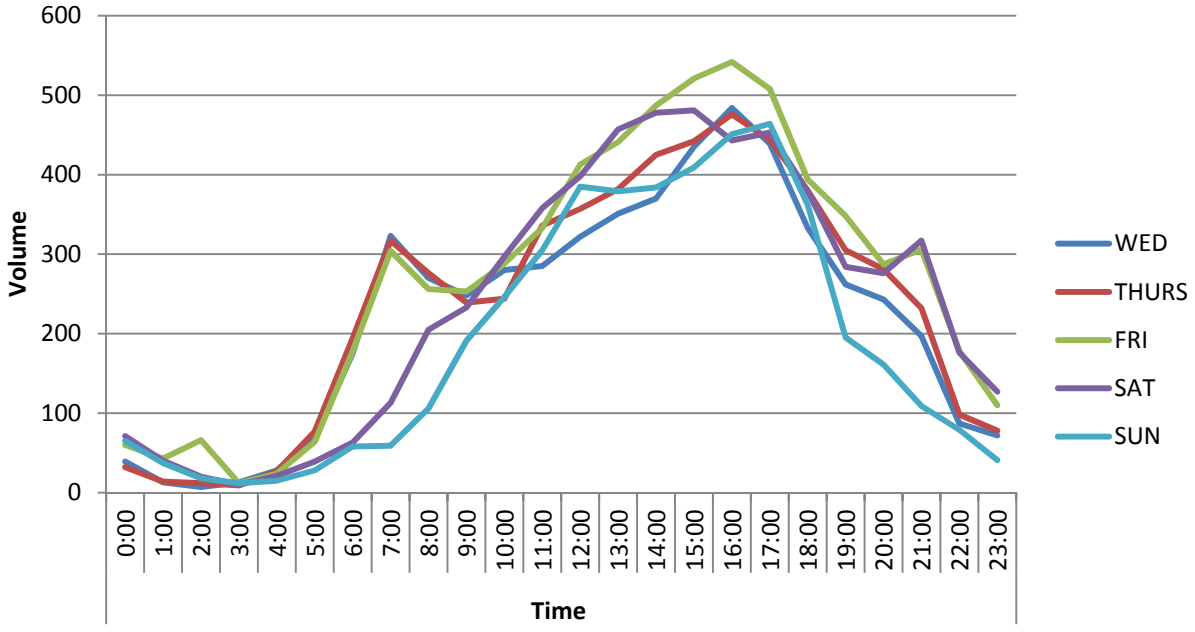


Figure 13: Location 11 - Ramp from Southbound I-71 to Eastbound SR 82

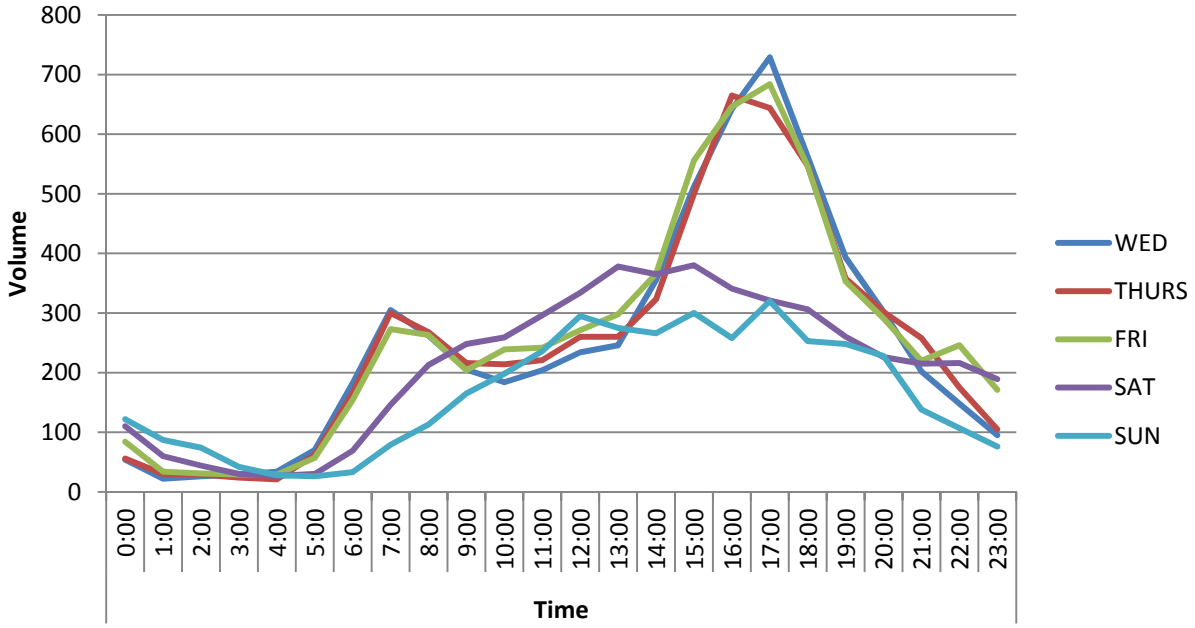


Figure 14: Location 12 - Ramp from Westbound SR 82 to I-71 Northbound

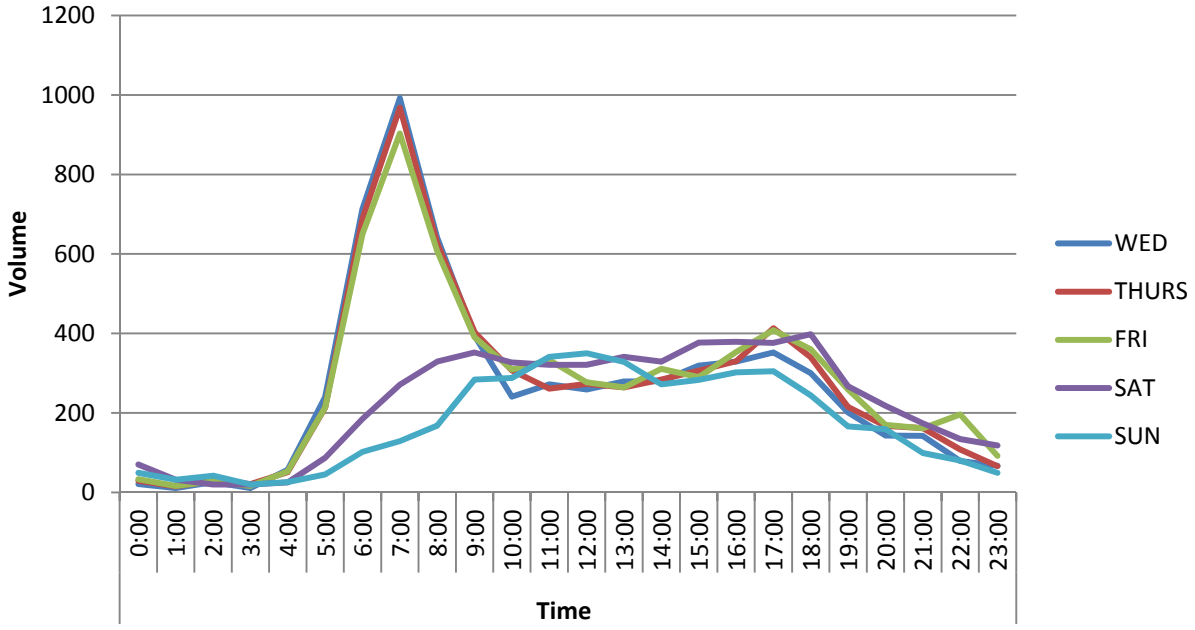


Figure 15: Location 13 - Ramp from Eastbound SR 82 to I-71 Northbound

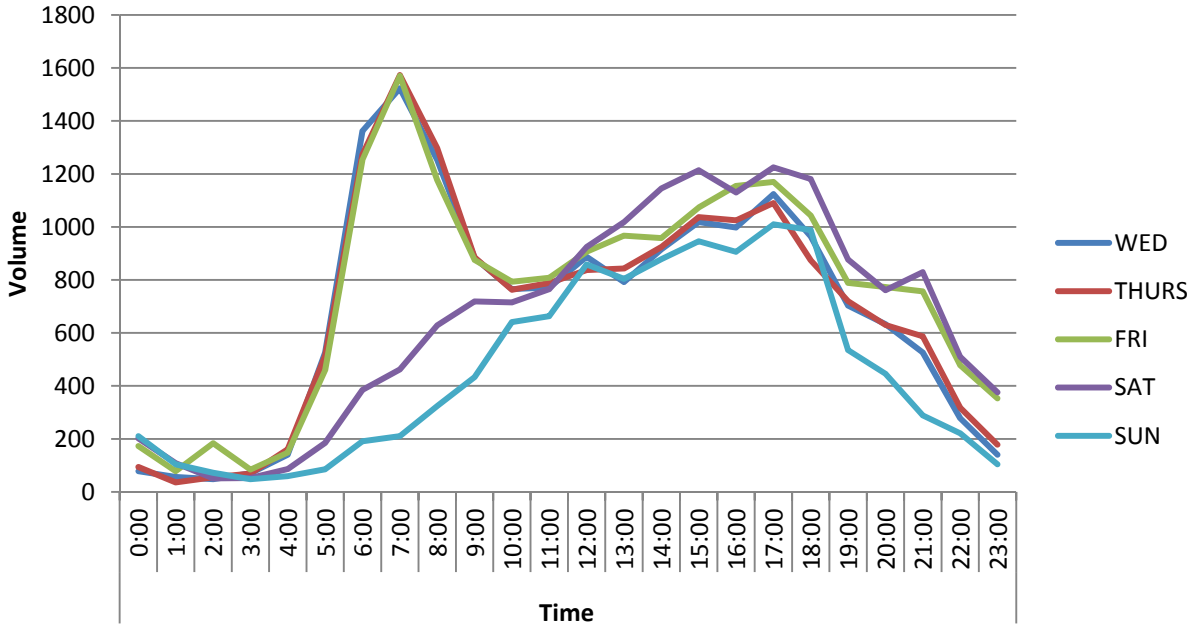
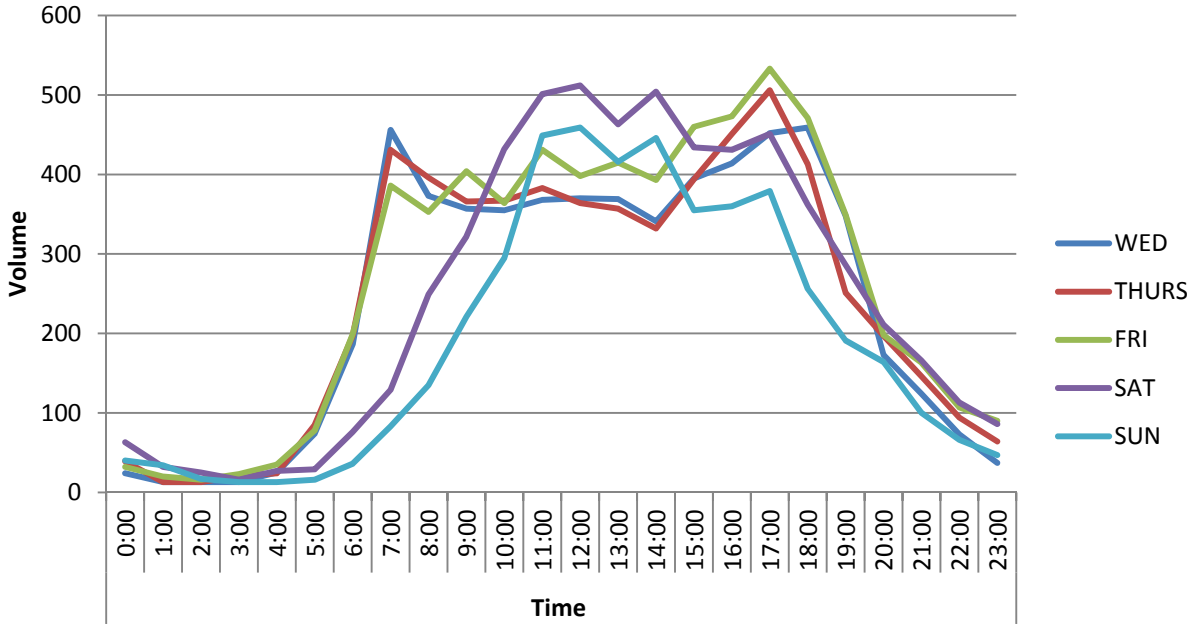


Figure 16: Location 14 - Ramp from I-71 Northbound to SR 82



Field Observations

TEC observed traffic conditions at various times throughout the day during our travel time studies. Observations were noted for each period (Weekday AM, MID, OFF Peak, & PM and Saturday MID) at each intersection. The major problem areas are noted below. The entire set of observation notes is provided in Appendix B.

During the AM Peak, TEC observed preferential lane utilization of the rightmost lane for eastbound SR 82. Since both on-ramps are on the right side of the roadway, the rightmost lane receives the most use, while the other lanes are underutilized. At times, the rightmost eastbound lane was seen to back up to the East Mall intersection. In addition, the northbound right turn movement on Howe Road experiences lengthy queues, at times backing up to and through the traffic signal at Southpark Center Road.

During the Weekday Midday Peak, traffic volumes are moderate with no major issues noted. At the mall entrances, traffic turning into and out of the mall increases but did not exceed available turn bays. As in the AM Peak hour, at the eastern end of the corridor, preferential lane utilization of the rightmost eastbound lane is prevalent and sometimes causes queuing between the I-71 SB Ramp and Howe Road.

Throughout the afternoon, traffic throughout the system gets heavier but does not cause any major issues, except towards the eastern end of the corridor in the rightmost eastbound lane.

In the PM Peak, traffic volumes build to their highest daily levels. The shopping center and mall side street approaches experience queuing, particularly for turns to the east (I-71 ramps). Preferential lane utilization of the rightmost eastbound lane near the I-71 interchange is prevalent. In the westbound direction, queues were noted between Howe Road and the I-71 SB ramp for the left turn onto Howe Road, as well as the through movement. During the PM Peak, traffic exiting I-71 to go both east and west on SR 82 is at its highest level and queues are notable, especially on the ramp from southbound I-71 to westbound SR 82.

The Saturday Midday Peak also experiences heavy traffic volumes, particularly related to the mall and shopping centers in the area. Queues at some side street (shopping center) approaches needed more than one cycle to clear in many cases, because the existing timing plans heavily favor the eastbound/westbound SR 82 movements. Traffic volumes exiting I-71 SB to go west on SR 82 are significant and cause backups on the ramp. The left turn movements into the mall are heavy but were not seen to back up past their available bays. The eastbound left turn movements into the shopping centers north of SR 82 however, did experience backups exceeding their available bay lengths at East Mall and Howe Road. These movements are only provided with single left turn bays and very short protected phases.

Capacity Model Validation

The Existing Synchro Peak Hour Models reflect signal timing plans for the coordinated signals along SR 82 (Royalton Road) for the three timing plans which are currently being run. Level of Service (LOS) and delay are summarized below for existing conditions.

The existing condition Synchro models reflect what the typical split times are operating in the field. In some cases, this is less time than the Walk plus FDW time. In these cases, a “Min Error” shows up in red on the Timing Settings sheet in Synchro. Peak Hour Factors (PHF) for each intersection movement were

calculated for each evaluated time period and an adjusted ideal saturation flow rate of 1900 veh/hr/lane were used in the models. Daily truck percentages for each intersection movement were also included in the models.

In some cases, the default Synchro and SimTraffic settings needed to be modified to more accurately model field conditions. The modifications to the model included:

- Peak hour/anti peak hour adjustment taken for a one hour simulation in SimTraffic. Four consecutive fifteen minute intervals were run with three set to anti-peak hour adjust and one set to peak hour adjust.
- For Synchro results, lane utilization factors for certain movements were adjusted to account for the preferential lane use. Lane utilization factors have no impact on SimTraffic, therefore there was also a need to adjust driver parameters.
- Driver parameters were modified to make the drivers less aggressive, to force them to get in their desired lane earlier. Default factors did not replicate field conditions of people wanting to utilize the rightmost lane on eastbound SR 82. The parameters that were modified include Positioning Advantage, Optional Advantage, Mandatory Dist Adj and Positioning Dist Adj. The factors were systematically increased or decreased until the model conditions more accurately reflected field conditions for each peak hour.
- Northbound dual right at Howe Road – Right turn on red is permitted for the curb lane on this approach. Synchro and SimTraffic do not have the ability to limit right turn on red to only the curb lane. Turning right turn on red off yielded model results which showed long queues in certain peak hours, much longer than observed in the field. Conversely, turning on right turn on red for the movement allowed right turns to occur from both lanes, which yielded model results showing almost no queue for the movement. TEC attempted to replicate the right turn on red for curb lane only by removing half the calculated saturation flow rate for right turn on red (calculated by Synchro) from the movement and turning off right turn on red in Synchro.
- Saturday Midday – the Saturday traffic counts were collected on three consecutive Saturdays in November 2012. The collected volumes have significant imbalances between collected data, due to increasing traffic volumes approaching the holiday shopping season. In order to remedy these imbalances, TEC utilized mechanical count data collected on the mall entrances and Howe Road to add/subtract from movement data, so a complete set of Saturday volumes that have acceptable balance between intersections could be obtained.

For signalized intersections, the Level of Service for the intersection is directly related to the average total delay per vehicle. The total delay is the sum of control delay and queue delay. Control delay is the component of delay caused by the downstream control device and is calculated using the Percentile Delay Method. Queue delay is an analysis of the affects of queues and blocking on short links and short turning bays. LOS is defined in terms of delay and is a measure of driver discomfort and intersection performance with respect to vehicular capacity and quality of service provided to road users. Delay refers to total average stopped delay experienced by motorists at the referenced intersection. The level of service is classified into six different levels, ranging from A to F. *Table-3* shows the definitions of each level.

Table 3: Level of Service Criteria for Signalized Intersections

Level of Service	Description	Average Total Delay per Vehicle
A	Very low delay	<10 seconds per vehicle
B	Good Progression	10-20 seconds per vehicle
C	Limit of acceptable delay	20-35 seconds per vehicle
D	Start of traffic breakdown	35-55 seconds per vehicle
E	High delay	55-80 seconds per vehicle
F	Congested conditions, unacceptable delay	>80 seconds per vehicle

Table-4 shows the results for the pre-study capacity analysis for LOS and intersection delay.

Table 4: Pre-Study LOS Summary (Delay, in sec)

Intersection	AM	MID	PM	SAT MID
SR 82 & Pearlview Drive	B (16.6s)	C (26.8s)	C (32.2s)	D (50.5s)
SR 82 & Mall Drive (Target)	A (6.3s)	B (11.8s)	B (14.0s)	C (20.2s)
SR 82 & Ordner Drive	A (8.2s)	B (16.4s)	B (17.0s)	C (23.9s)
SR 82 & Placid Cove/West Mall Drive	A (9.0s)	C (24.8s)	C (30.2s)	E (56.6s)
SR 82 & Falling Water Road	A (5.0s)	A (8.6s)	B (10.8s)	B (12.0s)
SR 82 & Southpark Mall East Drive	B (11.7s)	C (25.5s)	C (26.8s)	D (46.4s)
SR 82 & Howe Road	F (114.8s)	D (45.5s)	F (108.6s)	D (52.7s)
SR 82 & I-71 SB Exit/Entrance	D (53.8s)	C (26.2s)	F (148.6s)	D (43.5s)
SR 82 & I-71 NB Exit	B (16.5s)	B (13.1s)	B (16.9s)	B (18.8s)

Detailed pre-study intersection capacity analysis reports have been provided in Appendix C. A discussion of the modeling parameters and adjustments made to make the models more clearly match existing conditions is also provided in Appendix C.

Vehicular Change and Clearance Intervals

A vehicular change (yellow time) and clearance interval (all red time) check was completed for each phase of the SR 82 (Royalton Road) signal system. Calculations are based on the ODOT Traffic Engineering Manual (TEM), Section 403-2 (revised 10/19/2012) and utilize approach speed and crossing street width – measured from the stop line to the far edge of the conflicting travel lane or the far edge of the pedestrian crossing. Recommendations are based on the TEM as well as field observations. Recommended all red clearance intervals are based on calculated times, except where all-red intervals are limited to a maximum of 3 seconds. Appendix D shows existing, calculated, and recommended yellow change and all red clearance interval times.

Pedestrian Clearance Intervals

The existing and recommended pedestrian Walk and Flashing Don't Walk (FDW) times are provided in Appendix E for the existing pedestrian phases within the study intersections. Proposed yellow and all red clearance intervals were subtracted from the calculated pedestrian clearance time (buffer interval) to obtain the FDW time to be input in the controller. Minimum recommended pedestrian clearance time is calculated as follows:

$$\text{Pedestrian Clearance } \textit{(seconds)} = \frac{\text{Crosswalk Width } \textit{(feet)}}{\text{Average Pedestrian Walking Speed } \textit{(feet/second)}}$$

Recommended FDW times are provided for a walking speed of 3.5 feet per second. The total of the walk interval, the FDW interval, and the buffer interval was also checked to ensure the time was adequate for a slower pedestrian walking at 3.0 feet per second to cross from the pushbutton to the far side of the traveled way, according to the OMUTCD.

Walk times within this study area are currently set to five to seven seconds of walk. A majority of the pedestrian clearance intervals are less than ODOT minimum design values, therefore TEC recommends increasing FDW times.

Other Signal Parameters

Minimum and maximum green times, vehicle extension times, and loop detector delays were reviewed and recommendations were made for the study signals. These recommendations are shown in the proposed timing tables in Appendix F.

- **Minimum Green Times** are based on driver expectation and are utilized to provide signal efficiency. Left turn minimum green times are typically five to ten seconds while minor street minimum green times are typically ten seconds. Existing mainline minimum greens range from 18 seconds to 35 seconds. Mainline minimum greens will be reviewed with proposed timing plans as some may need to be reduced to accommodate potentially shorter cycle lengths.
- **Vehicle Extension Times** range from 2.0 to 6.0 seconds. There are no recommended changes.
- **Maximum Green Times** will be examined with proposed signal timing recommendations.
- **Vehicle Detector Delays** of 3.0 to 10.0 seconds are programmed for selected left turn lanes throughout the signal system. Vehicle detector delays of 10.0 to 12.0 seconds are programmed for selected right turn lanes throughout the system. No modifications to the existing vehicle detector delays are recommended at this time.

Appendix b:

Traffic Counts

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ 71NB Exit (non-holiday)
Site Code : 00000000
Start Date : 11/15/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	82 Westbound				71N EXIT Northbound				82 Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	352	0	352	50	16	0	66	143	0	0	143	561
07:15 AM	0	374	0	374	67	25	0	92	171	0	0	171	637
07:30 AM	0	358	0	358	61	37	0	98	162	0	0	162	618
07:45 AM	0	361	0	361	100	33	0	133	180	0	0	180	674
Total	0	1445	0	1445	278	111	0	389	656	0	0	656	2490
08:00 AM	0	269	0	269	38	21	0	59	149	0	0	149	477
08:15 AM	0	291	0	291	54	19	0	73	150	0	0	150	514
08:30 AM	0	292	0	292	74	31	0	105	143	0	0	143	540
08:45 AM	0	269	0	269	63	31	0	94	172	0	1	173	536
Total	0	1121	0	1121	229	102	0	331	614	0	1	615	2067
*** BREAK ***													
11:00 AM	0	216	0	216	56	22	0	78	185	0	0	185	479
11:15 AM	0	223	0	223	62	16	0	78	182	0	0	182	483
11:30 AM	0	243	0	243	73	17	0	90	209	0	0	209	542
11:45 AM	0	257	0	257	89	13	0	102	211	0	0	211	570
Total	0	939	0	939	280	68	0	348	787	0	0	787	2074
12:00 PM	0	223	0	223	71	16	0	87	216	0	0	216	526
12:15 PM	0	244	0	244	64	12	0	76	233	0	0	233	553
12:30 PM	0	250	0	250	65	17	0	82	231	0	0	231	563
12:45 PM	0	224	0	224	75	26	0	101	239	0	0	239	564
Total	0	941	0	941	275	71	0	346	919	0	0	919	2206
01:00 PM	0	246	1	247	59	13	0	72	204	0	2	206	525
01:15 PM	0	233	1	234	71	19	0	90	194	0	0	194	518
01:30 PM	0	244	0	244	84	21	0	105	241	0	0	241	590
01:45 PM	0	215	0	215	64	25	0	89	232	0	0	232	536
Total	0	938	2	940	278	78	0	356	871	0	2	873	2169
*** BREAK ***													
03:00 PM	0	270	0	270	60	23	0	83	307	0	1	308	661
03:15 PM	0	229	0	229	61	30	0	91	300	0	0	300	620
03:30 PM	0	286	1	287	57	28	0	85	321	0	0	321	693
03:45 PM	0	280	0	280	92	20	0	112	301	0	0	301	693
Total	0	1065	1	1066	270	101	0	371	1229	0	1	1230	2667
04:00 PM	0	228	1	229	40	17	0	57	267	0	0	267	553
04:15 PM	0	241	0	241	65	25	0	90	290	0	3	293	624
04:30 PM	0	275	0	275	83	32	0	115	349	0	1	350	740
04:45 PM	0	338	0	338	95	32	0	127	386	0	0	386	851
Total	0	1082	1	1083	283	106	0	389	1292	0	4	1296	2768
05:00 PM	0	314	0	314	71	52	0	123	435	0	0	435	872
05:15 PM	0	318	0	318	82	41	0	123	451	0	0	451	892
05:30 PM	0	290	0	290	79	45	0	124	393	0	0	393	807
05:45 PM	0	346	0	346	81	46	0	127	398	0	0	398	871
Total	0	1268	0	1268	313	184	0	497	1677	0	0	1677	3442
Grand Total	0	8799	4	8803	2206	821	0	3027	8045	0	8	8053	19883
Apprch %	0	100	0		72.9	27.1	0		99.9	0	0.1		
Total %	0	44.3	0	44.3	11.1	4.1	0	15.2	40.5	0	0	40.5	
Vehicles	0	8293	4	8297	2047	764	0	2811	7606	0	8	7614	18722
% Vehicles	0	94.2	100	94.3	92.8	93.1	0	92.9	94.5	0	100	94.5	94.2
Trucks+Buses	0	506	0	506	159	57	0	216	439	0	0	439	1161
% Trucks+Buses	0	5.8	0	5.7	7.2	6.9	0	7.1	5.5	0	0	5.5	5.8

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ 71NB Exit (non-holiday)
Site Code : 00000000
Start Date : 11/15/2012

	82 Westbound				71N EXIT Northbound				82 Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	352	0	352	50	16	0	66	143	0	0	143	561
07:15 AM	0	**374**	0	**374**	67	25	0	92	171	0	0	171	637
07:30 AM	0	358	0	358	61	**37**	0	98	162	0	0	162	618
07:45 AM	0	361	0	361	**100**	33	0	**133**	**180**	0	0	**180**	**674**
Total Volume	0	1445	0	1445	278	111	0	389	656	0	0	656	2490
% App. Total	0	100	0		71.5	28.5	0		100	0	0		
PHF	.000	.966	.000	.966	.695	.750	.000	.731	.911	.000	.000	.911	.924
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:45 AM													
11:45 AM	0	**257**	0	**257**	**89**	13	0	**102**	211	0	0	211	**570**
12:00 PM	0	223	0	223	71	16	0	87	216	0	0	216	526
12:15 PM	0	244	0	244	64	12	0	76	**233**	0	0	**233**	553
12:30 PM	0	250	0	250	65	**17**	0	82	231	0	0	231	563
Total Volume	0	974	0	974	289	58	0	347	891	0	0	891	2212
% App. Total	0	100	0		83.3	16.7	0		100	0	0		
PHF	.000	.947	.000	.947	.812	.853	.000	.850	.956	.000	.000	.956	.970
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	314	0	314	71	**52**	0	123	435	0	0	435	872
05:15 PM	0	318	0	318	**82**	41	0	123	**451**	0	0	**451**	**892**
05:30 PM	0	290	0	290	79	45	0	124	393	0	0	393	807
05:45 PM	0	**346**	0	**346**	81	46	0	**127**	398	0	0	398	871
Total Volume	0	1268	0	1268	313	184	0	497	1677	0	0	1677	3442
% App. Total	0	100	0		63	37	0		100	0	0		
PHF	.000	.916	.000	.916	.954	.885	.000	.978	.930	.000	.000	.930	.965

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Howe (non-holiday)
Site Code : 00000000
Start Date : 11/14/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	HOWE Southbound					82 Westbound					HOWE Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	1	0	0	4	63	182	8	0	253	31	2	232	0	265	3	296	2	0	301	823
07:15 AM	12	0	0	1	13	98	273	7	0	378	34	16	231	0	281	5	305	2	0	312	984
07:30 AM	10	1	0	0	11	100	320	15	0	435	25	4	214	0	243	7	266	41	0	314	1003
07:45 AM	6	0	5	1	12	123	355	14	0	492	31	8	216	0	255	9	241	7	0	257	1016
Total	31	2	5	2	40	384	1130	44	0	1558	121	30	893	0	1044	24	1108	52	0	1184	3826
08:00 AM	11	2	6	0	19	79	279	12	1	371	26	4	185	0	215	7	250	9	0	266	871
08:15 AM	9	3	5	0	17	62	263	24	0	349	38	8	193	0	239	4	222	7	0	233	838
08:30 AM	14	2	4	1	21	78	231	21	0	330	31	2	182	0	215	7	229	3	0	239	805
08:45 AM	13	2	7	0	22	91	279	26	0	396	44	15	178	0	237	10	220	2	0	232	887
Total	47	9	22	1	79	310	1052	83	1	1446	139	29	738	0	906	28	921	21	0	970	3401
*** BREAK ***																					
11:00 AM	33	14	31	0	78	80	251	54	0	385	26	24	77	0	127	40	233	16	2	291	881
11:15 AM	39	22	41	0	102	84	235	83	0	402	25	19	103	0	147	49	211	7	0	267	918
11:30 AM	49	23	41	0	113	63	237	72	0	372	24	22	98	0	144	50	214	14	0	278	907
11:45 AM	25	11	30	0	66	104	240	73	0	417	19	20	101	0	140	54	235	17	0	306	929
Total	146	70	143	0	359	331	963	282	0	1576	94	85	379	0	558	193	893	54	2	1142	3635
12:00 PM	27	21	42	0	90	114	252	72	0	438	29	27	92	0	148	55	244	13	0	312	988
12:15 PM	63	15	23	0	101	80	202	62	0	344	36	27	128	0	191	62	266	8	0	336	972
12:30 PM	59	27	37	0	123	103	259	63	0	425	32	36	120	0	188	62	254	16	0	332	1068
12:45 PM	52	32	37	0	121	111	260	73	1	445	40	19	107	0	166	50	245	14	0	309	1041
Total	201	95	139	0	435	408	973	270	1	1652	137	109	447	0	693	229	1009	51	0	1289	4069
01:00 PM	86	29	76	0	191	94	252	56	0	402	36	28	95	0	159	56	268	17	1	342	1094
01:15 PM	51	27	62	0	140	109	272	59	0	440	23	19	77	0	119	49	270	13	0	332	1031
01:30 PM	59	24	54	1	138	112	260	63	0	435	19	21	85	0	125	68	284	22	2	376	1074
01:45 PM	54	34	46	0	134	136	306	54	1	497	18	31	102	0	151	37	254	8	0	299	1081
Total	250	114	238	1	603	451	1090	232	1	1774	96	99	359	0	554	210	1076	60	3	1349	4280
*** BREAK ***																					
03:00 PM	63	23	38	0	124	165	323	50	1	539	22	43	118	0	183	34	333	17	0	384	1230
03:15 PM	42	24	27	0	93	188	335	52	0	575	29	20	110	0	159	33	344	17	0	394	1221
03:30 PM	51	27	44	2	124	152	320	52	0	524	31	18	128	0	177	49	328	9	1	387	1212
03:45 PM	60	28	29	0	117	197	360	67	0	624	27	14	127	0	168	41	333	11	0	385	1294
Total	216	102	138	2	458	702	1338	221	1	2262	109	95	483	0	687	157	1338	54	1	1550	4957
04:00 PM	57	24	30	0	111	153	353	65	0	571	41	34	129	0	204	43	309	17	0	369	1255
04:15 PM	55	39	58	1	153	208	335	87	0	630	35	26	144	0	205	44	295	15	0	354	1342
04:30 PM	40	28	52	1	121	188	381	71	0	640	23	23	121	0	167	44	373	16	0	433	1361
04:45 PM	69	33	47	0	149	192	336	67	0	595	43	26	140	0	209	54	322	14	0	390	1343
Total	221	124	187	2	534	741	1405	290	0	2436	142	109	534	0	785	185	1299	62	0	1546	5301
05:00 PM	39	38	41	0	118	225	390	54	0	669	40	20	151	0	211	43	430	10	1	484	1482
05:15 PM	60	42	66	0	168	178	400	116	0	694	45	29	165	0	239	43	347	36	0	426	1527
05:30 PM	54	27	88	0	169	272	391	84	0	747	42	27	141	0	210	51	313	17	0	381	1507
05:45 PM	41	38	59	0	138	214	403	108	0	725	37	22	140	0	199	51	287	15	0	353	1415
Total	194	145	254	0	593	889	1584	362	0	2835	164	98	597	0	859	188	1377	78	1	1644	5931
Grand Total	1306	661	1126	8	3101	4216	9535	1784	4	15539	1002	654	4430	0	6086	1214	9021	432	7	10674	35400
Apprch %	42.1	21.3	36.3	0.3		27.1	61.4	11.5	0		16.5	10.7	72.8	0		11.4	84.5	4	0.1		
Total %	3.7	1.9	3.2	0	8.8	11.9	26.9	5	0	43.9	2.8	1.8	12.5	0	17.2	3.4	25.5	1.2	0	30.2	
Vehicles	1284	658	1116	8	3066	4158	9034	1754	4	14950	977	649	4388	0	6014	1203	8589	414	7	10213	34243
% Vehicles	98.3	99.5	99.1	100	98.9	98.6	94.7	98.3	100	96.2	97.5	99.2	99.1	0	98.8	99.1	95.2	95.8	100	95.7	96.7
Trucks+Buses	22	3	10	0	35	58	501	30	0	589	25	5	42	0	72	11	432	18	0	461	1157
% Trucks+Buses	1.7	0.5	0.9	0	1.1	1.4	5.3	1.7	0	3.8	2.5	0.8	0.9	0	1.2	0.9	4.8	4.2	0	4.3	3.3

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Howe (non-holiday)
Site Code : 00000000
Start Date : 11/14/2012
Page No : 2

	HOWE Southbound					82 Westbound					HOWE Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**12**	0	0	**1**	13	98	273	7	0	378	**34**	**16**	**231**	0	**281**	5	**305**	2	0	312	984
07:30 AM	10	1	0	0	11	100	320	**15**	0	435	25	4	214	0	243	7	266	**41**	0	**314**	1003
07:45 AM	6	0	5	1	12	**123**	**355**	14	0	**492**	31	8	216	0	255	**9**	241	7	0	257	**1016**
08:00 AM	11	**2**	**6**	0	**19**	79	279	12	**1**	371	26	4	185	0	215	7	250	9	0	266	871
Total Volume	39	3	11	2	55	400	1227	48	1	1676	116	32	846	0	994	28	1062	59	0	1149	3874
% App. Total	70.9	5.5	20	3.6		23.9	73.2	2.9	0.1		11.7	3.2	85.1	0		2.4	92.4	5.1	0		
PHF	.813	.375	.458	.500	.724	.813	.864	.800	.250	.852	.853	.500	.916	.000	.884	.778	.870	.360	.000	.915	.953
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	**86**		**76**		**191**						**36**				**159**						**1094**
01:15 PM	51	27	62	0	140	109	272	59	0	440	23	19	77	0	119	49	270	13	0	332	1031
01:30 PM	59	24	54	**1**	138	112	260	**63**	0	435	19	21	85	0	125	**68**	**284**	**22**	**2**	**376**	1074
01:45 PM	54	**34**	46	0	134	**136**	**306**	54	**1**	**497**	18	**31**	**102**	0	151	37	254	8	0	299	1081
Total Volume	250	114	238	1	603	451	1090	232	1	1774	96	99	359	0	554	210	1076	60	3	1349	4280
% App. Total	41.5	18.9	39.5	0.2		25.4	61.4	13.1	0.1		17.3	17.9	64.8	0		15.6	79.8	4.4	0.2		
PHF	.727	.838	.783	.250	.789	.829	.891	.921	.250	.892	.667	.798	.880	.000	.871	.772	.947	.682	.375	.897	.978
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	39	38	41	0	118	225	390	54	0	669	40	20	151	0	211	43	**430**		**1**	**484**	
05:15 PM	**60**	**42**	66	0	168	178	400	**116**	0	694	**45**	**29**	**165**	0	**239**	43	347	**36**	0	426	**1527**
05:30 PM	54	27	**88**	0	**169**	**272**	391	84	0	**747**	42	27	141	0	210	**51**	313	17	0	381	1507
05:45 PM	41	38	59	0	138	214	**403**	108	0	725	37	22	140	0	199	51	287	15	0	353	1415
Total Volume	194	145	254	0	593	889	1584	362	0	2835	164	98	597	0	859	188	1377	78	1	1644	5931
% App. Total	32.7	24.5	42.8	0		31.4	55.9	12.8	0		19.1	11.4	69.5	0		11.4	83.8	4.7	0.1		
PHF	.808	.863	.722	.000	.877	.817	.983	.780	.000	.949	.911	.845	.905	.000	.899	.922	.801	.542	.250	.849	.971

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Howe (non-holiday saturday)
Site Code : 00000000
Start Date : 11/17/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	HOWE Southbound					82 Westbound					HOWE Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:30 AM	47	26	47	0	120	159	337	95	0	591	40	63	120	0	223	70	243	37	0	350	1284
11:45 AM	85	43	49	0	177	193	357	115	0	665	50	48	138	0	236	58	260	28	0	346	1424
Total	132	69	96	0	297	352	694	210	0	1256	90	111	258	0	459	128	503	65	0	696	2708
12:00 PM	77	39	46	0	162	201	323	111	0	635	53	55	136	0	244	68	237	22	0	327	1368
12:15 PM	86	39	67	0	192	173	353	141	0	667	50	35	159	0	244	52	311	20	0	383	1486
12:30 PM	89	48	64	0	201	202	304	118	0	624	48	54	188	0	290	60	255	18	0	333	1448
12:45 PM	77	33	63	0	173	214	361	136	0	711	29	53	176	0	258	61	296	23	0	380	1522
Total	329	159	240	0	728	790	1341	506	0	2637	180	197	659	0	1036	241	1099	83	0	1423	5824
01:00 PM	92	49	79	0	220	176	340	130	0	646	30	61	177	0	268	41	233	25	1	300	1434
01:15 PM	92	41	67	0	200	228	360	137	2	727	32	57	161	0	250	57	291	15	0	363	1540
Grand Total	645	318	482	0	1445	1546	2735	983	2	5266	332	426	1255	0	2013	467	2126	188	1	2782	11506
Apprch %	44.6	22	33.4	0		29.4	51.9	18.7	0		16.5	21.2	62.3	0		16.8	76.4	6.8	0		
Total %	5.6	2.8	4.2	0	12.6	13.4	23.8	8.5	0	45.8	2.9	3.7	10.9	0	17.5	4.1	18.5	1.6	0	24.2	
Vehicles	631	316	480	0	1427	1531	2688	966	2	5187	328	425	1250	0	2003	467	2099	185	0	2751	11368
% Vehicles	97.8	99.4	99.6	0	98.8	99	98.3	98.3	100	98.5	98.8	99.8	99.6	0	99.5	100	98.7	98.4	0	98.9	98.8
Trucks+Buses	14	2	2	0	18	15	47	17	0	79	4	1	5	0	10	0	27	3	1	31	138
% Trucks+Buses	2.2	0.6	0.4	0	1.2	1	1.7	1.7	0	1.5	1.2	0.2	0.4	0	0.5	0	1.3	1.6	100	1.1	1.2

DLZ Ohio, Inc.

614 West Superior Ave
Cleveland, OH 44113

File Name : 82 @ Howe (holiday)
Site Code : 00000000
Start Date : 12/11/2012
Page No : 1

Groups Printed- Vehicles - Trucks + Buses

	HOWE RD Southbound					SR 82 Westbound					HOWE RD Northbound					SR 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	40	28	41	0	109	107	281	77	0	465	24	24	115	3	166	73	249	9	0	331	1071
11:15 AM	68	38	36	0	142	113	261	67	0	441	27	20	134	0	181	86	318	15	0	419	1183
11:30 AM	74	25	39	0	138	119	295	94	0	508	34	41	109	0	184	70	259	5	0	334	1164
11:45 AM	61	24	42	0	127	120	301	84	0	505	24	24	115	0	163	85	273	16	0	374	1169
Total	243	115	158	0	516	459	1138	322	0	1919	109	109	473	3	694	314	1099	45	0	1458	4587
12:00 PM	64	23	43	0	130	118	261	90	0	469	24	35	114	0	173	70	254	12	0	336	1108
12:15 PM	63	18	56	0	137	117	287	88	0	492	28	48	94	0	170	78	266	14	0	358	1157
12:30 PM	67	23	62	0	152	119	279	67	0	465	36	37	98	0	171	76	264	30	0	370	1158
12:45 PM	90	35	88	0	213	130	290	57	0	477	24	29	109	0	162	70	269	26	0	365	1217
Total	284	99	249	0	632	484	1117	302	0	1903	112	149	415	0	676	294	1053	82	0	1429	4640
*** BREAK ***																					
04:00 PM	75	25	51	0	151	167	329	67	0	563	21	25	141	0	187	74	367	14	0	455	1356
04:15 PM	76	45	52	0	173	204	346	81	0	631	23	31	165	0	219	58	343	9	0	410	1433
04:30 PM	56	47	45	0	148	221	350	82	0	653	30	46	164	0	240	66	331	9	0	406	1447
04:45 PM	63	42	43	0	148	196	427	101	0	724	24	37	137	0	198	54	404	19	0	477	1547
Total	270	159	191	0	620	788	1452	331	0	2571	98	139	607	0	844	252	1445	51	0	1748	5783
05:00 PM	68	37	53	0	158	190	312	84	0	586	42	38	157	0	237	74	268	18	0	360	1341
05:15 PM	70	58	38	0	166	208	407	82	0	697	50	29	180	0	259	54	408	26	0	488	1610
05:30 PM	73	51	40	0	164	185	365	75	0	625	32	30	145	0	207	59	293	20	0	372	1368
05:45 PM	45	35	46	0	126	209	354	102	0	665	29	44	159	0	232	66	314	15	0	395	1418
Total	256	181	177	0	614	792	1438	343	0	2573	153	141	641	0	935	253	1283	79	0	1615	5737
Grand Total	1053	554	775	0	2382	2523	5145	1298	0	8966	472	538	2136	3	3149	1113	4880	257	0	6250	20747
Apprch %	44.2	23.3	32.5	0		28.1	57.4	14.5	0		15	17.1	67.8	0.1		17.8	78.1	4.1	0		
Total %	5.1	2.7	3.7	0	11.5	12.2	24.8	6.3	0	43.2	2.3	2.6	10.3	0	15.2	5.4	23.5	1.2	0	30.1	
Vehicles	1048	552	770	0	2370	2506	4970	1285	0	8761	465	537	2127	3	3132	1111	4693	250	0	6054	20317
% Vehicles	99.5	99.6	99.4	0	99.5	99.3	96.6	99	0	97.7	98.5	99.8	99.6	100	99.5	99.8	96.2	97.3	0	96.9	97.9
Trucks + Buses	5	2	5	0	12	17	175	13	0	205	7	1	9	0	17	2	187	7	0	196	430
% Trucks + Buses	0.5	0.4	0.6	0	0.5	0.7	3.4	1	0	2.3	1.5	0.2	0.4	0	0.5	0.2	3.8	2.7	0	3.1	2.1

DLZ Ohio, Inc.

614 West Superior Ave
Cleveland, OH 44113

File Name : 82 @ Howe (holiday saturday)
Site Code : 00000000
Start Date : 12/8/2012
Page No : 1

Groups Printed- Vehicles - Trucks + Buses

	HOWE RD Southbound					SR 82 Westbound					HOWE RD Northbound					SR 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:30 AM	43	27	46	0	116	170	368	122	0	660	34	34	177	0	245	54	329	20	0	403	1424
11:45 AM	85	45	59	1	190	179	292	137	0	608	35	52	212	0	299	61	275	21	1	358	1455
Total	128	72	105	1	306	349	660	259	0	1268	69	86	389	0	544	115	604	41	1	761	2879
12:00 PM	60	30	56	0	146	194	369	154	1	718	39	40	201	0	280	53	272	18	0	343	1487
12:15 PM	83	37	70	0	190	187	344	142	0	673	29	43	167	0	239	58	270	19	0	347	1449
12:30 PM	69	41	64	0	174	237	335	149	1	722	26	45	175	0	246	71	281	15	0	367	1509
12:45 PM	82	44	72	0	198	210	346	122	2	680	17	52	188	0	257	51	342	15	0	408	1543
Total	294	152	262	0	708	828	1394	567	4	2793	111	180	731	0	1022	233	1165	67	0	1465	5988
01:00 PM	88	49	79	0	216	214	330	170	1	715	13	63	268	0	344	61	219	24	0	304	1579
01:15 PM	82	53	77	0	212	198	340	136	1	675	20	50	255	0	325	53	302	9	0	364	1576
Grand Total	592	326	523	1	1442	1589	2724	1132	6	5451	213	379	1643	0	2235	462	2290	141	1	2894	12022
Apprch %	41.1	22.6	36.3	0.1		29.2	50	20.8	0.1		9.5	17	73.5	0		16	79.1	4.9	0		
Total %	4.9	2.7	4.4	0	12	13.2	22.7	9.4	0	45.3	1.8	3.2	13.7	0	18.6	3.8	19	1.2	0	24.1	
Vehicles	588	326	523	1	1438	1587	2703	1130	6	5426	212	379	1640	0	2231	461	2279	138	0	2878	11973
% Vehicles	99.3	100	100	100	99.7	99.9	99.2	99.8	100	99.5	99.5	100	99.8	0	99.8	99.8	99.5	97.9	0	99.4	99.6
Trucks + Buses	4	0	0	0	4	2	21	2	0	25	1	0	3	0	4	1	11	3	1	16	49
% Trucks + Buses	0.7	0	0	0	0.3	0.1	0.8	0.2	0	0.5	0.5	0	0.2	0	0.2	0.2	0.5	2.1	100	0.6	0.4

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ East Mall (non-holiday)
Site Code : 00000000
Start Date : 11/15/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	East Mall Southbound					82 Westbound					East Mall Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	14	1	0	0	15	3	199	7	2	211	1	0	2	0	3	6	259	1	0	266	495
07:15 AM	8	0	1	0	9	7	227	32	0	266	1	0	3	0	4	4	275	6	0	285	564
07:30 AM	10	0	3	0	13	8	310	9	0	327	2	0	1	0	3	4	261	9	0	274	617
07:45 AM	20	2	2	0	24	13	359	7	2	381	1	0	4	0	5	7	255	12	1	275	685
Total	52	3	6	0	61	31	1095	55	4	1185	5	0	10	0	15	21	1050	28	1	1100	2361
08:00 AM	21	1	4	0	26	13	270	12	0	295	0	1	3	0	4	6	259	12	0	277	602
08:15 AM	16	1	1	0	18	7	278	5	2	292	7	2	7	0	16	5	227	20	0	252	578
08:30 AM	23	0	7	0	30	21	246	13	0	280	4	0	9	0	13	2	202	5	0	209	532
08:45 AM	18	3	4	0	25	36	312	9	0	357	6	2	11	0	19	6	202	8	0	216	617
Total	78	5	16	0	99	77	1106	39	2	1224	17	5	30	0	52	19	890	45	0	954	2329
*** BREAK ***																					
11:00 AM	27	5	9	0	41	75	207	9	1	292	23	5	53	0	81	9	234	18	0	261	675
11:15 AM	23	6	5	0	34	60	254	9	0	323	17	3	41	0	61	6	228	24	0	258	676
11:30 AM	20	4	11	0	35	71	244	15	0	330	23	7	49	0	79	13	204	21	0	238	682
11:45 AM	28	2	9	0	39	91	268	7	0	366	28	4	45	0	77	14	231	12	0	257	739
Total	98	17	34	0	149	297	973	40	1	1311	91	19	188	0	298	42	897	75	0	1014	2772
12:00 PM	28	3	9	0	40	73	260	12	0	345	28	3	60	1	92	10	238	27	0	275	752
12:15 PM	16	5	7	0	28	88	226	10	0	324	28	4	63	0	95	12	242	19	0	273	720
12:30 PM	28	8	9	0	45	58	268	16	1	343	26	4	59	0	89	8	266	14	0	288	765
12:45 PM	24	6	14	0	44	57	274	12	0	343	25	5	66	0	96	10	251	17	0	278	761
Total	96	22	39	0	157	276	1028	50	1	1355	107	16	248	1	372	40	997	77	0	1114	2998
01:00 PM	18	6	9	0	33	60	276	12	1	349	35	5	68	1	109	8	235	14	0	257	748
01:15 PM	24	4	11	0	39	56	277	9	0	342	30	6	61	0	97	10	249	15	0	274	752
01:30 PM	24	5	12	0	41	62	296	9	0	367	30	6	71	0	107	16	236	12	0	264	779
01:45 PM	22	3	4	0	29	54	296	12	0	362	32	2	71	0	105	9	250	17	0	276	772
Total	88	18	36	0	142	232	1145	42	1	1420	127	19	271	1	418	43	970	58	0	1071	3051
*** BREAK ***																					
03:00 PM	26	5	5	0	36	57	269	13	0	339	19	5	63	0	87	7	271	12	0	290	752
03:15 PM	16	5	6	0	27	52	317	10	0	379	27	1	72	0	100	9	284	8	0	301	807
03:30 PM	33	8	5	0	46	66	298	9	0	373	37	3	73	0	113	10	274	7	0	291	823
03:45 PM	24	6	5	0	35	75	339	13	0	427	24	3	55	0	82	9	308	23	1	341	885
Total	99	24	21	0	144	250	1223	45	0	1518	107	12	263	0	382	35	1137	50	1	1223	3267
04:00 PM	24	6	8	0	38	61	315	12	0	388	35	2	61	0	98	11	274	12	0	297	821
04:15 PM	18	8	8	0	34	74	351	19	0	444	24	2	52	0	78	4	280	18	0	302	858
04:30 PM	23	2	7	0	32	79	310	17	0	406	36	4	74	1	115	11	283	15	0	309	862
04:45 PM	17	4	8	0	29	86	374	10	0	470	20	1	55	0	76	10	285	17	0	312	887
Total	82	20	31	0	133	300	1350	58	0	1708	115	9	242	1	367	36	1122	62	0	1220	3428
05:00 PM	25	4	5	0	34	70	367	15	0	452	27	1	74	1	103	15	361	9	0	385	974
05:15 PM	33	7	9	0	49	91	312	12	0	415	31	4	76	0	111	8	312	16	0	336	911
05:30 PM	27	3	9	0	39	81	361	21	0	463	17	1	52	0	70	3	269	10	0	282	854
05:45 PM	31	5	5	0	41	85	321	28	1	435	22	8	66	0	96	6	241	15	0	262	834
Total	116	19	28	0	163	327	1361	76	1	1765	97	14	268	1	380	32	1183	50	0	1265	3573
Grand Total	709	128	211	0	1048	1790	9281	405	10	11486	666	94	1520	4	2284	268	8246	445	2	8961	23779
Apprch %	67.7	12.2	20.1	0		15.6	80.8	3.5	0.1		29.2	4.1	66.5	0.2		3	92	5	0		
Total %	3	0.5	0.9	0	4.4	7.5	39	1.7	0	48.3	2.8	0.4	6.4	0	9.6	1.1	34.7	1.9	0	37.7	
Vehicles	700	127	209	0	1036	1769	8775	401	10	10955	660	93	1501	4	2258	264	7772	442	2	8480	22729
% Vehicles	98.7	99.2	99.1	0	98.9	98.8	94.5	99	100	95.4	99.1	98.9	98.8	100	98.9	98.5	94.3	99.3	100	94.6	95.6
Trucks+Buses	9	1	2	0	12	21	506	4	0	531	6	1	19	0	26	4	474	3	0	481	1050
% Trucks+Buses	1.3	0.8	0.9	0	1.1	1.2	5.5	1	0	4.6	0.9	1.1	1.2	0	1.1	1.5	5.7	0.7	0	5.4	4.4

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ East Mall (non-holiday)
Site Code : 00000000
Start Date : 11/15/2012
Page No : 2

	East Mall Southbound					82 Westbound					East Mall Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	10	0	3	0	13	8	310	9	0	327	2	0	1	0	3	4	**261**	9	0	274	617
07:45 AM	20	**2**	2	0	24	**13**	**359**	7	**2**	**381**	1	0	4	0	5	**7**	255	12	**1**	275	**685**
08:00 AM	**21**	1	**4**	0	**26**	13	270	**12**	0	295	0	1	3	0	4	6	259	12	0	**277**	602
08:15 AM	16	1	1	0	18	7	278	5	2	292	**7**	**2**	**7**	0	**16**	5	227	**20**	0	252	578
Total Volume	67	4	10	0	81	41	1217	33	4	1295	10	3	15	0	28	22	1002	53	1	1078	2482
% App. Total	82.7	4.9	12.3	0		3.2	94	2.5	0.3		35.7	10.7	53.6	0		2	92.9	4.9	0.1		
PHF	.798	.500	.625	.000	.779	.788	.847	.688	.500	.850	.357	.375	.536	.000	.438	.786	.960	.663	.250	.973	.906
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	18	**6**						**12**	**1**		**35**			**1**	**109**						
01:15 PM	**24**	4	11	0	39	56	277	9	0	342	30	**6**	61	0	97	10	249	15	0	274	752
01:30 PM	24	5	**12**	0	**41**	**62**	**296**	9	0	**367**	30	6	**71**	0	107	**16**	236	12	0	264	**779**
01:45 PM	22	3	4	0	29	54	296	12	0	362	32	2	71	0	105	9	**250**	**17**	0	**276**	772
Total Volume	88	18	36	0	142	232	1145	42	1	1420	127	19	271	1	418	43	970	58	0	1071	3051
% App. Total	62	12.7	25.4	0		16.3	80.6	3	0.1		30.4	4.5	64.8	0.2		4	90.6	5.4	0		
PHF	.917	.750	.750	.000	.866	.935	.967	.875	.250	.967	.907	.792	.954	.250	.959	.672	.970	.853	.000	.970	.979
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	23	2	7	0	32	79	310	**17**			**36**	**4**		**1**	**115**						
04:45 PM	17	4	8	0	29	86	**374**	10	0	**470**	20	1	55	0	76	10	285	**17**	0	312	887
05:00 PM	25	4	5	0	34	70	367	15	0	452	27	1	74	1	103	**15**	**361**	9	0	**385**	**974**
05:15 PM	**33**	**7**	**9**	0	**49**	**91**	312	12	0	415	31	4	**76**	0	111	8	312	16	0	336	911
Total Volume	98	17	29	0	144	326	1363	54	0	1743	114	10	279	2	405	44	1241	57	0	1342	3634
% App. Total	68.1	11.8	20.1	0		18.7	78.2	3.1	0		28.1	2.5	68.9	0.5		3.3	92.5	4.2	0		
PHF	.742	.607	.806	.000	.735	.896	.911	.794	.000	.927	.792	.625	.918	.500	.880	.733	.859	.838	.000	.871	.933

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ East Mall (non-holiday saturday)
Site Code : 00000000
Start Date : 11/10/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	East Mall Southbound					82 Westbound					East Mall Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:30 AM	32	6	12	0	50	99	343	20	0	462	29	4	43	0	76	25	275	16	0	316	904
11:45 AM	30	13	20	0	63	182	435	9	0	626	23	15	84	0	122	20	343	16	0	379	1190
Total	62	19	32	0	113	281	778	29	0	1088	52	19	127	0	198	45	618	32	0	695	2094
12:00 PM	29	14	12	0	55	139	386	17	0	542	33	4	57	0	94	25	350	24	0	399	1090
12:15 PM	43	26	16	0	85	165	458	23	2	648	40	23	86	0	149	34	343	0	0	377	1259
12:30 PM	15	23	12	0	50	183	442	12	0	637	49	9	93	1	152	14	317	5	0	336	1175
12:45 PM	36	9	15	0	60	161	430	31	1	623	73	10	53	0	136	15	291	4	0	310	1129
Total	123	72	55	0	250	648	1716	83	3	2450	195	46	289	1	531	88	1301	33	0	1422	4653
01:00 PM	50	12	8	0	70	210	448	12	0	670	61	5	76	0	142	20	359	3	0	382	1264
01:15 PM	42	21	10	0	73	148	486	9	0	643	66	9	81	0	156	16	286	8	0	310	1182
Grand Total	277	124	105	0	506	1287	3428	133	3	4851	374	79	573	1	1027	169	2564	76	0	2809	9193
Apprch %	54.7	24.5	20.8	0		26.5	70.7	2.7	0.1		36.4	7.7	55.8	0.1		6	91.3	2.7	0		
Total %	3	1.3	1.1	0	5.5	14	37.3	1.4	0	52.8	4.1	0.9	6.2	0	11.2	1.8	27.9	0.8	0	30.6	
Vehicles	277	124	105	0	506	1284	3395	133	0	4812	373	78	573	0	1024	169	2540	76	0	2785	9127
% Vehicles	100	100	100	0	100	99.8	99	100	0	99.2	99.7	98.7	100	0	99.7	100	99.1	100	0	99.1	99.3
Trucks+Buses	0	0	0	0	0	3	33	0	3	39	1	1	0	1	3	0	24	0	0	24	66
% Trucks+Buses	0	0	0	0	0	0.2	1	0	100	0.8	0.3	1.3	0	100	0.3	0	0.9	0	0	0.9	0.7

DLZ Ohio, Inc.

614 West Superior Ave
Cleveland, OH 44113

File Name : 82 @ East Mall (holiday)
Site Code : 00000000
Start Date : 12/12/2012
Page No : 1

Groups Printed- Vehicles - Trucks + Buses

	EAST MALL ROAD Southbound					SR 82 Westbound					EAST MALL ROAD Northbound					SR 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	17	4	8	0	29	126	311	12	0	449	22	1	49	0	72	16	287	16	0	319	869
11:15 AM	31	8	5	0	44	124	319	14	0	457	32	9	74	0	115	10	299	10	0	319	935
11:30 AM	27	8	7	0	42	167	369	13	0	549	34	3	84	0	121	25	256	10	0	291	1003
11:45 AM	35	2	12	0	49	134	334	19	0	487	52	16	72	0	140	19	286	6	1	312	988
Total	110	22	32	0	164	551	1333	58	0	1942	140	29	279	0	448	70	1128	42	1	1241	3795
12:00 PM	39	13	13	0	65	122	335	14	0	471	52	10	80	0	142	13	261	8	0	282	960
12:15 PM	22	9	11	0	42	104	267	14	0	385	27	6	48	0	81	15	233	4	0	252	760
12:30 PM	27	9	13	0	49	123	373	17	0	513	43	7	63	0	113	4	270	16	0	290	965
12:45 PM	24	8	11	0	43	111	376	27	0	514	31	16	71	0	118	13	288	30	0	331	1006
Total	112	39	48	0	199	460	1351	72	0	1883	153	39	262	0	454	45	1052	58	0	1155	3691
*** BREAK ***																					
04:00 PM	18	2	8	2	30	91	341	13	1	446	39	2	78	0	119	9	286	8	0	303	898
04:15 PM	23	8	11	0	42	87	351	14	0	452	44	13	103	0	160	6	310	20	0	336	990
04:30 PM	18	9	4	1	32	87	362	7	0	456	45	3	109	0	157	12	372	36	0	420	1065
04:45 PM	19	8	2	0	29	88	354	20	0	462	48	6	125	0	179	10	366	25	0	401	1071
Total	78	27	25	3	133	353	1408	54	1	1816	176	24	415	0	615	37	1334	89	0	1460	4024
05:00 PM	31	7	5	0	43	95	346	14	0	455	30	4	112	0	146	12	464	25	0	501	1145
05:15 PM	18	9	9	0	36	83	363	16	0	462	52	5	95	0	152	7	421	20	0	448	1098
05:30 PM	31	8	7	0	46	104	298	17	0	419	42	6	94	0	142	15	334	17	0	366	973
05:45 PM	21	13	3	2	39	112	328	14	2	456	27	3	94	0	124	4	322	52	0	378	997
Total	101	37	24	2	164	394	1335	61	2	1792	151	18	395	0	564	38	1541	114	0	1693	4213
Grand Total	401	125	129	5	660	1758	5427	245	3	7433	620	110	1351	0	2081	190	5055	303	1	5549	15723
Apprch %	60.8	18.9	19.5	0.8		23.7	73	3.3	0		29.8	5.3	64.9	0		3.4	91.1	5.5	0		
Total %	2.6	0.8	0.8	0	4.2	11.2	34.5	1.6	0	47.3	3.9	0.7	8.6	0	13.2	1.2	32.2	1.9	0	35.3	
Vehicles	400	124	128	5	657	1755	5223	244	3	7225	618	110	1340	0	2068	187	4869	300	0	5356	15306
% Vehicles	99.8	99.2	99.2	100	99.5	99.8	96.2	99.6	100	97.2	99.7	100	99.2	0	99.4	98.4	96.3	99	0	96.5	97.3
Trucks + Buses	1	1	1	0	3	3	204	1	0	208	2	0	11	0	13	3	186	3	1	193	417
% Trucks + Buses	0.2	0.8	0.8	0	0.5	0.2	3.8	0.4	0	2.8	0.3	0	0.8	0	0.6	1.6	3.7	1	100	3.5	2.7

DLZ Ohio, Inc.

614 West Superior Ave
Cleveland, OH 44113

File Name : 82 @ East Mall (holiday saturday)
Site Code : 00000000
Start Date : 12/15/2012
Page No : 1

Groups Printed- Vehicles - Trucks + Buses

	EAST MALL Southbound					SR 82 Westbound					EAST MALL Northbound					SR 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:30 AM	41	7	12	1	61	146	371	19	0	536	32	3	79	0	114	11	223	33	0	267	978
11:45 AM	35	21	16	0	72	191	392	23	0	606	45	12	83	0	140	15	258	25	0	298	1116
Total	76	28	28	1	133	337	763	42	0	1142	77	15	162	0	254	26	481	58	0	565	2094
12:00 PM	38	9	12	0	59	149	375	19	0	543	44	6	106	1	157	14	246	22	0	282	1041
12:15 PM	32	19	18	0	69	147	372	20	0	539	32	7	98	0	137	25	243	19	0	287	1032
12:30 PM	21	22	24	0	67	155	385	15	0	555	30	9	96	0	135	9	262	36	0	307	1064
12:45 PM	22	9	14	0	45	130	385	10	0	525	34	5	98	0	137	20	229	34	0	283	990
Total	113	59	68	0	240	581	1517	64	0	2162	140	27	398	1	566	68	980	111	0	1159	4127
01:00 PM	28	11	17	0	56	182	405	11	0	598	49	9	101	0	159	19	298	42	0	359	1172
01:15 PM	52	14	7	0	73	174	448	20	0	642	48	10	115	1	174	22	243	22	0	287	1176
Grand Total	269	112	120	1	502	1274	3133	137	0	4544	314	61	776	2	1153	135	2002	233	0	2370	8569
Apprch %	53.6	22.3	23.9	0.2		28	68.9	3	0		27.2	5.3	67.3	0.2		5.7	84.5	9.8	0		
Total %	3.1	1.3	1.4	0	5.9	14.9	36.6	1.6	0	53	3.7	0.7	9.1	0	13.5	1.6	23.4	2.7	0	27.7	
Vehicles	269	112	120	1	502	1273	3108	137	0	4518	314	61	775	0	1150	135	1980	233	0	2348	8518
% Vehicles	100	100	100	100	100	99.9	99.2	100	0	99.4	100	100	99.9	0	99.7	100	98.9	100	0	99.1	99.4
Trucks + Buses	0	0	0	0	0	1	25	0	0	26	0	0	1	2	3	0	22	0	0	22	51
% Trucks + Buses	0	0	0	0	0	0.1	0.8	0	0	0.6	0	0	0.1	100	0.3	0	1.1	0	0	0.9	0.6

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Falling Water (non-holiday)
Site Code : 00000000
Start Date : 11/8/2012

Groups Printed- Vehicles - Trucks+Buses

	FALLING WATER Southbound					82 Westbound					FALLING WATER Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	13	0	8	1	22	0	174	7	1	182	0	0	0	0	0	10	268	0	0	278	482
07:15 AM	7	0	8	0	15	0	199	8	0	207	0	0	0	0	0	7	278	0	0	285	507
07:30 AM	13	0	10	0	23	0	281	17	0	298	0	0	0	0	0	12	253	0	0	265	586
07:45 AM	13	0	8	0	21	0	340	21	1	362	0	0	0	0	0	22	255	0	0	277	660
Total	46	0	34	1	81	0	994	53	2	1049	0	0	0	0	0	51	1054	0	0	1105	2235
08:00 AM	14	0	14	0	28	0	262	21	0	283	0	0	0	0	0	13	242	0	0	255	566
08:15 AM	15	0	5	0	20	0	280	26	1	307	0	0	0	1	1	14	224	0	0	238	566
08:30 AM	13	0	8	0	21	0	243	21	1	265	0	0	0	0	0	17	214	0	0	231	517
08:45 AM	12	0	12	0	24	0	272	28	0	300	0	0	0	0	0	14	208	0	0	222	546
Total	54	0	39	0	93	0	1057	96	2	1155	0	0	0	1	1	58	888	0	0	946	2195
*** BREAK ***																					
11:00 AM	21	1	19	0	41	0	244	11	0	255	0	0	0	0	0	14	216	0	0	230	526
11:15 AM	20	0	36	0	56	0	218	10	0	228	0	0	0	0	0	22	269	0	0	291	575
11:30 AM	11	0	18	0	29	0	265	6	0	271	0	0	0	0	0	11	246	0	0	257	557
11:45 AM	11	0	28	0	39	0	300	20	1	321	0	0	0	0	0	20	238	0	0	258	618
Total	63	1	101	0	165	0	1027	47	1	1075	0	0	0	0	0	67	969	0	0	1036	2276
12:00 PM	21	0	26	0	47	0	265	16	0	281	0	0	0	0	0	23	292	0	0	315	643
12:15 PM	16	0	20	0	36	0	277	23	0	300	0	0	0	0	0	13	250	0	0	263	599
12:30 PM	12	0	26	0	38	0	255	18	0	273	0	0	0	0	0	24	241	0	0	265	576
12:45 PM	23	0	43	0	66	0	290	17	0	307	0	0	0	1	1	24	247	0	0	271	645
Total	72	0	115	0	187	0	1087	74	0	1161	0	0	0	1	1	84	1030	0	0	1114	2463
01:00 PM	20	0	27	0	47	0	312	19	0	331	0	0	0	3	3	24	236	0	0	260	641
01:15 PM	14	0	24	0	38	0	299	18	1	318	0	0	0	0	0	14	235	0	0	249	605
01:30 PM	19	0	19	1	39	0	285	16	1	302	0	0	0	0	0	14	262	0	0	276	617
01:45 PM	15	0	17	0	32	0	284	14	0	298	0	0	0	0	0	30	247	0	0	277	607
Total	68	0	87	1	156	0	1180	67	2	1249	0	0	0	3	3	82	980	0	0	1062	2470
*** BREAK ***																					
03:00 PM	18	0	22	2	42	0	293	22	1	316	0	0	0	0	0	28	277	0	0	305	663
03:15 PM	20	0	20	0	40	0	310	21	1	332	0	0	0	0	0	22	279	0	0	301	673
03:30 PM	14	0	21	0	35	0	311	25	0	336	0	0	0	0	0	18	319	0	0	337	708
03:45 PM	22	0	22	1	45	0	342	14	1	357	0	0	0	0	0	22	322	0	0	344	746
Total	74	0	85	3	162	0	1256	82	3	1341	0	0	0	0	0	90	1197	0	0	1287	2790
04:00 PM	21	0	27	0	48	0	314	27	0	341	0	0	0	0	0	16	278	0	0	294	683
04:15 PM	16	0	25	1	42	0	348	18	1	367	0	0	0	3	3	20	240	0	0	260	672
04:30 PM	14	0	20	0	34	0	353	27	0	380	0	0	0	1	1	15	324	0	0	339	754
04:45 PM	22	0	23	0	45	0	309	27	1	337	0	0	0	1	1	22	242	0	0	264	647
Total	73	0	95	1	169	0	1324	99	2	1425	0	0	0	5	5	73	1084	0	0	1157	2756
05:00 PM	22	0	41	0	63	0	374	35	1	410	0	0	0	0	0	26	334	0	0	360	833
05:15 PM	28	0	33	1	62	0	394	24	0	418	0	0	0	1	1	19	331	0	0	350	831
05:30 PM	27	0	27	0	54	0	368	26	0	394	0	0	0	0	0	22	265	0	0	287	735
05:45 PM	19	0	27	0	46	0	379	29	0	408	0	0	0	0	0	22	251	0	0	273	727
Total	96	0	128	1	225	0	1515	114	1	1630	0	0	0	1	1	89	1181	0	0	1270	3126
Grand Total	546	1	684	7	1238	0	9440	632	13	10085	0	0	0	11	11	594	8383	0	0	8977	20311
Apprch %	44.1	0.1	55.3	0.6		0	93.6	6.3	0.1		0	0	0	100		6.6	93.4	0	0		
Total %	2.7	0	3.4	0	6.1	0	46.5	3.1	0.1	49.7	0	0	0	0.1	0.1	2.9	41.3	0	0	44.2	
Vehicles	533	1	659	7	1200	0	8886	618	13	9517	0	0	0	11	11	588	7864	0	0	8452	19180
% Vehicles	97.6	100	96.3	100	96.9	0	94.1	97.8	100	94.4	0	0	0	100	100	99	93.8	0	0	94.2	94.4
Trucks+Buses	13	0	25	0	38	0	554	14	0	568	0	0	0	0	0	6	519	0	0	525	1131
% Trucks+Buses	2.4	0	3.7	0	3.1	0	5.9	2.2	0	5.6	0	0	0	0	0	1	6.2	0	0	5.8	5.6

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Falling Water (non-holiday)
Site Code : 00000000
Start Date : 11/8/2012

	FALLING WATER Southbound					82 Westbound					FALLING WATER Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	13	0	10	0	23	0	281	17	0	298	0	0	0	0	0	12	253	0	0	265	586
07:45 AM	13	0	8	0	21	0	**340**	21	**1**	**362**	0	0	0	0	0	**22**	**255**	0	0	**277**	**660**
08:00 AM	14	0	**14**	0	**28**	0	262	21	0	283	0	0	0	0	0	13	242	0	0	255	566
08:15 AM	**15**	0	5	0	20	0	280	**26**	1	307	0	0	0	**1**	**1**	14	224	0	0	238	566
Total Volume	55	0	37	0	92	0	1163	85	2	1250	0	0	0	1	1	61	974	0	0	1035	2378
% App. Total	59.8	0	40.2	0		0	93	6.8	0.2		0	0	0	100		5.9	94.1	0	0		
PHF	.917	.000	.661	.000	.821	.000	.855	.817	.500	.863	.000	.000	.000	.250	.250	.693	.955	.000	.000	.934	.901
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	**23**		**43**		**66**											**24**					**645**
01:00 PM	20	0	27	0	47	0	**312**	**19**	0	**331**	0	0	0	**3**	**3**	24	236	0	0	260	641
01:15 PM	14	0	24	0	38	0	299	18	**1**	318	0	0	0	0	0	14	235	0	0	249	605
01:30 PM	19	0	19	**1**	39	0	285	16	1	302	0	0	0	0	0	14	**262**	0	0	**276**	617
Total Volume	76	0	113	1	190	0	1186	70	2	1258	0	0	0	4	4	76	980	0	0	1056	2508
% App. Total	40	0	59.5	0.5		0	94.3	5.6	0.2		0	0	0	100		7.2	92.8	0	0		
PHF	.826	.000	.657	.250	.720	.000	.950	.921	.500	.950	.000	.000	.000	.333	.333	.792	.935	.000	.000	.957	.972
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	22	0	**41**		**63**			**35**	**1**							**26**	**334**			**360**	**833**
05:15 PM	**28**	0	33	**1**	62	0	**394**	24	0	**418**	0	0	0	**1**	**1**	19	331	0	0	350	831
05:30 PM	27	0	27	0	54	0	368	26	0	394	0	0	0	0	0	22	265	0	0	287	735
05:45 PM	19	0	27	0	46	0	379	29	0	408	0	0	0	0	0	22	251	0	0	273	727
Total Volume	96	0	128	1	225	0	1515	114	1	1630	0	0	0	1	1	89	1181	0	0	1270	3126
% App. Total	42.7	0	56.9	0.4		0	92.9	7	0.1		0	0	0	100		7	93	0	0		
PHF	.857	.000	.780	.250	.893	.000	.961	.814	.250	.975	.000	.000	.000	.250	.250	.856	.884	.000	.000	.882	.938

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ West Mall (non-holiday)
Site Code : 00000000
Start Date : 11/14/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	WEST MALL Southbound					82 Westbound					WEST MALL Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	4	160	23	0	187	8	0	1	0	9	14	256	16	0	286	483
07:15 AM	0	0	1	0	1	10	222	29	0	261	5	3	0	0	8	5	279	16	0	300	570
07:30 AM	2	0	0	0	2	13	254	32	0	299	10	5	4	0	19	14	263	27	0	304	624
07:45 AM	0	0	4	0	4	17	309	39	1	366	9	0	4	0	13	13	247	36	0	296	679
Total	2	0	6	0	8	44	945	123	1	1113	32	8	9	0	49	46	1045	95	0	1186	2356
08:00 AM	3	0	1	0	4	11	231	33	0	275	7	0	9	0	16	10	251	27	0	288	583
08:15 AM	1	0	1	0	2	9	239	30	4	282	6	0	5	0	11	14	216	29	0	259	554
08:30 AM	2	0	0	0	2	7	200	26	1	234	14	0	5	0	19	11	204	33	0	248	503
08:45 AM	2	0	0	0	2	17	243	14	0	274	17	2	8	0	27	6	224	52	0	282	585
Total	8	0	2	0	10	44	913	103	5	1065	44	2	27	0	73	41	895	141	0	1077	2225
*** BREAK ***																					
11:00 AM	9	1	4	1	15	19	216	1	0	236	55	2	25	0	82	1	224	127	0	352	685
11:15 AM	3	5	4	0	12	32	247	0	2	281	66	0	23	0	89	2	192	112	0	306	688
11:30 AM	8	4	13	0	25	25	267	2	0	294	64	2	30	0	96	2	228	142	0	372	787
11:45 AM	8	12	17	0	37	34	225	2	0	261	77	1	27	0	105	6	226	138	0	370	773
Total	28	22	38	1	89	110	955	5	2	1072	262	5	105	0	372	11	870	519	0	1400	2933
12:00 PM	7	6	11	0	24	35	224	2	2	263	89	1	26	2	118	3	280	151	1	435	840
12:15 PM	4	3	4	0	11	35	251	4	0	290	75	5	30	0	110	8	271	129	0	408	819
12:30 PM	2	5	5	0	12	31	244	6	0	281	94	9	43	0	146	11	234	135	0	380	819
12:45 PM	2	6	5	0	13	36	277	10	3	326	78	6	21	0	105	12	233	111	0	356	800
Total	15	20	25	0	60	137	996	22	5	1160	336	21	120	2	479	34	1018	526	1	1579	3278
01:00 PM	10	3	6	0	19	42	303	6	1	352	103	6	41	2	152	6	247	130	2	385	908
01:15 PM	5	0	3	0	8	34	271	4	0	309	79	5	28	0	112	8	261	148	1	418	847
01:30 PM	1	2	1	0	4	29	259	2	1	291	93	6	43	1	143	0	240	119	0	359	797
01:45 PM	1	3	2	0	6	31	256	1	0	288	94	4	25	0	123	9	199	118	0	326	743
Total	17	8	12	0	37	136	1089	13	2	1240	369	21	137	3	530	23	947	515	3	1488	3295
*** BREAK ***																					
03:00 PM	14	3	7	0	24	23	265	1	2	291	99	0	30	0	129	1	277	91	0	369	813
03:15 PM	9	0	1	0	10	36	299	0	1	336	99	0	29	0	128	1	271	130	2	404	878
03:30 PM	15	3	7	0	25	31	325	1	1	358	98	0	33	0	131	1	275	110	0	386	900
03:45 PM	12	2	12	0	26	32	343	1	2	378	87	0	29	0	116	3	226	139	3	371	891
Total	50	8	27	0	85	122	1232	3	6	1363	383	0	121	0	504	6	1049	470	5	1530	3482
04:00 PM	33	4	15	0	52	33	339	3	1	376	83	2	28	0	113	1	256	149	1	407	948
04:15 PM	14	1	8	0	23	44	365	0	0	409	89	1	32	0	122	0	226	150	1	377	931
04:30 PM	27	5	35	0	67	23	338	0	0	361	74	0	30	0	104	1	287	117	0	405	937
04:45 PM	18	4	12	0	34	36	317	0	2	355	103	1	39	0	143	1	245	136	1	383	915
Total	92	14	70	0	176	136	1359	3	3	1501	349	4	129	0	482	3	1014	552	3	1572	3731
05:00 PM	40	5	18	0	63	22	385	0	0	407	91	0	40	0	131	2	344	145	0	491	1092
05:15 PM	16	1	15	0	32	42	365	2	0	409	105	0	32	0	137	0	263	140	0	403	981
05:30 PM	14	1	1	0	16	43	361	1	0	405	101	0	38	0	139	2	227	137	1	367	927
05:45 PM	7	0	4	0	11	36	357	0	0	393	70	0	36	0	106	0	257	144	0	401	911
Total	77	7	38	0	122	143	1468	3	0	1614	367	0	146	0	513	4	1091	566	1	1662	3911
Grand Total	289	79	218	1	587	872	8957	275	24	10128	2142	61	794	5	3002	168	7929	3384	13	11494	25211
Apprch %	49.2	13.5	37.1	0.2		8.6	88.4	2.7	0.2		71.4	2	26.4	0.2		1.5	69	29.4	0.1		
Total %	1.1	0.3	0.9	0	2.3	3.5	35.5	1.1	0.1	40.2	8.5	0.2	3.1	0	11.9	0.7	31.5	13.4	0.1	45.6	
Vehicles	289	79	217	1	586	861	8442	273	24	9600	2125	61	784	5	2975	168	7452	3361	13	10994	24155
% Vehicles	100	100	99.5	100	99.8	98.7	94.3	99.3	100	94.8	99.2	100	98.7	100	99.1	100	94	99.3	100	95.6	95.8
Trucks+Buses																					
% Trucks+Buses	0	0	0.5	0	0.2	1.3	5.7	0.7	0	5.2	0.8	0	1.3	0	0.9	0	6	0.7	0	4.4	4.2

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ West Mall (non-holiday)
Site Code : 00000000
Start Date : 11/14/2012

	WEST MALL Southbound					82 Westbound					WEST MALL Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	1	0	1	10	222	29	0	261	5	3	0	0	8	5	**279**	16	0	300	570
07:30 AM	2	0	0	0	2	13	254	32	0	299	**10**	**5**	4	0	**19**	**14**	263	27	0	**304**	624
07:45 AM	0	0	**4**	0	**4**	**17**	**309**	**39**	**1**	**366**	9	0	4	0	13	13	247	**36**	0	296	**679**
08:00 AM	**3**	0	1	0	4	11	231	33	0	275	7	0	**9**	0	16	10	251	27	0	288	583
Total Volume	5	0	6	0	11	51	1016	133	1	1201	31	8	17	0	56	42	1040	106	0	1188	2456
% App. Total																					
PHF	.417	.000	.375	.000	.688	.750	.822	.853	.250	.820	.775	.400	.472	.000	.737	.750	.932	.736	.000	.977	.904
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:30 PM																					
12:30 PM	2	5	5	0	12	31	244	6	0	281	94	**9**	**43**	0	146	11	234	135	0	380	819
12:45 PM	2	**6**	5	0	13	36	277	**10**	**3**	326	78	6	21	0	105	**12**	233	111	0	356	800
01:00 PM	**10**	3	**6**	0	**19**	**42**	**303**	6	1	**352**	**103**	6	41	**2**	**152**	6	247	130	**2**	385	**908**
01:15 PM	5	0	3	0	8	34	271	4	0	309	79	5	28	0	112	8	**261**	**148**	1	**418**	847
Total Volume	19	14	19	0	52	143	1095	26	4	1268	354	26	133	2	515	37	975	524	3	1539	3374
% App. Total																					
PHF	.475	.583	.792	.000	.684	.851	.903	.650	.333	.901	.859	.722	.773	.250	.847	.771	.934	.885	.375	.920	.929
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	27	**5**	**35**	0	**67**	23	338	0	0	361	74	0	30	0	104	1	287	117	0	405	937
04:45 PM	18	4	12	0	34	36	317	0	**2**	355	103	**1**	39	0	**143**	1	245	136	**1**	383	915
05:00 PM	**40**	5	18	0	63	22	**385**	0	0	407	91	0	**40**	0	131	**2**	**344**	**145**	0	**491**	**1092**
05:15 PM	16	1	15	0	32	**42**	365	**2**	0	**409**	**105**	0	32	0	137	0	263	140	0	403	981
Total Volume	101	15	80	0	196	123	1405	2	2	1532	373	1	141	0	515	4	1139	538	1	1682	3925
% App. Total																					
PHF	.631	.750	.571	.000	.731	.732	.912	.250	.250	.936	.888	.250	.881	.000	.900	.500	.828	.928	.250	.856	.899

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ West Mall (non-holiday saturday)
Site Code : 00000000
Start Date : 11/3/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	SB WEST MALL 6 Southbound					RT 82 Westbound					SB WEST MALL 6 Northbound					RT 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	0	0	0	2	26	250	1	0	277	73	0	19	0	92	3	213	124	0	340	711
11:15 AM	2	0	0	0	2	25	348	2	0	375	102	0	17	0	119	1	213	142	3	359	855
11:30 AM	1	1	0	0	2	29	388	0	0	417	75	0	22	0	97	1	237	183	2	423	939
11:45 AM	1	1	1	0	3	48	380	2	0	430	96	0	19	0	115	2	199	202	0	403	951
Total	6	2	1	0	9	128	1366	5	0	1499	346	0	77	0	423	7	862	651	5	1525	3456
12:00 PM	0	0	0	0	0	57	411	0	0	468	118	0	17	0	135	1	221	172	1	395	998
12:15 PM	3	0	2	0	5	33	515	1	0	549	137	0	14	0	151	2	265	171	0	438	1143
12:30 PM	0	0	3	0	3	19	388	3	0	410	151	0	16	0	167	2	290	194	0	486	1066
12:45 PM	0	1	0	0	1	50	465	0	0	515	107	0	28	0	135	3	284	180	0	467	1118
Total	3	1	5	0	9	159	1779	4	0	1942	513	0	75	0	588	8	1060	717	1	1786	4325
Grand Total	9	3	6	0	18	287	3145	9	0	3441	859	0	152	0	1011	15	1922	1368	6	3311	7781
Apprch %	50	16.7	33.3	0		8.3	91.4	0.3	0		85	0	15	0		0.5	58	41.3	0.2		
Total %	0.1	0	0.1	0	0.2	3.7	40.4	0.1	0	44.2	11	0	2	0	13	0.2	24.7	17.6	0.1	42.6	
Vehicles	9	3	6	0	18	283	3116	9	0	3408	858	0	150	0	1008	15	1887	1362	6	3270	7704
% Vehicles	100	100	100	0	100	98.6	99.1	100	0	99	99.9	0	98.7	0	99.7	100	98.2	99.6	100	98.8	99
Trucks+Buses	0	0	0	0	0	4	29	0	0	33	1	0	2	0	3	0	35	6	0	41	77
% Trucks+Buses	0	0	0	0	0	1.4	0.9	0	0	1	0.1	0	1.3	0	0.3	0	1.8	0.4	0	1.2	1

DLZ Ohio, Inc.

614 West Superior Ave
Cleveland, OH 44113

File Name : 82 @ West Mall (holiday)
Site Code : 00000000
Start Date : 12/13/2012
Page No : 1

Groups Printed- Vehicles - Trucks + Buses

	WEST MALL ROAD Southbound					SR 82 Westbound					WEST MALL ROAD Northbound					SR 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	3	0	3	0	6	34	310	5	2	351	80	0	21	4	105	3	215	166	0	384	846
11:15 AM	6	3	12	0	21	31	327	2	0	360	84	1	34	1	120	2	234	138	0	374	875
11:30 AM	4	9	22	0	35	36	308	3	1	348	86	2	45	1	134	4	247	158	0	409	926
11:45 AM	14	4	25	0	43	35	299	3	0	337	77	2	30	0	109	8	243	173	0	424	913
Total	27	16	62	0	105	136	1244	13	3	1396	327	5	130	6	468	17	939	635	0	1591	3560
12:00 PM	10	10	13	0	33	28	351	2	0	381	102	5	31	0	138	9	237	160	0	406	958
12:15 PM	4	3	6	0	13	27	334	10	0	371	112	6	33	0	151	11	264	155	0	430	965
12:30 PM	10	6	10	0	26	40	320	14	1	375	110	5	29	0	144	13	248	170	0	431	976
12:45 PM	6	5	7	0	18	33	298	13	0	344	114	4	37	0	155	18	222	162	0	402	919
Total	30	24	36	0	90	128	1303	39	1	1471	438	20	130	0	588	51	971	647	0	1669	3818
*** BREAK ***																					
04:00 PM	35	7	26	0	68	24	395	2	0	421	118	2	28	1	149	0	268	163	0	431	1069
04:15 PM	27	4	11	1	43	38	460	2	1	501	98	1	38	0	137	1	254	157	1	413	1094
04:30 PM	24	6	16	0	46	43	493	7	0	543	127	0	42	0	169	0	292	137	0	429	1187
04:45 PM	23	1	9	0	33	43	446	2	0	491	98	1	47	1	147	3	249	149	0	401	1072
Total	109	18	62	1	190	148	1794	13	1	1956	441	4	155	2	602	4	1063	606	1	1674	4422
05:00 PM	40	2	24	0	66	29	523	2	0	554	118	3	33	0	154	1	282	145	0	428	1202
05:15 PM	26	2	12	0	40	46	622	3	2	673	100	1	42	0	143	0	300	162	0	462	1318
05:30 PM	8	4	6	0	18	48	550	0	1	599	115	0	52	0	167	0	220	133	0	353	1137
05:45 PM	9	0	1	0	10	33	352	32	1	418	106	1	33	2	142	1	236	172	0	409	979
Total	83	8	43	0	134	156	2047	37	4	2244	439	5	160	2	606	2	1038	612	0	1652	4636
Grand Total	249	66	203	1	519	568	6388	102	9	7067	1645	34	575	10	2264	74	4011	2500	1	6586	16436
Apprch %	48	12.7	39.1	0.2		8	90.4	1.4	0.1		72.7	1.5	25.4	0.4		1.1	60.9	38	0		
Total %	1.5	0.4	1.2	0	3.2	3.5	38.9	0.6	0.1	43	10	0.2	3.5	0.1	13.8	0.5	24.4	15.2	0	40.1	
Vehicles	249	66	202	0	517	556	6165	101	0	6822	1634	34	567	7	2242	74	3834	2490	1	6399	15980
% Vehicles	100	100	99.5	0	99.6	97.9	96.5	99	0	96.5	99.3	100	98.6	70	99	100	95.6	99.6	100	97.2	97.2
Trucks + Buses	0	0	1	1	2	12	223	1	9	245	11	0	8	3	22	0	177	10	0	187	456
% Trucks + Buses	0	0	0.5	100	0.4	2.1	3.5	1	100	3.5	0.7	0	1.4	30	1	0	4.4	0.4	0	2.8	2.8

DLZ Ohio, Inc.

614 West Superior Ave
Cleveland, OH 44113

File Name : 82 @ West Mall (holiday saturday)
Site Code : 00000000
Start Date : 12/22/2012
Page No : 1

Groups Printed- Vehicles - Trucks + Buses

	PRIVATE DRIVE Southbound					SR 82 Westbound					WEST MALL Northbound					SR 82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:30 AM	0	0	2	0	2	92	486	0	0	578	188	0	29	0	217	0	231	230	0	461	1258
11:45 AM	0	0	1	0	1	85	388	2	0	475	216	0	26	0	242	0	279	266	0	545	1263
Total	0	0	3	0	3	177	874	2	0	1053	404	0	55	0	459	0	510	496	0	1006	2521
12:00 PM	1	1	1	0	3	90	399	1	0	490	181	1	58	0	240	1	233	274	0	508	1241
12:15 PM	1	0	0	0	1	102	449	1	0	552	211	0	53	0	264	0	260	256	0	516	1333
12:30 PM	0	0	0	0	0	112	631	1	0	744	254	0	39	0	293	0	214	248	0	462	1499
12:45 PM	1	5	3	0	9	77	525	1	0	603	235	4	50	0	289	2	247	255	0	504	1405
Total	3	6	4	0	13	381	2004	4	0	2389	881	5	200	0	1086	3	954	1033	0	1990	5478
01:00 PM	2	0	2	0	4	113	515	1	0	629	194	0	26	0	220	1	240	295	0	536	1389
01:15 PM	2	1	4	0	7	110	523	1	0	634	166	3	58	0	227	0	215	256	0	471	1339
Grand Total	7	7	13	0	27	781	3916	8	0	4705	1645	8	339	0	1992	4	1919	2080	0	4003	10727
Apprch %	25.9	25.9	48.1	0		16.6	83.2	0.2	0		82.6	0.4	17	0		0.1	47.9	52	0		
Total %	0.1	0.1	0.1	0	0.3	7.3	36.5	0.1	0	43.9	15.3	0.1	3.2	0	18.6	0	17.9	19.4	0	37.3	
Vehicles	7	7	13	0	27	779	3894	8	0	4681	1640	8	335	0	1983	4	1897	2078	0	3979	10670
% Vehicles	100	100	100	0	100	99.7	99.4	100	0	99.5	99.7	100	98.8	0	99.5	100	98.9	99.9	0	99.4	99.5
Trucks + Buses	0	0	0	0	0	2	22	0	0	24	5	0	4	0	9	0	22	2	0	24	57
% Trucks + Buses	0	0	0	0	0	0.3	0.6	0	0	0.5	0.3	0	1.2	0	0.5	0	1.1	0.1	0	0.6	0.5

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Ordner (non-holiday)
Site Code : 00000000
Start Date : 11/13/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	Ordner Southbound					82 Westbound					Ordner Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	7	0	2	0	9	5	158	5	0	168	0	1	39	0	40	0	267	1	0	268	485
07:15 AM	11	0	4	0	15	7	187	7	0	201	0	0	23	0	23	0	253	0	0	253	492
07:30 AM	12	3	6	1	22	8	205	13	0	226	0	2	31	0	33	1	265	0	0	266	547
07:45 AM	12	1	1	0	14	10	259	13	1	283	3	2	21	0	26	0	289	0	0	289	612
Total	42	4	13	1	60	30	809	38	1	878	3	5	114	0	122	1	1074	1	0	1076	2136
08:00 AM	16	2	2	0	20	10	210	10	0	230	3	1	23	0	27	0	252	3	0	255	532
08:15 AM	10	1	3	0	14	12	211	14	0	237	1	2	18	0	21	0	229	3	0	232	504
08:30 AM	9	0	3	0	12	12	210	17	0	239	2	2	23	0	27	0	231	2	0	233	511
08:45 AM	10	0	4	0	14	14	237	18	0	269	1	1	23	0	25	1	243	11	0	255	563
Total	45	3	12	0	60	48	868	59	0	975	7	6	87	0	100	1	955	19	0	975	2110
*** BREAK ***																					
11:00 AM	8	1	2	0	11	10	256	10	0	276	5	1	25	0	31	1	275	7	0	283	601
11:15 AM	7	1	4	0	12	15	270	28	0	313	1	2	22	0	25	0	318	3	0	321	671
11:30 AM	5	2	4	0	11	20	313	17	0	350	0	4	24	0	28	1	304	5	0	310	699
11:45 AM	13	1	3	0	17	19	343	22	0	384	0	2	18	1	21	1	327	2	0	330	752
Total	33	5	13	0	51	64	1182	77	0	1323	6	9	89	1	105	3	1224	17	0	1244	2723
12:00 PM	11	4	2	0	17	14	308	25	0	347	1	5	30	0	36	0	361	5	0	366	766
12:15 PM	8	2	4	0	14	19	333	22	0	374	1	3	21	0	25	2	328	3	0	333	746
12:30 PM	13	2	2	0	17	22	309	16	0	347	2	2	24	0	28	2	353	5	0	360	752
12:45 PM	10	0	3	0	13	28	344	19	0	391	0	4	24	0	28	1	317	8	2	328	760
Total	42	8	11	0	61	83	1294	82	0	1459	4	14	99	0	117	5	1359	21	2	1387	3024
01:00 PM	13	0	4	0	17	18	302	17	0	337	2	2	41	0	45	1	325	3	1	330	729
01:15 PM	13	3	3	0	19	25	359	18	0	402	4	4	18	0	26	1	291	4	0	296	743
01:30 PM	6	0	2	0	8	22	345	23	1	391	2	3	25	0	30	1	320	7	0	328	757
01:45 PM	8	0	5	1	14	17	319	14	0	350	4	1	27	0	32	1	329	9	1	340	736
Total	40	3	14	1	58	82	1325	72	1	1480	12	10	111	0	133	4	1265	23	2	1294	2965
*** BREAK ***																					
03:00 PM	16	0	3	0	19	21	312	25	2	360	1	1	14	0	16	1	305	2	0	308	703
03:15 PM	7	2	2	0	11	23	380	13	2	418	3	2	25	0	30	0	342	9	0	351	810
03:30 PM	7	2	3	4	16	20	362	25	5	412	5	4	27	0	36	1	363	3	1	368	832
03:45 PM	8	2	5	0	15	26	362	17	0	405	1	4	27	0	32	0	363	4	2	369	821
Total	38	6	13	4	61	90	1416	80	9	1595	10	11	93	0	114	2	1373	18	3	1396	3166
04:00 PM	4	0	2	2	8	39	384	23	4	450	3	2	22	0	27	2	300	12	3	317	802
04:15 PM	11	2	2	0	15	35	368	31	0	434	9	0	31	0	40	2	328	2	2	334	823
04:30 PM	13	4	7	0	24	35	397	25	0	457	1	0	28	0	29	0	352	9	2	363	873
04:45 PM	12	0	1	0	13	30	391	23	3	447	4	5	22	0	31	2	284	7	0	293	784
Total	40	6	12	2	60	139	1540	102	7	1788	17	7	103	0	127	6	1264	30	7	1307	3282
05:00 PM	9	5	2	2	18	36	449	22	2	509	2	3	31	0	36	0	370	7	4	381	944
05:15 PM	14	2	4	0	20	40	382	16	1	439	3	4	27	0	34	1	381	7	0	389	882
05:30 PM	8	3	2	0	13	36	430	20	0	486	0	1	19	0	20	0	345	4	0	349	868
05:45 PM	9	1	3	0	13	37	349	14	0	400	5	2	33	0	40	2	286	9	1	298	751
Total	40	11	11	2	64	149	1610	72	3	1834	10	10	110	0	130	3	1382	27	5	1417	3445
Grand Total	320	46	99	10	475	685	10044	582	21	11332	69	72	806	1	948	25	9896	156	19	10096	22851
Apprch %	67.4	9.7	20.8	2.1		6	88.6	5.1	0.2		7.3	7.6	85	0.1		0.2	98	1.5	0.2		
Total %	1.4	0.2	0.4	0	2.1	3	44	2.5	0.1	49.6	0.3	0.3	3.5	0	4.1	0.1	43.3	0.7	0.1	44.2	
Vehicles	318	46	98	10	472	675	9488	578	21	10762	66	71	798	1	936	25	9405	149	19	9598	21768
% Vehicles	99.4	100	99	100	99.4	98.5	94.5	99.3	100	95	95.7	98.6	99	100	98.7	100	95	95.5	100	95.1	95.3
Trucks+Buses	2	0	1	0	3	10	556	4	0	570	3	1	8	0	12	0	491	7	0	498	1083
% Trucks+Buses	0.6	0	1	0	0.6	1.5	5.5	0.7	0	5	4.3	1.4	1	0	1.3	0	5	4.5	0	4.9	4.7

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Ordner (non-holiday)
Site Code : 00000000
Start Date : 11/13/2012
Page No : 2

	Ordner Southbound					82 Westbound					Ordner Northbound					82 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	12	**3**	**6**	**1**	**22**	8	205	13	0	226	0	**2**	**31**	0	**33**	**1**	265	0	0	266	547
07:45 AM	12	1	1	0	14	10	**259**	13	**1**	**283**	**3**	2	21	0	26	0	**289**	0	0	**289**	**612**
08:00 AM	**16**	2	2	0	20	10	210	10	0	230	3	1	23	0	27	0	252	**3**	0	255	532
08:15 AM	10	1	3	0	14	**12**	211	**14**	0	237	1	2	18	0	21	0	229	3	0	232	504
Total Volume	50	7	12	1	70	40	885	50	1	976	7	7	93	0	107	1	1035	6	0	1042	2195
% App. Total	71.4	10	17.1	1.4		4.1	90.7	5.1	0.1		6.5	6.5	86.9	0		0.1	99.3	0.6	0		
PHF	.781	.583	.500	.250	.795	.833	.854	.893	.250	.862	.583	.875	.750	.000	.811	.250	.895	.500	.000	.901	.897
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	11	**4**			**17**			**25**				**5**	**30**		**36**		**361**			**366**	**766**
12:15 PM	8	2	**4**	0	14	19	333	22	0	374	1	3	21	0	25	**2**	328	3	0	333	746
12:30 PM	**13**	2	2	0	17	22	309	16	0	347	**2**	2	24	0	28	2	353	5	0	360	752
12:45 PM	10	0	3	0	13	**28**	**344**	19	0	**391**	0	4	24	0	28	1	317	**8**	**2**	328	760
Total Volume	42	8	11	0	61	83	1294	82	0	1459	4	14	99	0	117	5	1359	21	2	1387	3024
% App. Total	68.9	13.1	18	0		5.7	88.7	5.6	0		3.4	12	84.6	0		0.4	98	1.5	0.1		
PHF	.808	.500	.688	.000	.897	.741	.940	.820	.000	.933	.500	.700	.825	.000	.813	.625	.941	.656	.250	.947	.987
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	13	4	**7**		**24**			**25**										**9**			
04:45 PM	12	0	1	0	13	30	391	23	**3**	447	**4**	**5**	22	0	31	**2**	284	7	0	293	784
05:00 PM	9	**5**	2	**2**	18	36	**449**	22	2	**509**	2	3	**31**	0	**36**	0	370	7	**4**	381	**944**
05:15 PM	**14**	2	4	0	20	**40**	382	16	1	439	3	4	27	0	34	1	**381**	7	0	**389**	882
Total Volume	48	11	14	2	75	141	1619	86	6	1852	10	12	108	0	130	3	1387	30	6	1426	3483
% App. Total	64	14.7	18.7	2.7		7.6	87.4	4.6	0.3		7.7	9.2	83.1	0		0.2	97.3	2.1	0.4		
PHF	.857	.550	.500	.250	.781	.881	.901	.860	.500	.910	.625	.600	.871	.000	.903	.375	.910	.833	.375	.916	.922

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Target (non-holiday)
Site Code : 00000000
Start Date : 11/8/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	TARGET Southbound				82 Westbound				82 Eastbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
07:00 AM	9	2	1	12	150	10	0	160	9	259	0	268	440
07:15 AM	4	7	1	12	179	12	0	191	21	249	0	270	473
07:30 AM	9	9	2	20	204	7	0	211	24	257	0	281	512
07:45 AM	7	14	0	21	247	16	0	263	12	282	0	294	578
Total	29	32	4	65	780	45	0	825	66	1047	0	1113	2003
08:00 AM	14	2	0	16	197	18	0	215	24	241	0	265	496
08:15 AM	13	6	1	20	197	18	0	215	16	219	0	235	470
08:30 AM	12	11	1	24	193	22	0	215	19	221	0	240	479
08:45 AM	14	12	0	26	210	32	0	242	30	241	0	271	539
Total	53	31	2	86	797	90	0	887	89	922	0	1011	1984
*** BREAK ***													
11:00 AM	64	24	0	88	210	53	0	263	31	219	0	250	601
11:15 AM	61	29	0	90	209	66	0	275	28	260	0	288	653
11:30 AM	72	29	0	101	255	62	0	317	23	238	0	261	679
11:45 AM	70	33	0	103	263	83	0	346	33	260	0	293	742
Total	267	115	0	382	937	264	0	1201	115	977	0	1092	2675
12:00 PM	65	27	0	92	237	74	0	311	35	301	0	336	739
12:15 PM	60	35	0	95	261	77	0	338	29	273	1	303	736
12:30 PM	58	31	1	90	241	72	0	313	33	302	0	335	738
12:45 PM	70	38	0	108	273	74	0	347	35	256	0	291	746
Total	253	131	1	385	1012	297	0	1309	132	1132	1	1265	2959
01:00 PM	64	43	0	107	231	77	0	308	33	265	0	298	713
01:15 PM	65	33	1	99	294	72	0	366	31	231	0	262	727
01:30 PM	61	44	0	105	286	63	0	349	33	267	2	302	756
01:45 PM	77	47	1	125	276	52	0	328	44	262	1	307	760
Total	267	167	2	436	1087	264	0	1351	141	1025	3	1169	2956
*** BREAK ***													
03:00 PM	63	28	0	91	263	53	0	316	24	245	1	270	677
03:15 PM	86	32	1	119	323	62	0	385	22	265	0	287	791
03:30 PM	56	22	1	79	309	61	0	370	29	311	0	340	789
03:45 PM	66	31	0	97	302	66	0	368	32	301	0	333	798
Total	271	113	2	386	1197	242	0	1439	107	1122	1	1230	3055
04:00 PM	57	25	0	82	327	62	0	389	23	257	2	282	753
04:15 PM	65	33	3	101	323	56	0	379	25	267	0	292	772
04:30 PM	57	21	0	78	338	67	0	405	23	304	0	327	810
04:45 PM	58	35	1	94	336	60	0	396	32	235	0	267	757
Total	237	114	4	355	1324	245	0	1569	103	1063	2	1168	3092
05:00 PM	52	36	1	89	365	88	1	454	27	325	1	353	896
05:15 PM	67	44	0	111	313	76	0	389	37	322	0	359	859
05:30 PM	53	32	0	85	367	65	0	432	35	296	0	331	848
05:45 PM	49	35	0	84	279	78	0	357	35	248	0	283	724
Total	221	147	1	369	1324	307	1	1632	134	1191	1	1326	3327
Grand Total	1598	850	16	2464	8458	1754	1	10213	887	8479	8	9374	22051
Apprch %	64.9	34.5	0.6		82.8	17.2	0		9.5	90.5	0.1		
Total %	7.2	3.9	0.1	11.2	38.4	8	0	46.3	4	38.5	0	42.5	
Vehicles	1588	845	16	2449	7912	1740	1	9653	885	7991	8	8884	20986
% Vehicles	99.4	99.4	100	99.4	93.5	99.2	100	94.5	99.8	94.2	100	94.8	95.2
Trucks+Buses	10	5	0	15	546	14	0	560	2	488	0	490	1065
% Trucks+Buses	0.6	0.6	0	0.6	6.5	0.8	0	5.5	0.2	5.8	0	5.2	4.8

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Target (non-holiday)
Site Code : 00000000
Start Date : 11/8/2012

	TARGET Southbound				82 Westbound				82 Eastbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	4	7	1	12	179	12	0	191	21	249	0	270	473
07:30 AM	9	9	**2**	20	204	7	0	211	**24**	257	0	281	512
07:45 AM	7	**14**	0	**21**	**247**	16	0	**263**	12	**282**	0	**294**	**578**
08:00 AM	**14**	2	0	16	197	**18**	0	215	24	241	0	265	496
Total Volume	34	32	3	69	827	53	0	880	81	1029	0	1110	2059
% App. Total	49.3	46.4	4.3		94	6	0		7.3	92.7	0		
PHF	.607	.571	.375	.821	.837	.736	.000	.837	.844	.912	.000	.944	.891
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:00 PM													
12:00 PM	65	27	0	92	237	74	0	311	**35**	301	0	**336**	739
12:15 PM	60	35	0	95	261	**77**	0	338	29	273	**1**	303	736
12:30 PM	58	31	**1**	90	241	72	0	313	33	**302**	0	335	738
12:45 PM	**70**	**38**	0	**108**	**273**	74	0	**347**	35	256	0	291	**746**
Total Volume	253	131	1	385	1012	297	0	1309	132	1132	1	1265	2959
% App. Total	65.7	34	0.3		77.3	22.7	0		10.4	89.5	0.1		
PHF	.904	.862	.250	.891	.927	.964	.000	.943	.943	.937	.250	.941	.992
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	58	35	**1**	94	336	60	0	396	32	235	0	267	757
05:00 PM	52	36	1	89	365	**88**	**1**	**454**	27	**325**	**1**	353	**896**
05:15 PM	**67**	**44**	0	**111**	313	76	0	389	**37**	322	0	**359**	859
05:30 PM	53	32	0	85	**367**	65	0	432	35	296	0	331	848
Total Volume	230	147	2	379	1381	289	1	1671	131	1178	1	1310	3360
% App. Total	60.7	38.8	0.5		82.6	17.3	0.1		10	89.9	0.1		
PHF	.858	.835	.500	.854	.941	.821	.250	.920	.885	.906	.250	.912	.938

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Pearlview (non-holiday)
Site Code : 00000000
Start Date : 11/7/2012
Page No : 1

Groups Printed- Vehicles - Trucks+Buses

	82 Westbound				PEARLVIEW Northbound				82 Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	161	0	161	3	3	0	6	259	11	0	270	437
07:15 AM	1	182	0	183	2	5	0	7	285	2	0	287	477
07:30 AM	2	231	0	233	0	4	0	4	265	1	0	266	503
07:45 AM	1	267	0	268	0	3	0	3	272	0	0	272	543
Total	4	841	0	845	5	15	0	20	1081	14	0	1095	1960
08:00 AM	1	215	0	216	1	3	1	5	283	1	0	284	505
08:15 AM	0	208	0	208	0	3	0	3	240	1	0	241	452
08:30 AM	1	207	0	208	1	5	0	6	223	2	0	225	439
08:45 AM	3	185	0	188	1	4	0	5	256	1	1	258	451
Total	5	815	0	820	3	15	1	19	1002	5	1	1008	1847
*** BREAK ***													
11:00 AM	3	251	0	254	4	10	1	15	242	2	2	246	515
11:15 AM	5	255	0	260	3	8	4	15	276	1	0	277	552
11:30 AM	2	308	0	310	3	6	1	10	291	6	2	299	619
11:45 AM	1	279	0	280	2	11	3	16	305	3	1	309	605
Total	11	1093	0	1104	12	35	9	56	1114	12	5	1131	2291
12:00 PM	3	285	0	288	3	11	0	14	297	3	0	300	602
12:15 PM	9	299	0	308	8	7	2	17	319	5	3	327	652
12:30 PM	2	343	0	345	1	4	1	6	323	3	1	327	678
12:45 PM	5	341	0	346	5	8	0	13	331	1	1	333	692
Total	19	1268	0	1287	17	30	3	50	1270	12	5	1287	2624
01:00 PM	0	352	0	352	2	7	2	11	316	2	0	318	681
01:15 PM	2	336	0	338	4	10	3	17	267	3	1	271	626
01:30 PM	7	281	0	288	1	3	1	5	281	2	0	283	576
01:45 PM	4	322	0	326	6	7	0	13	293	5	1	299	638
Total	13	1291	0	1304	13	27	6	46	1157	12	2	1171	2521
*** BREAK ***													
03:00 PM	10	325	0	335	8	2	5	15	269	2	0	271	621
03:15 PM	7	260	0	267	5	12	1	18	283	5	1	289	574
03:30 PM	10	394	0	404	5	7	1	13	303	23	2	328	745
03:45 PM	6	329	0	335	5	7	1	13	305	0	2	307	655
Total	33	1308	0	1341	23	28	8	59	1160	30	5	1195	2595
04:00 PM	5	353	0	358	8	5	2	15	291	3	0	294	667
04:15 PM	6	357	0	363	8	8	0	16	309	4	0	313	692
04:30 PM	8	332	0	340	5	9	1	15	307	5	0	312	667
04:45 PM	4	346	0	350	6	9	3	18	324	4	1	329	697
Total	23	1388	0	1411	27	31	6	64	1231	16	1	1248	2723
05:00 PM	6	373	0	379	3	8	0	11	375	4	0	379	769
05:15 PM	8	385	0	393	4	5	1	10	378	3	0	381	784
05:30 PM	4	344	0	348	8	8	0	16	335	3	0	338	702
05:45 PM	10	371	0	381	5	9	1	15	293	9	0	302	698
Total	28	1473	0	1501	20	30	2	52	1381	19	0	1400	2953
Grand Total	136	9477	0	9613	120	211	35	366	9396	120	19	9535	19514
Apprch %	1.4	98.6	0		32.8	57.7	9.6		98.5	1.3	0.2		
Total %	0.7	48.6	0	49.3	0.6	1.1	0.2	1.9	48.2	0.6	0.1	48.9	
Vehicles	134	8964	0	9098	117	209	35	361	8906	118	19	9043	18502
% Vehicles	98.5	94.6	0	94.6	97.5	99.1	100	98.6	94.8	98.3	100	94.8	94.8
Trucks+Buses	2	513	0	515	3	2	0	5	490	2	0	492	1012
% Trucks+Buses	1.5	5.4	0	5.4	2.5	0.9	0	1.4	5.2	1.7	0	5.2	5.2

DLZ Ohio, Inc.

614 West Superior Ave, Suite 1000
Cleveland, Ohio 44113
216.771.1090

File Name : 82 @ Pearlview (non-holiday)
Site Code : 00000000
Start Date : 11/7/2012

	82 Westbound				PEARLVIEW Northbound				82 Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	1	182	0	183	**2**	**5**	0	**7**	**285**	**2**	0	**287**	477
07:30 AM	**2**	231	0	233	0	4	0	4	265	1	0	266	503
07:45 AM	1	**267**	0	**268**	0	3	0	3	272	0	0	272	**543**
08:00 AM	1	215	0	216	1	3	**1**	5	283	1	0	284	505
Total Volume	5	895	0	900	3	15	1	19	1105	4	0	1109	2028
% App. Total	0.6	99.4	0		15.8	78.9	5.3		99.6	0.4	0		
PHF	.625	.838	.000	.840	.375	.750	.250	.679	.969	.500	.000	.966	.934
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:15 PM													
12:15 PM	**9**	299	0	308	**8**	7	**2**	**17**	319	**5**	**3**	327	652
12:30 PM	2	343	0	345	1	4	1	6	323	3	1	327	678
12:45 PM	5	341	0	346	5	**8**	0	13	**331**	1	1	**333**	**692**
01:00 PM	0	**352**	0	**352**	2	7	2	11	316	2	0	318	681
Total Volume	16	1335	0	1351	16	26	5	47	1289	11	5	1305	2703
% App. Total	1.2	98.8	0		34	55.3	10.6		98.8	0.8	0.4		
PHF	.444	.948	.000	.960	.500	.813	.625	.691	.974	.550	.417	.980	.977
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	6	373	0	379	3	8	0	11	375	4	0	379	769
05:15 PM	8	**385**	0	**393**	4	5	**1**	10	**378**	3	0	**381**	**784**
05:30 PM	4	344	0	348	**8**	8	0	**16**	335	3	0	338	702
05:45 PM	**10**	371	0	381	5	**9**	1	15	293	**9**	0	302	698
Total Volume	28	1473	0	1501	20	30	2	52	1381	19	0	1400	2953
% App. Total	1.9	98.1	0		38.5	57.7	3.8		98.6	1.4	0		
PHF	.700	.956	.000	.955	.625	.833	.500	.813	.913	.528	.000	.919	.942

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82 EB
Station ID:
Between Pearlview & Target

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	338	30	354	29	353	23	354	35	**418**	42	306	32	**354**
12:15	*	*	*	344	40	399	38	378	40	408	58	**443**	36	359	42	**388**
12:30	*	*	*	352	22	364	26	365	23	372	37	**398**	33	**380**	28	**372**
12:45	*	*	*	352	8	318	21	332	19	372	36	**421**	45	**359**	26	**359**
01:00	*	*	*	336	9	309	17	336	17	366	33	402	32	**350**	22	350
01:15	*	*	*	290	17	348	15	290	12	350	33	382	28	**360**	21	337
01:30	*	*	*	310	10	331	10	320	16	362	25	411	18	286	16	337
01:45	*	*	*	333	8	284	4	328	16	361	26	339	14	302	14	324
02:00	*	*	*	299	6	259	5	296	14	326	21	422	14	283	12	314
02:15	*	*	*	308	13	312	20	323	12	370	16	368	18	281	16	327
02:30	*	*	*	330	6	290	8	303	18	360	15	342	18	292	13	320
02:45	*	*	*	328	8	297	19	316	13	326	15	347	14	300	14	319
03:00	*	*	*	293	17	311	17	266	12	318	17	292	12	306	15	298
03:15	*	*	*	**310**	8	327	10	348	12	346	10	344	13	263	11	323
03:30	*	*	*	**340**	16	300	16	294	12	314	12	342	4	278	12	311
03:45	*	*	*	**410**	26	367	20	400	28	410	16	334	14	283	21	367
04:00	*	*	*	**358**	10	336	14	332	13	366	8	326	7	276	10	332
04:15	*	*	*	296	16	362	25	315	14	365	14	282	8	293	15	319
04:30	*	*	*	275	25	322	17	320	21	372	14	322	15	230	18	307
04:45	*	*	*	349	38	**379**	33	**336**	46	**378**	27	290	13	252	31	331
05:00	*	*	*	319	40	**332**	47	**370**	56	**384**	21	320	7	303	34	338
05:15	*	*	*	400	57	**410**	68	**435**	62	**424**	38	336	10	275	47	380
05:30	*	*	*	338	84	**358**	78	**345**	80	**376**	30	342	16	252	58	335
05:45	*	*	*	318	108	314	110	330	120	373	36	328	26	222	80	314
06:00	*	*	*	305	122	320	120	356	118	388	36	315	22	238	84	320
06:15	*	*	*	284	154	312	156	310	159	374	52	324	29	216	110	303
06:30	*	*	*	258	214	262	206	320	196	352	69	269	44	198	146	276
06:45	*	*	*	270	223	274	246	274	214	326	73	222	39	138	159	251
07:00	*	*	*	224	274	238	257	218	250	299	70	230	42	131	179	223
07:15	*	*	*	203	272	248	264	226	267	294	102	252	48	130	191	226
07:30	*	*	*	211	265	192	284	229	274	266	92	201	41	124	191	204
07:45	*	*	*	186	290	176	306	218	314	244	156	194	60	116	225	189
08:00	*	*	*	159	262	175	312	191	282	204	161	190	71	105	218	171
08:15	*	*	*	158	253	172	276	151	242	182	162	145	92	90	205	150
08:30	*	*	*	151	240	158	232	139	234	163	165	136	126	116	199	144
08:45	*	*	*	145	273	140	260	150	262	154	212	134	138	78	229	134
09:00	*	*	*	128	267	126	279	152	264	135	216	130	161	62	237	122
09:15	*	*	*	126	298	130	248	122	292	146	250	122	192	58	256	117
09:30	*	*	*	84	282	82	274	114	326	138	286	120	172	62	268	100
09:45	*	*	*	99	286	51	294	82	310	115	332	116	204	48	285	85
10:00	*	*	*	80	274	56	314	73	277	93	338	96	234	59	287	76
10:15	*	*	*	60	300	49	292	68	312	78	314	88	264	46	296	65
10:30	*	*	*	64	282	49	274	54	319	69	323	79	246	36	289	58
10:45	*	*	284	51	278	40	**318**	61	310	72	354	90	314	26	310	57
11:00	*	*	**234**	39	**288**	30	**306**	66	**312**	72	**368**	74	**310**	14	**303**	49
11:15	*	*	**336**	44	**314**	46	**303**	60	**371**	80	**373**	65	**334**	34	**338**	55
11:30	*	*	**308**	53	**264**	41	**296**	57	**362**	72	**356**	61	**348**	26	**322**	52
11:45	*	*	**346**	26	**360**	25	318	34	**353**	50	**402**	56	**343**	26	**354**	36
Total	0	0	1508	11334	6957	11375	7102	11756	7319	13119	5855	12260	4331	9268	6289	11519
Day Total	0		12842		18332		18858		20438		18115		13599		17808	
% Splits	0.0%	0.0%	11.7%	88.3%	38.0%	62.0%	37.7%	62.3%	35.8%	64.2%	32.3%	67.7%	31.8%	68.2%	35.3%	64.7%
Peak			11:00	03:15	11:00	04:45	10:45	04:45	11:00	04:45	11:00	12:00	11:00	00:30	11:00	12:00
Vol.			1224	1418	1226	1479	1223	1486	1398	1562	1499	1680	1335	1449	1317	1473
P.H.F.			0.884	0.865	0.851	0.902	0.961	0.854	0.942	0.921	0.932	0.948	0.959	0.953	0.930	0.949

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82 WB
Station ID:
Between Pearlview & Target

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	334	25	282	32	320	36	323	60	344	46	319	40	320
12:15	*	*	*	324	22	310	29	337	73	358	53	348	54	300	46	330
12:30	*	*	*	312	20	297	34	266	50	391	75	349	66	321	49	323
12:45	*	*	*	326	18	302	24	303	38	353	40	362	55	322	35	328
01:00	*	*	*	334	16	330	23	314	20	341	44	374	37	306	28	333
01:15	*	*	*	335	13	382	14	365	36	320	42	**410**	36	363	28	362
01:30	*	*	*	365	10	363	14	338	16	360	30	**396**	26	318	19	357
01:45	*	*	*	376	14	323	24	356	31	378	19	**380**	21	330	22	357
02:00	*	*	*	342	24	324	11	350	26	352	21	**376**	18	314	20	343
02:15	*	*	*	340	7	372	18	344	40	374	13	341	27	**350**	21	354
02:30	*	*	*	316	14	325	14	352	60	378	20	405	16	**361**	25	356
02:45	*	*	*	377	10	342	12	352	11	398	23	386	26	**312**	16	361
03:00	*	*	*	335	8	370	4	374	7	364	17	387	16	**367**	10	366
03:15	*	*	*	369	8	316	10	356	18	396	11	370	11	349	12	359
03:30	*	*	*	401	8	376	18	354	8	424	16	369	13	330	13	376
03:45	*	*	*	360	9	365	6	355	9	400	12	370	8	318	9	361
04:00	*	*	*	396	14	408	16	387	9	385	6	368	10	290	11	372
04:15	*	*	*	**430**	16	390	10	402	16	438	10	362	12	320	13	390
04:30	*	*	*	**402**	11	378	20	364	15	392	15	360	1	310	12	368
04:45	*	*	*	**416**	28	**416**	25	**380**	22	**430**	16	376	9	313	20	**388**
05:00	*	*	*	**406**	27	**378**	32	**401**	20	**394**	12	376	14	292	21	**374**
05:15	*	*	*	402	37	**418**	38	**422**	32	**452**	10	352	8	328	25	**396**
05:30	*	*	*	388	54	**405**	45	**394**	48	**400**	26	365	7	294	36	**374**
05:45	*	*	*	434	88	410	104	366	110	390	38	354	18	322	72	379
06:00	*	*	*	338	66	372	79	357	57	402	24	350	11	321	47	357
06:15	*	*	*	310	70	418	70	339	72	356	33	346	14	315	52	347
06:30	*	*	*	381	120	406	132	372	116	411	36	294	18	272	84	356
06:45	*	*	*	351	204	343	214	334	210	344	70	274	32	252	146	316
07:00	*	*	*	346	184	342	198	338	178	342	47	276	17	206	125	308
07:15	*	*	*	325	166	286	184	292	156	332	66	276	34	181	121	282
07:30	*	*	*	242	204	316	201	290	186	311	56	284	42	180	138	270
07:45	*	*	*	296	284	311	274	259	270	280	88	284	63	140	196	262
08:00	*	*	*	265	267	264	255	240	254	278	112	220	60	177	190	241
08:15	*	*	*	228	234	240	223	273	240	308	98	260	86	166	176	246
08:30	*	*	*	214	194	238	228	258	196	240	120	198	68	114	161	210
08:45	*	*	*	204	222	206	221	236	220	272	131	222	112	126	181	211
09:00	*	*	*	194	200	200	236	221	212	260	169	230	132	118	190	204
09:15	*	*	*	173	208	222	212	231	218	245	154	250	134	99	185	203
09:30	*	*	*	154	210	148	250	163	236	255	181	209	115	93	198	170
09:45	*	*	*	124	213	144	240	126	247	254	222	202	134	74	211	154
10:00	*	*	*	108	236	108	228	132	226	177	218	154	161	54	214	122
10:15	*	*	*	97	226	100	234	97	242	178	233	155	137	74	214	117
10:30	*	*	*	76	223	88	248	76	287	134	255	110	160	53	235	90
10:45	*	*	*	76	284	64	244	89	255	124	256	114	211	56	250	87
11:00	*	*	*	51	**288**	52	**244**	56	**302**	123	**310**	112	**232**	40	**275**	72
11:15	*	*	*	52	**269**	29	**277**	54	**306**	104	**316**	118	**234**	46	**280**	67
11:30	*	*	292	60	**310**	48	**299**	44	**314**	86	**344**	81	**262**	30	**304**	58
11:45	*	*	314	19	**292**	44	**319**	42	**304**	80	**334**	54	**259**	29	**304**	45
Total	0	0	606	13504	5675	13571	5887	13471	6055	15087	4502	13953	3283	10965	5080	13422
Day Total	0		14110		19246		19358		21142		18455		14248		18502	
% Splits	0.0%	0.0%	4.3%	95.7%	29.5%	70.5%	30.4%	69.6%	28.6%	71.4%	24.4%	75.6%	23.0%	77.0%	27.5%	72.5%
Peak				04:15	11:00	04:45	11:00	04:45	11:00	04:45	11:00	01:15	11:00	02:15	11:00	04:45
Vol.				1654	1159	1617	1139	1597	1226	1676	1304	1562	987	1390	1163	1532
P.H.F.				0.962	0.935	0.967	0.893	0.946	0.976	0.927	0.948	0.952	0.942	0.947	0.956	0.967

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: W MALL NB
Station ID:
South of SR 82

Latitude: 0' 0.000 Undefined

Start	29-Oct-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	54	4	41	5	48	0	56	2	72	8	71	5	28	4	53
12:15	*	40	1	40	1	60	2	38	1	67	7	73	11	31	4	50
12:30	*	46	4	41	2	61	7	68	2	86	1	82	6	55	4	63
12:45	*	65	0	52	0	58	0	69	1	98	10	78	2	88	2	73
01:00	*	50	1	56	4	64	0	67	1	86	4	128	0	74	2	75
01:15	*	**50**	0	64	0	70	1	66	1	84	1	120	0	86	0	77
01:30	*	**56**	0	62	0	73	1	68	0	84	0	112	0	96	0	79
01:45	*	**58**	1	88	0	76	1	62	0	75	0	104	0	78	0	77
02:00	*	**78**	2	63	0	96	2	74	2	74	2	114	2	80	2	83
02:15	*	50	0	65	0	66	2	72	0	77	5	112	0	106	1	78
02:30	*	50	0	60	0	68	1	77	1	84	1	97	0	122	0	80
02:45	*	50	0	**70**	0	84	0	66	0	84	1	108	0	77	0	77
03:00	*	49	0	**75**	1	66	1	72	0	86	0	130	0	89	0	81
03:15	*	54	0	**63**	0	58	0	65	1	80	0	111	1	99	0	76
03:30	*	38	0	**83**	0	66	0	60	0	81	0	**139**	0	**100**	0	**81**
03:45	*	48	1	64	0	62	0	72	1	74	0	**137**	0	**120**	0	**82**
04:00	*	54	0	67	0	70	0	72	0	91	0	**130**	0	**99**	0	**83**
04:15	*	40	0	76	0	74	0	60	0	76	0	**113**	0	**114**	0	**79**
04:30	*	44	0	76	0	68	1	**68**	0	82	1	120	0	85	0	78
04:45	*	50	3	52	1	**68**	2	**72**	0	90	0	130	0	71	1	76
05:00	*	70	0	76	1	**82**	0	**77**	0	102	0	117	1	102	0	89
05:15	*	56	0	68	0	**84**	0	**84**	0	78	1	106	0	89	0	81
05:30	*	50	0	72	1	**84**	0	64	1	64	4	112	2	88	1	76
05:45	*	41	0	48	3	68	4	62	0	51	16	106	3	110	4	69
06:00	*	44	4	59	3	57	6	72	4	72	30	100	0	95	8	71
06:15	*	49	2	50	2	75	1	70	3	82	32	110	0	77	7	73
06:30	*	56	3	54	5	84	4	61	5	97	50	88	0	44	11	69
06:45	*	34	5	68	3	60	3	57	2	67	6	82	1	48	3	59
07:00	*	50	3	61	1	64	3	62	7	83	2	112	2	80	3	73
07:15	*	28	1	67	8	66	7	62	3	84	3	102	1	66	4	68
07:30	*	42	4	44	6	58	10	74	6	66	3	100	3	44	5	61
07:45	*	30	4	52	5	78	12	68	11	79	6	75	5	22	7	58
08:00	*	32	2	35	8	64	7	54	7	78	2	92	2	33	5	55
08:15	*	28	7	50	8	53	7	50	7	66	6	82	3	25	6	51
08:30	*	28	3	40	8	40	12	80	4	**80**	6	88	1	11	6	52
08:45	*	21	12	38	12	62	5	62	10	**101**	11	113	7	12	10	58
09:00	*	46	14	72	15	94	14	62	12	**122**	18	114	4	9	13	74
09:15	*	54	13	48	14	44	18	50	20	**96**	20	86	5	13	15	56
09:30	*	17	12	44	24	27	28	32	18	60	28	68	11	9	20	37
09:45	16	10	11	20	24	22	10	18	19	43	20	50	7	8	15	24
10:00	32	10	18	15	27	11	24	25	24	42	30	20	13	7	24	19
10:15	32	8	18	3	22	4	34	9	41	22	38	15	16	4	29	9
10:30	37	4	18	10	29	1	36	8	33	16	32	11	13	15	28	9
10:45	34	4	**34**	6	32	5	**46**	10	50	9	48	15	17	5	37	8
11:00	**35**	3	**23**	6	**38**	7	**44**	6	**47**	15	**48**	11	**19**	5	**36**	8
11:15	**30**	4	**28**	2	**46**	3	**50**	7	**55**	11	**62**	6	**31**	3	**43**	5
11:30	**48**	1	**32**	6	**52**	2	**46**	1	**49**	13	**55**	7	**30**	0	**45**	4
11:45	**48**	1	32	2	**40**	5	44	3	**70**	11	**78**	9	**32**	7	**49**	5
Total	312	1845	320	2374	451	2660	496	2614	521	3341	696	4206	256	2729	454	2822
Day Total	2157		2694		3111		3110		3862		4902		2985		3276	
% Splits	14.5%	85.5%	11.9%	88.1%	14.5%	85.5%	15.9%	84.1%	13.5%	86.5%	14.2%	85.8%	8.6%	91.4%	13.9%	86.1%
Peak	11:00	01:15	10:45	02:45	11:00	04:45	10:45	04:30	11:00	08:30	11:00	03:30	11:00	03:30	11:00	03:30
Vol.	161	242	117	291	176	318	186	301	221	399	243	519	112	433	173	325
P.H.F.	0.839	0.776	0.860	0.827	0.846	0.828	0.930	0.896	0.789	0.818	0.779	0.933	0.875	0.902	0.883	0.979

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: W MALL SB
Station ID:
South of SR 82

Latitude: 0' 0.000 Undefined

Start	29-Oct-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	**134**	1	119	4	142	0	162	0	153	3	**250**	1	191	2	**164**
12:15	*	**115**	1	117	2	155	1	134	1	150	3	**238**	5	**200**	2	**158**
12:30	*	**119**	0	134	1	112	1	137	0	144	2	**245**	1	**212**	1	**158**
12:45	*	**127**	0	115	0	141	0	136	1	167	1	**219**	2	**197**	1	**157**
01:00	*	109	1	143	0	125	1	140	0	138	1	203	1	**192**	1	150
01:15	*	113	1	150	1	97	0	119	1	154	4	216	0	179	1	147
01:30	*	113	1	123	0	118	0	129	2	160	1	222	0	195	1	151
01:45	*	114	0	112	1	131	3	151	3	160	0	225	2	186	2	154
02:00	*	113	1	127	0	105	1	109	4	143	0	208	0	159	1	138
02:15	*	84	1	125	1	133	0	132	1	162	0	199	0	176	0	144
02:30	*	119	1	145	1	153	6	133	3	180	0	202	0	167	2	157
02:45	*	121	6	151	4	**154**	7	143	2	181	1	235	1	169	4	165
03:00	*	94	1	132	0	**149**	1	121	0	159	1	211	0	136	0	143
03:15	*	98	2	127	0	**175**	2	137	3	166	1	172	0	126	1	143
03:30	*	110	2	132	1	**157**	4	151	6	178	3	184	1	139	3	150
03:45	*	120	7	129	6	151	12	**144**	3	173	8	217	1	141	6	154
04:00	*	112	2	**127**	1	142	4	**127**	0	202	0	188	0	139	1	148
04:15	*	103	1	**163**	5	142	4	**153**	1	172	19	189	3	148	6	153
04:30	*	121	11	**166**	8	149	15	**162**	16	**189**	44	148	1	118	16	150
04:45	*	110	21	**157**	28	143	21	141	24	**179**	80	159	3	114	30	143
05:00	*	95	8	124	10	152	9	129	8	**184**	27	191	1	92	10	138
05:15	*	84	9	154	12	135	10	127	12	**198**	12	167	3	93	10	137
05:30	*	80	16	113	17	149	12	110	24	171	11	160	5	87	14	124
05:45	*	73	23	103	45	131	37	158	26	169	7	178	15	75	26	127
06:00	*	72	10	97	16	130	23	130	24	167	16	158	4	76	16	119
06:15	*	69	17	103	20	96	24	120	22	129	18	137	6	49	18	100
06:30	*	45	29	97	40	98	44	102	48	149	44	112	13	40	36	92
06:45	*	52	35	63	42	94	50	80	50	129	56	99	17	34	42	79
07:00	*	40	23	66	25	63	38	93	36	120	32	107	13	38	28	75
07:15	*	22	31	49	39	66	26	62	39	86	27	75	22	37	31	57
07:30	*	29	27	51	43	44	45	53	46	78	60	48	36	33	43	48
07:45	*	33	45	44	74	43	71	45	79	73	70	70	38	33	63	49
08:00	*	27	39	31	71	36	75	38	63	69	64	46	26	40	56	41
08:15	*	26	56	36	82	40	79	34	87	50	93	55	30	30	71	39
08:30	97	18	65	26	92	21	105	14	108	49	120	30	43	18	90	25
08:45	82	23	65	24	110	22	129	25	123	50	141	34	57	34	101	30
09:00	86	16	53	17	80	21	97	26	121	44	148	47	51	21	91	27
09:15	85	12	76	17	99	16	109	7	107	23	150	24	45	16	96	16
09:30	103	10	76	12	109	15	118	6	137	24	155	13	75	20	110	14
09:45	112	10	69	8	98	8	136	18	146	19	160	18	106	11	118	13
10:00	104	5	79	8	108	6	99	2	154	12	174	8	106	12	118	8
10:15	101	8	103	9	125	6	131	15	145	18	188	12	104	9	128	11
10:30	121	4	109	3	142	4	139	4	171	12	203	9	176	8	152	6
10:45	**140**	4	120	3	138	7	138	8	176	15	230	8	190	9	162	8
11:00	**128**	9	**124**	1	**173**	2	**165**	7	**176**	7	**231**	11	**156**	3	**165**	6
11:15	**131**	2	**133**	3	**172**	9	**137**	6	**158**	5	**215**	7	**206**	2	**165**	5
11:30	**132**	4	**147**	2	**146**	2	**138**	3	**180**	6	**223**	7	**214**	5	**169**	4
11:45	130	0	**147**	2	**163**	1	**148**	2	**193**	3	**233**	2	**215**	2	**176**	2
Total	1552	3121	1795	3960	2355	4191	2415	4185	2730	5369	3280	5963	1995	4211	2386	4427
Day Total	4673		5755		6546		6600		8099		9243		6206		6813	
% Splits	33.2%	66.8%	31.2%	68.8%	36.0%	64.0%	36.6%	63.4%	33.7%	66.3%	35.5%	64.5%	32.1%	67.9%	35.0%	65.0%
Peak	10:45	12:00	11:00	04:00	11:00	02:45	11:00	03:45	11:00	04:30	11:00	12:00	11:00	00:15	11:00	12:00
Vol.	531	495	551	613	654	635	588	586	707	750	902	952	791	801	675	637
P.H.F.	0.948	0.924	0.937	0.923	0.945	0.907	0.891	0.904	0.916	0.947	0.968	0.952	0.920	0.945	0.959	0.971

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: E MALL NB
Station ID:
South of SR 82

Latitude: 0' 0.000 Undefined

Start	29-Oct-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	92	3	72	4	108	0	118	1	116	4	88	4	84	3	97
12:15	*	86	1	88	3	106	3	112	4	132	6	144	4	103	4	110
12:30	*	104	1	84	6	106	3	113	2	134	2	138	2	121	3	114
12:45	*	106	0	111	8	120	0	124	4	144	11	147	3	100	4	122
01:00	*	128	1	110	1	136	0	125	8	141	2	145	3	126	2	130
01:15	*	85	7	90	6	140	2	99	7	138	6	161	4	89	5	115
01:30	*	94	1	132	2	106	1	122	6	126	0	152	1	160	2	127
01:45	*	78	0	112	2	104	3	120	0	141	1	154	2	142	1	122
02:00	*	108	2	134	1	130	8	129	3	173	4	208	1	130	3	145
02:15	*	110	0	113	1	121	3	116	3	132	1	182	1	124	2	128
02:30	*	100	2	120	0	122	2	93	0	128	0	148	0	134	1	121
02:45	*	**108**	2	130	2	118	1	129	2	138	0	164	2	116	2	129
03:00	*	**117**	0	**154**	0	126	0	103	0	166	0	201	0	**170**	0	**148**
03:15	*	**102**	0	**156**	0	106	2	**158**	0	148	2	170	0	**150**	1	**141**
03:30	*	**118**	2	**154**	0	**138**	2	**179**	2	143	2	154	0	**140**	1	**147**
03:45	*	79	4	**133**	0	**160**	0	**127**	0	148	2	**181**	0	**162**	1	**141**
04:00	*	92	0	130	4	**131**	2	**154**	1	156	0	**196**	0	128	1	141
04:15	*	86	0	114	4	**130**	0	112	2	134	0	**172**	0	134	1	126
04:30	*	68	2	104	0	102	0	110	1	111	4	**182**	1	137	1	116
04:45	*	60	0	102	5	136	2	87	4	130	6	139	0	124	3	111
05:00	*	67	1	112	1	108	4	116	8	126	8	182	2	134	4	121
05:15	*	86	2	115	1	128	2	110	2	154	3	186	0	146	2	132
05:30	*	82	2	124	4	92	6	113	8	144	17	146	0	122	6	118
05:45	*	60	7	108	6	116	2	70	7	150	0	146	0	145	4	114
06:00	*	60	12	111	1	100	3	104	7	136	0	155	1	155	4	117
06:15	*	74	1	116	6	135	20	120	6	137	5	194	2	141	7	131
06:30	*	55	9	105	12	106	14	120	15	124	6	144	2	94	10	107
06:45	*	45	8	113	10	98	11	118	15	119	6	183	2	62	9	105
07:00	*	60	6	94	10	119	15	106	14	132	25	144	1	65	12	103
07:15	*	60	14	62	10	108	13	100	37	146	14	128	3	69	15	96
07:30	*	50	22	77	20	99	24	118	25	**164**	22	142	0	42	19	99
07:45	*	40	19	88	21	104	26	87	39	**184**	27	152	3	42	22	100
08:00	*	78	26	97	30	153	50	121	49	**228**	48	202	2	36	34	131
08:15	36	65	32	94	31	92	44	98	68	**173**	48	178	6	32	38	105
08:30	54	28	32	69	34	74	44	64	40	159	35	172	7	31	35	85
08:45	40	28	32	33	48	48	30	36	73	152	41	154	5	34	38	69
09:00	58	21	36	23	46	30	53	34	61	84	62	69	10	20	47	40
09:15	42	14	32	12	42	26	52	29	70	60	68	50	6	24	45	31
09:30	56	12	40	13	44	13	50	26	61	44	55	34	6	38	45	26
09:45	42	13	38	12	67	6	66	15	84	44	76	28	10	20	55	20
10:00	58	12	60	22	67	12	84	27	90	62	66	49	18	16	63	29
10:15	68	6	64	14	69	19	86	14	90	42	100	34	47	12	75	20
10:30	76	6	67	5	102	10	62	9	86	38	99	48	30	4	75	17
10:45	**82**	4	64	14	90	12	94	12	96	44	96	36	25	4	78	18
11:00	**74**	18	**75**	10	**118**	10	**92**	9	**111**	14	**112**	20	**30**	10	**87**	13
11:15	**102**	8	**62**	9	**120**	6	**123**	8	**132**	24	**134**	27	**60**	12	**105**	13
11:30	**80**	6	**94**	10	**88**	3	**114**	6	**92**	12	**106**	16	**67**	16	**92**	10
11:45	72	2	**106**	3	**123**	2	**132**	3	**114**	20	**116**	23	**87**	3	**107**	8
Total	940	2981	991	4008	1270	4275	1350	4223	1550	5695	1448	6268	460	4103	1174	4509
Day Total	3921		4999		5545		5573		7245		7716		4563		5683	
% Splits	24.0%	76.0%	19.8%	80.2%	22.9%	77.1%	24.2%	75.8%	21.4%	78.6%	18.8%	81.2%	10.1%	89.9%	20.7%	79.3%
Peak	10:45	02:45	11:00	03:00	11:00	03:30	11:00	03:15	11:00	07:30	11:00	03:45	11:00	03:00	11:00	03:00
Vol.	338	445	337	597	449	559	461	618	449	749	468	731	244	622	391	577
P.H.F.	0.828	0.943	0.795	0.957	0.913	0.873	0.873	0.863	0.850	0.821	0.873	0.932	0.701	0.915	0.914	0.975

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: E MALL SB
Station ID:
South of SR 82

Latitude: 0' 0.000 Undefined

Start	29-Oct-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	60	2	75	0	98	0	**88**	2	108	2	97	3	63	2	84
12:15	*	64	3	92	0	84	0	**96**	0	106	0	113	1	101	1	**94**
12:30	*	63	0	81	1	73	0	**93**	1	103	0	110	0	84	0	**87**
12:45	*	**78**	2	85	0	98	1	**88**	0	98	1	124	0	**97**	1	**95**
01:00	*	**77**	0	64	0	81	0	87	1	104	4	108	1	**93**	1	**88**
01:15	*	**66**	0	71	0	90	0	76	1	98	0	89	1	**128**	0	88
01:30	*	**65**	0	77	0	68	0	83	0	95	1	**116**	1	**97**	0	86
01:45	*	58	0	**95**	0	76	0	65	0	71	2	**119**	1	92	0	82
02:00	*	64	0	**88**	0	75	0	72	0	67	1	**114**	0	97	0	82
02:15	*	59	0	**79**	0	75	0	63	0	94	5	**109**	0	76	1	79
02:30	*	49	0	**86**	0	77	1	97	0	85	0	93	1	85	0	82
02:45	*	62	0	86	0	76	0	79	0	86	0	128	0	89	0	87
03:00	*	45	0	73	1	66	1	74	1	109	1	115	0	84	1	81
03:15	*	57	0	84	0	81	0	65	2	92	0	101	0	87	0	81
03:30	*	64	1	71	1	87	1	77	0	99	0	101	0	82	0	83
03:45	*	67	1	81	0	85	0	82	0	77	1	124	0	87	0	86
04:00	*	53	0	80	1	74	1	88	0	74	0	100	0	74	0	78
04:15	*	52	1	63	0	78	0	78	0	105	2	101	0	98	0	82
04:30	*	31	2	58	0	96	1	70	0	88	0	119	0	96	0	80
04:45	*	40	1	75	0	93	1	93	0	87	0	83	0	64	0	76
05:00	*	59	0	76	0	90	0	60	0	97	0	111	0	91	0	83
05:15	*	54	0	73	2	84	1	101	1	102	1	89	1	62	1	81
05:30	*	56	3	73	0	79	2	83	0	113	11	102	1	71	3	82
05:45	*	72	4	84	5	89	10	75	9	129	9	129	0	70	6	93
06:00	*	56	0	80	3	**97**	1	70	3	100	5	85	1	59	2	78
06:15	*	58	4	84	4	**97**	5	72	4	90	0	84	0	65	3	79
06:30	*	34	3	78	1	**88**	2	72	6	102	3	105	0	52	2	76
06:45	*	42	11	68	8	**105**	12	60	8	**142**	2	117	2	45	7	83
07:00	*	40	9	64	4	61	7	94	10	**120**	0	88	2	40	5	72
07:15	*	35	14	54	18	77	10	71	11	**139**	9	87	0	25	10	70
07:30	*	25	15	49	15	55	18	57	20	**108**	6	99	1	20	12	59
07:45	*	20	25	45	37	59	44	58	37	90	15	68	1	21	26	52
08:00	*	20	15	34	21	43	16	41	25	75	15	62	1	19	16	42
08:15	*	15	25	23	20	42	26	30	16	55	14	39	3	19	17	32
08:30	*	13	18	16	18	35	25	20	30	39	22	36	3	8	19	24
08:45	37	12	29	13	47	15	39	7	41	40	45	35	9	16	35	20
09:00	23	8	27	9	29	7	29	19	38	40	25	41	0	10	24	19
09:15	42	6	30	9	34	18	40	16	57	35	40	23	7	10	36	17
09:30	49	4	32	12	48	7	50	10	48	36	52	26	6	6	41	14
09:45	49	4	32	13	40	12	69	9	70	33	74	26	19	5	50	15
10:00	37	5	21	3	35	2	49	4	64	22	78	19	10	6	42	9
10:15	54	1	44	1	61	3	68	4	74	10	70	11	13	9	55	6
10:30	43	1	39	1	67	1	53	5	73	7	82	8	15	6	53	4
10:45	54	4	49	3	75	0	56	1	83	8	86	3	38	0	63	3
11:00	**50**	1	**39**	2	**75**	0	**82**	1	**88**	2	**89**	1	**34**	4	**65**	2
11:15	**61**	3	**51**	0	**68**	2	**66**	2	**78**	1	**97**	3	**47**	6	**67**	2
11:30	**67**	2	**71**	0	**92**	0	**82**	4	**81**	3	**123**	3	**58**	1	**82**	2
11:45	**81**	2	**79**	0	**87**	0	**95**	8	**105**	5	**102**	4	**84**	0	**90**	3
Total	647	1826	702	2531	918	2799	964	2668	1088	3589	1095	3668	365	2520	839	2803
Day Total	2473		3233		3717		3632		4677		4763		2885		3642	
% Splits	26.2%	73.8%	21.7%	78.3%	24.7%	75.3%	26.5%	73.5%	23.3%	76.7%	23.0%	77.0%	12.7%	87.3%	23.0%	77.0%
Peak	11:00	00:45	11:00	01:45	11:00	06:00	11:00	12:00	11:00	06:45	11:00	01:30	11:00	00:45	11:00	00:15
Vol.	259	286	240	348	322	387	325	365	352	509	411	458	223	415	304	364
P.H.F.	0.799	0.917	0.759	0.916	0.875	0.921	0.855	0.951	0.838	0.896	0.835	0.923	0.664	0.811	0.844	0.958

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: HOWE NB
Station ID:
South of SR 82

Latitude: 0' 0.000 Undefined

Start	05-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	130	17	175	10	138	13	146	9	174	23	201	21	167	16	162
12:15	*	148	7	162	9	142	12	152	8	182	30	205	34	173	17	166
12:30	*	157	7	172	6	139	1	155	8	199	25	222	27	187	12	176
12:45	*	137	7	152	7	145	3	158	10	156	17	211	19	189	10	164
01:00	*	132	9	182	4	151	6	146	4	166	19	214	17	**201**	10	170
01:15	*	138	8	164	7	142	5	154	4	159	22	218	8	**210**	9	169
01:30	*	138	6	169	4	117	4	141	7	177	6	200	11	**188**	6	161
01:45	*	135	5	150	9	161	7	146	6	175	5	224	16	**218**	8	173
02:00	*	137	5	159	13	133	6	148	9	169	5	228	12	199	8	168
02:15	*	149	10	175	9	141	7	153	12	178	10	217	9	191	10	172
02:30	*	138	9	186	8	127	9	170	6	186	8	218	9	196	8	174
02:45	*	157	4	176	2	141	2	150	5	191	8	185	8	200	5	171
03:00	*	193	5	181	2	175	7	190	3	193	5	224	9	182	5	191
03:15	*	135	10	164	6	148	9	174	5	207	7	222	8	194	8	178
03:30	*	169	8	208	14	175	10	174	17	193	4	215	11	183	11	188
03:45	*	165	14	170	8	135	7	146	11	175	6	211	9	196	9	171
04:00	*	176	16	189	18	180	12	183	20	177	11	183	3	194	13	183
04:15	*	168	26	171	23	182	27	189	30	178	14	226	11	182	22	185
04:30	*	**193**	42	**224**	55	181	40	189	26	**251**	11	224	13	205	31	210
04:45	*	**164**	38	**183**	41	172	32	178	37	**193**	16	218	11	195	29	186
05:00	*	**194**	61	**229**	64	**216**	63	**203**	62	**234**	18	237	11	214	46	**218**
05:15	*	**212**	85	**212**	84	**193**	80	**206**	79	**231**	28	**236**	16	179	62	**210**
05:30	*	170	110	188	114	**208**	101	**210**	100	210	38	**250**	15	172	80	**201**
05:45	*	170	117	214	125	**190**	127	**200**	96	217	34	**225**	22	183	87	**200**
06:00	*	176	168	190	184	197	176	186	166	251	46	**241**	33	199	129	206
06:15	*	171	209	181	213	190	212	182	178	223	66	200	38	207	153	193
06:30	*	186	211	151	201	161	198	179	190	206	73	208	40	140	152	176
06:45	*	142	**209**	151	205	141	**209**	151	**222**	179	62	209	45	133	159	158
07:00	*	143	**229**	136	210	171	**211**	153	**241**	194	80	185	41	111	169	156
07:15	*	149	**214**	119	**220**	142	**233**	123	**271**	195	86	195	34	104	176	147
07:30	*	117	**217**	136	**217**	112	**220**	122	**219**	153	105	169	59	105	173	131
07:45	*	103	208	86	**216**	113	177	109	198	139	100	134	67	92	161	111
08:00	*	103	220	102	**221**	118	217	92	198	161	131	156	59	100	**174**	119
08:15	*	83	213	81	213	119	214	95	223	134	122	145	69	79	**176**	105
08:30	*	85	203	82	199	85	202	106	195	126	148	134	85	72	**172**	99
08:45	*	78	183	75	194	77	201	87	194	128	152	144	107	61	**172**	93
09:00	*	88	169	95	191	80	156	100	168	163	118	151	121	66	154	106
09:15	*	69	155	86	159	74	187	70	173	126	189	125	102	40	161	84
09:30	147	113	155	46	136	75	186	90	179	110	162	126	137	57	157	88
09:45	**147**	69	141	51	145	39	154	50	145	87	148	110	132	36	145	63
10:00	**144**	57	156	66	153	47	137	74	154	91	172	95	156	41	153	67
10:15	**138**	38	149	37	148	46	143	52	155	60	188	78	163	29	155	49
10:30	**160**	39	146	35	151	37	139	50	175	55	178	60	148	28	157	43
10:45	131	23	156	26	158	22	149	26	155	61	**209**	46	130	28	155	33
11:00	136	31	139	27	142	28	136	20	144	64	**190**	66	**154**	23	149	37
11:15	141	28	138	19	135	18	171	11	144	56	**208**	54	**149**	21	155	30
11:30	129	14	155	20	174	10	152	19	164	45	**201**	36	**183**	18	165	23
11:45	135	11	156	12	151	7	157	10	193	28	180	31	**170**	14	163	16
Total	1408	5921	4925	6365	4978	5941	4927	6218	5018	7606	3684	8312	2752	6402	4357	6680
Day Total	7329		11290		10919		11145		12624		11996		9154		11037	
% Splits	19.2%	80.8%	43.6%	56.4%	45.6%	54.4%	44.2%	55.8%	39.7%	60.3%	30.7%	69.3%	30.1%	69.9%	39.5%	60.5%
Peak	09:45	04:30	06:45	04:30	07:15	05:00	06:45	05:00	06:45	04:30	10:45	05:15	11:00	01:00	08:00	05:00
Vol.	589	763	869	848	874	807	873	819	953	909	808	952	656	817	694	829
P.H.F.	0.920	0.900	0.949	0.926	0.989	0.934	0.937	0.975	0.879	0.905	0.967	0.952	0.896	0.937	0.986	0.951

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: HOWE SB
Station ID:
South of SR 82

Latitude: 0' 0.000 Undefined

Start	05-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	113	33	141	23	111	25	139	27	174	47	184	54	198	35	151
12:15	*	138	22	158	21	126	30	156	28	167	52	230	47	180	33	165
12:30	*	136	15	154	21	144	22	148	26	151	33	194	49	**193**	28	160
12:45	*	131	15	159	18	168	18	141	14	181	36	225	38	**208**	23	173
01:00	*	130	16	155	10	121	8	138	10	164	41	203	44	**188**	22	157
01:15	*	112	11	132	12	137	14	114	10	159	29	216	39	**196**	19	152
01:30	*	140	10	160	6	135	8	131	9	172	26	195	35	189	16	160
01:45	*	126	4	130	7	138	14	147	10	178	16	210	37	202	15	162
02:00	*	140	7	176	3	139	8	148	17	182	17	231	34	195	14	173
02:15	*	142	5	159	12	141	8	155	7	176	29	219	32	178	16	167
02:30	*	155	7	164	4	158	8	149	9	167	22	213	21	171	12	168
02:45	*	178	9	145	3	147	9	177	10	158	20	210	24	175	12	170
03:00	*	163	7	194	5	184	5	192	8	204	13	**222**	22	165	10	189
03:15	*	179	4	196	3	163	4	201	2	213	12	**226**	19	163	7	192
03:30	*	142	9	190	9	187	7	161	12	196	18	**197**	15	172	12	178
03:45	*	186	8	219	3	215	5	230	6	202	18	**229**	18	185	10	209
04:00	*	187	4	185	3	161	3	179	6	192	14	179	10	157	7	177
04:15	*	221	5	204	5	200	6	217	5	209	12	220	2	188	6	208
04:30	*	191	6	216	7	204	7	188	5	224	4	181	7	165	6	196
04:45	*	169	7	200	9	204	5	190	6	202	8	203	5	174	7	192
05:00	*	213	7	217	9	**219**	6	207	7	231	5	220	9	175	7	**212**
05:15	*	**187**	14	**184**	11	**202**	8	183	20	203	8	208	6	157	11	**189**
05:30	*	**231**	16	**235**	15	**250**	18	**214**	13	235	12	220	5	168	13	**222**
05:45	*	**214**	19	**195**	21	**226**	22	**230**	18	180	9	174	11	147	17	**195**
06:00	*	**216**	15	**224**	15	216	19	**247**	19	**208**	7	232	12	132	14	211
06:15	*	184	38	183	34	193	33	**222**	30	**221**	16	199	11	130	27	190
06:30	*	180	48	200	43	174	52	186	44	**223**	21	176	14	121	37	180
06:45	*	173	60	169	69	227	62	174	66	**237**	23	178	19	118	50	182
07:00	*	163	53	142	46	144	53	152	54	172	11	143	8	108	38	146
07:15	*	153	70	153	81	127	75	157	90	154	31	164	18	82	61	141
07:30	*	140	102	145	99	163	91	171	96	185	50	118	26	102	77	146
07:45	*	141	124	137	113	145	124	126	114	147	70	138	46	126	98	137
08:00	*	138	93	125	99	127	103	152	102	123	59	93	37	101	82	123
08:15	*	119	82	113	85	129	102	144	95	141	74	128	35	101	79	125
08:30	*	100	92	109	99	126	91	114	104	123	78	92	51	81	86	106
08:45	*	93	97	104	92	104	109	112	126	108	79	97	55	67	93	98
09:00	*	117	91	93	90	93	77	115	88	124	72	91	46	61	77	99
09:15	*	124	103	112	96	116	101	114	99	107	116	97	65	62	97	105
09:30	*	85	114	96	106	94	94	107	121	84	122	76	60	62	103	86
09:45	*	83	96	89	112	75	126	107	121	105	141	97	92	56	115	87
10:00	91	72	101	60	90	68	90	69	98	84	138	88	70	51	97	70
10:15	108	45	108	61	93	70	110	80	110	111	137	100	88	54	108	74
10:30	111	53	135	44	104	55	131	71	114	70	**207**	82	144	37	135	59
10:45	115	48	135	60	133	51	135	61	141	92	**179**	97	129	41	138	64
11:00	**107**	37	**123**	39	**107**	36	**110**	53	**120**	73	**175**	55	**128**	27	**124**	46
11:15	**113**	42	**129**	51	**117**	42	**121**	51	**135**	67	**165**	63	**138**	25	**131**	49
11:30	**130**	36	**140**	32	**126**	32	**145**	41	**145**	62	177	65	**174**	27	**148**	42
11:45	**122**	31	**154**	30	**156**	29	**142**	37	**180**	45	203	56	**205**	30	**166**	37
Total	897	6497	2563	6839	2445	6716	2564	6998	2697	7586	2852	7734	2254	6091	2539	6920
Day Total	7394		9402		9161		9562		10283		10586		8345		9459	
% Splits	12.1%	87.9%	27.3%	72.7%	26.7%	73.3%	26.8%	73.2%	26.2%	73.8%	26.9%	73.1%	27.0%	73.0%	26.8%	73.2%
Peak	11:00	05:15	11:00	05:15	11:00	05:00	11:00	05:30	11:00	06:00	10:30	03:00	11:00	00:30	11:00	05:00
Vol.	472	848	546	838	506	897	518	913	580	889	726	874	645	785	569	818
P.H.F.	0.908	0.918	0.886	0.891	0.811	0.897	0.893	0.924	0.806	0.938	0.877	0.946	0.787	0.944	0.857	0.921

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82 EB RT
Station ID:
Right turn bay onto IR 71 SB from EB

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	12	41	2	64	8	69	7	80	10	68	8	64
12:15	*	*	*	58	9	82	12	82	20	95	14	68	10	61	13	74
12:30	*	*	*	62	7	65	6	74	8	76	15	80	17	70	11	71
12:45	*	*	*	53	4	64	3	76	16	87	11	78	7	78	8	73
01:00	*	*	*	68	2	86	6	67	4	106	11	72	9	71	6	78
01:15	*	*	*	67	1	66	2	84	13	90	7	84	18	70	8	77
01:30	*	*	*	84	0	84	7	75	8	86	12	100	1	86	6	86
01:45	*	*	*	88	2	80	2	88	10	110	10	83	2	63	5	85
02:00	*	*	*	96	4	58	0	85	4	74	6	84	3	60	3	76
02:15	*	*	*	76	0	74	1	76	27	98	3	96	2	77	7	83
02:30	*	*	*	90	1	77	2	88	28	98	1	94	6	56	8	84
02:45	*	*	*	84	1	78	3	82	1	94	1	88	1	79	1	84
03:00	*	*	*	85	1	85	5	85	4	109	2	**104**	3	79	3	91
03:15	*	*	*	90	0	92	2	91	0	95	1	**81**	2	90	1	90
03:30	*	*	*	98	1	82	0	80	0	112	0	**98**	2	78	1	91
03:45	*	*	*	98	6	88	1	103	4	102	4	**100**	0	88	3	96
04:00	*	*	*	75	1	91	1	**94**	4	90	0	80	1	78	1	85
04:15	*	*	*	84	4	**103**	8	**100**	1	106	2	82	4	90	4	94
04:30	*	*	*	80	4	**86**	4	**89**	4	**112**	2	93	3	**88**	3	91
04:45	*	*	*	**107**	10	**88**	6	**110**	9	**112**	6	72	4	**87**	7	**96**
05:00	*	*	*	**100**	7	**98**	7	87	6	**113**	2	97	1	**106**	5	**100**
05:15	*	*	*	**92**	8	78	23	92	14	**113**	6	96	2	**103**	11	**96**
05:30	*	*	*	**90**	22	94	10	92	13	112	14	93	4	74	13	**92**
05:45	*	*	*	64	22	77	19	74	15	90	3	80	2	87	12	79
06:00	*	*	*	78	20	88	25	94	31	95	5	70	5	77	17	84
06:15	*	*	*	61	26	74	30	86	21	89	7	85	8	93	18	81
06:30	*	*	*	50	22	65	24	78	32	68	6	64	13	82	19	68
06:45	*	*	*	62	25	62	28	62	26	82	15	74	6	55	20	66
07:00	*	*	*	60	20	54	44	67	44	55	12	61	10	44	26	57
07:15	*	*	*	52	28	64	41	60	48	86	13	45	12	35	28	57
07:30	*	*	*	64	67	47	52	70	50	75	12	54	12	41	39	58
07:45	*	*	*	62	58	62	75	47	81	72	24	72	8	30	49	58
08:00	*	*	*	53	54	43	62	60	57	67	20	63	10	38	41	54
08:15	*	*	*	40	49	48	65	54	53	59	29	70	14	33	42	51
08:30	*	*	*	56	37	37	48	41	36	56	33	39	11	32	33	44
08:45	*	*	*	44	58	51	28	50	41	60	32	65	13	26	34	49
09:00	*	*	*	41	48	46	41	44	54	69	26	63	24	18	39	47
09:15	*	*	*	51	44	52	42	68	58	97	40	61	21	20	41	58
09:30	*	*	*	45	44	39	34	40	54	56	50	77	29	18	42	46
09:45	*	*	*	28	37	19	42	26	42	46	38	64	27	13	37	33
10:00	*	*	*	18	46	15	44	34	46	49	54	43	29	15	44	29
10:15	*	*	*	19	64	22	28	22	46	49	56	36	35	17	46	28
10:30	*	*	*	26	44	20	56	18	64	29	61	24	25	12	50	22
10:45	*	*	*	16	51	12	52	11	60	18	50	23	46	9	52	15
11:00	*	*	*	14	**64**	14	**56**	6	**56**	21	**56**	23	**44**	8	**55**	14
11:15	*	*	*	19	**64**	8	**80**	12	**64**	26	**68**	26	**56**	12	**66**	17
11:30	*	*	*	10	**56**	12	**68**	9	**62**	18	**53**	17	**50**	3	**58**	12
11:45	*	*	*	11	**66**	17	**62**	18	**66**	20	**64**	26	**54**	14	**62**	18
Total	0	0	0	2869	1221	2888	1259	3115	1413	3711	964	3328	676	2632	1106	3102
Day Total	0		2869		4109		4374		5124		4292		3308		4208	
% Splits	0.0%	0.0%	0.0%	100.0 %	29.7%	70.3%	28.8%	71.2%	27.6%	72.4%	22.5%	77.5%	20.4%	79.6%	26.3%	73.7%
Peak				04:45	11:00	04:15	11:00	04:00	11:00	04:30	11:00	03:00	11:00	04:30	11:00	04:45
Vol.				389	250	375	266	393	248	450	241	383	204	384	241	384
P.H.F.				0.909	0.947	0.910	0.831	0.893	0.939	0.996	0.886	0.921	0.911	0.906	0.913	0.960

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71 SB EXIT
Station ID:
Ramp from IR 71 SB to SR 82 WB

Latitude: 0' 0.000 Undefined

Start	05-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	230	42	235	37	209	37	214	42	275	70	270	74	259	50	242
12:15	*	228	25	234	27	228	39	276	44	294	64	338	62	264	44	266
12:30	*	244	26	266	26	240	34	217	28	296	47	330	45	278	34	267
12:45	*	220	25	257	27	239	24	224	22	256	60	336	61	253	36	255
01:00	*	203	20	254	20	200	20	252	15	238	46	324	50	**286**	28	251
01:15	*	216	26	216	14	246	18	224	16	284	40	278	74	**298**	31	252
01:30	*	228	10	221	12	276	20	252	18	282	32	317	50	**299**	24	268
01:45	*	248	4	224	12	231	18	252	22	286	20	305	48	**271**	21	260
02:00	*	255	9	268	10	234	13	236	15	296	24	304	42	255	19	264
02:15	*	248	8	276	12	286	11	294	14	300	30	312	31	266	18	283
02:30	*	232	12	268	9	259	10	280	15	314	35	320	36	269	20	277
02:45	*	267	16	288	10	265	11	281	17	280	29	336	35	272	20	284
03:00	*	310	11	312	8	296	8	306	14	315	17	320	26	253	14	302
03:15	*	354	14	324	8	287	12	332	18	383	30	322	20	295	17	328
03:30	*	334	12	376	22	350	9	349	18	370	28	332	22	272	18	340
03:45	*	391	10	398	9	348	11	386	18	418	23	322	24	260	16	360
04:00	*	367	9	396	9	354	13	404	16	388	15	305	17	260	13	353
04:15	*	416	14	394	7	384	14	420	20	446	20	**340**	8	272	14	382
04:30	*	393	31	408	28	412	32	407	21	424	24	**338**	17	308	26	384
04:45	*	**434**	31	404	38	432	33	**448**	40	429	24	**372**	10	286	29	**401**
05:00	*	**418**	24	**430**	26	414	23	**446**	30	384	15	**348**	17	251	22	**384**
05:15	*	**418**	34	**450**	42	**434**	31	**462**	40	417	18	304	5	261	28	**392**
05:30	*	**458**	63	**425**	65	**444**	68	**423**	49	**424**	25	368	22	231	49	**396**
05:45	*	418	60	**436**	66	**456**	75	446	57	**426**	42	312	33	200	56	385
06:00	*	384	54	387	59	**452**	62	434	56	**426**	23	295	7	190	44	367
06:15	*	344	93	363	103	384	106	406	104	**418**	44	268	26	196	79	340
06:30	*	312	168	322	161	363	147	346	150	374	56	280	24	173	118	310
06:45	*	252	124	248	139	309	142	286	151	354	61	249	25	169	107	267
07:00	*	252	125	214	119	230	108	258	112	285	51	224	27	139	90	229
07:15	*	188	**203**	209	174	188	192	226	202	206	86	222	32	138	148	197
07:30	*	161	**238**	192	**224**	222	**232**	234	234	238	96	192	54	129	180	195
07:45	*	182	**265**	176	**244**	184	**276**	220	282	183	115	157	76	150	210	179
08:00	*	180	**222**	141	**230**	200	**208**	212	220	216	88	154	61	140	172	178
08:15	*	170	201	164	**205**	178	**222**	200	194	170	120	157	59	103	167	163
08:30	*	128	213	144	195	162	202	174	192	166	144	143	91	94	173	144
08:45	*	121	195	118	220	157	210	158	210	146	170	133	102	84	184	131
09:00	*	121	186	112	148	140	145	148	168	123	144	106	68	85	143	119
09:15	*	144	176	145	190	124	174	160	168	111	183	106	100	92	165	126
09:30	*	95	187	113	174	104	183	156	220	121	195	116	115	86	179	113
09:45	*	106	236	97	230	92	222	108	223	120	232	118	168	64	218	101
10:00	*	72	174	83	172	80	172	94	198	89	242	111	142	66	183	85
10:15	*	80	185	82	178	99	179	91	213	124	232	122	164	75	192	96
10:30	*	70	212	81	172	105	156	99	211	110	283	112	186	48	203	89
10:45	*	66	202	78	184	70	195	85	237	115	268	109	215	54	217	82
11:00	**197**	46	192	55	198	57	213	75	**225**	78	**255**	79	**208**	41	**213**	62
11:15	**164**	57	202	53	200	54	174	73	**266**	96	**266**	93	**240**	42	**216**	67
11:30	**164**	52	226	49	219	44	243	60	**272**	64	**299**	76	**235**	28	**237**	53
11:45	**202**	46	259	38	231	38	270	48	**276**	65	**298**	64	**292**	33	**261**	47
Total	727	11159	5074	11424	4913	11560	5017	12182	5393	12623	4729	11439	3546	8838	4746	11316
Day Total	11886		16498		16473		17199		18016		16168		12384		16062	
% Splits	6.1%	93.9%	30.8%	69.2%	29.8%	70.2%	29.2%	70.8%	29.9%	70.1%	29.2%	70.8%	28.6%	71.4%	29.5%	70.5%
Peak	11:00	04:45	07:15	05:00	07:30	05:15	07:30	04:45	11:00	05:30	11:00	04:15	11:00	01:00	11:00	04:45
Vol.	727	1728	928	1741	903	1786	938	1779	1039	1694	1118	1398	975	1154	927	1573
P.H.F.	0.900	0.943	0.875	0.967	0.925	0.979	0.850	0.963	0.941	0.994	0.935	0.940	0.835	0.965	0.888	0.981

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71 SB FROM EB
Station ID:
Ramp to IS 71 SB from SR 82

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	83	21	69	13	77	11	85	18	101	16	95	18	96	16	87
12:15	*	88	10	68	14	87	10	80	19	91	18	100	21	90	15	86
12:30	*	96	4	75	6	71	6	112	16	108	22	96	13	100	11	94
12:45	*	90	2	68	6	87	5	80	7	113	15	107	13	99	8	92
01:00	*	91	7	81	1	86	5	99	12	111	11	111	21	98	10	97
01:15	*	111	2	100	2	76	5	91	13	107	12	129	5	107	6	103
01:30	*	101	3	94	2	110	2	102	11	133	10	106	6	92	6	105
01:45	*	101	4	109	8	79	2	90	7	90	7	111	5	82	6	95
02:00	*	114	1	94	1	77	1	106	19	109	8	129	6	104	6	105
02:15	*	84	4	91	1	99	2	106	35	125	5	107	6	81	9	99
02:30	*	96	4	108	2	102	4	112	8	104	4	113	3	87	4	103
02:45	*	104	0	109	3	92	5	101	4	149	3	129	3	112	3	114
03:00	*	115	5	109	2	117	2	104	2	132	1	**102**	5	106	3	112
03:15	*	**126**	4	**106**	2	94	3	96	2	124	2	**119**	3	98	3	109
03:30	*	**121**	7	**139**	7	113	1	123	3	143	5	**124**	2	104	4	124
03:45	*	**95**	7	**112**	2	111	3	119	5	122	2	**136**	2	101	4	114
04:00	*	**135**	7	**111**	4	**118**	7	114	3	127	5	95	3	104	5	115
04:15	*	120	6	101	2	**118**	4	**110**	5	**146**	4	125	5	**114**	4	**119**
04:30	*	124	4	114	14	**115**	8	**134**	9	**141**	5	98	5	**106**	8	**119**
04:45	*	98	8	130	8	**133**	8	**118**	7	**128**	7	125	2	**127**	7	**123**
05:00	*	128	12	116	8	113	19	**133**	12	**135**	2	133	4	**140**	10	**128**
05:15	*	118	9	107	13	112	13	104	12	127	16	114	12	112	12	113
05:30	*	113	19	96	21	111	21	111	15	110	8	105	5	108	15	108
05:45	*	91	26	80	27	103	24	96	25	136	13	101	7	104	20	102
06:00	*	111	39	91	26	94	34	102	38	105	10	108	9	111	26	103
06:15	*	94	49	66	41	83	35	110	43	100	14	87	13	98	32	91
06:30	*	93	49	75	42	86	58	83	41	100	18	92	19	94	38	89
06:45	*	64	68	71	66	70	67	85	56	89	21	92	17	59	49	76
07:00	*	71	**78**	71	**73**	76	66	84	57	98	19	77	16	42	52	74
07:15	*	73	**77**	79	**74**	61	**76**	90	73	95	31	64	13	61	57	75
07:30	*	66	**99**	59	**89**	66	**83**	71	102	82	27	74	14	43	69	66
07:45	*	62	**82**	66	**87**	59	**92**	60	72	73	36	69	16	49	64	63
08:00	*	63	78	58	71	61	**86**	80	71	70	52	80	21	46	63	65
08:15	*	56	65	54	60	49	72	63	59	65	49	53	22	45	54	55
08:30	*	61	72	59	77	67	67	70	62	78	53	77	29	49	60	66
08:45	*	48	51	48	62	66	51	68	64	74	51	66	34	21	52	56
09:00	*	77	65	86	68	60	64	85	68	116	40	90	44	34	58	78
09:15	*	41	59	57	63	58	61	56	70	70	66	85	50	23	62	56
09:30	*	34	70	46	58	52	55	44	59	62	69	76	49	29	60	49
09:45	48	22	67	26	59	27	59	47	56	58	58	66	48	23	56	38
10:00	50	23	65	27	69	30	58	42	61	59	78	49	61	28	63	37
10:15	67	19	75	36	67	22	61	25	75	54	72	31	39	21	65	30
10:30	81	21	56	25	59	18	63	18	81	33	62	55	72	13	68	26
10:45	75	10	61	23	85	17	62	13	71	32	85	41	74	17	73	22
11:00	**82**	15	78	21	67	23	89	23	**82**	39	**89**	40	**76**	17	**80**	25
11:15	**67**	15	59	19	68	18	80	20	**86**	27	**79**	28	**71**	5	**73**	19
11:30	**91**	8	58	19	84	23	87	20	**86**	26	**83**	33	**74**	12	**80**	20
11:45	**81**	9	70	9	66	8	80	15	**79**	18	**107**	26	**84**	7	**81**	13
Total	642	3699	1766	3578	1750	3595	1777	3900	1881	4535	1470	4269	1140	3419	1630	3858
Day Total	4341		5344		5345		5677		6416		5739		4559		5488	
% Splits	14.8%	85.2%	33.0%	67.0%	32.7%	67.3%	31.3%	68.7%	29.3%	70.7%	25.6%	74.4%	25.0%	75.0%	29.7%	70.3%
Peak	11:00	03:15	07:00	03:15	07:00	04:00	07:15	04:15	11:00	04:15	11:00	03:00	11:00	04:15	11:00	04:15
Vol.	321	477	336	468	323	484	337	495	333	550	358	481	305	487	314	489
P.H.F.	0.882	0.883	0.848	0.842	0.907	0.910	0.916	0.924	0.968	0.942	0.836	0.884	0.908	0.870	0.969	0.955

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71S Ramp to 82E
Station ID:
Ramp from I71 SB to SR 82 EB

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	56	18	48	16	70	28	55	34	68	32	63	26	60
12:15	*	*	*	54	17	46	18	59	23	54	34	78	32	66	25	60
12:30	*	*	*	59	12	68	13	64	18	74	19	100	34	98	19	77
12:45	*	*	*	54	7	72	9	67	15	88	23	88	24	68	16	73
01:00	*	*	*	55	9	60	6	70	9	80	16	92	23	76	13	72
01:15	*	*	*	54	3	64	9	56	7	76	17	98	21	69	11	70
01:30	*	*	*	52	2	46	6	66	8	64	13	100	24	68	11	66
01:45	*	*	*	74	8	76	9	68	10	78	14	88	19	62	12	74
02:00	*	*	*	67	5	92	8	57	12	77	10	94	24	78	12	78
02:15	*	*	*	56	6	82	11	72	6	92	11	88	20	58	11	75
02:30	*	*	*	78	8	102	4	82	5	88	8	81	22	70	9	84
02:45	*	*	*	89	7	79	6	112	8	109	15	**102**	8	60	9	92
03:00	*	*	*	98	8	98	4	102	8	96	8	**84**	13	87	8	94
03:15	*	*	*	130	8	124	10	144	7	140	10	**96**	12	78	9	119
03:30	*	*	*	128	8	134	2	118	11	160	7	**108**	10	61	8	118
03:45	*	*	*	126	5	156	8	136	3	160	5	92	7	74	6	124
04:00	*	*	*	137	6	130	2	138	5	160	9	91	13	64	7	120
04:15	*	*	*	146	9	142	5	**162**	10	140	5	79	4	65	7	122
04:30	*	*	*	150	8	**192**	7	**170**	2	164	4	93	9	62	6	138
04:45	*	*	*	**190**	11	**178**	7	**195**	12	182	9	78	2	67	8	**148**
05:00	*	*	*	**170**	8	**190**	13	**174**	7	150	10	70	6	**81**	9	**139**
05:15	*	*	*	**186**	18	**198**	12	160	16	**170**	6	80	8	**74**	12	**145**
05:30	*	*	*	**191**	18	182	12	172	15	**176**	9	99	6	**84**	12	**151**
05:45	*	*	*	106	26	159	25	138	19	**188**	5	72	6	**81**	16	124
06:00	*	*	*	105	20	183	20	162	19	**155**	6	79	4	76	14	127
06:15	*	*	*	180	33	122	34	166	27	118	16	78	9	72	24	123
06:30	*	*	*	148	63	131	44	121	36	144	22	75	5	55	34	112
06:45	*	*	*	104	66	126	68	98	72	129	25	74	15	50	49	97
07:00	*	*	*	84	49	116	55	87	41	91	24	60	8	62	35	83
07:15	*	*	*	92	**86**	103	**83**	86	**74**	90	45	78	26	63	**63**	85
07:30	*	*	*	88	**78**	92	**73**	78	**71**	81	42	64	22	69	**57**	79
07:45	*	*	*	92	**92**	82	**89**	107	**87**	91	35	58	23	54	**65**	81
08:00	*	*	*	66	**74**	90	**73**	77	**69**	92	48	39	24	60	**58**	71
08:15	*	*	*	70	72	69	72	78	64	67	46	62	25	64	56	68
08:30	*	*	*	58	47	63	54	79	46	78	60	64	38	56	49	66
08:45	*	*	*	73	69	80	69	68	84	54	59	61	26	48	61	64
09:00	*	*	*	60	39	46	68	59	52	61	57	56	26	38	48	53
09:15	*	*	*	36	62	54	56	62	50	50	46	48	46	29	52	46
09:30	*	*	*	58	53	50	50	76	56	48	61	56	53	36	55	54
09:45	*	*	54	44	51	52	42	61	46	61	84	55	40	35	53	51
10:00	*	*	39	50	48	38	52	50	66	59	56	67	48	39	52	50
10:15	*	*	50	42	42	42	57	45	57	48	57	51	47	22	52	42
10:30	*	*	47	33	50	32	50	45	62	78	62	40	44	26	52	42
10:45	*	*	54	31	44	36	55	35	54	61	**84**	58	59	20	58	40
11:00	*	*	**53**	39	48	32	48	27	54	44	**66**	61	**53**	12	54	36
11:15	*	*	**54**	33	46	31	52	33	68	40	**76**	54	**59**	24	59	36
11:30	*	*	**77**	20	52	20	65	19	60	48	**70**	46	**56**	24	63	30
11:45	*	*	**74**	25	58	12	56	26	60	39	84	28	**68**	16	67	24
Total	0	0	502	4137	1577	4420	1607	4397	1639	4648	1532	3531	1203	2764	1512	3983
Day Total	0		4639		5997		6004		6287		5063		3967		5495	
% Splits	0.0%	0.0%	10.8%	89.2%	26.3%	73.7%	26.8%	73.2%	26.1%	73.9%	30.3%	69.7%	30.3%	69.7%	27.5%	72.5%
Peak			11:00	04:45	07:15	04:30	07:15	04:15	07:15	05:15	10:45	02:45	11:00	05:00	07:15	04:45
Vol.			258	737	330	758	318	701	301	689	296	390	236	320	243	583
P.H.F.			0.838	0.965	0.897	0.957	0.893	0.899	0.865	0.916	0.881	0.903	0.868	0.920	0.935	0.965

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82 WB TO 71NB
Station ID:
Ramp to I71 NB from SR 82 WB

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	66	12	76	6	53	8	55	11	77	16	83	11	**89**	11	71
12:15	*	80	7	72	6	75	10	68	8	68	21	78	14	**80**	11	74
12:30	*	60	6	78	5	59	7	93	6	74	20	79	11	**88**	9	76
12:45	*	56	4	73	4	72	4	57	8	58	13	81	13	**93**	8	70
01:00	*	85	6	77	2	82	4	53	4	58	7	79	10	74	6	73
01:15	*	75	1	87	3	65	5	73	3	66	10	88	9	68	5	75
01:30	*	73	4	66	5	71	3	64	4	76	8	83	9	78	6	73
01:45	*	66	3	76	1	61	3	74	5	64	7	91	4	108	4	77
02:00	*	57	4	59	3	55	7	65	6	71	5	70	12	76	6	65
02:15	*	71	2	63	7	73	5	65	2	79	5	90	11	76	5	74
02:30	*	76	14	92	12	85	14	92	14	89	7	93	6	63	11	84
02:45	*	80	5	61	4	67	4	62	6	72	3	76	13	57	6	68
03:00	*	80	1	79	1	84	3	69	1	71	5	100	8	77	3	80
03:15	*	73	1	65	3	69	2	72	4	71	4	87	5	60	3	71
03:30	*	65	9	93	5	96	4	95	8	84	5	95	4	61	6	84
03:45	*	70	7	73	2	70	12	70	3	64	6	95	3	85	6	75
04:00	*	65	6	89	10	65	8	89	13	98	3	81	8	101	8	84
04:15	*	88	16	73	9	**73**	5	61	6	83	5	108	0	65	7	79
04:30	*	**94**	23	86	20	**94**	16	94	16	83	8	111	12	66	16	90
04:45	*	**88**	20	94	18	**97**	22	86	18	89	9	79	6	70	16	86
05:00	*	**96**	34	**99**	36	**103**	26	**105**	27	**107**	16	93	1	86	23	**98**
05:15	*	**90**	46	**106**	51	71	48	**118**	42	**104**	28	105	12	71	38	**95**
05:30	*	87	75	**94**	78	95	78	**90**	74	**99**	28	79	14	72	58	**88**
05:45	*	84	68	**95**	75	83	61	**100**	71	**98**	15	**99**	18	76	51	**91**
06:00	*	88	125	85	132	93	116	93	118	65	41	**125**	19	73	92	89
06:15	*	69	160	70	177	71	161	94	165	67	45	**103**	27	68	122	77
06:30	*	57	177	78	175	70	195	91	180	138	57	**99**	33	52	136	84
06:45	*	64	**216**	56	**229**	66	216	62	187	90	42	71	23	51	**152**	66
07:00	*	51	**270**	54	**298**	58	**251**	61	**228**	68	53	84	35	44	**189**	60
07:15	*	34	**269**	51	**261**	60	**278**	65	**259**	78	62	71	33	41	**194**	57
07:30	*	33	**235**	36	**233**	39	**217**	49	**227**	51	82	61	33	39	**171**	44
07:45	*	32	200	28	200	44	**222**	40	**189**	62	74	51	28	42	152	43
08:00	*	53	196	33	186	41	172	37	172	43	68	69	22	46	136	46
08:15	*	38	163	32	161	39	167	46	150	45	71	55	42	47	126	43
08:30	*	27	155	31	161	37	158	36	149	44	102	48	43	37	128	37
08:45	*	33	132	39	134	26	131	48	136	38	88	46	61	29	114	37
09:00	*	37	126	43	118	37	129	51	119	38	73	34	61	26	104	38
09:15	*	30	97	34	104	43	116	46	101	44	**92**	56	72	29	97	40
09:30	*	29	97	20	86	33	73	34	93	45	**86**	44	84	26	86	33
09:45	*	25	78	25	86	29	85	31	77	34	**101**	40	67	18	82	29
10:00	*	20	77	32	57	25	75	33	74	57	**77**	29	77	14	73	30
10:15	*	24	81	29	64	23	88	32	81	54	83	42	66	27	77	33
10:30	*	18	80	27	71	17	78	27	82	45	83	36	62	17	76	27
10:45	*	15	57	15	49	14	66	16	72	40	84	27	83	22	68	21
11:00	**72**	21	77	30	75	37	66	24	97	25	74	27	**83**	19	78	26
11:15	**87**	8	62	13	59	13	65	14	81	23	73	42	**73**	10	71	18
11:30	**65**	10	78	14	72	7	74	17	80	22	91	25	**95**	14	79	16
11:45	**90**	6	64	6	66	10	56	11	75	22	83	24	**90**	6	75	12
Total	314	2647	3646	2807	3620	2750	3614	2928	3552	3141	2039	3432	1526	2637	3001	2907
Day Total		2961		6453		6370		6542		6693		5471		4163		5908
% Splits	10.6%	89.4%	56.5%	43.5%	56.8%	43.2%	55.2%	44.8%	53.1%	46.9%	37.3%	62.7%	36.7%	63.3%	50.8%	49.2%
Peak	11:00	04:30	06:45	05:00	06:45	04:15	07:00	05:00	07:00	05:00	09:15	05:45	11:00	12:00	06:45	05:00
Vol.	314	368	990	394	1021	367	968	413	903	408	356	426	341	350	706	372
P.H.F.	0.872	0.958	0.917	0.929	0.857	0.891	0.871	0.875	0.872	0.953	0.881	0.852	0.897	0.941	0.910	0.949

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: EB TO 71NB
Station ID:
Ramp to I71 NB from SR 82 EB

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	202	66	200	40	224	35	219	56	204	58	194	51	169	51	202
12:15	*	188	48	203	12	225	26	205	58	229	59	260	51	242	42	222
12:30	*	220	22	234	18	230	21	209	33	226	55	226	51	225	33	224
12:45	*	201	17	218	8	208	12	204	26	247	30	244	57	222	25	221
01:00	*	180	12	214	18	208	16	199	23	243	39	217	30	193	23	208
01:15	*	222	13	180	16	196	11	220	14	250	33	242	35	196	20	215
01:30	*	227	12	212	15	192	6	202	30	242	18	285	22	210	17	224
01:45	*	217	6	209	7	196	3	222	11	232	18	274	17	205	10	222
02:00	*	228	9	251	10	224	13	228	36	196	15	290	15	230	16	235
02:15	*	228	19	244	11	222	17	260	111	268	13	283	16	190	31	242
02:30	*	250	12	248	13	247	11	232	29	248	14	302	26	232	18	251
02:45	*	256	7	218	14	222	14	204	8	246	9	270	15	226	11	235
03:00	*	226	12	239	14	260	13	258	14	269	13	261	11	228	13	249
03:15	*	216	15	262	16	258	14	235	15	262	16	328	11	228	14	256
03:30	*	242	17	225	26	248	18	253	21	246	12	302	12	230	18	249
03:45	*	**280**	21	266	14	252	24	291	34	296	11	323	14	260	20	281
04:00	*	**273**	24	270	22	228	31	266	15	276	16	268	14	236	20	260
04:15	*	**248**	31	264	25	252	35	241	30	298	17	306	13	228	25	262
04:30	*	**274**	41	247	45	252	49	**268**	46	292	30	252	20	214	38	257
04:45	*	214	60	236	48	**266**	46	**250**	57	**289**	23	**304**	12	228	41	**255**
05:00	*	284	80	**300**	82	**307**	80	**324**	66	**312**	34	**333**	12	277	59	**305**
05:15	*	287	114	**290**	96	**306**	85	**281**	102	**313**	46	**301**	23	227	78	**286**
05:30	*	282	152	**274**	149	**262**	149	267	111	**299**	50	**301**	21	**274**	105	**280**
05:45	*	222	202	**260**	199	249	200	218	180	246	55	290	29	**232**	144	245
06:00	*	250	248	264	260	266	228	251	222	291	85	330	37	**308**	180	280
06:15	*	254	345	232	348	240	322	235	322	246	102	310	62	**298**	250	259
06:30	*	218	**378**	209	352	236	326	194	335	248	116	254	46	216	259	225
06:45	*	196	**388**	184	**402**	222	**398**	194	**374**	258	82	287	46	166	**282**	215
07:00	*	187	**418**	186	**402**	172	**431**	180	**414**	238	82	224	37	143	**297**	190
07:15	*	160	**432**	150	**416**	200	**422**	176	**416**	198	129	248	66	152	**314**	183
07:30	*	152	377	163	**365**	182	**380**	180	**372**	190	134	203	48	117	**279**	170
07:45	*	149	344	154	340	149	340	184	368	163	117	202	59	123	261	161
08:00	*	156	344	152	328	151	361	164	306	216	126	215	51	154	253	173
08:15	*	178	308	142	328	160	329	162	312	173	152	164	77	102	251	154
08:30	*	142	305	148	296	150	301	162	282	180	176	182	96	102	243	152
08:45	*	134	262	141	301	172	307	142	277	204	174	200	100	88	237	154
09:00	*	147	270	187	238	179	256	201	244	221	148	236	85	84	207	179
09:15	*	143	244	144	238	166	230	158	224	213	185	227	108	71	205	160
09:30	*	110	193	122	213	118	196	134	216	174	208	203	110	56	189	131
09:45	*	98	202	116	194	63	203	94	191	149	178	163	130	78	183	109
10:00	*	89	164	106	200	96	192	110	204	154	181	154	177	80	186	113
10:15	191	73	178	74	208	63	202	84	192	138	176	148	150	51	185	90
10:30	196	59	198	57	167	59	202	72	203	101	188	118	162	54	188	74
10:45	**201**	34	160	42	190	60	167	52	194	85	170	90	152	36	176	57
11:00	**174**	40	167	46	172	52	228	61	190	111	**196**	101	**144**	37	182	64
11:15	**203**	42	182	54	204	45	186	44	234	90	**186**	109	**148**	30	192	59
11:30	**205**	38	203	30	195	23	187	48	200	84	**192**	94	**188**	19	196	48
11:45	164	24	190	26	200	20	187	25	184	68	**191**	72	**183**	18	186	36
Total	1334	8740	7512	8893	7475	8978	7510	9063	7602	10422	4358	11190	3040	7985	6253	9322
Day Total	10074		16405		16453		16573		18024		15548		11025		15575	
% Splits	13.2%	86.8%	45.8%	54.2%	45.4%	54.6%	45.3%	54.7%	42.2%	57.8%	28.0%	72.0%	27.6%	72.4%	40.1%	59.9%
Peak	10:45	03:45	06:30	05:00	06:45	04:45	06:45	04:30	06:45	04:45	11:00	04:45	11:00	05:30	06:45	04:45
Vol.	783	1075	1616	1124	1585	1141	1631	1123	1576	1213	765	1239	663	1112	1172	1126
P.H.F.	0.955	0.960	0.935	0.937	0.953	0.929	0.946	0.867	0.947	0.969	0.919	0.930	0.882	0.903	0.933	0.923

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71 NB EXIT
Station ID:
I71 NB Ramp South of SR 82

Latitude: 0' 0.000 Undefined

Start	12-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	89	11	102	8	73	12	78	6	106	16	**122**	13	99	11	96
12:15	*	90	12	68	6	108	12	87	12	94	13	**128**	10	**105**	11	97
12:30	*	96	2	94	2	108	9	100	10	91	20	**138**	7	**126**	8	108
12:45	*	88	6	100	8	81	6	99	4	107	14	**124**	10	**129**	8	104
01:00	*	100	2	84	2	94	3	76	5	100	7	104	7	**107**	4	95
01:15	*	61	8	85	2	91	1	93	8	101	3	116	6	89	5	91
01:30	*	86	2	92	3	88	4	100	3	92	10	132	13	105	6	99
01:45	*	76	0	90	6	96	5	88	4	122	12	111	8	115	6	100
02:00	*	80	4	86	4	74	4	84	4	95	6	122	8	114	5	94
02:15	*	84	3	104	4	91	3	96	4	94	8	122	5	96	4	98
02:30	*	105	7	78	3	101	6	80	4	106	3	138	3	123	4	104
02:45	*	60	3	74	2	75	0	72	4	98	8	122	1	113	3	88
03:00	*	80	4	78	4	97	1	94	6	114	1	108	4	76	3	92
03:15	*	89	0	88	1	94	0	96	4	97	6	98	2	95	2	94
03:30	*	84	6	81	5	105	8	112	3	134	6	95	5	113	6	103
03:45	*	98	6	114	3	99	12	92	10	115	3	133	2	71	6	103
04:00	*	87	1	110	7	96	3	102	6	119	6	100	4	82	4	99
04:15	*	79	10	101	4	92	4	108	8	108	6	108	4	68	6	95
04:30	*	104	4	108	1	122	7	122	10	110	10	123	1	104	6	113
04:45	*	104	11	106	13	104	10	119	11	136	5	100	4	106	9	111
05:00	*	89	9	100	6	104	14	**130**	8	**119**	1	104	2	101	7	**107**
05:15	*	**120**	7	**126**	14	125	15	**129**	8	**126**	4	113	3	94	8	**119**
05:30	*	**124**	30	**120**	28	109	26	**115**	30	**134**	13	120	4	90	22	**116**
05:45	*	**99**	37	**110**	26	114	30	**132**	32	**154**	11	114	7	94	24	**117**
06:00	*	**114**	28	**108**	16	106	22	111	22	102	10	107	6	62	17	101
06:15	*	88	38	102	42	114	41	105	48	122	13	106	8	82	32	103
06:30	*	70	72	72	64	**109**	72	99	63	141	23	59	9	62	50	87
06:45	*	59	78	77	64	**130**	62	98	66	106	30	90	13	50	52	87
07:00	*	64	70	56	**79**	**101**	78	70	66	97	18	70	12	50	54	73
07:15	*	47	86	60	**98**	**129**	**97**	62	78	71	20	82	17	43	66	71
07:30	*	40	99	68	**144**	62	**116**	75	118	91	43	70	24	46	91	65
07:45	*	40	**127**	76	**135**	56	**140**	44	124	90	48	64	30	52	101	60
08:00	*	51	**79**	46	70	58	**79**	62	81	47	45	52	32	49	64	52
08:15	*	35	**103**	36	100	48	86	52	84	52	64	68	27	34	77	46
08:30	*	30	**116**	38	106	42	124	45	92	56	70	47	44	45	92	43
08:45	*	29	106	34	97	25	107	38	96	43	70	44	32	36	85	36
09:00	*	36	93	28	76	36	86	42	102	45	47	36	28	34	72	37
09:15	*	36	75	30	97	30	88	44	90	40	72	48	42	22	77	36
09:30	*	28	96	21	101	32	92	21	112	46	87	50	70	24	93	32
09:45	*	17	79	20	83	26	100	39	100	32	116	32	81	20	93	27
10:00	*	32	90	18	82	24	90	20	106	29	100	30	57	18	88	24
10:15	*	23	100	15	96	20	88	24	74	27	100	30	69	21	88	23
10:30	**116**	16	78	24	79	14	95	32	94	30	108	27	80	14	93	22
10:45	**94**	20	84	18	98	15	94	18	90	21	124	26	89	13	96	19
11:00	**102**	12	68	12	86	7	95	16	**85**	24	**126**	32	**89**	12	**93**	16
11:15	**94**	15	78	15	104	9	83	18	**112**	34	**126**	15	**118**	13	**102**	17
11:30	102	14	72	11	84	11	96	16	**122**	17	**124**	22	**120**	11	**103**	15
11:45	93	12	82	4	94	10	109	14	**112**	15	**125**	17	**122**	11	**105**	12
Total	601	3100	2182	3288	2257	3555	2335	3569	2341	4050	1901	4019	1352	3239	2062	3547
Day Total	3701		5470		5812		5904		6391		5920		4591		5609	
% Splits	16.2%	83.8%	39.9%	60.1%	38.8%	61.2%	39.5%	60.5%	36.6%	63.4%	32.1%	67.9%	29.4%	70.6%	36.8%	63.2%
Peak	10:30	05:15	07:45	05:15	07:00	06:30	07:15	05:00	11:00	05:00	11:00	12:00	11:00	00:15	11:00	05:00
Vol.	406	457	425	464	456	469	432	506	431	533	501	512	449	467	403	459
P.H.F.	0.875	0.921	0.837	0.921	0.792	0.902	0.771	0.958	0.883	0.865	0.994	0.928	0.920	0.905	0.960	0.964

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: EB82 HOLIDAY
Station ID:
SR 82 EB
Between Pearlview & Target
Latitude: 0' 0.000 Undefined

Start	03-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	**341**	44	354	39	324	36	374	56	**456**	62	**377**	47	**371**
12:15	*	*	*	**359**	18	336	18	342	16	380	50	**409**	33	**367**	27	**366**
12:30	*	*	*	**299**	15	360	14	329	15	392	24	**447**	34	**339**	20	**361**
12:45	*	*	*	**348**	16	308	10	312	16	353	42	**430**	27	**350**	22	**350**
01:00	*	*	*	326	13	313	12	316	16	**364**	30	396	37	358	22	346
01:15	*	*	*	316	8	294	10	322	6	**380**	35	373	25	320	17	334
01:30	*	*	*	301	7	304	14	303	22	**394**	24	416	34	335	20	342
01:45	*	*	*	317	14	318	10	319	11	**392**	23	394	19	326	15	344
02:00	*	*	*	278	7	268	17	320	11	315	15	381	15	306	13	311
02:15	*	*	*	342	11	308	5	265	11	332	10	362	14	314	10	320
02:30	*	*	*	298	6	286	8	332	8	366	20	354	26	271	14	318
02:45	*	*	*	306	8	272	14	346	12	384	28	362	20	306	16	329
03:00	*	*	*	277	12	275	12	288	14	354	9	339	10	272	11	301
03:15	*	*	*	323	12	294	18	346	18	346	13	365	12	276	15	325
03:30	*	*	*	339	14	355	22	344	16	353	16	348	4	248	14	331
03:45	*	*	*	310	17	340	16	330	20	406	6	349	11	280	14	336
04:00	*	*	*	290	22	301	22	296	14	350	14	354	8	278	16	312
04:15	*	*	*	275	16	318	28	296	35	324	12	352	11	271	20	306
04:30	*	*	*	311	32	**353**	38	**338**	33	374	24	332	8	292	27	333
04:45	*	*	*	271	45	**350**	49	**303**	58	376	23	262	22	278	39	307
05:00	*	*	*	328	60	**386**	45	**368**	48	392	20	298	14	249	37	337
05:15	*	*	*	317	58	**362**	66	**375**	61	371	30	300	10	224	45	325
05:30	*	*	*	302	99	326	90	332	105	360	36	310	21	206	70	306
05:45	*	*	*	293	116	264	106	261	95	323	52	306	23	198	78	274
06:00	*	*	*	278	140	279	147	292	116	336	47	310	28	192	96	281
06:15	*	*	*	258	164	311	144	310	172	327	57	296	36	160	115	277
06:30	*	*	*	234	192	268	208	258	224	332	63	250	42	169	146	252
06:45	*	*	*	238	200	278	212	302	214	276	68	256	36	163	146	252
07:00	*	*	*	254	250	281	236	246	278	294	63	255	38	161	173	248
07:15	*	*	*	232	248	193	242	253	254	252	75	225	38	142	171	216
07:30	*	*	*	155	264	218	300	208	266	239	120	185	66	124	203	188
07:45	*	*	*	200	254	165	282	160	293	226	144	180	89	120	212	175
08:00	*	*	*	170	258	178	246	212	231	216	158	162	96	117	198	176
08:15	*	*	*	146	228	150	232	156	240	204	180	159	90	82	194	150
08:30	*	*	*	139	226	131	270	150	252	163	210	142	108	85	213	135
08:45	*	*	*	143	272	126	260	135	284	181	228	156	165	84	242	138
09:00	*	*	*	134	274	136	261	110	254	125	209	196	138	56	227	126
09:15	*	*	*	72	282	118	286	98	310	115	258	152	172	64	262	103
09:30	*	*	*	84	262	83	254	90	278	134	288	124	199	49	256	94
09:45	*	*	*	60	282	78	277	74	298	96	372	104	208	59	287	78
10:00	*	*	*	65	290	76	260	60	324	111	319	90	236	44	286	74
10:15	*	*	*	57	274	58	289	52	350	96	352	105	271	50	307	70
10:30	*	*	*	52	326	45	276	56	313	86	**381**	94	318	40	323	62
10:45	*	*	*	24	309	32	290	44	344	88	**404**	100	321	40	334	55
11:00	*	*	**316**	34	**321**	35	**304**	56	**328**	96	**369**	63	**338**	23	**329**	51
11:15	*	*	**324**	52	**292**	38	**346**	36	**346**	71	**422**	80	**308**	20	**340**	50
11:30	*	*	**336**	24	**345**	35	**336**	32	**349**	64	352	58	**348**	10	**344**	37
11:45	*	*	**347**	20	**356**	22	**356**	32	**384**	62	341	50	**344**	10	**355**	33
Total	0	0	1323	10592	6979	10979	6997	11129	7399	12945	6092	12487	4533	9105	6388	11206
Day Total	0		11915		17958		18126		20344		18579		13638		17594	
% Splits	0.0%	0.0%	11.1%	88.9%	38.9%	61.1%	38.6%	61.4%	36.4%	63.6%	32.8%	67.2%	33.2%	66.8%	36.3%	63.7%
Peak			11:00	12:00	11:00	04:30	11:00	04:30	11:00	01:00	10:30	12:00	11:00	12:00	11:00	12:00
Vol.			1323	1347	1314	1451	1342	1384	1407	1530	1576	1742	1338	1433	1368	1448
P.H.F.			0.953	0.938	0.923	0.940	0.942	0.923	0.916	0.971	0.934	0.955	0.961	0.950	0.963	0.976

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82WB HOLIDAY
Station ID:
SR 82 Westbound
Between Pearlview & Target
Latitude: 0' 0.000 Undefined

Start	03-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	264	31	288	34	252	39	285	77	277	73	274	51	273
12:15	*	*	*	286	14	285	25	238	24	302	49	277	62	254	35	274
12:30	*	*	*	271	23	281	26	269	17	257	47	311	51	**278**	33	278
12:45	*	*	*	244	20	282	17	288	22	303	31	288	45	**298**	27	284
01:00	*	*	*	297	12	320	13	263	17	246	40	316	43	**312**	25	292
01:15	*	*	*	287	20	263	13	271	12	255	24	323	29	**279**	20	280
01:30	*	*	*	268	11	255	12	275	11	292	31	276	40	276	21	274
01:45	*	*	*	261	7	289	14	291	8	289	20	304	27	273	15	284
02:00	*	*	*	259	14	277	13	262	19	310	16	300	22	272	17	280
02:15	*	*	*	259	14	251	11	272	15	274	14	273	16	282	14	268
02:30	*	*	*	249	11	250	14	284	13	308	16	302	25	280	16	279
02:45	*	*	*	244	5	264	9	291	12	296	22	319	21	308	14	287
03:00	*	*	*	264	12	306	14	291	10	301	18	296	15	275	14	289
03:15	*	*	*	**303**	10	303	6	287	10	277	18	297	15	282	12	292
03:30	*	*	*	**288**	9	288	9	280	18	319	11	**340**	4	286	10	300
03:45	*	*	*	**295**	8	288	8	**296**	18	**334**	15	**305**	6	273	11	**298**
04:00	*	*	*	**299**	9	282	10	**326**	12	**305**	14	**331**	15	278	12	**304**
04:15	*	*	*	298	15	301	11	**301**	21	**294**	10	**311**	6	309	13	**302**
04:30	*	*	*	283	20	312	19	**333**	17	**330**	13	313	4	273	15	**307**
04:45	*	*	*	296	23	316	28	273	25	294	26	303	11	254	23	289
05:00	*	*	*	272	27	**326**	31	304	27	304	24	302	6	285	23	299
05:15	*	*	*	303	38	**311**	39	289	40	298	24	327	7	295	30	304
05:30	*	*	*	261	89	**311**	75	276	73	277	27	260	8	250	54	272
05:45	*	*	*	236	71	**332**	71	302	84	287	37	290	14	279	55	288
06:00	*	*	*	289	63	305	66	271	54	263	24	267	12	237	44	272
06:15	*	*	*	263	89	292	101	281	95	313	22	279	14	248	64	279
06:30	*	*	*	249	141	256	139	272	142	299	40	271	18	204	96	258
06:45	*	*	*	215	155	310	177	244	157	249	50	278	16	186	111	247
07:00	*	*	*	204	127	222	132	257	135	278	39	293	27	199	92	242
07:15	*	*	*	246	157	215	147	260	142	258	54	277	28	144	106	233
07:30	*	*	*	208	181	224	207	252	204	266	54	230	45	148	138	221
07:45	*	*	*	201	207	262	204	227	223	283	105	228	64	164	161	228
08:00	*	*	*	220	202	240	177	227	166	233	70	244	50	168	133	222
08:15	*	*	*	199	191	202	182	240	196	267	118	211	69	137	151	209
08:30	*	*	*	204	175	211	181	198	206	198	117	237	70	139	150	198
08:45	*	*	*	184	187	177	171	202	184	214	155	217	104	123	160	186
09:00	*	*	*	203	163	207	173	228	208	256	144	201	99	105	157	200
09:15	*	*	*	167	184	171	165	176	198	209	134	214	125	101	161	173
09:30	*	*	*	113	189	156	200	153	191	175	197	182	113	69	178	141
09:45	*	*	*	108	179	121	188	119	212	194	183	183	143	74	181	133
10:00	*	*	*	74	174	97	198	107	212	163	202	168	129	79	183	115
10:15	*	*	*	91	210	85	200	77	201	133	243	159	161	65	203	102
10:30	*	*	231	69	204	81	213	96	216	107	211	153	191	52	211	93
10:45	*	*	242	52	248	59	196	71	238	104	**249**	129	210	43	230	76
11:00	*	*	**207**	54	**238**	71	**218**	58	**265**	118	**271**	122	**202**	40	**234**	77
11:15	*	*	**251**	38	**239**	39	**223**	53	**228**	93	**282**	85	**241**	43	**244**	58
11:30	*	*	**230**	35	**258**	34	**254**	39	**260**	64	**294**	72	**227**	26	**254**	45
11:45	*	*	**286**	28	**249**	34	**250**	45	**259**	65	247	87	**269**	16	**260**	46
Total	0	0	1447	10301	4923	11052	4884	10967	5156	11839	4129	12028	3192	9535	4462	10951
Day Total	0		11748		15975		15851		16995		16157		12727		15413	
% Splits	0.0%	0.0%	12.3%	87.7%	30.8%	69.2%	30.8%	69.2%	30.3%	69.7%	25.6%	74.4%	25.1%	74.9%	28.9%	71.1%
Peak			11:00	03:15	11:00	05:00	11:00	03:45	11:00	03:45	10:45	03:30	11:00	00:30	11:00	03:45
Vol.			974	1185	984	1280	945	1256	1012	1263	1096	1287	939	1167	992	1211
P.H.F.			0.851	0.978	0.953	0.964	0.930	0.943	0.955	0.945	0.932	0.946	0.873	0.935	0.954	0.986

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: WEST MALL NB
Station ID:
West Mall @ SR 82 Northbound
Holiday Count
Latitude: 0' 0.000 Undefined

Start	03-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	77	4	89	6	67	4	104	9	108	10	90	7	89
12:15	*	*	*	92	0	88	8	68	2	98	1	96	3	78	3	87
12:30	*	*	*	90	1	83	6	79	3	103	4	109	1	105	3	95
12:45	*	*	*	**111**	5	100	1	93	1	107	2	102	0	86	2	100
01:00	*	*	*	**96**	3	**109**	1	87	0	109	5	125	2	107	2	106
01:15	*	*	*	**102**	0	**100**	0	77	1	109	2	122	2	127	1	106
01:30	*	*	*	**93**	0	**87**	1	81	0	106	5	139	4	103	2	**102**
01:45	*	*	*	77	0	**102**	0	82	1	**114**	2	136	2	96	1	**101**
02:00	*	*	*	90	1	91	1	88	0	**119**	0	139	0	113	0	**107**
02:15	*	*	*	85	0	96	0	98	0	**101**	1	137	0	125	0	**107**
02:30	*	*	*	69	0	80	0	75	0	**117**	0	129	2	121	0	98
02:45	*	*	*	74	1	87	0	81	0	99	0	144	1	**137**	0	104
03:00	*	*	*	56	1	100	0	94	0	112	1	116	0	**157**	0	106
03:15	*	*	*	78	0	78	1	88	0	115	0	121	0	**145**	0	104
03:30	*	*	*	75	1	90	1	82	0	116	0	123	1	**131**	1	103
03:45	*	*	*	56	1	100	1	**92**	0	95	0	127	0	116	0	98
04:00	*	*	*	65	0	102	0	**90**	1	111	0	148	0	126	0	107
04:15	*	*	*	67	0	86	0	**94**	0	103	0	**143**	0	126	0	103
04:30	*	*	*	62	1	91	0	**86**	0	103	1	**154**	1	118	1	102
04:45	*	*	*	66	2	86	1	74	1	99	0	**142**	1	132	1	100
05:00	*	*	*	90	0	98	0	98	1	93	0	**151**	0	126	0	109
05:15	*	*	*	66	0	75	1	66	2	89	0	139	1	116	1	92
05:30	*	*	*	75	1	81	0	73	1	91	1	148	1	101	1	95
05:45	*	*	*	61	4	60	2	70	5	89	3	128	2	127	3	89
06:00	*	*	*	69	1	92	1	78	1	112	2	142	2	114	1	101
06:15	*	*	*	59	0	81	1	83	2	102	0	111	1	96	1	89
06:30	*	*	*	63	6	71	1	83	3	94	4	121	1	79	3	85
06:45	*	*	*	51	5	94	2	60	4	81	3	110	1	67	3	77
07:00	*	*	*	47	6	79	5	75	4	79	1	135	1	87	3	84
07:15	*	*	*	49	4	76	5	82	6	91	2	121	2	75	4	82
07:30	*	*	*	62	5	78	4	60	6	102	4	102	3	37	4	74
07:45	*	*	*	53	7	83	7	64	6	98	12	103	5	69	7	78
08:00	*	*	*	58	11	68	4	68	11	81	6	112	5	83	7	78
08:15	*	*	*	57	7	63	5	83	8	98	7	110	4	74	6	81
08:30	*	*	*	55	15	62	7	70	7	88	17	99	9	48	11	70
08:45	*	*	*	51	10	57	17	72	14	112	25	91	6	32	14	69
09:00	*	*	*	82	19	89	22	99	21	100	17	101	6	27	17	83
09:15	*	*	*	54	27	61	18	65	32	90	22	79	12	22	22	62
09:30	*	*	*	33	22	24	23	44	28	55	30	79	25	16	26	42
09:45	*	*	*	30	32	30	27	44	34	66	32	85	20	18	29	46
10:00	*	*	*	6	39	25	24	30	38	73	34	81	32	25	33	40
10:15	*	*	*	12	35	11	27	13	43	65	47	54	27	18	36	29
10:30	*	*	*	13	47	14	63	14	50	40	53	43	36	5	50	22
10:45	*	*	*	3	66	8	47	8	73	26	74	37	38	6	60	15
11:00	*	*	*	12	**61**	9	**56**	12	**61**	20	**81**	28	**53**	3	**62**	14
11:15	*	*	77	11	**67**	2	**76**	10	**66**	20	**99**	21	**54**	5	**73**	12
11:30	*	*	73	3	**66**	3	**58**	7	**81**	8	**86**	13	**79**	3	**74**	6
11:45	*	*	78	3	**75**	5	**65**	1	**81**	11	**93**	19	**76**	1	**78**	7
Total	0	0	228	2809	659	3344	596	3208	703	4214	788	5123	532	3819	653	3756
Day Total	0		3037		4003		3804		4917		5911		4351		4409	
% Splits	0.0%	0.0%	7.5%	92.5%	16.5%	83.5%	15.7%	84.3%	14.3%	85.7%	13.3%	86.7%	12.2%	87.8%	14.8%	85.2%
Peak				00:45	11:00	01:00	11:00	03:45	11:00	01:45	11:00	04:15	11:00	02:45	11:00	01:30
Vol.				402	269	398	255	362	289	451	359	590	262	570	287	417
P.H.F.				0.905	0.897	0.913	0.839	0.963	0.892	0.947	0.907	0.958	0.829	0.908	0.920	0.974

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: W MALL SB
Station ID:
West Mall @ SR 82 Southbound
Holiday Count
Latitude: 0' 0.000 Undefined

Start	03-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	**194**	7	166	6	178	3	204	7	**292**	7	222	6	**209**
12:15	*	*	*	**186**	1	**182**	5	157	6	210	4	**288**	2	230	4	**209**
12:30	*	*	*	**153**	3	**172**	0	**200**	6	208	7	**298**	5	232	4	**210**
12:45	*	*	*	**196**	1	**186**	2	**167**	4	199	1	**314**	3	**246**	2	**218**
01:00	*	*	*	136	0	**169**	4	**179**	0	177	2	254	2	**237**	2	192
01:15	*	*	*	132	1	144	0	**194**	0	184	6	246	2	**237**	2	190
01:30	*	*	*	128	0	153	0	162	1	201	4	285	0	**246**	1	196
01:45	*	*	*	150	2	154	0	176	0	212	0	318	4	224	1	206
02:00	*	*	*	125	0	132	2	157	1	180	1	286	1	219	1	183
02:15	*	*	*	119	1	150	2	136	4	191	0	256	0	194	1	174
02:30	*	*	*	123	0	142	0	133	0	192	0	289	1	199	0	180
02:45	*	*	*	136	1	106	0	160	4	164	1	256	1	206	1	171
03:00	*	*	*	115	1	128	6	150	0	158	6	264	0	206	3	170
03:15	*	*	*	108	1	139	2	156	0	168	1	262	1	184	1	170
03:30	*	*	*	149	1	154	7	165	3	192	2	250	1	174	3	181
03:45	*	*	*	140	3	166	9	149	4	194	3	267	3	194	4	185
04:00	*	*	*	125	1	154	1	137	0	205	1	250	1	170	1	174
04:15	*	*	*	126	0	154	1	158	1	193	1	258	3	168	1	176
04:30	*	*	*	136	7	162	10	154	7	187	6	237	2	179	6	176
04:45	*	*	*	143	11	172	10	170	12	**236**	14	222	8	193	11	189
05:00	*	*	*	136	4	152	1	164	1	**198**	2	222	0	156	2	171
05:15	*	*	*	136	4	182	1	183	3	**217**	4	214	2	144	3	179
05:30	*	*	*	130	6	150	13	178	9	**205**	9	194	6	130	9	164
05:45	*	*	*	131	12	181	16	142	14	187	14	228	10	121	13	165
06:00	*	*	*	136	8	154	12	163	13	189	9	216	3	110	9	161
06:15	*	*	*	100	11	152	16	145	12	184	12	175	6	85	11	140
06:30	*	*	*	122	13	150	20	135	21	225	14	193	8	98	15	154
06:45	*	*	*	130	38	153	25	142	26	213	34	168	13	84	27	148
07:00	*	*	*	128	22	142	18	132	22	183	12	178	10	90	17	142
07:15	*	*	*	121	30	108	35	129	30	141	22	131	26	64	29	116
07:30	*	*	*	97	46	113	45	98	52	128	49	132	27	54	44	104
07:45	*	*	*	95	52	91	50	108	68	133	64	118	32	50	53	99
08:00	*	*	*	74	35	90	40	97	38	140	50	79	29	52	38	89
08:15	*	*	*	76	52	71	44	90	48	132	66	92	39	40	50	84
08:30	*	*	*	68	54	68	56	68	56	89	85	70	46	38	59	67
08:45	*	*	*	52	78	55	90	50	90	74	93	79	78	26	86	56
09:00	*	*	*	56	82	42	72	48	93	62	108	51	47	32	80	48
09:15	*	*	*	39	95	51	88	41	116	43	114	60	67	20	96	42
09:30	*	*	*	23	133	47	108	25	138	39	127	58	81	17	117	35
09:45	*	*	*	24	130	21	158	32	146	44	196	45	109	15	148	30
10:00	*	*	*	17	130	25	126	13	166	45	182	51	107	14	142	28
10:15	*	*	*	18	139	23	134	20	165	27	205	39	137	14	156	24
10:30	*	*	*	10	166	10	143	24	183	24	202	27	198	13	178	18
10:45	*	*	*	8	154	13	157	18	204	17	**242**	20	218	6	195	14
11:00	*	*	**166**	9	**165**	8	**167**	8	**197**	20	**236**	16	**207**	9	**190**	12
11:15	*	*	**166**	10	**172**	9	**164**	9	**187**	24	**243**	10	**219**	5	**192**	11
11:30	*	*	**204**	7	**198**	7	**174**	4	**200**	12	**244**	10	**236**	2	**209**	7
11:45	*	*	**182**	4	**187**	8	**179**	4	**212**	10	228	10	**254**	4	**207**	7
Total	0	0	718	4777	2258	5361	2219	5508	2566	6860	2933	8278	2262	5653	2430	6074
Day Total	0		5495		7619		7727		9426		11211		7915		8504	
% Splits	0.0%	0.0%	13.1%	86.9%	29.6%	70.4%	28.7%	71.3%	27.2%	72.8%	26.2%	73.8%	28.6%	71.4%	28.6%	71.4%
Peak			11:00	12:00	11:00	00:15	11:00	00:30	11:00	04:45	10:45	12:00	11:00	00:45	11:00	12:00
Vol.			718	729	722	709	684	740	796	856	965	1192	916	966	798	846
P.H.F.			0.880	0.930	0.912	0.953	0.955	0.925	0.939	0.907	0.989	0.949	0.902	0.982	0.955	0.970

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: EAST MALL NB
Station ID:
East Mall @ SR 82 Northbound
Holiday Counts
Latitude: 0' 0.000 Undefined

Start	26-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	107	11	142	16	106	14	156	48	124	56	86	29	120
12:15	*	*	*	104	10	108	9	110	6	120	40	143	28	96	19	114
12:30	*	*	*	95	6	110	8	132	8	132	13	127	24	92	12	115
12:45	*	*	*	116	1	132	2	126	1	147	18	148	16	106	8	129
01:00	*	*	*	**139**	2	116	3	167	3	130	10	122	10	147	6	137
01:15	*	*	*	**139**	0	150	3	158	0	166	18	184	4	137	5	156
01:30	*	*	*	**116**	3	135	0	130	0	154	6	134	3	132	2	134
01:45	*	*	*	**150**	1	160	0	122	4	148	4	206	5	160	3	158
02:00	*	*	*	132	0	158	0	**154**	2	196	4	158	0	157	1	159
02:15	*	*	*	138	6	147	4	**166**	4	164	4	176	5	173	5	**161**
02:30	*	*	*	110	0	**144**	4	**137**	2	182	4	146	4	177	3	**149**
02:45	*	*	*	150	0	**160**	1	**140**	1	158	0	153	0	192	0	**159**
03:00	*	*	*	118	6	**167**	2	140	1	190	0	188	1	174	2	**163**
03:15	*	*	*	121	0	**162**	0	153	1	160	0	186	1	150	0	155
03:30	*	*	*	128	1	127	0	119	1	153	2	**176**	0	190	1	149
03:45	*	*	*	111	2	150	2	132	1	148	2	**186**	0	**178**	1	151
04:00	*	*	*	114	0	125	2	136	1	152	3	**197**	4	**184**	2	151
04:15	*	*	*	126	0	130	0	125	1	170	0	**234**	0	**180**	0	161
04:30	*	*	*	154	1	124	2	134	2	166	2	168	0	**192**	1	156
04:45	*	*	*	110	6	154	2	132	0	172	5	172	1	148	3	148
05:00	*	*	*	122	1	134	1	144	0	174	0	196	0	174	0	157
05:15	*	*	*	127	0	119	0	146	2	144	0	198	0	154	0	148
05:30	*	*	*	106	4	112	2	118	0	149	3	190	0	172	2	141
05:45	*	*	*	120	4	122	2	118	2	158	0	208	0	184	2	152
06:00	*	*	*	122	0	121	1	115	5	144	7	183	4	161	3	141
06:15	*	*	*	111	4	116	4	118	2	125	0	192	0	110	2	129
06:30	*	*	*	112	10	102	4	122	6	140	1	164	0	135	4	129
06:45	*	*	*	96	6	103	7	124	4	142	0	149	4	142	4	126
07:00	*	*	*	112	2	124	4	103	8	149	4	195	1	162	4	141
07:15	*	*	*	104	2	116	7	150	6	142	4	158	1	167	4	140
07:30	*	*	*	109	18	106	14	114	12	150	6	202	8	101	12	130
07:45	*	*	*	106	6	131	16	140	18	128	8	166	5	86	11	126
08:00	*	*	*	108	13	146	12	126	20	168	14	209	3	90	12	141
08:15	*	*	*	88	8	125	31	129	14	166	16	199	4	60	15	128
08:30	*	*	*	102	15	122	40	128	19	130	20	170	6	58	20	118
08:45	*	*	*	99	28	100	27	142	22	**173**	20	184	1	57	20	126
09:00	*	*	*	106	30	150	36	152	48	**235**	27	202	8	68	30	152
09:15	*	*	*	100	41	110	54	116	34	**228**	36	182	6	34	34	128
09:30	*	*	42	70	57	106	54	74	35	**150**	48	150	15	50	42	100
09:45	*	*	54	68	54	68	62	79	84	159	40	158	23	53	53	98
10:00	*	*	72	37	62	34	78	56	56	94	42	168	19	34	55	70
10:15	*	*	52	24	64	48	73	29	70	96	67	144	36	24	60	61
10:30	*	*	84	26	62	28	76	18	82	38	70	78	29	20	67	35
10:45	*	*	66	19	66	9	68	19	74	56	84	52	34	8	65	27
11:00	*	*	**84**	18	**115**	18	**108**	17	**93**	57	**81**	50	**42**	9	**87**	28
11:15	*	*	**88**	8	**98**	16	**101**	11	**100**	48	**85**	64	**68**	7	**90**	26
11:30	*	*	**92**	14	**100**	18	**122**	8	**106**	24	**90**	22	**48**	8	**93**	16
11:45	*	*	**114**	4	**84**	21	**112**	8	**138**	26	**128**	34	**84**	1	**110**	16
Total	0	0	748	4716	1010	5326	1176	5343	1113	6757	1084	7595	611	5380	1004	5855
Day Total	0		5464		6336		6519		7870		8679		5991		6859	
% Splits	0.0%	0.0%	13.7%	86.3%	15.9%	84.1%	18.0%	82.0%	14.1%	85.9%	12.5%	87.5%	10.2%	89.8%	14.6%	85.4%
Peak			11:00	01:00	11:00	02:30	11:00	02:00	11:00	08:45	11:00	03:30	11:00	03:45	11:00	02:15
Vol.			378	544	397	633	443	597	437	786	384	793	242	734	380	632
P.H.F.			0.829	0.907	0.863	0.948	0.908	0.894	0.792	0.836	0.750	0.847	0.720	0.956	0.864	0.969

TEC Engineering, Inc.
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Site Code: EAST MALL NB
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Holiday Counts
Latitude: 0' 0.000 Undefined

Start	03-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	14	124	16	*	*	*	*	*	*	*	*	*	*	*	15	124
12:15	16	121	14	*	*	*	*	*	*	*	*	*	*	*	15	121
12:30	4	132	14	*	*	*	*	*	*	*	*	*	*	*	9	132
12:45	0	154	4	*	*	*	*	*	*	*	*	*	*	*	2	154
01:00	6	136	2	*	*	*	*	*	*	*	*	*	*	*	4	136
01:15	1	132	1	*	*	*	*	*	*	*	*	*	*	*	1	132
01:30	0	154	10	*	*	*	*	*	*	*	*	*	*	*	5	154
01:45	1	160	0	*	*	*	*	*	*	*	*	*	*	*	0	160
02:00	0	190	1	*	*	*	*	*	*	*	*	*	*	*	0	190
02:15	1	152	8	*	*	*	*	*	*	*	*	*	*	*	4	152
02:30	4	146	0	*	*	*	*	*	*	*	*	*	*	*	2	146
02:45	0	156	2	*	*	*	*	*	*	*	*	*	*	*	1	156
03:00	4	167	3	*	*	*	*	*	*	*	*	*	*	*	4	167
03:15	4	136	0	*	*	*	*	*	*	*	*	*	*	*	2	136
03:30	0	142	0	*	*	*	*	*	*	*	*	*	*	*	0	142
03:45	1	149	1	*	*	*	*	*	*	*	*	*	*	*	1	149
04:00	0	**154**	0	*	*	*	*	*	*	*	*	*	*	*	0	**154**
04:15	2	**144**	2	*	*	*	*	*	*	*	*	*	*	*	2	**144**
04:30	6	**194**	4	*	*	*	*	*	*	*	*	*	*	*	5	**194**
04:45	0	**172**	1	*	*	*	*	*	*	*	*	*	*	*	0	**172**
05:00	1	122	2	*	*	*	*	*	*	*	*	*	*	*	2	122
05:15	1	134	4	*	*	*	*	*	*	*	*	*	*	*	2	134
05:30	3	162	2	*	*	*	*	*	*	*	*	*	*	*	2	162
05:45	1	144	0	*	*	*	*	*	*	*	*	*	*	*	0	144
06:00	10	114	0	*	*	*	*	*	*	*	*	*	*	*	5	114
06:15	2	141	6	*	*	*	*	*	*	*	*	*	*	*	4	141
06:30	9	116	2	*	*	*	*	*	*	*	*	*	*	*	6	116
06:45	4	134	4	*	*	*	*	*	*	*	*	*	*	*	4	134
07:00	4	158	7	*	*	*	*	*	*	*	*	*	*	*	6	158
07:15	16	120	20	*	*	*	*	*	*	*	*	*	*	*	18	120
07:30	17	124	18	*	*	*	*	*	*	*	*	*	*	*	18	124
07:45	19	110	9	*	*	*	*	*	*	*	*	*	*	*	14	110
08:00	24	127	**24**	*	*	*	*	*	*	*	*	*	*	*	24	127
08:15	16	121	**29**	*	*	*	*	*	*	*	*	*	*	*	22	121
08:30	24	118	**30**	*	*	*	*	*	*	*	*	*	*	*	27	118
08:45	42	121	**43**	*	*	*	*	*	*	*	*	*	*	*	42	121
09:00	30	160	24	*	*	*	*	*	*	*	*	*	*	*	27	160
09:15	52	116	*	*	*	*	*	*	*	*	*	*	*	*	52	116
09:30	48	62	*	*	*	*	*	*	*	*	*	*	*	*	48	62
09:45	64	49	*	*	*	*	*	*	*	*	*	*	*	*	64	49
10:00	84	58	*	*	*	*	*	*	*	*	*	*	*	*	84	58
10:15	60	30	*	*	*	*	*	*	*	*	*	*	*	*	60	30
10:30	90	23	*	*	*	*	*	*	*	*	*	*	*	*	90	23
10:45	102	20	*	*	*	*	*	*	*	*	*	*	*	*	102	20
11:00	**82**	32	*	*	*	*	*	*	*	*	*	*	*	*	**82**	32
11:15	**109**	13	*	*	*	*	*	*	*	*	*	*	*	*	**109**	13
11:30	**110**	12	*	*	*	*	*	*	*	*	*	*	*	*	**110**	12
11:45	**132**	14	*	*	*	*	*	*	*	*	*	*	*	*	**132**	14
Total	1220	5670	307	0	0	0	0	0	0	0	0	0	0	0	1228	5670
Day Total	6890		307		0		0		0		0		0		6898	
% Splits	17.7%	82.3%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.8%	82.2%
Peak	11:00	04:00	08:00												11:00	04:00
Vol.	433	664	126												433	664
P.H.F.	0.820	0.856	0.733												0.820	0.856

ADT ADT 6,866 AADT 6,866

TEC Engineering, Inc.
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Site Code: E MALL SB
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East Mall @ SR 82 Southbound
Holiday Counts
Latitude: 0' 0.000 Undefined

Start	26-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	82	1	105	2	110	1	97	1	122	0	94	1	**102**
12:15	*	*	*	**86**	0	101	0	92	0	109	0	110	3	78	1	**96**
12:30	*	*	*	**108**	0	76	0	93	0	105	0	102	0	98	0	**97**
12:45	*	*	*	**104**	0	89	1	78	2	105	1	107	2	103	1	**98**
01:00	*	*	*	**88**	0	85	0	94	0	96	2	100	1	117	1	97
01:15	*	*	*	80	0	83	0	86	1	91	0	126	1	97	0	94
01:30	*	*	*	90	0	90	0	83	0	89	0	106	0	89	0	91
01:45	*	*	*	61	0	77	0	75	1	89	0	123	0	**113**	0	90
02:00	*	*	*	73	1	98	0	71	1	109	0	119	0	**102**	0	95
02:15	*	*	*	72	2	63	0	96	0	87	0	141	0	**129**	0	98
02:30	*	*	*	67	0	74	0	73	0	87	0	95	0	**94**	0	82
02:45	*	*	*	78	1	83	1	86	0	105	1	109	0	110	1	95
03:00	*	*	*	56	1	64	0	69	0	87	0	91	1	104	0	78
03:15	*	*	*	73	0	87	0	70	0	91	0	115	0	68	0	84
03:30	*	*	*	76	0	79	0	69	0	88	1	101	0	107	0	87
03:45	*	*	*	82	0	84	1	75	0	99	1	**119**	0	106	0	94
04:00	*	*	*	65	0	77	0	90	0	103	1	**150**	0	86	0	95
04:15	*	*	*	68	0	61	0	77	0	90	1	**109**	0	78	0	80
04:30	*	*	*	81	1	74	2	**92**	2	112	0	**115**	0	86	1	93
04:45	*	*	*	61	0	77	2	**106**	1	95	1	97	0	75	1	85
05:00	*	*	*	70	1	75	0	**99**	0	88	1	106	1	56	1	82
05:15	*	*	*	70	0	**103**	1	**81**	1	95	1	114	0	93	1	93
05:30	*	*	*	75	3	**94**	5	89	3	94	4	137	0	72	3	94
05:45	*	*	*	89	3	**95**	8	96	5	110	2	94	1	72	4	93
06:00	*	*	*	76	3	**98**	0	89	2	94	1	120	0	61	1	90
06:15	*	*	*	64	0	90	1	89	2	96	1	129	0	50	1	86
06:30	*	*	*	80	4	87	4	89	2	**108**	2	113	0	33	2	85
06:45	*	*	*	78	16	84	10	91	9	**113**	8	79	0	49	9	82
07:00	*	*	*	66	8	86	7	59	8	**101**	3	111	1	44	5	78
07:15	*	*	*	69	8	75	13	87	8	**113**	5	82	2	38	7	77
07:30	*	*	*	53	17	65	17	75	22	106	12	79	1	19	14	66
07:45	*	*	*	49	31	47	37	43	30	89	31	76	0	33	26	56
08:00	*	*	*	31	12	38	32	41	25	94	32	69	2	31	21	51
08:15	*	*	*	23	15	32	21	32	24	62	28	43	5	19	19	35
08:30	*	*	*	15	20	33	32	29	40	40	38	51	5	8	27	29
08:45	*	*	*	18	50	20	42	11	60	37	48	54	13	10	43	25
09:00	*	*	*	12	46	21	43	9	44	43	52	37	15	7	40	22
09:15	*	*	47	11	48	13	69	22	59	28	47	26	16	8	48	18
09:30	*	*	47	9	54	6	62	5	74	21	73	26	26	12	56	13
09:45	*	*	58	5	71	8	67	15	85	31	91	36	46	6	70	17
10:00	*	*	46	3	79	6	88	5	90	16	91	29	57	5	75	11
10:15	*	*	73	2	80	3	79	6	82	13	76	12	64	1	76	6
10:30	*	*	76	1	85	1	69	1	105	8	**113**	7	52	2	83	3
10:45	*	*	65	0	**97**	0	88	2	101	4	**108**	5	**106**	2	94	2
11:00	*	*	**56**	2	**84**	3	**83**	1	**92**	5	**116**	8	**81**	1	**85**	3
11:15	*	*	**65**	0	**74**	0	**116**	2	**95**	8	**138**	4	**95**	1	**97**	2
11:30	*	*	**89**	1	**99**	1	**96**	0	**98**	4	112	6	**87**	2	**97**	2
11:45	*	*	**89**	0	88	0	**96**	0	**121**	2	109	2	101	0	**101**	1
Total	0	0	711	2523	1103	2811	1195	2853	1296	3557	1353	3912	785	2669	1113	3053
Day Total	0		3234		3914		4048		4853		5265		3454		4166	
% Splits	0.0%	0.0%	22.0%	78.0%	28.2%	71.8%	29.5%	70.5%	26.7%	73.3%	25.7%	74.3%	22.7%	77.3%	26.7%	73.3%
Peak			11:00	00:15	10:45	05:15	11:00	04:30	11:00	06:30	10:30	03:45	10:45	01:45	11:00	12:00
Vol.			299	386	354	390	391	378	406	435	475	493	369	438	380	393
P.H.F.			0.840	0.894	0.894	0.947	0.843	0.892	0.839	0.962	0.861	0.822	0.870	0.849	0.941	0.963

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Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	1	**102**	0	*	*	*	*	*	*	*	*	*	*	*	0	**102**
12:15	0	**100**	0	*	*	*	*	*	*	*	*	*	*	*	0	**100**
12:30	0	**97**	2	*	*	*	*	*	*	*	*	*	*	*	1	**97**
12:45	1	**127**	2	*	*	*	*	*	*	*	*	*	*	*	2	**127**
01:00	1	82	0	*	*	*	*	*	*	*	*	*	*	*	0	82
01:15	1	93	3	*	*	*	*	*	*	*	*	*	*	*	2	93
01:30	0	91	0	*	*	*	*	*	*	*	*	*	*	*	0	91
01:45	1	77	0	*	*	*	*	*	*	*	*	*	*	*	0	77
02:00	0	86	1	*	*	*	*	*	*	*	*	*	*	*	0	86
02:15	0	91	0	*	*	*	*	*	*	*	*	*	*	*	0	91
02:30	0	77	0	*	*	*	*	*	*	*	*	*	*	*	0	77
02:45	1	91	2	*	*	*	*	*	*	*	*	*	*	*	2	91
03:00	1	76	1	*	*	*	*	*	*	*	*	*	*	*	1	76
03:15	0	102	1	*	*	*	*	*	*	*	*	*	*	*	0	102
03:30	0	57	0	*	*	*	*	*	*	*	*	*	*	*	0	57
03:45	0	80	0	*	*	*	*	*	*	*	*	*	*	*	0	80
04:00	0	88	1	*	*	*	*	*	*	*	*	*	*	*	0	88
04:15	0	83	0	*	*	*	*	*	*	*	*	*	*	*	0	83
04:30	1	88	2	*	*	*	*	*	*	*	*	*	*	*	2	88
04:45	0	70	1	*	*	*	*	*	*	*	*	*	*	*	0	70
05:00	0	89	0	*	*	*	*	*	*	*	*	*	*	*	0	89
05:15	0	92	2	*	*	*	*	*	*	*	*	*	*	*	1	92
05:30	7	100	1	*	*	*	*	*	*	*	*	*	*	*	4	100
05:45	5	92	8	*	*	*	*	*	*	*	*	*	*	*	6	92
06:00	4	74	0	*	*	*	*	*	*	*	*	*	*	*	2	74
06:15	1	100	2	*	*	*	*	*	*	*	*	*	*	*	2	100
06:30	4	63	3	*	*	*	*	*	*	*	*	*	*	*	4	63
06:45	9	89	10	*	*	*	*	*	*	*	*	*	*	*	10	89
07:00	7	77	8	*	*	*	*	*	*	*	*	*	*	*	8	77
07:15	22	68	15	*	*	*	*	*	*	*	*	*	*	*	18	68
07:30	21	57	19	*	*	*	*	*	*	*	*	*	*	*	20	57
07:45	42	69	40	*	*	*	*	*	*	*	*	*	*	*	41	69
08:00	15	46	**33**	*	*	*	*	*	*	*	*	*	*	*	24	46
08:15	20	51	**33**	*	*	*	*	*	*	*	*	*	*	*	26	51
08:30	26	19	**30**	*	*	*	*	*	*	*	*	*	*	*	28	19
08:45	51	20	**51**	*	*	*	*	*	*	*	*	*	*	*	51	20
09:00	44	19	10	*	*	*	*	*	*	*	*	*	*	*	27	19
09:15	43	7	*	*	*	*	*	*	*	*	*	*	*	*	43	7
09:30	64	12	*	*	*	*	*	*	*	*	*	*	*	*	64	12
09:45	66	3	*	*	*	*	*	*	*	*	*	*	*	*	66	3
10:00	73	4	*	*	*	*	*	*	*	*	*	*	*	*	73	4
10:15	**91**	6	*	*	*	*	*	*	*	*	*	*	*	*	**91**	6
10:30	**79**	3	*	*	*	*	*	*	*	*	*	*	*	*	**79**	3
10:45	**97**	1	*	*	*	*	*	*	*	*	*	*	*	*	**97**	1
11:00	**104**	1	*	*	*	*	*	*	*	*	*	*	*	*	**104**	1
11:15	84	1	*	*	*	*	*	*	*	*	*	*	*	*	84	1
11:30	84	3	*	*	*	*	*	*	*	*	*	*	*	*	84	3
11:45	93	1	*	*	*	*	*	*	*	*	*	*	*	*	93	1
Total	1164	2925	281	0	0	0	0	0	0	0	0	0	0	0	1160	2925
Day Total	4089		281		0		0		0		0		0		4085	
% Splits	28.5%	71.5%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.4%	71.6%
Peak	10:15	12:00	08:00												10:15	12:00
Vol.	371	426	147												371	426
P.H.F.	0.892	0.839	0.721												0.892	0.839

ADT ADT 4,162 AADT 4,162

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: HOWE NB
Station ID:
Howe Road NB @ South of SR 82
Holiday Count
Latitude: 0' 0.000 Undefined

Start	17-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	204	21	194	28	212	27	206	38	0	*	*	*	*	28	163
12:15	*	214	21	188	25	192	20	233	25	*	*	*	*	*	23	207
12:30	*	193	9	176	28	207	10	196	13	*	*	*	*	*	15	193
12:45	*	215	3	189	14	197	11	198	12	*	*	*	*	*	10	200
01:00	*	224	10	191	13	226	18	201	18	*	*	*	*	*	15	210
01:15	*	183	9	196	9	188	9	197	10	*	*	*	*	*	9	191
01:30	*	192	7	198	7	213	10	233	15	*	*	*	*	*	10	209
01:45	*	193	10	216	5	193	9	216	7	*	*	*	*	*	8	204
02:00	*	203	14	195	17	232	10	212	11	*	*	*	*	*	13	210
02:15	*	185	13	203	10	219	16	212	6	*	*	*	*	*	11	205
02:30	*	224	5	189	6	210	7	218	13	*	*	*	*	*	8	210
02:45	*	212	7	224	4	202	2	220	10	*	*	*	*	*	6	214
03:00	*	220	8	204	5	250	10	210	7	*	*	*	*	*	8	221
03:15	*	257	6	189	4	220	11	228	11	*	*	*	*	*	8	224
03:30	*	223	4	206	5	220	12	246	9	*	*	*	*	*	8	224
03:45	*	221	16	217	10	241	8	188	11	*	*	*	*	*	11	217
04:00	*	218	18	251	16	235	19	**259**	20	*	*	*	*	*	18	241
04:15	*	232	24	205	28	237	27	**255**	22	*	*	*	*	*	25	232
04:30	*	**241**	32	**238**	29	**250**	26	**227**	30	*	*	*	*	*	29	**239**
04:45	*	**222**	36	**254**	40	**239**	39	**283**	40	*	*	*	*	*	39	**250**
05:00	*	**263**	54	**229**	62	**253**	57	214	54	*	*	*	*	*	57	**240**
05:15	*	**235**	72	**258**	73	**253**	84	269	70	*	*	*	*	*	75	**254**
05:30	*	238	124	209	111	248	105	184	94	*	*	*	*	*	108	220
05:45	*	212	144	253	130	238	128	250	118	*	*	*	*	*	130	238
06:00	*	235	162	195	178	225	135	233	151	*	*	*	*	*	156	222
06:15	*	222	204	210	212	229	210	238	187	*	*	*	*	*	203	225
06:30	*	191	179	214	**219**	248	**222**	210	189	*	*	*	*	*	202	216
06:45	*	214	205	205	**235**	204	**215**	253	210	*	*	*	*	*	216	219
07:00	*	204	**214**	199	**203**	238	**233**	242	**218**	*	*	*	*	*	**217**	221
07:15	*	177	**219**	183	**265**	215	**257**	186	**215**	*	*	*	*	*	**239**	190
07:30	*	142	**207**	174	196	198	214	211	**203**	*	*	*	*	*	**205**	181
07:45	*	162	**211**	159	244	191	192	202	**230**	*	*	*	*	*	**219**	178
08:00	*	155	209	172	194	191	205	189	184	*	*	*	*	*	198	177
08:15	*	123	216	173	221	187	199	197	203	*	*	*	*	*	210	170
08:30	*	134	171	151	198	146	186	194	157	*	*	*	*	*	178	156
08:45	*	122	197	119	206	149	194	140	211	*	*	*	*	*	202	132
09:00	*	117	172	128	173	128	183	181	195	*	*	*	*	*	181	138
09:15	*	99	174	126	160	126	190	134	196	*	*	*	*	*	180	121
09:30	162	84	159	109	169	109	167	126	165	*	*	*	*	*	164	107
09:45	157	88	177	84	165	85	165	121	172	*	*	*	*	*	167	94
10:00	162	83	168	85	153	104	201	108	182	*	*	*	*	*	173	95
10:15	148	66	152	63	189	97	182	88	187	*	*	*	*	*	172	78
10:30	167	45	183	67	166	60	192	80	178	*	*	*	*	*	177	63
10:45	**170**	33	151	33	213	41	184	46	177	*	*	*	*	*	179	38
11:00	**168**	55	184	45	191	57	203	84	194	*	*	*	*	*	188	60
11:15	**191**	42	197	40	170	50	194	58	181	*	*	*	*	*	187	48
11:30	**183**	47	185	31	190	30	240	44	215	*	*	*	*	*	203	38
11:45	162	28	171	19	207	22	187	36	157	*	*	*	*	*	177	26
Total	1670	8092	5134	8056	5396	8705	5425	8956	5221	0	0	0	0	0	5265	8409
Day Total	9762		13190		14101		14381		5221		0		0		13674	
% Splits	17.1%	82.9%	38.9%	61.1%	38.3%	61.7%	37.7%	62.3%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	38.5%	61.5%
Peak	10:45	04:30	07:00	04:30	06:30	04:30	06:30	04:00	07:00						07:00	04:30
Vol.	712	961	851	979	922	995	927	1024	866						880	983
P.H.F.	0.932	0.913	0.971	0.949	0.870	0.983	0.902	0.905	0.941						0.921	0.968

ADT ADT 13,676 AADT 13,676

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: HOWE SB
Station ID:
Howe Road SB @ South of SR 82
Holiday Count
Latitude: 0' 0.000 Undefined

Start	17-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	134	27	167	37	141	36	173	39	*	*	*	*	*	35	154
12:15	*	156	26	154	35	163	36	171	43	*	*	*	*	*	35	161
12:30	*	169	18	159	22	114	24	171	36	*	*	*	*	*	25	153
12:45	*	163	14	158	20	178	27	159	24	*	*	*	*	*	21	164
01:00	*	165	10	139	15	175	14	177	22	*	*	*	*	*	15	164
01:15	*	174	18	157	18	155	15	131	14	*	*	*	*	*	16	154
01:30	*	163	14	170	20	177	17	154	20	*	*	*	*	*	18	166
01:45	*	176	7	162	9	176	8	157	9	*	*	*	*	*	8	168
02:00	*	160	6	172	5	159	9	158	6	*	*	*	*	*	6	162
02:15	*	150	13	157	13	160	11	161	12	*	*	*	*	*	12	157
02:30	*	164	5	145	8	183	8	168	8	*	*	*	*	*	7	165
02:45	*	159	7	167	4	193	11	162	15	*	*	*	*	*	9	170
03:00	*	186	7	198	10	187	12	162	14	*	*	*	*	*	11	183
03:15	*	186	6	171	7	161	5	185	15	*	*	*	*	*	8	176
03:30	*	190	6	218	9	183	7	182	7	*	*	*	*	*	7	193
03:45	*	190	8	197	5	217	4	179	5	*	*	*	*	*	6	196
04:00	*	191	8	189	3	192	9	185	5	*	*	*	*	*	6	189
04:15	*	**181**	7	170	3	222	5	185	8	*	*	*	*	*	6	190
04:30	*	**198**	8	201	5	220	13	200	12	*	*	*	*	*	10	205
04:45	*	**211**	7	194	7	172	2	177	8	*	*	*	*	*	6	188
05:00	*	**195**	12	195	6	218	8	**208**	6	*	*	*	*	*	8	204
05:15	*	177	9	188	13	195	14	**195**	17	*	*	*	*	*	13	189
05:30	*	180	27	**202**	15	**229**	24	**201**	18	*	*	*	*	*	21	**203**
05:45	*	205	20	**210**	15	**206**	22	**214**	18	*	*	*	*	*	19	**209**
06:00	*	197	17	**201**	31	**200**	19	199	21	*	*	*	*	*	22	**199**
06:15	*	192	36	**203**	33	**221**	51	183	33	*	*	*	*	*	38	**200**
06:30	*	180	51	191	46	203	52	192	56	*	*	*	*	*	51	192
06:45	*	180	64	202	78	171	63	200	58	*	*	*	*	*	66	188
07:00	*	143	64	163	52	169	53	183	61	*	*	*	*	*	58	164
07:15	*	173	85	158	79	167	86	185	83	*	*	*	*	*	83	171
07:30	*	168	106	163	98	168	101	187	94	*	*	*	*	*	100	172
07:45	*	142	102	163	98	179	97	175	108	*	*	*	*	*	101	165
08:00	*	145	80	142	74	163	85	177	89	*	*	*	*	*	82	157
08:15	*	143	79	160	92	167	86	162	98	*	*	*	*	*	89	158
08:30	*	129	84	150	81	145	97	151	107	*	*	*	*	*	92	144
08:45	*	124	108	137	103	123	116	147	103	*	*	*	*	*	108	133
09:00	*	105	97	111	85	104	91	116	119	*	*	*	*	*	98	109
09:15	*	93	92	101	103	126	101	142	126	*	*	*	*	*	106	116
09:30	*	86	106	113	104	119	121	109	143	*	*	*	*	*	118	107
09:45	*	83	127	111	120	105	121	118	124	*	*	*	*	*	123	104
10:00	94	69	116	99	117	110	124	111	**137**	*	*	*	*	*	118	97
10:15	138	68	142	84	125	86	131	89	**153**	*	*	*	*	*	138	82
10:30	138	57	124	55	136	65	**155**	80	**154**	*	*	*	*	*	141	64
10:45	125	44	131	52	164	55	**164**	54	**156**	*	*	*	*	*	148	51
11:00	**116**	53	**153**	53	**138**	59	**155**	80	1	*	*	*	*	*	**113**	61
11:15	**141**	40	**129**	53	**154**	61	**158**	59	*	*	*	*	*	*	**146**	53
11:30	**144**	45	**137**	54	**162**	35	149	42	*	*	*	*	*	*	**148**	44
11:45	**147**	33	**144**	29	**176**	46	155	36	*	*	*	*	*	*	**156**	36
Total	1043	6915	2664	7188	2753	7423	2872	7392	2405	0	0	0	0	0	2771	7230
Day Total		7958		9852		10176		10264		2405		0		0		10001
% Splits	13.1%	86.9%	27.0%	73.0%	27.1%	72.9%	28.0%	72.0%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	27.7%	72.3%
Peak	11:00	04:15	11:00	05:30	11:00	05:30	10:30	05:00	10:00						11:00	05:30
Vol.	548	785	563	816	630	856	632	818	600						563	811
P.H.F.	0.932	0.930	0.920	0.971	0.895	0.934	0.963	0.956	0.962						0.902	0.970

ADT ADT 10,000 AADT 10,000

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82 EB RT
Station ID:
Eastbound Right onto I-71 SB
Holiday Count
Latitude: 0' 0.000 Undefined

Start	17-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	79	10	75	11	63	9	70	19	67	17	88	0	0	11	63
12:15	*	70	8	76	9	66	9	98	13	81	15	65	0	0	9	65
12:30	*	88	6	82	5	87	7	95	9	98	13	**82**	0	0	7	76
12:45	*	87	6	88	6	74	5	92	7	93	9	**72**	0	0	6	72
01:00	*	79	4	85	4	80	2	83	9	104	4	**86**	0	0	4	74
01:15	*	99	2	103	3	73	4	87	8	94	3	**80**	0	0	3	77
01:30	*	89	8	103	7	97	4	67	5	84	10	48	0	0	6	70
01:45	*	96	4	99	3	117	3	95	1	73	4	1	0	0	2	69
02:00	*	88	2	113	6	103	6	100	4	114	1	5	0	0	3	75
02:15	*	89	3	90	0	116	4	89	2	81	2	3	0	0	2	67
02:30	*	95	1	119	2	88	2	87	8	110	5	6	0	0	3	72
02:45	*	98	4	106	1	122	6	109	2	104	0	8	0	0	2	78
03:00	*	105	1	103	6	95	6	120	3	96	0	4	0	0	3	75
03:15	*	97	0	96	4	113	2	86	4	**95**	7	11	0	0	3	71
03:30	*	118	8	111	1	108	3	111	8	**100**	0	7	0	0	3	79
03:45	*	117	3	115	3	103	1	99	7	**111**	2	9	0	0	3	79
04:00	*	105	5	**114**	3	105	2	**130**	3	**105**	3	18	0	0	3	82
04:15	*	107	4	**131**	1	104	5	**130**	7	94	5	5	0	0	4	**82**
04:30	*	**138**	5	**113**	4	**113**	3	**115**	4	97	3	7	0	0	3	**83**
04:45	*	**125**	4	**119**	5	**110**	7	**107**	4	86	5	3	0	0	4	**79**
05:00	*	**122**	10	113	6	**118**	6	125	7	97	3	5	0	0	5	**83**
05:15	*	**111**	7	119	13	**127**	6	99	3	91	9	1	0	0	6	78
05:30	*	116	17	83	12	99	16	109	16	100	5	0	0	0	11	72
05:45	*	113	10	100	12	117	29	126	21	87	6	0	0	0	13	78
06:00	*	82	21	86	29	90	18	98	18	57	3	0	0	0	15	59
06:15	*	94	23	89	25	72	23	100	18	73	4	0	0	0	16	61
06:30	*	76	30	94	37	97	28	101	31	62	6	0	0	0	22	61
06:45	*	74	36	91	40	95	38	104	34	58	9	0	0	0	26	60
07:00	*	88	54	94	50	94	46	95	42	60	14	0	0	0	34	62
07:15	*	66	57	85	50	78	48	74	35	43	18	0	0	0	35	49
07:30	*	74	64	86	67	65	30	101	48	37	22	0	0	0	38	52
07:45	*	62	46	80	52	72	51	69	51	64	22	0	0	0	37	50
08:00	*	78	60	95	54	96	38	91	38	49	29	0	0	0	36	58
08:15	*	60	44	74	41	96	45	87	39	47	30	0	0	0	33	52
08:30	*	67	37	59	46	74	54	84	40	54	27	0	0	0	34	48
08:45	*	54	32	84	44	78	45	69	60	51	34	0	0	0	36	48
09:00	*	59	50	88	46	63	47	62	52	46	34	0	0	0	38	45
09:15	*	41	52	55	44	63	48	73	70	47	33	0	0	0	41	40
09:30	*	48	35	31	51	57	36	50	57	31	46	0	0	0	38	31
09:45	*	35	46	38	47	37	58	49	61	25	36	0	0	0	41	26
10:00	*	26	46	29	53	42	45	46	66	41	60	0	0	0	45	26
10:15	*	24	64	29	59	29	65	42	54	41	73	0	0	0	52	24
10:30	50	22	48	25	58	24	62	22	77	35	66	0	0	0	52	18
10:45	**64**	11	**73**	14	62	16	65	26	52	29	60	0	0	0	54	14
11:00	**70**	11	**75**	22	**56**	24	**76**	29	**82**	27	**65**	0	0	0	**61**	16
11:15	**67**	13	**69**	14	**60**	28	**75**	29	**79**	26	**82**	0	0	0	**62**	16
11:30	**70**	15	**64**	9	**68**	16	**85**	16	**77**	23	**85**	0	0	0	**64**	11
11:45	64	6	60	12	**64**	5	**81**	13	**72**	21	**72**	0	0	0	**59**	8
Total	385	3617	1318	3839	1330	3809	1354	3959	1427	3309	1061	614	0	0	1088	2734
Day Total		4002		5157		5139		5313		4736		1675		0		3822
% Splits	9.6%	90.4%	25.6%	74.4%	25.9%	74.1%	25.5%	74.5%	30.1%	69.9%	63.3%	36.7%	0.0%	0.0%	28.5%	71.5%
Peak	10:45	04:30	10:45	04:00	11:00	04:30	11:00	04:00	11:00	03:15	11:00	00:30			11:00	04:15
Vol.	271	496	281	477	248	468	317	482	310	411	304	320			246	327
P.H.F.	0.968	0.899	0.937	0.910	0.912	0.921	0.932	0.927	0.945	0.926	0.894	0.930			0.961	0.985

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71 SB TO 82WB
Station ID:
I-71 SB Ramp to WB 82
holiday count
Latitude: 0' 0.000 Undefined

Start	10-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	240	47	267	40	259	50	294	41	202	55	317	89	286	54	266
12:15	*	267	34	236	46	264	29	284	35	174	64	356	72	299	47	269
12:30	*	252	22	213	27	290	31	279	38	202	66	332	64	334	41	272
12:45	*	280	25	258	21	257	22	257	24	197	62	354	56	303	35	272
01:00	*	256	16	220	18	226	27	213	22	222	40	310	40	294	27	249
01:15	*	242	22	239	17	258	18	264	27	279	44	368	39	282	28	276
01:30	*	292	11	250	9	278	14	274	18	266	45	320	43	334	23	288
01:45	*	271	12	290	20	272	14	265	16	284	31	248	42	342	22	282
02:00	*	259	12	264	14	292	18	294	15	220	34	323	23	267	19	274
02:15	*	276	12	280	13	306	14	291	19	274	25	**362**	26	302	18	299
02:30	*	276	10	268	11	302	10	329	11	263	21	**314**	28	296	15	293
02:45	*	280	10	290	7	332	11	297	10	242	25	**348**	27	297	15	298
03:00	*	340	14	312	8	316	13	314	19	348	20	**365**	32	270	18	324
03:15	*	290	16	344	16	349	18	372	16	396	34	310	28	260	21	332
03:30	*	372	13	366	11	389	13	360	23	422	14	358	15	282	15	364
03:45	*	426	7	389	12	431	7	401	16	404	17	356	10	288	12	385
04:00	*	391	10	387	10	404	10	450	10	**434**	24	336	13	288	13	384
04:15	*	**414**	16	**440**	13	428	20	**458**	23	**436**	22	327	16	**332**	18	**405**
04:30	*	**442**	24	**434**	26	411	27	**421**	26	**422**	26	280	16	**324**	24	**391**
04:45	*	**412**	25	**480**	26	**474**	32	**457**	22	**462**	24	286	12	**348**	24	**417**
05:00	*	**439**	28	**422**	30	**436**	36	**455**	28	418	14	318	19	**295**	26	**398**
05:15	*	396	40	424	38	**438**	40	448	32	436	22	317	10	323	30	397
05:30	*	346	60	421	61	**455**	70	430	61	424	40	308	19	282	52	381
05:45	*	386	80	418	72	428	66	402	60	392	40	344	19	264	56	376
06:00	*	403	48	402	48	444	57	451	48	405	26	296	15	219	40	374
06:15	*	343	108	360	95	387	94	360	100	374	42	313	23	198	77	334
06:30	*	316	154	293	161	361	141	350	179	379	49	291	25	196	118	312
06:45	*	265	136	288	130	336	128	314	146	350	70	255	26	192	106	286
07:00	*	226	137	237	124	282	108	323	124	250	48	254	32	142	96	245
07:15	*	212	182	250	195	234	202	270	182	207	102	234	28	175	148	226
07:30	*	195	200	226	238	208	226	224	216	236	118	220	41	144	173	208
07:45	*	191	238	197	247	232	278	238	255	212	132	192	66	151	203	202
08:00	*	200	208	203	200	190	220	218	178	184	104	200	41	136	158	190
08:15	*	134	202	178	212	186	204	202	224	190	134	184	43	135	170	173
08:30	*	165	196	166	215	160	212	213	206	170	148	178	73	109	175	166
08:45	*	117	217	168	242	149	230	168	213	172	150	131	97	111	192	145
09:00	*	134	178	134	159	138	177	166	176	166	130	140	72	97	149	139
09:15	*	122	203	140	192	158	175	146	200	165	183	157	96	97	175	141
09:30	*	79	214	119	229	153	219	139	241	150	212	127	113	64	205	119
09:45	*	90	220	124	238	120	210	117	256	151	248	127	140	70	219	114
10:00	*	60	220	134	201	101	214	136	228	134	234	128	134	63	205	108
10:15	*	76	178	119	236	90	229	114	250	154	230	148	187	70	218	110
10:30	*	70	236	77	228	64	244	102	**264**	138	306	141	213	62	248	93
10:45	*	63	234	69	228	82	223	90	**274**	118	294	116	242	48	249	84
11:00	*	50	**213**	59	**210**	60	**257**	72	**270**	124	**279**	110	**226**	44	**242**	74
11:15	*	44	**230**	69	**256**	50	**232**	62	**278**	105	**312**	111	**223**	32	**255**	68
11:30	*	50	**237**	58	**278**	51	**256**	48	220	100	**340**	106	**278**	30	**268**	63
11:45	*	38	**254**	48	**284**	40	**293**	60	178	90	**347**	88	**285**	28	**274**	56
Total	0	11488	5209	12030	5412	12571	5439	12892	5518	12543	5047	12104	3477	9805	5016	11922
Day Total		11488		17239		17983		18331		18061		17151		13282		16938
% Splits	0.0%	100.0 %	30.2%	69.8%	30.1%	69.9%	29.7%	70.3%	30.6%	69.4%	29.4%	70.6%	26.2%	73.8%	29.6%	70.4%
Peak		04:15	11:00	04:15	11:00	04:45	11:00	04:15	10:30	04:00	11:00	02:15	11:00	04:15	11:00	04:15
Vol.		1707	934	1776	1028	1803	1038	1791	1086	1754	1278	1389	1012	1299	1039	1611
P.H.F.		0.965	0.919	0.925	0.905	0.951	0.886	0.978	0.977	0.949	0.921	0.944	0.888	0.933	0.948	0.966

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71SB ENTRANCE RAMP
Station ID:
I-71 SB Entrance Ramp
Holiday Count
Latitude: 0' 0.000 Undefined

Start	26-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	75	11	81	8	79	10	99	20	104	24	*	15	88
12:15	*	*	*	80	12	72	6	75	8	91	7	116	19	*	10	87
12:30	*	*	*	69	6	94	3	90	2	88	13	108	15	*	8	90
12:45	*	*	*	82	6	73	3	89	6	113	9	118	11	*	7	95
01:00	*	*	*	82	5	104	4	93	5	100	21	111	18	*	11	98
01:15	*	*	*	86	5	69	5	85	6	108	12	109	10	*	8	91
01:30	*	*	*	93	4	100	2	86	7	101	4	108	8	*	5	98
01:45	*	*	*	78	2	90	1	100	3	126	8	126	10	*	5	104
02:00	*	*	*	86	6	94	4	83	5	116	4	123	4	*	5	100
02:15	*	*	*	84	1	110	7	94	2	124	5	109	7	*	4	104
02:30	*	*	*	96	2	115	8	102	6	106	3	115	1	*	4	107
02:45	*	*	*	103	3	89	1	112	3	118	3	116	5	*	3	108
03:00	*	*	*	100	3	101	4	**127**	2	120	1	134	1	*	2	116
03:15	*	*	*	112	3	125	3	**128**	2	132	3	115	5	*	3	122
03:30	*	*	*	118	3	140	5	**113**	1	112	8	**121**	1	*	4	121
03:45	*	*	*	109	4	114	3	**119**	2	**131**	2	**126**	1	*	2	**120**
04:00	*	*	*	108	6	111	4	124	3	**134**	5	**136**	2	*	4	**123**
04:15	*	*	*	117	5	109	4	106	5	**154**	7	**136**	4	*	5	**124**
04:30	*	*	*	106	9	**129**	8	122	5	**137**	9	115	4	*	7	**122**
04:45	*	*	*	112	6	**120**	5	116	7	122	2	121	3	*	5	118
05:00	*	*	*	**113**	6	**113**	11	103	10	137	9	126	5	*	8	118
05:15	*	*	*	**117**	12	**130**	8	128	9	144	9	104	0	*	8	125
05:30	*	*	*	**108**	18	106	14	111	12	107	11	101	9	*	13	107
05:45	*	*	*	**116**	24	104	19	94	29	146	6	127	1	*	16	117
06:00	*	*	*	94	34	93	36	93	34	109	12	130	9	*	25	104
06:15	*	*	*	92	30	75	30	94	43	118	16	114	6	*	25	99
06:30	*	*	*	84	53	91	46	93	51	102	14	105	12	*	35	95
06:45	*	*	*	80	61	86	59	88	60	105	21	111	12	*	43	94
07:00	*	*	*	70	63	84	76	88	58	99	24	98	13	*	47	88
07:15	*	*	*	56	**75**	68	53	80	66	88	20	95	6	*	44	77
07:30	*	*	*	90	**71**	88	**81**	88	77	75	47	98	15	*	58	88
07:45	*	*	*	74	**71**	80	**80**	78	70	91	29	75	12	*	52	80
08:00	*	*	*	70	**79**	80	**69**	78	73	95	46	91	**20**	*	57	83
08:15	*	*	*	49	46	69	**70**	70	70	63	49	95	**32**	*	53	69
08:30	*	*	*	61	76	74	70	68	81	79	44	98	**31**	*	60	76
08:45	*	*	*	62	63	70	67	72	54	77	74	78	**23**	*	56	72
09:00	*	*	*	57	46	71	59	64	58	89	52	94	0	*	43	75
09:15	*	*	*	62	49	42	55	49	69	86	56	69	*	*	57	62
09:30	*	*	*	34	73	58	54	46	57	84	75	65	*	*	65	57
09:45	*	*	*	36	45	28	61	27	62	64	71	53	*	*	60	42
10:00	*	*	*	22	47	31	63	20	53	54	63	62	*	*	56	38
10:15	*	*	*	24	62	29	61	32	74	42	80	57	*	*	69	37
10:30	*	*	53	18	66	27	65	19	64	36	90	42	*	*	68	28
10:45	*	*	56	27	54	16	57	18	53	37	89	29	*	*	62	25
11:00	*	*	**62**	14	61	10	71	19	**72**	38	**79**	36	*	*	**69**	23
11:15	*	*	**67**	15	58	16	79	22	**70**	28	**99**	30	*	*	**75**	22
11:30	*	*	**75**	12	79	15	64	12	**87**	21	**93**	36	*	*	**80**	19
11:45	*	*	**75**	7	58	9	76	12	**76**	17	**120**	24	*	*	**81**	14
Total	0	0	388	3560	1582	3803	1642	3809	1682	4563	1544	4610	359	0	1502	4070
Day Total	0		3948		5385		5451		6245		6154		359		5572	
% Splits	0.0%	0.0%	9.8%	90.2%	29.4%	70.6%	30.1%	69.9%	26.9%	73.1%	25.1%	74.9%	100.0 %	0.0%	27.0%	73.0%
Peak			11:00	05:00	07:15	04:30	07:30	03:00	11:00	03:45	11:00	03:30	08:00		11:00	03:45
Vol.			279	454	296	492	300	487	305	556	391	519	106		305	489
P.H.F.			0.930	0.970	0.937	0.879	0.926	0.951	0.876	0.903	0.815	0.954	0.828		0.941	0.986

ADT ADT 5,570 AADT 5,570

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71SB LOOP TO EB 82
Station ID:
I-71 SB Ramp to EB 82
holiday count
Latitude: 0' 0.000 Undefined

Start	26-Nov-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	47	30	51	19	53	17	63	34	68	39	46	28	55
12:15	*	*	*	47	11	45	18	43	13	55	16	77	27	55	17	54
12:30	*	*	*	53	9	53	10	46	20	57	21	73	33	74	19	59
12:45	*	*	*	58	11	53	16	54	14	69	21	87	19	78	16	66
01:00	*	*	*	39	6	48	8	48	5	60	18	101	21	63	12	60
01:15	*	*	*	52	6	54	6	47	9	50	20	80	13	56	11	56
01:30	*	*	*	69	3	53	5	59	4	72	9	79	19	62	8	66
01:45	*	*	*	58	6	75	6	62	10	52	18	75	20	75	12	66
02:00	*	*	*	59	10	83	7	59	3	72	22	74	18	68	12	69
02:15	*	*	*	64	4	72	5	78	7	83	24	95	14	63	11	76
02:30	*	*	*	74	5	82	6	70	3	84	9	70	22	74	9	76
02:45	*	*	*	102	5	92	7	96	4	115	11	65	13	70	8	90
03:00	*	*	*	94	1	112	9	103	8	114	15	**84**	15	59	10	94
03:15	*	*	*	120	6	115	7	106	8	135	15	**103**	8	**81**	9	110
03:30	*	*	*	121	10	124	7	128	8	137	14	**114**	5	**72**	9	116
03:45	*	*	*	113	8	131	2	148	4	157	6	**100**	3	**76**	5	121
04:00	*	*	*	133	5	132	3	149	5	129	9	80	6	**65**	6	115
04:15	*	*	*	130	5	169	5	152	7	143	3	98	4	71	5	127
04:30	*	*	*	139	7	135	6	147	5	143	6	96	2	61	5	120
04:45	*	*	*	134	10	153	10	159	5	174	15	80	4	66	9	128
05:00	*	*	*	**173**	10	149	12	**169**	12	**199**	7	78	5	61	9	**138**
05:15	*	*	*	**173**	15	**159**	12	**163**	11	**153**	4	101	4	68	9	**136**
05:30	*	*	*	**184**	23	**170**	22	**169**	15	**190**	9	87	7	72	15	**145**
05:45	*	*	*	**171**	23	**169**	27	**169**	24	**183**	12	94	9	54	19	**140**
06:00	*	*	*	123	25	**165**	20	137	21	155	5	87	6	68	15	122
06:15	*	*	*	113	27	116	33	115	35	163	30	73	9	51	27	105
06:30	*	*	*	142	48	118	50	118	50	116	22	80	7	48	35	104
06:45	*	*	*	119	45	109	47	92	49	101	35	57	13	40	38	86
07:00	*	*	*	75	49	82	54	91	61	95	27	68	16	50	41	77
07:15	*	*	*	84	**58**	77	67	77	**61**	71	35	51	17	37	48	66
07:30	*	*	*	84	**57**	58	68	74	**60**	83	38	62	12	52	47	69
07:45	*	*	*	85	**96**	68	**73**	73	**80**	72	49	64	20	57	64	70
08:00	*	*	*	61	**59**	74	**62**	67	**62**	95	46	67	21	66	50	72
08:15	*	*	*	56	56	69	**63**	73	45	57	63	53	18	47	49	59
08:30	*	*	*	78	59	72	**73**	79	67	62	42	66	31	54	54	68
08:45	*	*	*	58	75	55	65	70	73	49	52	49	27	45	58	54
09:00	*	*	*	47	40	64	53	54	38	46	48	37	27	44	41	49
09:15	*	*	*	61	40	68	43	41	47	75	49	57	40	48	44	58
09:30	*	*	*	57	37	54	42	64	54	72	58	45	49	35	48	54
09:45	*	*	*	59	47	40	47	54	49	69	65	60	39	31	49	52
10:00	*	*	42	51	37	43	51	51	50	59	52	48	46	26	46	46
10:15	*	*	44	40	52	44	52	48	38	71	55	43	61	29	50	46
10:30	*	*	38	31	50	32	52	44	44	51	58	40	40	29	47	38
10:45	*	*	35	33	45	31	32	39	39	39	62	47	56	14	45	34
11:00	*	*	**46**	31	48	29	52	25	50	50	**60**	52	**40**	21	**49**	35
11:15	*	*	**49**	28	39	29	40	29	72	42	**54**	58	**53**	24	**51**	35
11:30	*	*	**47**	20	55	32	67	23	67	38	**70**	46	**54**	17	**60**	29
11:45	*	*	**60**	21	64	19	50	30	59	36	**73**	42	**66**	19	**62**	28
Total	0	0	361	3964	1437	4027	1491	4045	1492	4456	1486	3411	1098	2542	1391	3739
Day Total	0		4325		5464		5536		5948		4897		3640		5130	
% Splits	0.0%	0.0%	8.3%	91.7%	26.3%	73.7%	26.9%	73.1%	25.1%	74.9%	30.3%	69.7%	30.2%	69.8%	27.1%	72.9%
Peak			11:00	05:00	07:15	05:15	07:45	05:00	07:15	05:00	11:00	03:00	11:00	03:15	11:00	05:00
Vol.			202	701	270	663	271	670	263	725	257	401	213	294	222	559
P.H.F.			0.842	0.952	0.703	0.975	0.928	0.991	0.822	0.911	0.880	0.879	0.807	0.907	0.895	0.964

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71SB LOOP TO EB 82
Station ID:
I-71 SB Ramp to EB 82
holiday count
Latitude: 0' 0.000 Undefined

Start	03-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	14	52	19	*	*	*	*	*	*	*	*	*	*	*	16	52
12:15	18	55	15	*	*	*	*	*	*	*	*	*	*	*	16	55
12:30	9	58	11	*	*	*	*	*	*	*	*	*	*	*	10	58
12:45	0	59	8	*	*	*	*	*	*	*	*	*	*	*	4	59
01:00	4	53	9	*	*	*	*	*	*	*	*	*	*	*	6	53
01:15	5	46	8	*	*	*	*	*	*	*	*	*	*	*	6	46
01:30	3	75	2	*	*	*	*	*	*	*	*	*	*	*	2	75
01:45	3	68	8	*	*	*	*	*	*	*	*	*	*	*	6	68
02:00	3	60	7	*	*	*	*	*	*	*	*	*	*	*	5	60
02:15	2	63	8	*	*	*	*	*	*	*	*	*	*	*	5	63
02:30	5	73	3	*	*	*	*	*	*	*	*	*	*	*	4	73
02:45	1	85	3	*	*	*	*	*	*	*	*	*	*	*	2	85
03:00	7	93	13	*	*	*	*	*	*	*	*	*	*	*	10	93
03:15	7	120	6	*	*	*	*	*	*	*	*	*	*	*	6	120
03:30	0	135	2	*	*	*	*	*	*	*	*	*	*	*	1	135
03:45	2	136	6	*	*	*	*	*	*	*	*	*	*	*	4	136
04:00	5	134	2	*	*	*	*	*	*	*	*	*	*	*	4	134
04:15	3	141	6	*	*	*	*	*	*	*	*	*	*	*	4	141
04:30	7	158	7	*	*	*	*	*	*	*	*	*	*	*	7	158
04:45	7	158	10	*	*	*	*	*	*	*	*	*	*	*	8	158
05:00	10	**170**	13	*	*	*	*	*	*	*	*	*	*	*	12	**170**
05:15	16	**162**	17	*	*	*	*	*	*	*	*	*	*	*	16	**162**
05:30	22	**183**	22	*	*	*	*	*	*	*	*	*	*	*	22	**183**
05:45	22	**161**	29	*	*	*	*	*	*	*	*	*	*	*	26	**161**
06:00	25	122	18	*	*	*	*	*	*	*	*	*	*	*	22	122
06:15	30	122	32	*	*	*	*	*	*	*	*	*	*	*	31	122
06:30	48	103	48	*	*	*	*	*	*	*	*	*	*	*	48	103
06:45	62	78	50	*	*	*	*	*	*	*	*	*	*	*	56	78
07:00	62	82	51	*	*	*	*	*	*	*	*	*	*	*	56	82
07:15	67	98	58	*	*	*	*	*	*	*	*	*	*	*	62	98
07:30	**79**	66	67	*	*	*	*	*	*	*	*	*	*	*	**73**	66
07:45	**98**	65	**87**	*	*	*	*	*	*	*	*	*	*	*	**92**	65
08:00	**61**	68	**69**	*	*	*	*	*	*	*	*	*	*	*	**65**	68
08:15	**79**	67	**56**	*	*	*	*	*	*	*	*	*	*	*	**68**	67
08:30	62	50	**72**	*	*	*	*	*	*	*	*	*	*	*	67	50
08:45	78	53	80	*	*	*	*	*	*	*	*	*	*	*	79	53
09:00	37	64	43	*	*	*	*	*	*	*	*	*	*	*	40	64
09:15	37	55	23	*	*	*	*	*	*	*	*	*	*	*	30	55
09:30	36	51	*	*	*	*	*	*	*	*	*	*	*	*	36	51
09:45	46	50	*	*	*	*	*	*	*	*	*	*	*	*	46	50
10:00	27	48	*	*	*	*	*	*	*	*	*	*	*	*	27	48
10:15	46	40	*	*	*	*	*	*	*	*	*	*	*	*	46	40
10:30	35	25	*	*	*	*	*	*	*	*	*	*	*	*	35	25
10:45	70	34	*	*	*	*	*	*	*	*	*	*	*	*	70	34
11:00	63	28	*	*	*	*	*	*	*	*	*	*	*	*	63	28
11:15	57	16	*	*	*	*	*	*	*	*	*	*	*	*	57	16
11:30	53	32	*	*	*	*	*	*	*	*	*	*	*	*	53	32
11:45	56	13	*	*	*	*	*	*	*	*	*	*	*	*	56	13
Total	1489	3928	988	0	0	0	0	0	0	0	0	0	0	0	1480	3928
Day Total	5417		988		0		0		0		0		0		5408	
% Splits	27.5%	72.5%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.4%	72.6%
Peak	07:30	05:00	07:45												07:30	05:00
Vol.	317	676	284												298	676
P.H.F.	0.809	0.923	0.816												0.810	0.923

ADT ADT 5,187 AADT 5,187

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82WB TO 71 NB
Station ID:
I-71 NB On Ramp from WB 82
Holiday Count
Latitude: 0' 0.000 Undefined

Start	10-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	77	12	67	5	75	3	72	22	71	16	91	32	92	15	78
12:15	*	67	9	64	1	58	6	72	10	69	13	73	17	68	9	67
12:30	*	76	5	64	5	76	8	58	7	64	13	72	20	89	10	71
12:45	*	56	2	50	7	62	4	57	7	67	7	87	17	73	7	65
01:00	*	59	5	49	6	56	8	72	3	57	11	59	16	103	8	65
01:15	*	88	10	65	4	57	4	56	2	85	7	88	9	86	6	75
01:30	*	62	2	51	5	66	6	57	2	81	5	82	4	86	4	69
01:45	*	70	6	69	2	79	5	53	2	81	6	65	7	63	5	69
02:00	*	76	3	64	6	64	5	73	5	67	6	57	13	50	6	64
02:15	*	68	5	56	4	85	4	67	4	80	5	67	7	60	5	69
02:30	*	73	14	68	10	73	13	93	11	82	6	70	9	75	10	76
02:45	*	62	5	80	5	65	4	79	5	69	5	70	9	71	6	71
03:00	*	67	1	65	3	69	2	88	8	72	4	54	9	52	4	67
03:15	*	63	6	90	3	75	4	74	8	78	5	83	5	47	5	73
03:30	*	55	7	80	6	82	7	98	8	92	1	57	6	57	6	74
03:45	*	65	4	62	11	70	4	64	9	75	6	71	4	65	6	67
04:00	*	73	9	82	15	76	8	94	4	91	2	68	2	70	7	79
04:15	*	78	11	91	14	84	15	77	9	83	12	82	4	63	11	80
04:30	*	87	23	83	13	**104**	16	89	20	**105**	7	83	8	89	14	91
04:45	*	79	24	80	18	**83**	10	69	14	**85**	14	75	1	**72**	14	78
05:00	*	**79**	31	**102**	35	**97**	36	**113**	29	**110**	11	79	8	**100**	25	**97**
05:15	*	**71**	53	**96**	50	**93**	53	**94**	50	**90**	24	80	11	**77**	40	**86**
05:30	*	**99**	70	**90**	81	92	71	**123**	60	88	38	93	15	**104**	56	**98**
05:45	*	**84**	83	**94**	58	67	59	**95**	75	71	31	**133**	17	49	54	**85**
06:00	*	75	110	70	113	90	126	77	111	106	33	**111**	17	79	85	87
06:15	*	52	143	94	151	96	140	86	150	77	37	**92**	21	71	107	81
06:30	*	68	179	72	177	78	**176**	76	**188**	73	49	**104**	30	58	133	76
06:45	*	41	**230**	66	202	47	**214**	52	**205**	94	46	82	26	54	**154**	62
07:00	*	44	**274**	55	**255**	59	**230**	60	**214**	86	33	64	28	42	**172**	59
07:15	*	42	**243**	43	**263**	46	**275**	46	**242**	61	55	49	37	32	**186**	46
07:30	*	31	**201**	52	**196**	33	174	39	188	70	56	60	25	32	**140**	45
07:45	*	16	198	29	**212**	34	132	46	173	42	62	59	28	30	134	37
08:00	*	53	161	48	194	30	103	57	149	53	57	75	32	65	116	54
08:15	*	38	192	49	173	33	129	56	163	35	70	44	41	38	128	42
08:30	*	25	164	31	142	34	135	41	149	38	77	79	60	31	121	40
08:45	*	33	130	35	128	37	104	35	132	40	73	51	54	29	104	37
09:00	*	49	105	36	115	31	118	53	109	67	73	51	45	29	94	45
09:15	*	25	82	52	98	40	103	57	113	45	67	37	57	27	87	40
09:30	*	29	86	27	91	37	102	34	103	34	84	48	95	40	94	36
09:45	*	32	79	22	76	20	81	34	84	40	80	43	72	23	79	31
10:00	*	24	73	29	71	36	73	33	79	40	85	41	87	24	78	32
10:15	*	18	64	31	69	28	81	27	79	46	75	49	88	15	76	31
10:30	*	20	68	29	70	29	63	33	84	38	72	35	85	22	74	29
10:45	*	11	63	26	74	16	67	24	59	47	**88**	42	**94**	26	74	27
11:00	*	10	64	22	75	15	58	17	80	43	**78**	56	**109**	15	77	25
11:15	*	12	65	23	78	14	81	13	60	55	**90**	39	**106**	12	80	24
11:30	62	16	58	19	55	15	78	17	79	42	**78**	33	**91**	22	72	23
11:45	66	15	54	9	58	15	75	9	80	30	82	29	93	12	73	17
Total	128	2513	3486	2731	3503	2721	3273	2909	3447	3215	1855	3212	1671	2589	2871	2840
Day Total		2641		6217		6224		6182		6662		5067		4260		5711
% Splits	4.8%	95.2%	56.1%	43.9%	56.3%	43.7%	52.9%	47.1%	51.7%	48.3%	36.6%	63.4%	39.2%	60.8%	50.3%	49.7%
Peak		05:00	06:45	05:00	07:00	04:30	06:30	05:00	06:30	04:30	10:45	05:45	10:45	04:45	06:45	05:00
Vol.		333	948	382	926	377	895	425	849	390	334	440	400	353	652	366
P.H.F.		0.841	0.865	0.936	0.880	0.906	0.814	0.864	0.877	0.886	0.928	0.827	0.917	0.849	0.876	0.934

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 82 EB TO 71NB LOOP
Station ID:
I-71 NB On Ramp from EB 82
Holiday Count
Latitude: 0' 0.000 Undefined

Start	10-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	193	38	181	41	200	58	192	46	209	74	255	69	239	54	210
12:15	*	178	24	205	25	194	27	228	27	250	48	237	55	253	34	221
12:30	*	191	22	200	13	198	13	180	21	233	37	261	46	256	25	217
12:45	*	205	10	178	16	225	8	204	21	229	26	235	42	225	20	214
01:00	*	215	19	220	20	237	9	204	12	228	35	281	44	237	23	232
01:15	*	225	9	211	10	247	18	209	14	223	29	263	34	205	19	226
01:30	*	209	10	215	13	250	8	222	8	232	19	265	27	213	14	229
01:45	*	221	6	207	7	219	7	240	9	249	14	275	21	207	11	231
02:00	*	206	9	231	9	244	13	272	11	262	16	279	30	237	15	247
02:15	*	252	11	251	15	251	13	252	14	268	15	292	22	249	15	259
02:30	*	252	9	235	12	273	11	233	11	297	17	281	13	213	12	255
02:45	*	204	7	244	8	243	17	237	13	247	10	297	17	219	12	242
03:00	*	261	18	270	12	225	8	263	27	274	15	261	10	260	15	259
03:15	*	256	12	210	11	276	14	265	22	280	4	293	7	270	12	264
03:30	*	263	11	225	11	252	15	261	18	298	10	297	8	245	12	263
03:45	*	231	26	225	26	225	22	**242**	26	**276**	18	302	12	255	22	251
04:00	*	247	22	290	23	260	33	**298**	27	**300**	9	320	5	297	20	287
04:15	*	206	35	242	34	240	36	**290**	34	**292**	25	294	13	236	30	257
04:30	*	**275**	46	**288**	38	**298**	31	**316**	37	**329**	22	326	13	252	31	**298**
04:45	*	**265**	53	**255**	53	**236**	52	228	62	267	23	325	17	227	43	**258**
05:00	*	**282**	83	**250**	82	**295**	74	292	84	281	29	334	17	215	62	**278**
05:15	*	**281**	111	**287**	104	**318**	104	308	92	320	44	314	18	261	79	**298**
05:30	*	252	147	248	154	264	157	266	131	294	49	302	19	**302**	110	275
05:45	*	241	168	267	165	261	152	239	143	290	57	332	25	**298**	118	275
06:00	*	225	262	255	246	259	229	281	230	285	71	310	45	**265**	180	269
06:15	*	224	322	250	289	226	302	256	304	288	96	**336**	50	**302**	227	269
06:30	*	223	**359**	220	**349**	223	**311**	219	**305**	226	99	**320**	53	243	**246**	239
06:45	*	205	**322**	195	**347**	203	**366**	192	**314**	238	88	**333**	35	209	**245**	225
07:00	*	195	**392**	170	**381**	222	**358**	168	**365**	256	81	**315**	38	210	**269**	219
07:15	*	185	**364**	182	**358**	186	**311**	184	**339**	216	104	287	54	195	**255**	205
07:30	*	160	307	171	334	171	40	194	302	190	112	266	57	181	192	190
07:45	*	147	283	153	321	196	35	195	270	206	87	224	50	203	174	189
08:00	*	175	269	158	305	215	55	223	266	219	130	266	66	209	182	209
08:15	*	143	278	138	282	188	112	200	277	208	147	245	59	180	192	186
08:30	*	138	274	159	262	196	216	205	291	217	151	259	93	145	214	188
08:45	*	126	244	168	257	174	262	172	233	214	137	272	96	148	205	182
09:00	*	141	218	157	233	162	237	186	238	219	157	238	93	142	196	178
09:15	*	109	203	131	220	146	220	183	206	198	175	245	140	174	194	169
09:30	*	91	189	135	221	118	200	137	206	189	174	221	155	123	191	145
09:45	*	102	191	119	187	121	187	134	189	198	187	194	148	101	182	138
10:00	*	127	198	142	172	157	194	162	192	205	193	219	176	85	188	157
10:15	*	106	188	120	200	123	174	131	193	152	157	192	184	78	183	129
10:30	*	84	177	89	201	98	203	111	183	150	192	170	192	59	191	109
10:45	**180**	45	197	59	186	56	191	70	206	142	186	147	167	48	188	81
11:00	**165**	46	154	55	201	61	210	100	233	138	**203**	143	**186**	49	193	85
11:15	**178**	42	199	48	206	45	224	69	226	128	**225**	160	**201**	45	208	77
11:30	**192**	32	202	45	209	44	192	55	235	119	**230**	102	**235**	34	214	62
11:45	164	13	182	25	197	25	190	28	209	92	**251**	96	**215**	25	201	43
Total	879	8695	6880	8979	7066	9546	5919	9796	6922	11121	4278	12481	3372	9324	5718	9989
Day Total	9574		15859		16612		15715		18043		16759		12696		15707	
% Splits	9.2%	90.8%	43.4%	56.6%	42.5%	57.5%	37.7%	62.3%	38.4%	61.6%	25.5%	74.5%	26.6%	73.4%	36.4%	63.6%
Peak	10:45	04:30	06:30	04:30	06:30	04:30	06:30	03:45	06:30	03:45	11:00	06:15	11:00	05:30	06:30	04:30
Vol.	715	1103	1437	1080	1435	1147	1346	1146	1323	1197	909	1304	837	1167	1015	1132
P.H.F.	0.931	0.978	0.916	0.938	0.942	0.902	0.919	0.907	0.906	0.910	0.905	0.970	0.890	0.966	0.943	0.950

TEC Engineering, Inc.
77 W Elmwood Dr Suite 200
Dayton, Ohio 45459
(937) 435-8828

Site Code: 71N EXIT RAMP
Station ID:
I-71 NB Off Ramp
Holiday Count
Latitude: 0' 0.000 Undefined

Start	10-Dec-12		Tue		Wed		Thu		Fri		Sat		Sun		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	*	99	8	93	12	96	4	110	7	112	13	152	13	118	10	111
12:15	*	88	9	84	9	100	8	96	5	96	14	**158**	15	123	10	106
12:30	*	92	3	93	3	110	10	111	6	123	10	**163**	19	**143**	8	119
12:45	*	80	3	96	8	70	8	87	2	105	2	**171**	23	**130**	8	106
01:00	*	80	4	88	4	83	4	110	1	88	9	**157**	9	**139**	5	106
01:15	*	105	3	79	5	78	3	86	9	86	8	136	8	**125**	6	99
01:30	*	78	3	99	1	87	3	102	5	87	8	143	9	114	5	101
01:45	*	94	1	96	2	80	0	95	1	84	4	143	8	121	3	102
02:00	*	87	2	67	4	66	6	90	4	93	4	130	7	107	4	91
02:15	*	87	4	89	3	84	4	90	3	111	1	139	11	97	4	100
02:30	*	97	5	73	2	99	5	100	3	116	10	129	6	118	5	105
02:45	*	84	4	84	2	77	3	96	3	100	5	167	8	101	4	101
03:00	*	89	3	104	1	111	1	128	1	127	6	125	3	86	2	110
03:15	*	56	0	95	1	99	2	123	3	101	5	145	4	106	2	104
03:30	*	96	6	107	4	90	5	115	7	127	6	127	3	125	5	112
03:45	*	78	4	98	4	117	8	121	4	109	7	148	2	125	5	114
04:00	*	101	1	113	4	114	2	123	3	89	1	135	2	110	2	**112**
04:15	*	94	7	115	4	106	8	109	3	135	9	152	1	130	5	**120**
04:30	*	106	10	99	5	117	8	**123**	6	130	1	131	4	103	6	**116**
04:45	*	100	13	105	17	103	13	**152**	15	129	4	126	2	114	11	**118**
05:00	*	**95**	10	103	9	105	10	**134**	10	116	4	102	3	83	8	105
05:15	*	**125**	9	**124**	7	**123**	17	**123**	10	134	7	125	1	76	8	119
05:30	*	**122**	22	**136**	23	**122**	26	110	18	128	14	147	7	80	18	121
05:45	*	**112**	36	**116**	23	**116**	34	124	23	**135**	11	119	4	73	22	114
06:00	*	90	30	**115**	20	**118**	19	121	25	**120**	5	113	2	73	17	107
06:15	*	79	50	114	50	114	52	107	47	**135**	22	140	6	78	38	110
06:30	*	81	58	107	52	94	65	110	68	**133**	27	109	8	56	46	99
06:45	*	74	75	71	70	91	74	66	60	117	24	116	17	53	53	84
07:00	*	55	50	67	62	76	54	103	55	87	18	111	7	43	41	77
07:15	*	59	91	60	68	66	82	79	68	93	28	105	8	43	58	72
07:30	*	53	103	53	102	61	**193**	58	106	76	36	79	10	57	92	62
07:45	*	53	105	47	110	46	**158**	57	115	80	49	72	21	53	93	58
08:00	*	43	79	50	69	58	**194**	69	86	47	45	69	13	43	81	54
08:15	*	47	91	52	90	47	**223**	62	86	54	39	71	17	44	91	54
08:30	*	25	105	32	78	62	176	45	88	61	58	47	32	29	90	43
08:45	*	35	89	37	88	28	86	56	91	52	76	42	42	38	79	41
09:00	*	33	78	33	73	38	75	47	87	49	62	57	38	24	69	40
09:15	*	37	80	35	69	38	88	39	114	55	82	56	36	24	78	41
09:30	*	24	90	33	107	28	98	22	89	39	98	51	57	22	90	31
09:45	*	15	82	23	82	22	106	19	104	37	112	28	68	23	92	24
10:00	*	12	79	26	99	24	92	31	99	33	96	37	83	20	91	26
10:15	*	18	75	18	69	28	99	26	122	39	114	37	87	19	94	26
10:30	*	11	113	20	104	14	114	26	121	39	**139**	28	102	19	116	22
10:45	*	15	93	13	90	11	85	8	120	40	**147**	30	**133**	15	111	19
11:00	**86**	9	**107**	14	**101**	16	106	18	**116**	37	**124**	21	**137**	13	**111**	18
11:15	**94**	4	**94**	9	**86**	7	91	13	**130**	22	**140**	24	**116**	5	**107**	12
11:30	**90**	11	**127**	10	**103**	17	110	14	**114**	25	134	20	**136**	13	**116**	16
11:45	**76**	6	**108**	8	**105**	12	114	7	**149**	19	127	21	133	11	**116**	12
Total	346	3134	2222	3403	2104	3469	2746	3861	2412	4150	1965	4854	1481	3465	2136	3760
Day Total	3480		5625		5573		6607		6562		6819		4946		5896	
% Splits	9.9%	90.1%	39.5%	60.5%	37.8%	62.2%	41.6%	58.4%	36.8%	63.2%	28.8%	71.2%	29.9%	70.1%	36.2%	63.8%
Peak	11:00	05:00	11:00	05:15	11:00	05:15	07:30	04:30	11:00	05:45	10:30	00:15	10:45	00:30	11:00	04:00
Vol.	346	454	436	491	395	479	768	532	509	523	550	649	522	537	450	466
P.H.F.	0.920	0.908	0.858	0.903	0.940	0.974	0.861	0.875	0.854	0.969	0.935	0.949	0.953	0.939	0.970	0.971

Appendix C:

Recommended Vehicular Clearance Intervals

Vehicular Clearance Time Recommendations

Signalized Intersection	Phase No.	Existing Corresponding Direction	Approx. Crossing Street Width (ft.)	Approach Speed (mph)	Existing Y+AR Change Interval (sec)		Calculated Minimum Y+AR Change Interval (sec)		Recommended** Y+AR Change Interval (sec)	
					Y	AR	Y*	AR*	Y	AR
SR 82 & I-71NB Ramp	2	EBT	95	35	3.6	1.8	3.6	2.2	3.6	**2.2**
	6	WBT	65	35	4.0	2.0	3.6	1.7	**3.6**	**2.2**
	8	NBLR	105	20	3.6	1.8	3.0	**4.3**	**3.0**	**3.0**
SR 82 & I-71SB Ramp		EBTR	207	35	5.0	2.0	3.6	**4.4**	**3.6**	**3.0**
		WBT	140	35	5.0	2.0	3.6	**3.1**	**3.6**	**3.0**
		WBL	150	20	5.0	2.0	3.0	**5.8**	**3.0**	**3.0**
		NBR	100	35	5.0	2.0	3.6	2.3	**3.6**	**2.3**
		SBR	123	35	5.0	2.0	3.6	**2.8**	**3.6**	**2.8**
SR 82 & Howe Road	1	WBL	160	20	4.0	2.0	3.0	**6.1**	**3.0**	**3.0**
	2	EBTR	120	35	4.0	2.0	3.6	**2.7**	**3.6**	**3.0**
	4	SBLTR	127	35	3.6	2.0	3.6	**2.9**	3.6	**3.0**
	5	EBL	140	20	4.0	2.0	3.0	**5.5**	**3.0**	**3.0**
	6	WBTR	170	35	4.0	2.0	3.6	**3.7**	**3.6**	**3.0**
	8	NBLTR	170	35	3.6	2.0	3.6	**3.7**	3.6	**3.0**
SR 82 & South Park Mall East	1	WBL	140	20	4.0	2.0	3.0	**5.5**	**3.0**	**3.0**
	2	EBTR	150	35	4.0	2.0	3.6	**3.3**	**3.6**	**3.0**
	3	NBL	135	20	3.8	2.0	3.0	**5.3**	**3.0**	**3.0**
	4	SBTR	115	25	3.3	2.0	3.0	**3.7**	**3.0**	**3.0**
	5	EBL	120	20	4.0	2.0	3.0	**4.8**	**3.0**	**3.0**
	6	WBTR	130	35	4.0	2.0	3.6	**2.9**	**3.6**	**3.0**
	7	SBL	120	20	3.3	2.0	3.0	**4.8**	**3.0**	**3.0**
	8	NBTR	115	25	3.8	2.0	3.0	**3.7**	**3.0**	**3.0**
SR 82 & Falling Water	2	EBT	110	35	3.6	1.8	3.6	**2.5**	3.6	**2.5**
	4	SBLR	105	25	3.1	1.9	3.0	**3.4**	**3.0**	**3.0**
	5	EBL	95	20	3.6	1.8	3.0	**3.9**	**3.0**	**3.0**
	6	WBTR	110	35	3.6	1.8	3.6	**2.5**	3.6	**2.5**
SR 82 & Placid Cove-West Mall	1	WBL	145	20	4.0	2.0	3.0	**5.6**	**3.0**	**3.0**
	2	EBTR	150	35	4.0	2.0	3.6	**3.3**	**3.6**	**3.0**
	4	SBLTR	130	25	4.0	2.0	3.0	**4.1**	**3.0**	**3.0**
	5	EBL	140	20	4.0	2.0	3.0	**5.5**	**3.0**	**3.0**
	6	WBTR	125	35	4.0	2.0	3.6	**2.8**	**3.6**	**3.0**
	8	NBLTR	125	25	4.0	2.0	3.0	**4.0**	**3.0**	**3.0**
SR 82 & Ordner	1	WBL	85	20	3.6	2.0	3.0	**3.6**	**3.0**	**3.0**
	2	EBTR	80	35	3.6	2.0	3.6	1.9	3.6	**2.1**
	4	NBLTR	100	25	3.1	2.0	3.0	**3.3**	**3.0**	**3.0**
	5	EBL	100	20	3.6	2.0	3.0	**4.1**	**3.0**	**3.0**
	6	WBTR	90	35	3.6	2.0	3.6	2.1	3.6	**2.1**
	8	SBLTR	100	25	3.1	2.0	3.0	**3.3**	**3.0**	**3.0**
SR 82 & Mall Dr/Target	1	EBL	120	20	3.7	2.0	3.0	**4.8**	**3.0**	**3.0**
	2	WBTR	120	35	3.7	2.0	3.6	**2.7**	**3.6**	**2.7**
	3	SBLR	85	25	3.1	1.9	3.0	**2.9**	**3.0**	**2.9**
SR 82 & Pearlview/Police Drive	1	WBL	95	20	4.3	2.0	3.0	**3.9**	**3.0**	**3.0**
	2	EBTR	89	35	4.3	2.0	3.6	2.1	**3.6**	**3.0**
	3	NBLR	90	25	5.1	2.0	3.0	**3.0**	**3.0**	**3.0**
	4	SBLR	100	25	3.3	2.0	3.0	**3.3**	**3.0**	**3.0**
	6	WBTR	110	35	4.3	2.0	3.6	**2.5**	**3.6**	**3.0**

- A **bold value** respresents a change from existing timing.

- Indicates that the calculated or recommended interval time is a greater than the existing interval time

* based on ITE Manual of Traffic Signal Design, 1982, Eq 11-3 and the MUTCD (2009 Edition) which recommends a minimum yellow clearance intervals of 3 seconds and a maximum yellow clearance interval of 6 seconds.

**Recommended clearance intervals based on calculated times, except where all-red intervals are limited to a maximum of 3 seconds.

Appendix D:

Recommended Pedestrian Clearance Intervals

Flashing Don't Walk Clearance Time Recommendations

Intersection	Phase No.	Approach Direction	Existing Walk (sec)	Proposed Walk (sec)	Approx. Cross Walk Width* (ft)	Total Distance (detector to far side clear) (ft)	Existing FDW Time (sec.)	Min. FDW Time Based on 3.5 ft/s Walking Speed (sec.)	Total Clearance Time Based on 3.0 ft/s Walking Speed (sec.)
SR 82 & I-71NB Ramp	2	EB	7	8	63	77	14	**18**	**26**
SR 82 & I-71SB Ramp	2	WB	10	7	46	54	15	**14**	**18**
	6	EB	7	7	60	65	15	**18**	**22**
SR 82 & Howe Road	2	EB	7	9	108	118	20	**31**	**40**
	4	SB	7	9	110	123	18	**32**	**41**
	6	WB	7	10	126	137	16	**36**	**46**
SR 82 & South Park Mall East	2	EB	7	8	138	142	25	**40**	**48**
	4	SB	7	9	104	116	19	**30**	**39**
	6	WB	7	7	102	110	25	**30**	**37**
	8	NB	7	7	100	106	19	**29**	**36**
SR 82 & Falling Water	2	EB	7	7	93	100	17	**27**	**34**
	4	SB	7	6	79	85	17	**23**	**29**
	6	WB	7	7	93	100	17	**27**	**34**
SR 82 & Placid Cove-West Mall	2	EB	5	7	110	115	20	**32**	**39**
	6	WB	5	7	130	135	20	**38**	**45**
	8	NB	5	7	88	97	20	**26**	**33**
SR 82 & Ordner	2	EB	7	5	50	57	12	**15**	**19**
	6	WB	6	12	80	103	12	**23**	**35**
	8	SB	7	6	86	92	16	**25**	**31**
SR 82 & Mall Dr/Target	2	WB	5	10	101	116	23	**29**	**39**
	3	SB	7	6	80	85	19	**23**	**29**
SR 82 & Pearlview/Police Drive	2	EB	7	7	43	50	11	**13**	**17**
	3	NB	7	7	78	85	14	**23**	**29**
	6	WB	7	7	36	42	11	**11**	**14**
								0	**0**
								0	**0**

measured curb to curb or edge of traveled way

measured pushbutton (or 6ft if no button) to curb or edge of traveled way

- Indicates that the recommended FDW time is a second or more than the existing FDW time

Appendix E:

Pre-Study and Optimized Synchro LOS Results

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	662	0	0	1362	266	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3188	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3188	
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.67	0.78
Adj. Flow (vph)	720	0	0	1497	397	149
RTOR Reduction (vph)	0	0	0	0	33	0
Lane Group Flow (vph)	720	0	0	1497	513	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	94.4			93.8	24.8	
Effective Green, g (s)	95.8			95.8	26.2	
Actuated g/C Ratio	0.74			0.74	0.20	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2533			3605	642	
v/s Ratio Prot	0.21			c0.31	c0.16	
v/s Ratio Perm						
v/c Ratio	0.28			0.42	0.80	
Uniform Delay, d1	5.7			6.5	49.4	
Progression Factor	1.10			1.00	1.00	
Incremental Delay, d2	0.1			0.4	6.7	
Delay (s)	6.4			6.8	56.1	
Level of Service	A			A	E	
Approach Delay (s)	6.4			6.8	56.1	
Approach LOS	A			A	E	

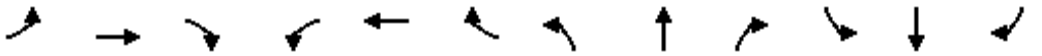
Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1717	230	107	739	0	0	0	318	0	908
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.55	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		2986	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		2986	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.85	0.77	0.76	0.77	0.92	0.92	0.92	0.89	0.92	0.82
Adj. Flow (vph)	0	2020	299	141	960	0	0	0	357	0	1107
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2020	271	141	960	0	0	0	357	0	1107
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		81.4	100.8	11.2	69.7				35.6		46.3
Effective Green, g (s)		81.4	100.8	11.2	69.7				28.6		40.3
Actuated g/C Ratio		0.63	0.78	0.09	0.54				0.22		0.31
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		1869	1239	146	2623				584		1066
v/s Ratio Prot		c0.68	0.03	c0.08	0.20				0.13		c0.32
v/s Ratio Perm			0.14								
v/c Ratio		1.08	0.22	0.97	0.37				0.61		1.04
Uniform Delay, d1		24.3	3.9	59.2	17.4				45.7		44.9
Progression Factor		1.08	0.93	1.15	1.32				1.00		1.00
Incremental Delay, d2		37.5	0.0	60.3	0.4				1.9		38.0
Delay (s)		63.8	3.7	128.5	23.3				47.6		82.9
Level of Service		E	A	F	C				D		F
Approach Delay (s)		56.1			36.8		47.6			82.9	
Approach LOS		E			D		D			F	

Intersection Summary			
HCM 2000 Control Delay	57.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

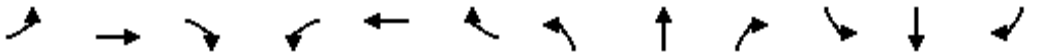
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	1062	59	400	1227	48	116	32	846	39	3	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	3.6	4.0	4.0	4.0	4.0	4.0	4.4
Lane Util. Factor	1.00	*0.50		0.97	0.95	1.00	0.95	0.95	*0.61	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	2669		3433	3438	1583	1665	1742	1951	3433	1881	1599
Flt Permitted	0.09	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (perm)	174	2669		3433	3438	1583	1665	1742	1951	3433	1881	1599
Peak-hour factor, PHF	0.78	0.87	0.36	0.81	0.86	0.80	0.85	0.50	0.92	0.81	0.38	0.46
Adj. Flow (vph)	36	1221	164	494	1427	60	136	64	920	48	8	24
RTOR Reduction (vph)	0	6	0	0	0	24	0	0	0	0	0	21
Lane Group Flow (vph)	36	1379	0	494	1427	36	98	102	920	48	8	3
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases	2					6						4
Actuated Green, G (s)	58.4	52.7		18.7	65.7	73.7	27.4	27.4	51.7	8.0	8.0	13.7
Effective Green, g (s)	62.4	54.7		20.7	67.7	77.7	29.0	29.0	53.3	9.6	9.6	16.9
Actuated g/C Ratio	0.48	0.42		0.16	0.52	0.60	0.22	0.22	0.41	0.07	0.07	0.13
Clearance Time (s)	6.0	6.0		6.0	6.0	5.6	5.6	5.6		5.6	5.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	179	1123		546	1790	946	371	388	799	253	138	207
v/s Ratio Prot	0.01	c0.52		0.14	0.42	0.00	0.06	0.06	c0.47	c0.01	0.00	0.00
v/s Ratio Perm	0.08					0.02						0.00
v/c Ratio	0.20	1.23		0.90	0.80	0.04	0.26	0.26	1.15	0.19	0.06	0.02
Uniform Delay, d1	21.2	37.6		53.7	25.5	10.8	41.7	41.7	38.4	56.5	56.0	49.3
Progression Factor	0.87	1.04		0.83	1.32	2.95	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	110.5		14.7	2.9	0.0	0.4	0.4	82.3	0.4	0.2	0.0
Delay (s)	19.0	149.7		59.2	36.5	31.8	42.1	42.0	120.7	56.9	56.2	49.3
Level of Service	B	F		E	D	C	D	D	F	E	E	D
Approach Delay (s)		146.4			42.0			106.6			54.6	
Approach LOS		F			D			F			D	

Intersection Summary			
HCM 2000 Control Delay	90.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

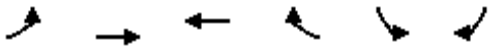
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	1050	39	41	1166	60	4	1	11	59	3	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4872		3467	3377		3467	1626	1519	1787	1693	
Flt Permitted	0.12	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	220	4872		3467	3377		3467	1626	1519	1787	1693	
Peak-hour factor, PHF	0.75	0.95	0.81	0.79	0.81	0.47	0.50	0.25	0.69	0.70	0.38	0.63
Adj. Flow (vph)	28	1105	48	52	1440	128	8	4	16	84	8	16
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	9	0	15	0
Lane Group Flow (vph)	28	1151	0	52	1565	0	8	4	1	84	9	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	93.0	89.3		5.9	91.5		1.4	2.0	7.9	9.7	10.3	
Effective Green, g (s)	97.0	91.3		7.9	93.5		3.2	3.8	11.9	11.0	11.6	
Actuated g/C Ratio	0.75	0.70		0.06	0.72		0.02	0.03	0.09	0.08	0.09	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	232	3421		210	2428		85	47	139	151	151	
v/s Ratio Prot	0.01	0.24		c0.01	c0.46		0.00	0.00	0.00	c0.05	c0.01	
v/s Ratio Perm	0.08								0.00			
v/c Ratio	0.12	0.34		0.25	0.64		0.09	0.09	0.01	0.56	0.06	
Uniform Delay, d1	6.8	7.5		58.2	9.6		62.0	61.4	53.7	57.2	54.2	
Progression Factor	0.26	0.25		0.73	1.41		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.3	0.9		0.6	0.6	0.0	4.8	0.2	
Delay (s)	1.9	2.1		42.7	14.4		62.6	62.0	53.7	62.0	54.4	
Level of Service	A	A		D	B		E	E	D	E	D	
Approach Delay (s)		2.1			15.3			59.2			60.3	
Approach LOS		A			B			E			E	

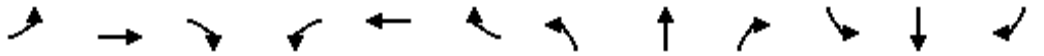
Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



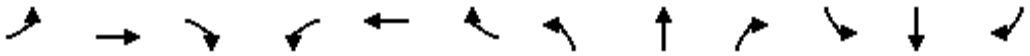
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	54	1028	1082	67	47	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3383		1593	1398
Flt Permitted	0.15	1.00	1.00		0.95	1.00
Satd. Flow (perm)	274	4893	3383		1593	1398
Peak-hour factor, PHF	0.61	0.92	0.80	0.80	0.84	0.71
Adj. Flow (vph)	89	1117	1352	84	56	56
RTOR Reduction (vph)	0	0	2	0	0	52
Lane Group Flow (vph)	89	1117	1434	0	56	4
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	110.5	110.5	98.1		9.1	9.1
Effective Green, g (s)	111.9	111.9	99.5		10.1	10.1
Actuated g/C Ratio	0.86	0.86	0.77		0.08	0.08
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	333	4211	2589		123	108
v/s Ratio Prot	0.02	c0.23	c0.42		c0.04	
v/s Ratio Perm	0.21					0.00
v/c Ratio	0.27	0.27	0.55		0.46	0.04
Uniform Delay, d1	3.8	1.6	6.2		57.3	55.5
Progression Factor	0.74	0.22	0.79		1.00	1.00
Incremental Delay, d2	0.3	0.1	0.7		2.7	0.2
Delay (s)	3.1	0.5	5.6		60.0	55.6
Level of Service	A	A	A		E	E
Approach Delay (s)		0.7	5.6		57.8	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



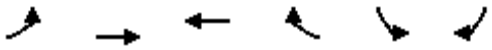
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	1040	106	51	1016	133	31	8	17	5	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3366		3467	1706		1715	1600	1652
Flt Permitted	0.14	1.00	1.00	0.22	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	267	4893	1599	412	3366		3467	1706		1715	1600	1652
Peak-hour factor, PHF	0.75	0.93	0.74	0.75	0.82	0.85	0.78	0.40	0.47	0.42	0.92	0.38
Adj. Flow (vph)	56	1118	143	68	1239	156	40	20	36	12	0	16
RTOR Reduction (vph)	0	0	32	0	4	0	0	33	0	0	0	14
Lane Group Flow (vph)	56	1118	111	68	1391	0	40	23	0	6	6	2
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	91.4	86.5	96.7	92.2	86.9		10.2	10.2		4.0	4.0	8.9
Effective Green, g (s)	95.4	88.5	100.7	96.2	88.9		12.2	12.2		6.0	6.0	12.9
Actuated g/C Ratio	0.73	0.68	0.77	0.74	0.68		0.09	0.09		0.05	0.05	0.10
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	277	3331	1238	382	2301		325	160		79	73	163
v/s Ratio Prot	c0.01	0.23	0.01	0.01	c0.41		0.01	c0.01		0.00	c0.00	0.00
v/s Ratio Perm	0.14		0.06	0.12								0.00
v/c Ratio	0.20	0.34	0.09	0.18	0.60		0.12	0.15		0.08	0.08	0.01
Uniform Delay, d1	7.3	8.6	3.5	4.9	11.1		54.0	54.1		59.3	59.4	52.8
Progression Factor	0.48	0.40	0.12	0.78	0.73		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.0	0.1	1.0		0.2	0.4		0.7	0.8	0.0
Delay (s)	3.7	3.7	0.5	4.0	9.1		54.2	54.5		60.1	60.2	52.8
Level of Service	A	A	A	A	A		D	D		E	E	D
Approach Delay (s)		3.4			8.9			54.4			55.9	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1059	3	35	861	43	6	5	98	51	6	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3433		1770	3389			1596		1787	1699	
Flt Permitted	0.24	1.00		0.20	1.00			0.98		0.35	1.00	
Satd. Flow (perm)	464	3433		374	3389			1565		658	1699	
Peak-hour factor, PHF	0.25	0.92	0.25	0.88	0.83	0.83	0.50	0.63	0.79	0.80	0.50	0.54
Adj. Flow (vph)	4	1151	12	40	1037	52	12	8	124	64	12	24
RTOR Reduction (vph)	0	0	0	0	2	0	0	109	0	0	21	0
Lane Group Flow (vph)	4	1163	0	40	1087	0	0	35	0	64	15	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	95.2	94.0		102.8	97.8			14.7		14.7	14.7	
Effective Green, g (s)	98.4	95.6		106.0	99.4			15.8		15.8	15.8	
Actuated g/C Ratio	0.76	0.74		0.82	0.76			0.12		0.12	0.12	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	380	2524		375	2591			190		79	206	
v/s Ratio Prot	0.00	c0.34		c0.01	c0.32						0.01	
v/s Ratio Perm	0.01			0.08				0.02		c0.10		
v/c Ratio	0.01	0.46		0.11	0.42			0.18		0.81	0.07	
Uniform Delay, d1	4.0	6.9		3.6	5.3			51.3		55.6	50.6	
Progression Factor	0.24	0.11		0.91	0.58			1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.6		0.1	0.4			0.5		44.5	0.2	
Delay (s)	1.0	1.3		3.4	3.5			51.8		100.1	50.8	
Level of Service	A	A		A	A			D		F	D	
Approach Delay (s)		1.3			3.5			51.8			82.4	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	81	1029	827	53	34	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.26	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	484	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.84	0.91	0.84	0.74	0.61	0.57
Adj. Flow (vph)	96	1131	985	72	56	56
RTOR Reduction (vph)	0	0	0	16	0	52
Lane Group Flow (vph)	96	1131	985	56	56	4
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	111.3	111.3	98.6	98.6	8.0	8.0
Effective Green, g (s)	113.0	113.0	100.3	100.3	9.0	9.0
Actuated g/C Ratio	0.87	0.87	0.77	0.77	0.07	0.07
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	507	2960	2603	1233	240	194
v/s Ratio Prot	0.01	c0.33	0.29		c0.02	
v/s Ratio Perm	0.15			0.03		0.00
v/c Ratio	0.19	0.38	0.38	0.05	0.23	0.02
Uniform Delay, d1	1.8	1.7	4.8	3.5	57.2	56.4
Progression Factor	0.11	0.07	1.51	2.71	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.4	0.1	0.5	0.0
Delay (s)	0.3	0.5	7.6	9.6	57.7	56.4
Level of Service	A	A	A	A	E	E
Approach Delay (s)		0.5	7.8		57.1	
Approach LOS		A	A		E	

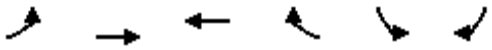
Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1105	4	5	895	3	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.91	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	3435		1770	4940	1668	
Flt Permitted	1.00		0.12	1.00	0.99	
Satd. Flow (perm)	3435		223	4940	1668	
Peak-hour factor, PHF	0.97	0.50	0.63	0.84	0.38	0.80
Adj. Flow (vph)	1139	8	8	1065	8	19
RTOR Reduction (vph)	1	0	0	0	17	0
Lane Group Flow (vph)	1146	0	8	1065	10	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	61.0		78.0	100.0	16.6	
Effective Green, g (s)	61.0		78.0	94.7	16.6	
Actuated g/C Ratio	0.47		0.60	0.73	0.13	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1611		261	3598	212	
v/s Ratio Prot	c0.33		0.00	c0.22	c0.01	
v/s Ratio Perm			0.02			
v/c Ratio	0.71		0.03	0.30	0.05	
Uniform Delay, d1	27.5		15.2	6.1	49.8	
Progression Factor	1.00		0.10	0.17	1.00	
Incremental Delay, d2	2.7		0.1	0.0	0.1	
Delay (s)	30.2		1.6	1.1	49.9	
Level of Service	C		A	A	D	
Approach Delay (s)	30.2			1.1	49.9	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1120	850	9	25	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.91	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1667	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1667	
Peak-hour factor, PHF	0.92	0.97	0.84	0.92	0.92	0.92
Adj. Flow (vph)	0	1155	1012	10	27	54
RTOR Reduction (vph)	0	0	0	2	47	0
Lane Group Flow (vph)	0	1155	1012	8	34	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		83.9	78.0	78.0	16.7	
Effective Green, g (s)		83.9	78.0	78.0	16.7	
Actuated g/C Ratio		0.65	0.60	0.60	0.13	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2218	2062	949	214	
v/s Ratio Prot		c0.34	c0.29		c0.02	
v/s Ratio Perm				0.01		
v/c Ratio		0.52	0.49	0.01	0.16	
Uniform Delay, d1		12.3	14.7	10.5	50.4	
Progression Factor		0.01	0.85	1.18	1.00	
Incremental Delay, d2		0.2	0.8	0.0	0.4	
Delay (s)		0.3	13.4	12.3	50.8	
Level of Service		A	B	B	D	
Approach Delay (s)		0.3	13.3		50.8	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	907	0	0	964	263	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3214	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3214	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.92
Adj. Flow (vph)	955	0	0	1004	299	74
RTOR Reduction (vph)	0	0	0	0	19	0
Lane Group Flow (vph)	955	0	0	1004	354	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	100.1			99.5	19.1	
Effective Green, g (s)	101.5			101.5	20.5	
Actuated g/C Ratio	0.78			0.78	0.16	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2684			3820	506	
v/s Ratio Prot	c0.28			0.21	c0.11	
v/s Ratio Perm						
v/c Ratio	0.36			0.26	0.70	
Uniform Delay, d1	4.3			3.9	51.8	
Progression Factor	1.41			1.00	1.00	
Incremental Delay, d2	0.3			0.2	3.9	
Delay (s)	6.4			4.1	55.7	
Level of Service	A			A	E	
Approach Delay (s)	6.4			4.1	55.7	
Approach LOS	A			A	E	

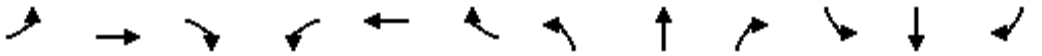
Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1444	299	74	956	0	0	0	260	0	969
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.60	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3257	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3257	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.95	0.91	0.49	0.95	0.92	0.92	0.92	0.93	0.92	0.88
Adj. Flow (vph)	0	1520	329	151	1006	0	0	0	280	0	1101
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1520	264	151	1006	0	0	0	280	0	1101
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		78.8	93.0	19.0	62.6				38.2		53.4
Effective Green, g (s)		78.8	93.0	19.0	62.6				31.2		47.4
Actuated g/C Ratio		0.61	0.72	0.15	0.48				0.24		0.36
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		1974	1147	248	2356				637		1254
v/s Ratio Prot		c0.47	0.03	c0.09	0.21				0.11		c0.32
v/s Ratio Perm			0.15								
v/c Ratio		0.77	0.23	0.61	0.43				0.44		0.88
Uniform Delay, d1		18.9	6.3	52.0	22.0				42.0		38.6
Progression Factor		0.73	1.51	0.83	0.72				1.00		1.00
Incremental Delay, d2		1.5	0.1	4.1	0.6				0.5		7.4
Delay (s)		15.3	9.6	47.5	16.3				42.5		46.0
Level of Service		B	A	D	B				D		D
Approach Delay (s)		14.3			20.4		42.5			46.0	
Approach LOS		B			C		D			D	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

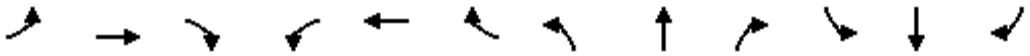
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	1033	55	388	973	254	144	110	450	260	103	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	3.6	4.0	4.0	4.0	4.0	4.0	4.4
Lane Util. Factor	1.00	*0.70		0.97	0.95	1.00	0.95	0.95	*0.67	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3768		3433	3438	1583	1665	1775	2143	3433	1881	1599
Flt Permitted	0.14	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	270	3768		3433	3438	1583	1665	1775	2143	3433	1881	1599
Peak-hour factor, PHF	0.93	0.96	0.81	0.87	0.94	0.87	0.90	0.76	0.88	0.76	0.80	0.57
Adj. Flow (vph)	247	1076	68	446	1035	292	160	145	511	342	129	304
RTOR Reduction (vph)	0	4	0	0	0	109	0	0	0	0	0	90
Lane Group Flow (vph)	247	1140	0	446	1035	183	144	161	511	342	129	214
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases	2					6						4
Actuated Green, G (s)	57.7	45.4		18.6	51.7	71.5	23.0	23.0	47.2	19.8	19.8	32.1
Effective Green, g (s)	61.7	47.4		20.6	53.7	75.5	24.6	24.6	48.8	21.4	21.4	35.3
Actuated g/C Ratio	0.47	0.36		0.16	0.41	0.58	0.19	0.19	0.38	0.16	0.16	0.27
Clearance Time (s)	6.0	6.0		6.0	6.0	5.6	5.6	5.6		5.6	5.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	295	1373		543	1420	919	315	335	804	565	309	434
v/s Ratio Prot	0.09	0.30		c0.13	0.30	0.03	0.09	0.09	c0.24	c0.10	0.07	0.05
v/s Ratio Perm	c0.31					0.08						0.08
v/c Ratio	0.84	0.83		0.82	0.73	0.20	0.46	0.48	0.64	0.61	0.42	0.49
Uniform Delay, d1	24.6	37.6		52.9	32.0	12.9	46.8	47.0	33.3	50.4	48.7	39.8
Progression Factor	1.37	1.09		1.09	1.00	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.0	5.5		8.0	2.7	0.1	1.1	1.1	1.7	1.8	0.9	0.9
Delay (s)	50.8	46.5		65.7	34.7	9.2	47.8	48.1	35.0	52.2	49.6	40.7
Level of Service	D	D		E	C	A	D	D	C	D	D	D
Approach Delay (s)		47.3			38.3			39.8			47.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

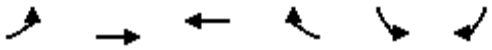
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	994	64	263	1044	50	114	18	256	86	25	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4860		3467	3386		3467	1555	1519	1787	1702	
Flt Permitted	0.22	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	402	4860		3467	3386		3467	1555	1519	1787	1702	
Peak-hour factor, PHF	0.79	0.93	0.84	0.75	0.95	0.78	0.81	0.90	0.94	0.77	0.78	0.70
Adj. Flow (vph)	48	1069	76	351	1099	64	141	20	272	112	32	56
RTOR Reduction (vph)	0	5	0	0	2	0	0	115	52	0	51	0
Lane Group Flow (vph)	48	1140	0	351	1161	0	141	33	92	112	37	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	72.4	67.3		17.9	80.1		11.0	11.6	29.5	10.1	10.7	
Effective Green, g (s)	76.4	69.3		19.9	82.1		12.8	13.4	33.5	11.4	12.0	
Actuated g/C Ratio	0.59	0.53		0.15	0.63		0.10	0.10	0.26	0.09	0.09	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	310	2590		530	2138		341	160	391	156	157	
v/s Ratio Prot	0.01	0.23		c0.10	c0.34		0.04	0.02	c0.04	c0.06	0.02	
v/s Ratio Perm	0.08								0.02			
v/c Ratio	0.15	0.44		0.66	0.54		0.41	0.21	0.24	0.72	0.24	
Uniform Delay, d1	11.6	18.5		51.9	13.4		55.1	53.4	38.1	57.7	54.8	
Progression Factor	0.91	0.82		1.31	0.43		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.5		2.1	0.7		1.0	0.5	0.2	15.1	0.8	
Delay (s)	10.8	15.7		69.9	6.5		56.0	53.9	38.4	72.8	55.5	
Level of Service	B	B		E	A		E	D	D	E	E	
Approach Delay (s)		15.5			21.2			49.4			65.2	
Approach LOS		B			C			D			E	

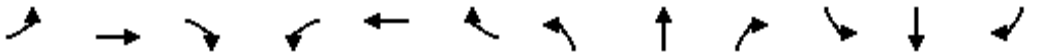
Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



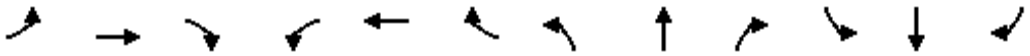
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	974	1134	77	71	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3379		1593	1398
Flt Permitted	0.16	1.00	1.00		0.95	1.00
Satd. Flow (perm)	298	4893	3379		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1004	1246	92	92	173
RTOR Reduction (vph)	0	0	3	0	0	154
Lane Group Flow (vph)	96	1004	1335	0	92	19
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	106.3	106.3	93.8		13.3	13.3
Effective Green, g (s)	107.7	107.7	95.2		14.3	14.3
Actuated g/C Ratio	0.83	0.83	0.73		0.11	0.11
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	344	4053	2474		175	153
v/s Ratio Prot	0.02	c0.21	c0.40		c0.06	
v/s Ratio Perm	0.21					0.01
v/c Ratio	0.28	0.25	0.54		0.53	0.12
Uniform Delay, d1	4.6	2.4	7.7		54.6	52.2
Progression Factor	3.98	0.25	0.54		1.00	1.00
Incremental Delay, d2	0.3	0.1	0.8		2.8	0.4
Delay (s)	18.5	0.7	4.9		57.5	52.6
Level of Service	B	A	A		E	D
Approach Delay (s)		2.3	4.9		54.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



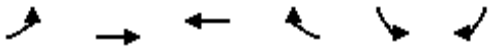
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	985	505	144	1075	26	350	26	135	18	17	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3394		3467	1650		1715	1664	1652
Flt Permitted	0.12	1.00	1.00	0.18	1.00		0.95	1.00		0.95	0.99	1.00
Satd. Flow (perm)	236	4893	1599	336	3394		3467	1650		1715	1664	1652
Peak-hour factor, PHF	0.77	0.91	0.94	0.86	0.89	0.65	0.85	0.72	0.78	0.45	0.71	0.83
Adj. Flow (vph)	48	1082	537	167	1208	40	412	36	173	40	24	24
RTOR Reduction (vph)	0	0	161	0	1	0	0	132	0	0	0	21
Lane Group Flow (vph)	48	1082	376	167	1247	0	412	77	0	32	32	3
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	65.7	60.1	87.1	75.1	64.8		27.0	27.0		8.6	8.6	14.2
Effective Green, g (s)	69.7	62.1	91.1	78.4	66.8		29.0	29.0		10.6	10.6	18.2
Actuated g/C Ratio	0.54	0.48	0.70	0.60	0.51		0.22	0.22		0.08	0.08	0.14
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	218	2337	1120	339	1743		773	368		139	135	231
v/s Ratio Prot	0.01	0.22	0.07	c0.05	c0.37		c0.12	0.05		0.02	c0.02	0.00
v/s Ratio Perm	0.11		0.16	0.25								0.00
v/c Ratio	0.22	0.46	0.34	0.49	0.72		0.53	0.21		0.23	0.24	0.01
Uniform Delay, d1	17.7	22.8	7.6	13.5	24.3		44.5	41.2		55.9	55.9	48.2
Progression Factor	1.07	1.00	3.85	0.70	0.49		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.6	0.1	0.7	2.2		0.7	0.3		1.5	1.6	0.0
Delay (s)	19.2	23.3	29.4	10.2	14.2		45.2	41.4		57.3	57.5	48.2
Level of Service	B	C	C	B	B		D	D		E	E	D
Approach Delay (s)		25.1			13.7			44.0			54.9	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1323	19	87	1288	74	5	11	110	44	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3427		1770	3384			1599		1787	1699	
Flt Permitted	0.16	1.00		0.13	1.00			0.99		0.24	1.00	
Satd. Flow (perm)	295	3427		247	3384			1585		459	1699	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	8	1407	32	112	1370	88	8	16	164	52	8	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	137	0	0	14	0
Lane Group Flow (vph)	8	1438	0	112	1456	0	0	51	0	52	10	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	92.3	91.1		104.0	97.2			15.3		15.3	15.3	
Effective Green, g (s)	95.5	92.7		105.6	98.8			16.4		16.4	16.4	
Actuated g/C Ratio	0.73	0.71		0.81	0.76			0.13		0.13	0.13	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	249	2443		304	2571			199		57	214	
v/s Ratio Prot	0.00	c0.42		c0.03	c0.43						0.01	
v/s Ratio Perm	0.02			0.27				0.03		c0.11		
v/c Ratio	0.03	0.59		0.37	0.57			0.26		0.91	0.05	
Uniform Delay, d1	5.3	9.2		6.6	6.6			51.3		56.1	49.9	
Progression Factor	1.76	1.96		1.72	0.57			1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.0		0.6	0.7			0.7		87.4	0.1	
Delay (s)	9.3	19.0		12.0	4.4			52.0		143.5	50.0	
Level of Service	A	B		B	A			D		F	D	
Approach Delay (s)		19.0			5.0			52.0			114.0	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	1096	1006	300	252	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.21	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	400	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	140	1204	1093	309	280	173
RTOR Reduction (vph)	0	0	0	91	0	151
Lane Group Flow (vph)	140	1204	1093	218	280	22
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	103.5	103.5	90.2	90.2	15.8	15.8
Effective Green, g (s)	105.2	105.2	91.9	91.9	16.8	16.8
Actuated g/C Ratio	0.81	0.81	0.71	0.71	0.13	0.13
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	422	2756	2385	1130	448	363
v/s Ratio Prot	0.02	c0.35	c0.32		c0.08	
v/s Ratio Perm	0.24			0.14		0.01
v/c Ratio	0.33	0.44	0.46	0.19	0.62	0.06
Uniform Delay, d1	4.3	3.7	8.3	6.5	53.6	49.7
Progression Factor	2.00	1.04	0.43	1.22	1.00	1.00
Incremental Delay, d2	0.3	0.4	0.5	0.3	2.7	0.1
Delay (s)	8.9	4.2	4.1	8.2	56.3	49.8
Level of Service	A	A	A	A	E	D
Approach Delay (s)		4.7	5.0		53.8	
Approach LOS		A	A		D	

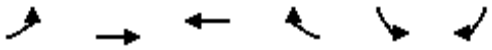
Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1289	11	16	1335	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3432		1770	4940	1695	
Flt Permitted	1.00		0.07	1.00	0.98	
Satd. Flow (perm)	3432		125	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1329	20	36	1405	32	32
RTOR Reduction (vph)	1	0	0	0	27	0
Lane Group Flow (vph)	1348	0	36	1405	37	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	53.5		70.2	94.9	21.7	
Effective Green, g (s)	53.5		70.2	89.6	21.7	
Actuated g/C Ratio	0.41		0.54	0.69	0.17	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1412		199	3404	282	
v/s Ratio Prot	c0.39		0.01	c0.28	c0.02	
v/s Ratio Perm			0.08			
v/c Ratio	0.95		0.18	0.41	0.13	
Uniform Delay, d1	37.1		24.1	8.8	46.1	
Progression Factor	1.00		0.45	0.17	1.00	
Incremental Delay, d2	15.4		0.3	0.1	0.3	
Delay (s)	52.5		11.1	1.6	46.4	
Level of Service	D		B	A	D	
Approach Delay (s)	52.5			1.8	46.4	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1315	1326	25	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1356	1396	27	27	27
RTOR Reduction (vph)	0	0	0	4	23	0
Lane Group Flow (vph)	0	1356	1396	23	31	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		81.5	70.2	70.2	19.4	
Effective Green, g (s)		81.5	70.2	70.2	19.4	
Actuated g/C Ratio		0.63	0.54	0.54	0.15	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2155	1856	854	252	
v/s Ratio Prot		c0.39	c0.41		c0.02	
v/s Ratio Perm				0.01		
v/c Ratio		0.63	0.75	0.03	0.12	
Uniform Delay, d1		14.9	23.2	14.0	47.9	
Progression Factor		0.06	0.71	0.93	1.00	
Incremental Delay, d2		0.2	2.7	0.1	0.3	
Delay (s)		1.2	19.3	13.0	48.2	
Level of Service		A	B	B	D	
Approach Delay (s)		1.2	19.1		48.2	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1665	0	0	1260	327	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3438			4893	3160	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3438			4893	3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.86	0.82
Adj. Flow (vph)	1810	0	0	1355	380	207
RTOR Reduction (vph)	0	0	0	0	29	0
Lane Group Flow (vph)	1810	0	0	1355	558	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	101.7			101.1	27.5	
Effective Green, g (s)	103.1			103.1	28.9	
Actuated g/C Ratio	0.74			0.74	0.21	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2531			3603	652	
v/s Ratio Prot	c0.53			0.28	c0.18	
v/s Ratio Perm						
v/c Ratio	0.72			0.38	0.86	
Uniform Delay, d1	10.3			6.7	53.5	
Progression Factor	0.87			1.00	1.00	
Incremental Delay, d2	0.2			0.3	10.5	
Delay (s)	9.1			7.0	64.1	
Level of Service	A			A	E	
Approach Delay (s)	9.1			7.0	64.1	
Approach LOS	A			A	E	

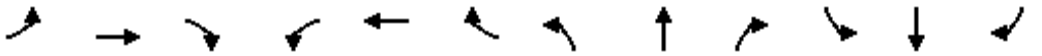
Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1850	381	85	1188	0	0	0	701	0	1779
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.50	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		2714	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		2714	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.87	0.87	0.46	0.86	0.92	0.92	0.92	0.90	0.92	0.96
Adj. Flow (vph)	0	2126	438	185	1381	0	0	0	779	0	1853
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2126	395	185	1381	0	0	0	779	0	1853
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		89.6	103.8	18.2	68.6				37.4		57.4
Effective Green, g (s)		89.6	103.8	18.2	68.6				30.4		51.4
Actuated g/C Ratio		0.64	0.74	0.13	0.49				0.22		0.37
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		1736	1184	221	2397				576		1263
v/s Ratio Prot		c0.78	0.03	0.11	0.28				c0.29		c0.54
v/s Ratio Perm			0.22								
v/c Ratio		1.22	0.33	0.84	0.58				1.35		1.47
Uniform Delay, d1		25.2	6.2	59.5	25.4				54.8		44.3
Progression Factor		1.35	2.05	0.84	0.71				1.00		1.00
Incremental Delay, d2		101.6	0.0	21.6	0.9				169.8		214.6
Delay (s)		135.7	12.7	71.3	19.1				224.6		258.9
Level of Service		F	B	E	B				F		F
Approach Delay (s)		114.7			25.2		224.6			258.9	
Approach LOS		F			C		F			F	

Intersection Summary			
HCM 2000 Control Delay	146.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

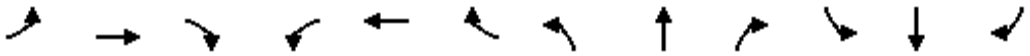
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	1412	77	867	1779	321	170	102	597	222	140	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	3.6	4.0	4.0	4.0	4.0	4.0	4.4
Lane Util. Factor	1.00	*0.70		0.97	0.95	1.00	0.95	0.95	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3759		3433	3438	1583	1665	1757	2814	3433	1881	1599
Flt Permitted	0.08	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	157	3759		3433	3438	1583	1665	1757	2814	3433	1881	1599
Peak-hour factor, PHF	0.88	0.82	0.53	0.80	0.95	0.69	0.92	0.88	0.90	0.80	0.83	0.69
Adj. Flow (vph)	217	1722	145	1084	1873	465	185	116	663	278	169	351
RTOR Reduction (vph)	0	5	0	0	0	106	0	0	0	0	0	90
Lane Group Flow (vph)	217	1862	0	1084	1873	359	148	153	663	278	169	261
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases	2					6						4
Actuated Green, G (s)	56.6	45.8		36.0	71.0	86.0	20.0	20.0	61.6	15.0	15.0	25.8
Effective Green, g (s)	60.6	47.8		38.0	73.0	90.0	21.6	21.6	63.2	16.6	16.6	29.0
Actuated g/C Ratio	0.43	0.34		0.27	0.52	0.64	0.15	0.15	0.45	0.12	0.12	0.21
Clearance Time (s)	6.0	6.0		6.0	6.0	5.6	5.6	5.6		5.6	5.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	216	1283		931	1792	1017	256	271	1270	407	223	331
v/s Ratio Prot	0.09	c0.50		c0.32	0.54	0.04	c0.09	0.09	0.24	0.08	0.09	c0.07
v/s Ratio Perm	0.34					0.18						0.09
v/c Ratio	1.00	1.45		1.16	1.05	0.35	0.58	0.56	0.52	0.68	0.76	0.79
Uniform Delay, d1	41.7	46.1		51.0	33.5	11.5	55.0	54.8	27.6	59.2	59.8	52.6
Progression Factor	1.19	0.85		0.97	0.72	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	58.8	206.9		78.3	26.4	0.1	3.1	2.7	0.4	4.7	13.7	11.7
Delay (s)	108.3	246.1		127.9	50.4	7.1	58.1	57.5	27.9	63.9	73.4	64.3
Level of Service	F	F		F	D	A	E	E	C	E	E	E
Approach Delay (s)		231.8			69.0			37.3			66.1	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	111.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

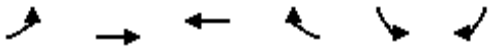
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	1227	52	328	1414	58	95	7	257	102	18	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.86	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4871		3467	3387		3467	1534	1519	1787	1722	
Flt Permitted	0.11	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	207	4871		3467	3387		3467	1534	1519	1787	1722	
Peak-hour factor, PHF	0.60	0.85	0.76	0.90	0.95	0.69	0.77	0.77	0.85	0.77	0.64	0.86
Adj. Flow (vph)	60	1444	68	364	1488	84	123	9	302	132	28	36
RTOR Reduction (vph)	0	3	0	0	2	0	0	133	48	0	34	0
Lane Group Flow (vph)	60	1509	0	364	1570	0	123	24	106	132	30	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	80.5	75.0		19.4	88.9		14.3	12.4	31.8	10.1	8.2	
Effective Green, g (s)	84.5	77.0		21.4	90.9		16.1	14.2	35.8	11.4	9.5	
Actuated g/C Ratio	0.60	0.55		0.15	0.65		0.12	0.10	0.26	0.08	0.07	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	208	2679		529	2199		398	155	388	145	116	
v/s Ratio Prot	0.02	0.31		c0.10	c0.46		c0.04	0.02	c0.04	c0.07	0.02	
v/s Ratio Perm	0.16								0.03			
v/c Ratio	0.29	0.56		0.69	0.71		0.31	0.15	0.27	0.91	0.26	
Uniform Delay, d1	13.9	20.5		56.1	16.0		56.8	57.4	41.7	63.8	61.9	
Progression Factor	1.22	0.83		1.00	0.83		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.8		0.9	0.5		0.5	0.3	0.3	49.5	1.2	
Delay (s)	17.5	17.9		56.9	13.9		57.4	57.8	42.0	113.3	63.1	
Level of Service	B	B		E	B		E	E	D	F	E	
Approach Delay (s)		17.9			22.0			52.0			96.9	
Approach LOS		B			C			D			F	

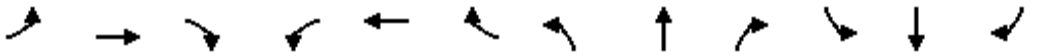
Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



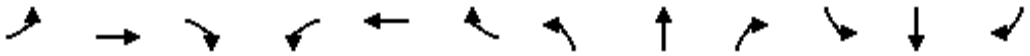
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	1172	1445	112	99	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3374		1593	1398
Flt Permitted	0.09	1.00	1.00		0.95	1.00
Satd. Flow (perm)	170	4893	3374		1593	1398
Peak-hour factor, PHF	0.86	0.88	0.92	0.80	0.88	0.76
Adj. Flow (vph)	103	1332	1571	140	112	163
RTOR Reduction (vph)	0	0	4	0	0	130
Lane Group Flow (vph)	103	1332	1707	0	112	33
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	114.3	114.3	100.9		15.3	15.3
Effective Green, g (s)	115.7	115.7	102.3		16.3	16.3
Actuated g/C Ratio	0.83	0.83	0.73		0.12	0.12
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	249	4043	2465		185	162
v/s Ratio Prot	c0.03	0.27	c0.51		c0.07	
v/s Ratio Perm	0.31					0.02
v/c Ratio	0.41	0.33	0.69		0.61	0.20
Uniform Delay, d1	10.6	2.9	10.3		58.8	56.0
Progression Factor	8.77	0.15	0.46		1.00	1.00
Incremental Delay, d2	0.7	0.2	1.3		5.5	0.6
Delay (s)	93.7	0.6	6.0		64.3	56.6
Level of Service	F	A	A		E	E
Approach Delay (s)		7.3	6.0		59.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



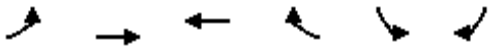
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	1079	558	143	1428	3	400	1	149	88	11	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3404		3467	1606		1715	1622	1652
Flt Permitted	0.06	1.00	1.00	0.11	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	117	4893	1599	199	3404		3467	1606		1715	1622	1652
Peak-hour factor, PHF	0.63	0.78	0.96	0.83	0.93	0.38	0.95	0.25	0.93	0.55	0.55	0.64
Adj. Flow (vph)	8	1383	581	172	1535	8	421	4	160	160	20	72
RTOR Reduction (vph)	0	0	191	0	0	0	0	127	0	0	0	59
Lane Group Flow (vph)	8	1383	390	172	1543	0	421	37	0	90	90	14
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	67.5	63.1	89.9	80.6	70.2		26.8	26.8		14.6	14.6	19.0
Effective Green, g (s)	71.5	65.1	93.9	82.6	72.2		28.8	28.8		16.6	16.6	23.0
Actuated g/C Ratio	0.51	0.46	0.67	0.59	0.52		0.21	0.21		0.12	0.12	0.16
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	136	2275	1072	270	1755		713	330		203	192	271
v/s Ratio Prot	0.00	0.28	0.07	c0.06	c0.45		c0.12	0.02		0.05	c0.06	0.00
v/s Ratio Perm	0.03		0.17	0.31								0.01
v/c Ratio	0.06	0.61	0.36	0.64	0.88		0.59	0.11		0.44	0.47	0.05
Uniform Delay, d1	24.1	27.9	10.0	19.1	30.0		50.3	45.2		57.4	57.6	49.3
Progression Factor	0.71	0.72	2.25	1.93	0.79		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	1.1	0.2	3.2	5.0		1.3	0.2		2.7	3.1	0.1
Delay (s)	17.2	21.2	22.7	40.2	28.6		51.6	45.4		60.1	60.7	49.3
Level of Service	B	C	C	D	C		D	D		E	E	D
Approach Delay (s)		21.6			29.8			49.8			57.2	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1380	25	142	1652	81	9	13	99	43	10	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1805	3429		1770	3389			1619		1787	1765	
Flt Permitted	0.09	1.00		0.12	1.00			0.97		0.31	1.00	
Satd. Flow (perm)	165	3429		216	3389			1573		588	1765	
Peak-hour factor, PHF	0.38	0.91	0.89	0.89	0.92	0.88	0.56	0.65	0.90	0.77	0.50	0.56
Adj. Flow (vph)	8	1516	28	160	1796	92	16	20	110	56	20	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	85	0	0	14	0
Lane Group Flow (vph)	8	1543	0	160	1886	0	0	61	0	56	22	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	101.2	100.0		114.6	107.8			14.7		14.7	14.7	
Effective Green, g (s)	104.4	101.6		116.2	109.4			15.8		15.8	15.8	
Actuated g/C Ratio	0.75	0.73		0.83	0.78			0.11		0.11	0.11	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	155	2488		296	2648			177		66	199	
v/s Ratio Prot	0.00	0.45		c0.04	c0.56						0.01	
v/s Ratio Perm	0.04			0.41				0.04		c0.10		
v/c Ratio	0.05	0.62		0.54	0.71			0.34		0.85	0.11	
Uniform Delay, d1	7.0	9.6		9.6	7.5			57.3		60.9	55.8	
Progression Factor	1.54	2.11		2.91	0.55			1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.1		1.2	1.0			1.2		60.3	0.2	
Delay (s)	11.0	21.3		29.3	5.2			58.5		121.2	56.0	
Level of Service	B	C		C	A			E		F	E	
Approach Delay (s)		21.3			7.1			58.5			95.7	
Approach LOS		C			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	131	1178	1381	289	230	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.13	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	240	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.89	0.91	0.94	0.82	0.86	0.84
Adj. Flow (vph)	147	1295	1469	352	267	175
RTOR Reduction (vph)	0	0	0	84	0	154
Lane Group Flow (vph)	147	1295	1469	268	267	21
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	113.2	113.2	98.7	98.7	16.1	16.1
Effective Green, g (s)	114.9	114.9	100.4	100.4	17.1	17.1
Actuated g/C Ratio	0.82	0.82	0.72	0.72	0.12	0.12
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	312	2795	2419	1146	423	343
v/s Ratio Prot	0.04	c0.38	c0.44		c0.08	
v/s Ratio Perm	0.35			0.17		0.01
v/c Ratio	0.47	0.46	0.61	0.23	0.63	0.06
Uniform Delay, d1	8.1	3.6	9.9	6.7	58.5	54.4
Progression Factor	5.17	2.47	0.33	0.51	1.00	1.00
Incremental Delay, d2	0.6	0.4	0.8	0.4	3.1	0.1
Delay (s)	42.5	9.4	4.1	3.8	61.5	54.4
Level of Service	D	A	A	A	E	D
Approach Delay (s)		12.8	4.0		58.7	
Approach LOS		B	A		E	

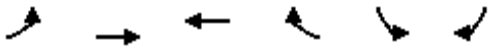
Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1412	14	22	1448	21	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3434		1770	4940	1691	
Flt Permitted	1.00		0.06	1.00	0.98	
Satd. Flow (perm)	3434		109	4940	1691	
Peak-hour factor, PHF	0.93	0.88	0.69	0.94	0.66	0.83
Adj. Flow (vph)	1518	16	32	1540	32	36
RTOR Reduction (vph)	1	0	0	0	29	0
Lane Group Flow (vph)	1533	0	32	1540	39	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	62.3		79.1	101.0	25.6	
Effective Green, g (s)	62.3		79.1	95.7	25.6	
Actuated g/C Ratio	0.44		0.56	0.68	0.18	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1528		186	3376	309	
v/s Ratio Prot	c0.45		0.01	c0.31	c0.02	
v/s Ratio Perm			0.08			
v/c Ratio	1.00		0.17	0.46	0.12	
Uniform Delay, d1	38.9		28.1	10.2	47.8	
Progression Factor	1.00		0.44	0.14	1.00	
Incremental Delay, d2	23.9		0.3	0.1	0.2	
Delay (s)	62.7		12.7	1.5	48.0	
Level of Service	E		B	A	D	
Approach Delay (s)	62.7			1.8	48.0	
Approach LOS	E			A	D	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1442	1445	50	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.93	0.94	0.92	0.92	0.92
Adj. Flow (vph)	0	1551	1537	54	27	27
RTOR Reduction (vph)	0	0	0	7	24	0
Lane Group Flow (vph)	0	1551	1537	47	30	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		94.2	79.1	79.1	16.6	
Effective Green, g (s)		94.2	79.1	79.1	16.6	
Actuated g/C Ratio		0.67	0.56	0.56	0.12	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2313	1942	894	200	
v/s Ratio Prot		c0.45	c0.45		c0.02	
v/s Ratio Perm				0.03		
v/c Ratio		0.67	0.79	0.05	0.15	
Uniform Delay, d1		13.7	24.0	13.7	55.4	
Progression Factor		0.13	0.41	0.27	1.00	
Incremental Delay, d2		0.2	2.8	0.1	0.4	
Delay (s)		1.9	12.6	3.8	55.8	
Level of Service		A	B	A	E	
Approach Delay (s)		1.9	12.3		55.8	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1220	0	0	1207	426	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3220	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3220	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.65
Adj. Flow (vph)	1284	0	0	1257	484	105
RTOR Reduction (vph)	0	0	0	0	13	0
Lane Group Flow (vph)	1284	0	0	1257	576	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	101.4			100.8	27.8	
Effective Green, g (s)	102.8			102.8	29.2	
Actuated g/C Ratio	0.73			0.73	0.21	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2524			3592	671	
v/s Ratio Prot	c0.37			0.26	c0.18	
v/s Ratio Perm						
v/c Ratio	0.51			0.35	0.86	
Uniform Delay, d1	7.9			6.7	53.4	
Progression Factor	1.29			1.00	1.00	
Incremental Delay, d2	0.5			0.3	10.4	
Delay (s)	10.7			6.9	63.8	
Level of Service	B			A	E	
Approach Delay (s)	10.7			6.9	63.8	
Approach LOS	B			A	E	

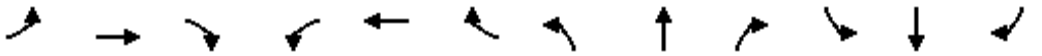
Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1809	298	116	1200	0	0	0	358	0	1328
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.64	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3474	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3474	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.97	0.93	0.74	0.95	0.92	0.92	0.92	0.90	0.92	0.98
Adj. Flow (vph)	0	1865	320	157	1263	0	0	0	398	0	1355
RTOR Reduction (vph)	0	0	59	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1865	262	157	1263	0	0	0	398	0	1355
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		89.4	103.6	18.4	68.6				37.6		57.4
Effective Green, g (s)		89.4	103.6	18.4	68.6				30.6		51.4
Actuated g/C Ratio		0.64	0.74	0.13	0.49				0.22		0.37
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		2218	1182	223	2397				580		1263
v/s Ratio Prot		c0.54	0.02	c0.09	0.26				0.15		c0.39
v/s Ratio Perm			0.15								
v/c Ratio		0.84	0.22	0.70	0.53				0.69		1.07
Uniform Delay, d1		19.7	5.7	58.2	24.5				50.3		44.3
Progression Factor		1.13	2.29	0.80	0.61				1.00		1.00
Incremental Delay, d2		1.4	0.0	8.6	0.7				3.4		47.3
Delay (s)		23.6	13.0	54.9	15.7				53.7		91.6
Level of Service		C	B	D	B				D		F
Approach Delay (s)		22.0			20.0		53.7			91.6	
Approach LOS		C			B		D			F	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

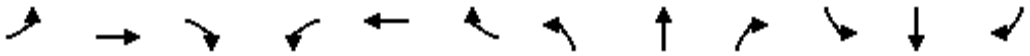
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	214	1200	72	645	1358	525	126	163	700	344	141	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	3.6	4.0	4.0	4.0	4.0	4.0	4.4
Lane Util. Factor	1.00	*0.70		0.97	0.95	1.00	0.95	0.95	*0.84	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3769		3433	3438	1583	1665	1778	2686	3433	1881	1599
Flt Permitted	0.10	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	195	3769		3433	3438	1583	1665	1778	2686	3433	1881	1599
Peak-hour factor, PHF	0.88	0.88	0.86	0.89	0.94	0.93	0.79	0.83	0.93	0.93	0.86	0.86
Adj. Flow (vph)	243	1364	84	725	1445	565	159	196	753	370	164	317
RTOR Reduction (vph)	0	3	0	0	0	57	0	0	0	0	0	90
Lane Group Flow (vph)	243	1445	0	725	1445	508	143	212	753	370	164	227
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases	2					6						4
Actuated Green, G (s)	58.3	47.5		34.3	71.0	86.4	19.6	19.6	59.5	15.4	15.4	26.2
Effective Green, g (s)	62.3	49.5		36.3	73.0	90.4	21.2	21.2	61.1	17.0	17.0	29.4
Actuated g/C Ratio	0.44	0.35		0.26	0.52	0.65	0.15	0.15	0.44	0.12	0.12	0.21
Clearance Time (s)	6.0	6.0		6.0	6.0	5.6	5.6	5.6		5.6	5.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	232	1332		890	1792	1022	252	269	1172	416	228	335
v/s Ratio Prot	c0.10	c0.38		c0.21	0.42	0.06	0.09	c0.12	0.28	c0.11	0.09	0.06
v/s Ratio Perm	0.37					0.26						0.08
v/c Ratio	1.05	1.08		0.81	0.81	0.50	0.57	0.79	0.64	0.89	0.72	0.68
Uniform Delay, d1	34.4	45.2		48.7	27.7	12.9	55.1	57.2	30.9	60.6	59.2	50.9
Progression Factor	0.96	0.89		0.98	0.71	0.68	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	66.0	49.0		4.0	2.8	0.3	2.9	14.1	1.2	20.0	10.4	5.4
Delay (s)	99.0	89.2		51.7	22.5	9.0	58.1	71.4	32.1	80.6	69.6	56.3
Level of Service	F	F		D	C	A	E	E	C	F	E	E
Approach Delay (s)		90.6			27.4			43.0			69.4	
Approach LOS		F			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

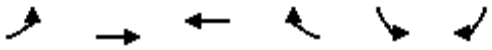
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	1034	7	408	1565	78	223	47	308	144	40	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.91	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4888		3467	3381		3467	1623	1519	1787	1736	
Flt Permitted	0.06	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	114	4888		3467	3381		3467	1623	1519	1787	1736	
Peak-hour factor, PHF	0.61	0.91	0.60	0.86	0.97	0.63	0.76	0.51	0.83	0.72	0.67	0.80
Adj. Flow (vph)	136	1136	12	474	1613	124	293	92	371	200	60	64
RTOR Reduction (vph)	0	1	0	0	4	0	0	44	43	0	29	0
Lane Group Flow (vph)	136	1147	0	474	1733	0	293	193	183	200	95	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	73.2	63.1		22.5	75.5		13.7	21.2	43.7	10.1	17.6	
Effective Green, g (s)	77.2	65.1		24.5	77.5		15.5	23.0	47.7	11.4	18.9	
Actuated g/C Ratio	0.55	0.46		0.18	0.55		0.11	0.16	0.34	0.08	0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	205	2272		606	1871		383	266	517	145	234	
v/s Ratio Prot	0.06	0.23		c0.14	c0.51		c0.08	c0.12	0.06	c0.11	0.05	
v/s Ratio Perm	0.31								0.06			
v/c Ratio	0.66	0.51		0.78	0.93		0.77	0.72	0.35	1.38	0.40	
Uniform Delay, d1	32.1	26.2		55.2	28.6		60.5	55.5	34.6	64.3	55.4	
Progression Factor	1.24	0.69		1.19	0.68		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.9	0.8		4.7	7.3		9.1	8.8	0.3	207.8	1.1	
Delay (s)	46.9	18.8		70.2	26.8		69.6	64.3	34.9	272.1	56.5	
Level of Service	D	B		E	C		E	E	C	F	E	
Approach Delay (s)		21.8			36.1			57.6			189.6	
Approach LOS		C			D			E			F	

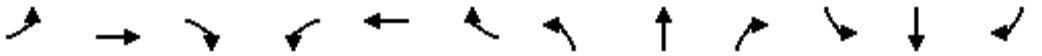
Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



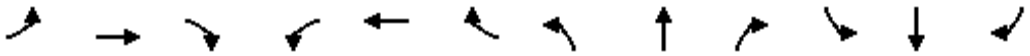
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	1053	1762	77	71	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3388		1593	1398
Flt Permitted	0.04	1.00	1.00		0.95	1.00
Satd. Flow (perm)	74	4893	3388		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1086	1936	92	92	269
RTOR Reduction (vph)	0	0	2	0	0	108
Lane Group Flow (vph)	96	1086	2026	0	92	161
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	109.6	109.6	95.9		20.0	20.0
Effective Green, g (s)	111.0	111.0	97.3		21.0	21.0
Actuated g/C Ratio	0.79	0.79	0.69		0.15	0.15
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	177	3879	2354		238	209
v/s Ratio Prot	c0.04	0.22	c0.60		0.06	
v/s Ratio Perm	0.39					c0.12
v/c Ratio	0.54	0.28	0.86		0.39	0.77
Uniform Delay, d1	34.0	3.9	16.2		53.7	57.2
Progression Factor	2.37	0.07	0.16		1.00	1.00
Incremental Delay, d2	2.4	0.2	2.2		1.0	16.0
Delay (s)	82.9	0.5	4.9		54.7	73.2
Level of Service	F	A	A		D	E
Approach Delay (s)		7.1	4.9		68.5	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



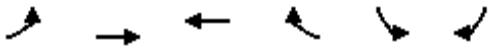
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1060	717	159	1779	4	513	0	75	3	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3403		3467	1599		1715	1644	1652
Flt Permitted	0.06	1.00	1.00	0.15	1.00		0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	117	4893	1599	287	3403		3467	1599		1715	1644	1652
Peak-hour factor, PHF	0.67	0.91	0.92	0.70	0.86	0.30	0.85	0.92	0.67	0.25	0.25	0.42
Adj. Flow (vph)	12	1165	779	227	2069	13	604	0	112	12	4	12
RTOR Reduction (vph)	0	0	190	0	0	0	0	81	0	0	0	11
Lane Group Flow (vph)	12	1165	589	227	2082	0	604	31	0	8	8	1
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	66.3	62.9	99.7	81.2	71.8		36.8	36.8		4.0	4.0	7.4
Effective Green, g (s)	70.3	64.9	103.7	83.2	73.8		38.8	38.8		6.0	6.0	11.4
Actuated g/C Ratio	0.50	0.46	0.74	0.59	0.53		0.28	0.28		0.04	0.04	0.08
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	123	2268	1184	323	1793		960	443		73	70	134
v/s Ratio Prot	0.00	0.24	0.14	c0.07	c0.61		c0.17	0.02		0.00	c0.00	0.00
v/s Ratio Perm	0.04		0.23	0.34								0.00
v/c Ratio	0.10	0.51	0.50	0.70	1.16		0.63	0.07		0.11	0.11	0.01
Uniform Delay, d1	30.8	26.4	7.5	17.3	33.1		44.3	37.3		64.4	64.4	59.1
Progression Factor	0.77	0.59	1.21	1.67	0.83		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6	0.2	3.6	76.3		1.3	0.1		1.1	1.3	0.0
Delay (s)	23.8	16.1	9.2	32.5	103.7		45.6	37.4		65.6	65.7	59.1
Level of Service	C	B	A	C	F		D	D		E	E	E
Approach Delay (s)		13.4			96.7			44.3			62.8	
Approach LOS		B			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	56.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	1609	19	87	2099	111	5	11	110	66	6	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3429		1770	3386			1599		1787	1696	
Flt Permitted	0.04	1.00		0.08	1.00			0.99		0.28	1.00	
Satd. Flow (perm)	78	3429		144	3386			1586		527	1696	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	12	1712	32	112	2233	132	8	16	164	78	12	25
RTOR Reduction (vph)	0	1	0	0	2	0	0	116	0	0	21	0
Lane Group Flow (vph)	12	1743	0	112	2363	0	0	72	0	78	16	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	98.8	96.4		110.0	102.0			19.3		19.3	19.3	
Effective Green, g (s)	102.0	98.0		111.6	103.6			20.4		20.4	20.4	
Actuated g/C Ratio	0.73	0.70		0.80	0.74			0.15		0.15	0.15	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	106	2400		226	2505			231		76	247	
v/s Ratio Prot	0.00	0.51		c0.03	c0.70						0.01	
v/s Ratio Perm	0.08			0.36				0.05		c0.15		
v/c Ratio	0.11	0.73		0.50	0.94			0.31		1.03	0.06	
Uniform Delay, d1	24.5	12.8		15.4	15.7			53.5		59.8	51.6	
Progression Factor	1.27	1.72		2.11	0.82			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.7		0.5	3.0			0.8		110.7	0.1	
Delay (s)	31.4	23.7		32.9	15.9			54.3		170.5	51.7	
Level of Service	C	C		C	B			D		F	D	
Approach Delay (s)		23.7			16.6			54.3			132.3	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	195	1259	1674	450	378	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.04	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	82	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	210	1384	1820	464	420	259
RTOR Reduction (vph)	0	0	0	118	0	216
Lane Group Flow (vph)	210	1384	1820	346	420	43
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	106.8	106.8	85.7	85.7	22.5	22.5
Effective Green, g (s)	108.5	108.5	87.4	87.4	23.5	23.5
Actuated g/C Ratio	0.78	0.78	0.62	0.62	0.17	0.17
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	271	2639	2106	998	581	472
v/s Ratio Prot	c0.09	0.41	c0.54		c0.12	
v/s Ratio Perm	0.50			0.22		0.02
v/c Ratio	0.77	0.52	0.86	0.35	0.72	0.09
Uniform Delay, d1	45.4	6.0	21.5	12.6	55.2	49.2
Progression Factor	0.89	2.16	0.48	0.44	1.00	1.00
Incremental Delay, d2	8.4	0.5	2.2	0.4	4.4	0.1
Delay (s)	48.6	13.4	12.5	6.0	59.6	49.3
Level of Service	D	B	B	A	E	D
Approach Delay (s)		18.0	11.2		55.7	
Approach LOS		B	B		E	

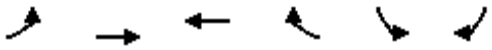
Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1623	11	16	1529	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3433		1770	4940	1695	
Flt Permitted	1.00		0.06	1.00	0.98	
Satd. Flow (perm)	3433		109	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1673	20	36	1609	32	32
RTOR Reduction (vph)	1	0	0	0	26	0
Lane Group Flow (vph)	1692	0	36	1609	38	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	62.3		79.1	99.0	27.6	
Effective Green, g (s)	62.3		79.1	93.7	27.6	
Actuated g/C Ratio	0.44		0.56	0.67	0.20	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1527		186	3306	334	
v/s Ratio Prot	c0.49		0.01	c0.33	c0.02	
v/s Ratio Perm			0.10			
v/c Ratio	1.11		0.19	0.49	0.11	
Uniform Delay, d1	38.9		28.7	11.4	46.2	
Progression Factor	1.00		0.62	0.14	1.00	
Incremental Delay, d2	58.8		0.4	0.1	0.2	
Delay (s)	97.6		18.1	1.7	46.3	
Level of Service	F		B	A	D	
Approach Delay (s)	97.6			2.0	46.3	
Approach LOS	F			A	D	

Intersection Summary			
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	1639	1500	25	25	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.91	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1671	
Flt Permitted		0.94	1.00	1.00	0.98	
Satd. Flow (perm)		3216	3438	1583	1671	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	11	1690	1579	27	27	49
RTOR Reduction (vph)	0	0	0	3	44	0
Lane Group Flow (vph)	0	1701	1579	24	32	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases	2 3			6		
Actuated Green, G (s)		96.2	79.1	79.1	14.6	
Effective Green, g (s)		96.2	79.1	79.1	14.6	
Actuated g/C Ratio		0.69	0.56	0.56	0.10	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2209	1942	894	174	
v/s Ratio Prot			c0.46		c0.02	
v/s Ratio Perm		c0.53		0.01		
v/c Ratio		0.77	0.81	0.03	0.18	
Uniform Delay, d1		14.6	24.5	13.4	57.3	
Progression Factor		0.44	0.31	0.43	1.00	
Incremental Delay, d2		0.2	2.3	0.0	0.6	
Delay (s)		6.5	9.9	5.8	57.9	
Level of Service		A	A	A	E	
Approach Delay (s)		6.5	9.8		57.9	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	662	0	0	1362	266	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3188	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3188	
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.67	0.78
Adj. Flow (vph)	720	0	0	1497	397	149
RTOR Reduction (vph)	0	0	0	0	36	0
Lane Group Flow (vph)	720	0	0	1497	510	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	100.6			100.6	27.6	
Effective Green, g (s)	102.0			102.6	29.0	
Actuated g/C Ratio	0.73			0.73	0.21	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2504			3585	660	
v/s Ratio Prot	0.21			c0.31	c0.16	
v/s Ratio Perm						
v/c Ratio	0.29			0.42	0.77	
Uniform Delay, d1	6.5			7.2	52.4	
Progression Factor	1.55			1.00	1.00	
Incremental Delay, d2	0.2			0.4	5.4	
Delay (s)	10.3			7.6	57.8	
Level of Service	B			A	E	
Approach Delay (s)	10.3			7.6	57.8	
Approach LOS	B			A	E	

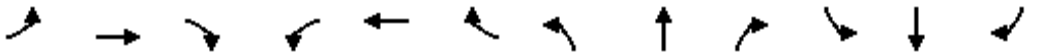
Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1717	230	107	739	0	0	0	318	0	908
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.0		6.6
Lane Util. Factor		*0.55	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		2986	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		2986	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.85	0.77	0.76	0.77	0.92	0.92	0.92	0.89	0.92	0.82
Adj. Flow (vph)	0	2020	299	141	960	0	0	0	357	0	1107
RTOR Reduction (vph)	0	0	58	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2020	241	141	960	0	0	0	357	0	1107
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		90.4	103.8	16.4	71.1				37.0		55.7
Effective Green, g (s)		90.4	103.8	16.4	71.1				30.4		49.7
Actuated g/C Ratio		0.65	0.74	0.12	0.51				0.22		0.36
Clearance Time (s)		6.6	6.6	6.6	6.6						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		1928	1212	199	2484				576		1221
v/s Ratio Prot		c0.68	0.02	c0.08	0.20				0.13		c0.32
v/s Ratio Perm			0.14								
v/c Ratio		1.05	0.20	0.71	0.39				0.62		0.91
Uniform Delay, d1		24.8	5.5	59.5	21.1				49.6		42.9
Progression Factor		0.81	1.06	1.07	1.08				1.00		1.00
Incremental Delay, d2		23.2	0.0	10.4	0.4				2.0		10.0
Delay (s)		43.2	5.8	74.1	23.1				51.6		52.9
Level of Service		D	A	E	C				D		D
Approach Delay (s)		38.4			29.7		51.6			52.9	
Approach LOS		D			C		D			D	

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

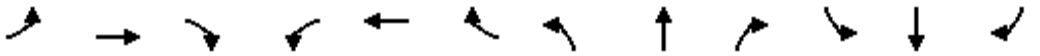
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	1062	59	400	1227	48	116	32	846	39	3	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.50		0.97	0.95	1.00	0.95	0.95	*0.61	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	2669		3433	3438	1583	1665	1742	1951	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	2669		3433	3438	1583	1665	1742	1951	3433	1881	1599
Peak-hour factor, PHF	0.78	0.87	0.36	0.81	0.86	0.80	0.85	0.50	0.92	0.81	0.38	0.46
Adj. Flow (vph)	36	1221	164	494	1427	60	136	64	920	48	8	24
RTOR Reduction (vph)	0	5	0	0	0	22	0	0	0	0	0	21
Lane Group Flow (vph)	36	1380	0	494	1427	38	98	102	920	48	8	3
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	8.0	62.1		22.0	76.1	84.1	22.1	22.1	50.7	8.0	8.0	16.0
Effective Green, g (s)	10.0	64.1		24.0	78.1	88.1	23.7	23.7	52.3	9.6	9.6	19.2
Actuated g/C Ratio	0.07	0.46		0.17	0.56	0.63	0.17	0.17	0.37	0.07	0.07	0.14
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	247	1222		588	1917	996	281	294	728	235	128	269
v/s Ratio Prot	0.01	c0.52		0.14	0.42	0.00	0.06	0.06	c0.47	c0.01	0.00	0.00
v/s Ratio Perm						0.02						0.00
v/c Ratio	0.15	1.13		0.84	0.74	0.04	0.35	0.35	1.26	0.20	0.06	0.01
Uniform Delay, d1	61.0	38.0		56.1	23.4	9.9	51.3	51.3	43.9	61.6	61.0	52.2
Progression Factor	0.97	0.91		0.93	0.51	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	68.7		8.6	2.2	0.0	0.8	0.7	129.5	0.4	0.2	0.0
Delay (s)	59.2	103.2		60.9	14.1	9.5	52.1	52.0	173.4	62.0	61.2	52.2
Level of Service	E	F		E	B	A	D	D	F	E	E	D
Approach Delay (s)		102.1			25.6			151.7			59.0	
Approach LOS		F			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	80.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

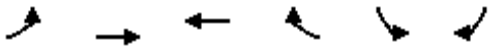
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	1050	39	41	1166	60	4	1	11	59	3	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4872		3467	3377		3467	1626	1519	1787	1693	
Flt Permitted	0.12	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	225	4872		3467	3377		3467	1626	1519	1787	1693	
Peak-hour factor, PHF	0.75	0.95	0.81	0.79	0.81	0.47	0.50	0.25	0.69	0.70	0.38	0.63
Adj. Flow (vph)	28	1105	48	52	1440	128	8	4	16	84	8	16
RTOR Reduction (vph)	0	2	0	0	2	0	0	6	9	0	15	0
Lane Group Flow (vph)	28	1151	0	52	1566	0	8	4	1	84	9	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	101.5	97.8		6.0	100.1		1.4	2.0	8.0	9.6	10.2	
Effective Green, g (s)	105.5	99.8		8.0	102.1		3.2	3.8	12.0	10.9	11.5	
Actuated g/C Ratio	0.75	0.71		0.06	0.73		0.02	0.03	0.09	0.08	0.08	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	232	3473		198	2462		79	44	173	139	139	
v/s Ratio Prot	0.00	0.24		c0.01	c0.46		0.00	0.00	0.00	c0.05	c0.01	
v/s Ratio Perm	0.09								0.00			
v/c Ratio	0.12	0.33		0.26	0.64		0.10	0.09	0.00	0.60	0.07	
Uniform Delay, d1	6.8	7.6		63.2	9.6		67.0	66.4	58.5	62.5	59.3	
Progression Factor	0.61	0.60		1.26	0.31		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.4	1.0		0.7	0.7	0.0	7.6	0.2	
Delay (s)	4.3	4.8		79.9	3.9		67.7	67.1	58.5	70.1	59.5	
Level of Service	A	A		E	A		E	E	E	E	E	
Approach Delay (s)		4.8			6.4			64.2			67.7	
Approach LOS		A			A			E			E	

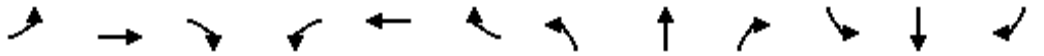
Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



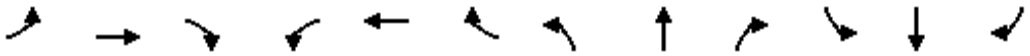
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	54	1028	1082	67	47	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3383		1593	1398
Flt Permitted	0.15	1.00	1.00		0.95	1.00
Satd. Flow (perm)	274	4893	3383		1593	1398
Peak-hour factor, PHF	0.61	0.92	0.80	0.80	0.84	0.71
Adj. Flow (vph)	89	1117	1352	84	56	56
RTOR Reduction (vph)	0	0	2	0	0	52
Lane Group Flow (vph)	89	1117	1434	0	56	4
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	118.5	118.5	105.5		9.4	9.4
Effective Green, g (s)	119.9	119.9	106.9		10.4	10.4
Actuated g/C Ratio	0.86	0.86	0.76		0.07	0.07
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	325	4190	2583		118	103
v/s Ratio Prot	0.02	c0.23	c0.42		c0.04	
v/s Ratio Perm	0.22					0.00
v/c Ratio	0.27	0.27	0.56		0.47	0.04
Uniform Delay, d1	4.2	1.9	6.8		62.2	60.2
Progression Factor	1.34	0.69	0.05		1.00	1.00
Incremental Delay, d2	0.3	0.2	0.7		3.0	0.2
Delay (s)	6.0	1.4	1.0		65.2	60.3
Level of Service	A	A	A		E	E
Approach Delay (s)		1.8	1.0		62.8	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



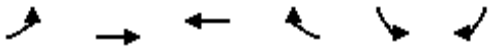
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	1040	106	51	1016	133	31	8	17	5	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3366		3467	1706		1715	1600	1652
Flt Permitted	0.15	1.00	1.00	0.22	1.00		0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	278	4893	1599	418	3366		3467	1706		1715	1600	1652
Peak-hour factor, PHF	0.75	0.93	0.74	0.75	0.82	0.85	0.78	0.40	0.47	0.42	0.92	0.38
Adj. Flow (vph)	56	1118	143	68	1239	156	40	20	36	12	0	16
RTOR Reduction (vph)	0	0	31	0	4	0	0	33	0	0	0	15
Lane Group Flow (vph)	56	1118	112	68	1391	0	40	23	0	6	6	1
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	100.8	95.9	106.1	101.6	96.3		10.2	10.2		4.0	4.0	8.9
Effective Green, g (s)	104.8	97.9	110.1	105.6	98.3		12.2	12.2		6.0	6.0	12.9
Actuated g/C Ratio	0.75	0.70	0.79	0.75	0.70		0.09	0.09		0.04	0.04	0.09
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	283	3421	1257	386	2363		302	148		73	68	152
v/s Ratio Prot	c0.01	0.23	0.01	0.01	c0.41		0.01	c0.01		0.00	c0.00	0.00
v/s Ratio Perm	0.14		0.06	0.12								0.00
v/c Ratio	0.20	0.33	0.09	0.18	0.59		0.13	0.16		0.08	0.09	0.01
Uniform Delay, d1	6.9	8.2	3.4	4.7	10.6		59.0	59.1		64.4	64.4	57.7
Progression Factor	0.32	0.29	0.19	0.34	0.18		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.0	0.1	0.9		0.2	0.5		0.8	1.0	0.0
Delay (s)	2.4	2.6	0.7	1.7	2.9		59.2	59.6		65.2	65.3	57.8
Level of Service	A	A	A	A	A		E	E		E	E	E
Approach Delay (s)		2.4			2.8			59.5			61.0	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1059	3	35	861	43	6	5	98	51	6	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.1			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3433		1770	3389			1596		1787	1699	
Flt Permitted	0.24	1.00		0.20	1.00			0.97		0.34	1.00	
Satd. Flow (perm)	465	3433		377	3389			1561		642	1699	
Peak-hour factor, PHF	0.25	0.92	0.25	0.88	0.83	0.83	0.50	0.63	0.79	0.80	0.50	0.54
Adj. Flow (vph)	4	1151	12	40	1037	52	12	8	124	64	12	24
RTOR Reduction (vph)	0	0	0	0	2	0	0	110	0	0	21	0
Lane Group Flow (vph)	4	1163	0	40	1087	0	0	34	0	64	15	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	103.8	102.6		111.6	106.5			14.6		14.6	14.6	
Effective Green, g (s)	107.0	104.2		114.8	108.1			15.7		15.7	15.7	
Actuated g/C Ratio	0.76	0.74		0.82	0.77			0.11		0.11	0.11	
Clearance Time (s)	6.0	5.7		6.0	5.7			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	382	2555		375	2616			175		71	190	
v/s Ratio Prot	0.00	c0.34		c0.01	c0.32						0.01	
v/s Ratio Perm	0.01			0.08				0.02		c0.10		
v/c Ratio	0.01	0.46		0.11	0.42			0.19		0.90	0.08	
Uniform Delay, d1	4.1	6.9		3.6	5.4			56.4		61.4	55.7	
Progression Factor	0.15	0.12		0.49	0.32			1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.6		0.1	0.4			0.5		73.4	0.2	
Delay (s)	0.6	1.4		1.9	2.1			56.9		134.8	55.8	
Level of Service	A	A		A	A			E		F	E	
Approach Delay (s)		1.4			2.1			56.9			106.3	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	81	1029	827	53	34	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.26	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	487	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.84	0.91	0.84	0.74	0.61	0.57
Adj. Flow (vph)	96	1131	985	72	56	56
RTOR Reduction (vph)	0	0	0	16	0	52
Lane Group Flow (vph)	96	1131	985	56	56	4
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	119.8	119.8	106.8	106.8	8.0	8.0
Effective Green, g (s)	121.5	121.5	108.5	108.5	9.0	9.0
Actuated g/C Ratio	0.87	0.87	0.78	0.78	0.06	0.06
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	503	2955	2614	1239	222	180
v/s Ratio Prot	0.01	c0.33	0.29		c0.02	
v/s Ratio Perm	0.15			0.03		0.00
v/c Ratio	0.19	0.38	0.38	0.05	0.25	0.02
Uniform Delay, d1	2.0	1.8	5.0	3.7	62.3	61.4
Progression Factor	0.09	0.45	0.20	0.17	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.4	0.1	0.6	0.0
Delay (s)	0.3	1.2	1.4	0.7	62.9	61.4
Level of Service	A	A	A	A	E	E
Approach Delay (s)		1.1	1.3		62.2	
Approach LOS		A	A		E	

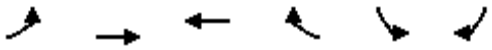
Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1105	4	5	895	3	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.91	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	3435		1770	4940	1668	
Flt Permitted	1.00		0.14	1.00	0.99	
Satd. Flow (perm)	3435		268	4940	1668	
Peak-hour factor, PHF	0.97	0.50	0.63	0.84	0.38	0.80
Adj. Flow (vph)	1139	8	8	1065	8	19
RTOR Reduction (vph)	0	0	0	0	17	0
Lane Group Flow (vph)	1147	0	8	1065	10	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	73.2		90.1	113.0	14.4	
Effective Green, g (s)	73.2		90.1	113.0	14.4	
Actuated g/C Ratio	0.52		0.64	0.81	0.10	
Clearance Time (s)	6.6		6.0		6.0	
Vehicle Extension (s)	3.6		3.0		3.0	
Lane Grp Cap (vph)	1796		289	3987	171	
v/s Ratio Prot	c0.33		0.00	c0.22	c0.01	
v/s Ratio Perm			0.02			
v/c Ratio	0.64		0.03	0.27	0.06	
Uniform Delay, d1	23.9		12.9	3.3	56.7	
Progression Factor	1.00		0.23	0.24	1.00	
Incremental Delay, d2	1.8		0.0	0.0	0.1	
Delay (s)	25.7		3.1	0.8	56.8	
Level of Service	C		A	A	E	
Approach Delay (s)	25.7			0.8	56.8	
Approach LOS	C			A	E	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1120	850	9	25	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.0	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.91	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1667	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1667	
Peak-hour factor, PHF	0.92	0.97	0.84	0.92	0.92	0.92
Adj. Flow (vph)	0	1155	1012	10	27	54
RTOR Reduction (vph)	0	0	0	2	47	0
Lane Group Flow (vph)	0	1155	1012	8	34	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		94.2	90.1	90.1	16.9	
Effective Green, g (s)		94.2	90.1	90.1	16.9	
Actuated g/C Ratio		0.67	0.64	0.64	0.12	
Clearance Time (s)			6.6	6.6	6.0	
Vehicle Extension (s)			3.6	3.6	3.0	
Lane Grp Cap (vph)		2313	2212	1018	201	
v/s Ratio Prot		c0.34	c0.29		c0.02	
v/s Ratio Perm				0.01		
v/c Ratio		0.50	0.46	0.01	0.17	
Uniform Delay, d1		11.3	12.6	8.9	55.2	
Progression Factor		0.01	1.71	2.09	1.00	
Incremental Delay, d2		0.1	0.7	0.0	0.4	
Delay (s)		0.2	22.2	18.7	55.6	
Level of Service		A	C	B	E	
Approach Delay (s)		0.2	22.2		55.6	
Approach LOS		A	C		E	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	907	0	0	964	263	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3214	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3214	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.92
Adj. Flow (vph)	955	0	0	1004	299	74
RTOR Reduction (vph)	0	0	0	0	20	0
Lane Group Flow (vph)	955	0	0	1004	353	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	99.0			99.0	19.2	
Effective Green, g (s)	100.4			101.0	20.6	
Actuated g/C Ratio	0.77			0.78	0.16	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2655			3801	509	
v/s Ratio Prot	c0.28			0.21	c0.11	
v/s Ratio Perm						
v/c Ratio	0.36			0.26	0.69	
Uniform Delay, d1	4.7			4.1	51.7	
Progression Factor	0.12			1.00	1.00	
Incremental Delay, d2	0.3			0.2	3.7	
Delay (s)	0.9			4.2	55.5	
Level of Service	A			A	E	
Approach Delay (s)	0.9			4.2	55.5	
Approach LOS	A			A	E	

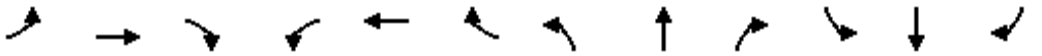
Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1444	299	74	956	0	0	0	260	0	969
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.6		6.6
Lane Util. Factor		*0.60	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3257	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3257	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.95	0.91	0.49	0.95	0.92	0.92	0.92	0.93	0.92	0.88
Adj. Flow (vph)	0	1520	329	151	1006	0	0	0	280	0	1101
RTOR Reduction (vph)	0	0	84	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1520	245	151	1006	0	0	0	280	0	1101
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2						1 4
Permitted Phases		6	6 7		2				2		1 4
Actuated Green, G (s)		76.5	89.9	20.3	66.2				66.2		50.6
Effective Green, g (s)		76.5	89.9	20.3	66.2				66.2		44.6
Actuated g/C Ratio		0.59	0.69	0.16	0.51				0.51		0.34
Clearance Time (s)		6.6	6.6	6.6	6.6				6.6		
Vehicle Extension (s)		5.0	3.0	3.0	5.0				5.0		
Lane Grp Cap (vph)		1916	1141	265	2491				1352		1180
v/s Ratio Prot		c0.47	0.02	c0.09	0.21						c0.32
v/s Ratio Perm			0.14						0.11		
v/c Ratio		0.79	0.21	0.57	0.40				0.21		0.93
Uniform Delay, d1		20.6	7.3	50.8	19.7				17.5		41.3
Progression Factor		0.82	1.58	1.00	0.90				1.00		1.00
Incremental Delay, d2		1.9	0.1	2.7	0.5				0.3		13.3
Delay (s)		18.7	11.6	53.3	18.1				17.8		54.6
Level of Service		B	B	D	B				B		D
Approach Delay (s)		17.4			22.7		17.8			54.6	
Approach LOS		B			C		B			D	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

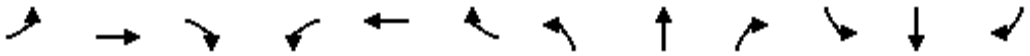
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	1033	55	388	973	254	144	110	450	260	103	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.70		0.97	0.95	1.00	0.95	0.95	*0.67	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3768		3433	3438	1583	1665	1775	2143	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3768		3433	3438	1583	1665	1775	2143	3433	1881	1599
Peak-hour factor, PHF	0.93	0.96	0.81	0.87	0.94	0.87	0.90	0.76	0.88	0.76	0.80	0.57
Adj. Flow (vph)	247	1076	68	446	1035	292	160	145	511	342	129	304
RTOR Reduction (vph)	0	4	0	0	0	73	0	0	0	0	0	102
Lane Group Flow (vph)	247	1140	0	446	1035	219	144	161	511	342	129	202
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	12.0	50.8		18.6	57.4	74.6	17.6	17.6	42.8	17.2	17.2	29.2
Effective Green, g (s)	14.0	52.8		20.6	59.4	78.6	19.2	19.2	44.4	18.8	18.8	32.4
Actuated g/C Ratio	0.11	0.41		0.16	0.46	0.60	0.15	0.15	0.34	0.14	0.14	0.25
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	373	1530		543	1570	957	245	262	731	496	272	452
v/s Ratio Prot	0.07	c0.30		c0.13	0.30	0.03	0.09	0.09	c0.24	c0.10	0.07	0.05
v/s Ratio Perm						0.10						0.08
v/c Ratio	0.66	0.74		0.82	0.66	0.23	0.59	0.61	0.70	0.69	0.47	0.45
Uniform Delay, d1	55.7	32.9		52.9	27.4	11.8	51.7	51.9	37.0	52.8	51.1	41.2
Progression Factor	0.87	0.84		1.05	0.98	1.53	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	3.1		7.8	1.7	0.1	3.6	4.2	2.9	4.0	1.3	0.7
Delay (s)	52.7	30.6		63.3	28.7	18.2	55.3	56.2	40.0	56.8	52.4	41.9
Level of Service	D	C		E	C	B	E	E	D	E	D	D
Approach Delay (s)		34.5			35.7			45.9			50.2	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

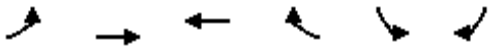
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	994	64	263	1044	50	114	18	256	86	25	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87	0.85	1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4860		3467	3386		3467	1555	1519	1787	1702	
Flt Permitted	0.21	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	392	4860		3467	3386		3467	1555	1519	1787	1702	
Peak-hour factor, PHF	0.79	0.93	0.84	0.75	0.95	0.78	0.81	0.90	0.94	0.77	0.78	0.70
Adj. Flow (vph)	48	1069	76	351	1099	64	141	20	272	112	32	56
RTOR Reduction (vph)	0	4	0	0	2	0	0	116	61	0	50	0
Lane Group Flow (vph)	48	1141	0	351	1161	0	141	32	83	112	38	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	69.4	64.2		17.9	76.9		10.2	10.8	28.7	12.5	13.1	
Effective Green, g (s)	73.4	66.2		19.9	78.9		12.0	12.6	32.7	13.8	14.4	
Actuated g/C Ratio	0.56	0.51		0.15	0.61		0.09	0.10	0.25	0.11	0.11	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	297	2474		530	2055		320	150	428	189	188	
v/s Ratio Prot	0.01	0.23		c0.10	c0.34		0.04	0.02	0.03	c0.06	c0.02	
v/s Ratio Perm	0.08								0.03			
v/c Ratio	0.16	0.46		0.66	0.56		0.44	0.22	0.19	0.59	0.20	
Uniform Delay, d1	13.0	20.5		51.9	15.3		55.8	54.1	38.3	55.4	52.6	
Progression Factor	0.92	0.73		1.34	0.47		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.6		2.2	0.9		1.1	0.5	0.2	5.2	0.5	
Delay (s)	12.2	15.6		71.5	8.1		57.0	54.7	38.5	60.6	53.1	
Level of Service	B	B		E	A		E	D	D	E	D	
Approach Delay (s)		15.4			22.8			50.0			57.3	
Approach LOS		B			C			D			E	

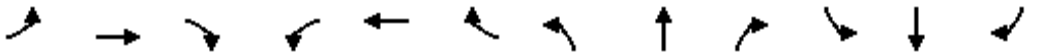
Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



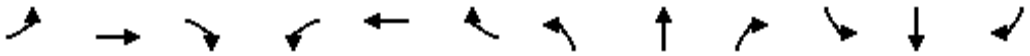
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	974	1134	77	71	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3379		1593	1398
Flt Permitted	0.15	1.00	1.00		0.95	1.00
Satd. Flow (perm)	290	4893	3379		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1004	1246	92	92	173
RTOR Reduction (vph)	0	0	3	0	0	154
Lane Group Flow (vph)	96	1004	1335	0	92	19
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	104.6	104.6	91.4		13.3	13.3
Effective Green, g (s)	106.0	106.0	92.8		14.3	14.3
Actuated g/C Ratio	0.82	0.82	0.71		0.11	0.11
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	335	3989	2412		175	153
v/s Ratio Prot	0.02	c0.21	c0.40		c0.06	
v/s Ratio Perm	0.21					0.01
v/c Ratio	0.29	0.25	0.55		0.53	0.12
Uniform Delay, d1	5.2	2.8	8.8		54.6	52.2
Progression Factor	1.58	0.21	0.24		1.00	1.00
Incremental Delay, d2	0.3	0.1	0.8		2.8	0.4
Delay (s)	8.6	0.7	2.9		57.5	52.6
Level of Service	A	A	A		E	D
Approach Delay (s)		1.4	2.9		54.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



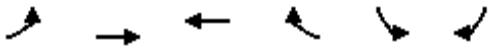
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	985	505	144	1075	26	350	26	135	18	17	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3394		3467	1650		1715	1664	1652
Flt Permitted	0.13	1.00	1.00	0.19	1.00		0.95	1.00		0.95	0.99	1.00
Satd. Flow (perm)	256	4893	1599	353	3394		3467	1650		1715	1664	1652
Peak-hour factor, PHF	0.77	0.91	0.94	0.86	0.89	0.65	0.85	0.72	0.78	0.45	0.71	0.83
Adj. Flow (vph)	48	1082	537	167	1208	40	412	36	173	40	24	24
RTOR Reduction (vph)	0	0	157	0	1	0	0	136	0	0	0	21
Lane Group Flow (vph)	48	1082	380	167	1247	0	412	73	0	32	32	3
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	68.8	63.4	87.9	77.0	67.5		24.5	24.5		8.0	8.0	13.4
Effective Green, g (s)	72.8	65.4	91.9	80.9	69.5		26.5	26.5		10.0	10.0	17.4
Actuated g/C Ratio	0.56	0.50	0.71	0.62	0.53		0.20	0.20		0.08	0.08	0.13
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	231	2461	1130	346	1814		706	336		131	128	221
v/s Ratio Prot	0.01	0.22	0.07	c0.04	c0.37		c0.12	0.04		0.02	c0.02	0.00
v/s Ratio Perm	0.10		0.17	0.26								0.00
v/c Ratio	0.21	0.44	0.34	0.48	0.69		0.58	0.22		0.24	0.25	0.01
Uniform Delay, d1	15.9	20.6	7.3	12.1	22.3		46.8	43.1		56.4	56.5	48.9
Progression Factor	0.45	0.36	0.95	1.14	0.46		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.5	0.1	0.7	1.8		1.2	0.3		1.7	1.8	0.0
Delay (s)	7.4	7.8	7.1	14.4	12.1		48.0	43.4		58.1	58.2	48.9
Level of Service	A	A	A	B	B		D	D		E	E	D
Approach Delay (s)		7.6			12.3			46.5			55.6	
Approach LOS		A			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1323	19	87	1288	74	5	11	110	44	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.1			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3427		1770	3384			1599		1787	1699	
Flt Permitted	0.16	1.00		0.13	1.00			0.99		0.26	1.00	
Satd. Flow (perm)	296	3427		245	3384			1583		498	1699	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	8	1407	32	112	1370	88	8	16	164	52	8	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	145	0	0	14	0
Lane Group Flow (vph)	8	1438	0	112	1456	0	0	43	0	52	10	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	91.9	90.7		104.3	97.1			14.0		14.0	14.0	
Effective Green, g (s)	95.1	92.3		105.9	98.7			15.1		15.1	15.1	
Actuated g/C Ratio	0.73	0.71		0.81	0.76			0.12		0.12	0.12	
Clearance Time (s)	6.0	5.7		6.0	5.7			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	249	2433		307	2569			183		57	197	
v/s Ratio Prot	0.00	c0.42		c0.03	c0.43						0.01	
v/s Ratio Perm	0.02			0.27				0.03		c0.10		
v/c Ratio	0.03	0.59		0.36	0.57			0.24		0.91	0.05	
Uniform Delay, d1	5.3	9.4		6.8	6.6			52.2		56.8	51.1	
Progression Factor	1.21	0.80		1.43	0.47			1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.0		0.6	0.7			0.7		87.4	0.1	
Delay (s)	6.5	8.5		10.2	3.8			52.9		144.2	51.2	
Level of Service	A	A		B	A			D		F	D	
Approach Delay (s)		8.5			4.3			52.9			114.8	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	1096	1006	300	252	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.21	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	395	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	140	1204	1093	309	280	173
RTOR Reduction (vph)	0	0	0	95	0	151
Lane Group Flow (vph)	140	1204	1093	214	280	22
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	102.0	102.0	88.3	88.3	15.8	15.8
Effective Green, g (s)	103.7	103.7	90.0	90.0	16.8	16.8
Actuated g/C Ratio	0.80	0.80	0.69	0.69	0.13	0.13
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	415	2716	2335	1107	448	363
v/s Ratio Prot	0.02	c0.35	c0.32		c0.08	
v/s Ratio Perm	0.24			0.13		0.01
v/c Ratio	0.34	0.44	0.47	0.19	0.62	0.06
Uniform Delay, d1	4.7	4.1	9.1	7.1	53.6	49.7
Progression Factor	0.50	0.03	0.81	2.17	1.00	1.00
Incremental Delay, d2	0.3	0.4	0.6	0.3	2.7	0.1
Delay (s)	2.7	0.6	7.9	15.7	56.3	49.8
Level of Service	A	A	A	B	E	D
Approach Delay (s)		0.8	9.7		53.8	
Approach LOS		A	A		D	

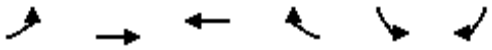
Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1289	11	16	1335	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3432		1770	4940	1695	
Flt Permitted	1.00		0.07	1.00	0.98	
Satd. Flow (perm)	3432		123	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1329	20	36	1405	32	32
RTOR Reduction (vph)	1	0	0	0	27	0
Lane Group Flow (vph)	1348	0	36	1405	37	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	60.4		77.4	96.8	20.6	
Effective Green, g (s)	60.4		77.4	96.8	20.6	
Actuated g/C Ratio	0.46		0.60	0.74	0.16	
Clearance Time (s)	6.6		6.0		6.0	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1594		212	3678	268	
v/s Ratio Prot	c0.39		0.01	c0.28	c0.02	
v/s Ratio Perm			0.09			
v/c Ratio	0.85		0.17	0.38	0.14	
Uniform Delay, d1	30.7		19.4	5.9	47.1	
Progression Factor	1.00		0.23	0.10	1.00	
Incremental Delay, d2	5.7		0.3	0.1	0.3	
Delay (s)	36.4		4.8	0.6	47.3	
Level of Service	D		A	A	D	
Approach Delay (s)	36.4			0.7	47.3	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1315	1326	25	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.0	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1356	1396	27	27	27
RTOR Reduction (vph)	0	0	0	4	24	0
Lane Group Flow (vph)	0	1356	1396	23	30	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		87.6	77.4	77.4	13.4	
Effective Green, g (s)		87.6	77.4	77.4	13.4	
Actuated g/C Ratio		0.67	0.60	0.60	0.10	
Clearance Time (s)			6.6	6.6	6.0	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2316	2046	942	174	
v/s Ratio Prot		c0.39	c0.41		c0.02	
v/s Ratio Perm				0.01		
v/c Ratio		0.59	0.68	0.02	0.17	
Uniform Delay, d1		11.4	17.9	10.8	53.2	
Progression Factor		0.01	0.87	0.96	1.00	
Incremental Delay, d2		0.2	1.8	0.0	0.6	
Delay (s)		0.3	17.4	10.4	53.8	
Level of Service		A	B	B	D	
Approach Delay (s)		0.3	17.3		53.8	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1665	0	0	1260	327	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3438			4893	3160	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3438			4893	3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.86	0.82
Adj. Flow (vph)	1810	0	0	1355	380	207
RTOR Reduction (vph)	0	0	0	0	23	0
Lane Group Flow (vph)	1810	0	0	1355	564	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	99.1			99.1	29.1	
Effective Green, g (s)	100.5			101.1	30.5	
Actuated g/C Ratio	0.72			0.72	0.22	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2467			3533	688	
v/s Ratio Prot	c0.53			0.28	c0.18	
v/s Ratio Perm						
v/c Ratio	0.73			0.38	0.82	
Uniform Delay, d1	11.8			7.5	52.1	
Progression Factor	0.69			1.00	1.00	
Incremental Delay, d2	0.2			0.3	7.4	
Delay (s)	8.3			7.8	59.5	
Level of Service	A			A	E	
Approach Delay (s)	8.3			7.8	59.5	
Approach LOS	A			A	E	

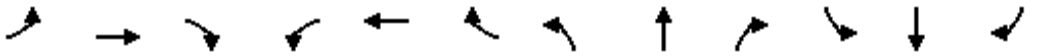
Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1850	381	85	1188	0	0	0	701	0	1779
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.0		6.6
Lane Util. Factor		*0.50	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		2714	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		2714	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.87	0.87	0.46	0.86	0.92	0.92	0.92	0.90	0.92	0.96
Adj. Flow (vph)	0	2126	438	185	1381	0	0	0	779	0	1853
RTOR Reduction (vph)	0	0	161	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2126	277	185	1381	0	0	0	779	0	1853
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	Perm	Prot	NA				custom		custom
Protected Phases		6		5	2				4 5		1 4
Permitted Phases		6	6		2						1 4
Actuated Green, G (s)		88.4	88.4	18.4	49.4				39.0		77.4
Effective Green, g (s)		88.4	88.4	18.4	49.4				32.4		71.4
Actuated g/C Ratio		0.63	0.63	0.13	0.35				0.23		0.51
Clearance Time (s)		6.6	6.6	6.6	6.6						
Vehicle Extension (s)		5.0	5.0	3.0	5.0						
Lane Grp Cap (vph)		1713	971	223	1726				614		1754
v/s Ratio Prot		c0.78		0.11	0.28				c0.29		0.54
v/s Ratio Perm			0.18								
v/c Ratio		1.24	0.28	0.83	0.80				1.27		1.06
Uniform Delay, d1		25.8	11.6	59.3	40.8				53.8		34.3
Progression Factor		0.80	0.40	0.84	0.78				1.00		1.00
Incremental Delay, d2		109.0	0.0	20.5	3.7				133.5		38.2
Delay (s)		129.7	4.7	70.5	35.4				187.3		72.5
Level of Service		F	A	E	D				F		E
Approach Delay (s)		108.3			39.6		187.3			72.5	
Approach LOS		F			D		F			E	

Intersection Summary			
HCM 2000 Control Delay	91.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

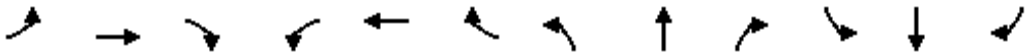
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	1412	77	867	1779	321	170	102	597	222	140	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.70		0.97	0.95	1.00	1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3759		3433	3438	1583	1752	1881	2814	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3759		3433	3438	1583	1752	1881	2814	3433	1881	1599
Peak-hour factor, PHF	0.88	0.82	0.53	0.80	0.95	0.69	0.92	0.88	0.90	0.80	0.83	0.69
Adj. Flow (vph)	217	1722	145	1084	1873	465	185	116	663	278	169	351
RTOR Reduction (vph)	0	5	0	0	0	76	0	0	0	0	0	99
Lane Group Flow (vph)	217	1862	0	1084	1873	389	185	116	663	278	169	252
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	14.0	47.4		39.0	72.4	84.8	15.4	15.4	61.0	12.4	12.4	26.4
Effective Green, g (s)	16.0	49.4		41.0	74.4	88.8	17.0	17.0	62.6	14.0	14.0	29.6
Actuated g/C Ratio	0.11	0.35		0.29	0.53	0.63	0.12	0.12	0.45	0.10	0.10	0.21
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	396	1326		1005	1827	1004	212	228	1258	343	188	388
v/s Ratio Prot	0.06	c0.50		c0.32	0.54	0.04	c0.11	0.06	0.24	0.08	c0.09	0.07
v/s Ratio Perm						0.21						0.09
v/c Ratio	0.55	1.40		1.08	1.03	0.39	0.87	0.51	0.53	0.81	0.90	0.65
Uniform Delay, d1	58.6	45.3		49.5	32.8	12.4	60.4	57.6	28.0	61.7	62.3	50.4
Progression Factor	0.94	0.92		1.01	1.02	0.79	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	185.9		45.0	21.7	0.1	30.2	1.8	0.4	13.5	38.2	3.7
Delay (s)	56.2	227.5		94.8	55.1	9.9	90.6	59.4	28.4	75.2	100.5	54.2
Level of Service	E	F		F	E	A	F	E	C	E	F	D
Approach Delay (s)		209.7			61.5			44.1			71.3	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	102.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

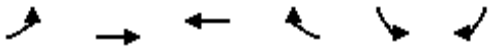
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	1227	52	328	1414	58	95	7	257	102	18	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.86	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4871		3467	3387		3467	1534	1519	1787	1722	
Flt Permitted	0.11	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	196	4871		3467	3387		3467	1534	1519	1787	1722	
Peak-hour factor, PHF	0.60	0.85	0.76	0.90	0.95	0.69	0.77	0.77	0.85	0.77	0.64	0.86
Adj. Flow (vph)	60	1444	68	364	1488	84	123	9	302	132	28	36
RTOR Reduction (vph)	0	3	0	0	2	0	0	133	56	0	33	0
Lane Group Flow (vph)	60	1509	0	364	1570	0	123	24	98	132	31	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	77.7	72.2		19.4	86.1		12.6	12.0	31.4	11.8	11.2	
Effective Green, g (s)	81.7	74.2		21.4	88.1		14.4	13.8	35.4	13.1	12.5	
Actuated g/C Ratio	0.58	0.53		0.15	0.63		0.10	0.10	0.25	0.09	0.09	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	198	2581		529	2131		356	151	427	167	153	
v/s Ratio Prot	0.02	0.31		c0.10	c0.46		0.04	0.02	c0.04	c0.07	0.02	
v/s Ratio Perm	0.16								0.03			
v/c Ratio	0.30	0.58		0.69	0.74		0.35	0.16	0.23	0.79	0.20	
Uniform Delay, d1	15.5	22.4		56.1	17.9		58.4	57.8	41.5	62.1	59.1	
Progression Factor	1.32	1.10		1.26	0.37		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.9		1.0	0.6		0.7	0.4	0.2	22.5	0.7	
Delay (s)	21.0	25.6		71.7	7.3		59.1	58.1	41.7	84.6	59.8	
Level of Service	C	C		E	A		E	E	D	F	E	
Approach Delay (s)		25.5			19.4			52.6			76.5	
Approach LOS		C			B			D			E	

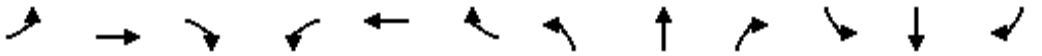
Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



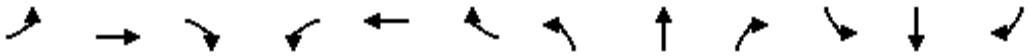
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	1172	1445	112	99	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3374		1593	1398
Flt Permitted	0.09	1.00	1.00		0.95	1.00
Satd. Flow (perm)	163	4893	3374		1593	1398
Peak-hour factor, PHF	0.86	0.88	0.92	0.80	0.88	0.76
Adj. Flow (vph)	103	1332	1571	140	112	163
RTOR Reduction (vph)	0	0	4	0	0	130
Lane Group Flow (vph)	103	1332	1707	0	112	33
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	112.6	112.6	98.6		15.3	15.3
Effective Green, g (s)	114.0	114.0	100.0		16.3	16.3
Actuated g/C Ratio	0.81	0.81	0.71		0.12	0.12
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	241	3984	2410		185	162
v/s Ratio Prot	c0.03	0.27	c0.51		c0.07	
v/s Ratio Perm	0.32					0.02
v/c Ratio	0.43	0.33	0.71		0.61	0.20
Uniform Delay, d1	11.9	3.3	11.6		58.8	56.0
Progression Factor	4.96	0.98	0.28		1.00	1.00
Incremental Delay, d2	0.8	0.2	1.4		5.5	0.6
Delay (s)	59.9	3.4	4.6		64.3	56.6
Level of Service	E	A	A		E	E
Approach Delay (s)		7.5	4.6		59.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



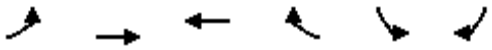
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	1079	558	143	1428	3	400	1	149	88	11	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3404		3467	1606		1715	1622	1652
Flt Permitted	0.07	1.00	1.00	0.12	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	137	4893	1599	227	3404		3467	1606		1715	1622	1652
Peak-hour factor, PHF	0.63	0.78	0.96	0.83	0.93	0.38	0.95	0.25	0.93	0.55	0.55	0.64
Adj. Flow (vph)	8	1383	581	172	1535	8	421	4	160	160	20	72
RTOR Reduction (vph)	0	0	159	0	0	0	0	125	0	0	0	63
Lane Group Flow (vph)	8	1383	422	172	1543	0	421	39	0	90	90	9
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	74.4	70.0	95.2	86.0	75.8		25.2	25.2		10.0	10.0	14.4
Effective Green, g (s)	78.4	72.0	99.2	88.2	77.8		27.2	27.2		12.0	12.0	18.4
Actuated g/C Ratio	0.56	0.51	0.71	0.63	0.56		0.19	0.19		0.09	0.09	0.13
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	152	2516	1133	278	1891		673	312		147	139	217
v/s Ratio Prot	0.00	0.28	0.07	c0.05	c0.45		c0.12	0.02		0.05	c0.06	0.00
v/s Ratio Perm	0.03		0.19	0.33								0.00
v/c Ratio	0.05	0.55	0.37	0.62	0.82		0.63	0.13		0.61	0.65	0.04
Uniform Delay, d1	19.7	23.0	8.1	15.4	25.3		51.7	46.6		61.8	62.0	53.1
Progression Factor	1.33	1.05	3.09	1.66	0.42		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.7	0.2	2.5	2.9		1.8	0.2		9.4	12.1	0.1
Delay (s)	26.3	25.0	25.1	28.1	13.6		53.6	46.8		71.1	74.1	53.2
Level of Service	C	C	C	C	B		D	D		E	E	D
Approach Delay (s)		25.0			15.0			51.6			67.1	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1380	25	142	1652	81	9	13	99	43	10	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.1			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1805	3429		1770	3389			1619		1787	1765	
Flt Permitted	0.09	1.00		0.11	1.00			0.96		0.34	1.00	
Satd. Flow (perm)	165	3429		206	3389			1568		632	1765	
Peak-hour factor, PHF	0.38	0.91	0.89	0.89	0.92	0.88	0.56	0.65	0.90	0.77	0.50	0.56
Adj. Flow (vph)	8	1516	28	160	1796	92	16	20	110	56	20	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	86	0	0	14	0
Lane Group Flow (vph)	8	1543	0	160	1886	0	0	60	0	56	22	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	98.3	97.1		114.0	106.8			14.3		14.3	14.3	
Effective Green, g (s)	101.5	98.7		115.6	108.4			15.4		15.4	15.4	
Actuated g/C Ratio	0.72	0.71		0.83	0.77			0.11		0.11	0.11	
Clearance Time (s)	6.0	5.7		6.0	5.7			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	152	2417		309	2624			172		69	194	
v/s Ratio Prot	0.00	0.45		c0.05	c0.56						0.01	
v/s Ratio Perm	0.04			0.38				0.04		c0.09		
v/c Ratio	0.05	0.64		0.52	0.72			0.35		0.81	0.11	
Uniform Delay, d1	7.7	11.1		11.1	8.0			57.6		60.9	56.1	
Progression Factor	0.20	0.33		2.68	0.39			1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.2		1.0	1.2			1.2		49.4	0.3	
Delay (s)	1.7	4.8		30.6	4.3			58.9		110.3	56.4	
Level of Service	A	A		C	A			E		F	E	
Approach Delay (s)		4.8			6.4			58.9			89.2	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	131	1178	1381	289	230	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.13	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	236	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.89	0.91	0.94	0.82	0.86	0.84
Adj. Flow (vph)	147	1295	1469	352	267	175
RTOR Reduction (vph)	0	0	0	90	0	154
Lane Group Flow (vph)	147	1295	1469	262	267	21
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	111.7	111.7	97.1	97.1	16.1	16.1
Effective Green, g (s)	113.4	113.4	98.8	98.8	17.1	17.1
Actuated g/C Ratio	0.81	0.81	0.71	0.71	0.12	0.12
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	305	2758	2381	1128	423	343
v/s Ratio Prot	0.04	c0.38	c0.44		c0.08	
v/s Ratio Perm	0.35			0.16		0.01
v/c Ratio	0.48	0.47	0.62	0.23	0.63	0.06
Uniform Delay, d1	8.7	4.1	10.7	7.2	58.5	54.4
Progression Factor	5.90	0.03	0.25	0.51	1.00	1.00
Incremental Delay, d2	0.7	0.5	0.9	0.4	3.1	0.1
Delay (s)	52.2	0.6	3.6	4.0	61.5	54.4
Level of Service	D	A	A	A	E	D
Approach Delay (s)		5.8	3.7		58.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1412	14	22	1448	21	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3434		1770	4940	1691	
Flt Permitted	1.00		0.05	1.00	0.98	
Satd. Flow (perm)	3434		98	4940	1691	
Peak-hour factor, PHF	0.93	0.88	0.69	0.94	0.66	0.83
Adj. Flow (vph)	1518	16	32	1540	32	36
RTOR Reduction (vph)	0	0	0	0	29	0
Lane Group Flow (vph)	1534	0	32	1540	39	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	70.4		87.4	104.5	22.9	
Effective Green, g (s)	70.4		87.4	104.5	22.9	
Actuated g/C Ratio	0.50		0.62	0.75	0.16	
Clearance Time (s)	6.6		6.0		6.0	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1726		192	3687	276	
v/s Ratio Prot	c0.45		0.01	c0.31	c0.02	
v/s Ratio Perm			0.09			
v/c Ratio	0.89		0.17	0.42	0.14	
Uniform Delay, d1	31.3		22.3	6.5	50.1	
Progression Factor	1.00		0.47	0.15	1.00	
Incremental Delay, d2	7.3		0.3	0.1	0.3	
Delay (s)	38.5		10.9	1.0	50.4	
Level of Service	D		B	A	D	
Approach Delay (s)	38.5			1.2	50.4	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1220	0	0	1207	426	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3220	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3220	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.65
Adj. Flow (vph)	1284	0	0	1257	484	105
RTOR Reduction (vph)	0	0	0	0	16	0
Lane Group Flow (vph)	1284	0	0	1257	573	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	98.2			98.2	30.0	
Effective Green, g (s)	99.6			100.2	31.4	
Actuated g/C Ratio	0.71			0.72	0.22	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2445			3501	722	
v/s Ratio Prot	c0.37			0.26	c0.18	
v/s Ratio Perm						
v/c Ratio	0.53			0.36	0.79	
Uniform Delay, d1	9.3			7.6	51.3	
Progression Factor	0.56			1.00	1.00	
Incremental Delay, d2	0.5			0.3	5.8	
Delay (s)	5.8			7.9	57.1	
Level of Service	A			A	E	
Approach Delay (s)	5.8			7.9	57.1	
Approach LOS	A			A	E	

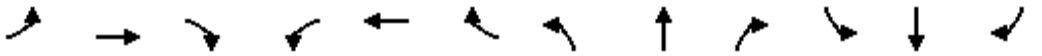
Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1809	298	116	1200	0	0	0	358	0	1328
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.0		6.6
Lane Util. Factor		*0.64	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3474	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3474	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.97	0.93	0.74	0.95	0.92	0.92	0.92	0.90	0.92	0.98
Adj. Flow (vph)	0	1865	320	157	1263	0	0	0	398	0	1355
RTOR Reduction (vph)	0	0	62	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1865	258	157	1263	0	0	0	398	0	1355
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		88.3	101.7	18.5	68.4				39.1		58.4
Effective Green, g (s)		88.3	101.7	18.5	68.4				32.5		52.4
Actuated g/C Ratio		0.63	0.73	0.13	0.49				0.23		0.37
Clearance Time (s)		6.6	6.6	6.6	6.6						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		2191	1189	225	2390				616		1287
v/s Ratio Prot		c0.54	0.02	c0.09	0.26				0.15		c0.39
v/s Ratio Perm			0.15								
v/c Ratio		0.85	0.22	0.70	0.53				0.65		1.05
Uniform Delay, d1		20.6	6.2	58.1	24.7				48.6		43.8
Progression Factor		0.81	1.35	0.93	0.79				1.00		1.00
Incremental Delay, d2		1.6	0.0	8.4	0.8				2.3		40.2
Delay (s)		18.2	8.4	62.7	20.3				50.9		84.0
Level of Service		B	A	E	C				D		F
Approach Delay (s)		16.8			25.0		50.9			84.0	
Approach LOS		B			C		D			F	

Intersection Summary			
HCM 2000 Control Delay	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

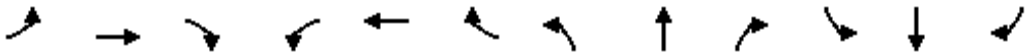
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	214	1200	72	645	1358	525	126	163	700	344	141	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.70		0.97	0.95	1.00	0.95	0.95	*0.84	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3769		3433	3438	1583	1665	1778	2686	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3769		3433	3438	1583	1665	1778	2686	3433	1881	1599
Peak-hour factor, PHF	0.88	0.88	0.86	0.89	0.94	0.93	0.79	0.83	0.93	0.93	0.86	0.86
Adj. Flow (vph)	243	1364	84	725	1445	565	159	196	753	370	164	317
RTOR Reduction (vph)	0	4	0	0	0	51	0	0	0	0	0	94
Lane Group Flow (vph)	243	1444	0	725	1445	514	143	212	753	370	164	223
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	14.0	49.4		28.0	63.4	81.5	18.7	18.7	53.3	18.1	18.1	32.1
Effective Green, g (s)	16.0	51.4		30.0	65.4	85.5	20.3	20.3	54.9	19.7	19.7	35.3
Actuated g/C Ratio	0.11	0.37		0.21	0.47	0.61	0.15	0.15	0.39	0.14	0.14	0.25
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	396	1383		735	1606	966	241	257	1053	483	264	453
v/s Ratio Prot	0.07	c0.38		c0.21	0.42	0.08	0.09	c0.12	0.28	c0.11	0.09	0.05
v/s Ratio Perm						0.25						0.08
v/c Ratio	0.61	1.04		0.99	0.90	0.53	0.59	0.82	0.72	0.77	0.62	0.49
Uniform Delay, d1	59.1	44.3		54.8	34.3	15.7	56.0	58.1	35.9	57.9	56.6	44.7
Progression Factor	0.82	0.76		0.98	0.77	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	34.4		24.0	6.1	0.4	3.9	18.9	2.3	7.1	4.5	0.8
Delay (s)	50.6	68.1		78.0	32.3	14.0	59.9	77.1	38.3	65.1	61.1	45.5
Level of Service	D	E		E	C	B	E	E	D	E	E	D
Approach Delay (s)		65.6			40.7			48.5			57.0	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

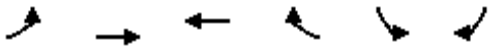
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	1034	7	408	1565	78	223	47	308	144	40	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.91	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4888		3467	3381		3467	1623	1519	1787	1736	
Flt Permitted	0.07	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	130	4888		3467	3381		3467	1623	1519	1787	1736	
Peak-hour factor, PHF	0.61	0.91	0.60	0.86	0.97	0.63	0.76	0.51	0.83	0.72	0.67	0.80
Adj. Flow (vph)	136	1136	12	474	1613	124	293	92	371	200	60	64
RTOR Reduction (vph)	0	1	0	0	3	0	0	43	49	0	29	0
Lane Group Flow (vph)	136	1147	0	474	1734	0	293	194	177	200	95	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	65.3	55.5		22.7	68.4		13.0	21.2	43.9	16.0	24.2	
Effective Green, g (s)	69.3	57.5		24.7	70.4		14.8	23.0	47.9	17.3	25.5	
Actuated g/C Ratio	0.49	0.41		0.18	0.50		0.11	0.16	0.34	0.12	0.18	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	202	2007		611	1700		366	266	563	220	316	
v/s Ratio Prot	0.06	0.23		c0.14	c0.51		0.08	c0.12	0.06	c0.11	c0.05	
v/s Ratio Perm	0.28								0.06			
v/c Ratio	0.67	0.57		0.78	1.02		0.80	0.73	0.31	0.91	0.30	
Uniform Delay, d1	31.8	31.8		55.0	34.8		61.2	55.5	33.9	60.6	49.5	
Progression Factor	1.34	0.73		1.22	0.77		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.6	1.2		4.1	23.2		12.2	9.0	0.2	37.0	0.5	
Delay (s)	50.2	24.3		71.4	50.1		73.3	64.5	34.2	97.5	50.1	
Level of Service	D	C		E	D		E	E	C	F	D	
Approach Delay (s)		27.0			54.7			58.9			79.4	
Approach LOS		C			D			E			E	

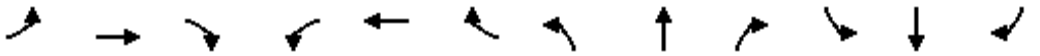
Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



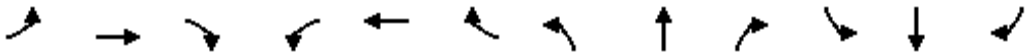
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	1053	1762	77	71	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3388		1593	1398
Flt Permitted	0.04	1.00	1.00		0.95	1.00
Satd. Flow (perm)	75	4893	3388		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1086	1936	92	92	269
RTOR Reduction (vph)	0	0	2	0	0	118
Lane Group Flow (vph)	96	1086	2026	0	92	151
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	109.0	109.0	94.5		18.9	18.9
Effective Green, g (s)	110.4	110.4	95.9		19.9	19.9
Actuated g/C Ratio	0.79	0.79	0.69		0.14	0.14
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	180	3858	2320		226	198
v/s Ratio Prot	c0.04	0.22	c0.60		0.06	
v/s Ratio Perm	0.38					c0.11
v/c Ratio	0.53	0.28	0.87		0.41	0.76
Uniform Delay, d1	34.2	4.0	17.3		54.7	57.8
Progression Factor	2.31	0.08	0.35		1.00	1.00
Incremental Delay, d2	2.2	0.2	1.8		1.2	15.7
Delay (s)	81.4	0.5	7.8		55.9	73.5
Level of Service	F	A	A		E	E
Approach Delay (s)		7.0	7.8		69.0	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



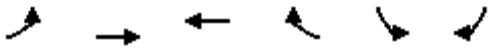
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1060	717	159	1779	4	513	0	75	3	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3403		3467	1599		1715	1644	1652
Flt Permitted	0.06	1.00	1.00	0.16	1.00		0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	111	4893	1599	305	3403		3467	1599		1715	1644	1652
Peak-hour factor, PHF	0.67	0.91	0.92	0.70	0.86	0.30	0.85	0.92	0.67	0.25	0.25	0.42
Adj. Flow (vph)	12	1165	779	227	2069	13	604	0	112	12	4	12
RTOR Reduction (vph)	0	0	167	0	0	0	0	85	0	0	0	11
Lane Group Flow (vph)	12	1165	612	227	2082	0	604	27	0	8	8	1
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	69.8	66.4	98.7	85.1	75.7		32.3	32.3		4.0	4.0	7.4
Effective Green, g (s)	73.8	68.4	102.7	87.1	77.7		34.3	34.3		6.0	6.0	11.4
Actuated g/C Ratio	0.53	0.49	0.73	0.62	0.56		0.24	0.24		0.04	0.04	0.08
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	123	2390	1172	345	1888		849	391		73	70	134
v/s Ratio Prot	0.00	0.24	0.13	c0.07	c0.61		c0.17	0.02		0.00	c0.00	0.00
v/s Ratio Perm	0.05		0.25	0.34								0.00
v/c Ratio	0.10	0.49	0.52	0.66	1.10		0.71	0.07		0.11	0.11	0.01
Uniform Delay, d1	30.7	24.0	8.1	15.0	31.1		48.3	40.6		64.4	64.4	59.1
Progression Factor	1.16	0.99	0.99	1.80	0.81		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.5	0.3	2.2	51.2		2.8	0.1		1.1	1.3	0.0
Delay (s)	35.6	24.2	8.3	29.2	76.5		51.2	40.7		65.6	65.7	59.1
Level of Service	D	C	A	C	E		D	D		E	E	E
Approach Delay (s)		17.9			71.8			49.5			62.8	
Approach LOS		B			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	1609	19	87	2099	111	5	11	110	66	6	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.7			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3429		1770	3386			1599		1787	1696	
Flt Permitted	0.04	1.00		0.07	1.00			0.99		0.30	1.00	
Satd. Flow (perm)	79	3429		137	3386			1584		558	1696	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	12	1712	32	112	2233	132	8	16	164	78	12	25
RTOR Reduction (vph)	0	1	0	0	2	0	0	127	0	0	21	0
Lane Group Flow (vph)	12	1743	0	112	2363	0	0	61	0	78	16	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	97.2	94.8		108.9	100.5			18.8		18.8	18.8	
Effective Green, g (s)	100.4	96.4		110.5	102.1			19.9		19.9	19.9	
Actuated g/C Ratio	0.72	0.69		0.79	0.73			0.14		0.14	0.14	
Clearance Time (s)	6.0	5.7		6.0	6.3			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	105	2361		228	2469			225		79	241	
v/s Ratio Prot	0.00	0.51		c0.04	c0.70						0.01	
v/s Ratio Perm	0.08			0.35				0.04		c0.14		
v/c Ratio	0.11	0.74		0.49	0.96			0.27		0.99	0.06	
Uniform Delay, d1	25.9	13.8		16.7	17.0			53.6		59.9	52.0	
Progression Factor	1.19	1.11		2.01	0.39			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.8		0.5	4.3			0.7		96.2	0.1	
Delay (s)	31.3	17.1		34.2	10.9			54.2		156.1	52.1	
Level of Service	C	B		C	B			D		F	D	
Approach Delay (s)		17.2			11.9			54.2			122.6	
Approach LOS		B			B			D			F	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	195	1259	1674	450	378	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.04	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	84	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	210	1384	1820	464	420	259
RTOR Reduction (vph)	0	0	0	127	0	211
Lane Group Flow (vph)	210	1384	1820	337	420	48
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	105.3	105.3	83.9	83.9	22.5	22.5
Effective Green, g (s)	107.0	107.0	85.6	85.6	23.5	23.5
Actuated g/C Ratio	0.76	0.76	0.61	0.61	0.17	0.17
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	2603	2062	977	581	472
v/s Ratio Prot	c0.09	0.41	c0.54		c0.12	
v/s Ratio Perm	0.50			0.21		0.02
v/c Ratio	0.77	0.53	0.88	0.34	0.72	0.10
Uniform Delay, d1	45.5	6.6	23.0	13.4	55.2	49.3
Progression Factor	1.32	1.00	0.43	0.24	1.00	1.00
Incremental Delay, d2	8.4	0.5	2.5	0.4	4.4	0.1
Delay (s)	68.6	7.1	12.5	3.6	59.6	49.4
Level of Service	E	A	B	A	E	D
Approach Delay (s)		15.2	10.7		55.7	
Approach LOS		B	B		E	

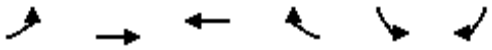
Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1623	11	16	1529	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3433		1770	4940	1695	
Flt Permitted	1.00		0.05	1.00	0.98	
Satd. Flow (perm)	3433		98	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1673	20	36	1609	32	32
RTOR Reduction (vph)	0	0	0	0	26	0
Lane Group Flow (vph)	1693	0	36	1609	38	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	70.4		87.4	103.7	23.7	
Effective Green, g (s)	70.4		87.4	103.7	23.7	
Actuated g/C Ratio	0.50		0.62	0.74	0.17	
Clearance Time (s)	6.6		6.0		6.0	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1726		192	3659	286	
v/s Ratio Prot	c0.49		0.01	c0.33	c0.02	
v/s Ratio Perm			0.10			
v/c Ratio	0.98		0.19	0.44	0.13	
Uniform Delay, d1	34.1		27.1	7.0	49.4	
Progression Factor	1.00		0.71	0.14	1.00	
Incremental Delay, d2	17.5		0.4	0.1	0.3	
Delay (s)	51.7		19.7	1.1	49.7	
Level of Service	D		B	A	D	
Approach Delay (s)	51.7			1.5	49.7	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	1639	1500	25	25	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.0	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.91	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1671	
Flt Permitted		0.94	1.00	1.00	0.98	
Satd. Flow (perm)		3216	3438	1583	1671	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	11	1690	1579	27	27	49
RTOR Reduction (vph)	0	0	0	3	45	0
Lane Group Flow (vph)	0	1701	1579	24	31	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases	2 3			6		
Actuated Green, G (s)		100.7	87.4	87.4	10.3	
Effective Green, g (s)		100.7	87.4	87.4	10.3	
Actuated g/C Ratio		0.72	0.62	0.62	0.07	
Clearance Time (s)			6.6	6.6	6.0	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2313	2146	988	122	
v/s Ratio Prot			c0.46		c0.02	
v/s Ratio Perm		c0.53		0.01		
v/c Ratio		0.74	0.74	0.02	0.25	
Uniform Delay, d1		11.7	18.3	10.0	61.2	
Progression Factor		0.27	0.61	1.08	1.00	
Incremental Delay, d2		0.4	1.3	0.0	1.3	
Delay (s)		3.6	12.4	10.8	62.5	
Level of Service		A	B	B	E	
Approach Delay (s)		3.6	12.4		62.5	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	789	0	0	800	323	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3215	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3215	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.92
Adj. Flow (vph)	831	0	0	833	367	88
RTOR Reduction (vph)	0	0	0	0	18	0
Lane Group Flow (vph)	831	0	0	833	437	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	96.9			96.3	22.3	
Effective Green, g (s)	98.3			98.3	23.7	
Actuated g/C Ratio	0.76			0.76	0.18	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2599			3699	586	
v/s Ratio Prot	c0.24			0.17	c0.14	
v/s Ratio Perm						
v/c Ratio	0.32			0.23	0.75	
Uniform Delay, d1	5.1			4.7	50.3	
Progression Factor	1.50			1.00	1.00	
Incremental Delay, d2	0.3			0.1	4.9	
Delay (s)	7.9			4.8	55.2	
Level of Service	A			A	E	
Approach Delay (s)	7.9			4.8	55.2	
Approach LOS	A			A	E	

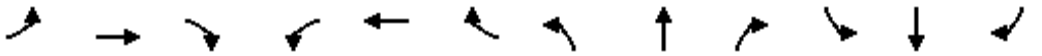
Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1397	355	75	789	0	0	0	196	0	1114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.60	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3257	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3257	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.95	0.91	0.49	0.95	0.92	0.92	0.92	0.93	0.92	0.88
Adj. Flow (vph)	0	1471	390	153	831	0	0	0	211	0	1266
RTOR Reduction (vph)	0	0	65	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1471	325	153	831	0	0	0	211	0	1266
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		77.8	92.0	20.0	60.9				39.2		55.1
Effective Green, g (s)		77.8	92.0	20.0	60.9				32.2		49.1
Actuated g/C Ratio		0.60	0.71	0.15	0.47				0.25		0.38
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		1949	1135	262	2292				657		1299
v/s Ratio Prot		c0.45	0.03	c0.09	0.17				0.08		c0.37
v/s Ratio Perm			0.18								
v/c Ratio		0.75	0.29	0.58	0.36				0.32		0.97
Uniform Delay, d1		19.1	7.0	51.1	22.1				40.0		39.8
Progression Factor		0.77	1.35	0.77	0.61				1.00		1.00
Incremental Delay, d2		1.4	0.1	3.2	0.4				0.3		19.1
Delay (s)		16.0	9.5	42.4	13.9				40.3		58.9
Level of Service		B	A	D	B				D		E
Approach Delay (s)		14.7			18.4		40.3			58.9	
Approach LOS		B			B		D			E	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

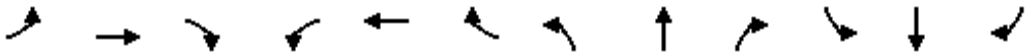
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	294	1053	82	484	1117	302	112	149	415	284	99	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	*0.70		0.97	0.95	1.00	0.95	0.95	*0.67	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3746		3433	3438	1583	1665	1779	2143	3433	1881	1599
Flt Permitted	0.09	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	161	3746		3433	3438	1583	1665	1779	2143	3433	1881	1599
Peak-hour factor, PHF	0.94	0.98	0.68	0.93	0.96	0.84	0.78	0.78	0.91	0.79	0.71	0.71
Adj. Flow (vph)	313	1074	121	520	1164	360	144	191	456	359	139	351
RTOR Reduction (vph)	0	7	0	0	0	179	0	0	0	0	0	227
Lane Group Flow (vph)	313	1188	0	520	1164	181	130	205	456	359	139	124
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	Perm	Split	NA	pt+ov	Split	NA	Perm
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2					6						4
Actuated Green, G (s)	59.4	44.8		19.7	49.9	49.9	21.3	21.3	46.6	21.0	21.0	21.0
Effective Green, g (s)	63.4	46.8		21.7	51.9	51.9	22.9	22.9	48.2	22.6	22.6	22.6
Actuated g/C Ratio	0.49	0.36		0.17	0.40	0.40	0.18	0.18	0.37	0.17	0.17	0.17
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	5.6	5.6		5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	286	1348		573	1372	631	293	313	794	596	327	277
v/s Ratio Prot	c0.14	0.32		c0.15	0.34		0.08	c0.12	0.21	c0.10	0.07	
v/s Ratio Perm	c0.39					0.11						0.08
v/c Ratio	1.09	0.88		0.91	0.85	0.29	0.44	0.65	0.57	0.60	0.43	0.45
Uniform Delay, d1	40.0	39.0		53.2	35.5	26.5	47.9	49.9	32.7	49.6	47.9	48.1
Progression Factor	1.08	1.23		1.14	0.86	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	76.2	7.2		14.3	5.1	0.8	1.1	4.9	1.0	1.7	0.9	1.2
Delay (s)	119.5	55.0		74.6	35.6	16.2	48.9	54.7	33.7	51.3	48.8	49.3
Level of Service	F	E		E	D	B	D	D	C	D	D	D
Approach Delay (s)		68.4			42.1			41.7			50.0	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

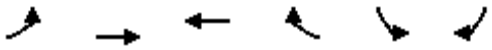
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1052	58	460	1351	72	153	39	262	112	39	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4846		3467	3382		3467	1606	1519	1787	1740	
Flt Permitted	0.09	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	166	4846		3467	3382		3467	1606	1519	1787	1740	
Peak-hour factor, PHF	0.75	0.91	0.48	0.93	0.90	0.67	0.74	0.61	0.82	0.72	0.75	0.92
Adj. Flow (vph)	60	1156	121	495	1501	107	207	64	320	156	52	52
RTOR Reduction (vph)	0	8	0	0	3	0	0	67	47	0	31	0
Lane Group Flow (vph)	60	1269	0	495	1605	0	207	131	139	156	73	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	63.2	57.5		23.3	75.1		12.6	15.8	39.1	10.3	13.5	
Effective Green, g (s)	67.2	59.5		25.3	77.1		14.4	17.6	43.1	11.6	14.8	
Actuated g/C Ratio	0.52	0.46		0.19	0.59		0.11	0.14	0.33	0.09	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	180	2217		674	2005		384	217	503	159	198	
v/s Ratio Prot	0.02	0.26		c0.14	c0.47		0.06	c0.08	0.05	c0.09	0.04	
v/s Ratio Perm	0.15								0.04			
v/c Ratio	0.33	0.57		0.73	0.80		0.54	0.61	0.28	0.98	0.37	
Uniform Delay, d1	18.8	25.9		49.2	20.5		54.7	52.9	32.0	59.1	53.3	
Progression Factor	1.40	0.76		1.35	0.48		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	1.1		3.2	2.8		1.6	4.0	0.2	65.6	1.2	
Delay (s)	27.0	20.8		69.6	12.6		56.3	56.9	32.2	124.7	54.4	
Level of Service	C	C		E	B		E	E	C	F	D	
Approach Delay (s)		21.1			26.0			48.9			96.6	
Approach LOS		C			C			D			F	

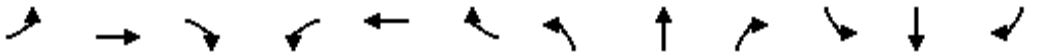
Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



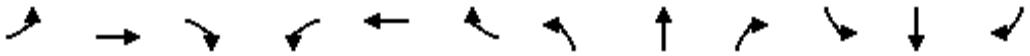
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	1050	1450	77	71	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3385		1593	1398
Flt Permitted	0.09	1.00	1.00		0.95	1.00
Satd. Flow (perm)	175	4893	3385		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1082	1593	92	92	173
RTOR Reduction (vph)	0	0	2	0	0	125
Lane Group Flow (vph)	96	1082	1683	0	92	48
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	106.3	106.3	93.0		13.3	13.3
Effective Green, g (s)	107.7	107.7	94.4		14.3	14.3
Actuated g/C Ratio	0.83	0.83	0.73		0.11	0.11
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	260	4053	2458		175	153
v/s Ratio Prot	c0.03	0.22	c0.50		c0.06	
v/s Ratio Perm	0.28					0.03
v/c Ratio	0.37	0.27	0.68		0.53	0.31
Uniform Delay, d1	9.2	2.5	9.7		54.6	53.3
Progression Factor	8.68	0.41	0.55		1.00	1.00
Incremental Delay, d2	0.6	0.1	1.0		2.8	1.2
Delay (s)	80.0	1.1	6.3		57.5	54.5
Level of Service	F	A	A		E	D
Approach Delay (s)		7.6	6.3		55.5	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



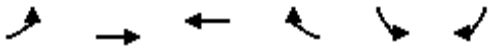
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	971	647	128	1303	39	438	20	130	30	24	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3392		3467	1641		1715	1677	1652
Flt Permitted	0.07	1.00	1.00	0.18	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	128	4893	1599	339	3392		3467	1641		1715	1677	1652
Peak-hour factor, PHF	0.71	0.92	0.95	0.80	0.93	0.70	0.96	0.83	0.88	0.75	0.60	0.69
Adj. Flow (vph)	72	1055	681	160	1401	56	456	24	148	40	40	52
RTOR Reduction (vph)	0	0	191	0	2	0	0	113	0	0	0	44
Lane Group Flow (vph)	72	1055	490	160	1455	0	456	59	0	36	44	8
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	63.8	57.4	86.5	71.8	61.4		29.1	29.1		9.1	9.1	15.5
Effective Green, g (s)	67.8	59.4	90.5	75.8	63.4		31.1	31.1		11.1	11.1	19.5
Actuated g/C Ratio	0.52	0.46	0.70	0.58	0.49		0.24	0.24		0.09	0.09	0.15
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	175	2235	1113	335	1654		829	392		146	143	247
v/s Ratio Prot	0.03	0.22	0.11	c0.05	c0.43		c0.13	0.04		0.02	c0.03	0.00
v/s Ratio Perm	0.19		0.20	0.23								0.00
v/c Ratio	0.41	0.47	0.44	0.48	0.88		0.55	0.15		0.25	0.31	0.03
Uniform Delay, d1	23.5	24.4	8.7	14.5	29.9		43.3	39.0		55.5	55.8	47.2
Progression Factor	1.71	0.88	3.30	0.70	0.55		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.5	0.2	0.6	5.4		0.8	0.2		1.5	2.1	0.0
Delay (s)	41.0	22.1	28.7	10.7	21.9		44.1	39.2		57.1	58.0	47.2
Level of Service	D	C	C	B	C		D	D		E	E	D
Approach Delay (s)		25.4			20.8			42.8			53.5	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1523	19	87	1588	74	5	11	110	44	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3428		1770	3388			1599		1787	1699	
Flt Permitted	0.10	1.00		0.09	1.00			0.99		0.24	1.00	
Satd. Flow (perm)	185	3428		176	3388			1585		459	1699	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	8	1620	32	112	1689	88	8	16	164	52	8	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	120	0	0	14	0
Lane Group Flow (vph)	8	1651	0	112	1775	0	0	68	0	52	10	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	92.1	90.9		104.0	97.2			15.3		15.3	15.3	
Effective Green, g (s)	95.3	92.5		105.6	98.8			16.4		16.4	16.4	
Actuated g/C Ratio	0.73	0.71		0.81	0.76			0.13		0.13	0.13	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	170	2439		254	2574			199		57	214	
v/s Ratio Prot	0.00	0.48		c0.03	c0.52						0.01	
v/s Ratio Perm	0.03			0.33				0.04		c0.11		
v/c Ratio	0.05	0.68		0.44	0.69			0.34		0.91	0.05	
Uniform Delay, d1	6.8	10.4		10.4	7.9			51.9		56.1	49.9	
Progression Factor	1.52	1.77		3.02	0.83			1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.4		0.8	1.0			1.0		87.4	0.1	
Delay (s)	10.5	19.9		32.1	7.5			52.9		143.5	50.0	
Level of Service	B	B		C	A			D		F	D	
Approach Delay (s)		19.8			8.9			52.9			114.0	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	1296	1306	300	252	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.13	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	250	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	140	1424	1420	309	280	173
RTOR Reduction (vph)	0	0	0	81	0	151
Lane Group Flow (vph)	140	1424	1420	228	280	22
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	103.5	103.5	89.2	89.2	15.8	15.8
Effective Green, g (s)	105.2	105.2	90.9	90.9	16.8	16.8
Actuated g/C Ratio	0.81	0.81	0.70	0.70	0.13	0.13
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	324	2756	2359	1118	448	363
v/s Ratio Prot	0.03	c0.42	c0.42		c0.08	
v/s Ratio Perm	0.32			0.14		0.01
v/c Ratio	0.43	0.52	0.60	0.20	0.62	0.06
Uniform Delay, d1	7.5	4.1	10.2	6.9	53.6	49.7
Progression Factor	4.71	1.45	0.42	0.72	1.00	1.00
Incremental Delay, d2	0.5	0.5	0.9	0.3	2.7	0.1
Delay (s)	35.7	6.4	5.1	5.2	56.3	49.8
Level of Service	D	A	A	A	E	D
Approach Delay (s)		9.0	5.1		53.8	
Approach LOS		A	A		D	

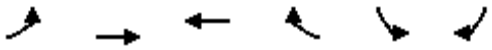
Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1489	11	16	1635	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3433		1770	4940	1695	
Flt Permitted	1.00		0.07	1.00	0.98	
Satd. Flow (perm)	3433		125	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1535	20	36	1721	32	32
RTOR Reduction (vph)	1	0	0	0	26	0
Lane Group Flow (vph)	1554	0	36	1721	38	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	53.5		69.1	91.0	25.6	
Effective Green, g (s)	53.5		69.1	85.7	25.6	
Actuated g/C Ratio	0.41		0.53	0.66	0.20	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1412		184	3256	333	
v/s Ratio Prot	c0.45		0.01	c0.35	c0.02	
v/s Ratio Perm			0.09			
v/c Ratio	1.10		0.20	0.53	0.12	
Uniform Delay, d1	38.2		26.8	11.6	42.9	
Progression Factor	1.00		0.43	0.17	1.00	
Incremental Delay, d2	56.6		0.2	0.1	0.2	
Delay (s)	94.8		11.7	2.0	43.1	
Level of Service	F		B	A	D	
Approach Delay (s)	94.8			2.2	43.1	
Approach LOS	F			A	D	

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1515	1626	25	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1562	1712	27	27	27
RTOR Reduction (vph)	0	0	0	3	24	0
Lane Group Flow (vph)	0	1562	1712	24	30	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		85.4	69.1	69.1	16.6	
Effective Green, g (s)		85.4	69.1	69.1	16.6	
Actuated g/C Ratio		0.66	0.53	0.53	0.13	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2258	1827	841	216	
v/s Ratio Prot		c0.45	c0.50		c0.02	
v/s Ratio Perm				0.01		
v/c Ratio		0.69	0.94	0.03	0.14	
Uniform Delay, d1		14.0	28.4	14.5	50.4	
Progression Factor		0.24	0.74	0.96	1.00	
Incremental Delay, d2		0.1	9.5	0.1	0.4	
Delay (s)		3.4	30.6	14.0	50.7	
Level of Service		A	C	B	D	
Approach Delay (s)		3.4	30.4		50.7	
Approach LOS		A	C		D	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1621	0	0	1245	331	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3438			4893	3160	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3438			4893	3160	
Peak-hour factor, PHF	0.90	0.92	0.92	0.92	0.87	0.75
Adj. Flow (vph)	1801	0	0	1353	380	209
RTOR Reduction (vph)	0	0	0	0	30	0
Lane Group Flow (vph)	1801	0	0	1353	559	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	101.6			101.0	27.6	
Effective Green, g (s)	103.0			103.0	29.0	
Actuated g/C Ratio	0.74			0.74	0.21	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2529			3599	654	
v/s Ratio Prot	c0.52			0.28	c0.18	
v/s Ratio Perm						
v/c Ratio	0.71			0.38	0.85	
Uniform Delay, d1	10.3			6.8	53.5	
Progression Factor	0.86			1.00	1.00	
Incremental Delay, d2	0.2			0.3	10.5	
Delay (s)	9.0			7.1	63.9	
Level of Service	A			A	E	
Approach Delay (s)	9.0			7.1	63.9	
Approach LOS	A			A	E	

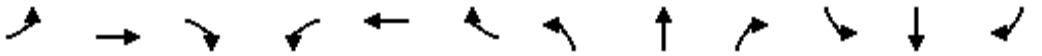
Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1860	446	85	1270	0	0	0	638	0	1781
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.50	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		2714	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		2714	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.83	0.89	0.46	0.89	0.92	0.92	0.92	0.94	0.92	0.97
Adj. Flow (vph)	0	2241	501	185	1427	0	0	0	679	0	1836
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2241	458	185	1427	0	0	0	679	0	1836
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		89.6	103.8	18.2	68.6				37.4		57.4
Effective Green, g (s)		89.6	103.8	18.2	68.6				30.4		51.4
Actuated g/C Ratio		0.64	0.74	0.13	0.49				0.22		0.37
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		1736	1184	221	2397				576		1263
v/s Ratio Prot		c0.83	0.04	0.11	0.29				c0.26		c0.53
v/s Ratio Perm			0.26								
v/c Ratio		1.29	0.39	0.84	0.60				1.18		1.45
Uniform Delay, d1		25.2	6.6	59.5	25.7				54.8		44.3
Progression Factor		1.24	1.83	0.84	0.72				1.00		1.00
Incremental Delay, d2		131.3	0.0	21.8	1.0				97.5		208.6
Delay (s)		162.6	12.0	72.0	19.6				152.3		252.9
Level of Service		F	B	E	B				F		F
Approach Delay (s)		135.1			25.6		152.3			252.9	
Approach LOS		F			C		F			F	

Intersection Summary			
HCM 2000 Control Delay	142.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

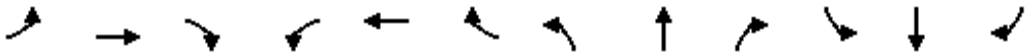
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	248	1411	72	815	1496	349	146	150	638	257	184	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	*0.70		0.97	0.95	1.00	0.95	0.95	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3768		3433	3438	1583	1665	1775	2814	3433	1881	1599
Flt Permitted	0.08	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	157	3768		3433	3438	1583	1665	1775	2814	3433	1881	1599
Peak-hour factor, PHF	0.84	0.86	0.69	0.92	0.88	0.86	0.73	0.82	0.89	0.92	0.79	0.84
Adj. Flow (vph)	295	1641	104	886	1700	406	200	183	717	279	233	213
RTOR Reduction (vph)	0	4	0	0	0	128	0	0	0	0	0	151
Lane Group Flow (vph)	295	1741	0	886	1700	278	180	203	717	279	233	62
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	Perm	Split	NA	pt+ov	Split	NA	Perm
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2					6						4
Actuated Green, G (s)	56.6	45.8		36.0	71.0	71.0	19.6	19.6	61.2	15.4	15.4	15.4
Effective Green, g (s)	60.6	47.8		38.0	73.0	73.0	21.2	21.2	62.8	17.0	17.0	17.0
Actuated g/C Ratio	0.43	0.34		0.27	0.52	0.52	0.15	0.15	0.45	0.12	0.12	0.12
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	5.6	5.6		5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	216	1286		931	1792	825	252	268	1262	416	228	194
v/s Ratio Prot	c0.12	0.46		c0.26	0.49		0.11	c0.11	0.25	0.08	c0.12	
v/s Ratio Perm	c0.46					0.18						0.04
v/c Ratio	1.37	1.35		0.95	0.95	0.34	0.71	0.76	0.57	0.67	1.02	0.32
Uniform Delay, d1	40.9	46.1		50.1	31.7	19.4	56.5	56.9	28.6	58.8	61.5	56.2
Progression Factor	1.10	0.85		0.98	0.68	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	186.3	163.4		6.5	3.8	0.3	9.2	11.6	0.6	4.2	65.4	1.0
Delay (s)	231.2	202.5		55.4	25.2	6.7	65.7	68.5	29.2	63.0	126.9	57.2
Level of Service	F	F		E	C	A	E	E	C	E	F	E
Approach Delay (s)		206.7			31.7			42.4			81.8	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	90.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

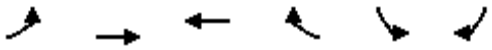
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	1300	106	353	1425	57	175	18	441	86	33	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.86	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4849		3467	3387		3467	1543	1519	1787	1740	
Flt Permitted	0.12	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	218	4849		3467	3387		3467	1543	1519	1787	1740	
Peak-hour factor, PHF	0.85	0.87	0.74	0.93	0.98	0.71	0.84	0.75	0.88	0.69	0.92	0.56
Adj. Flow (vph)	48	1494	143	380	1454	80	208	24	501	125	36	36
RTOR Reduction (vph)	0	7	0	0	2	0	0	195	47	0	30	0
Lane Group Flow (vph)	48	1630	0	380	1532	0	208	69	214	125	42	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	77.3	72.1		20.2	87.1		15.9	14.5	34.7	10.1	8.7	
Effective Green, g (s)	81.3	74.1		22.2	89.1		17.7	16.3	38.7	11.4	10.0	
Actuated g/C Ratio	0.58	0.53		0.16	0.64		0.13	0.12	0.28	0.08	0.07	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	206	2566		549	2155		438	179	419	145	124	
v/s Ratio Prot	0.01	0.34		c0.11	c0.45		c0.06	0.04	c0.08	c0.07	0.02	
v/s Ratio Perm	0.12								0.06			
v/c Ratio	0.23	0.64		0.69	0.71		0.47	0.38	0.51	0.86	0.34	
Uniform Delay, d1	14.8	23.4		55.7	16.9		56.8	57.2	42.7	63.5	61.9	
Progression Factor	0.95	0.77		1.06	0.74		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	1.2		1.5	0.9		1.0	1.0	0.8	38.2	1.6	
Delay (s)	14.4	19.2		60.6	13.4		57.8	58.2	43.5	101.7	63.5	
Level of Service	B	B		E	B		E	E	D	F	E	
Approach Delay (s)		19.1			22.8			52.8			87.8	
Approach LOS		B			C			D			F	

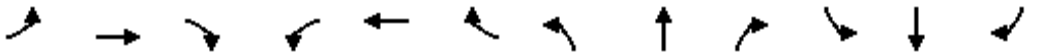
Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



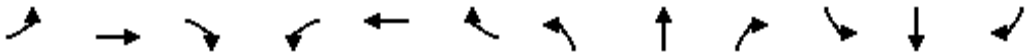
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	1311	1508	112	99	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3375		1593	1398
Flt Permitted	0.08	1.00	1.00		0.95	1.00
Satd. Flow (perm)	149	4893	3375		1593	1398
Peak-hour factor, PHF	0.86	0.88	0.92	0.80	0.88	0.76
Adj. Flow (vph)	103	1490	1639	140	112	163
RTOR Reduction (vph)	0	0	3	0	0	125
Lane Group Flow (vph)	103	1490	1776	0	112	38
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	114.3	114.3	100.3		15.3	15.3
Effective Green, g (s)	115.7	115.7	101.7		16.3	16.3
Actuated g/C Ratio	0.83	0.83	0.73		0.12	0.12
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	240	4043	2451		185	162
v/s Ratio Prot	c0.03	0.30	c0.53		c0.07	
v/s Ratio Perm	0.32					0.03
v/c Ratio	0.43	0.37	0.72		0.61	0.23
Uniform Delay, d1	12.9	3.0	11.1		58.8	56.2
Progression Factor	5.45	0.21	0.35		1.00	1.00
Incremental Delay, d2	0.8	0.2	1.5		5.5	0.7
Delay (s)	70.8	0.9	5.4		64.3	56.9
Level of Service	E	A	A		E	E
Approach Delay (s)		5.4	5.4		59.9	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



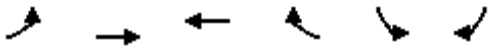
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	1123	593	161	1457	14	443	5	164	113	11	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3400		3467	1617		1715	1625	1652
Flt Permitted	0.06	1.00	1.00	0.14	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	122	4893	1599	262	3400		3467	1617		1715	1625	1652
Peak-hour factor, PHF	0.33	0.94	0.92	0.88	0.84	0.50	0.87	0.42	0.87	0.71	0.46	0.64
Adj. Flow (vph)	12	1195	645	183	1735	28	509	12	189	159	24	95
RTOR Reduction (vph)	0	0	213	0	1	0	0	146	0	0	0	58
Lane Group Flow (vph)	12	1195	432	183	1762	0	509	55	0	91	92	37
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	66.0	60.2	89.7	77.4	65.9		29.5	29.5		14.8	14.8	20.6
Effective Green, g (s)	70.0	62.2	93.7	79.7	67.9		31.5	31.5		16.8	16.8	24.6
Actuated g/C Ratio	0.50	0.44	0.67	0.57	0.49		0.22	0.22		0.12	0.12	0.18
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	154	2173	1070	296	1649		780	363		205	195	290
v/s Ratio Prot	0.00	0.24	0.09	c0.06	c0.52		c0.15	0.03		0.05	c0.06	0.01
v/s Ratio Perm	0.03		0.18	0.29								0.02
v/c Ratio	0.08	0.55	0.40	0.62	1.07		0.65	0.15		0.44	0.47	0.13
Uniform Delay, d1	29.8	28.6	10.5	18.4	36.0		49.3	43.5		57.3	57.5	48.7
Progression Factor	0.78	0.65	2.51	1.61	0.85		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.7	0.2	2.5	40.8		2.0	0.2		2.6	3.1	0.1
Delay (s)	23.4	19.3	26.5	32.1	71.5		51.2	43.7		59.9	60.6	48.8
Level of Service	C	B	C	C	E		D	D		E	E	D
Approach Delay (s)		21.9			67.8			49.1			56.3	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1578	25	142	1738	81	9	13	99	43	10	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1805	3430		1770	3389			1619		1787	1765	
Flt Permitted	0.08	1.00		0.08	1.00			0.97		0.31	1.00	
Satd. Flow (perm)	144	3430		144	3389			1573		588	1765	
Peak-hour factor, PHF	0.38	0.91	0.89	0.89	0.92	0.88	0.56	0.65	0.90	0.77	0.50	0.56
Adj. Flow (vph)	8	1734	28	160	1889	92	16	20	110	56	20	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	85	0	0	14	0
Lane Group Flow (vph)	8	1761	0	160	1979	0	0	61	0	56	22	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	99.0	97.8		114.6	107.8			14.7		14.7	14.7	
Effective Green, g (s)	102.2	99.4		116.2	109.4			15.8		15.8	15.8	
Actuated g/C Ratio	0.73	0.71		0.83	0.78			0.11		0.11	0.11	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	138	2435		268	2648			177		66	199	
v/s Ratio Prot	0.00	0.51		c0.05	c0.58						0.01	
v/s Ratio Perm	0.04			0.44				0.04		c0.10		
v/c Ratio	0.06	0.72		0.60	0.75			0.34		0.85	0.11	
Uniform Delay, d1	8.1	12.1		22.3	8.0			57.3		60.9	55.8	
Progression Factor	1.45	1.89		1.48	0.65			1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.7		1.2	0.7			1.2		60.3	0.2	
Delay (s)	11.8	24.6		34.2	5.9			58.5		121.2	56.0	
Level of Service	B	C		C	A			E		F	E	
Approach Delay (s)		24.5			8.0			58.5			95.7	
Approach LOS		C			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	131	1353	1438	318	253	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.11	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	213	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.89	0.91	0.94	0.82	0.86	0.84
Adj. Flow (vph)	147	1487	1530	388	294	193
RTOR Reduction (vph)	0	0	0	93	0	168
Lane Group Flow (vph)	147	1487	1530	295	294	25
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	112.1	112.1	96.8	96.8	17.2	17.2
Effective Green, g (s)	113.8	113.8	98.5	98.5	18.2	18.2
Actuated g/C Ratio	0.81	0.81	0.70	0.70	0.13	0.13
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	2768	2373	1125	450	365
v/s Ratio Prot	0.04	c0.44	c0.45		c0.08	
v/s Ratio Perm	0.36			0.18		0.01
v/c Ratio	0.49	0.54	0.64	0.26	0.65	0.07
Uniform Delay, d1	10.2	4.4	11.3	7.5	57.9	53.5
Progression Factor	4.11	2.30	0.38	0.61	1.00	1.00
Incremental Delay, d2	0.7	0.6	0.9	0.4	3.4	0.1
Delay (s)	42.7	10.6	5.2	5.0	61.3	53.5
Level of Service	D	B	A	A	E	D
Approach Delay (s)		13.5	5.2		58.2	
Approach LOS		B	A		E	

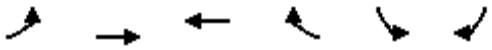
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1429	14	22	1553	21	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3434		1770	4940	1691	
Flt Permitted	1.00		0.06	1.00	0.98	
Satd. Flow (perm)	3434		109	4940	1691	
Peak-hour factor, PHF	0.93	0.88	0.69	0.94	0.66	0.83
Adj. Flow (vph)	1537	16	32	1652	32	36
RTOR Reduction (vph)	1	0	0	0	29	0
Lane Group Flow (vph)	1552	0	32	1652	39	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	62.3		79.1	101.0	25.6	
Effective Green, g (s)	62.3		79.1	95.7	25.6	
Actuated g/C Ratio	0.44		0.56	0.68	0.18	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1528		186	3376	309	
v/s Ratio Prot	c0.45		0.01	c0.33	c0.02	
v/s Ratio Perm			0.08			
v/c Ratio	1.02		0.17	0.49	0.12	
Uniform Delay, d1	38.9		28.7	10.5	47.8	
Progression Factor	1.00		0.42	0.15	1.00	
Incremental Delay, d2	27.1		0.3	0.1	0.2	
Delay (s)	65.9		12.3	1.6	48.0	
Level of Service	E		B	A	D	
Approach Delay (s)	65.9			1.8	48.0	
Approach LOS	E			A	D	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1459	1550	50	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.93	0.94	0.92	0.92	0.92
Adj. Flow (vph)	0	1569	1649	54	27	27
RTOR Reduction (vph)	0	0	0	7	24	0
Lane Group Flow (vph)	0	1569	1649	47	30	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		94.2	79.1	79.1	16.6	
Effective Green, g (s)		94.2	79.1	79.1	16.6	
Actuated g/C Ratio		0.67	0.56	0.56	0.12	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2313	1942	894	200	
v/s Ratio Prot		c0.46	c0.48		c0.02	
v/s Ratio Perm				0.03		
v/c Ratio		0.68	0.85	0.05	0.15	
Uniform Delay, d1		13.8	25.5	13.7	55.4	
Progression Factor		0.14	0.41	0.27	1.00	
Incremental Delay, d2		0.2	4.0	0.1	0.4	
Delay (s)		2.1	14.4	3.8	55.8	
Level of Service		A	B	A	E	
Approach Delay (s)		2.1	14.1		55.8	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1332	0	0	1857	470	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3438			4893	3174	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3438			4893	3174	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.65
Adj. Flow (vph)	1402	0	0	1934	534	242
RTOR Reduction (vph)	0	0	0	0	40	0
Lane Group Flow (vph)	1402	0	0	1934	736	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	99.6			99.0	29.6	
Effective Green, g (s)	101.0			101.0	31.0	
Actuated g/C Ratio	0.72			0.72	0.22	
Clearance Time (s)	5.4			6.0	5.4	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2480			3529	702	
v/s Ratio Prot	c0.41			0.40	c0.23	
v/s Ratio Perm						
v/c Ratio	0.57			0.55	1.05	
Uniform Delay, d1	9.2			9.0	54.5	
Progression Factor	1.33			1.00	1.00	
Incremental Delay, d2	0.4			0.6	47.5	
Delay (s)	12.6			9.6	102.0	
Level of Service	B			A	F	
Approach Delay (s)	12.6			9.6	102.0	
Approach LOS	B			A	F	

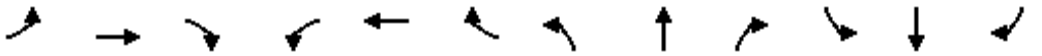
Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	2031	320	126	1895	0	0	0	341	0	1364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	4.0	7.0	7.0				6.0		7.0
Lane Util. Factor		*0.64	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3474	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3474	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.91	0.93	0.68	0.94	0.92	0.92	0.92	0.84	0.92	0.93
Adj. Flow (vph)	0	2232	344	185	2016	0	0	0	406	0	1467
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2232	301	185	2016	0	0	0	406	0	1467
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		89.6	103.8	18.2	68.6				37.4		57.4
Effective Green, g (s)		89.6	103.8	18.2	68.6				30.4		51.4
Actuated g/C Ratio		0.64	0.74	0.13	0.49				0.22		0.37
Clearance Time (s)		7.0	4.0	7.0	7.0						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		2223	1184	221	2397				576		1263
v/s Ratio Prot		c0.64	0.03	0.11	c0.41				0.15		c0.43
v/s Ratio Perm			0.17								
v/c Ratio		1.00	0.25	0.84	0.84				0.70		1.16
Uniform Delay, d1		25.2	5.8	59.5	31.0				50.7		44.3
Progression Factor		0.99	1.50	0.85	0.75				1.00		1.00
Incremental Delay, d2		10.1	0.0	18.5	2.9				3.9		81.8
Delay (s)		34.9	8.7	69.1	26.2				54.6		126.1
Level of Service		C	A	E	C				D		F
Approach Delay (s)		31.4			29.8		54.6			126.1	
Approach LOS		C			C		D			F	

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

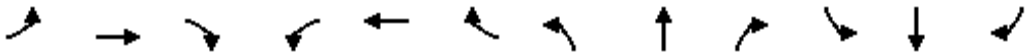
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	236	1144	63	859	1823	577	103	210	886	321	187	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	*0.70		0.97	0.95	1.00	0.95	0.95	*0.84	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	3765		3433	3438	1583	1665	1781	2686	3433	1881	1599
Flt Permitted	0.08	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	157	3765		3433	3438	1583	1665	1781	2686	3433	1881	1599
Peak-hour factor, PHF	0.83	0.84	0.66	0.91	0.98	0.85	0.73	0.83	0.83	0.91	0.88	0.92
Adj. Flow (vph)	284	1362	95	944	1860	679	141	253	1067	353	212	428
RTOR Reduction (vph)	0	4	0	0	0	196	0	0	0	0	0	172
Lane Group Flow (vph)	284	1453	0	944	1860	483	127	267	1067	353	212	256
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	pm+pt	NA		Prot	NA	Perm	Split	NA	pt+ov	Split	NA	Perm
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2					6						4
Actuated Green, G (s)	56.6	45.8		36.0	71.0	71.0	19.6	19.6	61.2	15.4	15.4	15.4
Effective Green, g (s)	60.6	47.8		38.0	73.0	73.0	21.2	21.2	62.8	17.0	17.0	17.0
Actuated g/C Ratio	0.43	0.34		0.27	0.52	0.52	0.15	0.15	0.45	0.12	0.12	0.12
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	5.6	5.6		5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	216	1285		931	1792	825	252	269	1204	416	228	194
v/s Ratio Prot	c0.12	0.39		c0.27	0.54		0.08	c0.15	0.40	0.10	0.11	
v/s Ratio Perm	c0.45					0.30						c0.16
v/c Ratio	1.31	1.13		1.01	1.04	0.59	0.50	0.99	0.89	0.85	0.93	1.32
Uniform Delay, d1	41.7	46.1		51.0	33.5	23.1	54.6	59.3	35.3	60.2	60.9	61.5
Progression Factor	0.93	0.85		1.00	0.90	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	162.9	66.4		21.5	24.2	1.1	1.6	52.6	8.1	14.8	40.2	174.8
Delay (s)	201.7	105.4		72.7	54.4	22.5	56.2	111.9	43.5	75.1	101.1	236.3
Level of Service	F	F		E	D	C	E	F	D	E	F	F
Approach Delay (s)		121.1			53.1			57.1			150.1	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	81.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

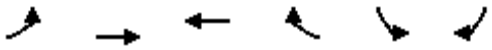
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1032	134	641	1623	56	161	33	410	123	56	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.87	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4831		3467	3391		3467	1562	1519	1787	1735	
Flt Permitted	0.07	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	129	4831		3467	3391		3467	1562	1519	1787	1735	
Peak-hour factor, PHF	0.80	0.87	0.80	0.88	0.91	0.70	0.82	0.83	0.89	0.59	0.64	0.65
Adj. Flow (vph)	88	1186	168	728	1784	80	196	40	461	208	88	95
RTOR Reduction (vph)	0	13	0	0	2	0	0	149	39	0	30	0
Lane Group Flow (vph)	88	1341	0	728	1862	0	196	103	210	208	153	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	64.0	55.6		31.1	78.3		12.7	20.1	51.2	10.1	17.5	
Effective Green, g (s)	68.0	57.6		33.1	80.3		14.5	21.9	55.2	11.4	18.8	
Actuated g/C Ratio	0.49	0.41		0.24	0.57		0.10	0.16	0.39	0.08	0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.8	5.8	6.0	5.3	5.3	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	184	1987		819	1944		359	244	598	145	232	
v/s Ratio Prot	0.04	0.28		c0.21	c0.55		0.06	c0.07	0.08	c0.12	c0.09	
v/s Ratio Perm	0.20								0.06			
v/c Ratio	0.48	0.67		0.89	0.96		0.55	0.42	0.35	1.43	0.66	
Uniform Delay, d1	27.9	33.6		51.7	28.3		59.6	53.3	29.8	64.3	57.5	
Progression Factor	1.28	0.69		1.28	0.79		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	1.8		3.9	5.0		1.9	0.9	0.3	230.3	6.6	
Delay (s)	37.0	25.1		70.0	27.3		61.5	54.2	30.1	294.6	64.1	
Level of Service	D	C		E	C		E	D	C	F	E	
Approach Delay (s)		25.8			39.3			47.6			186.7	
Approach LOS		C			D			D			F	

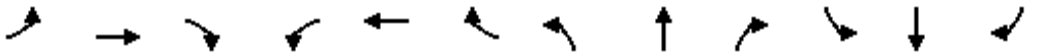
Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



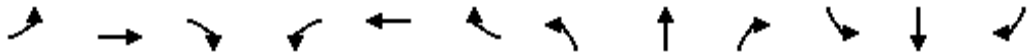
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	1053	1762	77	71	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3388		1593	1398
Flt Permitted	0.04	1.00	1.00		0.95	1.00
Satd. Flow (perm)	74	4893	3388		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1086	1936	92	92	269
RTOR Reduction (vph)	0	0	2	0	0	108
Lane Group Flow (vph)	96	1086	2026	0	92	161
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	109.6	109.6	95.9		20.0	20.0
Effective Green, g (s)	111.0	111.0	97.3		21.0	21.0
Actuated g/C Ratio	0.79	0.79	0.69		0.15	0.15
Clearance Time (s)	5.4	5.4	5.4		5.0	5.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	177	3879	2354		238	209
v/s Ratio Prot	c0.04	0.22	c0.60		0.06	
v/s Ratio Perm	0.39					c0.12
v/c Ratio	0.54	0.28	0.86		0.39	0.77
Uniform Delay, d1	34.0	3.9	16.2		53.7	57.2
Progression Factor	2.22	0.27	0.32		1.00	1.00
Incremental Delay, d2	2.4	0.2	2.0		1.0	16.0
Delay (s)	78.0	1.2	7.1		54.7	73.2
Level of Service	E	A	A		D	E
Approach Delay (s)		7.4	7.1		68.5	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



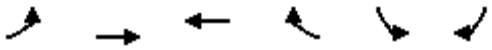
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	916	1054	412	1526	4	849	7	173	5	6	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3405		3467	1618		1715	1681	1652
Flt Permitted	0.07	1.00	1.00	0.17	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	141	4893	1599	328	3405		3467	1618		1715	1681	1652
Peak-hour factor, PHF	0.38	0.93	0.89	0.91	0.87	0.90	0.84	0.44	0.75	0.63	0.30	0.56
Adj. Flow (vph)	8	985	1184	453	1754	4	1011	16	231	8	20	16
RTOR Reduction (vph)	0	0	170	0	0	0	0	154	0	0	0	14
Lane Group Flow (vph)	8	985	1014	453	1758	0	1011	93	0	7	21	2
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	55.1	51.8	96.2	71.4	62.1		44.4	44.4		6.2	6.2	9.5
Effective Green, g (s)	59.1	53.8	100.2	73.4	64.1		46.4	46.4		8.2	8.2	13.5
Actuated g/C Ratio	0.42	0.38	0.72	0.52	0.46		0.33	0.33		0.06	0.06	0.10
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	122	1880	1144	334	1559		1149	536		100	98	159
v/s Ratio Prot	0.00	0.20	c0.29	c0.15	0.52		0.29	0.06		0.00	c0.01	0.00
v/s Ratio Perm	0.03		0.34	c0.56								0.00
v/c Ratio	0.07	0.52	0.89	1.36	1.13		0.88	0.17		0.07	0.21	0.01
Uniform Delay, d1	32.4	33.2	15.5	24.7	38.0		44.2	33.2		62.3	62.8	57.2
Progression Factor	0.99	0.72	3.48	1.93	0.86		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.6	5.4	170.3	62.3		7.9	0.2		0.5	1.9	0.0
Delay (s)	32.2	24.4	59.2	217.8	94.9		52.1	33.3		62.8	64.7	57.2
Level of Service	C	C	E	F	F		D	C		E	E	E
Approach Delay (s)		43.4			120.1			48.4			61.7	
Approach LOS		D			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	74.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	1797	19	87	2186	111	5	11	110	66	6	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3430		1770	3387			1599		1787	1696	
Flt Permitted	0.04	1.00		0.05	1.00			0.99		0.28	1.00	
Satd. Flow (perm)	78	3430		92	3387			1586		527	1696	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	12	1912	32	112	2326	132	8	16	164	78	12	25
RTOR Reduction (vph)	0	1	0	0	2	0	0	108	0	0	21	0
Lane Group Flow (vph)	12	1943	0	112	2456	0	0	80	0	78	16	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	98.2	95.8		110.0	102.0			19.3		19.3	19.3	
Effective Green, g (s)	101.4	97.4		111.6	103.6			20.4		20.4	20.4	
Actuated g/C Ratio	0.72	0.70		0.80	0.74			0.15		0.15	0.15	
Clearance Time (s)	5.6	5.6		5.6	5.6			5.1		5.1	5.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	105	2386		195	2506			231		76	247	
v/s Ratio Prot	0.00	0.57		c0.04	c0.73						0.01	
v/s Ratio Perm	0.08			0.42				0.05		c0.15		
v/c Ratio	0.11	0.81		0.57	0.98			0.35		1.03	0.06	
Uniform Delay, d1	30.4	15.0		30.5	17.2			53.8		59.8	51.6	
Progression Factor	1.20	1.51		1.14	0.60			1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.6		1.1	5.7			0.9		110.7	0.1	
Delay (s)	36.8	25.2		35.8	15.9			54.7		170.5	51.7	
Level of Service	D	C		D	B			D		F	D	
Approach Delay (s)		25.2			16.8			54.7			132.3	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	195	1447	1761	450	378	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.04	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	82	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	210	1590	1914	464	420	259
RTOR Reduction (vph)	0	0	0	113	0	216
Lane Group Flow (vph)	210	1590	1914	351	420	43
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	106.8	106.8	85.7	85.7	22.5	22.5
Effective Green, g (s)	108.5	108.5	87.4	87.4	23.5	23.5
Actuated g/C Ratio	0.78	0.78	0.62	0.62	0.17	0.17
Clearance Time (s)	5.7	5.7	5.7	5.7	5.0	5.0
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	271	2639	2106	998	581	472
v/s Ratio Prot	c0.09	0.47	c0.57		c0.12	
v/s Ratio Perm	0.50			0.22		0.02
v/c Ratio	0.77	0.60	0.91	0.35	0.72	0.09
Uniform Delay, d1	46.3	6.6	22.8	12.7	55.2	49.2
Progression Factor	0.81	2.02	0.50	0.44	1.00	1.00
Incremental Delay, d2	8.6	0.7	2.9	0.4	4.4	0.1
Delay (s)	46.0	14.1	14.4	5.9	59.6	49.3
Level of Service	D	B	B	A	E	D
Approach Delay (s)		17.8	12.7		55.7	
Approach LOS		B	B		E	

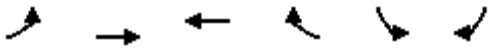
Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1601	11	16	1985	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3		6.3	6.3	7.1	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3433		1770	4940	1695	
Flt Permitted	1.00		0.06	1.00	0.98	
Satd. Flow (perm)	3433		109	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1651	20	36	2089	32	32
RTOR Reduction (vph)	1	0	0	0	26	0
Lane Group Flow (vph)	1670	0	36	2089	38	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	62.3		79.1	99.0	27.6	
Effective Green, g (s)	62.3		79.1	93.7	27.6	
Actuated g/C Ratio	0.44		0.56	0.67	0.20	
Clearance Time (s)	6.3		6.3		7.1	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1527		186	3306	334	
v/s Ratio Prot	c0.49		0.01	c0.42	c0.02	
v/s Ratio Perm			0.10			
v/c Ratio	1.09		0.19	0.63	0.11	
Uniform Delay, d1	38.9		28.7	13.3	46.2	
Progression Factor	1.00		0.64	0.14	1.00	
Incremental Delay, d2	53.2		0.1	0.0	0.2	
Delay (s)	92.0		18.3	1.9	46.3	
Level of Service	F		B	A	D	
Approach Delay (s)	92.0			2.2	46.3	
Approach LOS	F			A	D	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	1617	1956	25	25	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3	6.3	5.3	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.91	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1671	
Flt Permitted		0.88	1.00	1.00	0.98	
Satd. Flow (perm)		3032	3438	1583	1671	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	11	1667	2059	27	27	49
RTOR Reduction (vph)	0	0	0	3	44	0
Lane Group Flow (vph)	0	1678	2059	24	32	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases	2 3			6		
Actuated Green, G (s)		96.2	79.1	79.1	14.6	
Effective Green, g (s)		96.2	79.1	79.1	14.6	
Actuated g/C Ratio		0.69	0.56	0.56	0.10	
Clearance Time (s)			6.3	6.3	5.3	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2083	1942	894	174	
v/s Ratio Prot			c0.60		c0.02	
v/s Ratio Perm		c0.55		0.02		
v/c Ratio		0.81	1.06	0.03	0.18	
Uniform Delay, d1		15.3	30.5	13.5	57.3	
Progression Factor		0.53	0.35	0.45	1.00	
Incremental Delay, d2		0.2	33.9	0.0	0.6	
Delay (s)		8.3	44.6	6.1	57.9	
Level of Service		A	D	A	E	
Approach Delay (s)		8.3	44.1		57.9	
Approach LOS		A	D		E	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	789	0	0	800	323	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	3438			4893	3215	
Flt Permitted	1.00			1.00	0.96	
Satd. Flow (perm)	3438			4893	3215	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.92
Adj. Flow (vph)	831	0	0	833	367	88
RTOR Reduction (vph)	0	0	0	0	19	0
Lane Group Flow (vph)	831	0	0	833	436	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	95.7			95.7	22.5	
Effective Green, g (s)	97.1			97.7	23.9	
Actuated g/C Ratio	0.75			0.75	0.18	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2567			3677	591	
v/s Ratio Prot	c0.24			0.17	c0.14	
v/s Ratio Perm						
v/c Ratio	0.32			0.23	0.74	
Uniform Delay, d1	5.5			4.8	50.1	
Progression Factor	0.10			1.00	1.00	
Incremental Delay, d2	0.3			0.1	4.5	
Delay (s)	0.8			5.0	54.6	
Level of Service	A			A	D	
Approach Delay (s)	0.8			5.0	54.6	
Approach LOS	A			A	D	

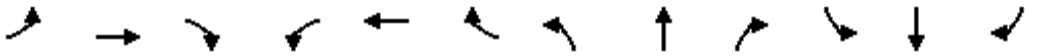
Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1397	355	75	789	0	0	0	196	0	1114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.6		6.6
Lane Util. Factor		*0.60	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3257	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3257	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.95	0.91	0.49	0.95	0.92	0.92	0.92	0.93	0.92	0.88
Adj. Flow (vph)	0	1471	390	153	831	0	0	0	211	0	1266
RTOR Reduction (vph)	0	0	84	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1471	306	153	831	0	0	0	211	0	1266
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2						1 4
Permitted Phases		6	6 7		2				2		1 4
Actuated Green, G (s)		75.7	89.1	21.1	59.3				59.3		57.5
Effective Green, g (s)		75.7	89.1	21.1	59.3				59.3		51.5
Actuated g/C Ratio		0.58	0.69	0.16	0.46				0.46		0.40
Clearance Time (s)		6.6	6.6	6.6	6.6				6.6		
Vehicle Extension (s)		5.0	3.0	3.0	5.0				5.0		
Lane Grp Cap (vph)		1896	1132	276	2231				1211		1363
v/s Ratio Prot		c0.45	0.03	c0.09	0.17						c0.37
v/s Ratio Perm			0.17						0.08		
v/c Ratio		0.78	0.27	0.55	0.37				0.17		0.93
Uniform Delay, d1		20.7	7.9	50.1	23.2				20.9		37.5
Progression Factor		1.15	2.49	1.00	0.91				1.00		1.00
Incremental Delay, d2		1.6	0.1	2.3	0.5				0.3		11.3
Delay (s)		25.4	19.7	52.6	21.6				21.2		48.8
Level of Service		C	B	D	C				C		D
Approach Delay (s)		24.2			26.5		21.2			48.8	
Approach LOS		C			C		C			D	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

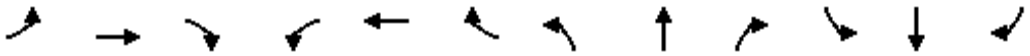
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	294	1053	82	484	1117	302	112	149	415	284	99	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.70		0.97	0.95	1.00	0.95	0.95	*0.67	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3746		3433	3438	1583	1665	1779	2143	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3746		3433	3438	1583	1665	1779	2143	3433	1881	1599
Peak-hour factor, PHF	0.94	0.98	0.68	0.93	0.96	0.84	0.78	0.78	0.91	0.79	0.71	0.71
Adj. Flow (vph)	313	1074	121	520	1164	360	144	191	456	359	139	351
RTOR Reduction (vph)	0	8	0	0	0	58	0	0	0	0	0	91
Lane Group Flow (vph)	313	1187	0	520	1164	302	130	205	456	359	139	260
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	19.0	45.4		20.0	46.4	66.8	18.4	18.4	45.0	20.4	20.4	39.4
Effective Green, g (s)	21.0	47.4		22.0	48.4	70.8	20.0	20.0	46.6	22.0	22.0	42.6
Actuated g/C Ratio	0.16	0.36		0.17	0.37	0.54	0.15	0.15	0.36	0.17	0.17	0.33
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	560	1365		580	1279	862	256	273	768	580	318	578
v/s Ratio Prot	0.09	c0.32		0.15	c0.34	0.06	0.08	c0.12	0.21	c0.10	0.07	0.07
v/s Ratio Perm						0.13						0.09
v/c Ratio	0.56	0.87		0.90	0.91	0.35	0.51	0.75	0.59	0.62	0.44	0.45
Uniform Delay, d1	50.2	38.4		52.9	38.7	16.7	50.5	52.6	34.0	50.1	48.4	34.4
Progression Factor	0.69	0.61		1.01	0.61	1.14	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	6.5		13.2	8.9	0.2	1.6	11.0	1.2	2.0	1.0	0.6
Delay (s)	35.8	29.7		66.4	32.6	19.2	52.1	63.7	35.2	52.1	49.4	35.0
Level of Service	D	C		E	C	B	D	E	D	D	D	D
Approach Delay (s)		31.0			38.8			45.4			44.6	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

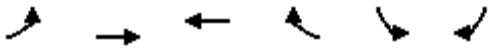
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1052	58	460	1351	72	153	39	262	112	39	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4846		3467	3382		3467	1606	1519	1787	1740	
Flt Permitted	0.07	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	137	4846		3467	3382		3467	1606	1519	1787	1740	
Peak-hour factor, PHF	0.75	0.91	0.48	0.93	0.90	0.67	0.74	0.61	0.82	0.72	0.75	0.92
Adj. Flow (vph)	60	1156	121	495	1501	107	207	64	320	156	52	52
RTOR Reduction (vph)	0	9	0	0	3	0	0	67	54	0	32	0
Lane Group Flow (vph)	60	1268	0	495	1605	0	207	131	132	156	72	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	58.3	52.6		23.5	70.4		10.8	15.8	39.3	13.5	18.5	
Effective Green, g (s)	62.3	54.6		25.5	72.4		12.6	17.6	43.3	14.8	19.8	
Actuated g/C Ratio	0.48	0.42		0.20	0.56		0.10	0.14	0.33	0.11	0.15	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	162	2035		680	1883		336	217	552	203	265	
v/s Ratio Prot	0.02	0.26		c0.14	c0.47		0.06	c0.08	0.05	c0.09	c0.04	
v/s Ratio Perm	0.15								0.04			
v/c Ratio	0.37	0.62		0.73	0.85		0.62	0.61	0.24	0.77	0.27	
Uniform Delay, d1	22.2	29.6		49.0	24.3		56.4	52.9	31.4	55.9	48.7	
Progression Factor	1.23	0.75		1.19	0.68		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	1.4		2.9	4.0		3.5	4.0	0.2	16.4	0.6	
Delay (s)	28.4	23.6		61.0	20.4		59.9	56.9	31.6	72.3	49.3	
Level of Service	C	C		E	C		E	E	C	E	D	
Approach Delay (s)		23.8			30.0			50.0			63.1	
Approach LOS		C			C			D			E	

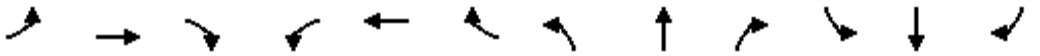
Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



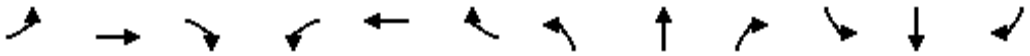
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	1050	1450	77	71	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3385		1593	1398
Flt Permitted	0.09	1.00	1.00		0.95	1.00
Satd. Flow (perm)	166	4893	3385		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1082	1593	92	92	173
RTOR Reduction (vph)	0	0	2	0	0	136
Lane Group Flow (vph)	96	1082	1683	0	92	37
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	104.6	104.6	90.4		13.3	13.3
Effective Green, g (s)	106.0	106.0	91.8		14.3	14.3
Actuated g/C Ratio	0.82	0.82	0.71		0.11	0.11
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	255	3989	2390		175	153
v/s Ratio Prot	c0.03	0.22	c0.50		c0.06	
v/s Ratio Perm	0.28					0.03
v/c Ratio	0.38	0.27	0.70		0.53	0.24
Uniform Delay, d1	10.5	2.8	11.2		54.6	52.9
Progression Factor	7.65	0.19	0.11		1.00	1.00
Incremental Delay, d2	0.6	0.2	1.0		2.8	0.8
Delay (s)	81.0	0.7	2.3		57.5	53.7
Level of Service	F	A	A		E	D
Approach Delay (s)		7.2	2.3		55.0	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



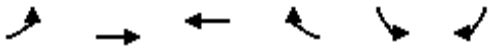
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	971	647	128	1303	39	438	20	130	30	24	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3392		3467	1641		1715	1677	1652
Flt Permitted	0.07	1.00	1.00	0.20	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	138	4893	1599	368	3392		3467	1641		1715	1677	1652
Peak-hour factor, PHF	0.71	0.92	0.95	0.80	0.93	0.70	0.96	0.83	0.88	0.75	0.60	0.69
Adj. Flow (vph)	72	1055	681	160	1401	56	456	24	148	40	40	52
RTOR Reduction (vph)	0	0	145	0	2	0	0	117	0	0	0	45
Lane Group Flow (vph)	72	1055	536	160	1455	0	456	55	0	36	44	7
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	68.6	62.3	87.9	75.0	65.5		25.6	25.6		8.0	8.0	14.3
Effective Green, g (s)	72.6	64.3	91.9	79.0	67.5		27.6	27.6		10.0	10.0	18.3
Actuated g/C Ratio	0.56	0.49	0.71	0.61	0.52		0.21	0.21		0.08	0.08	0.14
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	183	2420	1130	349	1761		736	348		131	129	232
v/s Ratio Prot	0.03	0.22	0.10	c0.04	c0.43		c0.13	0.03		0.02	c0.03	0.00
v/s Ratio Perm	0.19		0.23	0.24								0.00
v/c Ratio	0.39	0.44	0.47	0.46	0.83		0.62	0.16		0.27	0.34	0.03
Uniform Delay, d1	20.4	21.2	8.4	12.6	26.3		46.4	41.7		56.6	56.9	48.2
Progression Factor	1.55	0.44	0.76	1.27	0.86		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.4	0.2	0.5	3.4		1.6	0.2		2.0	2.7	0.0
Delay (s)	32.5	9.8	6.6	16.5	26.1		48.0	42.0		58.5	59.6	48.2
Level of Service	C	A	A	B	C		D	D		E	E	D
Approach Delay (s)		9.5			25.2			46.3			54.8	
Approach LOS		A			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1523	19	87	1588	74	5	11	110	44	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.1			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3428		1770	3388			1599		1787	1699	
Flt Permitted	0.10	1.00		0.09	1.00			0.99		0.26	1.00	
Satd. Flow (perm)	189	3428		169	3388			1583		498	1699	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	8	1620	32	112	1689	88	8	16	164	52	8	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	144	0	0	14	0
Lane Group Flow (vph)	8	1651	0	112	1775	0	0	44	0	52	10	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	90.2	89.0		104.3	97.1			14.0		14.0	14.0	
Effective Green, g (s)	93.4	90.6		105.9	98.7			15.1		15.1	15.1	
Actuated g/C Ratio	0.72	0.70		0.81	0.76			0.12		0.12	0.12	
Clearance Time (s)	6.0	5.7		6.0	5.7			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	170	2389		271	2572			183		57	197	
v/s Ratio Prot	0.00	0.48		c0.03	c0.52						0.01	
v/s Ratio Perm	0.03			0.30				0.03		c0.10		
v/c Ratio	0.05	0.69		0.41	0.69			0.24		0.91	0.05	
Uniform Delay, d1	7.0	11.5		11.3	7.9			52.2		56.8	51.1	
Progression Factor	1.00	0.68		2.56	0.65			1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.5		0.7	1.0			0.7		87.4	0.1	
Delay (s)	7.1	9.3		29.6	6.1			52.9		144.2	51.2	
Level of Service	A	A		C	A			D		F	D	
Approach Delay (s)		9.3			7.5			52.9			114.8	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	1296	1306	300	252	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.13	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	243	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	140	1424	1420	309	280	173
RTOR Reduction (vph)	0	0	0	83	0	151
Lane Group Flow (vph)	140	1424	1420	226	280	22
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	102.0	102.0	87.0	87.0	15.8	15.8
Effective Green, g (s)	103.7	103.7	88.7	88.7	16.8	16.8
Actuated g/C Ratio	0.80	0.80	0.68	0.68	0.13	0.13
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	320	2716	2302	1091	448	363
v/s Ratio Prot	0.04	c0.42	c0.42		c0.08	
v/s Ratio Perm	0.31			0.14		0.01
v/c Ratio	0.44	0.52	0.62	0.21	0.62	0.06
Uniform Delay, d1	8.2	4.6	11.3	7.6	53.6	49.7
Progression Factor	4.58	0.03	0.85	1.47	1.00	1.00
Incremental Delay, d2	0.5	0.6	1.0	0.3	2.7	0.1
Delay (s)	38.3	0.7	10.6	11.5	56.3	49.8
Level of Service	D	A	B	B	E	D
Approach Delay (s)		4.0	10.7		53.8	
Approach LOS		A	B		D	

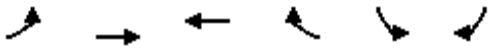
Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1489	11	16	1635	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3433		1770	4940	1695	
Flt Permitted	1.00		0.16	1.00	0.98	
Satd. Flow (perm)	3433		305	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1535	20	36	1721	32	32
RTOR Reduction (vph)	1	0	0	0	26	0
Lane Group Flow (vph)	1554	0	36	1721	38	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		Perm	NA	NA	
Protected Phases	2			1 4 6	3	
Permitted Phases			1 4 6			
Actuated Green, G (s)	60.4		94.5	94.5	22.9	
Effective Green, g (s)	60.4		94.5	94.5	22.9	
Actuated g/C Ratio	0.46		0.73	0.73	0.18	
Clearance Time (s)	6.6				6.0	
Vehicle Extension (s)	3.0				3.5	
Lane Grp Cap (vph)	1595		221	3591	298	
v/s Ratio Prot	c0.45			c0.35	c0.02	
v/s Ratio Perm			0.12			
v/c Ratio	0.97		0.16	0.48	0.13	
Uniform Delay, d1	34.0		5.5	7.4	45.1	
Progression Factor	1.00		0.16	0.12	1.00	
Incremental Delay, d2	17.3		0.2	0.1	0.2	
Delay (s)	51.3		1.1	1.0	45.3	
Level of Service	D		A	A	D	
Approach Delay (s)	51.3			1.0	45.3	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1515	1626	25	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.0	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1562	1712	27	27	27
RTOR Reduction (vph)	0	0	0	3	25	0
Lane Group Flow (vph)	0	1562	1712	24	29	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		89.9	77.4	77.4	11.1	
Effective Green, g (s)		89.9	77.4	77.4	11.1	
Actuated g/C Ratio		0.69	0.60	0.60	0.09	
Clearance Time (s)			6.6	6.6	6.0	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2377	2046	942	144	
v/s Ratio Prot		c0.45	c0.50		c0.02	
v/s Ratio Perm				0.02		
v/c Ratio		0.66	0.84	0.03	0.20	
Uniform Delay, d1		11.3	21.2	10.8	55.3	
Progression Factor		0.10	0.82	1.07	1.00	
Incremental Delay, d2		0.2	3.7	0.0	0.8	
Delay (s)		1.3	21.2	11.6	56.2	
Level of Service		A	C	B	E	
Approach Delay (s)		1.3	21.0		56.2	
Approach LOS		A	C		E	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1621	0	0	1245	331	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3438			4893	3160	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3438			4893	3160	
Peak-hour factor, PHF	0.90	0.92	0.92	0.92	0.87	0.75
Adj. Flow (vph)	1801	0	0	1353	380	209
RTOR Reduction (vph)	0	0	0	0	24	0
Lane Group Flow (vph)	1801	0	0	1353	565	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	99.0			99.0	29.2	
Effective Green, g (s)	100.4			101.0	30.6	
Actuated g/C Ratio	0.72			0.72	0.22	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2465			3529	690	
v/s Ratio Prot	c0.52			0.28	c0.18	
v/s Ratio Perm						
v/c Ratio	0.73			0.38	0.82	
Uniform Delay, d1	11.8			7.5	52.1	
Progression Factor	0.70			1.00	1.00	
Incremental Delay, d2	0.2			0.3	7.3	
Delay (s)	8.4			7.8	59.4	
Level of Service	A			A	E	
Approach Delay (s)	8.4			7.8	59.4	
Approach LOS	A			A	E	

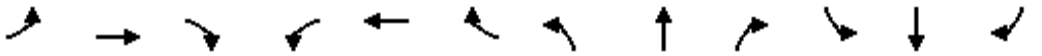
Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	1860	446	85	1270	0	0	0	638	0	1781
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.0		6.6
Lane Util. Factor		*0.50	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		2714	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		2714	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.83	0.89	0.46	0.89	0.92	0.92	0.92	0.94	0.92	0.97
Adj. Flow (vph)	0	2241	501	185	1427	0	0	0	679	0	1836
RTOR Reduction (vph)	0	0	185	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2241	316	185	1427	0	0	0	679	0	1836
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	Perm	Prot	NA				custom		custom
Protected Phases		6		5	2				4 5		1 4
Permitted Phases		6	6		2						1 4
Actuated Green, G (s)		88.4	88.4	18.4	49.4				39.0		77.4
Effective Green, g (s)		88.4	88.4	18.4	49.4				32.4		71.4
Actuated g/C Ratio		0.63	0.63	0.13	0.35				0.23		0.51
Clearance Time (s)		6.6	6.6	6.6	6.6						
Vehicle Extension (s)		5.0	5.0	3.0	5.0						
Lane Grp Cap (vph)		1713	971	223	1726				614		1754
v/s Ratio Prot		c0.83		0.11	0.29				c0.26		0.53
v/s Ratio Perm			0.21								
v/c Ratio		1.31	0.33	0.83	0.83				1.11		1.05
Uniform Delay, d1		25.8	12.0	59.3	41.4				53.8		34.3
Progression Factor		0.58	0.38	0.85	0.79				1.00		1.00
Incremental Delay, d2		139.8	0.1	20.7	4.4				68.8		34.9
Delay (s)		154.9	4.6	71.3	37.2				122.6		69.2
Level of Service		F	A	E	D				F		E
Approach Delay (s)		127.4			41.1		122.6			69.2	
Approach LOS		F			D		F			E	

Intersection Summary			
HCM 2000 Control Delay	91.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

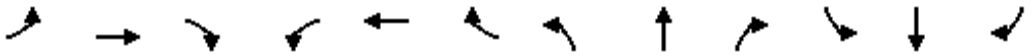
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	248	1411	72	815	1496	349	146	150	638	257	184	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.70		0.97	0.95	1.00	1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3768		3433	3438	1583	1752	1881	2814	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3768		3433	3438	1583	1752	1881	2814	3433	1881	1599
Peak-hour factor, PHF	0.84	0.86	0.69	0.92	0.88	0.86	0.73	0.82	0.89	0.92	0.79	0.84
Adj. Flow (vph)	295	1641	104	886	1700	406	200	183	717	279	233	213
RTOR Reduction (vph)	0	4	0	0	0	42	0	0	0	0	0	93
Lane Group Flow (vph)	295	1741	0	886	1700	364	200	183	717	279	233	120
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	18.0	49.4		34.0	65.4	80.8	15.4	15.4	56.0	15.4	15.4	33.4
Effective Green, g (s)	20.0	51.4		36.0	67.4	84.8	17.0	17.0	57.6	17.0	17.0	36.6
Actuated g/C Ratio	0.14	0.37		0.26	0.48	0.61	0.12	0.12	0.41	0.12	0.12	0.26
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	495	1383		882	1655	958	212	228	1157	416	228	468
v/s Ratio Prot	0.09	c0.46		0.26	c0.49	0.05	c0.11	0.10	0.25	0.08	c0.12	0.04
v/s Ratio Perm						0.18						0.04
v/c Ratio	0.60	1.26		1.00	1.03	0.38	0.94	0.80	0.62	0.67	1.02	0.26
Uniform Delay, d1	56.2	44.3		52.0	36.3	14.1	61.0	59.9	32.5	58.8	61.5	40.9
Progression Factor	0.82	0.78		1.00	1.03	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	121.3		20.4	21.7	0.1	45.8	18.1	1.0	4.2	65.4	0.3
Delay (s)	47.3	155.7		72.3	59.1	10.0	106.8	78.0	33.5	63.0	126.9	41.2
Level of Service	D	F		E	E	B	F	E	C	E	F	D
Approach Delay (s)		140.0			56.3			54.3			77.1	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

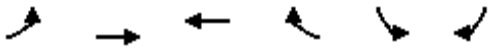
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	1300	106	353	1425	57	175	18	441	86	33	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.86	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4849		3467	3387		3467	1543	1519	1787	1740	
Flt Permitted	0.12	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	217	4849		3467	3387		3467	1543	1519	1787	1740	
Peak-hour factor, PHF	0.85	0.87	0.74	0.93	1.00	0.71	0.84	0.75	0.88	0.69	0.92	0.56
Adj. Flow (vph)	48	1494	143	380	1425	80	208	24	501	125	36	36
RTOR Reduction (vph)	0	6	0	0	2	0	0	188	54	0	30	0
Lane Group Flow (vph)	48	1631	0	380	1503	0	208	76	207	125	42	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	74.4	69.1		20.1	83.9		12.5	14.5	34.6	11.7	13.7	
Effective Green, g (s)	78.4	71.1		22.1	85.9		14.3	16.3	38.6	13.0	15.0	
Actuated g/C Ratio	0.56	0.51		0.16	0.61		0.10	0.12	0.28	0.09	0.11	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	202	2462		547	2078		354	179	462	165	186	
v/s Ratio Prot	0.01	0.34		c0.11	c0.44		0.06	0.05	c0.07	c0.07	0.02	
v/s Ratio Perm	0.12								0.07			
v/c Ratio	0.24	0.66		0.69	0.72		0.59	0.42	0.45	0.76	0.22	
Uniform Delay, d1	16.2	25.5		55.8	18.8		60.0	57.5	41.9	62.0	57.2	
Progression Factor	1.13	1.05		1.29	0.30		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	1.4		1.1	0.7		2.7	1.2	0.5	18.4	0.6	
Delay (s)	18.8	28.2		73.1	6.4		62.7	58.7	42.4	80.3	57.8	
Level of Service	B	C		E	A		E	E	D	F	E	
Approach Delay (s)		27.9			19.8			54.0			72.1	
Approach LOS		C			B			D			E	

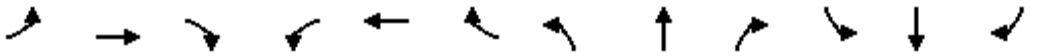
Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



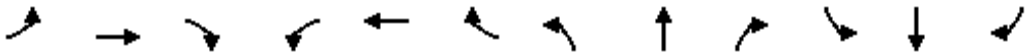
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	1311	1508	112	99	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3375		1593	1398
Flt Permitted	0.08	1.00	1.00		0.95	1.00
Satd. Flow (perm)	142	4893	3375		1593	1398
Peak-hour factor, PHF	0.86	0.88	0.92	0.80	0.88	0.76
Adj. Flow (vph)	103	1490	1639	140	112	163
RTOR Reduction (vph)	0	0	3	0	0	125
Lane Group Flow (vph)	103	1490	1776	0	112	38
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	112.6	112.6	98.2		15.3	15.3
Effective Green, g (s)	114.0	114.0	99.6		16.3	16.3
Actuated g/C Ratio	0.81	0.81	0.71		0.12	0.12
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	230	3984	2401		185	162
v/s Ratio Prot	0.03	c0.30	c0.53		c0.07	
v/s Ratio Perm	0.33					0.03
v/c Ratio	0.45	0.37	0.74		0.61	0.23
Uniform Delay, d1	14.3	3.5	12.3		58.8	56.2
Progression Factor	3.34	1.04	0.19		1.00	1.00
Incremental Delay, d2	0.9	0.2	1.6		5.5	0.7
Delay (s)	48.8	3.9	3.9		64.3	56.9
Level of Service	D	A	A		E	E
Approach Delay (s)		6.8	3.9		59.9	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



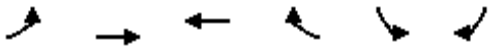
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	1123	593	161	1457	14	443	5	164	113	11	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3400		3467	1617		1715	1625	1652
Flt Permitted	0.06	1.00	1.00	0.16	1.00		0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	108	4893	1599	298	3400		3467	1617		1715	1625	1652
Peak-hour factor, PHF	0.33	0.94	0.92	0.88	0.84	0.50	0.87	0.42	0.87	0.71	0.46	0.64
Adj. Flow (vph)	12	1195	645	183	1735	28	509	12	189	159	24	95
RTOR Reduction (vph)	0	0	156	0	1	0	0	134	0	0	0	64
Lane Group Flow (vph)	12	1195	489	183	1762	0	509	67	0	91	92	31
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	74.1	68.4	94.9	83.7	73.2		26.5	26.5		10.0	10.0	15.7
Effective Green, g (s)	78.1	70.4	98.9	86.9	75.2		28.5	28.5		12.0	12.0	19.7
Actuated g/C Ratio	0.56	0.50	0.71	0.62	0.54		0.20	0.20		0.09	0.09	0.14
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	153	2460	1129	317	1826		705	329		147	139	232
v/s Ratio Prot	0.00	0.24	0.09	c0.05	c0.52		c0.15	0.04		0.05	c0.06	0.01
v/s Ratio Perm	0.04		0.22	0.31								0.01
v/c Ratio	0.08	0.49	0.43	0.58	0.96		0.72	0.20		0.62	0.66	0.13
Uniform Delay, d1	26.7	22.9	8.7	14.2	31.1		52.1	46.3		61.8	62.0	52.7
Progression Factor	1.43	1.10	3.07	1.19	0.56		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.5	0.2	1.6	11.6		3.7	0.3		9.6	13.3	0.2
Delay (s)	38.1	25.6	26.9	18.4	28.9		55.7	46.6		71.4	75.4	52.9
Level of Service	D	C	C	B	C		E	D		E	E	D
Approach Delay (s)		26.1			27.9			53.1			66.4	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1578	25	142	1738	81	9	13	99	43	10	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.1			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1805	3430		1770	3389			1619		1787	1765	
Flt Permitted	0.08	1.00		0.07	1.00			0.96		0.34	1.00	
Satd. Flow (perm)	144	3430		132	3389			1568		632	1765	
Peak-hour factor, PHF	0.38	0.91	0.89	0.89	0.92	0.88	0.56	0.65	0.90	0.77	0.50	0.56
Adj. Flow (vph)	8	1734	28	160	1889	92	16	20	110	56	20	16
RTOR Reduction (vph)	0	1	0	0	2	0	0	86	0	0	14	0
Lane Group Flow (vph)	8	1761	0	160	1979	0	0	60	0	56	22	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	95.7	94.5		114.0	106.8			14.3		14.3	14.3	
Effective Green, g (s)	98.9	96.1		115.6	108.4			15.4		15.4	15.4	
Actuated g/C Ratio	0.71	0.69		0.83	0.77			0.11		0.11	0.11	
Clearance Time (s)	6.0	5.7		6.0	5.7			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	134	2354		285	2624			172		69	194	
v/s Ratio Prot	0.00	0.51		c0.06	c0.58						0.01	
v/s Ratio Perm	0.04			0.40				0.04		c0.09		
v/c Ratio	0.06	0.75		0.56	0.75			0.35		0.81	0.11	
Uniform Delay, d1	8.8	14.2		26.1	8.6			57.6		60.9	56.1	
Progression Factor	0.25	0.32		1.61	0.42			1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.9		1.1	0.9			1.2		49.4	0.3	
Delay (s)	2.3	6.5		43.3	4.5			58.9		110.3	56.4	
Level of Service	A	A		D	A			E		F	E	
Approach Delay (s)		6.5			7.4			58.9			89.2	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	131	1353	1438	318	253	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.11	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	209	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.89	0.91	0.94	0.82	0.86	0.84
Adj. Flow (vph)	147	1487	1530	388	294	193
RTOR Reduction (vph)	0	0	0	100	0	168
Lane Group Flow (vph)	147	1487	1530	288	294	25
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	110.6	110.6	95.4	95.4	17.2	17.2
Effective Green, g (s)	112.3	112.3	97.1	97.1	18.2	18.2
Actuated g/C Ratio	0.80	0.80	0.69	0.69	0.13	0.13
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	2732	2340	1109	450	365
v/s Ratio Prot	0.04	c0.44	c0.45		c0.08	
v/s Ratio Perm	0.37			0.18		0.01
v/c Ratio	0.51	0.54	0.65	0.26	0.65	0.07
Uniform Delay, d1	10.9	4.9	12.0	8.0	57.9	53.5
Progression Factor	5.07	0.04	0.26	0.51	1.00	1.00
Incremental Delay, d2	0.8	0.6	1.0	0.4	3.4	0.1
Delay (s)	56.1	0.8	4.2	4.4	61.3	53.5
Level of Service	E	A	A	A	E	D
Approach Delay (s)		5.8	4.2		58.2	
Approach LOS		A	A		E	

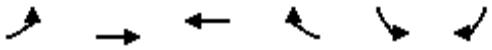
Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1429	14	22	1553	21	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3434		1770	4940	1691	
Flt Permitted	1.00		0.05	1.00	0.98	
Satd. Flow (perm)	3434		98	4940	1691	
Peak-hour factor, PHF	0.93	0.88	0.69	0.94	0.66	0.83
Adj. Flow (vph)	1537	16	32	1652	32	36
RTOR Reduction (vph)	0	0	0	0	29	0
Lane Group Flow (vph)	1553	0	32	1652	39	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	70.4		87.4	104.4	23.0	
Effective Green, g (s)	70.4		87.4	104.4	23.0	
Actuated g/C Ratio	0.50		0.62	0.75	0.16	
Clearance Time (s)	6.6		6.0		6.0	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1726		192	3683	277	
v/s Ratio Prot	c0.45		0.01	c0.33	c0.02	
v/s Ratio Perm			0.09			
v/c Ratio	0.90		0.17	0.45	0.14	
Uniform Delay, d1	31.6		22.8	6.8	50.0	
Progression Factor	1.00		0.47	0.15	1.00	
Incremental Delay, d2	7.9		0.3	0.1	0.3	
Delay (s)	39.5		11.0	1.1	50.3	
Level of Service	D		B	A	D	
Approach Delay (s)	39.5			1.3	50.3	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	1459	1550	50	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.0	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.93	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1695	
Flt Permitted		1.00	1.00	1.00	0.98	
Satd. Flow (perm)		3438	3438	1583	1695	
Peak-hour factor, PHF	0.92	0.93	0.94	0.92	0.92	0.92
Adj. Flow (vph)	0	1569	1649	54	27	27
RTOR Reduction (vph)	0	0	0	6	25	0
Lane Group Flow (vph)	0	1569	1649	48	29	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type		NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases				6		
Actuated Green, G (s)		100.0	87.4	87.4	11.0	
Effective Green, g (s)		100.0	87.4	87.4	11.0	
Actuated g/C Ratio		0.71	0.62	0.62	0.08	
Clearance Time (s)			6.6	6.6	6.0	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2455	2146	988	133	
v/s Ratio Prot		c0.46	c0.48		c0.02	
v/s Ratio Perm				0.03		
v/c Ratio		0.64	0.77	0.05	0.22	
Uniform Delay, d1		10.5	19.0	10.2	60.5	
Progression Factor		0.04	1.13	1.55	1.00	
Incremental Delay, d2		0.3	2.2	0.1	1.0	
Delay (s)		0.6	23.6	15.9	61.5	
Level of Service		A	C	B	E	
Approach Delay (s)		0.6	23.4		61.5	
Approach LOS		A	C		E	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1332	0	0	1857	470	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4			3.8	4.6	
Lane Util. Factor	0.95			0.91	0.97	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3438			4893	3174	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3438			4893	3174	
Peak-hour factor, PHF	0.95	0.92	0.92	0.96	0.88	0.65
Adj. Flow (vph)	1402	0	0	1934	534	242
RTOR Reduction (vph)	0	0	0	0	38	0
Lane Group Flow (vph)	1402	0	0	1934	738	0
Heavy Vehicles (%)	5%	2%	2%	6%	7%	7%
Turn Type	NA			NA	NA	
Protected Phases	2			6	8	
Permitted Phases						
Actuated Green, G (s)	91.3			91.3	36.9	
Effective Green, g (s)	92.7			93.3	38.3	
Actuated g/C Ratio	0.66			0.67	0.27	
Clearance Time (s)	5.8			5.8	6.0	
Vehicle Extension (s)	2.0			2.0	2.5	
Lane Grp Cap (vph)	2276			3260	868	
v/s Ratio Prot	c0.41			0.40	c0.23	
v/s Ratio Perm						
v/c Ratio	0.62			0.59	0.85	
Uniform Delay, d1	13.5			12.9	48.1	
Progression Factor	0.56			1.00	1.00	
Incremental Delay, d2	0.5			0.8	7.9	
Delay (s)	8.1			13.7	56.1	
Level of Service	A			B	E	
Approach Delay (s)	8.1			13.7	56.1	
Approach LOS	A			B	E	

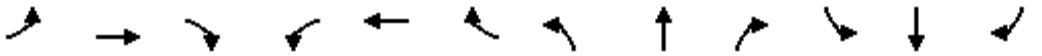
Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL	SWR
Lane Configurations											
Volume (vph)	0	2031	320	126	1895	0	0	0	341	0	1364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6				6.0		6.6
Lane Util. Factor		*0.64	1.00	1.00	0.91				0.88		0.76
Frt		1.00	0.85	1.00	1.00				0.85		0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (prot)		3474	1538	1703	4893				2656		3441
Flt Permitted		1.00	1.00	0.95	1.00				1.00		1.00
Satd. Flow (perm)		3474	1538	1703	4893				2656		3441
Peak-hour factor, PHF	0.92	0.91	0.93	0.68	0.94	0.92	0.92	0.92	0.84	0.92	0.93
Adj. Flow (vph)	0	2232	344	185	2016	0	0	0	406	0	1467
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2232	297	185	2016	0	0	0	406	0	1467
Heavy Vehicles (%)	2%	5%	5%	6%	6%	2%	2%	2%	7%	2%	7%
Turn Type		NA	custom	Prot	NA				custom		custom
Protected Phases		6	7	5	2				4 5		1 4
Permitted Phases		6	6 7		2						1 4
Actuated Green, G (s)		88.4	101.8	18.4	55.1				39.0		71.7
Effective Green, g (s)		88.4	101.8	18.4	55.1				32.4		65.7
Actuated g/C Ratio		0.63	0.73	0.13	0.39				0.23		0.47
Clearance Time (s)		6.6	6.6	6.6	6.6						
Vehicle Extension (s)		5.0	3.0	3.0	5.0						
Lane Grp Cap (vph)		2193	1190	223	1925				614		1614
v/s Ratio Prot		c0.64	0.02	0.11	c0.41				0.15		c0.43
v/s Ratio Perm			0.17								
v/c Ratio		1.02	0.25	0.83	1.05				0.66		0.91
Uniform Delay, d1		25.8	6.4	59.3	42.5				48.8		34.4
Progression Factor		0.77	0.58	0.85	0.79				1.00		1.00
Incremental Delay, d2		14.0	0.0	18.1	32.2				2.7		8.0
Delay (s)		33.9	3.7	68.7	65.9				51.5		42.4
Level of Service		C	A	E	E				D		D
Approach Delay (s)		29.9			66.1		51.5			42.4	
Approach LOS		C			E		D			D	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

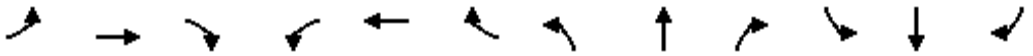
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	236	1144	63	859	1823	577	103	210	886	321	187	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6	4.6	5.0	5.0	5.0	5.0	5.0	4.4
Lane Util. Factor	0.97	*0.70		0.97	0.95	1.00	0.95	0.95	*0.84	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3765		3433	3438	1583	1665	1781	2686	3433	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3765		3433	3438	1583	1665	1781	2686	3433	1881	1599
Peak-hour factor, PHF	0.83	0.84	0.66	0.91	0.98	0.85	0.73	0.83	0.83	0.91	0.88	0.92
Adj. Flow (vph)	284	1362	95	944	1860	679	141	253	1067	353	212	428
RTOR Reduction (vph)	0	4	0	0	0	31	0	0	0	0	0	97
Lane Group Flow (vph)	284	1453	0	944	1860	648	127	267	1067	353	212	331
Heavy Vehicles (%)	1%	5%	4%	2%	5%	2%	3%	1%	1%	2%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pt+ov	Split	NA	pm+ov
Protected Phases	5	2		1	6	4	8	8	8 1	4	4	5
Permitted Phases						6						4
Actuated Green, G (s)	14.0	48.4		32.0	66.4	81.8	18.4	18.4	57.0	15.4	15.4	29.4
Effective Green, g (s)	16.0	50.4		34.0	68.4	85.8	20.0	20.0	58.6	17.0	17.0	32.6
Actuated g/C Ratio	0.11	0.36		0.24	0.49	0.61	0.14	0.14	0.42	0.12	0.12	0.23
Clearance Time (s)	6.0	6.6		6.0	6.6	6.6	6.6	6.6		6.6	6.6	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	396	1355		833	1679	970	237	254	1124	416	228	422
v/s Ratio Prot	0.08	c0.39		0.27	c0.54	0.08	0.08	0.15	c0.40	0.10	c0.11	0.09
v/s Ratio Perm						0.33						0.12
v/c Ratio	0.72	1.07		1.13	1.11	0.67	0.54	1.05	0.95	0.85	0.93	0.79
Uniform Delay, d1	59.8	44.8		53.0	35.8	17.8	55.7	60.0	39.3	60.2	60.9	50.4
Progression Factor	0.74	0.64		0.93	1.11	1.16	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	42.4		65.5	51.9	0.6	2.3	70.5	16.0	14.8	40.2	9.3
Delay (s)	48.4	71.1		114.8	91.8	21.2	58.0	130.5	55.2	75.1	101.1	59.7
Level of Service	D	E		F	F	C	E	F	E	E	F	E
Approach Delay (s)		67.4			84.3			69.2			74.0	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	76.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

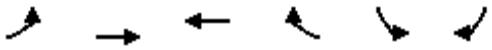
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1032	134	641	1623	56	161	33	410	123	56	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.6		4.0	4.6		4.2	4.2	4.0	4.7	4.7	
Lane Util. Factor	1.00	0.91		0.97	0.95		0.97	0.95	0.95	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.87	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	4831		3467	3391		3467	1562	1519	1787	1735	
Flt Permitted	0.09	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	165	4831		3467	3391		3467	1562	1519	1787	1735	
Peak-hour factor, PHF	0.80	0.87	0.80	0.88	0.91	0.70	0.82	0.83	0.89	0.59	0.64	0.65
Adj. Flow (vph)	88	1186	168	728	1784	80	196	40	461	208	88	95
RTOR Reduction (vph)	0	13	0	0	2	0	0	156	44	0	32	0
Lane Group Flow (vph)	88	1341	0	728	1862	0	196	96	205	208	151	0
Heavy Vehicles (%)	2%	6%	1%	1%	6%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases	2								8			
Actuated Green, G (s)	51.5	43.2		39.4	74.3		13.4	14.5	53.9	18.3	19.4	
Effective Green, g (s)	55.5	45.2		41.4	76.3		15.2	16.3	57.9	19.6	20.7	
Actuated g/C Ratio	0.40	0.32		0.30	0.54		0.11	0.12	0.41	0.14	0.15	
Clearance Time (s)	6.0	6.6		6.0	6.6		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	2.5	3.0		2.5	2.0		3.5	2.5	2.5	3.5	3.0	
Lane Grp Cap (vph)	183	1559		1025	1848		376	181	671	250	256	
v/s Ratio Prot	0.04	0.28		c0.21	c0.55		0.06	0.06	0.09	c0.12	c0.09	
v/s Ratio Perm	0.15								0.04			
v/c Ratio	0.48	0.86		0.71	1.01		0.52	0.53	0.31	0.83	0.59	
Uniform Delay, d1	33.1	44.4		44.0	31.9		59.0	58.3	27.6	58.6	55.7	
Progression Factor	1.10	0.66		1.31	0.93		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	6.4		0.6	13.1		1.5	2.3	0.2	20.9	3.6	
Delay (s)	37.8	35.5		58.3	42.7		60.5	60.6	27.7	79.5	59.3	
Level of Service	D	D		E	D		E	E	C	E	E	
Approach Delay (s)		35.7			47.1			48.8			70.1	
Approach LOS		D			D			D			E	

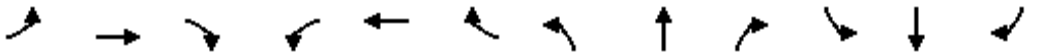
Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



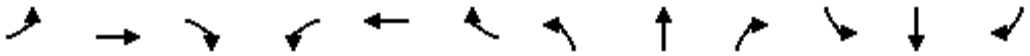
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	85	1053	1762	77	71	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	9	9
Total Lost time (s)	4.6	4.7	4.7		5.0	5.0
Lane Util. Factor	1.00	0.91	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1787	4893	3388		1593	1398
Flt Permitted	0.04	1.00	1.00		0.95	1.00
Satd. Flow (perm)	75	4893	3388		1593	1398
Peak-hour factor, PHF	0.89	0.97	0.91	0.84	0.77	0.67
Adj. Flow (vph)	96	1086	1936	92	92	269
RTOR Reduction (vph)	0	0	2	0	0	118
Lane Group Flow (vph)	96	1086	2026	0	92	151
Heavy Vehicles (%)	1%	6%	6%	2%	2%	4%
Turn Type	pm+pt	NA	NA		NA	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	109.0	109.0	94.5		18.9	18.9
Effective Green, g (s)	110.4	110.4	95.9		19.9	19.9
Actuated g/C Ratio	0.79	0.79	0.69		0.14	0.14
Clearance Time (s)	6.0	6.1	6.1		6.0	6.0
Vehicle Extension (s)	2.5	2.0	2.0		3.0	3.0
Lane Grp Cap (vph)	180	3858	2320		226	198
v/s Ratio Prot	c0.04	0.22	c0.60		0.06	
v/s Ratio Perm	0.38					c0.11
v/c Ratio	0.53	0.28	0.87		0.41	0.76
Uniform Delay, d1	34.2	4.0	17.3		54.7	57.8
Progression Factor	1.93	0.23	0.54		1.00	1.00
Incremental Delay, d2	2.0	0.2	1.9		1.2	15.7
Delay (s)	68.2	1.1	11.3		55.9	73.5
Level of Service	E	A	B		E	E
Approach Delay (s)		6.5	11.3		69.0	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



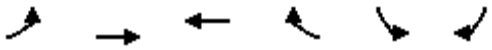
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	916	1054	412	1526	4	849	7	173	5	6	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	10	13
Total Lost time (s)	4.0	4.6	4.0	4.0	4.6		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95		0.97	1.00		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	4893	1599	1787	3405		3467	1618		1715	1681	1652
Flt Permitted	0.08	1.00	1.00	0.16	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	158	4893	1599	298	3405		3467	1618		1715	1681	1652
Peak-hour factor, PHF	0.38	0.93	0.89	0.91	0.87	0.90	0.84	0.44	0.75	0.63	0.30	0.56
Adj. Flow (vph)	8	985	1184	453	1754	4	1011	16	231	8	20	16
RTOR Reduction (vph)	0	0	136	0	0	0	0	163	0	0	0	14
Lane Group Flow (vph)	8	985	1048	453	1758	0	1011	84	0	7	21	2
Heavy Vehicles (%)	0%	6%	1%	1%	6%	1%	1%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	5	2	8	1	6		8	8		4	4	5
Permitted Phases	2		2	6								4
Actuated Green, G (s)	49.3	46.0	85.2	76.0	66.7		39.2	39.2		6.2	6.2	9.5
Effective Green, g (s)	53.3	48.0	89.2	78.0	68.7		41.2	41.2		8.2	8.2	13.5
Actuated g/C Ratio	0.38	0.34	0.64	0.56	0.49		0.29	0.29		0.06	0.06	0.10
Clearance Time (s)	6.0	6.6	6.0	6.0	6.6		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		3.0	3.0		4.5	4.5	2.5
Lane Grp Cap (vph)	122	1677	1018	442	1670		1020	476		100	98	159
v/s Ratio Prot	0.00	0.20	c0.30	c0.19	c0.52		0.29	0.05		0.00	c0.01	0.00
v/s Ratio Perm	0.02		0.35	0.38								0.00
v/c Ratio	0.07	0.59	1.03	1.02	1.05		0.99	0.18		0.07	0.21	0.01
Uniform Delay, d1	33.9	37.9	25.4	34.5	35.6		49.2	36.8		62.3	62.8	57.2
Progression Factor	1.13	0.94	1.14	1.52	0.77		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.9	29.5	36.6	31.7		25.9	0.2		0.5	1.9	0.0
Delay (s)	38.2	36.3	58.4	89.2	59.2		75.1	36.9		62.8	64.7	57.2
Level of Service	D	D	E	F	E		E	D		E	E	E
Approach Delay (s)		48.4			65.4			67.6			61.7	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	59.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	1797	19	87	2186	111	5	11	110	66	6	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	12	12	12
Total Lost time (s)	4.4	4.1		4.4	4.7			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1805	3430		1770	3387			1599		1787	1696	
Flt Permitted	0.04	1.00		0.05	1.00			0.99		0.30	1.00	
Satd. Flow (perm)	79	3430		85	3387			1584		558	1696	
Peak-hour factor, PHF	0.75	0.94	0.59	0.78	0.94	0.84	0.63	0.69	0.67	0.85	0.50	0.81
Adj. Flow (vph)	12	1912	32	112	2326	132	8	16	164	78	12	25
RTOR Reduction (vph)	0	1	0	0	2	0	0	119	0	0	21	0
Lane Group Flow (vph)	12	1943	0	112	2456	0	0	69	0	78	16	0
Heavy Vehicles (%)	0%	5%	5%	2%	6%	1%	4%	1%	1%	1%	0%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	96.6	94.2		108.9	100.5			18.8		18.8	18.8	
Effective Green, g (s)	99.8	95.8		110.5	102.1			19.9		19.9	19.9	
Actuated g/C Ratio	0.71	0.68		0.79	0.73			0.14		0.14	0.14	
Clearance Time (s)	6.0	5.7		6.0	6.3			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	105	2347		198	2470			225		79	241	
v/s Ratio Prot	0.00	0.57		c0.04	c0.73						0.01	
v/s Ratio Perm	0.08			0.40				0.04		c0.14		
v/c Ratio	0.11	0.83		0.57	0.99			0.31		0.99	0.06	
Uniform Delay, d1	32.2	16.1		33.4	18.7			53.9		59.9	52.0	
Progression Factor	1.10	1.24		1.03	0.65			1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.9		1.0	8.1			0.8		96.2	0.1	
Delay (s)	35.9	22.9		35.2	20.2			54.6		156.1	52.1	
Level of Service	D	C		D	C			D		F	D	
Approach Delay (s)		23.0			20.9			54.6			122.6	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	195	1447	1761	450	378	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.6	4.6	4.6	4.9	4.9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.88
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3406	3374	1599	3467	2814
Flt Permitted	0.04	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	84	3406	3374	1599	3467	2814
Peak-hour factor, PHF	0.93	0.91	0.92	0.97	0.90	0.85
Adj. Flow (vph)	210	1590	1914	464	420	259
RTOR Reduction (vph)	0	0	0	121	0	207
Lane Group Flow (vph)	210	1590	1914	343	420	52
Heavy Vehicles (%)	1%	6%	7%	1%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	1	6	2		3	
Permitted Phases	6			2		3
Actuated Green, G (s)	105.3	105.3	83.9	83.9	22.5	22.5
Effective Green, g (s)	107.0	107.0	85.6	85.6	23.5	23.5
Actuated g/C Ratio	0.76	0.76	0.61	0.61	0.17	0.17
Clearance Time (s)	6.0	6.3	6.3	6.3	5.9	5.9
Vehicle Extension (s)	2.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	2603	2062	977	581	472
v/s Ratio Prot	c0.09	0.47	c0.57		c0.12	
v/s Ratio Perm	0.50			0.21		0.02
v/c Ratio	0.77	0.61	0.93	0.35	0.72	0.11
Uniform Delay, d1	46.4	7.3	24.4	13.5	55.2	49.4
Progression Factor	1.09	1.39	0.41	0.30	1.00	1.00
Incremental Delay, d2	9.0	0.8	3.5	0.3	4.4	0.1
Delay (s)	59.8	10.9	13.4	4.4	59.6	49.5
Level of Service	E	B	B	A	E	D
Approach Delay (s)		16.6	11.7		55.7	
Approach LOS		B	B		E	

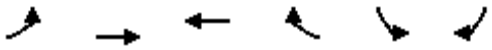
Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1601	11	16	1985	16	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6		6.0	6.0	6.0	
Lane Util. Factor	0.95		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3433		1770	4940	1695	
Flt Permitted	1.00		0.05	1.00	0.98	
Satd. Flow (perm)	3433		98	4940	1695	
Peak-hour factor, PHF	0.97	0.55	0.44	0.95	0.50	0.81
Adj. Flow (vph)	1651	20	36	2089	32	32
RTOR Reduction (vph)	0	0	0	0	26	0
Lane Group Flow (vph)	1671	0	36	2089	38	0
Heavy Vehicles (%)	5%	2%	2%	5%	3%	1%
Turn Type	NA		custom	NA	NA	
Protected Phases	2		1	1 4 6	3	
Permitted Phases			6			
Actuated Green, G (s)	70.4		87.4	103.8	23.6	
Effective Green, g (s)	70.4		87.4	103.8	23.6	
Actuated g/C Ratio	0.50		0.62	0.74	0.17	
Clearance Time (s)	6.6		6.0		6.0	
Vehicle Extension (s)	3.0		3.5		3.5	
Lane Grp Cap (vph)	1726		192	3662	285	
v/s Ratio Prot	c0.49		0.01	c0.42	c0.02	
v/s Ratio Perm			0.10			
v/c Ratio	0.97		0.19	0.57	0.13	
Uniform Delay, d1	33.7		26.4	8.1	49.5	
Progression Factor	1.00		0.75	0.11	1.00	
Incremental Delay, d2	15.3		0.2	0.1	0.3	
Delay (s)	49.0		20.0	1.0	49.8	
Level of Service	D		B	A	D	
Approach Delay (s)	49.0			1.3	49.8	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	1617	1956	25	25	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.0	
Lane Util. Factor		0.95	0.95	1.00	1.00	
Frt		1.00	1.00	0.85	0.91	
Flt Protected		1.00	1.00	1.00	0.98	
Satd. Flow (prot)		3438	3438	1583	1671	
Flt Permitted		0.92	1.00	1.00	0.98	
Satd. Flow (perm)		3166	3438	1583	1671	
Peak-hour factor, PHF	0.92	0.97	0.95	0.92	0.92	0.92
Adj. Flow (vph)	11	1667	2059	27	27	49
RTOR Reduction (vph)	0	0	0	3	45	0
Lane Group Flow (vph)	0	1678	2059	24	31	0
Heavy Vehicles (%)	2%	5%	5%	2%	2%	2%
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		2 3	6		4	
Permitted Phases	2 3			6		
Actuated Green, G (s)		100.6	87.4	87.4	10.4	
Effective Green, g (s)		100.6	87.4	87.4	10.4	
Actuated g/C Ratio		0.72	0.62	0.62	0.07	
Clearance Time (s)			6.6	6.6	6.0	
Vehicle Extension (s)			3.0	3.0	3.5	
Lane Grp Cap (vph)		2274	2146	988	124	
v/s Ratio Prot			c0.60		c0.02	
v/s Ratio Perm		c0.53		0.02		
v/c Ratio		0.74	0.96	0.02	0.25	
Uniform Delay, d1		11.8	24.6	10.0	61.1	
Progression Factor		0.29	0.30	0.69	1.00	
Incremental Delay, d2		0.4	7.0	0.0	1.2	
Delay (s)		3.9	14.4	6.9	62.3	
Level of Service		A	B	A	E	
Approach Delay (s)		3.9	14.3		62.3	
Approach LOS		A	B		E	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.6
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix F:

Pre-Study and Optimized Synchro MOE Results

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	31.1	51.2	0.16	11.0	E
Police Drive	III	35	4.4	0.7	5.1	0.03	21.5	C
Mall Drive (Target)	III	35	20.2	0.5	20.7	0.16	27.4	B
Ordner Dr	III	35	11.1	1.4	12.5	0.08	23.8	C
West Mall	III	35	21.1	3.5	24.6	0.18	25.8	B
Falling Water Rd	III	35	16.7	0.5	17.2	0.12	25.9	B
Southpark Mall East	III	35	14.4	1.9	16.3	0.11	23.6	C
Howe Road	III	35	21.8	135.0	156.8	0.18	4.2	F
I-71 SB Ramp	III	35	21.0	64.2	85.2	0.16	6.9	F
Total	III		150.8	238.8	389.6	1.18	10.9	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	23.4	51.1	0.23	16.3	D
Howe Road	III	35	21.0	35.2	56.2	0.16	10.5	E
Southpark Mall East	III	35	21.8	12.3	34.1	0.18	19.2	C
Falling Water Rd	III	35	14.4	5.9	20.3	0.11	18.9	C
Placid Cove	III	35	16.7	8.6	25.3	0.12	17.6	D
Ordner Dr	III	35	21.1	3.1	24.2	0.18	26.2	B
Mall Drive (Target)	III	35	11.1	7.9	19.0	0.08	15.6	D
Police Drive	III	35	20.2	13.8	34.0	0.16	16.7	D
Pearlview	III	35	4.4	1.0	5.4	0.03	20.3	C
Total	III		158.4	111.2	269.6	1.25	16.7	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	24	16	20
Total Delay (hr)	85	43	128
Stops / Veh	0.29	0.41	0.34
Stops (#)	3728	3961	7689
Average Speed (mph)	13	16	14
Total Travel Time (hr)	137	81	219
Distance Traveled (mi)	1829	1331	3159
Fuel Consumed (gal)	160	112	272
Fuel Economy (mpg)	11.4	11.9	11.6
Unserved Vehicles (#)	317	0	317
Vehicles in dilemma zone (#)	172	442	614
Performance Index	95.5	54.3	149.8

Network Totals

Number of Intersections	12
Control Delay / Veh (s/v)	22
Total Delay (hr)	191
Stops / Veh	0.36
Stops (#)	11044
Average Speed (mph)	13
Total Travel Time (hr)	303
Distance Traveled (mi)	3925
Fuel Consumed (gal)	377
Fuel Economy (mpg)	10.4
Unserved Vehicles (#)	422
Vehicles in dilemma zone (#)	617
Performance Index	221.7

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	52.6	72.7	0.16	7.8	F
Police Drive	III	35	4.4	1.4	5.8	0.03	18.9	C
Mall Drive (Target)	III	35	20.2	4.5	24.7	0.16	23.0	C
Ordner Dr	III	35	11.1	20.9	32.0	0.08	9.3	F
West Mall	III	35	21.1	25.1	46.2	0.18	13.7	E
Falling Water Rd	III	35	16.7	0.8	17.5	0.12	25.5	B
Southpark Mall East	III	35	14.4	16.2	30.6	0.11	12.6	E
Howe Road	III	35	21.8	47.3	69.1	0.18	9.5	F
I-71 SB Ramp	III	35	21.0	15.8	36.8	0.16	16.1	D
Total	III		150.8	184.6	335.4	1.18	12.7	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	16.6	44.3	0.23	18.8	C
Howe Road	III	35	21.0	35.7	56.7	0.16	10.4	E
Southpark Mall East	III	35	21.8	6.6	28.4	0.18	23.0	C
Falling Water Rd	III	35	14.4	5.1	19.5	0.11	19.7	C
Placid Cove	III	35	16.7	15.5	32.2	0.12	13.8	E
Ordner Dr	III	35	21.1	4.1	25.2	0.18	25.2	B
Mall Drive (Target)	III	35	11.1	4.3	15.4	0.08	19.3	C
Police Drive	III	35	20.2	19.7	39.9	0.16	14.2	D
Pearlview	III	35	4.4	1.5	5.9	0.03	18.6	C
Total	III		158.4	109.1	267.5	1.25	16.9	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	17	14	16
Total Delay (hr)	66	48	115
Stops / Veh	0.39	0.37	0.38
Stops (#)	5370	4449	9819
Average Speed (mph)	16	17	16
Total Travel Time (hr)	121	94	215
Distance Traveled (mi)	1899	1599	3498
Fuel Consumed (gal)	161	130	291
Fuel Economy (mpg)	11.8	12.3	12.0
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	390	423	813
Performance Index	81.3	60.6	141.9

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	18
Total Delay (hr)	171
Stops / Veh	0.41
Stops (#)	13799
Average Speed (mph)	14
Total Travel Time (hr)	291
Distance Traveled (mi)	4165
Fuel Consumed (gal)	390
Fuel Economy (mpg)	10.7
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	822
Performance Index	209.7

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	62.7	82.8	0.16	6.8	F
	III	35	4.4	2.0	6.4	0.03	17.2	D
Mall Drive (Target)	III	35	20.2	10.1	30.3	0.16	18.7	C
Ordner Dr	III	35	11.1	23.8	34.9	0.08	8.5	F
West Mall	III	35	21.1	22.5	43.6	0.18	14.5	D
Falling Water Rd	III	35	16.7	0.7	17.4	0.12	25.6	B
Southpark Mall East	III	35	14.4	18.0	32.4	0.11	11.9	E
Howe Road	III	35	21.8	237.6	259.4	0.18	2.5	F
I-71 SB Ramp	III	35	21.0	133.3	154.3	0.16	3.8	F
Total	III		150.8	510.7	661.5	1.18	6.4	F

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	19.2	46.9	0.23	17.7	D
Howe Road	III	35	21.0	51.1	72.1	0.16	8.2	F
Southpark Mall East	III	35	21.8	13.7	35.5	0.18	18.4	C
Falling Water Rd	III	35	14.4	6.5	20.9	0.11	18.4	C
Placid Cove	III	35	16.7	29.7	46.4	0.12	9.6	F
Ordner Dr	III	35	21.1	4.8	25.9	0.18	24.5	B
Mall Drive (Target)	III	35	11.1	4.4	15.5	0.08	19.2	C
	III	35	20.2	12.8	33.0	0.16	17.2	D
Pearlview	III	35	4.4	1.4	5.8	0.03	18.9	C
Total	III		158.4	143.6	302.0	1.25	15.0	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	50	23	37
Total Delay (hr)	230	106	336
Stops / Veh	0.42	0.45	0.44
Stops (#)	6851	7124	13975
Average Speed (mph)	8	13	10
Total Travel Time (hr)	295	168	463
Distance Traveled (mi)	2308	2154	4462
Fuel Consumed (gal)	308	214	521
Fuel Economy (mpg)	7.5	10.1	8.6
Unserved Vehicles (#)	806	198	1003
Vehicles in dilemma zone (#)	478	439	917
Performance Index	248.6	126.1	374.6

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	42
Total Delay (hr)	509
Stops / Veh	0.47
Stops (#)	20033
Average Speed (mph)	8
Total Travel Time (hr)	667
Distance Traveled (mi)	5559
Fuel Consumed (gal)	740
Fuel Economy (mpg)	7.5
Unserved Vehicles (#)	1490
Vehicles in dilemma zone (#)	927
Performance Index	564.4

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	95.7	115.8	0.16	4.9	F
	III	35	4.4	6.4	10.8	0.03	10.2	E
Mall Drive (Target)	III	35	20.2	14.4	34.6	0.16	16.4	D
Ordner Dr	III	35	11.1	26.2	37.3	0.08	8.0	F
West Mall	III	35	21.1	15.7	36.8	0.18	17.2	D
Falling Water Rd	III	35	16.7	0.5	17.2	0.12	25.9	B
Southpark Mall East	III	35	14.4	19.7	34.1	0.11	11.3	E
Howe Road	III	35	21.8	87.3	109.1	0.18	6.0	F
I-71 SB Ramp	III	35	21.0	24.4	45.4	0.16	13.0	E
Total	III		150.8	290.3	441.1	1.18	9.6	F

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	15.8	43.5	0.23	19.1	C
Howe Road	III	35	21.0	22.8	43.8	0.16	13.5	E
Southpark Mall East	III	35	21.8	28.7	50.5	0.18	13.0	E
Falling Water Rd	III	35	14.4	6.1	20.5	0.11	18.8	C
Placid Cove	III	35	16.7	66.2	82.9	0.12	5.4	F
Ordner Dr	III	35	21.1	15.4	36.5	0.18	17.4	D
Mall Drive (Target)	III	35	11.1	13.8	24.9	0.08	11.9	E
	III	35	20.2	10.1	30.3	0.16	18.7	C
Pearlview	III	35	4.4	1.6	6.0	0.03	18.3	C
Total	III		158.4	180.5	338.9	1.25	13.3	E

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	29	22	25
Total Delay (hr)	150	154	305
Stops / Veh	0.43	0.47	0.45
Stops (#)	6878	8113	14991
Average Speed (mph)	10	11	11
Total Travel Time (hr)	215	221	436
Distance Traveled (mi)	2254	2330	4584
Fuel Consumed (gal)	248	263	511
Fuel Economy (mpg)	9.1	8.9	9.0
Unserved Vehicles (#)	267	123	390
Vehicles in dilemma zone (#)	458	479	937
Performance Index	169.5	176.9	346.5

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	28
Total Delay (hr)	414
Stops / Veh	0.48
Stops (#)	21015
Average Speed (mph)	10
Total Travel Time (hr)	581
Distance Traveled (mi)	5781
Fuel Consumed (gal)	684
Fuel Economy (mpg)	8.4
Unserved Vehicles (#)	429
Vehicles in dilemma zone (#)	948
Performance Index	472.6

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	26.8	46.9	0.16	12.0	E
Police Drive	III	35	4.4	0.7	5.1	0.03	21.5	C
Mall Drive (Target)	III	35	20.2	1.2	21.4	0.16	26.5	B
Ordner Dr	III	35	11.1	1.5	12.6	0.08	23.6	C
West Mall	III	35	21.1	2.5	23.6	0.18	26.9	B
Falling Water Rd	III	35	16.7	1.6	18.3	0.12	24.4	B
Southpark Mall East	III	35	14.4	4.1	18.5	0.11	20.8	C
Howe Road	III	35	21.8	97.9	119.7	0.18	5.5	F
I-71 SB Ramp	III	35	21.0	44.3	65.3	0.16	9.1	F
Total	III		150.8	180.6	331.4	1.18	12.8	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	23.6	51.3	0.23	16.2	D
Howe Road	III	35	21.0	11.1	32.1	0.16	18.4	C
Southpark Mall East	III	35	21.8	3.1	24.9	0.18	26.3	B
Falling Water Rd	III	35	14.4	1.0	15.4	0.11	25.0	B
Placid Cove	III	35	16.7	2.7	19.4	0.12	23.0	C
Ordner Dr	III	35	21.1	1.9	23.0	0.18	27.6	B
Mall Drive (Target)	III	35	11.1	1.4	12.5	0.08	23.8	C
Police Drive	III	35	20.2	23.5	43.7	0.16	13.0	E
Pearlview	III	35	4.4	0.9	5.3	0.03	20.7	C
Total	III		158.4	69.2	227.6	1.25	19.8	C

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	18	11	15
Total Delay (hr)	64	29	93
Stops / Veh	0.29	0.28	0.29
Stops (#)	3760	2758	6518
Average Speed (mph)	16	20	17
Total Travel Time (hr)	116	67	183
Distance Traveled (mi)	1829	1331	3159
Fuel Consumed (gal)	145	93	237
Fuel Economy (mpg)	12.6	14.4	13.3
Unserved Vehicles (#)	186	0	186
Vehicles in dilemma zone (#)	234	216	450
Performance Index	74.4	36.5	110.9

Network Totals

Number of Intersections	12
Control Delay / Veh (s/v)	20
Total Delay (hr)	170
Stops / Veh	0.32
Stops (#)	9800
Average Speed (mph)	14
Total Travel Time (hr)	282
Distance Traveled (mi)	3925
Fuel Consumed (gal)	352
Fuel Economy (mpg)	11.1
Unserved Vehicles (#)	369
Vehicles in dilemma zone (#)	452
Performance Index	197.3

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	36.9	57.0	0.16	9.9	F
Police Drive	III	35	4.4	0.7	5.1	0.03	21.5	C
Mall Drive (Target)	III	35	20.2	0.6	20.8	0.16	27.3	B
Ordner Dr	III	35	11.1	9.3	20.4	0.08	14.6	D
West Mall	III	35	21.1	8.1	29.2	0.18	21.7	C
Falling Water Rd	III	35	16.7	0.8	17.5	0.12	25.5	B
Southpark Mall East	III	35	14.4	16.2	30.6	0.11	12.6	E
Howe Road	III	35	21.8	41.0	62.8	0.18	10.4	E
I-71 SB Ramp	III	35	21.0	19.3	40.3	0.16	14.7	D
Total	III		150.8	132.9	283.7	1.18	15.0	D

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	18.3	46.0	0.23	18.1	C
Howe Road	III	35	21.0	28.9	49.9	0.16	11.8	E
Southpark Mall East	III	35	21.8	8.4	30.2	0.18	21.7	C
Falling Water Rd	III	35	14.4	3.0	17.4	0.11	22.1	C
Placid Cove	III	35	16.7	12.4	29.1	0.12	15.3	D
Ordner Dr	III	35	21.1	3.4	24.5	0.18	25.9	B
Mall Drive (Target)	III	35	11.1	8.4	19.5	0.08	15.2	D
Police Drive	III	35	20.2	17.7	37.9	0.16	15.0	D
Pearlview	III	35	4.4	0.8	5.2	0.03	21.1	C
Total	III		158.4	101.3	259.7	1.25	17.4	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	13	14	13
Total Delay / Veh (s/v)	13	14	14
Total Delay (hr)	50	47	96
Stops / Veh	0.33	0.37	0.35
Stops (#)	4537	4362	8899
Average Speed (mph)	18	17	18
Total Travel Time (hr)	104	92	196
Distance Traveled (mi)	1899	1599	3498
Fuel Consumed (gal)	143	128	271
Fuel Economy (mpg)	13.3	12.5	12.9
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	281	338	619
Performance Index	62.2	58.9	121.1

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	16
Total Delay / Veh (s/v)	17
Total Delay (hr)	154
Stops / Veh	0.38
Stops (#)	12616
Average Speed (mph)	15
Total Travel Time (hr)	274
Distance Traveled (mi)	4165
Fuel Consumed (gal)	369
Fuel Economy (mpg)	11.3
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	628
Performance Index	188.6

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	39.0	59.1	0.16	9.6	F
	III	35	4.4	0.9	5.3	0.03	20.7	C
Mall Drive (Target)	III	35	20.2	0.6	20.8	0.16	27.3	B
Ordner Dr	III	35	11.1	5.3	16.4	0.08	18.1	C
West Mall	III	35	21.1	25.7	46.8	0.18	13.5	E
Falling Water Rd	III	35	16.7	3.7	20.4	0.12	21.9	C
Southpark Mall East	III	35	14.4	25.5	39.9	0.11	9.6	F
Howe Road	III	35	21.8	220.1	241.9	0.18	2.7	F
I-71 SB Ramp	III	35	21.0	131.8	152.8	0.16	3.9	F
Total	III		150.8	452.6	603.4	1.18	7.0	F

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	35.7	63.4	0.23	13.1	E
Howe Road	III	35	21.0	50.1	71.1	0.16	8.3	F
Southpark Mall East	III	35	21.8	7.1	28.9	0.18	22.6	C
Falling Water Rd	III	35	14.4	4.9	19.3	0.11	19.9	C
Placid Cove	III	35	16.7	13.7	30.4	0.12	14.7	D
Ordner Dr	III	35	21.1	3.9	25.0	0.18	25.4	B
Mall Drive (Target)	III	35	11.1	3.8	14.9	0.08	20.0	C
	III	35	20.2	21.2	41.4	0.16	13.7	E
Pearlview	III	35	4.4	1.2	5.6	0.03	19.6	C
Total	III		158.4	141.6	300.0	1.25	15.1	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	44	21	33
Total Delay (hr)	201	104	304
Stops / Veh	0.34	0.46	0.40
Stops (#)	5502	7200	12702
Average Speed (mph)	9	13	10
Total Travel Time (hr)	266	165	432
Distance Traveled (mi)	2308	2154	4462
Fuel Consumed (gal)	276	212	489
Fuel Economy (mpg)	8.4	10.1	9.1
Unserved Vehicles (#)	786	82	868
Vehicles in dilemma zone (#)	291	323	614
Performance Index	215.8	123.9	339.7

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	33
Total Delay (hr)	431
Stops / Veh	0.44
Stops (#)	18947
Average Speed (mph)	9
Total Travel Time (hr)	589
Distance Traveled (mi)	5559
Fuel Consumed (gal)	676
Fuel Economy (mpg)	8.2
Unserved Vehicles (#)	903
Vehicles in dilemma zone (#)	623
Performance Index	483.5

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	51.8	71.9	0.16	7.9	F
	III	35	4.4	4.0	8.4	0.03	13.1	E
Mall Drive (Target)	III	35	20.2	7.6	27.8	0.16	20.4	C
Ordner Dr	III	35	11.1	19.0	30.1	0.08	9.9	F
West Mall	III	35	21.1	23.2	44.3	0.18	14.3	D
Falling Water Rd	III	35	16.7	0.5	17.2	0.12	25.9	B
Southpark Mall East	III	35	14.4	25.4	39.8	0.11	9.7	F
Howe Road	III	35	21.8	67.7	89.5	0.18	7.3	F
I-71 SB Ramp	III	35	21.0	18.9	39.9	0.16	14.8	D
Total	III		150.8	218.1	368.9	1.18	11.5	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	20.4	48.1	0.23	17.3	D
Howe Road	III	35	21.0	31.9	52.9	0.16	11.2	E
Southpark Mall East	III	35	21.8	51.7	73.5	0.18	8.9	F
Falling Water Rd	III	35	14.4	9.3	23.7	0.11	16.2	D
Placid Cove	III	35	16.7	45.5	62.2	0.12	7.2	F
Ordner Dr	III	35	21.1	11.1	32.2	0.18	19.7	C
Mall Drive (Target)	III	35	11.1	13.3	24.4	0.08	12.2	E
	III	35	20.2	12.6	32.8	0.16	17.3	D
Pearlview	III	35	4.4	1.2	5.6	0.03	19.6	C
Total	III		158.4	197.0	355.4	1.25	12.7	E

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	21	24	23
Total Delay (hr)	102	156	257
Stops / Veh	0.41	0.45	0.43
Stops (#)	6677	7727	14404
Average Speed (mph)	14	10	12
Total Travel Time (hr)	166	222	388
Distance Traveled (mi)	2254	2330	4584
Fuel Consumed (gal)	211	261	472
Fuel Economy (mpg)	10.7	8.9	9.7
Unserved Vehicles (#)	54	74	128
Vehicles in dilemma zone (#)	471	620	1091
Performance Index	120.2	177.2	297.5

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	25
Total Delay (hr)	357
Stops / Veh	0.46
Stops (#)	20344
Average Speed (mph)	11
Total Travel Time (hr)	523
Distance Traveled (mi)	5781
Fuel Consumed (gal)	637
Fuel Economy (mpg)	9.1
Unserved Vehicles (#)	128
Vehicles in dilemma zone (#)	1102
Performance Index	413.1

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	93.2	113.3	0.16	5.0	F
Police Drive	III	35	4.4	3.4	7.8	0.03	14.1	D
Mall Drive (Target)	III	35	20.2	6.9	27.1	0.16	20.9	C
Ordner Dr	III	35	11.1	22.1	33.2	0.08	9.0	F
West Mall	III	35	21.1	23.7	44.8	0.18	14.2	D
Falling Water Rd	III	35	16.7	1.2	17.9	0.12	24.9	B
Southpark Mall East	III	35	14.4	21.7	36.1	0.11	10.7	E
Howe Road	III	35	21.8	55.1	76.9	0.18	8.5	F
I-71 SB Ramp	III	35	21.0	16.4	37.4	0.16	15.8	D
Total	III		150.8	243.7	394.5	1.18	10.8	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	14.0	41.7	0.23	19.9	C
Howe Road	III	35	21.0	36.0	57.0	0.16	10.4	E
Southpark Mall East	III	35	21.8	13.5	35.3	0.18	18.5	C
Falling Water Rd	III	35	14.4	6.8	21.2	0.11	18.1	C
Placid Cove	III	35	16.7	23.5	40.2	0.12	11.1	E
Ordner Dr	III	35	21.1	7.0	28.1	0.18	22.6	C
Mall Drive (Target)	III	35	11.1	5.5	16.6	0.08	17.9	D
Police Drive	III	35	20.2	31.3	51.5	0.16	11.0	E
Pearlview	III	35	4.4	1.8	6.2	0.03	17.7	D
Total	III		158.4	139.4	297.8	1.25	15.2	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	25	18	22
Total Delay (hr)	107	74	181
Stops / Veh	0.41	0.44	0.43
Stops (#)	6103	6316	12419
Average Speed (mph)	12	15	13
Total Travel Time (hr)	165	129	294
Distance Traveled (mi)	2027	1907	3934
Fuel Consumed (gal)	202	175	376
Fuel Economy (mpg)	10.1	10.9	10.5
Unserved Vehicles (#)	162	0	162
Vehicles in dilemma zone (#)	465	562	1027
Performance Index	123.8	91.8	215.7

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	24
Total Delay (hr)	248
Stops / Veh	0.45
Stops (#)	16777
Average Speed (mph)	12
Total Travel Time (hr)	381
Distance Traveled (mi)	4624
Fuel Consumed (gal)	486
Fuel Economy (mpg)	9.5
Unserved Vehicles (#)	162
Vehicles in dilemma zone (#)	1037
Performance Index	294.4

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	65.7	85.8	0.16	6.6	F
	III	35	4.4	2.2	6.6	0.03	16.6	D
Mall Drive (Target)	III	35	20.2	11.3	31.5	0.16	18.0	C
Ordner Dr	III	35	11.1	27.4	38.5	0.08	7.7	F
West Mall	III	35	21.1	20.2	41.3	0.18	15.4	D
Falling Water Rd	III	35	16.7	0.9	17.6	0.12	25.3	B
Southpark Mall East	III	35	14.4	19.4	33.8	0.11	11.4	E
Howe Road	III	35	21.8	195.7	217.5	0.18	3.0	F
I-71 SB Ramp	III	35	21.0	160.6	181.6	0.16	3.3	F
Total	III		150.8	503.4	654.2	1.18	6.5	F

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	19.7	47.4	0.23	17.5	D
Howe Road	III	35	21.0	25.9	46.9	0.16	12.6	E
Southpark Mall East	III	35	21.8	13.4	35.2	0.18	18.6	C
Falling Water Rd	III	35	14.4	5.8	20.2	0.11	19.0	C
Placid Cove	III	35	16.7	71.7	88.4	0.12	5.0	F
Ordner Dr	III	35	21.1	5.6	26.7	0.18	23.7	C
Mall Drive (Target)	III	35	11.1	5.6	16.7	0.08	17.8	D
	III	35	20.2	14.6	34.8	0.16	16.3	D
Pearlview	III	35	4.4	1.5	5.9	0.03	18.6	C
Total	III		158.4	163.8	322.2	1.25	14.0	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	50	20	36
Total Delay (hr)	244	99	343
Stops / Veh	0.41	0.45	0.43
Stops (#)	7153	7249	14402
Average Speed (mph)	8	13	10
Total Travel Time (hr)	314	162	476
Distance Traveled (mi)	2461	2181	4641
Fuel Consumed (gal)	326	210	537
Fuel Economy (mpg)	7.5	10.4	8.6
Unserved Vehicles (#)	894	94	988
Vehicles in dilemma zone (#)	501	474	975
Performance Index	263.6	119.4	383.0

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	40
Total Delay (hr)	514
Stops / Veh	0.46
Stops (#)	20652
Average Speed (mph)	8
Total Travel Time (hr)	678
Distance Traveled (mi)	5766
Fuel Consumed (gal)	756
Fuel Economy (mpg)	7.6
Unserved Vehicles (#)	1404
Vehicles in dilemma zone (#)	987
Performance Index	570.9

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	90.4	110.5	0.16	5.1	F
	III	35	4.4	8.2	12.6	0.03	8.7	F
Mall Drive (Target)	III	35	20.2	15.3	35.5	0.16	16.0	D
Ordner Dr	III	35	11.1	28.0	39.1	0.08	7.6	F
West Mall	III	35	21.1	23.2	44.3	0.18	14.3	D
Falling Water Rd	III	35	16.7	1.3	18.0	0.12	24.8	B
Southpark Mall East	III	35	14.4	24.9	39.3	0.11	9.8	F
Howe Road	III	35	21.8	102.7	124.5	0.18	5.3	F
I-71 SB Ramp	III	35	21.0	35.0	56.0	0.16	10.6	E
Total	III		150.8	329.0	479.8	1.18	8.9	F

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	26.5	54.2	0.23	15.3	D
Howe Road	III	35	21.0	54.4	75.4	0.16	7.8	F
Southpark Mall East	III	35	21.8	28.8	50.6	0.18	12.9	E
Falling Water Rd	III	35	14.4	8.5	22.9	0.11	16.8	D
Placid Cove	III	35	16.7	61.5	78.2	0.12	5.7	F
Ordner Dr	III	35	21.1	14.4	35.5	0.18	17.9	D
Mall Drive (Target)	III	35	11.1	16.1	27.2	0.08	10.9	E
	III	35	20.2	47.3	67.5	0.16	8.4	F
Pearlview	III	35	4.4	1.6	6.0	0.03	18.3	C
Total	III		158.4	259.1	417.5	1.25	10.8	E

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	33	34	33
Total Delay (hr)	180	277	457
Stops / Veh	0.49	0.59	0.55
Stops (#)	8461	11851	20312
Average Speed (mph)	10	8	9
Total Travel Time (hr)	249	355	604
Distance Traveled (mi)	2409	2734	5143
Fuel Consumed (gal)	287	397	684
Fuel Economy (mpg)	8.4	6.9	7.5
Unserved Vehicles (#)	341	362	703
Vehicles in dilemma zone (#)	505	622	1127
Performance Index	203.5	310.1	513.6

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	35
Total Delay (hr)	610
Stops / Veh	0.55
Stops (#)	27526
Average Speed (mph)	8
Total Travel Time (hr)	799
Distance Traveled (mi)	6551
Fuel Consumed (gal)	905
Fuel Economy (mpg)	7.2
Unserved Vehicles (#)	875
Vehicles in dilemma zone (#)	1140
Performance Index	686.5

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	51.6	71.7	0.16	7.9	F
Police Drive	III	35	4.4	1.6	6.0	0.03	18.3	C
Mall Drive (Target)	III	35	20.2	0.7	20.9	0.16	27.1	B
Ordner Dr	III	35	11.1	10.4	21.5	0.08	13.8	E
West Mall	III	35	21.1	10.1	31.2	0.18	20.3	C
Falling Water Rd	III	35	16.7	0.7	17.4	0.12	25.6	B
Southpark Mall East	III	35	14.4	24.4	38.8	0.11	9.9	F
Howe Road	III	35	21.8	45.2	67.0	0.18	9.8	F
I-71 SB Ramp	III	35	21.0	25.9	46.9	0.16	12.6	E
Total	III		150.8	170.6	321.4	1.18	13.2	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	21.9	49.6	0.23	16.8	D
Howe Road	III	35	21.0	32.6	53.6	0.16	11.0	E
Southpark Mall East	III	35	21.8	21.6	43.4	0.18	15.1	D
Falling Water Rd	III	35	14.4	2.4	16.8	0.11	22.9	C
Placid Cove	III	35	16.7	26.7	43.4	0.12	10.3	E
Ordner Dr	III	35	21.1	5.6	26.7	0.18	23.7	C
Mall Drive (Target)	III	35	11.1	11.5	22.6	0.08	13.2	E
Police Drive	III	35	20.2	21.6	41.8	0.16	13.6	E
Pearlview	III	35	4.4	1.2	5.6	0.03	19.6	C
Total	III		158.4	145.1	303.5	1.25	14.9	D

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	17	18	18
Total Delay / Veh (s/v)	18	18	18
Total Delay (hr)	72	72	145
Stops / Veh	0.37	0.43	0.40
Stops (#)	5502	6181	11683
Average Speed (mph)	16	15	15
Total Travel Time (hr)	130	127	257
Distance Traveled (mi)	2027	1907	3934
Fuel Consumed (gal)	172	172	344
Fuel Economy (mpg)	11.8	11.1	11.4
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	457	513	970
Performance Index	87.6	89.5	177.1

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	20
Total Delay / Veh (s/v)	20
Total Delay (hr)	207
Stops / Veh	0.43
Stops (#)	15799
Average Speed (mph)	14
Total Travel Time (hr)	340
Distance Traveled (mi)	4624
Fuel Consumed (gal)	449
Fuel Economy (mpg)	10.3
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	980
Performance Index	251.3

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	40.0	60.1	0.16	9.4	F
	III	35	4.4	1.0	5.4	0.03	20.3	C
Mall Drive (Target)	III	35	20.2	0.8	21.0	0.16	27.0	B
Ordner Dr	III	35	11.1	7.2	18.3	0.08	16.2	D
West Mall	III	35	21.1	26.0	47.1	0.18	13.5	E
Falling Water Rd	III	35	16.7	4.1	20.8	0.12	21.4	C
Southpark Mall East	III	35	14.4	28.6	43.0	0.11	8.9	F
Howe Road	III	35	21.8	156.9	178.7	0.18	3.7	F
I-71 SB Ramp	III	35	21.0	159.4	180.4	0.16	3.3	F
Total	III		150.8	424.0	574.8	1.18	7.4	F

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	37.5	65.2	0.23	12.7	E
Howe Road	III	35	21.0	58.5	79.5	0.16	7.4	F
Southpark Mall East	III	35	21.8	6.3	28.1	0.18	23.3	C
Falling Water Rd	III	35	14.4	4.2	18.6	0.11	20.7	C
Placid Cove	III	35	16.7	30.0	46.7	0.12	9.5	F
Ordner Dr	III	35	21.1	4.1	25.2	0.18	25.2	B
Mall Drive (Target)	III	35	11.1	4.4	15.5	0.08	19.2	C
	III	35	20.2	24.1	44.3	0.16	12.8	E
Pearlview	III	35	4.4	1.2	5.6	0.03	19.6	C
Total	III		158.4	170.3	328.7	1.25	13.7	E

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	41	22	32
Total Delay (hr)	196	104	300
Stops / Veh	0.33	0.48	0.40
Stops (#)	5725	7609	13334
Average Speed (mph)	9	13	11
Total Travel Time (hr)	266	166	433
Distance Traveled (mi)	2461	2181	4641
Fuel Consumed (gal)	281	217	497
Fuel Economy (mpg)	8.8	10.1	9.3
Unserved Vehicles (#)	742	42	784
Vehicles in dilemma zone (#)	323	356	679
Performance Index	212.0	125.2	337.2

Network Totals

Number of Intersections	11
Control Delay / Veh (s/v)	32
Total Delay (hr)	424
Stops / Veh	0.44
Stops (#)	19827
Average Speed (mph)	10
Total Travel Time (hr)	589
Distance Traveled (mi)	5766
Fuel Consumed (gal)	684
Fuel Economy (mpg)	8.4
Unserved Vehicles (#)	788
Vehicles in dilemma zone (#)	690
Performance Index	478.8

Arterial Level of Service: EB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pearlview	III	35	20.1	49.2	69.3	0.16	8.1	F
	III	35	4.4	4.4	8.8	0.03	12.5	E
Mall Drive (Target)	III	35	20.2	11.8	32.0	0.16	17.7	D
Ordner Dr	III	35	11.1	25.3	36.4	0.08	8.2	F
West Mall	III	35	21.1	34.6	55.7	0.18	11.4	E
Falling Water Rd	III	35	16.7	1.2	17.9	0.12	24.9	B
Southpark Mall East	III	35	14.4	35.4	49.8	0.11	7.7	F
Howe Road	III	35	21.8	71.8	93.6	0.18	7.0	F
I-71 SB Ramp	III	35	21.0	34.7	55.7	0.16	10.6	E
Total	III		150.8	268.4	419.2	1.18	10.1	E

Arterial Level of Service: WB SR 82 Royalton Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-71 SB Ramp	III	34	27.7	65.7	93.4	0.23	8.9	F
Howe Road	III	35	21.0	89.5	110.5	0.16	5.3	F
Southpark Mall East	III	35	21.8	43.0	64.8	0.18	10.1	E
Falling Water Rd	III	35	14.4	12.9	27.3	0.11	14.1	D
Placid Cove	III	35	16.7	38.1	54.8	0.12	8.1	F
Ordner Dr	III	35	21.1	16.6	37.7	0.18	16.8	D
Mall Drive (Target)	III	35	11.1	14.6	25.7	0.08	11.6	E
	III	35	20.2	15.5	35.7	0.16	15.9	D
Pearlview	III	35	4.4	1.1	5.5	0.03	20.0	C
Total	III		158.4	297.0	455.4	1.25	9.9	F

SR 82 Royalton Rd

Direction	EB	WB	All
Control Delay / Veh (s/v)	27	37	32
Total Delay (hr)	135	275	409
Stops / Veh	0.48	0.55	0.52
Stops (#)	8321	11053	19374
Average Speed (mph)	12	8	9
Total Travel Time (hr)	203	353	556
Distance Traveled (mi)	2409	2734	5143
Fuel Consumed (gal)	253	389	642
Fuel Economy (mpg)	9.5	7.0	8.0
Unserved Vehicles (#)	137	377	514
Vehicles in dilemma zone (#)	479	545	1024
Performance Index	157.7	305.3	463.0

Network Totals

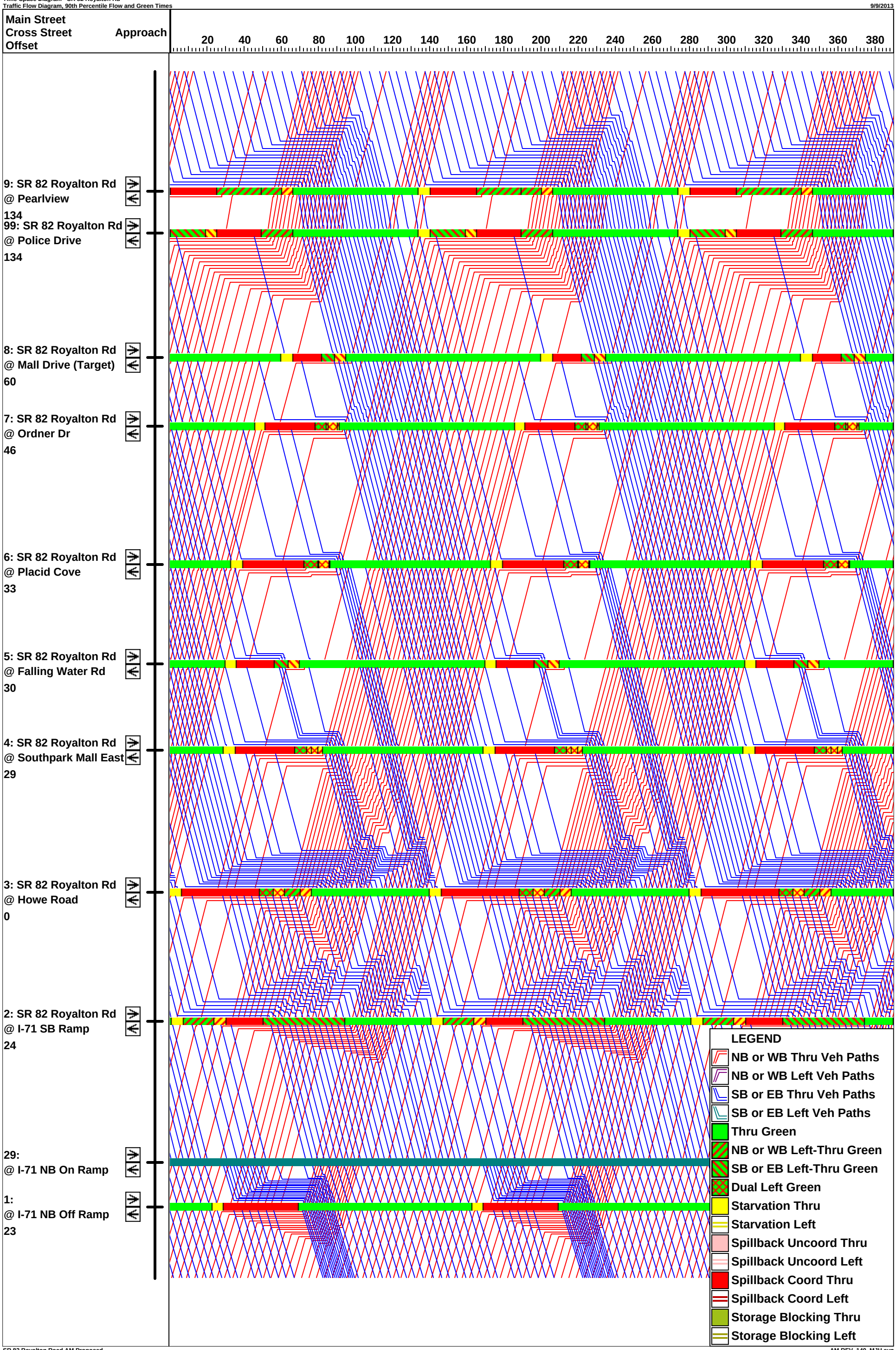
Number of Intersections	11
Control Delay / Veh (s/v)	33
Total Delay (hr)	551
Stops / Veh	0.53
Stops (#)	26643
Average Speed (mph)	9
Total Travel Time (hr)	740
Distance Traveled (mi)	6551
Fuel Consumed (gal)	855
Fuel Economy (mpg)	7.7
Unserved Vehicles (#)	525
Vehicles in dilemma zone (#)	1037
Performance Index	625.1

Appendix G:

Time Space Diagrams

Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

9/9/2013



SR 82 Royalton Road AM Proposed

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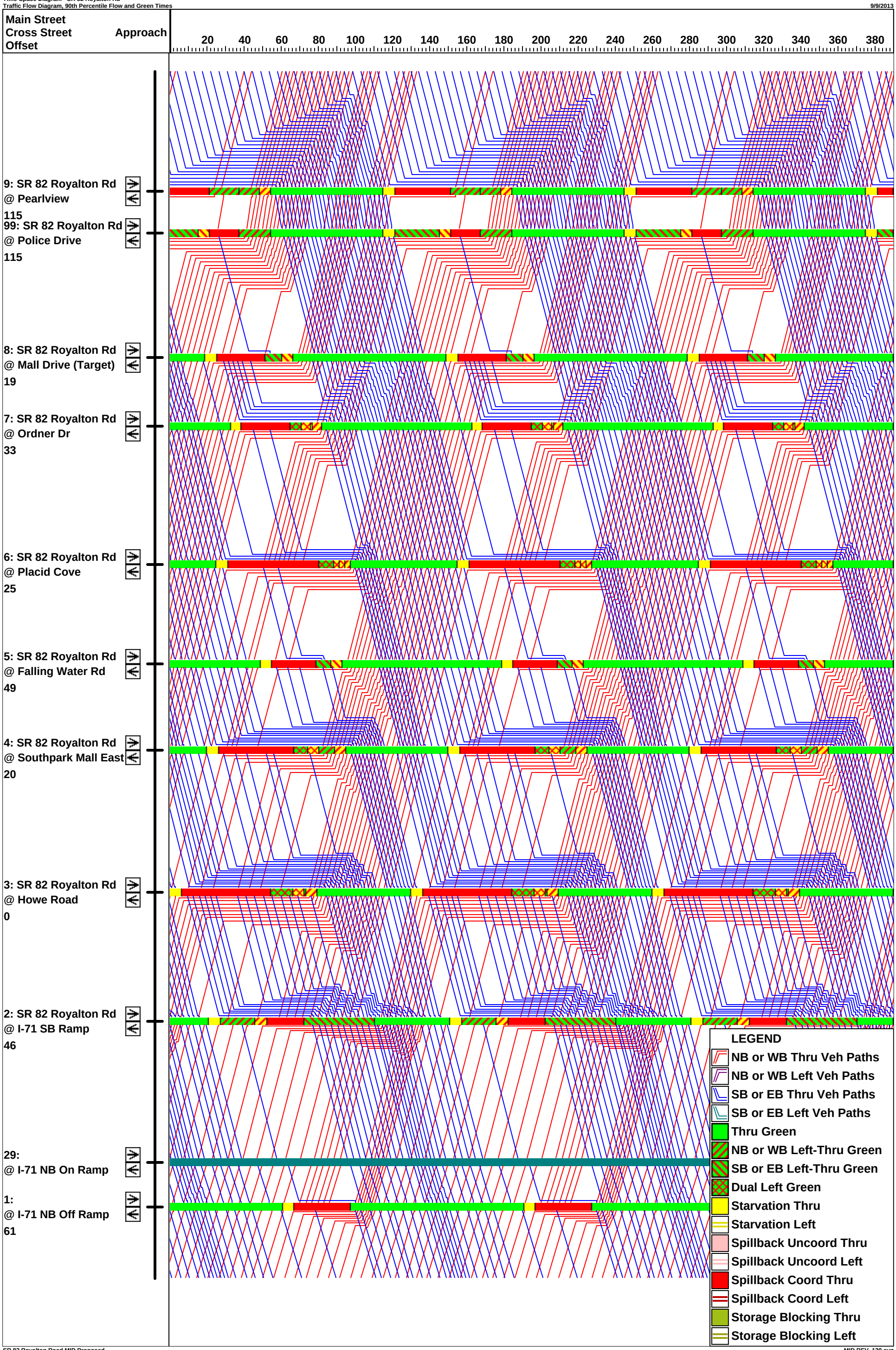
Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

9/9/2013



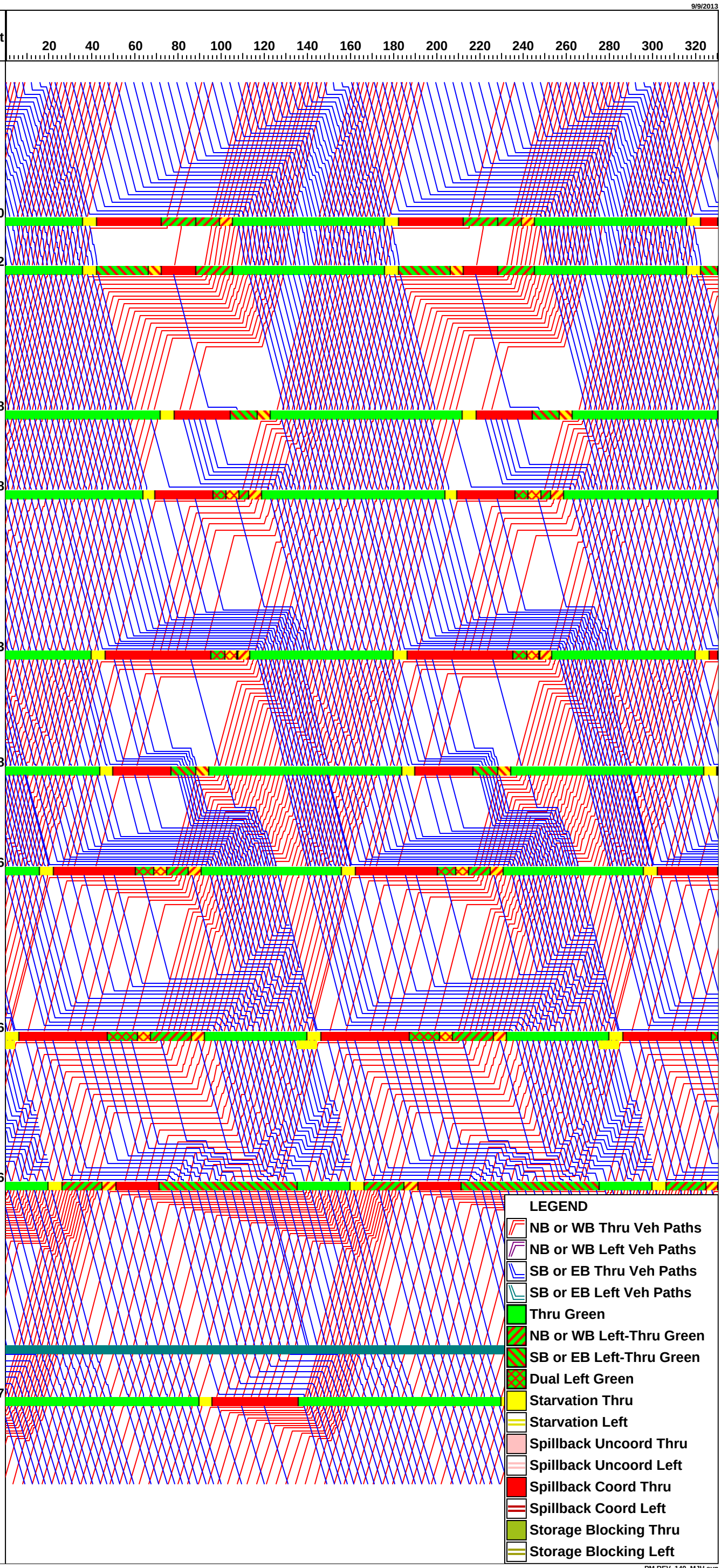
SR 82 Royalton Road MID Proposed

MID REV_130.syn

Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

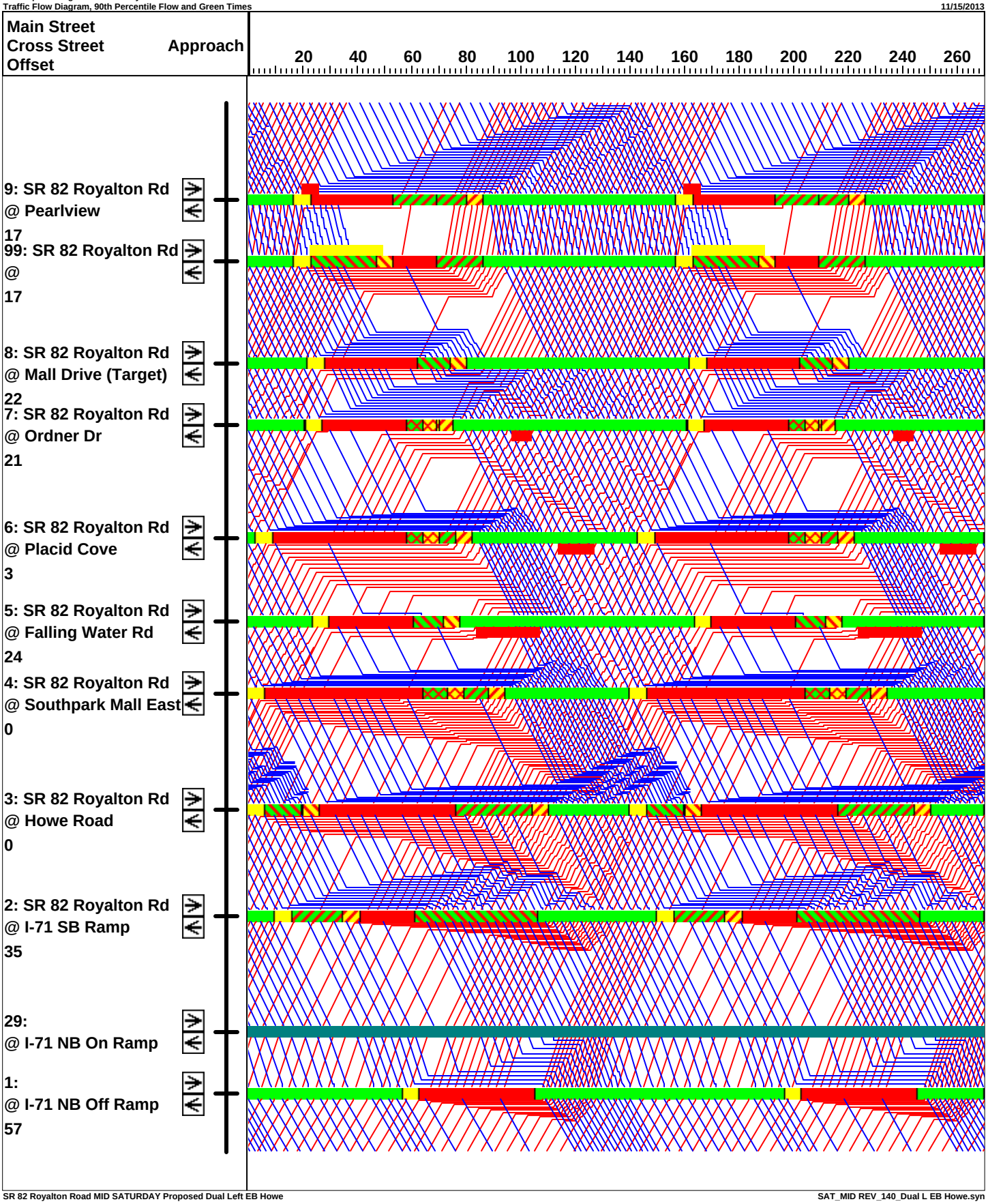
9/9/2013

Main Street / Cross Street / Offset	Approach	Lt	Th	Rt	Int
9: SR 82 Royalton Rd			39		20
@ Pearlview		7	2		
36					
99: SR 82 Royalton Rd			2		12
@			21	12	
36					
8: SR 82 Royalton Rd		22	1		8
@ Mall Drive (Target)			4	2	
72					
7: SR 82 Royalton Rd		1	5		8
@ Ordner Dr		18	4		
64					
6: SR 82 Royalton Rd		14	26	2	23
@ Placid Cove		28	14		
40					
5: SR 82 Royalton Rd		23	4		8
@ Falling Water Rd			5		
44					
4: SR 82 Royalton Rd		14	26		26
@ Southpark Mall East		72	7		
16					
3: SR 82 Royalton Rd		64	220		106
@ Howe Road		93	75	8	
0					
2: SR 82 Royalton Rd			132	0	86
@ I-71 SB Ramp		78	36		
45					
29:					
@ I-71 NB On Ramp					
1:			9		17
@ I-71 NB Off Ramp			8		
90					



Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

11/15/2013

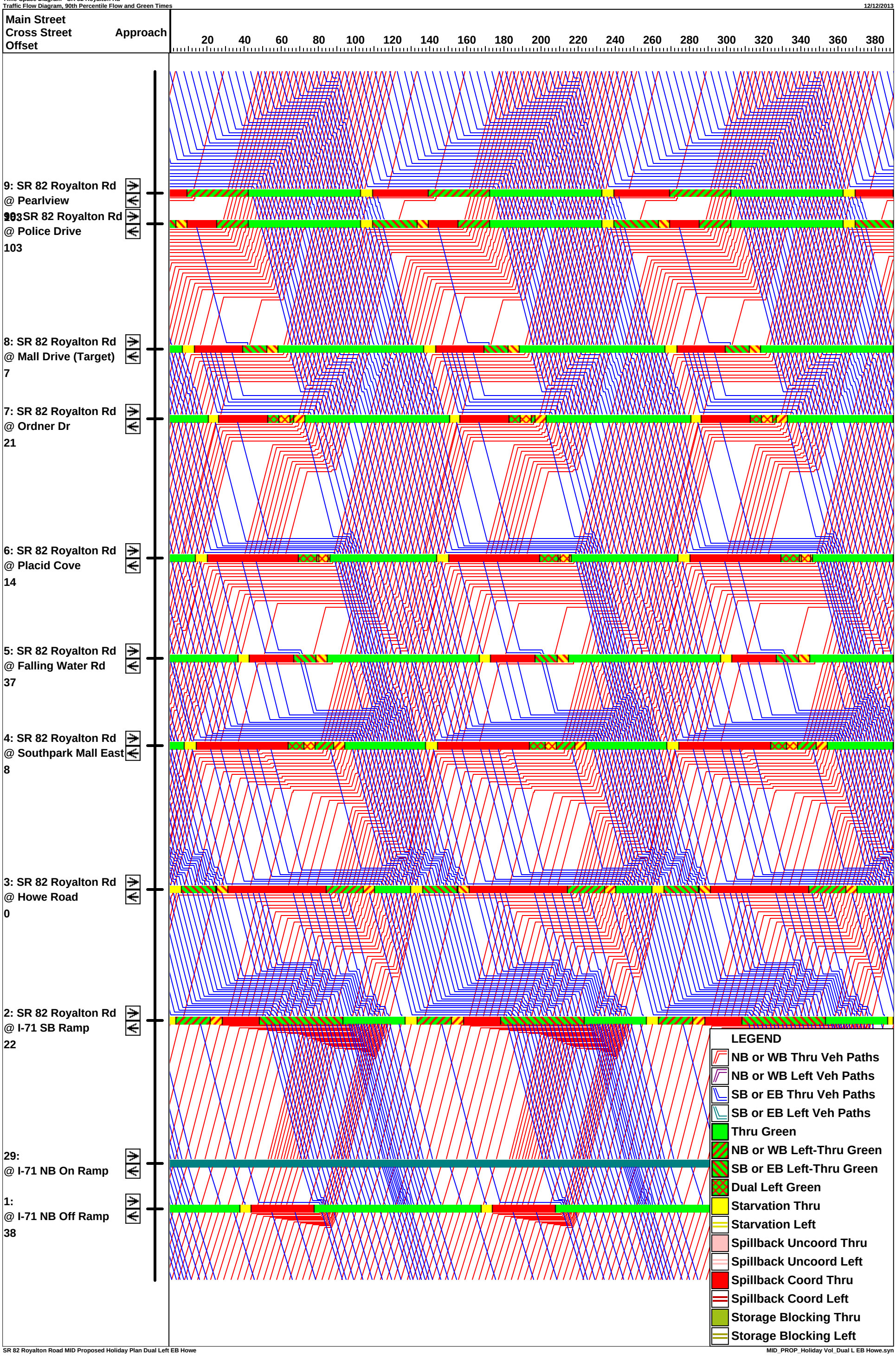


SR 82 Royalton Road MID SATURDAY Proposed Dual Left EB Howe

SAT_MID REV_140_Dual L EB Howe.syn

Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

12/12/2013

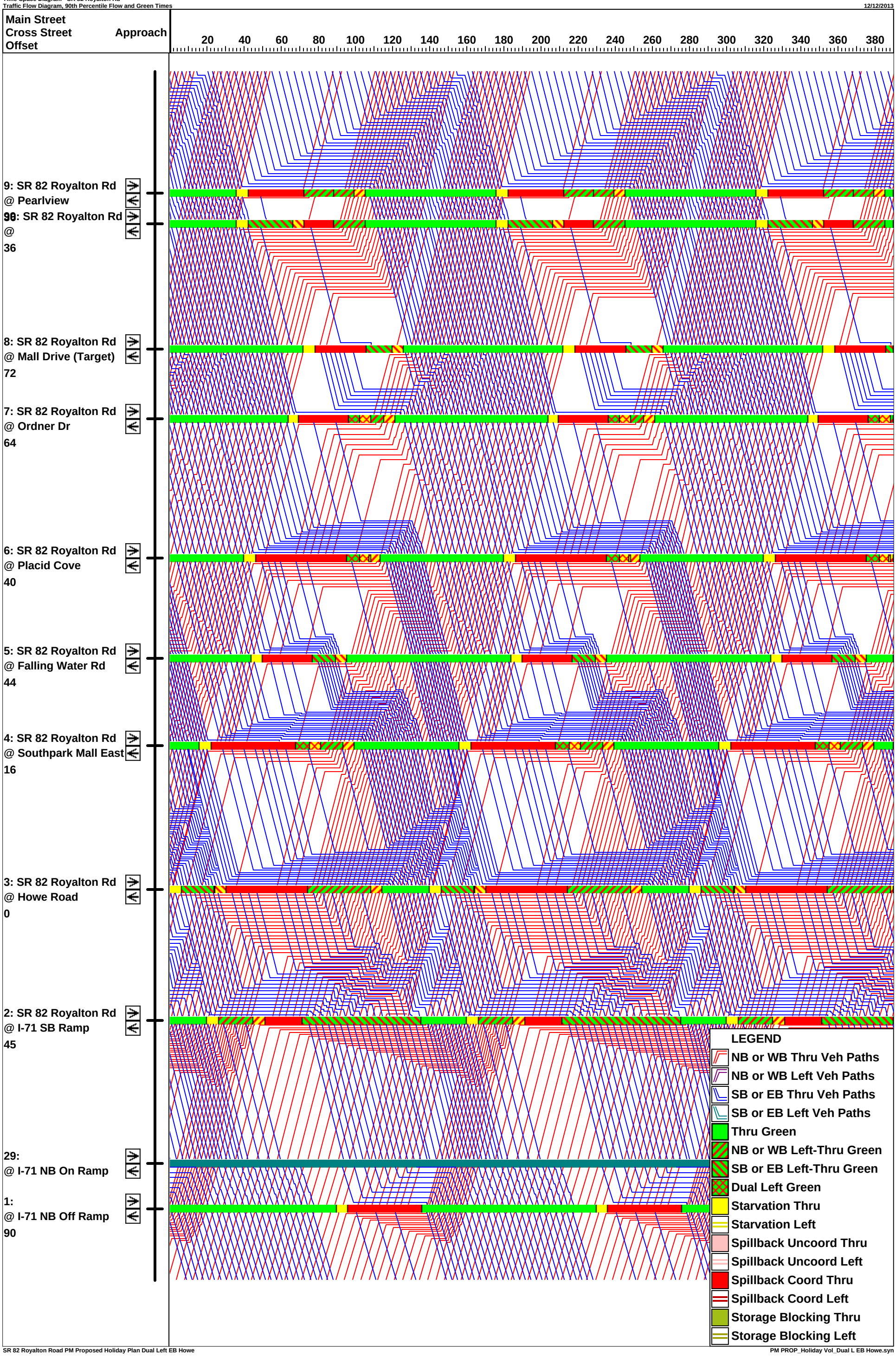


SR 82 Royalton Road MID Proposed Holiday Plan Dual Left EB Howe

MID_PROP_Holiday Vol_Dual L EB Howe.syn

Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

12/12/2013

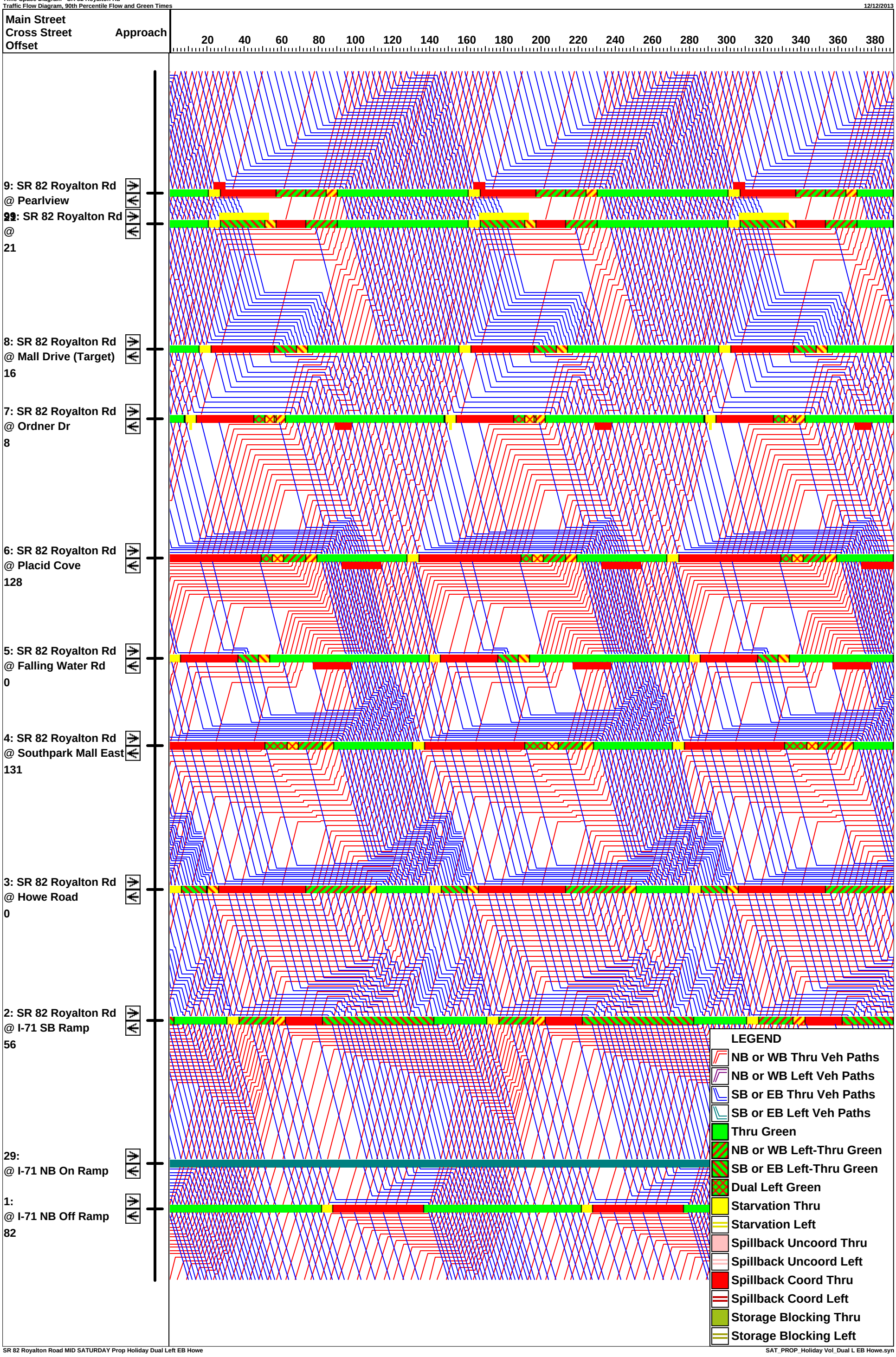


SR 82 Royalton Road PM Proposed Holiday Plan Dual Left EB Howe

PM PROP_Holiday Vol_Dual L EB Howe.syn

Time-Space Diagram - SR 82 Royalton Rd
Traffic Flow Diagram, 90th Percentile Flow and Green Times

12/12/2013



SR 82 Royalton Road MID SATURDAY Prop Holiday Dual Left EB Howe

SAT_PROP_Holiday Vol_Dual L EB Howe.syn

Appendix h:

By-Phase Timing Data

Location: 1. SR 82 & I-71 NB Ramp

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction		EB				WB		NB
Minimum Green	0	32	0	0	0	32	0	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	0	0	0	0	0	0
Ped Clearance	0	14	0	16	0	14	7	16
Veh Extension	0	2	0	0	0	2	0	2.5
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	0	85	0	0	0	85	0	26
Max 2	0	35	0	0	0	35	0	23
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	3	3.6	3	3	3	4	3	3.6
Red Clearance	1	1.8	1	1	1	2	1	1.8
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	30	30	30	30	30	30	30	30
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector								
Vehicle Recall		x				x		
Pedestrian Recall		x						
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1		SPLIT UNITS:	percent					
Cycle Length	140		COS	131					
Offset	30		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	82	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	82	Phase 7=	0	Phase 8=	18	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	percent					
Cycle Length	150		COS	231					
Offset	82		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	79	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	79	Phase 7=	0	Phase 8=	21	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	percent					
Cycle Length	130		COS	331					
Offset	74		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	75	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	75	Phase 7=	0	Phase 8=	25	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	percent					
Cycle Length	150		COS	431					
Offset	48		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	77	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	77	Phase 7=	0	Phase 8=	23	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	percent					
Cycle Length	150		COS	531					
Offset	29		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	77	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	77	Phase 7=	0	Phase 8=	23	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 1. SR 82 & I-71 NB Ramp

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	0	EB	0	0	0	WB	0	NB
Minimum Green	0	32	0	0	0	32	0	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**8**	0	0	0	0	0	0
Ped Clearance	0	**13**	0	16	0	14	7	16
Veh Extension	0	2	0	0	0	2	0	2.5
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	0	85	0	0	0	85	0	26
Max 2	0	35	0	0	0	35	0	23
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	3	3.6	3	3	3	**3.6**	3	**3**
Red Clearance	1	**2.2**	1	1	1	**2.2**	1	**3**
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	30	30	30	30	30	30	30	30
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**18**						

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector								
Vehicle Recall		x				x		
Pedestrian Recall		x						
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh		*38.0*				*38.0*		*17.0*
Ph Min Ped		*27.0*						

Coordination Patterns

Pattern	1		SPLIT UNITS:	**seconds**				
Cycle Length	140		COS	**111**				
Offset	**23**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=		Phase 2=	**86**	Phase 3=		Phase 4=	
	Phase 5=		Phase 6=	**86**	Phase 7=		Phase 8=	**54**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	2		SPLIT UNITS:	seconds				
Cycle Length	**130**		COS	**211**				
Offset	**61**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=		Phase 2=	**88**	Phase 3=		Phase 4=	
	Phase 5=		Phase 6=	**88**	Phase 7=		Phase 8=	**42**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	3		SPLIT UNITS:	seconds				
Cycle Length	**140**		COS	**311**				
Offset	**90**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=		Phase 2=	**100**	Phase 3=		Phase 4=	
	Phase 5=		Phase 6=	**100**	Phase 7=		Phase 8=	**40**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	4		SPLIT UNITS:	**seconds**				
Cycle Length	**140**		COS	**411**				
Offset	**57**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=		Phase 2=	**91**	Phase 3=		Phase 4=	
	Phase 5=		Phase 6=	**91**	Phase 7=		Phase 8=	**49**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	5		SPLIT UNITS:	**seconds**				
Cycle Length	**130**		COS	**212**				
Offset	**38**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=		Phase 2=	**88**	Phase 3=		Phase 4=	
	Phase 5=		Phase 6=	**88**	Phase 7=		Phase 8=	**42**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Location: 1. SR 82 & I-71 NB Ramp

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	72		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	74	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	74	Phase 7=	0	Phase 8=	26	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	54		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	75	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	75	Phase 7=	0	Phase 8=	25	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	54		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	74	Phase 3=	0	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	74	Phase 7=	0	Phase 8=	26	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

Location: 1. SR 82 & I-71 NB Ramp

PROPOSED TIMING

Coordination Patterns									
Pattern	**6**		SPLIT UNITS:	**seconds**					
Cycle Length	**140**			COS	**312**				
Offset	**90**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**100**	Phase 3=		Phase 4=		
	Phase 5=		Phase 6=	**100**	Phase 7=		Phase 8=	**40**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	**7**		SPLIT UNITS:	**seconds**					
Cycle Length	140			COS	**412**				
Offset	**82**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**91**	Phase 3=		Phase 4=		
	Phase 5=		Phase 6=	**91**	Phase 7=		Phase 8=	**49**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern			SPLIT UNITS:						
Cycle Length	**0**			COS					
Offset	**0**		OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases									
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 2. SR 82 & I-71 SB Ramp

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	EB GHOST	WB	WBL	EBR		EB		
Minimum Green	1	25	10	7	0	25	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	10	0	0	0	7	0	0
Ped Clearance	0	15	7	16	7	15	0	16
Veh Extension	4	5	3	4	0	5	0	4
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	41	70	10	41	0	70	0	41
Max 2	25	40	10	25	0	40	0	25
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	5	5	5	4	3	5	4	4
Red Clearance	2	2	2	2	0	2	2	2
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall		x				x		
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1	SPLIT UNITS:	percent					
Cycle Length	140		COS	131				
Offset	0	OFFSET UNITS:	percent					
Splits:	Phase 1=	44	Phase 2=	23	Phase 3=	11	Phase 4=	22
	Phase 5=	0	Phase 6=	67	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	2	SPLIT UNITS:	percent					
Cycle Length	150		COS	231				
Offset	29	OFFSET UNITS:	percent					
Splits:	Phase 1=	44	Phase 2=	24	Phase 3=	20	Phase 4=	12
	Phase 5=	0	Phase 6=	68	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	3	SPLIT UNITS:	percent					
Cycle Length	130		COS	331				
Offset	10	OFFSET UNITS:	percent					
Splits:	Phase 1=	31	Phase 2=	35	Phase 3=	16	Phase 4=	18
	Phase 5=	0	Phase 6=	66	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	4	SPLIT UNITS:	percent					
Cycle Length	150		COS	431				
Offset	40	OFFSET UNITS:	percent					
Splits:	Phase 1=	43	Phase 2=	32	Phase 3=	13	Phase 4=	12
	Phase 5=	0	Phase 6=	75	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	5	SPLIT UNITS:	percent					
Cycle Length	150		COS	531				
Offset	0	OFFSET UNITS:	percent					
Splits:	Phase 1=	45	Phase 2=	32	Phase 3=	11	Phase 4=	12
	Phase 5=	0	Phase 6=	77	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Location: 2. SR 82 & I-71 SB Ramp

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	EB GHOST	WB	WBL	EBR	0	EB	0	0
Minimum Green	1	25	10	**12**	0	25	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**7**	0	0	0	7	0	0
Ped Clearance	0	**10**	7	16	7	**12**	0	16
Veh Extension	**5**	5	3	**5**	0	5	0	4
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	41	70	10	41	0	70	0	41
Max 2	25	40	10	25	0	40	0	25
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3.6**	**3.6**	**3**	**3.6**	3	**3.6**	4	4
Red Clearance	**3**	**3**	**3**	**3**	0	**3**	2	2
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**14**				**18**		

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall		x				x		
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*8.0*	*32.0*	*17.0*	*19.0*		*32.0*		
Ph Min Ped		*24.0*				*26.0*		

Coordination Patterns

Pattern	1	SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**111**				
Offset	**24**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	44	Phase 2=	**53**	Phase 3=	**23**	Phase 4=	**20**
	Phase 5=		Phase 6=	**97**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	2	SPLIT UNITS:	seconds					
Cycle Length	**130**		COS	**211**				
Offset	**46**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**43**	Phase 2=	**42**	Phase 3=	**25**	Phase 4=	**20**
	Phase 5=		Phase 6=	**85**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	3	SPLIT UNITS:	seconds					
Cycle Length	**140**		COS	**311**				
Offset	**45**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**63**	Phase 2=	**32**	Phase 3=	**25**	Phase 4=	**20**
	Phase 5=		Phase 6=	**95**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	4	SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**411**				
Offset	**45**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**60**	Phase 2=	**35**	Phase 3=	**25**	Phase 4=	**20**
	Phase 5=		Phase 6=	**95**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	5	SPLIT UNITS:	**seconds**					
Cycle Length	**130**		COS	**212**				
Offset	**22**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	45	Phase 2=	**40**	Phase 3=	**25**	Phase 4=	**20**
	Phase 5=		Phase 6=	**85**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Location: 2. SR 82 & I-71 SB Ramp

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	32		OFFSET UNITS:	percent					
Splits:	Phase 1=	34	Phase 2=	34	Phase 3=	14	Phase 4=	18	yes
	Phase 5=	0	Phase 6=	68	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	48		OFFSET UNITS:	percent					
Splits:	Phase 1=	33	Phase 2=	36	Phase 3=	13	Phase 4=	18	yes
	Phase 5=	0	Phase 6=	69	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	68		OFFSET UNITS:	percent					
Splits:	Phase 1=	23	Phase 2=	45	Phase 3=	14	Phase 4=	18	yes
	Phase 5=	0	Phase 6=	68	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 2. SR 82 & I-71 SB Ramp

PROPOSED TIMING

Coordination Patterns								
Pattern	**6**	SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**312**				
Offset	**45**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**63**	Phase 2=	**32**	Phase 3=	**25**	Phase 4=	**20**
	Phase 5=		Phase 6=	**95**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern	**7**	SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**412**				
Offset	**76**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**60**	Phase 2=	**35**	Phase 3=	**25**	Phase 4=	**20**
	Phase 5=		Phase 6=	**95**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern		SPLIT UNITS:						
Cycle Length	**0**		COS					
Offset	**0**	OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=	
	Phase 5=		Phase 6=		Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases								
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	**NO**
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 3. SR 82 & Howe

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB		SB	EBL	WB		NB
Minimum Green	10	27	0	10	7	27	7	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	0
Ped Clearance	0	20	0	18	0	16	0	16
Veh Extension	5	3	2.5	3	2.5	3	2.5	6
Alt Veh Exten	3	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	30	42	8	22	15	42	8	32
Max 2	30	30	8	26	8	30	8	18
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	4	4	4	3.6	4	4	4	3.6
Red Clearance	2	2	2	2	2	2	2	2
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1	SPLIT UNITS:	percent						
Cycle Length	140		COS	131					
Offset	0	OFFSET UNITS:	percent						
Splits:	Phase 1=	32	Phase 2=	32	Phase 3=	0	Phase 4=	20	yes
	Phase 5=	9	Phase 6=	55	Phase 7=	0	Phase 8=	16	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2	SPLIT UNITS:	percent						
Cycle Length	150		COS	231					
Offset	0	OFFSET UNITS:	percent						
Splits:	Phase 1=	21	Phase 2=	47	Phase 3=	0	Phase 4=	16	yes
	Phase 5=	9	Phase 6=	59	Phase 7=	0	Phase 8=	16	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3	SPLIT UNITS:	percent						
Cycle Length	130		COS	331					
Offset	0	OFFSET UNITS:	percent						
Splits:	Phase 1=	37	Phase 2=	26	Phase 3=	0	Phase 4=	20	yes
	Phase 5=	11	Phase 6=	52	Phase 7=	0	Phase 8=	17	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4	SPLIT UNITS:	percent						
Cycle Length	150		COS	431					
Offset	0	OFFSET UNITS:	percent						
Splits:	Phase 1=	29	Phase 2=	39	Phase 3=	0	Phase 4=	16	yes
	Phase 5=	9	Phase 6=	59	Phase 7=	0	Phase 8=	16	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5	SPLIT UNITS:	percent						
Cycle Length	150		COS	531					
Offset	0	OFFSET UNITS:	percent						
Splits:	Phase 1=	26	Phase 2=	42	Phase 3=	0	Phase 4=	16	yes
	Phase 5=	9	Phase 6=	59	Phase 7=	0	Phase 8=	16	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 3. SR 82 & Howe

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB	0	SB	EBL	WB	0	NB
Minimum Green	10	27	0	10	7	27	7	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**9**	0	**9**	0	**10**	0	0
Ped Clearance	0	**25**	0	**26**	0	**30**	0	16
Veh Extension	5	3	2.5	3	2.5	3	2.5	6
Alt Veh Exten	3	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	30	42	8	22	15	42	8	32
Max 2	30	30	8	26	8	30	8	18
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3**	**3.6**	4	3.6	**3**	**3.6**	4	3.6
Red Clearance	**3**	**3**	2	**3**	**3**	**3**	2	**3**
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**31**		**32**		**36**		

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*17.0*	*34.0*		*17.0*	*14.0*	*34.0*	*14.0*	*17.0*
Ph Min Ped		*41.0*		*42.0*		*47.0*		

Coordination Patterns

Pattern	1	SPLIT UNITS:	**seconds**						
Cycle Length	140		COS	**111**					
Offset	0	OFFSET UNITS:	**seconds**						
Splits:	Phase 1=	**28**	Phase 2=	**70**	Phase 3=		Phase 4=	20	
	Phase 5=	**16**	Phase 6=	**82**	Phase 7=		Phase 8=	**22**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2	SPLIT UNITS:	seconds						
Cycle Length	**130**		COS	**211**					
Offset	0	OFFSET UNITS:	**seconds**						
Splits:	Phase 1=	**25**	Phase 2=	**57**	Phase 3=		Phase 4=	**25**	
	Phase 5=	**18**	Phase 6=	**64**	Phase 7=		Phase 8=	**23**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3	SPLIT UNITS:	seconds						
Cycle Length	**140**		COS	**311**					
Offset	0	OFFSET UNITS:	**seconds**						
Splits:	Phase 1=	**45**	Phase 2=	**54**	Phase 3=		Phase 4=	**19**	
	Phase 5=	**20**	Phase 6=	**79**	Phase 7=		Phase 8=	**22**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4	SPLIT UNITS:	**seconds**						
Cycle Length	**140**		COS	**411**					
Offset	0	OFFSET UNITS:	**seconds**						
Splits:	Phase 1=	**34**	Phase 2=	**56**	Phase 3=		Phase 4=	**25**	
	Phase 5=	**20**	Phase 6=	**70**	Phase 7=		Phase 8=	**25**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5	SPLIT UNITS:	**seconds**						
Cycle Length	**130**		COS	**212**					
Offset	0	OFFSET UNITS:	**seconds**						
Splits:	Phase 1=	26	Phase 2=	**51**	Phase 3=		Phase 4=	**30**	
	Phase 5=	**25**	Phase 6=	**52**	Phase 7=		Phase 8=	**23**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 3. SR 82 & Howe

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	19	Phase 2=	38	Phase 3=	0	Phase 4=	24	yes
	Phase 5=	14	Phase 6=	43	Phase 7=	0	Phase 8=	19	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	30	Phase 2=	37	Phase 3=	0	Phase 4=	15	yes
	Phase 5=	12	Phase 6=	55	Phase 7=	0	Phase 8=	18	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	19	Phase 2=	46	Phase 3=	0	Phase 4=	12	yes
	Phase 5=	12	Phase 6=	53	Phase 7=	0	Phase 8=	23	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

Location: 3. SR 82 & Howe

PROPOSED TIMING

Coordination Patterns									
Pattern	**6**		SPLIT UNITS:	**seconds**					
Cycle Length	**140**			COS	**312**				
Offset	0		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**40**	Phase 2=	**60**	Phase 3=		Phase 4=	**20**	
	Phase 5=	**18**	Phase 6=	**82**	Phase 7=		Phase 8=	**20**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	**7**		SPLIT UNITS:	**seconds**					
Cycle Length	140			COS	**412**				
Offset	0		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**38**	Phase 2=	**55**	Phase 3=		Phase 4=	**22**	
	Phase 5=	**20**	Phase 6=	**73**	Phase 7=		Phase 8=	**25**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern			SPLIT UNITS:						
Cycle Length	**0**			COS					
Offset	0		OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases									
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 4. SR 82 & South Park Mall East

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL/NBR	EB	NBL	SB	EBL	WB	SBL	NB
Minimum Green	6	35	6	6	6	35	6	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7
Ped Clearance	0	25	0	19	0	25	0	19
Veh Extension	2.5	3	3.5	3	2.5	2	3.5	2.5
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	25	50	20	27	8	50	8	27
Max 2	25	36	8	27	8	36	8	27
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	4	4	3.8	3.3	4	4	3.3	3.8
Red Clearance	2	2	2	2	2	2	2	2
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector								
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1		SPLIT UNITS:	percent					
Cycle Length	140		COS	131					
Offset	85		OFFSET UNITS:	percent					
Splits:	Phase 1=	19	Phase 2=	54	Phase 3=	15	Phase 4=	12	yes
	Phase 5=	9	Phase 6=	64	Phase 7=	12	Phase 8=	15	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	percent					
Cycle Length	150		COS	231					
Offset	15		OFFSET UNITS:	percent					
Splits:	Phase 1=	23	Phase 2=	50	Phase 3=	18	Phase 4=	9	yes
	Phase 5=	9	Phase 6=	64	Phase 7=	12	Phase 8=	15	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	percent					
Cycle Length	130		COS	331					
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	20	Phase 2=	50	Phase 3=	19	Phase 4=	11	yes
	Phase 5=	12	Phase 6=	58	Phase 7=	12	Phase 8=	18	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	percent					
Cycle Length	150		COS	431					
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	37	Phase 2=	38	Phase 3=	16	Phase 4=	9	yes
	Phase 5=	9	Phase 6=	66	Phase 7=	9	Phase 8=	16	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	percent					
Cycle Length	150		COS	531					
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	30	Phase 2=	46	Phase 3=	15	Phase 4=	9	yes
	Phase 5=	9	Phase 6=	67	Phase 7=	9	Phase 8=	15	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 4. SR 82 & South Park Mall East

PROPOSED TIMING

** OFFSET REFERENCE PROGRAMMED TO BEGIN GREEN IN REPLACED CONTROLLER

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL/NBR	EB	NBL	SB	EBL	WB	SBL	NB
Minimum Green	6	35	6	6	6	35	6	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**8**	0	**9**	0	7	0	7
Ped Clearance	0	**34**	0	**24**	0	**24**	0	**23**
Veh Extension	2.5	3	3.5	3	2.5	2	3.5	2.5
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	25	50	20	27	8	50	8	27
Max 2	25	36	8	27	8	36	8	27
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3**	**3.6**	**3**	**3**	**3**	**3.6**	**3**	**3**
Red Clearance	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**40**		**30**		**30**		**29**

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector								
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*13.0*	*42.0*	*13.0*	*13.0*	*13.0*	*42.0*	*13.0*	*17.0*
Ph Min Ped		*49.0*		*40.0*		*38.0*		*37.0*

Coordination Patterns

Pattern	1		SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**111**					
Offset	**107**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**18**	Phase 2=	**69**	Phase 3=	**14**	Phase 4=	**39**	
	Phase 5=	**18**	Phase 6=	**69**	Phase 7=	**16**	Phase 8=	**37**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	seconds					
Cycle Length	**130**		COS	**211**					
Offset	**97**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**24**	Phase 2=	50	Phase 3=	**17**	Phase 4=	**39**	
	Phase 5=	**14**	Phase 6=	**60**	Phase 7=	**20**	Phase 8=	**36**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	seconds					
Cycle Length	**140**		COS	**311**					
Offset	**94**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**25**	Phase 2=	**61**	Phase 3=	**15**	Phase 4=	**39**	
	Phase 5=	**17**	Phase 6=	**69**	Phase 7=	**18**	Phase 8=	**36**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**411**					
Offset	**80**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**30**	Phase 2=	**52**	Phase 3=	**19**	Phase 4=	**39**	
	Phase 5=	**15**	Phase 6=	**67**	Phase 7=	**22**	Phase 8=	**36**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	**seconds**					
Cycle Length	**130**		COS	**212**					
Offset	**85**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**24**	Phase 2=	**50**	Phase 3=	**17**	Phase 4=	**39**	
	Phase 5=	**14**	Phase 6=	**60**	Phase 7=	**20**	Phase 8=	**36**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 4. SR 82 & South Park Mall East

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	20		OFFSET UNITS:	percent					
Splits:	Phase 1=	20	Phase 2=	40	Phase 3=	15	Phase 4=	25	yes
	Phase 5=	12	Phase 6=	48	Phase 7=	12	Phase 8=	28	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	99		OFFSET UNITS:	percent					
Splits:	Phase 1=	19	Phase 2=	44	Phase 3=	14	Phase 4=	23	yes
	Phase 5=	12	Phase 6=	51	Phase 7=	11	Phase 8=	26	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	85		OFFSET UNITS:	percent					
Splits:	Phase 1=	13	Phase 2=	50	Phase 3=	12	Phase 4=	25	yes
	Phase 5=	13	Phase 6=	50	Phase 7=	12	Phase 8=	25	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

Location: 4. SR 82 & South Park Mall East

PROPOSED TIMING

** OFFSET REFERENCE PROGRAMMED TO BEGIN GREEN IN REPLACED CONTROLLER

Coordination Patterns								
Pattern	**6**		SPLIT UNITS:	**seconds**				
Cycle Length	**140**			COS	**312**			
Offset	**94**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**25**	Phase 2=	**61**	Phase 3=	15	Phase 4=	**39**
	Phase 5=	**17**	Phase 6=	**69**	Phase 7=	**18**	Phase 8=	**36**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern	**7**		SPLIT UNITS:	**seconds**				
Cycle Length	140			COS	**412**			
Offset	**74**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**30**	Phase 2=	**49**	Phase 3=	**22**	Phase 4=	**39**
	Phase 5=	**15**	Phase 6=	**64**	Phase 7=	**25**	Phase 8=	**36**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern			SPLIT UNITS:					
Cycle Length	**0**			COS				
Offset	**0**		OFFSET UNITS:					
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=	
	Phase 5=		Phase 6=		Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases								
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 5. SR 82 & Falling Water

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction		EB		SB	EBL	WB		
Minimum Green	0	25	0	10	7	25	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	0
Ped Clearance	0	17	7	17	0	17	0	16
Veh Extension	0	2	0	3	2.5	2	0	0
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	0	75	0	25	10	60	0	0
Max 2	0	30	0	25	8	30	0	0
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	3	3.6	3	3.1	3.6	3.6	3	3
Red Clearance	0	1.8	0	1.9	1.8	1.8	0	0
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1	SPLIT UNITS:	percent					
Cycle Length	140		COS	131				
Offset	7	OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	75	Phase 3=	0	Phase 4=	25
	Phase 5=	9	Phase 6=	66	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	2	SPLIT UNITS:	percent					
Cycle Length	150		COS	231				
Offset	15	OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	79	Phase 3=	0	Phase 4=	21
	Phase 5=	9	Phase 6=	70	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	3	SPLIT UNITS:	percent					
Cycle Length	130		COS	331				
Offset	14	OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	76	Phase 3=	0	Phase 4=	24
	Phase 5=	11	Phase 6=	65	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	4	SPLIT UNITS:	percent					
Cycle Length	150		COS	431				
Offset	85	OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	79	Phase 3=	0	Phase 4=	21
	Phase 5=	9	Phase 6=	70	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	5	SPLIT UNITS:	percent					
Cycle Length	150		COS	531				
Offset	15	OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	79	Phase 3=	0	Phase 4=	21
	Phase 5=	9	Phase 6=	70	Phase 7=	0	Phase 8=	0
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Location: 5. SR 82 & Falling Water

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	0	EB	0	SB	EBL	WB	0	0
Minimum Green	0	25	0	10	7	25	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	0	**6**	0	7	0	0
Ped Clearance	0	**21**	7	17	0	**21**	0	16
Veh Extension	0	2	0	3	2.5	2	0	0
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	0	75	0	25	10	60	0	0
Max 2	0	30	0	25	8	30	0	0
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	3	3.6	3	**3**	**3**	3.6	3	3
Red Clearance	0	**2.5**	0	**3**	**3**	**2.5**	0	0
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**27**		**23**		**27**		

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh		*32.0*		*17.0*	*14.0*	*32.0*		
Ph Min Ped		*35.0*		*30.0*		*35.0*		

Coordination Patterns

Pattern	1	SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**111**				
Offset	**30**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**108**	Phase 3=		Phase 4=	**32**
	Phase 5=	**16**	Phase 6=	**92**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	2	SPLIT UNITS:	seconds					
Cycle Length	**130**		COS	**211**				
Offset	**49**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**97**	Phase 3=		Phase 4=	**33**
	Phase 5=	**16**	Phase 6=	**81**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	3	SPLIT UNITS:	seconds					
Cycle Length	**140**		COS	**311**				
Offset	**44**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**108**	Phase 3=		Phase 4=	**32**
	Phase 5=	**16**	Phase 6=	**92**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	4	SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**411**				
Offset	**24**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**108**	Phase 3=		Phase 4=	**32**
	Phase 5=	**17**	Phase 6=	**91**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	5	SPLIT UNITS:	**seconds**					
Cycle Length	**130**		COS	**212**				
Offset	**37**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**97**	Phase 3=		Phase 4=	**33**
	Phase 5=	**16**	Phase 6=	**81**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Location: 5. SR 82 & Falling Water

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130		COS	710					
Offset	22		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	75	Phase 3=	0	Phase 4=	25	yes
	Phase 5=	11	Phase 6=	64	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140		COS	711					
Offset	21		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	77	Phase 3=	0	Phase 4=	23	yes
	Phase 5=	11	Phase 6=	66	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130		COS	712					
Offset	86		OFFSET UNITS:	percent					
Splits:	Phase 1=	0	Phase 2=	75	Phase 3=	0	Phase 4=	25	yes
	Phase 5=	11	Phase 6=	64	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

Location: 5. SR 82 & Falling Water

PROPOSED TIMING

Coordination Patterns									
Pattern	**6**		SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**312**					
Offset	**44**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**108**	Phase 3=		Phase 4=	**32**	
	Phase 5=	**16**	Phase 6=	**92**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	**7**		SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**412**					
Offset	**0**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=		Phase 2=	**108**	Phase 3=		Phase 4=	**32**	
	Phase 5=	**17**	Phase 6=	**91**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern			SPLIT UNITS:						
Cycle Length	**0**		COS						
Offset	**0**		OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases									
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 6. Placid Cove/West Mall

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB		SB	EBL/SBR	WB		NB/EBR
Minimum Green	6	30	6	10	5	30	0	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	5	0	0	0	5	0	5
Ped Clearance	0	20	0	10	0	20	0	20
Veh Extension	2.5	3	0	4.5	2.5	3	0	3
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	24	56	0	30	8	56	0	24
Max 2	13	30	0	30	8	30	0	24
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	4	4	3	4	4	4	3	4
Red Clearance	2	2	0	2	2	2	0	2
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1		SPLIT UNITS:	percent					
Cycle Length	140		COS	131					
Offset	89		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	45	Phase 3=	0	Phase 4=	25	yes
	Phase 5=	9	Phase 6=	45	Phase 7=	0	Phase 8=	21	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	percent					
Cycle Length	150		COS	231					
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	45	Phase 3=	0	Phase 4=	25	yes
	Phase 5=	9	Phase 6=	45	Phase 7=	0	Phase 8=	21	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	percent					
Cycle Length	130		COS	331					
Offset	95		OFFSET UNITS:	percent					
Splits:	Phase 1=	15	Phase 2=	36	Phase 3=	0	Phase 4=	24	no
	Phase 5=	15	Phase 6=	36	Phase 7=	0	Phase 8=	24	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	percent					
Cycle Length	150		COS	431					
Offset	85		OFFSET UNITS:	percent					
Splits:	Phase 1=	15	Phase 2=	43	Phase 3=	0	Phase 4=	20	yes
	Phase 5=	9	Phase 6=	49	Phase 7=	0	Phase 8=	22	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	percent					
Cycle Length	150		COS	531					
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	15	Phase 2=	39	Phase 3=	0	Phase 4=	25	yes
	Phase 5=	9	Phase 6=	45	Phase 7=	0	Phase 8=	21	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 6. Placid Cove/West Mall

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB	0	SB	EBL/SBR	WB	0	NB/EBR
Minimum Green	6	30	6	10	5	30	0	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**7**	0	0	0	**7**	0	**7**
Ped Clearance	0	**26**	0	10	0	**32**	0	20
Veh Extension	2.5	3	0	4.5	2.5	3	0	3
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	24	56	0	30	8	56	0	24
Max 2	13	30	0	30	8	30	0	24
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3**	**3.6**	3	**3**	**3**	**3.6**	3	**3**
Red Clearance	**3**	**3**	0	**3**	**3**	**3**	0	**3**
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**32**				**38**		**26**

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*13.0*	*37.0*	*10.0*	*17.0*	*12.0*	*37.0*		*17.0*
Ph Min Ped		*40.0*				*46.0*		*34.0*

Coordination Patterns

Pattern	1		SPLIT UNITS:	**seconds**				
Cycle Length	140		COS	**111**				
Offset	**33**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**13**	Phase 2=	**76**	Phase 3=		Phase 4=	**17**
	Phase 5=	**12**	Phase 6=	**77**	Phase 7=		Phase 8=	**34**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	2		SPLIT UNITS:	seconds				
Cycle Length	**130**		COS	**211**				
Offset	**25**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**17**	Phase 2=	**63**	Phase 3=		Phase 4=	**17**
	Phase 5=	**17**	Phase 6=	**63**	Phase 7=		Phase 8=	**33**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	3		SPLIT UNITS:	seconds				
Cycle Length	**140**		COS	**311**				
Offset	**40**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**18**	Phase 2=	**72**	Phase 3=		Phase 4=	**17**
	Phase 5=	**16**	Phase 6=	**74**	Phase 7=		Phase 8=	**33**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	4		SPLIT UNITS:	**seconds**				
Cycle Length	**140**		COS	**411**				
Offset	**3**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**24**	Phase 2=	**66**	Phase 3=		Phase 4=	**17**
	Phase 5=	**17**	Phase 6=	**73**	Phase 7=		Phase 8=	**33**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	5		SPLIT UNITS:	**seconds**				
Cycle Length	**130**		COS	**212**				
Offset	**13**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**17**	Phase 2=	**63**	Phase 3=		Phase 4=	**17**
	Phase 5=	**17**	Phase 6=	**63**	Phase 7=		Phase 8=	**33**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Location: 6. Placid Cove/West Mall

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	23		OFFSET UNITS:	percent					
Splits:	Phase 1=	15	Phase 2=	40	Phase 3=	0	Phase 4=	20	yes
	Phase 5=	15	Phase 6=	40	Phase 7=	0	Phase 8=	25	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	1		OFFSET UNITS:	percent					
Splits:	Phase 1=	14	Phase 2=	43	Phase 3=	0	Phase 4=	20	yes
	Phase 5=	14	Phase 6=	43	Phase 7=	0	Phase 8=	23	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	63		OFFSET UNITS:	percent					
Splits:	Phase 1=	13	Phase 2=	46	Phase 3=	0	Phase 4=	16	yes
	Phase 5=	13	Phase 6=	46	Phase 7=	0	Phase 8=	25	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 6. Placid Cove/West Mall

PROPOSED TIMING

Coordination Patterns									
Pattern	**6**		SPLIT UNITS:	**seconds**					
Cycle Length	**140**			COS	**312**				
Offset	**40**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**18**	Phase 2=	**72**	Phase 3=		Phase 4=	**17**	
	Phase 5=	**16**	Phase 6=	**74**	Phase 7=		Phase 8=	**33**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	**7**		SPLIT UNITS:	**seconds**					
Cycle Length	140			COS	**412**				
Offset	**128**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**30**	Phase 2=	**55**	Phase 3=		Phase 4=	**17**	
	Phase 5=	**17**	Phase 6=	**68**	Phase 7=		Phase 8=	**38**	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern			SPLIT UNITS:						
Cycle Length	**0**			COS					
Offset	**0**		OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases									
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 7.SR 82 & Ordner

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB		NB	EBL	WB		SB
Minimum Green	6	20	0	10	6	20	0	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	0	0	0	6	0	7
Ped Clearance	0	12	0	16	0	12	0	16
Veh Extension	3	3	3	3	3	3	3	3
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	6	60	0	40	10	60	0	40
Max 2	10	76	0	26	10	76	0	26
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	3.6	3.6	3	3.1	3.6	3.6	3	3.1
Red Clearance	2	2	0	2	2	2	2	2
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall		x				x		
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1	SPLIT UNITS:	percent					
Cycle Length	140		COS	131				
Offset	4	OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	70	Phase 3=	0	Phase 4=	21
	Phase 5=	9	Phase 6=	70	Phase 7=	0	Phase 8=	21
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	2	SPLIT UNITS:	percent					
Cycle Length	150		COS	231				
Offset	15	OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	72	Phase 3=	0	Phase 4=	19
	Phase 5=	9	Phase 6=	72	Phase 7=	0	Phase 8=	19
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	3	SPLIT UNITS:	percent					
Cycle Length	130		COS	331				
Offset	10	OFFSET UNITS:	percent					
Splits:	Phase 1=	11	Phase 2=	67	Phase 3=	0	Phase 4=	22
	Phase 5=	11	Phase 6=	67	Phase 7=	0	Phase 8=	22
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	4	SPLIT UNITS:	percent					
Cycle Length	150		COS	431				
Offset	89	OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	72	Phase 3=	0	Phase 4=	19
	Phase 5=	9	Phase 6=	72	Phase 7=	0	Phase 8=	19
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Coordination Patterns

Pattern	5	SPLIT UNITS:	percent					
Cycle Length	150		COS	531				
Offset	15	OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	72	Phase 3=	0	Phase 4=	19
	Phase 5=	9	Phase 6=	72	Phase 7=	0	Phase 8=	19
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

yes

Location: 7.SR 82 & Ordner

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB	0	NB	EBL	WB	0	SB
Minimum Green	6	20	0	10	6	20	0	10
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**5**	0	0	0	**12**	0	**6**
Ped Clearance	0	**10**	0	16	0	**18**	0	**19**
Veh Extension	3	3	3	3	3	3	3	3
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	6	60	0	40	10	60	0	40
Max 2	10	76	0	26	10	76	0	26
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3**	3.6	3	**3**	**3**	3.6	3	**3**
Red Clearance	**3**	**2.1**	0	**3**	**3**	**2.1**	2	**3**
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**15**				**23**		**25**

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x				x		
Vehicle Recall		x				x		
Pedestrian Recall		x				x		
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*13.0*	*26.0*		*17.0*	*13.0*	*26.0*		*17.0*
Ph Min Ped		*21.0*				*36.0*		*32.0*

Coordination Patterns

Pattern	1	SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**111**				
Offset	**46**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**14**	Phase 2=	**89**	Phase 3=		Phase 4=	**37**
	Phase 5=	**14**	Phase 6=	**89**	Phase 7=		Phase 8=	**37**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	2	SPLIT UNITS:	seconds					
Cycle Length	**130**		COS	**211**				
Offset	**33**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**80**	Phase 3=		Phase 4=	**33**
	Phase 5=	**17**	Phase 6=	**80**	Phase 7=		Phase 8=	**33**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	3	SPLIT UNITS:	seconds					
Cycle Length	**140**		COS	**311**				
Offset	**64**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**21**	Phase 2=	**88**	Phase 3=		Phase 4=	**31**
	Phase 5=	**16**	Phase 6=	**93**	Phase 7=		Phase 8=	**31**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	4	SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**411**				
Offset	**21**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**92**	Phase 3=		Phase 4=	**31**
	Phase 5=	**17**	Phase 6=	**92**	Phase 7=		Phase 8=	**31**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns

Pattern	5	SPLIT UNITS:	**seconds**					
Cycle Length	**130**		COS	**212**				
Offset	**21**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**80**	Phase 3=		Phase 4=	**33**
	Phase 5=	**17**	Phase 6=	**80**	Phase 7=		Phase 8=	**33**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Location: 7.SR 82 & Ordner

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	31		OFFSET UNITS:	percent					
Splits:	Phase 1=	11	Phase 2=	67	Phase 3=	0	Phase 4=	22	yes
	Phase 5=	11	Phase 6=	67	Phase 7=	0	Phase 8=	22	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	9		OFFSET UNITS:	percent					
Splits:	Phase 1=	11	Phase 2=	68	Phase 3=	0	Phase 4=	21	yes
	Phase 5=	11	Phase 6=	68	Phase 7=	0	Phase 8=	21	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	65		OFFSET UNITS:	percent					
Splits:	Phase 1=	11	Phase 2=	66	Phase 3=	0	Phase 4=	23	yes
	Phase 5=	11	Phase 6=	66	Phase 7=	0	Phase 8=	23	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 7.SR 82 & Ordner

PROPOSED TIMING

Coordination Patterns								
Pattern	**6**	SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**312**				
Offset	**64**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**21**	Phase 2=	**88**	Phase 3=		Phase 4=	**31**
	Phase 5=	**16**	Phase 6=	**93**	Phase 7=		Phase 8=	**31**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern	**7**	SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**412**				
Offset	**8**	OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**92**	Phase 3=		Phase 4=	**31**
	Phase 5=	**17**	Phase 6=	**92**	Phase 7=		Phase 8=	**31**
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern		SPLIT UNITS:						
Cycle Length	**0**		COS					
Offset	**0**	OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=	
	Phase 5=		Phase 6=		Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases								
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 8.SR 82 & Mall Dr/Target

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	EBL/SBR	WB	SB					
Minimum Green	7	25	10	0	0	0	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	5	7	0	0	0	0	0
Ped Clearance	0	23	19	16	0	16	0	16
Veh Extension	2.5	3	3	0	0	0	0	0
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	24	60	26	0	0	0	0	0
Max 2	24	30	26	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	3.7	3.7	3.1	3	3	3	3	3
Red Clearance	2	2	1.9	1	1	1	1	1
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x						
Vehicle Recall		x						
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1		SPLIT UNITS:	percent					
Cycle Length	140		COS	131					
Offset	15		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	66	Phase 3=	25	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	percent					
Cycle Length	150		COS	231					
Offset	0		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	68	Phase 3=	23	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	percent					
Cycle Length	130		COS	331					
Offset	11		OFFSET UNITS:	percent					
Splits:	Phase 1=	15	Phase 2=	58	Phase 3=	27	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	percent					
Cycle Length	150		COS	431					
Offset	90		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	68	Phase 3=	23	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	percent					
Cycle Length	150		COS	531					
Offset	29		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	68	Phase 3=	23	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 8.SR 82 & Mall Dr/Target

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	EBL/SBR	WB	SB	0	0	0	0	0
Minimum Green	7	25	10	0	0	0	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	**10**	**6**	0	0	0	0	0
Ped Clearance	0	23	**18**	16	0	16	0	16
Veh Extension	2.5	3	3	0	0	0	0	0
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	24	60	26	0	0	0	0	0
Max 2	24	30	26	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3**	**3.6**	**3**	3	3	3	3	3
Red Clearance	**3**	**2.7**	**2.9**	1	1	1	1	1
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**29**	**23**					

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector		x						
Vehicle Recall		x						
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*14.0*	*32.0*	*16.0*					
Ph Min Ped		*40.0*	*30.0*					

Coordination Patterns

Pattern	1		SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**111**					
Offset	**60**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**19**	Phase 2=	**86**	Phase 3=	**35**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	seconds					
Cycle Length	**130**		COS	**211**					
Offset	**19**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**18**	Phase 2=	**74**	Phase 3=	**38**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	seconds					
Cycle Length	**140**		COS	**311**					
Offset	**72**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**88**	Phase 3=	**35**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**411**					
Offset	**22**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**88**	Phase 3=	**35**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	**seconds**					
Cycle Length	**130**		COS	**212**					
Offset	**7**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**18**	Phase 2=	**74**	Phase 3=	**38**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 8.SR 82 & Mall Dr/Target

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	41		OFFSET UNITS:	percent					
Splits:	Phase 1=	15	Phase 2=	58	Phase 3=	27	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	18		OFFSET UNITS:	percent					
Splits:	Phase 1=	14	Phase 2=	61	Phase 3=	25	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	45		OFFSET UNITS:	percent					
Splits:	Phase 1=	16	Phase 2=	57	Phase 3=	27	Phase 4=	0	yes
	Phase 5=	0	Phase 6=	0	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

Location: 8.SR 82 & Mall Dr/Target

PROPOSED TIMING

Coordination Patterns									
Pattern	**6**		SPLIT UNITS:	**seconds**					
Cycle Length	**140**			COS	**312**				
Offset	**72**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**88**	Phase 3=	**35**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	**7**		SPLIT UNITS:	**seconds**					
Cycle Length	140			COS	**412**				
Offset	**16**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**88**	Phase 3=	**35**	Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x							
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern			SPLIT UNITS:						
Cycle Length	**0**			COS					
Offset	**0**		OFFSET UNITS:						
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=		
	Phase 5=		Phase 6=		Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases									
Veh Recall									
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Location: 9. SR 82 & Pearlview/Police Dr

EXISTING TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB	NB	SB		WB		
Minimum Green	7	18	10	10	0	18	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	7	0	0	7	0	0
Ped Clearance	0	11	14	7	0	11	0	7
Veh Extension	3.5	0	3.5	3.5	0	0	0	0
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	15	40	31	20	0	40	0	0
Max 2	15	40	31	20	0	40	0	0
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	4.3	4.3	5.1	3.3	3	4.3	3	3
Red Clearance	2	2	2	2	0	2	0	0
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector	x	x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								

Coordination Patterns

Pattern	1		SPLIT UNITS:	percent					
Cycle Length	140		COS	131					
Offset	11		OFFSET UNITS:	percent					
Splits:	Phase 1=	10	Phase 2=	51	Phase 3=	26	Phase 4=	13	yes
	Phase 5=	0	Phase 6=	61	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	percent					
Cycle Length	150		COS	231					
Offset	85		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	55	Phase 3=	24	Phase 4=	12	yes
	Phase 5=	0	Phase 6=	64	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	percent					
Cycle Length	130		COS	331					
Offset	7		OFFSET UNITS:	percent					
Splits:	Phase 1=	12	Phase 2=	46	Phase 3=	28	Phase 4=	14	yes
	Phase 5=	0	Phase 6=	58	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	percent					
Cycle Length	150		COS	431					
Offset	57		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	55	Phase 3=	24	Phase 4=	12	yes
	Phase 5=	0	Phase 6=	64	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	percent					
Cycle Length	150		COS	531					
Offset	99		OFFSET UNITS:	percent					
Splits:	Phase 1=	9	Phase 2=	55	Phase 3=	24	Phase 4=	12	yes
	Phase 5=	0	Phase 6=	64	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 9. SR 82 & Pearlview/Police Dr

PROPOSED TIMING

By-Phase Timing Data

Phase	1	2	3	4	5	6	7	8
Direction	WBL	EB	NB	SB	0	WB	0	0
Minimum Green	7	18	10	10	0	18	0	0
Bike Min Green	0	0	0	0	0	0	0	0
Cond Serv Min Grn	0	0	0	0	0	0	0	0
Walk	0	7	7	0	0	7	0	0
Ped Clearance	0	**10**	**17**	7	0	**10**	0	7
Veh Extension	3.5	0	3.5	3.5	0	0	0	0
Alt Veh Exten	0	0	0	0	0	0	0	0
Max Extension	0	0	0	0	0	0	0	0
Max 1	15	40	31	20	0	40	0	0
Max 2	15	40	31	20	0	40	0	0
Max 3	0	0	0	0	0	0	0	0
Det. Fail Max	0	0	0	0	0	0	0	0
Yellow Change	**3**	**3.6**	**3**	**3**	3	**3.6**	3	3
Red Clearance	**3**	**3**	**3**	**3**	0	**3**	0	0
Red Revert	2	2	2	2	2	2	2	2
Act. B4 Init	0	0	0	0	0	0	0	0
Sec/Actuation	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars Waiting	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Minimum Gap	0	0	0	0	0	0	0	0
Calculated Ped Clearance Time		**13**	**23**			**11**		

Recall Data

Phase	1	2	3	4	5	6	7	8
Locking Detector	x	x				x		
Vehicle Recall		x				x		
Pedestrian Recall								
Recall To Max								
Soft Recall								
Don't Rest Here								
Ped Dark if No Call								
Ph Min Veh	*14.0*	*25.0*	*17.0*	*17.0*		*25.0*		
Ph Min Ped		*24.0*	*31.0*			*24.0*		

Coordination Patterns

Pattern	1		SPLIT UNITS:	**seconds**					
Cycle Length	140		COS	**111**					
Offset	**134**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**74**	Phase 3=	**32**	Phase 4=	**17**	
	Phase 5=		Phase 6=	**91**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	2		SPLIT UNITS:	seconds					
Cycle Length	**130**		COS	**211**					
Offset	**115**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**66**	Phase 3=	**30**	Phase 4=	**17**	
	Phase 5=		Phase 6=	**83**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	3		SPLIT UNITS:	seconds					
Cycle Length	**140**		COS	**311**					
Offset	**36**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**76**	Phase 3=	**30**	Phase 4=	**17**	
	Phase 5=		Phase 6=	**93**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	4		SPLIT UNITS:	**seconds**					
Cycle Length	**140**		COS	**411**					
Offset	**17**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**76**	Phase 3=	**30**	Phase 4=	**17**	
	Phase 5=		Phase 6=	**93**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns

Pattern	5		SPLIT UNITS:	**seconds**					
Cycle Length	**130**		COS	**212**					
Offset	**103**		OFFSET UNITS:	**seconds**					
Splits:	Phase 1=	**17**	Phase 2=	**66**	Phase 3=	**30**	Phase 4=	**17**	
	Phase 5=		Phase 6=	**83**	Phase 7=		Phase 8=		
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Location: 9. SR 82 & Pearlview/Police Dr

EXISTING TIMING

Coordination Patterns									
Pattern	10		SPLIT UNITS:	percent					
Cycle Length	130			COS	710				
Offset	35		OFFSET UNITS:	percent					
Splits:	Phase 1=	12	Phase 2=	46	Phase 3=	28	Phase 4=	14	yes
	Phase 5=	0	Phase 6=	58	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	11		SPLIT UNITS:	percent					
Cycle Length	140			COS	711				
Offset	24		OFFSET UNITS:	percent					
Splits:	Phase 1=	12	Phase 2=	49	Phase 3=	26	Phase 4=	13	yes
	Phase 5=	0	Phase 6=	61	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

Coordination Patterns									
Pattern	12		SPLIT UNITS:	percent					
Cycle Length	130			COS	712				
Offset	31		OFFSET UNITS:	percent					
Splits:	Phase 1=	13	Phase 2=	50	Phase 3=	23	Phase 4=	14	yes
	Phase 5=	0	Phase 6=	63	Phase 7=	0	Phase 8=	0	
Phase Number:	1	2	3	4	5	6	7	8	
Coord Phases		x				x			
Veh Recall		x				x			
Veh Max Recall									
Ped Recall									
Veh Omit									

NIC Program Steps				
Step	Program	Step Begins	Pattern	Override
1	1	0	0	NO
2	1	600	12	NO
3	1	815	10	NO
4	1	1500	11	NO
5	1	1900	10	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	12	NO
9	2	900	11	NO
10	2	2130	0	NO
11	3	0	0	NO
12	3	600	12	NO
13	3	1000	11	NO
14	3	1900	0	NO

Location: 9. SR 82 & Pearlview/Police Dr

PROPOSED TIMING

Coordination Patterns								
Pattern	**6**		SPLIT UNITS:	**seconds**				
Cycle Length	**140**		COS	**312**				
Offset	**36**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**17**	Phase 2=	**76**	Phase 3=	**30**	Phase 4=	**17**
	Phase 5=		Phase 6=	**93**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall		x				x		
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern	**7**		SPLIT UNITS:	**seconds**				
Cycle Length	140		COS	**412**				
Offset	**21**		OFFSET UNITS:	**seconds**				
Splits:	Phase 1=	**17**	Phase 2=	**76**	Phase 3=	**30**	Phase 4=	**17**
	Phase 5=		Phase 6=	**93**	Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases		x				x		
Veh Recall		x				x		
Veh Max Recall								
Ped Recall								
Veh Omit								

Coordination Patterns								
Pattern			SPLIT UNITS:					
Cycle Length	**0**		COS					
Offset	**0**		OFFSET UNITS:					
Splits:	Phase 1=		Phase 2=		Phase 3=		Phase 4=	
	Phase 5=		Phase 6=		Phase 7=		Phase 8=	
Phase Number:	1	2	3	4	5	6	7	8
Coord Phases								
Veh Recall								
Veh Max Recall								
Ped Recall								
Veh Omit								

NIC Program Steps				
Step				
1	1	0	0	NO
2	1	600	**1**	NO
3	1	815	**2**	NO
4	1	1500	**3**	NO
5	1	1900	**2**	NO
6	1	2130	0	NO
7	2	0	0	NO
8	2	600	**2**	NO
9	2	900	**4**	NO
10	2	**1900**	**2**	NO
11	**2**	**2230**	0	NO
12	3	**0**	**0**	NO
13	3	**600**	**2**	NO
14	3	**900**	**4**	NO
15	**3**	**2100**	0	**NO**
16	**4**	0	0	**NO**
17	**4**	**600**	**1**	**NO**
18	**4**	**815**	**5**	**NO**
19	**4**	**1100**	**6**	**NO**
20	**4**	**1900**	**5**	**NO**
21	**4**	**2130**	0	**NO**
22	**5**	0	0	**NO**
23	**5**	**600**	**5**	**NO**
24	**5**	**900**	**7**	**NO**
25	**5**	**2300**	0	**NO**

Appendix 1:

Conversion of Eastbound Left Turn Phase at SR 82 & Howe

Memorandum

TEC Engineering, Inc.

Date: 7/17/2013
Project: CUY-82 Royalton Road System Timing
Subject: Dual Left EB at SR 82 & Howe Road
Prepared by: Sara Senger, PE, PTOE, TEC Engineering, Inc.
Recipients: Brian Blayney, PE, ODOT District 12

The project team was asked to evaluate the impact of providing a fully protected dual left turn movement for eastbound SR 82 at Howe Road. Due to the existing intersection geometry, conversion of the eastbound left to a dual protected movement will require lead-lag phasing of the left turn movements at the intersection. The westbound movement is proposed to be the leading phase due to queuing issues between Howe Road and the I-71 SB Ramps. The eastbound left is proposed to be the lagging phase. This modification will have negligible impact on overall network operations, but may slightly impact intersection operation and capacity at the intersection of SR 82 & Howe Road. A comparison of the by-approach capacity analysis for proposed timing (with existing lanes and phasing) and proposed timing (with protected EB dual left) is provided in the following tables. Movement delays that increase by more than 10% are shown in red while delays that decrease by more than 10% are shown in green.

Table 1: Non-Holiday Peak Comparison with Proposed Phasing Modification

Peak Hour	Scenario	Intersection Delay (in seconds) by Approach												
		EB		WB			NB			SB			Overall	
		EBL	*EBTR*	*WBL*	*WBT*	*WBR*	*NBL*	*NBT*	*NBR*	*SBL*	*SBT*	*SBR*	*LOS*	*Delay*
AM	Single left, prot/perm	23.0	110.1	67.6	11.4	3.8	52.1	52.0	173.4	62.0	61.2	54.2	F	82.1
	Dual left protected	59.2	103.2	60.9	14.1	9.5	52.1	52.0	173.4	62.0	61.2	52.2	F	80.5
MID	Single left, prot/perm	44.3	40.7	74.4	28.5	0.3	55.3	56.2	40.0	56.8	52.4	43.3	D	41.4
	Dual left protected	52.7	30.6	63.3	28.7	18.2	55.3	56.2	40.0	56.8	52.4	41.9	D	39.5
PM	Single left, prot/perm	57.9	229.6	96.7	53.3	17.8	90.6	59.4	28.4	75.2	100.5	61.4	F	104.0
	Dual left protected	56.2	227.5	94.8	55.1	9.9	90.6	59.4	28.4	75.2	100.5	54.2	F	102.8
SAT MID	Single left, prot/perm	83.8	68.0	83.1	32.3	4.7	59.9	77.1	38.3	65.1	61.1	47.1	D	51.9
	Dual left protected	50.6	68.1	78.0	32.3	14.0	59.9	77.1	38.3	65.1	61.1	45.5	D	50.8

Table 2: Holiday Peak Comparison with Proposed Phasing Modification

Peak Hour	Scenario	Intersection Delay (in seconds) by Approach												
		EB		WB			NB			SB			Overall	
		EBL	*EBTR*	*WBL*	*WBT*	*WBR*	*NBL*	*NBT*	*NBR*	*SBL*	*SBT*	*SBR*	*LOS*	*Delay*
MID	Single left, prot/perm	77.5	45.0	62.4	31.6	19.5	52.1	63.7	35.2	52.1	49.4	37.7	D	44.1
	Dual left protected	35.8	29.7	66.4	32.6	19.2	52.1	63.7	35.2	52.1	49.4	35.0	D	38.5
PM	Single left, prot/perm	76.7	163.0	74.4	59.1	17.6	106.8	78.0	33.5	63.0	126.9	41.7	F	87.0
	Dual left protected	47.3	155.7	72.3	59.1	10.0	106.8	78.0	33.5	63.0	126.9	41.2	F	83.1
SAT MID	Single left, prot/perm	124.0	71.5	114.8	91.8	29.8	58.0	130.5	55.2	75.1	101.1	74.3	F	80.7
	Dual left protected	48.4	71.1	114.8	91.8	21.2	58.0	130.5	55.2	75.1	101.1	59.7	E	76.2

The results of the movement delay comparison show the proposed eastbound protected dual left modification will increase delay for left turning motorists during lower volume time periods but significantly improve delay during high volume periods, particularly on weekends and during the holiday shopping season.

TEC also evaluated the impact of the proposed improvement on intersection queues at SR 82 & Howe Road. The 95th percentile queues were obtained after simulation of the network using SimTraffic. The results of the evaluation are presented in the tables below. Queues that increase by more than 10% are shown in red while queues that decrease by more than 10% are shown in green.

Table 3: Non-Holiday Peak Queue Length Comparison with Proposed Phasing Modification

Peak Hour	Scenario	95th% Queue by Approach (worst lane queue reported)											
		EB			WB			NB			SB		
		EBL	*EBT*	*EBTR*	*WBL*	*WBT*	*WBR*	*NBL*	*NBLT*	*NBR*	*SBL*	*SBT*	*SBR*
AM	Single left, prot/perm	47	801	1024	837	238	11	41	327	714	78	0	18
	Dual left protected	49	855	1010	878	314	144	72	432	648	80	0	17
MID	Single left, prot/perm	210	344	396	269	302	51	290	302	252	354	120	94
	Dual left protected	156	292	323	262	305	189	240	298	241	303	128	123
PM	Single left, prot/perm	307	923	975	949	947	382	245	174	245	342	261	291
	Dual left protected	215	950	981	936	941	365	253	202	237	390	329	267
SAT MID	Single left, prot/perm	274	470	510	811	880	364	317	345	606	681	715	324
	Dual left protected	161	284	351	859	969	356	222	303	291	668	453	339

Table 4: Holiday Peak Queue Length Comparison with Proposed Phasing Modification

Peak Hour	Scenario	Intersection Delay (in seconds) by Approach											
		EB			WB			NB			SB		
		EBL	*EBT*	*EBTR*	*WBL*	*WBT*	*WBR*	*NBL*	*NBLT*	*NBR*	*SBL*	*SBT*	*SBR*
MID	Single left, prot/perm	252	633	470	349	645	361	271	301	215	363	161	191
	Dual left protected	169	317	405	843	891	361	205	273	186	341	106	168
PM	Single left, prot/perm	312	997	1019	954	941	378	307	274	269	397	400	279
	Dual left protected	204	1009	979	882	959	371	194	229	354	385	331	184
SAT MID	Single left, prot/perm	276	323	348	887	813	365	222	336	471	753	667	480
	Dual left protected	195	279	357	817	814	308	363	390	757	697	537	599

The results of the queue analysis show that for the most part, queues at the intersection of SR 82 & Howe remain similar or slightly decrease with the proposed conversion of the eastbound single protected/permissive left to dual lanes with protected only phasing.

In order to construct the proposed protected dual left turn movement, the pavement markings on the eastbound approach for the left turn bay will need to be modified. The existing striping in the inside left turn lane will need to be removed. In the new lane, a loop detector will need to be installed, with the appropriate loop lead in cable from the in-pavement loop to the controller. A new loop detector amp will be required in the cabinet. In addition, the existing 5-section signal head for the eastbound left will need to be removed and replaced with two 3-section signal heads, one placed on the centerline of each left turn lane. As part of the design for the signal head modification, the designer will need to determine whether or not the existing wiring for the 5-section head is sufficient to wire in the two new 3-section heads. The wiring for display of the red indication will need to be associated with phase 5 which may require some wiring modifications. The designer will also need to perform calculations to ensure the existing signal poles can withstand the proposed signal modifications. Modifications within the existing controller will include re-programming phase 5 as a lagging phase and possibly the need for an additional flash transfer relay to be installed.

In addition to the signal modifications related to the eastbound left phase modification, the wiring/programming issues previously noted for the northbound right turn overlap at SR 82 & Howe Road could also be addressed at this time. It appears that the northbound direction operates as Phase 8 and the northbound right operates as an Overlap on Phase 1 and Phase 8. The northbound red is only tied to Phase 8 and not the overlap, which is why the NB red phases come on with the green arrow. We believe that this could have been done because of poor signal alignment on the northbound approach; however with the green arrows, this should not be of great concern, because they specifically designate the Right of Way.

To resolve the issue, TEC believes that the northbound Red needs to be tied to Overlap C on the backpanel of the controller. This will prevent the red indication from coming up when the green arrow is on. It is possible that the wiring inside the head will need to be checked to ensure it does not allow the red indication to come on at the same time. In addition, the Conflict Monitor/MMU will need to be checked to ensure it is set up correctly to prevent this issue.

Appendix j:

Existing Travel Time Study Reports

Route: I-71 & SR 82 NB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	422.4	Howe Rd	45.6	0.71	6.34	41.4
2	844.8	SB I-71 Ramps	49.8	0.86	11.58	36.6
	1267.2	**feet**	**95.4**	**1.6**	**9.0**	**78.0**
	0.24	**miles**				

Route: I-71 & SR 82 NB

Average Speed by Run

Scenario: AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	3.12	20.87	2.98	12.97	4.9	22.86	13.71	0
SB I-71 Ramps	16	6.53	24	32	9.14	10.21	9.14	0
Average Speed	**9.6**	**13.7**	**13.5**	**22.5**	**7.0**	**16.5**	**11.4**	**0.0**

Route: I-71 & SR 82 NB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	92.4	13.8	96.6	22.2	58.8	12.6	21	0
SB I-71 Ramps	36	88.2	24	18	63	56.4	63	0
Total Travel Time	**128.4**	**102.0**	**120.6**	**40.2**	**121.8**	**69.0**	**84.0**	**0.0**

Route: I-71 & SR 82 NB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	1	0	2	0	1	0	1	0
SB I-71 Ramps	1	2	0	0	1	1	1	0
Total Stops	**2.0**	**2.0**	**2.0**	**0.0**	**2.0**	**1.0**	**2.0**	**0.0**

Route: I-71 & SR 82 NB

Total Delay by Run

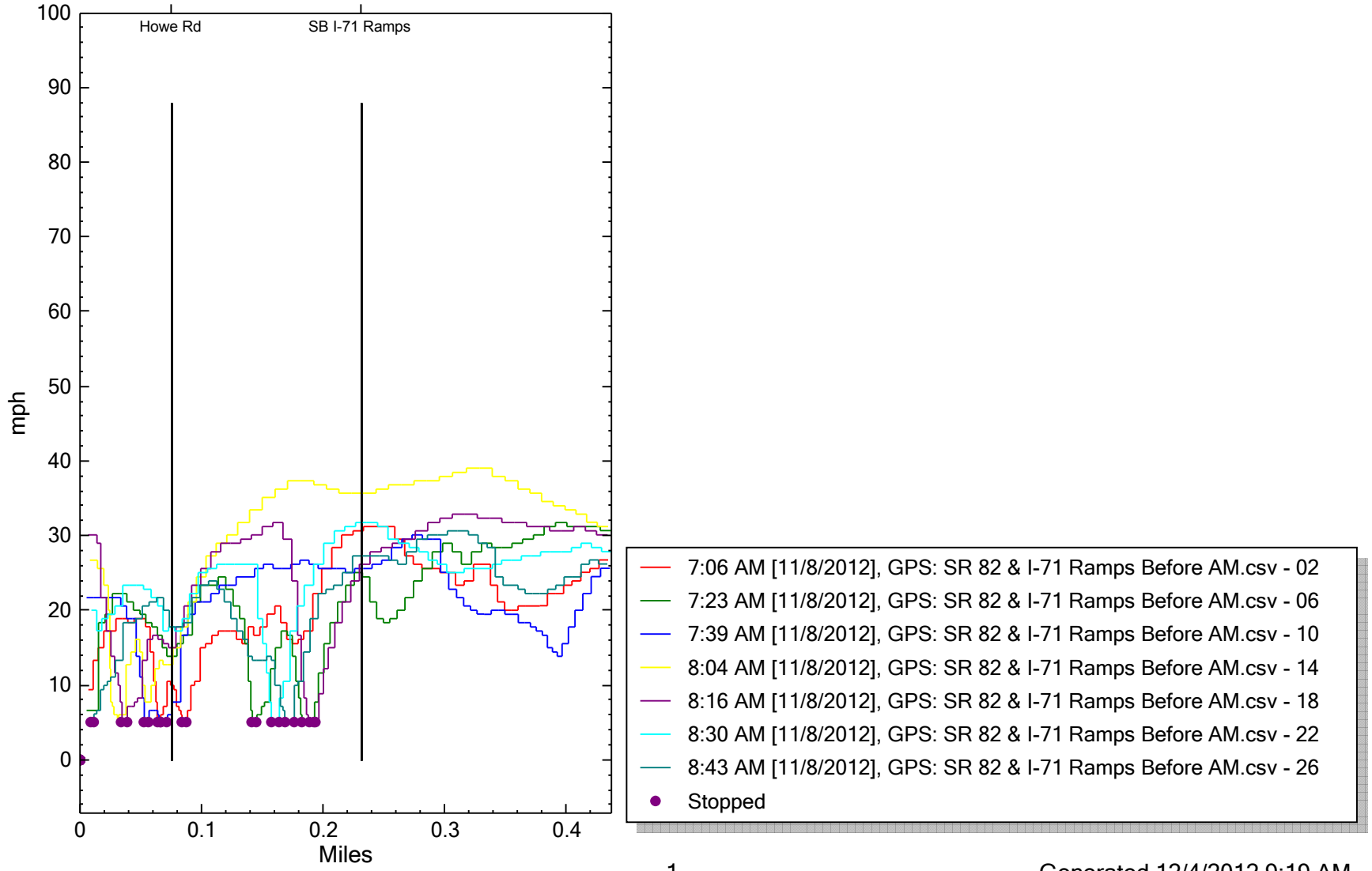
Scenario: AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	92.4	9.6	91.2	18	55.8	4.2	17.4	0
SB I-71 Ramps	28.8	78	4.2	1.8	48	43.2	52.2	0
Total Delay	**121.2**	**87.6**	**95.4**	**19.8**	**103.8**	**47.4**	**69.6**	**0.0**

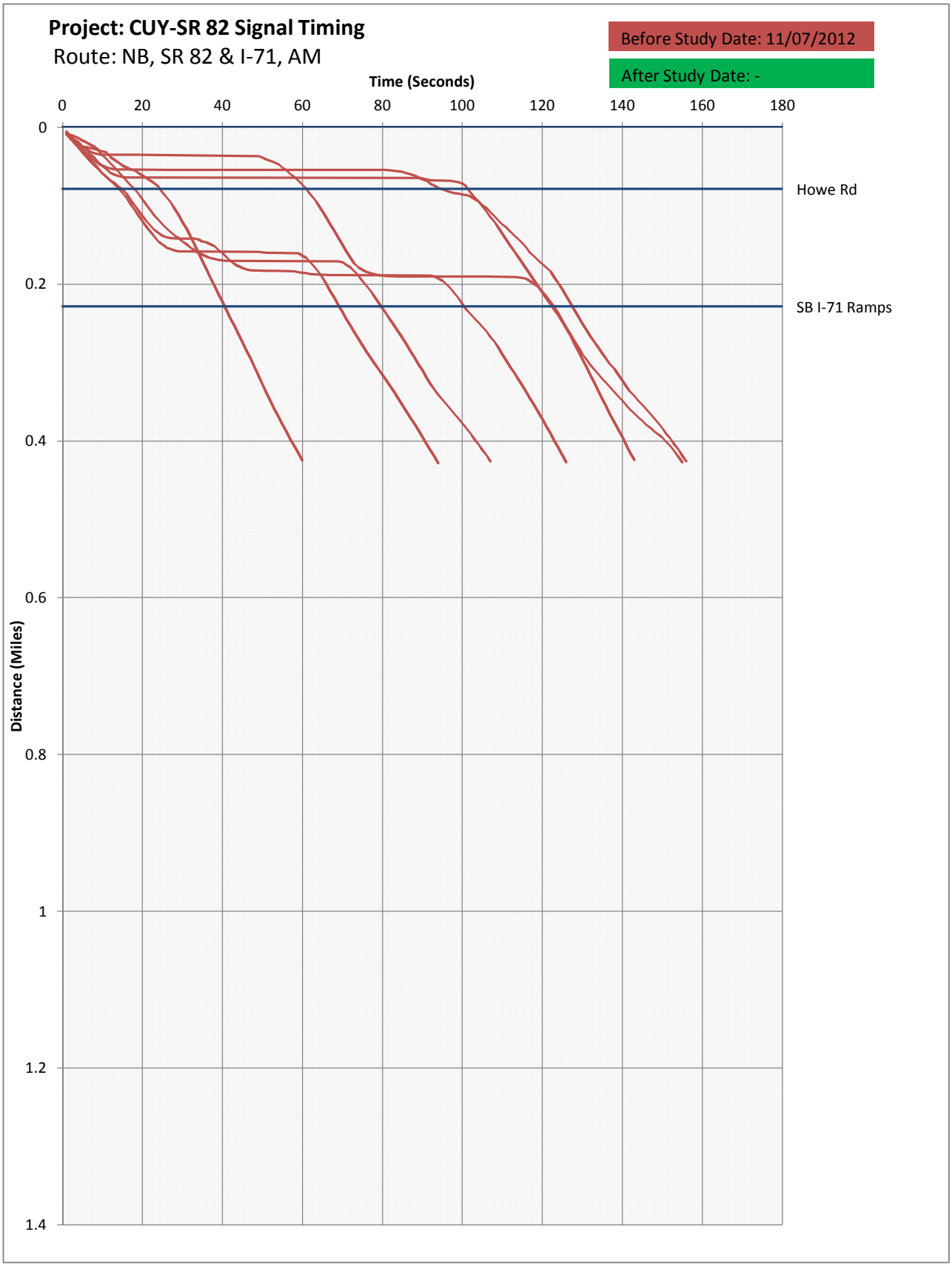
TEC Engineering, Inc.

Speed Profile - I-71 & SR 82 NB

SR 82 Travel Time Study



Generated 12/4/2012 9:19 AM


Project: CUY-SR 82 Signal Timing
Route: NB, SR 82 & I-71, AM
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
20
40
60
80
100
120
140
160
180
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Howe Rd
SB I-71 Ramps

Route: I-71 & SR 82 NB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	422.4	Howe Rd	31.2	0.29	9.15	25.8
2	844.8	SB I-71 Ramps	55.2	0.57	10.48	40.2
	1267.2	**feet**	**86.4**	**0.9**	**9.8**	**66.0**
	0.24	**miles**				

Route: I-71 & SR 82 NB

Average Speed by Run **Scenario:** PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	19.2	30	4.03	21.82	19.2	3.33	30	0
SB I-71 Ramps	8.35	6.15	35.56	8.42	9.8	34.29	9.23	0
Average Speed	**13.8**	**18.1**	**19.8**	**15.1**	**14.5**	**18.8**	**19.6**	**0.0**

Route: I-71 & SR 82 NB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	15	9.6	71.4	13.2	15	86.4	9.6	0
SB I-71 Ramps	69	93.6	16.2	68.4	58.8	16.8	62.4	0
Total Travel Time	**84.0**	**103.2**	**87.6**	**81.6**	**73.8**	**103.2**	**72.0**	**0.0**

Route: I-71 & SR 82 NB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	0	0	1	0	0	1	0	0
SB I-71 Ramps	0	1	0	1	1	0	1	0
Total Stops	**0.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**0.0**

Route: I-71 & SR 82 NB

Total Delay by Run

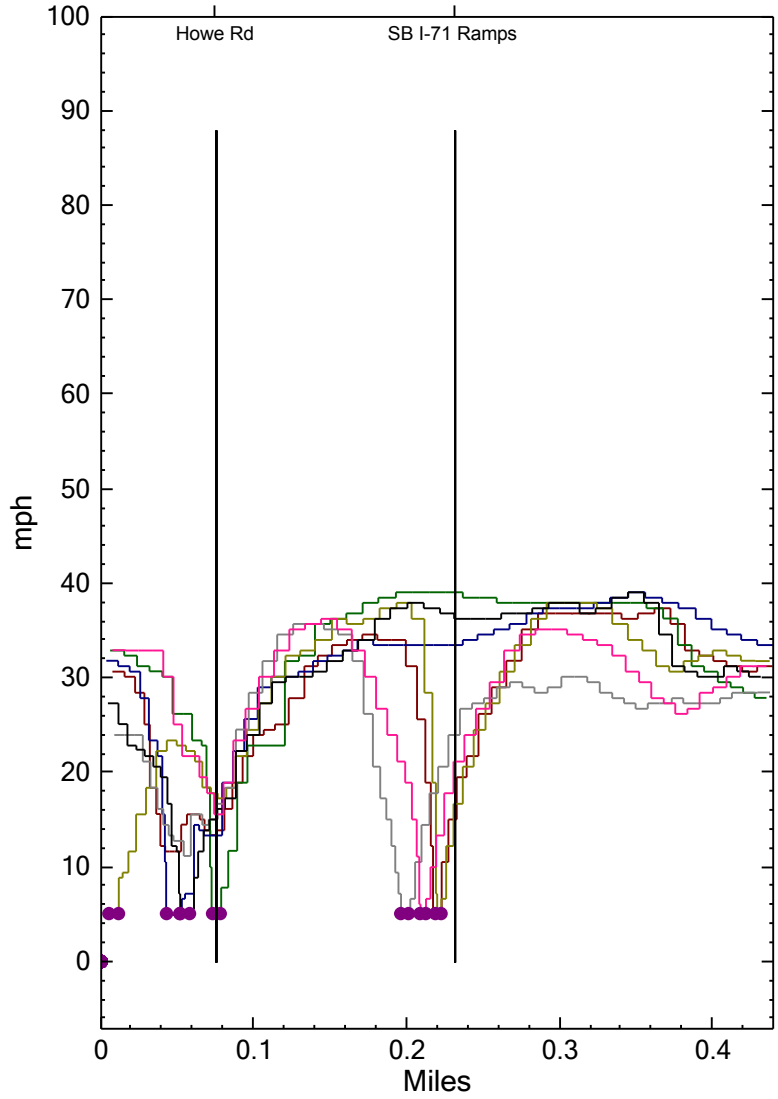
Scenario: PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	10.8	1.2	66	7.8	10.8	81	3	0
SB I-71 Ramps	54.6	79.2	0	54	45	1.2	49.2	0
Total Delay	**65.4**	**80.4**	**66.0**	**61.8**	**55.8**	**82.2**	**52.2**	**0.0**

TEC Engineering, Inc.

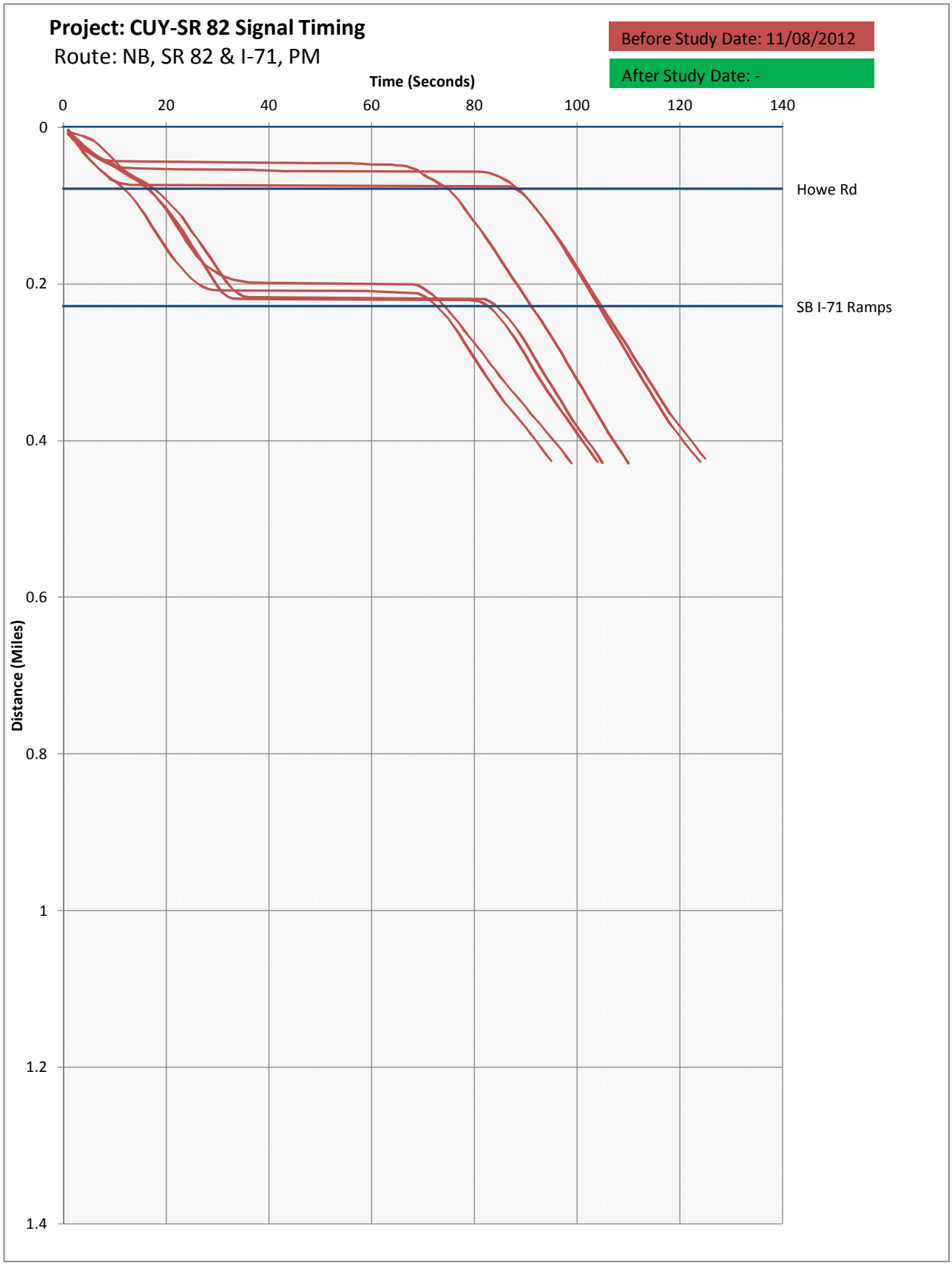
Speed Profile - I-71 & SR 82 NB

SR 82 Travel Time Study



- 4:10 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 02
- 4:25 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 06
- 4:39 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 10
- 4:54 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 14
- 5:08 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 18
- 5:23 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 22
- 5:41 PM [11/8/2012], GPS: SR 82 & I-71 Ramps Before PM.csv - 26
- Stopped

Generated 12/4/2012 9:25 AM


Project: CUY-SR 82 Signal Timing
Route: NB, SR 82 & I-71, PM
Before Study Date: 11/08/2012
After Study Date: -
Time (Seconds)
0
20
40
60
80
100
120
140
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Howe Rd
SB I-71 Ramps

Route: I-71 & SR 82 SB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	633.6	Checkpoint1	11.4	0	38.63	0
2	211.2	Checkpoint2	31.8	0.57	4.51	29.4
3	158.4	SB I-71 Ramps	19.2	0.14	5.66	15
4	792	Howe Rd	81	1	6.67	67.8
	1795.2	**feet**	**143.4**	**1.7**	**13.9**	**112.2**
	0.34	**miles**				

Route: I-71 & SR 82 SB

Average Speed by Run

Scenario: AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	40	37.89	42.35	40	30	48	37.89	0
Checkpoint2	21.82	4.71	2.45	1.53	34.29	30	5.85	0
SB I-71 Ramps	1.06	22.5	20	20	20	22.5	20	0
Howe Rd	8.33	9.18	9	7.38	5.84	5	4.95	0
Average Speed	**17.8**	**18.6**	**18.5**	**17.2**	**22.5**	**26.4**	**17.2**	**0.0**

Route: I-71 & SR 82 SB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	10.8	11.4	10.2	10.8	14.4	9	11.4	0
Checkpoint2	6.6	30.6	58.8	94.2	4.2	4.8	24.6	0
SB I-71 Ramps	102	4.8	5.4	5.4	5.4	4.8	5.4	0
Howe Rd	64.8	58.8	60	73.2	92.4	108	109.2	0
Total Travel Time	**184.2**	**105.6**	**134.4**	**183.6**	**116.4**	**126.6**	**150.6**	**0.0**

Route: I-71 & SR 82 SB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	0	0	0	0	0	0	0	0
Checkpoint2	0	1	1	1	0	0	1	0
SB I-71 Ramps	1	0	0	0	0	0	0	0
Howe Rd	1	1	1	1	1	1	1	0
Total Stops	**2.0**	**2.0**	**2.0**	**2.0**	**1.0**	**1.0**	**2.0**	**0.0**

Route: I-71 & SR 82 SB

Total Delay by Run

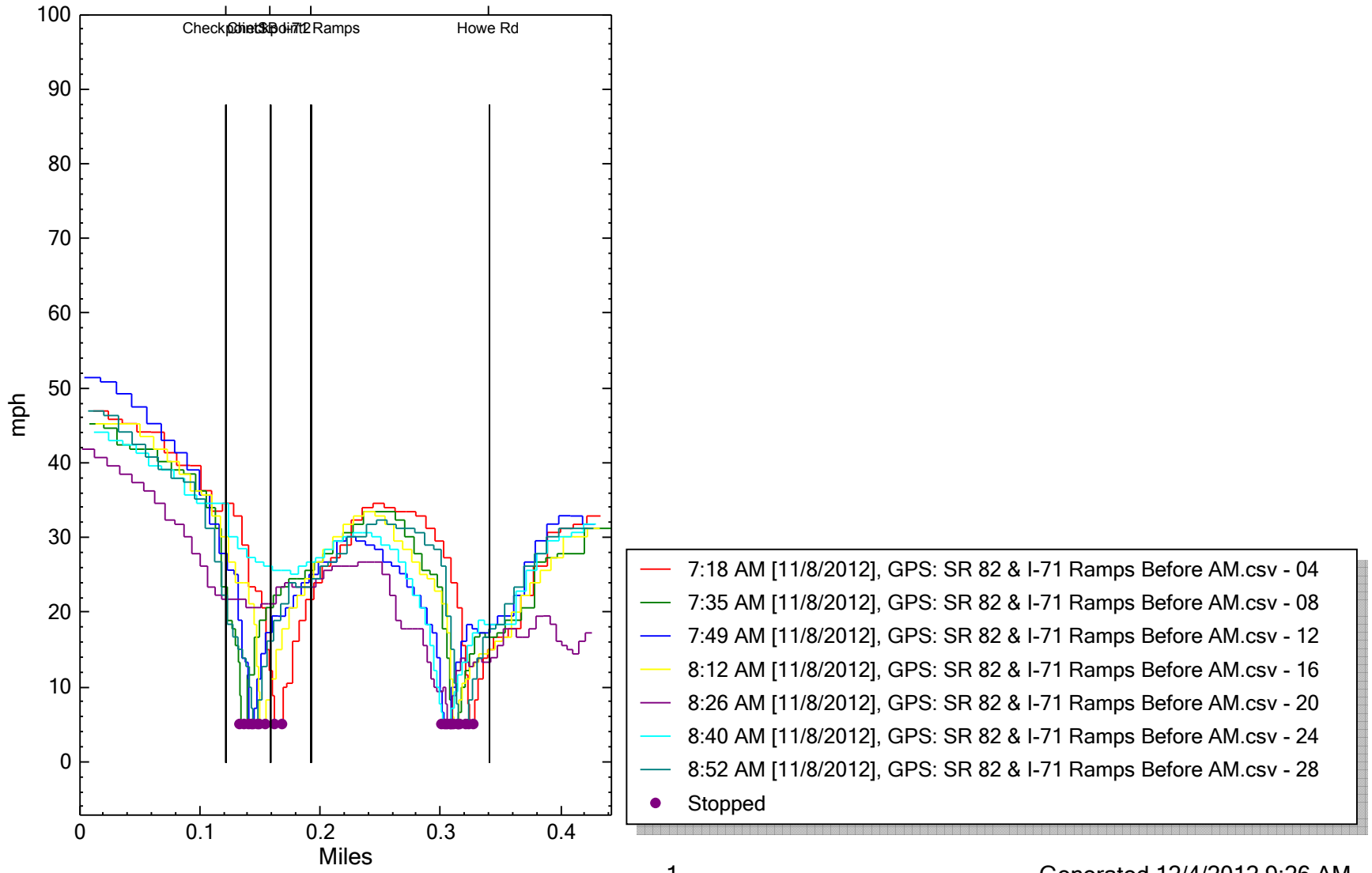
Scenario: AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	0	0	0	0	0	0	0	0
Checkpoint2	2.4	28.8	57.6	91.2	0	0	24.6	0
SB I-71 Ramps	100.8	0	1.2	1.8	0	0	0.6	0
Howe Rd	49.2	45.6	46.8	59.4	82.8	96	94.8	0
Total Delay	**152.4**	**74.4**	**105.6**	**152.4**	**82.8**	**96.0**	**120.0**	**0.0**

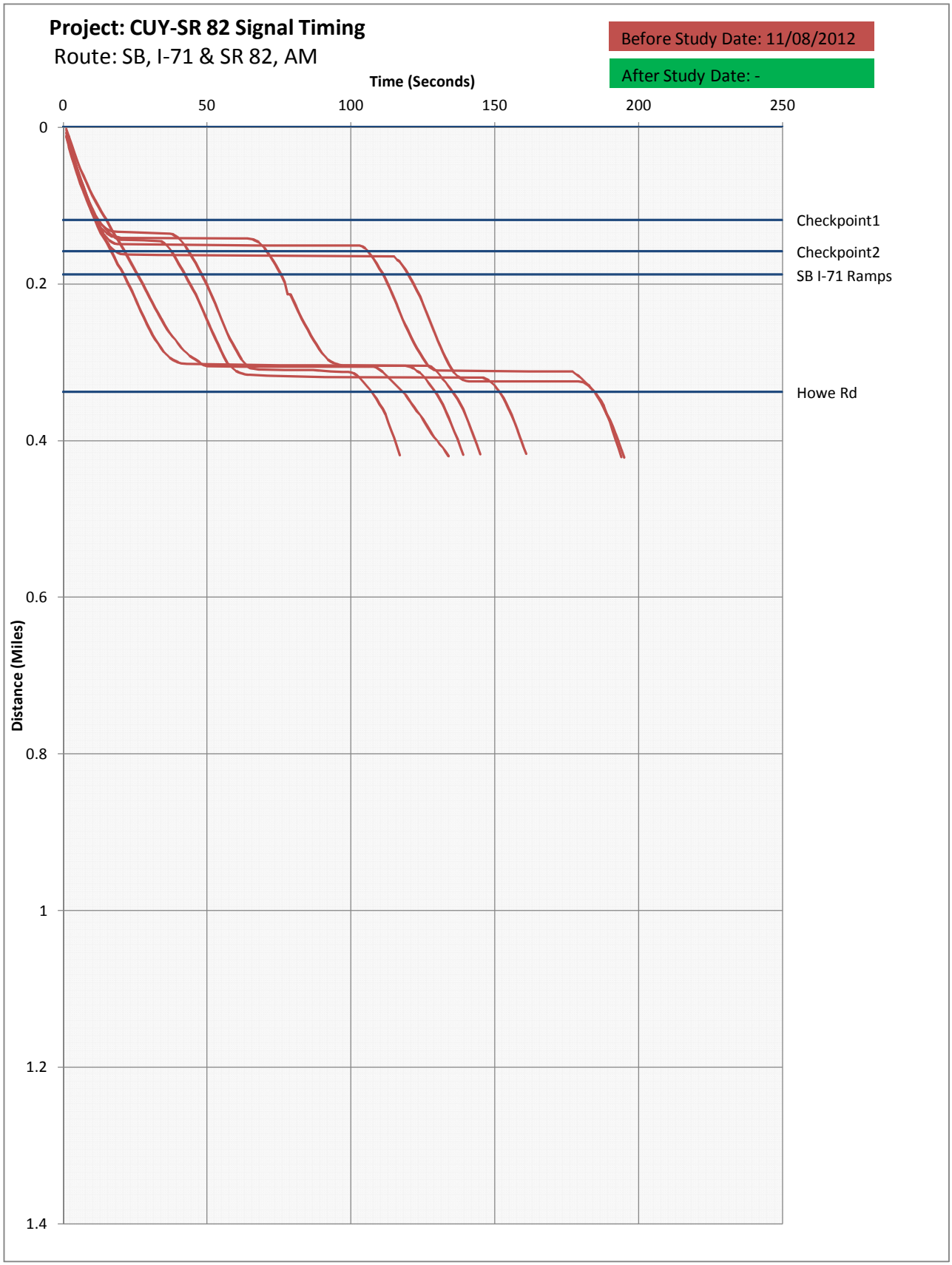
TEC Engineering, Inc.

Speed Profile - I-71 & SR 82 SB

SR 82 Travel Time Study



Generated 12/4/2012 9:26 AM


Project: CUY-SR 82 Signal Timing
Route: SB, I-71 & SR 82, AM
Before Study Date: 11/08/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Checkpoint1
Checkpoint2
SB I-71 Ramps
Howe Rd

Route: I-71 & SR 82 SB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	633.6	Checkpoint1	52.8	0.86	8.22	40.8
2	211.2	Checkpoint2	6.6	0	21.07	3.6
3	158.4	SB I-71 Ramps	16.2	0.14	6.67	12
4	792	Howe Rd	111.6	1.29	4.83	99.6
	1795.2	**feet**	**187.2**	**2.3**	**10.2**	**156.0**
	0.34	**miles**				

Route: I-71 & SR 82 SB

Average Speed by Run

Scenario: PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	6.92	26.67	26.67	7.42	11.8	10.14	3.19	0
Checkpoint2	24	21.82	30	21.82	16	20	20	0
SB I-71 Ramps	13.85	18	22.5	20	18	1.41	18	0
Howe Rd	6.08	5.81	2.83	5.7	5.17	4.71	5.62	0
Average Speed	**12.7**	**18.1**	**20.5**	**13.7**	**12.7**	**9.1**	**11.7**	**0.0**

Route: I-71 & SR 82 SB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	62.4	16.2	16.2	58.2	36.6	42.6	135.6	0
Checkpoint2	6	6.6	4.8	6.6	9	7.2	7.2	0
SB I-71 Ramps	7.8	6	4.8	5.4	6	76.8	6	0
Howe Rd	88.8	93	190.8	94.8	104.4	114.6	96	0
Total Travel Time	**165.0**	**121.8**	**216.6**	**165.0**	**156.0**	**241.2**	**244.8**	**0.0**

Route: I-71 & SR 82 SB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	1	0	0	1	1	1	2	0
Checkpoint2	0	0	0	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	1	0	0
Howe Rd	1	2	2	1	1	1	1	0
Total Stops	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**3.0**	**3.0**	**0.0**

Route: I-71 & SR 82 SB

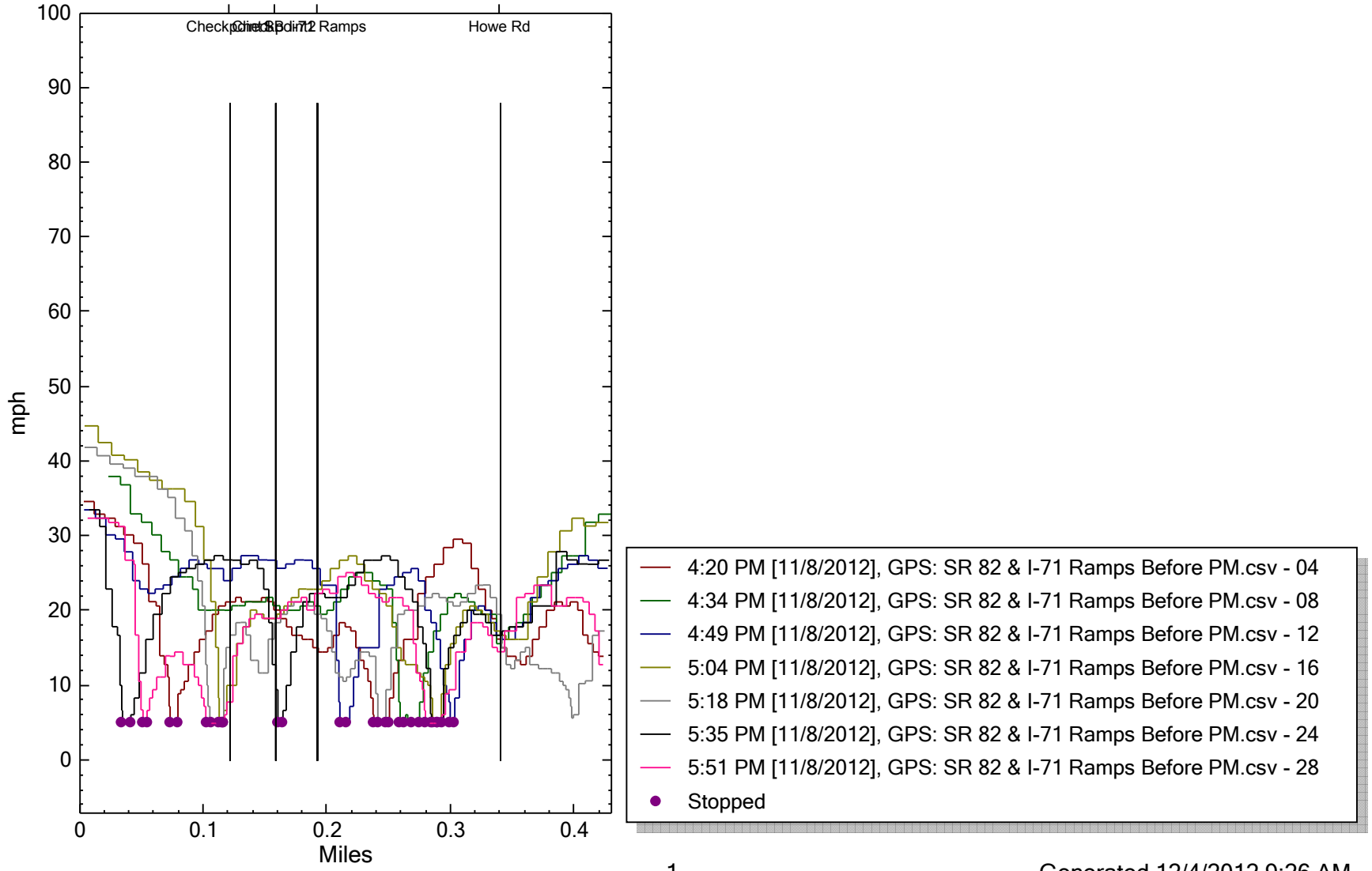
Total Delay by Run **Scenario:** PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	52.2	0	0	46.8	24	31.8	130.2	0
Checkpoint2	0	0	0	6	9	3	7.2	0
SB I-71 Ramps	7.8	0	0	0	2.4	73.8	0	0
Howe Rd	79.2	79.2	178.8	83.4	91.2	102	83.4	0
Total Delay	**139.2**	**79.2**	**178.8**	**136.2**	**126.6**	**210.6**	**220.8**	**0.0**

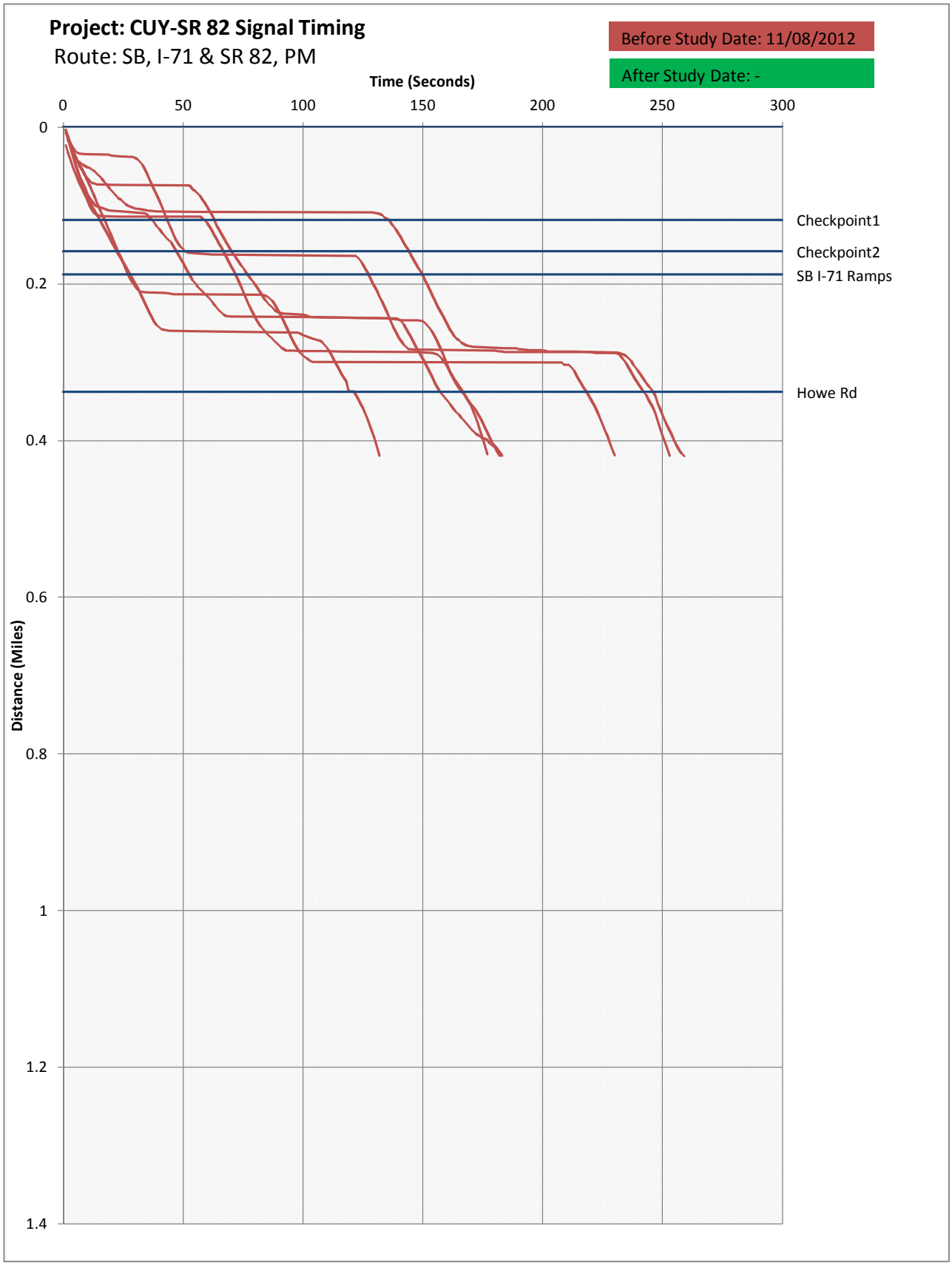
TEC Engineering, Inc.

Speed Profile - I-71 & SR 82 SB

SR 82 Travel Time Study



Generated 12/4/2012 9:26 AM


Project: CUY-SR 82 Signal Timing
Route: SB, I-71 & SR 82, PM
Before Study Date: 11/08/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Checkpoint1
Checkpoint2
SB I-71 Ramps
Howe Rd

Route: SR 82 EB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	5.6	0.0	39.0	0.0
2	158.4	Police Access	2.6	0.0	43.9	0.0
3	792	Mall Dr. (Target)	22.2	0.4	28.1	7.4
4	475.2	Ordner Dr	17.6	0.3	24.8	10.7
5	844.8	Placid Cove/West Mall	17.9	0.0	32.7	0.4
6	633.6	Falling Water Rd	11.9	0.0	36.7	0.0
7	633.6	Southpark Mall East	17.5	0.1	33.7	6.2
8	950.4	Howe Rd	32.9	0.4	22.9	13.4
9	844.8	SB I-71 Ramps	45.5	0.8	14.5	30.5
10	1214.4	NB I-71 Ramps	29.3	0.3	29.1	3.8
	6864	**feet**	**202.7**	**2.1**	**30.5**	**72.3**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	40	36	40	40	40	36	40	40
Police Access	60	45	45	45	30	45	45	36
Mall Dr. (Target)	36	36	33.33	39.13	31.03	13.85	16.98	18.37
Ordner Dr	14.59	38.57	36	45	22.5	7.94	17.42	16.36
Placid Cove/West Mall	34.29	36.92	35.56	38.4	30.97	25.26	32	28.24
Falling Water Rd	40	37.89	34.29	40	34.29	32.73	40	34.29
Southpark Mall East	40	36	37.89	40	36	32.73	7.35	40
Howe Rd	15.65	32.73	30.86	27.69	23.48	16.36	26.34	9.91
SB I-71 Ramps	9.6	13.52	10.43	15	9.9	9.32	24.62	24
NB I-71 Ramps	31.36	32.09	33.66	32.09	32.86	27.6	21.56	21.9
Average Speed	**32.1**	**34.5**	**33.7**	**36.2**	**29.1**	**24.7**	**27.1**	**26.9**

Route: SR 82 EB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	5.4	6	5.4	5.4	5.4	6	5.4	5.4
Police Access	1.8	2.4	2.4	2.4	3.6	2.4	2.4	3
Mall Dr. (Target)	15	15	16.2	13.8	17.4	39	31.8	29.4
Ordner Dr	22.2	8.4	9	7.2	14.4	40.8	18.6	19.8
Placid Cove/West Mall	16.8	15.6	16.2	15	18.6	22.8	18	20.4
Falling Water Rd	10.8	11.4	12.6	10.8	12.6	13.2	10.8	12.6
Southpark Mall East	10.8	12	11.4	10.8	12	13.2	58.8	10.8
Howe Rd	41.4	19.8	21	23.4	27.6	39.6	24.6	65.4
SB I-71 Ramps	60	42.6	55.2	38.4	58.2	61.8	23.4	24
NB I-71 Ramps	26.4	25.8	24.6	25.8	25.2	30	38.4	37.8
Total Travel Time	**210.6**	**159.0**	**174.0**	**153.0**	**195.0**	**268.8**	**232.2**	**228.6**

Route: SR 82 EB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	1	1	1
Ordner Dr	1	0	0	0	0	1	0	0
Placid Cove/West Mall	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	0	0	0	1	0
Howe Rd	1	0	0	0	0	1	0	1
SB I-71 Ramps	1	1	1	1	1	1	0	0
NB I-71 Ramps	0	0	0	0	0	0	1	1
Total Stops	**3.0**	**1.0**	**1.0**	**1.0**	**1.0**	**4.0**	**3.0**	**3.0**

Route: SR 82 EB

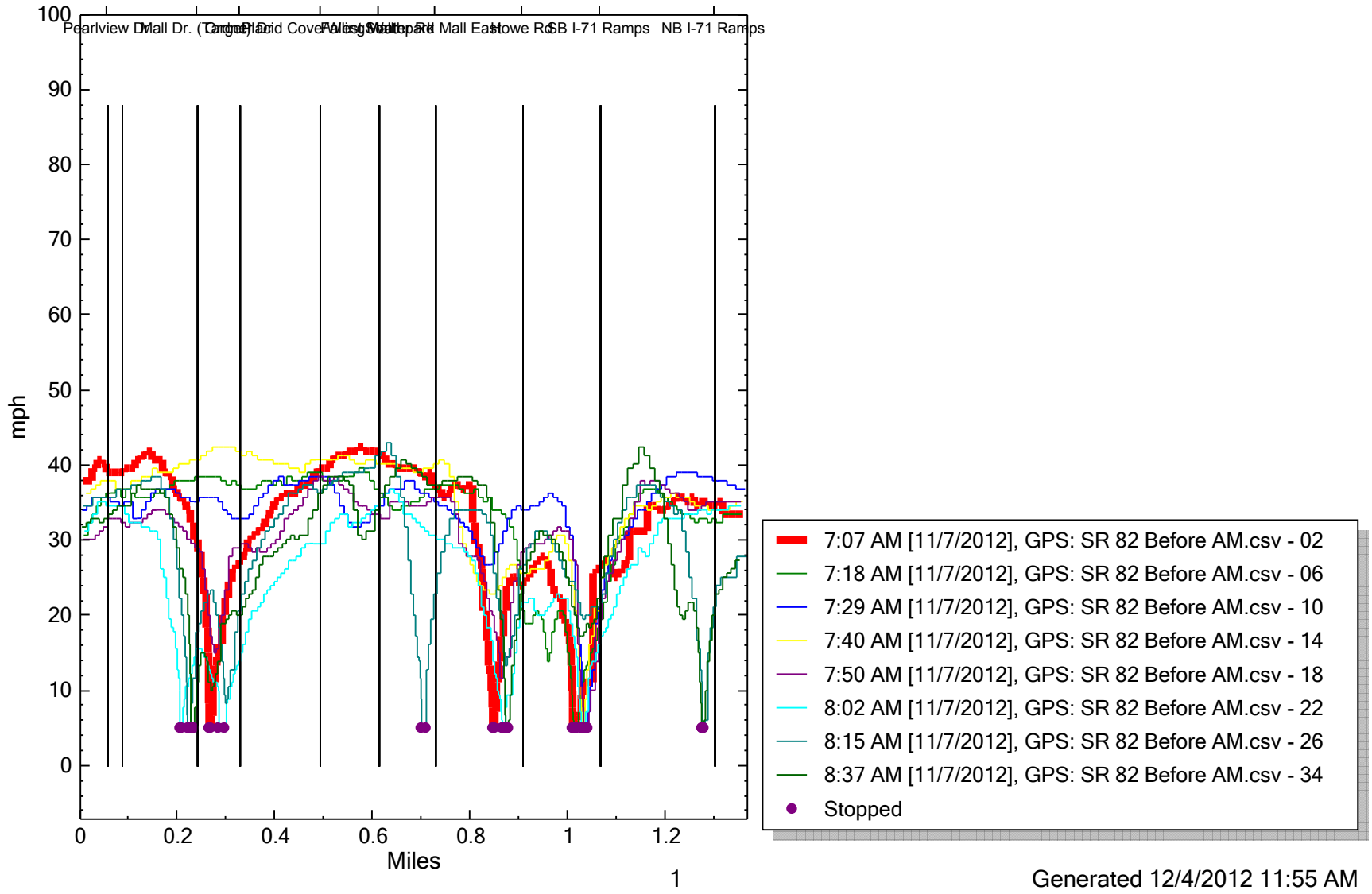
Total Delay by Run **Scenario:** AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	27.6	18	13.8
Ordner Dr	13.8	0	0	0	4.8	40.8	11.4	14.4
Placid Cove/West Mall	0	0	0	0	0	3	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	0	0	0	49.2	0
Howe Rd	21	0	0	0	7.2	24	4.8	49.8
SB I-71 Ramps	46.8	36	40.8	21	44.4	46.2	1.2	7.8
NB I-71 Ramps	0	0	0	0	0	3	13.8	13.8
Total Delay	**81.6**	**36.0**	**40.8**	**21.0**	**56.4**	**144.6**	**98.4**	**99.6**

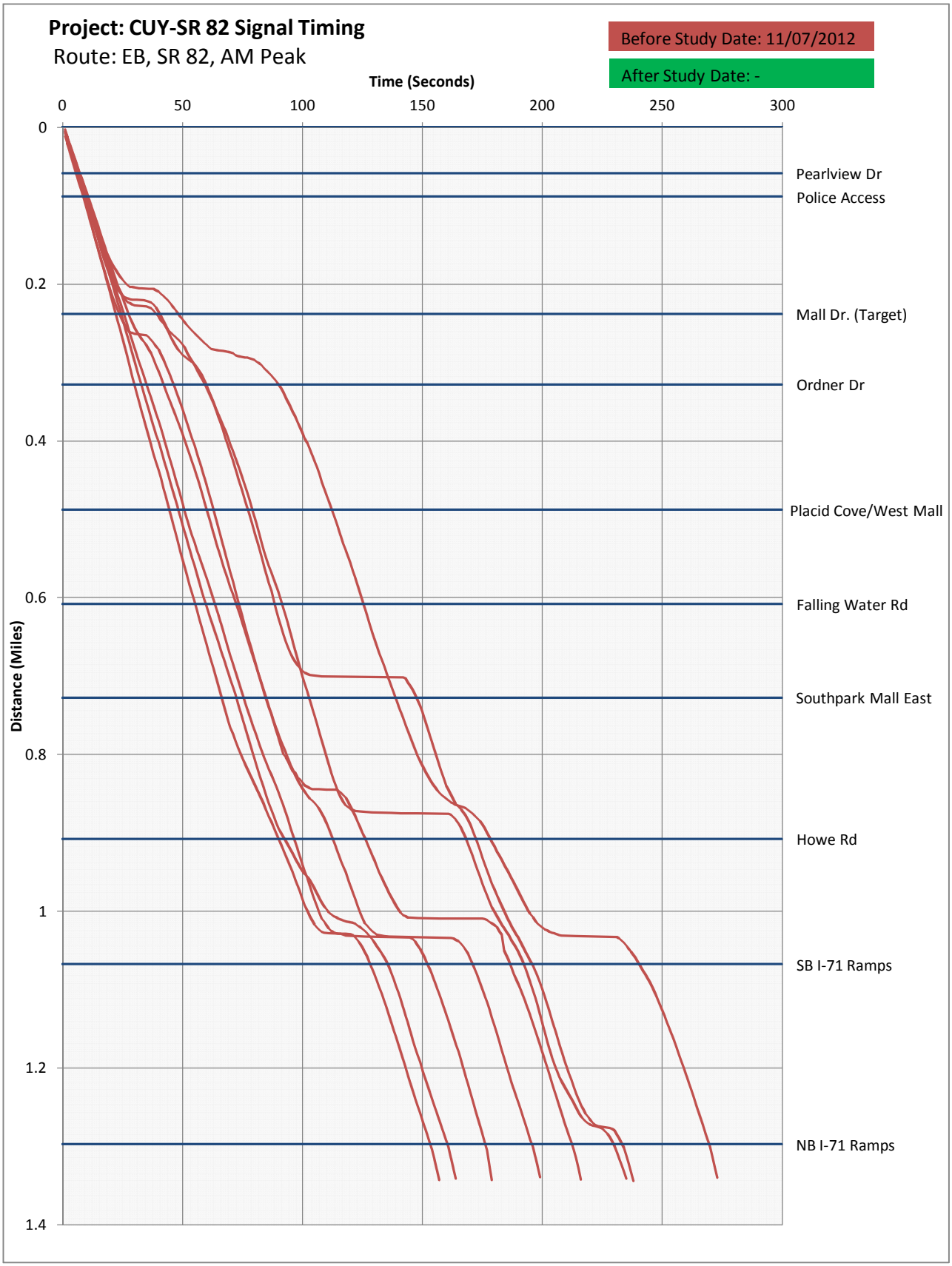
TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



Generated 12/4/2012 11:55 AM


Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, AM Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	6.1	0.0	31.5	0.8
2	1214.4	SB I-71 Ramps	25.4	0.0	33.3	1.5
3	844.8	Howe Rd	27.6	0.4	24.7	12.3
4	950.4	Southpark Mall East	33.6	0.4	23.0	13.0
5	633.6	Falling Water Rd	22.9	0.4	25.7	11.2
6	633.6	Placid Cove/West Mall	12.6	0.0	34.6	0.0
7	844.8	Ordner Dr	15.9	0.0	36.4	0.0
8	475.2	Mall Dr. (Target)	10.2	0.1	35.4	2.0
9	792	Police Access	16.4	0.0	33.2	0.5
10	158.4	Pearlview Dr	3.3	0.0	33.6	0.0
	6811.2	**feet**	**173.9**	**1.3**	**31.1**	**41.2**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	33.33	30	21.43	20	33.33	42.86	33.33	37.5
SB I-71 Ramps	35.38	34.5	33.66	23	33.66	32.86	36.32	37.3
Howe Rd	33.1	35.56	28.24	13.91	34.29	15.48	12	24.62
Southpark Mall East	27.69	12.13	13.67	26.34	30	11.37	32.73	30
Falling Water Rd	12.63	32.73	31.3	13.85	8	31.3	40	36
Placid Cove/West Mall	31.3	40	36	31.3	31.3	32.73	37.89	36
Ordner Dr	34.29	36.92	40	34.29	36.92	33.1	36.92	38.4
Mall Dr. (Target)	41.54	14.59	41.54	38.57	38.57	33.75	36	38.57
Police Access	26.47	32.14	37.5	34.62	36	32.14	31.03	36
Pearlview Dr	22.5	36	36	36	36	36	30	36
Average Speed	**29.8**	**30.5**	**31.9**	**27.2**	**31.8**	**30.2**	**32.6**	**35.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	5.4	6	8.4	9	5.4	4.2	5.4	4.8
SB I-71 Ramps	23.4	24	24.6	36	24.6	25.2	22.8	22.2
Howe Rd	17.4	16.2	20.4	41.4	16.8	37.2	48	23.4
Southpark Mall East	23.4	53.4	47.4	24.6	21.6	57	19.8	21.6
Falling Water Rd	34.2	13.2	13.8	31.2	54	13.8	10.8	12
Placid Cove/West Mall	13.8	10.8	12	13.8	13.8	13.2	11.4	12
Ordner Dr	16.8	15.6	14.4	16.8	15.6	17.4	15.6	15
Mall Dr. (Target)	7.8	22.2	7.8	8.4	8.4	9.6	9	8.4
Police Access	20.4	16.8	14.4	15.6	15	16.8	17.4	15
Pearlview Dr	4.8	3	3	3	3	3	3.6	3
Total Travel Time	**167.4**	**181.2**	**166.2**	**199.8**	**178.2**	**197.4**	**163.8**	**137.4**

Route: SR 82 WB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	0	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
Howe Rd	0	0	0	1	0	1	1	0
Southpark Mall East	0	1	1	0	0	1	0	0
Falling Water Rd	1	0	0	1	1	0	0	0
Placid Cove/West Mall	0	0	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	1	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**1.0**	**2.0**	**1.0**	**2.0**	**1.0**	**2.0**	**1.0**	**0.0**

Route: SR 82 WB

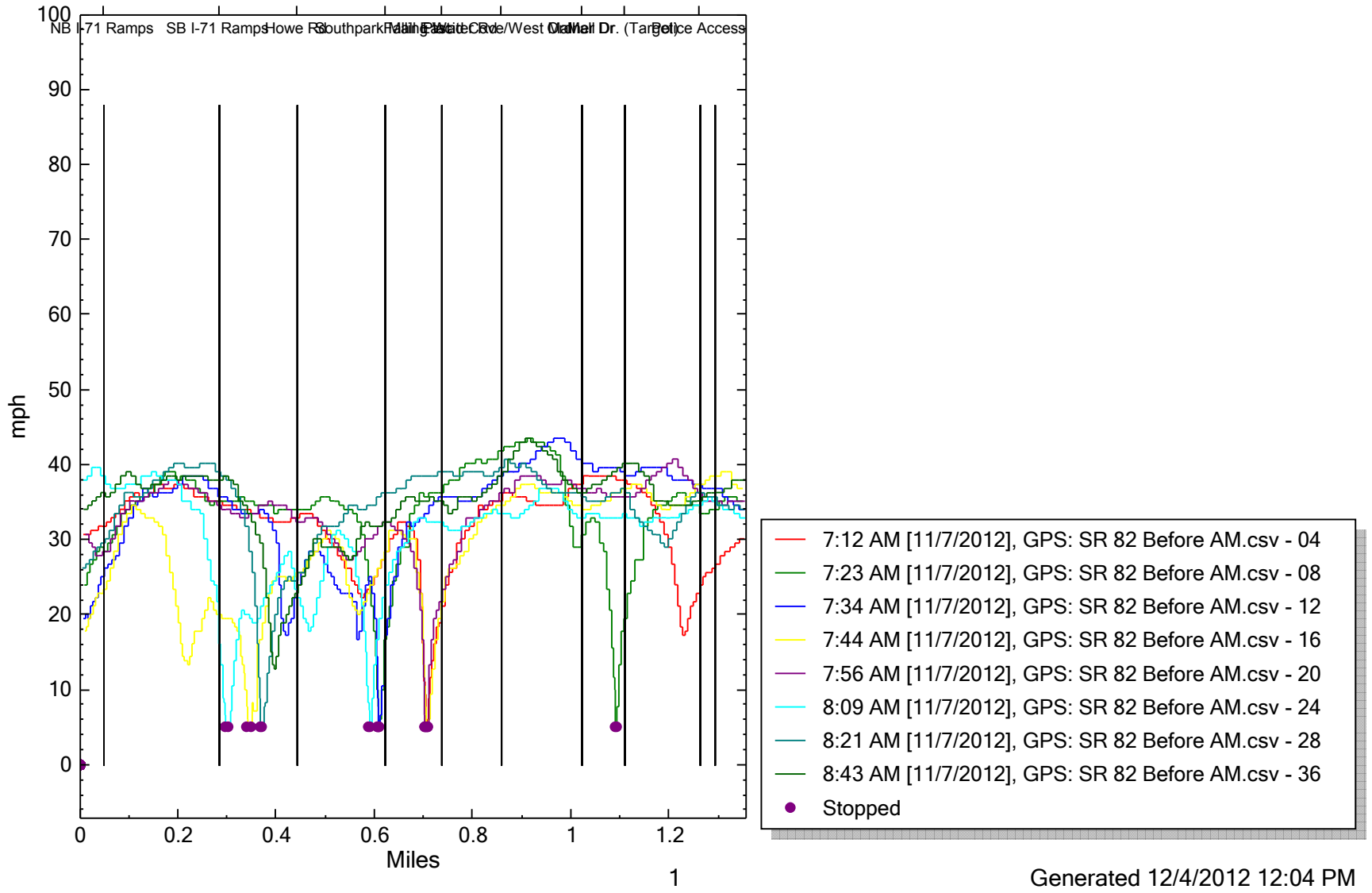
Total Delay by Run **Scenario:** AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	2.4	3.6	0	0	0	0
SB I-71 Ramps	0	0	0	12	0	0	0	0
Howe Rd	0	0	4.8	31.2	0	22.8	31.8	7.8
Southpark Mall East	0	36.6	27	0	0	40.2	0	0
Falling Water Rd	25.2	0.6	0.6	21	42	0	0	0
Placid Cove/West Mall	0	0	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	15.6	0	0	0	0	0	0
Police Access	4.2	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**29.4**	**52.8**	**34.8**	**67.8**	**42.0**	**63.0**	**31.8**	**7.8**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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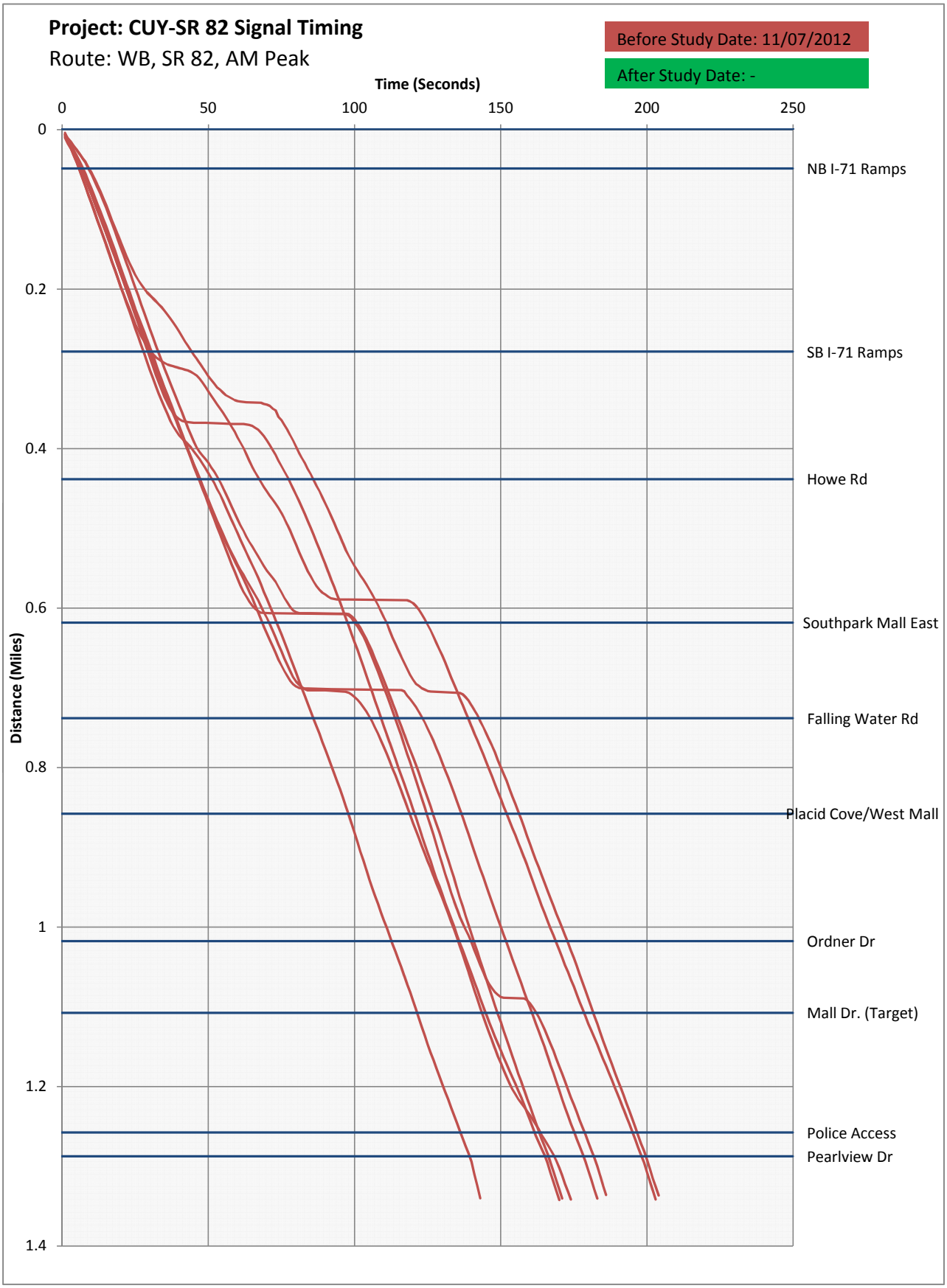

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, AM Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	9.6	0.14	22.63	4.2
2	158.4	Police Access	2.4	0	40.66	0
3	792	Mall Dr. (Target)	22.8	0.29	23.93	7.2
4	475.2	Ordner Dr	12.6	0.14	25.47	4.2
5	844.8	Placid Cove/West Mall	35.4	0.29	16.26	18.6
6	633.6	Falling Water Rd	15.6	0.14	27.39	3
7	633.6	Southpark Mall East	16.2	0.14	26.58	5.4
8	950.4	Howe Rd	73.2	0.86	8.87	55.2
9	844.8	SB I-71 Ramps	19.2	0	30.29	0
10	1214.4	NB I-71 Ramps	34.8	0.29	23.89	10.8
	6864	**feet**	**241.8**	**2.3**	**24.6**	**108.6**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	6.67	40	36	36	36	40	40	0
Police Access	25.71	45	45	36	45	45	45	0
Mall Dr. (Target)	33.33	12.16	15.25	36	33.33	34.62	37.5	0
Ordner Dr	36	33.75	31.76	38.57	38.57	41.54	9.15	0
Placid Cove/West Mall	40	23.41	29.09	7.44	35.56	7.38	33.1	0
Falling Water Rd	37.89	31.3	34.29	32.73	13.09	27.69	40	0
Southpark Mall East	40	34.29	37.89	37.89	10	36	36	0
Howe Rd	9.15	8.31	7.5	8.64	30	7.45	6.97	0
SB I-71 Ramps	30.97	30.97	28.24	34.29	34.29	28.24	27.43	0
NB I-71 Ramps	24.21	27.06	24.64	18.65	34.5	25.56	19.17	0
Average Speed	**28.4**	**28.6**	**29.0**	**28.6**	**31.0**	**29.3**	**29.4**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	32.4	5.4	6	6	6	5.4	5.4	0
Police Access	4.2	2.4	2.4	3	2.4	2.4	2.4	0
Mall Dr. (Target)	16.2	44.4	35.4	15	16.2	15.6	14.4	0
Ordner Dr	9	9.6	10.2	8.4	8.4	7.8	35.4	0
Placid Cove/West Mall	14.4	24.6	19.8	77.4	16.2	78	17.4	0
Falling Water Rd	11.4	13.8	12.6	13.2	33	15.6	10.8	0
Southpark Mall East	10.8	12.6	11.4	11.4	43.2	12	12	0
Howe Rd	70.8	78	86.4	75	21.6	87	93	0
SB I-71 Ramps	18.6	18.6	20.4	16.8	16.8	20.4	21	0
NB I-71 Ramps	34.2	30.6	33.6	44.4	24	32.4	43.2	0
Total Travel Time	**222.0**	**240.0**	**238.2**	**270.6**	**187.8**	**276.6**	**255.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	1	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	1	1	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	1	0
Placid Cove/West Mall	0	0	0	1	0	1	0	0
Falling Water Rd	0	0	0	0	1	0	0	0
Southpark Mall East	0	0	0	0	1	0	0	0
Howe Rd	1	1	1	1	0	1	1	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	1	0	0	1	0
Total Stops	**2.0**	**2.0**	**2.0**	**3.0**	**2.0**	**2.0**	**3.0**	**0.0**

Route: SR 82 EB

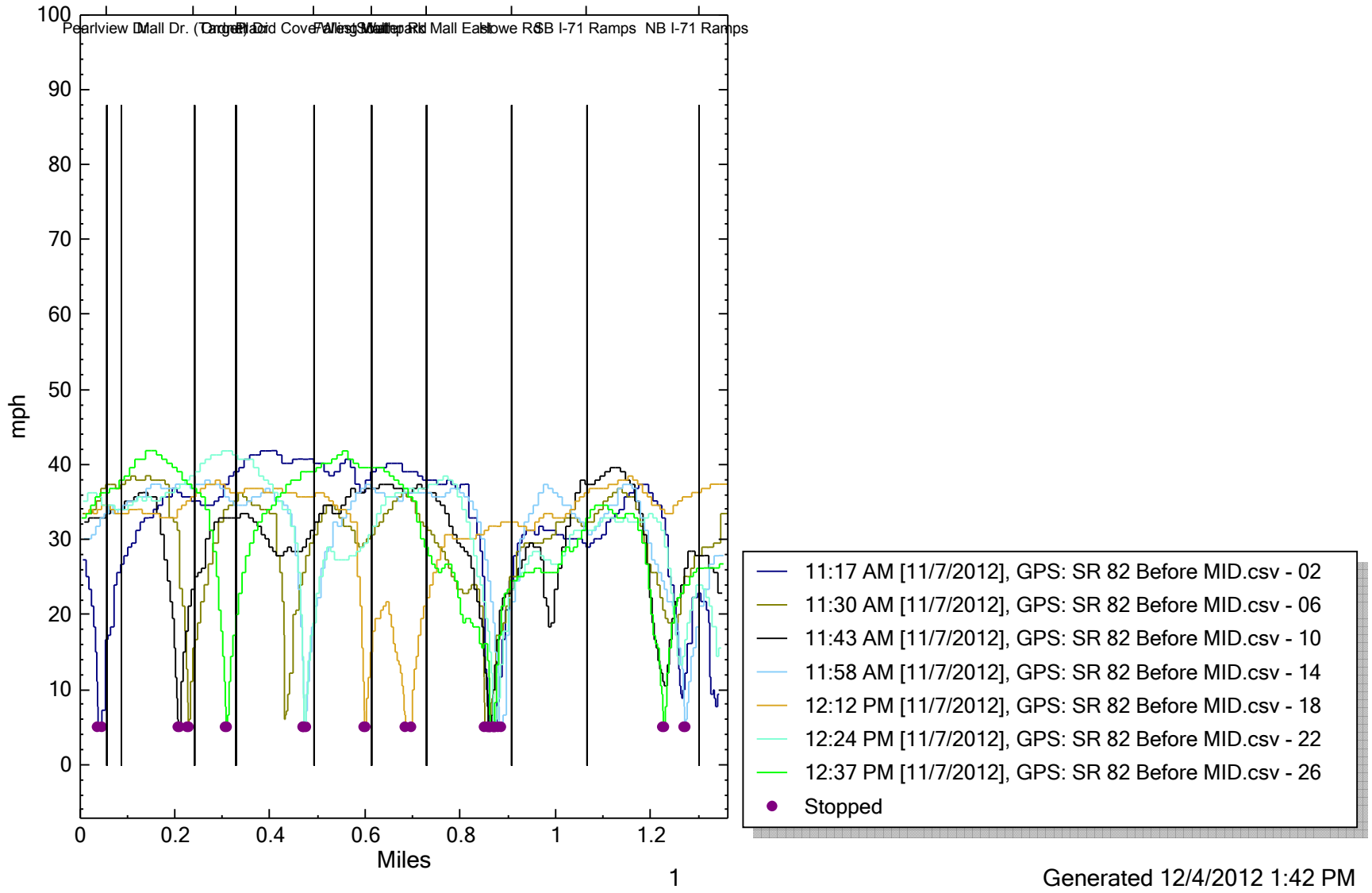
Total Delay by Run **Scenario:** Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	28.8	0	0	0	0	0	0	0
Police Access	1.2	0	0	0	0	0	0	0
Mall Dr. (Target)	0	30.6	21	0	0	0	0	0
Ordner Dr	0	1.2	0	0	0	0	29.4	0
Placid Cove/West Mall	0	6	0	63	0	63.6	0	0
Falling Water Rd	0	0	0	0	21.6	0	0	0
Southpark Mall East	0	0	0	0	37.2	0	0	0
Howe Rd	54	58.2	67.8	58.2	0	70.8	78	0
SB I-71 Ramps	0	0	1.8	0	0	0	0	0
NB I-71 Ramps	10.2	4.8	12	22.2	0	7.2	19.2	0
Total Delay	**94.2**	**100.8**	**102.6**	**143.4**	**58.8**	**141.6**	**126.6**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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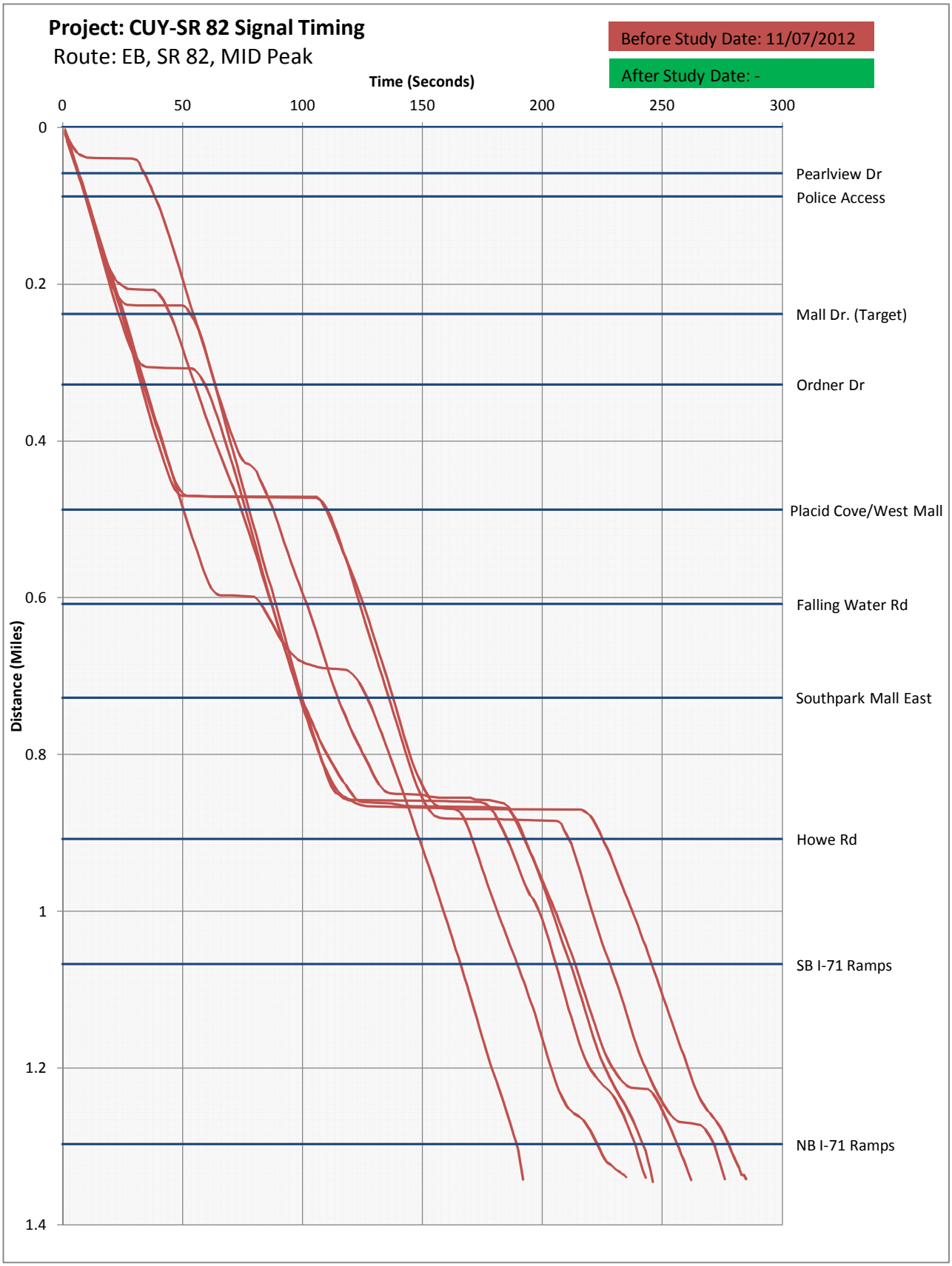

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, MID Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	18	0.57	9.96	13.2
2	1214.4	SB I-71 Ramps	36	0.29	22.91	10.2
3	844.8	Howe Rd	47.4	1	12.2	32.4
4	950.4	Southpark Mall East	23.4	0	27.89	1.8
5	633.6	Falling Water Rd	18	0.14	24.22	4.8
6	633.6	Placid Cove/West Mall	18.6	0.14	22.97	6.6
7	844.8	Ordner Dr	20.4	0.14	28.26	3.6
8	475.2	Mall Dr. (Target)	13.8	0.14	23.81	4.8
9	792	Police Access	24.6	0.43	21.71	9.6
10	158.4	Pearlview Dr	3.6	0	29.88	0
	6811.2	**feet**	**223.8**	**2.9**	**22.4**	**87.0**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	16.67	5.66	37.5	5	27.27	5.66	37.5	0
SB I-71 Ramps	18.4	30	11.9	30.67	30.67	30	28.16	0
Howe Rd	12.15	9.7	26.67	9.9	17.45	10.32	10.32	0
Southpark Mall East	31.76	21.18	27.69	31.76	30.86	27	27.69	0
Falling Water Rd	32.73	22.5	11.61	36	28.8	28.8	32.73	0
Placid Cove/West Mall	34.29	34.29	8	36	31.3	34.29	32.73	0
Ordner Dr	36.92	13.71	28.24	35.56	32	36.92	38.4	0
Mall Dr. (Target)	41.54	7.61	33.75	38.57	36	41.54	33.75	0
Police Access	34.62	33.33	34.62	36	14.75	13.24	15.25	0
Pearlview Dr	36	36	30	36	30	25.71	25.71	0
Average Speed	**29.5**	**21.4**	**25.0**	**29.5**	**27.9**	**25.3**	**28.2**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	10.8	31.8	4.8	36	6.6	31.8	4.8	0
SB I-71 Ramps	45	27.6	69.6	27	27	27.6	29.4	0
Howe Rd	47.4	59.4	21.6	58.2	33	55.8	55.8	0
Southpark Mall East	20.4	30.6	23.4	20.4	21	24	23.4	0
Falling Water Rd	13.2	19.2	37.2	12	15	15	13.2	0
Placid Cove/West Mall	12.6	12.6	54	12	13.8	12.6	13.2	0
Ordner Dr	15.6	42	20.4	16.2	18	15.6	15	0
Mall Dr. (Target)	7.8	42.6	9.6	8.4	9	7.8	9.6	0
Police Access	15.6	16.2	15.6	15	36.6	40.8	35.4	0
Pearlview Dr	3	3	3.6	3	3.6	4.2	4.2	0
Total Travel Time	**191.4**	**285.0**	**259.8**	**208.2**	**183.6**	**235.2**	**204.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	1	0	1	0	1	0	0
SB I-71 Ramps	1	0	1	0	0	0	0	0
Howe Rd	1	1	0	1	1	2	1	0
Southpark Mall East	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	1	0	0	0	0	0
Placid Cove/West Mall	0	0	1	0	0	0	0	0
Ordner Dr	0	1	0	0	0	0	0	0
Mall Dr. (Target)	0	1	0	0	0	0	0	0
Police Access	0	0	0	0	1	1	1	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**3.0**	**4.0**	**3.0**	**2.0**	**2.0**	**4.0**	**2.0**	**0.0**

Route: SR 82 WB

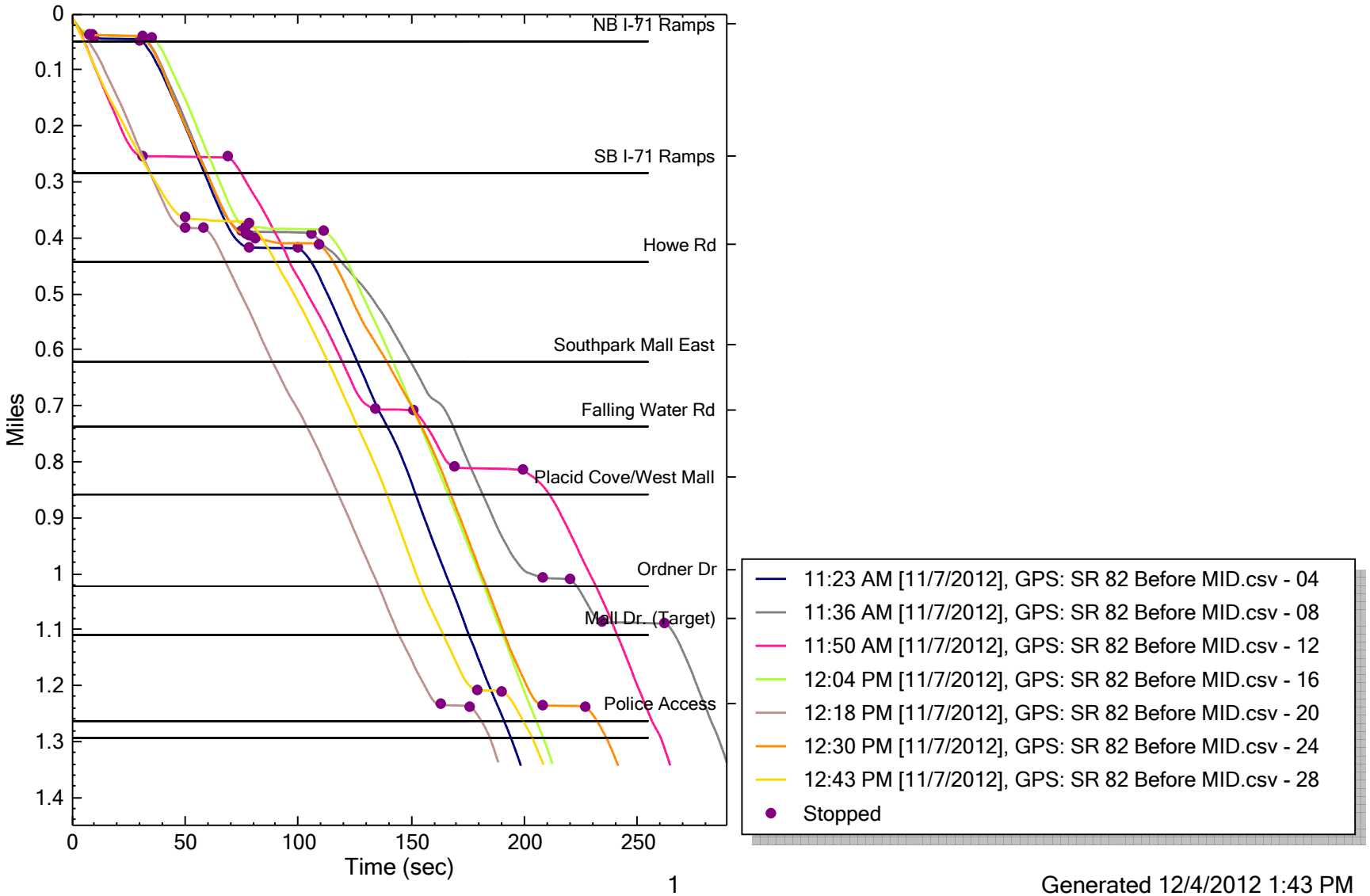
Total Delay by Run **Scenario:** Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	6	28.2	0	31.8	0	28.2	0	0
SB I-71 Ramps	19.8	1.8	46.2	1.8	0	1.8	0	0
Howe Rd	33.6	51	0	43.2	16.8	43.2	37.8	0
Southpark Mall East	0	12	0	0	0	0	0	0
Falling Water Rd	0	7.2	25.8	0	0	0	0	0
Placid Cove/West Mall	0	0	45.6	0	0	0	0	0
Ordner Dr	0	26.4	0	0	0	0	0	0
Mall Dr. (Target)	0	32.4	0	0	0	0	0	0
Police Access	0	0	0	0	21.6	25.8	21	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**59.4**	**159.0**	**117.6**	**76.8**	**38.4**	**99.0**	**58.8**	**0.0**

TEC Engineering, Inc.

Space/Time Trajectories - SR 82 WB

SR 82 Travel Time Study



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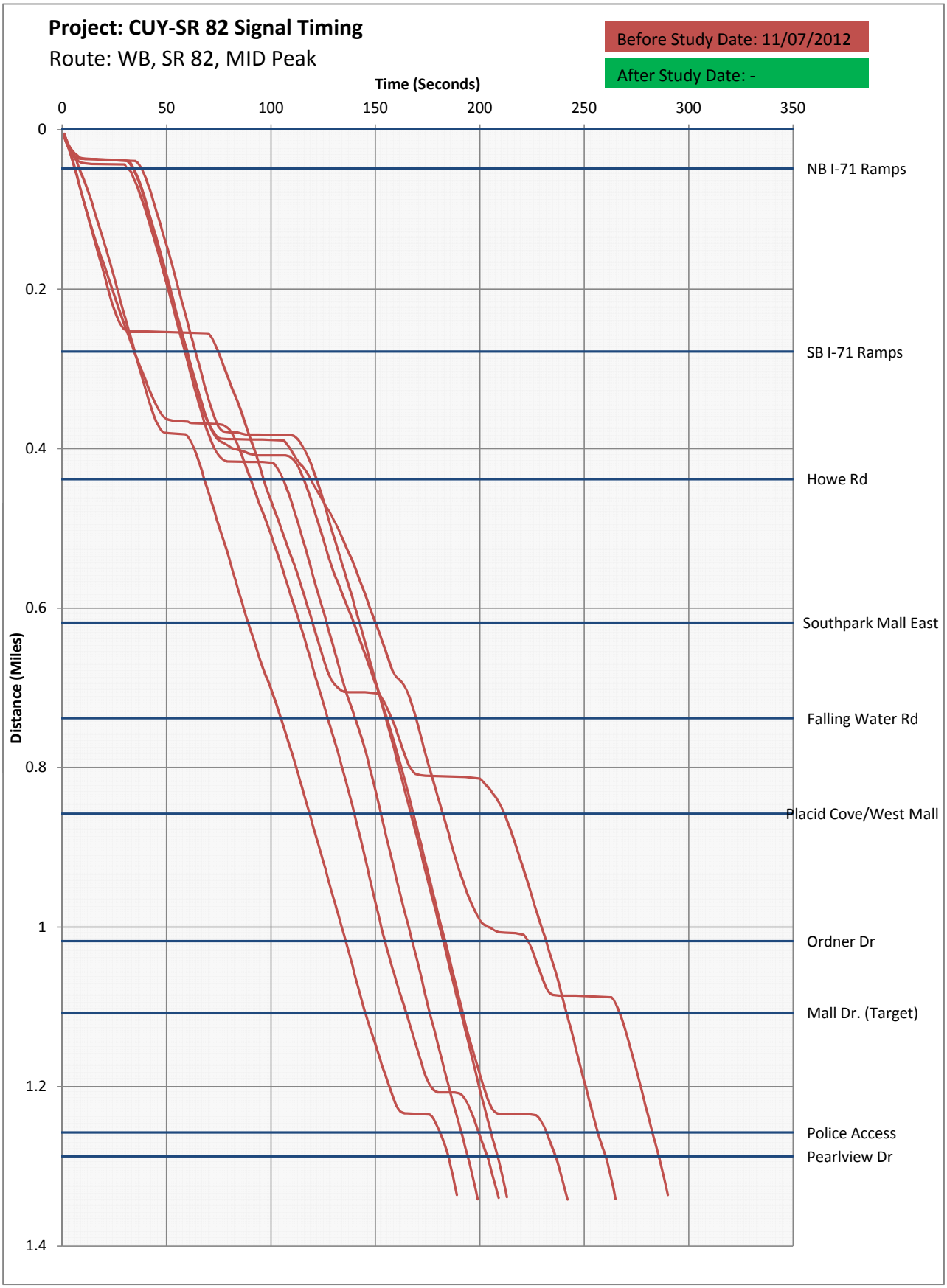

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, MID Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** Off Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	16.8	0.75	12.76	12.6
2	158.4	Police Access	3.6	0	28.62	0
3	792	Mall Dr. (Target)	20.4	0	26.84	4.8
4	475.2	Ordner Dr	18	0.25	18.14	9.6
5	844.8	Placid Cove/West Mall	33.6	0.25	17.27	16.8
6	633.6	Falling Water Rd	13.8	0	31.55	0
7	633.6	Southpark Mall East	54.6	0.75	7.92	44.4
8	950.4	Howe Rd	46.8	0.75	13.92	29.4
9	844.8	SB I-71 Ramps	56.4	1	10.26	41.4
10	1214.4	NB I-71 Ramps	33.6	0.5	24.6	8.4
	6864	**feet**	**297.6**	**4.3**	**19.2**	**167.4**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** Off Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Falling Water Rd	36	30	10.91	36	0	0	0	0
Falling Water Rd	32.73	32.14	32.73	22.5	0	0	0	0
Falling Water Rd	24.83	32.86	40	41.74	0	0	0	0
Falling Water Rd	36	23.39	6.1	30	0	0	0	0
Howe Rd	34.84	31.36	38.4	12.31	0	0	0	0
Howe Rd	7.4	17.47	22.33	3.98	0	0	0	0
Howe Rd	22.5	38.57	7.5	5.5	0	0	0	0
Howe Rd	12.71	7.4	36.92	36	0	0	0	0
Mall Dr. (Target)	18	30	25.71	6.26	0	0	0	0
Mall Dr. (Target)	33.33	38.57	36	7.35	0	0	0	0
Average Speed	**25.8**	**28.2**	**25.7**	**20.2**	**0.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** Off Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Falling Water Rd	12	18	19.8	3	0	0	0	0
Falling Water Rd	13.2	16.8	6.6	4.8	0	0	0	0
Falling Water Rd	17.4	25.2	5.4	13.8	0	0	0	0
Falling Water Rd	12	35.4	35.4	19.2	0	0	0	0
Howe Rd	18.6	26.4	15	46.8	0	0	0	0
Howe Rd	87.6	47.4	25.8	144.6	0	0	0	0
Howe Rd	28.8	8.4	76.8	78.6	0	0	0	0
Howe Rd	51	43.8	15.6	12	0	0	0	0
Mall Dr. (Target)	30	10.8	4.2	69	0	0	0	0
Mall Dr. (Target)	16.2	8.4	3	58.8	0	0	0	0
Total Travel Time	**286.8**	**240.6**	**207.6**	**450.6**	**0.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** Off Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Falling Water Rd	0	0	1	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Falling Water Rd	0	1	2	0	0	0	0	0
Howe Rd	0	0	0	1	0	0	0	0
Howe Rd	1	1	0	3	0	0	0	0
Howe Rd	0	0	1	1	0	0	0	0
Howe Rd	2	1	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	1	0	0	0	0
Mall Dr. (Target)	0	0	0	1	0	0	0	0
Total Stops	**3.0**	**3.0**	**4.0**	**7.0**	**0.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

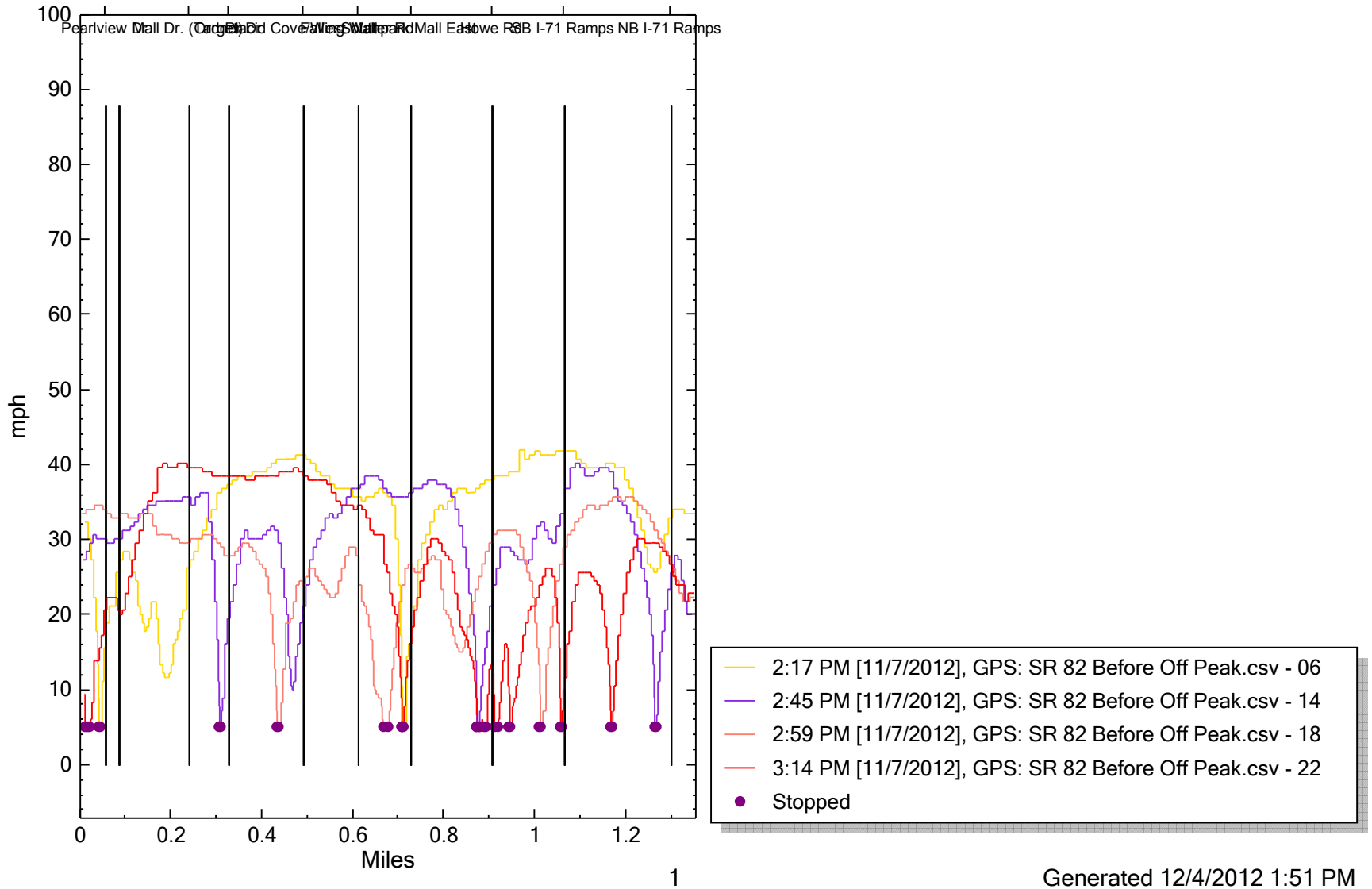
Total Delay by Run **Scenario:** Off Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Falling Water Rd	0	0	16.2	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Falling Water Rd	0	12	34.2	0	0	0	0	0
Howe Rd	0	0	0	31.2	0	0	0	0
Howe Rd	70.8	21	7.8	135	0	0	0	0
Howe Rd	10.2	0	60	69	0	0	0	0
Howe Rd	37.2	37.8	0	0	0	0	0	0
Mall Dr. (Target)	18	0	0	61.2	0	0	0	0
Mall Dr. (Target)	0	0	0	48	0	0	0	0
Total Delay	**136.2**	**70.8**	**118.2**	**344.4**	**0.0**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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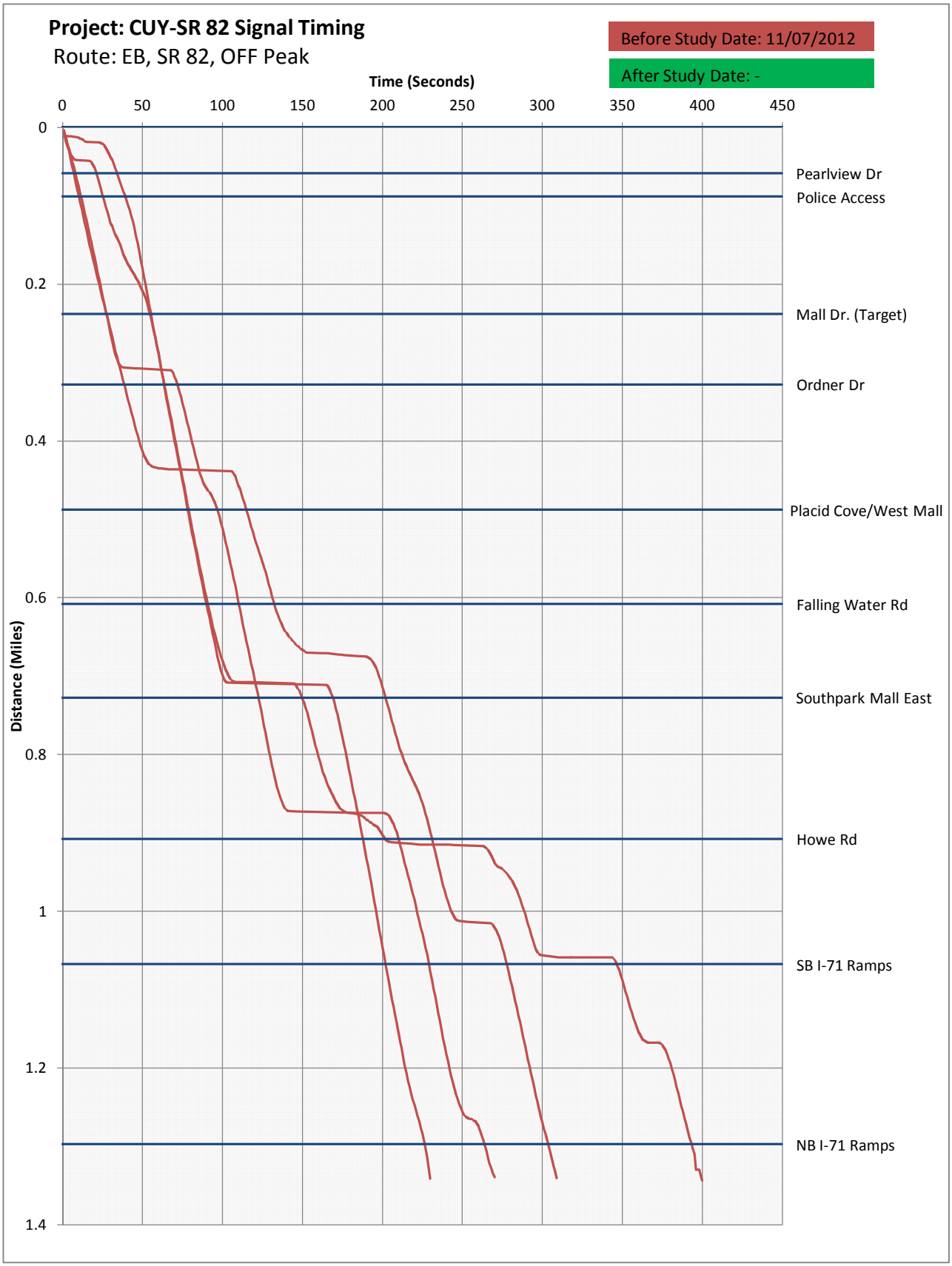

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, OFF Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
400
450
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** Off Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	6.8	0.2	30.0	2.2
2	1214.4	SB I-71 Ramps	30.6	0.3	28.1	5.3
3	844.8	Howe Rd	64.0	1.5	9.6	48.2
4	950.4	Southpark Mall East	21.1	0.0	31.0	0.0
5	633.6	Falling Water Rd	13.0	0.0	33.8	0.0
6	633.6	Placid Cove/West Mall	27.7	0.3	25.4	15.5
7	844.8	Ordner Dr	20.7	0.2	31.2	3.8
8	475.2	Mall Dr. (Target)	9.3	0.0	35.0	0.1
9	792	Police Access	23.0	0.3	27.8	7.4
10	158.4	Pearlview Dr	7.6	0.2	27.2	4.5
	6811.2	**feet**	**223.8**	**3.0**	**27.9**	**87.0**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** Off Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	30	14.29	23.08	37.5	37.5	37.5	0	0
SB I-71 Ramps	32.86	22.26	30.67	20	32.09	30.67	0	0
Howe Rd	10.91	9.6	8.81	5.65	12.15	10.21	0	0
Southpark Mall East	29.19	27	36	30.86	30	32.73	0	0
Falling Water Rd	31.3	32.73	40	26.67	36	36	0	0
Placid Cove/West Mall	34.29	32.73	36	34.29	6.37	9	0	0
Ordner Dr	15.24	35.56	41.74	36.92	24.62	33.1	0	0
Mall Dr. (Target)	31.76	33.75	38.57	38.57	33.75	33.75	0	0
Police Access	34.62	12.86	37.5	33.33	32.14	16.36	0	0
Pearlview Dr	36	25.71	36	3.83	36	25.71	0	0
Average Speed	**28.6**	**24.6**	**32.8**	**26.8**	**28.1**	**26.5**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** Off Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	6	12.6	7.8	4.8	4.8	4.8	0	0
SB I-71 Ramps	25.2	37.2	27	41.4	25.8	27	0	0
Howe Rd	52.8	60	65.4	102	47.4	56.4	0	0
Southpark Mall East	22.2	24	18	21	21.6	19.8	0	0
Falling Water Rd	13.8	13.2	10.8	16.2	12	12	0	0
Placid Cove/West Mall	12.6	13.2	12	12.6	67.8	48	0	0
Ordner Dr	37.8	16.2	13.8	15.6	23.4	17.4	0	0
Mall Dr. (Target)	10.2	9.6	8.4	8.4	9.6	9.6	0	0
Police Access	15.6	42	14.4	16.2	16.8	33	0	0
Pearlview Dr	3	4.2	3	28.2	3	4.2	0	0
Total Travel Time	**199.2**	**232.2**	**180.6**	**266.4**	**232.2**	**232.2**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** Off Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	1	0	0	0	0	0	0
SB I-71 Ramps	0	1	0	1	0	0	0	0
Howe Rd	1	1	2	1	1	3	0	0
Southpark Mall East	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	0	0	0	1	1	0	0
Ordner Dr	1	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Police Access	0	1	0	0	0	1	0	0
Pearlview Dr	0	0	0	1	0	0	0	0
Total Stops	**2.0**	**4.0**	**2.0**	**3.0**	**2.0**	**5.0**	**0.0**	**0.0**

Route: SR 82 WB

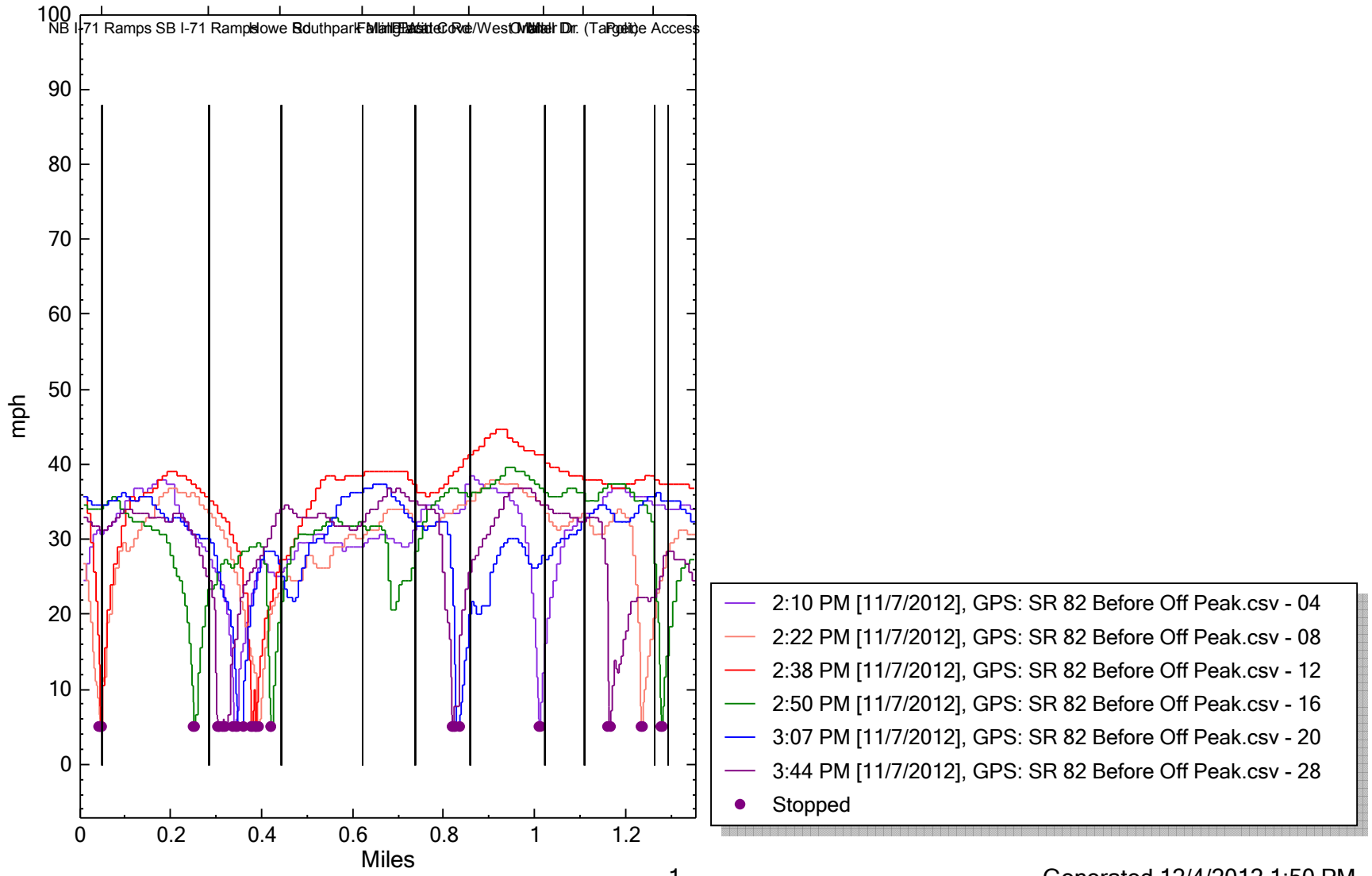
Total Delay by Run **Scenario:** Off Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	10.2	3	0	0	0	0	0
SB I-71 Ramps	0	12	3	16.8	0	0	0	0
Howe Rd	36	45	51	85.2	31.2	40.8	0	0
Southpark Mall East	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	0	0	0	55.8	37.2	0	0
Ordner Dr	22.8	0	0	0	0	0	0	0
Mall Dr. (Target)	0.6	0	0	0	0	0	0	0
Police Access	0	28.2	0	0	0	16.2	0	0
Pearlview Dr	0	0	0	27	0	0	0	0
Total Delay	**59.4**	**95.4**	**57.0**	**129.0**	**87.0**	**94.2**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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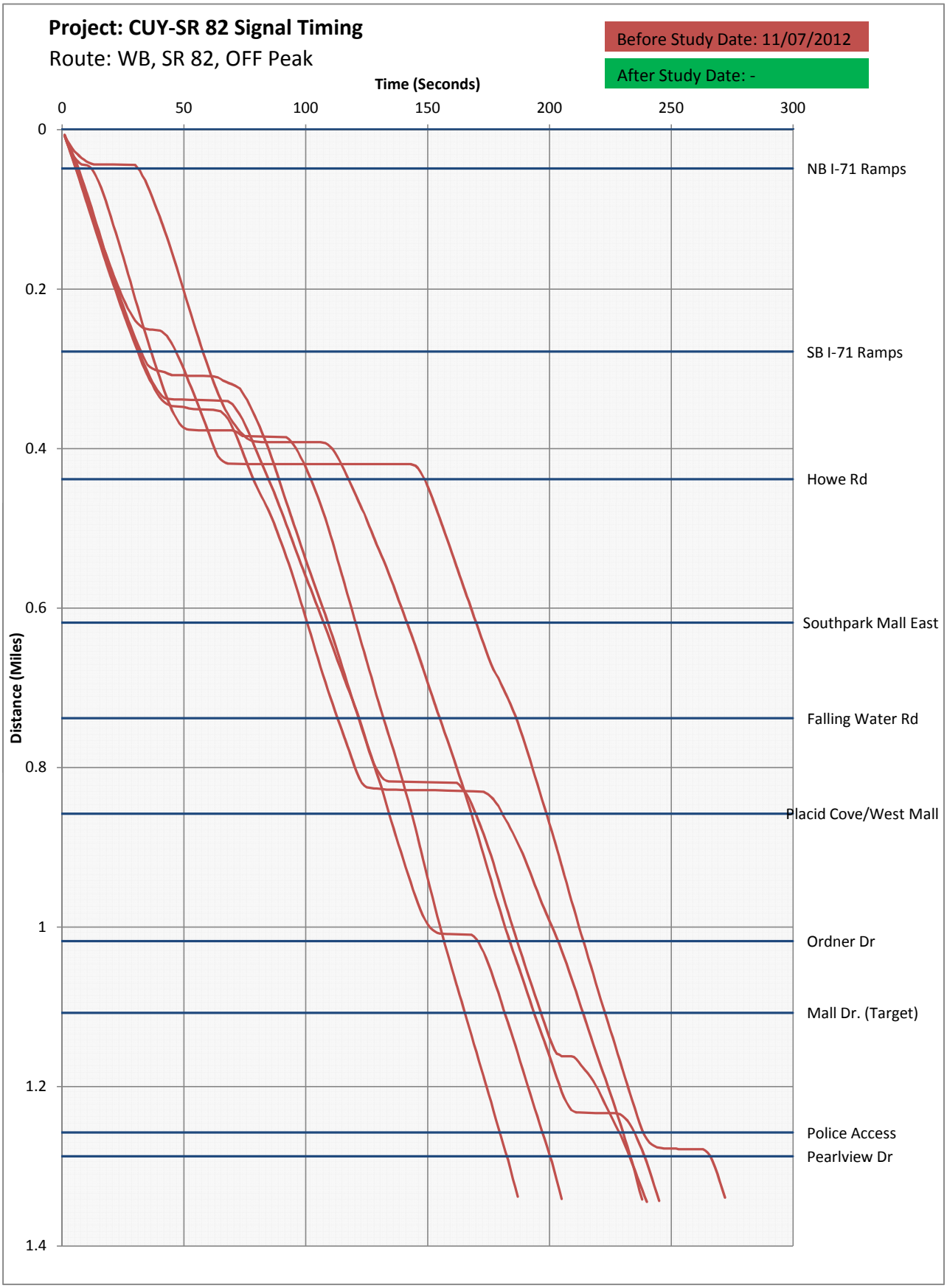

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, OFF Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	6	0	36.62	0
2	158.4	Police Access	3	0	34.73	0
3	792	Mall Dr. (Target)	30	0.4	18.09	16.2
4	475.2	Ordner Dr	10.2	0	31.44	0.6
5	844.8	Placid Cove/West Mall	43.2	0.4	13.36	27
6	633.6	Falling Water Rd	13.8	0	31.7	0
7	633.6	Southpark Mall East	36.6	0.4	11.79	24
8	950.4	Howe Rd	70.2	1	9.22	51.6
9	844.8	SB I-71 Ramps	23.4	0.4	24.6	6
10	1214.4	NB I-71 Ramps	26.4	0	31.2	0
	6864	**feet**	**262.8**	**2.6**	**24.3**	**125.4**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	40	45	40	32.73	30	0	0	0
Police Access	45	36	45	30	30	0	0	0
Mall Dr. (Target)	36	11.69	37.5	9.68	31.03	0	0	0
Ordner Dr	36	30	41.54	22.5	33.75	0	0	0
Placid Cove/West Mall	6.81	36.92	38.4	30	7.16	0	0	0
Falling Water Rd	28.8	36	36	36	25.71	0	0	0
Southpark Mall East	36	30	6.32	5.9	28.8	0	0	0
Howe Rd	33.75	5.84	18.62	12.86	4.76	0	0	0
SB I-71 Ramps	33.1	19.59	26.67	22.86	24.62	0	0	0
NB I-71 Ramps	34.5	28.75	36.32	33.66	25.56	0	0	0
Average Speed	**33.0**	**28.0**	**32.6**	**23.6**	**24.1**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	5.4	4.8	5.4	6.6	7.2	0	0	0
Police Access	2.4	3	2.4	3.6	3.6	0	0	0
Mall Dr. (Target)	15	46.2	14.4	55.8	17.4	0	0	0
Ordner Dr	9	10.8	7.8	14.4	9.6	0	0	0
Placid Cove/West Mall	84.6	15.6	15	19.2	80.4	0	0	0
Falling Water Rd	15	12	12	12	16.8	0	0	0
Southpark Mall East	12	14.4	68.4	73.2	15	0	0	0
Howe Rd	19.2	111	34.8	50.4	136.2	0	0	0
SB I-71 Ramps	17.4	29.4	21.6	25.2	23.4	0	0	0
NB I-71 Ramps	24	28.8	22.8	24.6	32.4	0	0	0
Total Travel Time	**204.0**	**276.0**	**204.6**	**285.0**	**342.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	1	0	1	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Placid Cove/West Mall	1	0	0	0	1	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	1	1	0	0	0	0
Howe Rd	0	1	1	1	2	0	0	0
SB I-71 Ramps	0	1	0	0	1	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Stops	**1.0**	**3.0**	**2.0**	**3.0**	**4.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

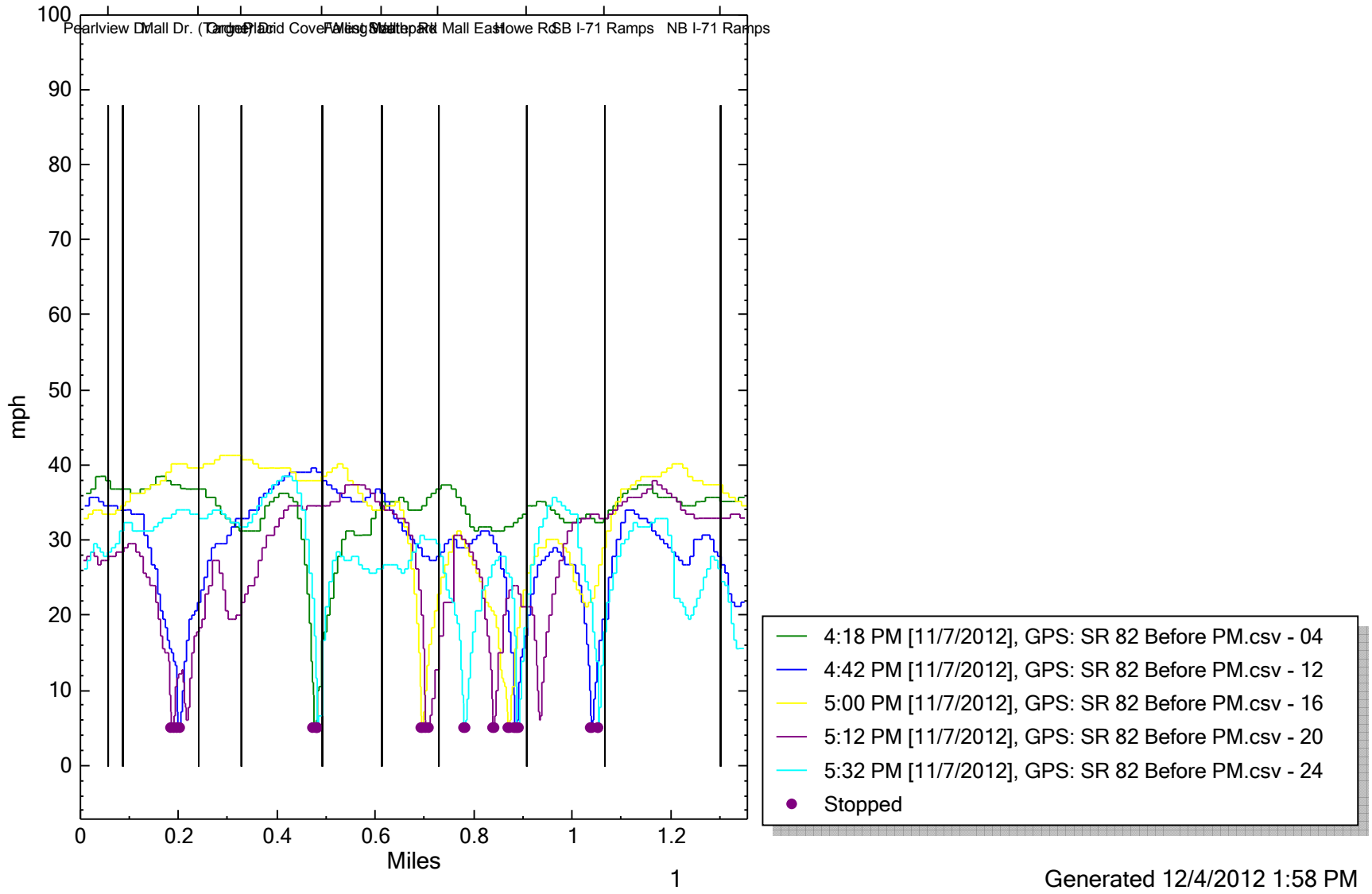
Total Delay by Run **Scenario:** PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	33	0	46.8	0	0	0	0
Ordner Dr	0	0	0	4.2	0	0	0	0
Placid Cove/West Mall	69.6	0	0	0	64.8	0	0	0
Falling Water Rd	0.6	0	0	0	0	0	0	0
Southpark Mall East	0	0	58.2	63	0	0	0	0
Howe Rd	0	93.6	16.2	30	118.8	0	0	0
SB I-71 Ramps	0	13.8	0	9	7.8	0	0	0
NB I-71 Ramps	0	0	0	0	1.2	0	0	0
Total Delay	**70.2**	**140.4**	**74.4**	**153.0**	**192.6**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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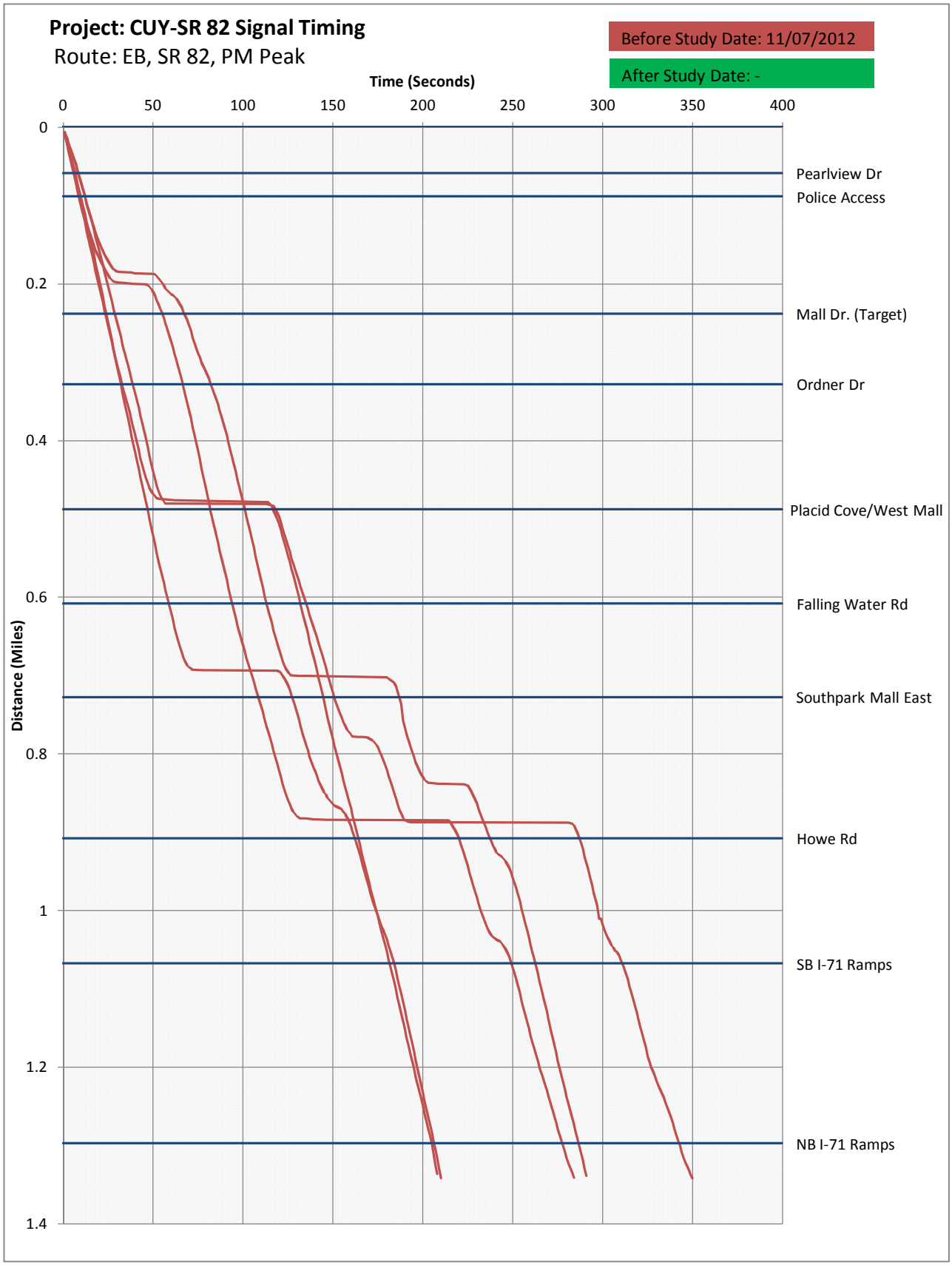

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, PM Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
400
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	6.6	0.14	27.42	2.4
2	1214.4	SB I-71 Ramps	115.8	1.43	7.13	95.4
3	844.8	Howe Rd	74.4	1.57	7.72	64.8
4	950.4	Southpark Mall East	31.2	0.14	20.76	10.2
5	633.6	Falling Water Rd	14.4	0	30.35	1.2
6	633.6	Placid Cove/West Mall	50.4	0.71	8.56	38.4
7	844.8	Ordner Dr	18	0	32.06	0
8	475.2	Mall Dr. (Target)	10.2	0.14	31.14	2.4
9	792	Police Access	16.8	0	32.52	0
10	158.4	Pearlview Dr	3.6	0	30.7	0
	6811.2	**feet**	**341.4**	**4.1**	**22.8**	**214.8**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	9.09	33.33	37.5	50	42.86	50	42.86	0
SB I-71 Ramps	12.21	22.26	35.38	3.56	9.14	3.29	7.58	0
Howe Rd	12.8	7.01	11.16	40	6.67	8.5	3.3	0
Southpark Mall East	29.19	34.84	27	7.3	29.19	29.19	31.76	0
Falling Water Rd	31.3	36	31.3	34.29	23.23	26.67	32.73	0
Placid Cove/West Mall	6.61	6.79	6.73	36	5.45	7.66	34.29	0
Ordner Dr	32	34.29	30	36.92	32	28.24	33.1	0
Mall Dr. (Target)	41.54	41.54	36	41.54	36	13.85	36	0
Police Access	33.33	34.62	39.13	31.03	30	26.47	36	0
Pearlview Dr	30	36	36	30	30	25.71	36	0
Average Speed	**23.8**	**28.7**	**29.0**	**31.1**	**24.5**	**22.0**	**29.4**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	19.8	5.4	4.8	3.6	4.2	3.6	4.2	0
SB I-71 Ramps	67.8	37.2	23.4	232.8	90.6	252	109.2	0
Howe Rd	45	82.2	51.6	14.4	86.4	67.8	174.6	0
Southpark Mall East	22.2	18.6	24	88.8	22.2	22.2	20.4	0
Falling Water Rd	13.8	12	13.8	12.6	18.6	16.2	13.2	0
Placid Cove/West Mall	65.4	63.6	64.2	12	79.2	56.4	12.6	0
Ordner Dr	18	16.8	19.2	15.6	18	20.4	17.4	0
Mall Dr. (Target)	7.8	7.8	9	7.8	9	23.4	9	0
Police Access	16.2	15.6	13.8	17.4	18	20.4	15	0
Pearlview Dr	3.6	3	3	3.6	3.6	4.2	3	0
Total Travel Time	**279.6**	**262.2**	**226.8**	**408.6**	**349.8**	**486.6**	**378.6**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	0	0	0	0	0	0	0
SB I-71 Ramps	1	1	0	4	1	2	1	0
Howe Rd	1	1	1	1	1	1	5	0
Southpark Mall East	0	0	0	1	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	1	1	1	0	1	1	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	1	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**4.0**	**3.0**	**2.0**	**6.0**	**3.0**	**5.0**	**6.0**	**0.0**

Route: SR 82 WB

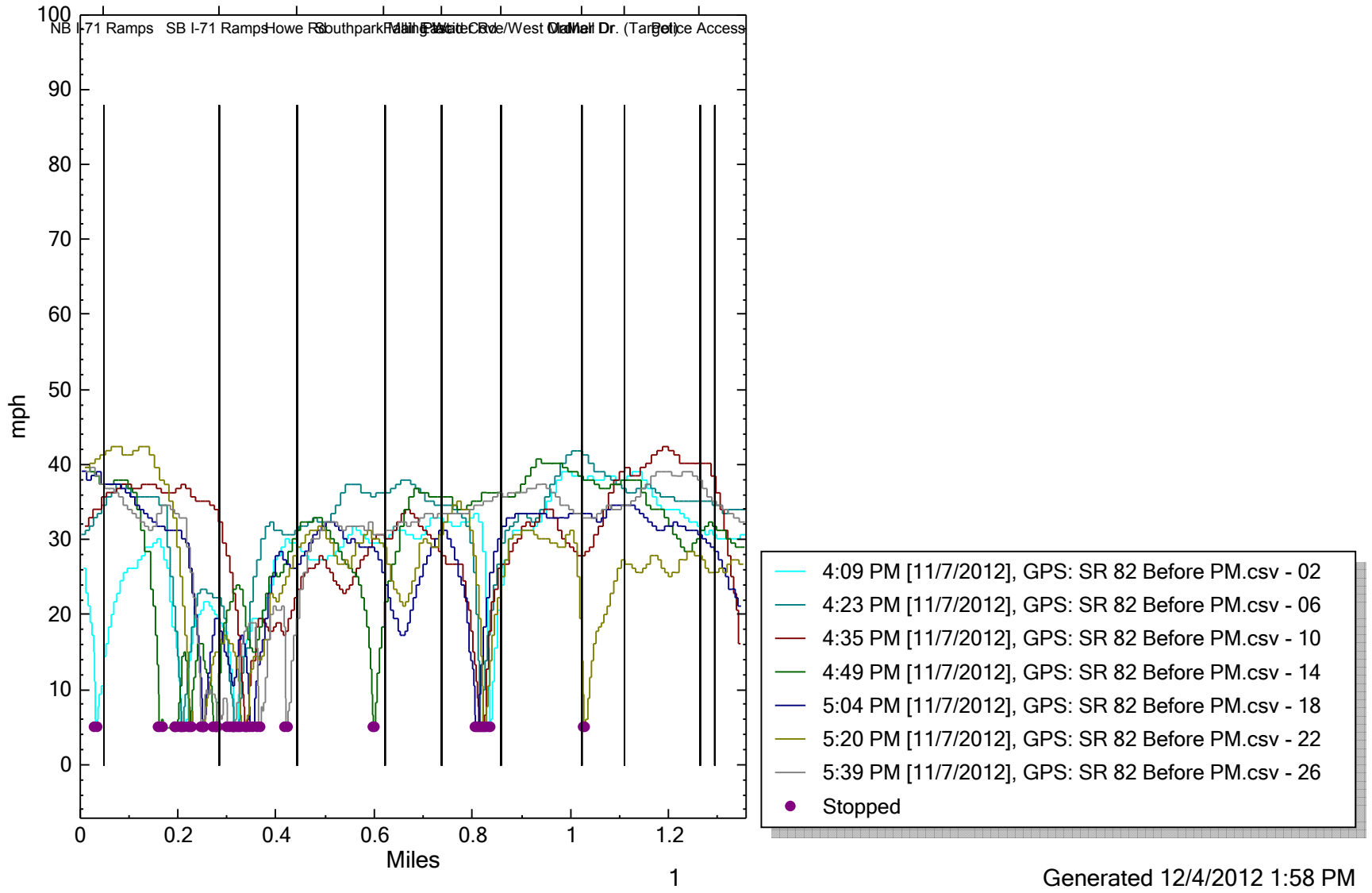
Total Delay by Run **Scenario:** PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	16.8	0	0	0	0	0	0	0
SB I-71 Ramps	40.8	13.2	0	220.8	69.6	236.4	88.2	0
Howe Rd	35.4	69	43.8	0	77.4	58.8	169.2	0
Southpark Mall East	0	0	0	71.4	0	0	0	0
Falling Water Rd	0	0	0	0	7.2	0	0	0
Placid Cove/West Mall	52.8	51	52.2	0	67.8	45	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	16.2	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**145.8**	**133.2**	**96.0**	**292.2**	**222.0**	**356.4**	**257.4**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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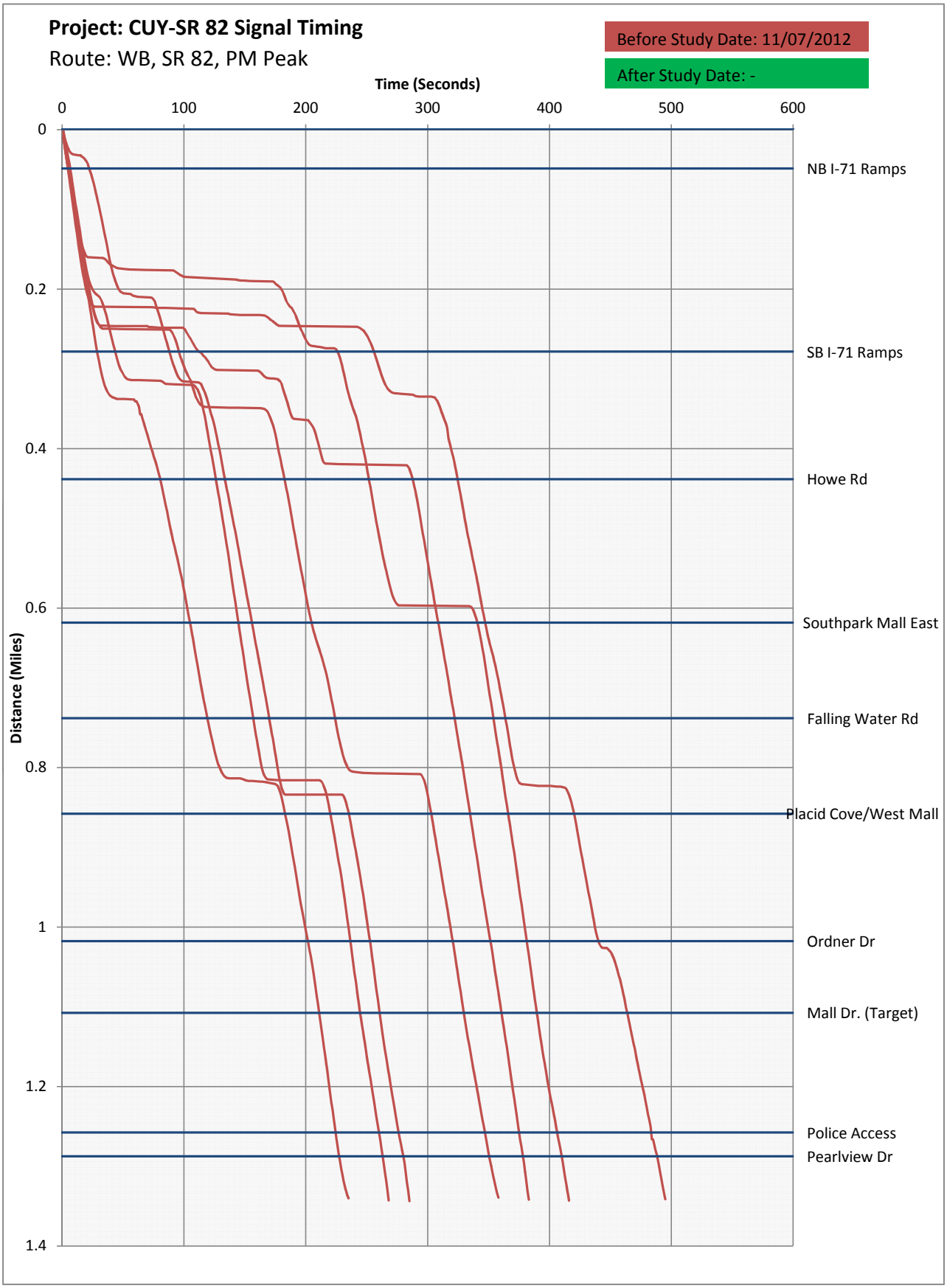

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, PM Peak
Before Study Date: 11/07/2012
After Study Date: -
Time (Seconds)
0
100
200
300
400
500
600
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** SAT Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	14.4	0.25	15.12	9.6
2	158.4	Police Access	3	0	33.16	0
3	792	Mall Dr. (Target)	32.4	0.5	16.66	18
4	475.2	Ordner Dr	9.6	0	33.21	0
5	844.8	Placid Cove/West Mall	32.4	0.25	17.88	16.2
6	633.6	Falling Water Rd	12	0	36.27	0
7	633.6	Southpark Mall East	66.6	0.75	6.47	56.4
8	950.4	Howe Rd	66	1	9.86	50.4
9	844.8	SB I-71 Ramps	21.6	0	26.63	4.2
10	1214.4	NB I-71 Ramps	24	0	34.56	0
11	264	(Route End)	3	0	62.99	0
	7128	**feet**	**285.0**	**2.8**	**26.6**	**154.8**
	1.35	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** SAT Peak - Before

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	18	40	6.67	32.73	0	0	0	0
Police Access	30	45	30	30	0	0	0	0
Mall Dr. (Target)	33.33	36	31.03	6.62	0	0	0	0
Ordner Dr	38.57	38.57	36	24.55	0	0	0	0
Placid Cove/West Mall	36.92	7.22	40	30	0	0	0	0
Falling Water Rd	37.89	34.29	37.89	36	0	0	0	0
Southpark Mall East	5.45	36	4.9	4.93	0	0	0	0
Howe Rd	14.4	4.74	12.71	21.18	0	0	0	0
SB I-71 Ramps	27.43	23.41	33.1	24	0	0	0	0
NB I-71 Ramps	33.66	34.5	38.33	32.09	0	0	0	0
(Route End)	75	75	50	60	0	0	0	0
Average Speed	**31.9**	**34.1**	**29.1**	**27.5**	**0.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** SAT Peak - Before

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	12	5.4	32.4	6.6	0	0	0	0
Police Access	3.6	2.4	3.6	3.6	0	0	0	0
Mall Dr. (Target)	16.2	15	17.4	81.6	0	0	0	0
Ordner Dr	8.4	8.4	9	13.2	0	0	0	0
Placid Cove/West Mall	15.6	79.8	14.4	19.2	0	0	0	0
Falling Water Rd	11.4	12.6	11.4	12	0	0	0	0
Southpark Mall East	79.2	12	88.2	87.6	0	0	0	0
Howe Rd	45	136.8	51	30.6	0	0	0	0
SB I-71 Ramps	21	24.6	17.4	24	0	0	0	0
NB I-71 Ramps	24.6	24	21.6	25.8	0	0	0	0
(Route End)	2.4	2.4	3.6	3	0	0	0	0
Total Travel Time	**239.4**	**323.4**	**270.0**	**307.2**	**0.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** SAT Peak - Before

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	1	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	2	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	1	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	1	0	1	1	0	0	0	0
Howe Rd	1	2	1	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Stops	**2.0**	**3.0**	**3.0**	**3.0**	**0.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

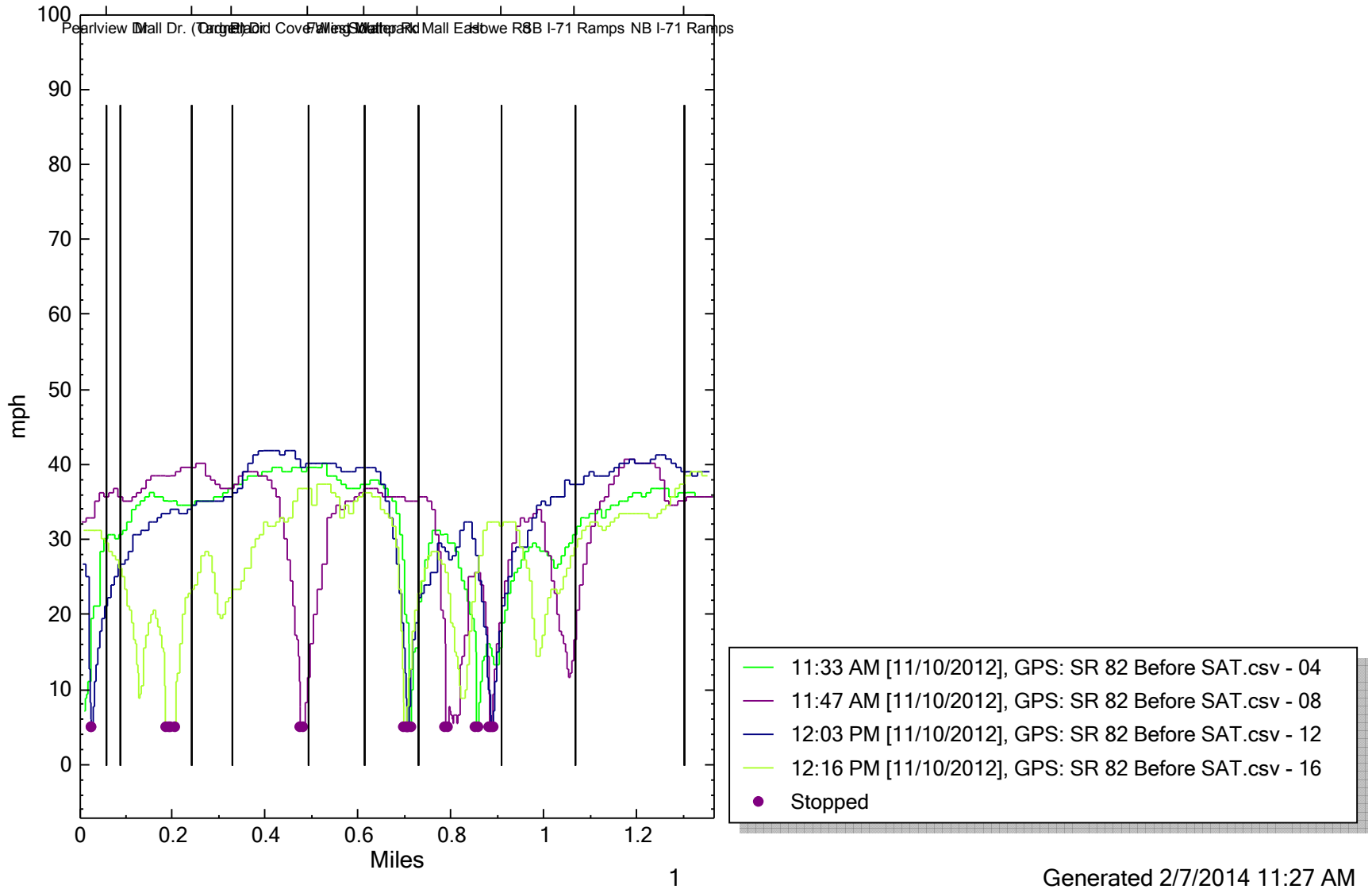
Total Delay by Run **Scenario:** SAT Peak - Before

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	8.4	0	30	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	72	0	0	0	0
Ordner Dr	0	0	0	1.2	0	0	0	0
Placid Cove/West Mall	0	65.4	0	0	0	0	0	0
Falling Water Rd	0	0.6	0	0	0	0	0	0
Southpark Mall East	69	0	79.8	76.8	0	0	0	0
Howe Rd	30	124.8	33	13.2	0	0	0	0
SB I-71 Ramps	0	9.6	0	6	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Delay	**107.4**	**200.4**	**142.8**	**169.2**	**0.0**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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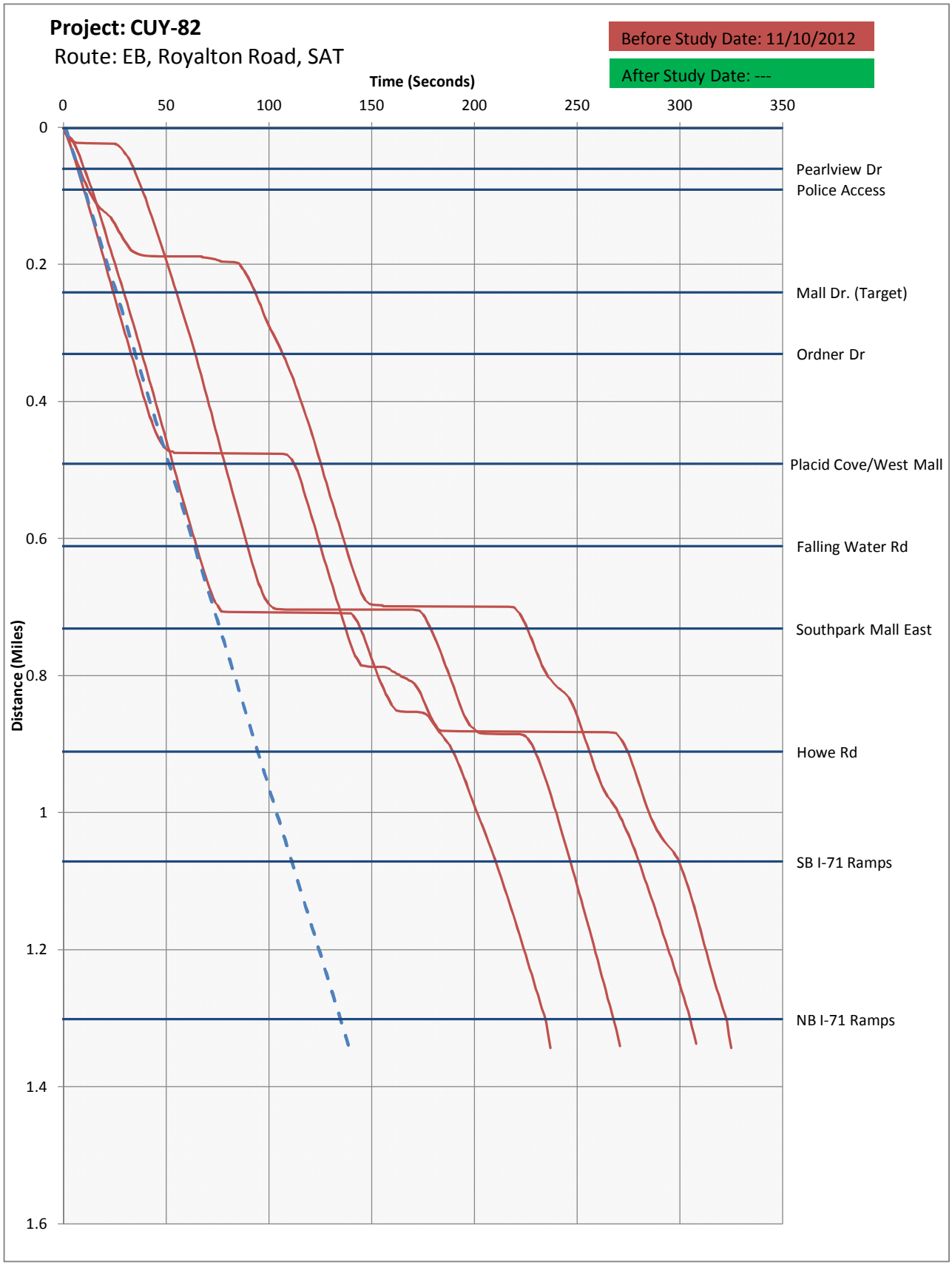

Project: CUY-82
Route: EB, Royalton Road, SAT
Before Study Date: 11/10/2012
After Study Date: ---
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** SAT Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	12	0.5	14.97	8.4
2	1214.4	SB I-71 Ramps	44.4	0.5	18.65	21
3	844.8	Howe Rd	69	1.33	8.34	57.6
4	950.4	Southpark Mall East	57.6	0.83	11.24	38.4
5	633.6	Falling Water Rd	20.4	0.33	21.11	7.2
6	633.6	Placid Cove/West Mall	31.8	0.33	13.58	18.6
7	844.8	Ordner Dr	21	0.17	27.74	2.4
8	475.2	Mall Dr. (Target)	11.4	0	27.7	2.4
9	792	Police Access	18	0	29.91	0
10	158.4	Pearlview Dr	3.6	0	30.42	0
11	316.8	(Route End)	4.8	0	44.43	0
	7128	**feet**	**294.0**	**4.0**	**22.6**	**156.0**
	1.35	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** SAT Peak - Before

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	10	12.5	42.86	10.34	50	12.5	0	0
SB I-71 Ramps	16.63	13.27	26.54	21.23	32.86	13.94	0	0
Howe Rd	7.11	7.33	11.85	7.8	10.91	7.22	0	0
Southpark Mall East	7.45	10.69	27.69	26.34	7.2	10.8	0	0
Falling Water Rd	32.73	12.2	36	30	25.71	14.12	0	0
Placid Cove/West Mall	32.73	31.3	6.73	6.15	28.8	28.8	0	0
Ordner Dr	30	32	32	17.78	32	30.97	0	0
Mall Dr. (Target)	38.57	36	20	20.77	30	33.75	0	0
Police Access	36	30	32.14	24.32	30	30	0	0
Pearlview Dr	36	30	36	30	25.71	30	0	0
(Route End)	51.43	51.43	51.43	40	30	51.43	0	0
Average Speed	**27.2**	**24.2**	**29.4**	**21.3**	**27.6**	**24.0**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** SAT Peak - Before

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	18	14.4	4.2	17.4	3.6	14.4	0	0
SB I-71 Ramps	49.8	62.4	31.2	39	25.2	59.4	0	0
Howe Rd	81	78.6	48.6	73.8	52.8	79.8	0	0
Southpark Mall East	87	60.6	23.4	24.6	90	60	0	0
Falling Water Rd	13.2	35.4	12	14.4	16.8	30.6	0	0
Placid Cove/West Mall	13.2	13.8	64.2	70.2	15	15	0	0
Ordner Dr	19.2	18	18	32.4	18	18.6	0	0
Mall Dr. (Target)	8.4	9	16.2	15.6	10.8	9.6	0	0
Police Access	15	18	16.8	22.2	18	18	0	0
Pearlview Dr	3	3.6	3	3.6	4.2	3.6	0	0
(Route End)	4.2	4.2	4.2	5.4	7.2	4.2	0	0
Total Travel Time	**312.0**	**318.0**	**241.8**	**318.6**	**261.6**	**313.2**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run

Scenario: SAT Peak - Before

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	1	0	1	0	0	0	0
SB I-71 Ramps	1	1	0	0	0	1	0	0
Howe Rd	2	1	2	1	1	1	0	0
Southpark Mall East	1	1	0	0	2	1	0	0
Falling Water Rd	0	1	0	0	0	1	0	0
Placid Cove/West Mall	0	0	1	1	0	0	0	0
Ordner Dr	0	0	0	1	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Stops	**5.0**	**5.0**	**3.0**	**4.0**	**3.0**	**4.0**	**0.0**	**0.0**

Route: SR 82 WB

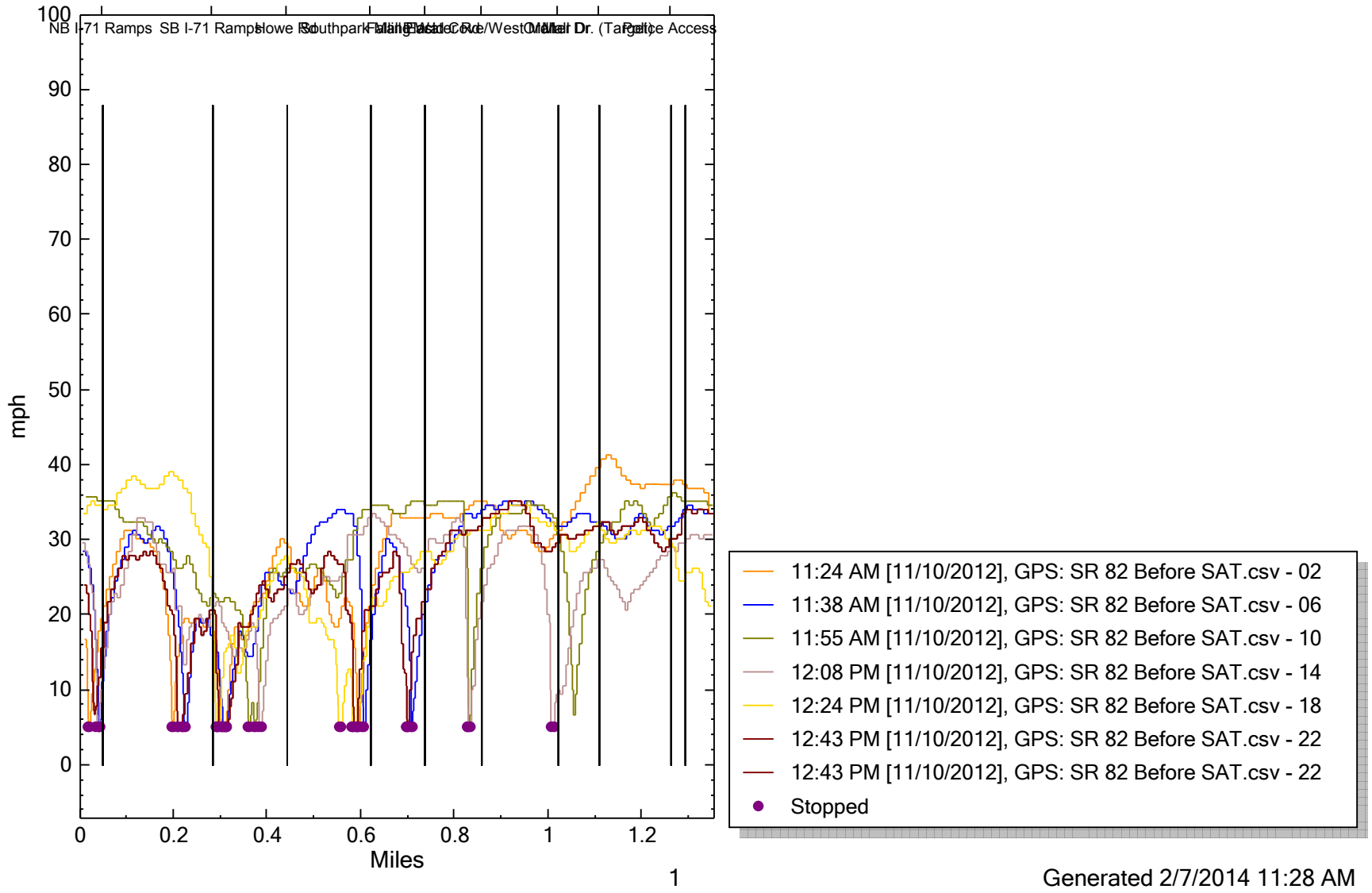
Total Delay by Run **Scenario:** SAT Peak - Before

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	18	10.2	0	12	0	10.8	0	0
SB I-71 Ramps	31.8	42	0	16.2	0	36	0	0
Howe Rd	69	69	31.2	67.8	43.8	64.8	0	0
Southpark Mall East	67.2	41.4	0	0	83.4	37.2	0	0
Falling Water Rd	0	22.8	0	0	0	19.8	0	0
Placid Cove/West Mall	0	0	52.2	60.6	0	0	0	0
Ordner Dr	0	0	0	14.4	0	0	0	0
Mall Dr. (Target)	0	0	7.8	7.2	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Delay	**186.0**	**185.4**	**91.2**	**178.2**	**127.2**	**168.6**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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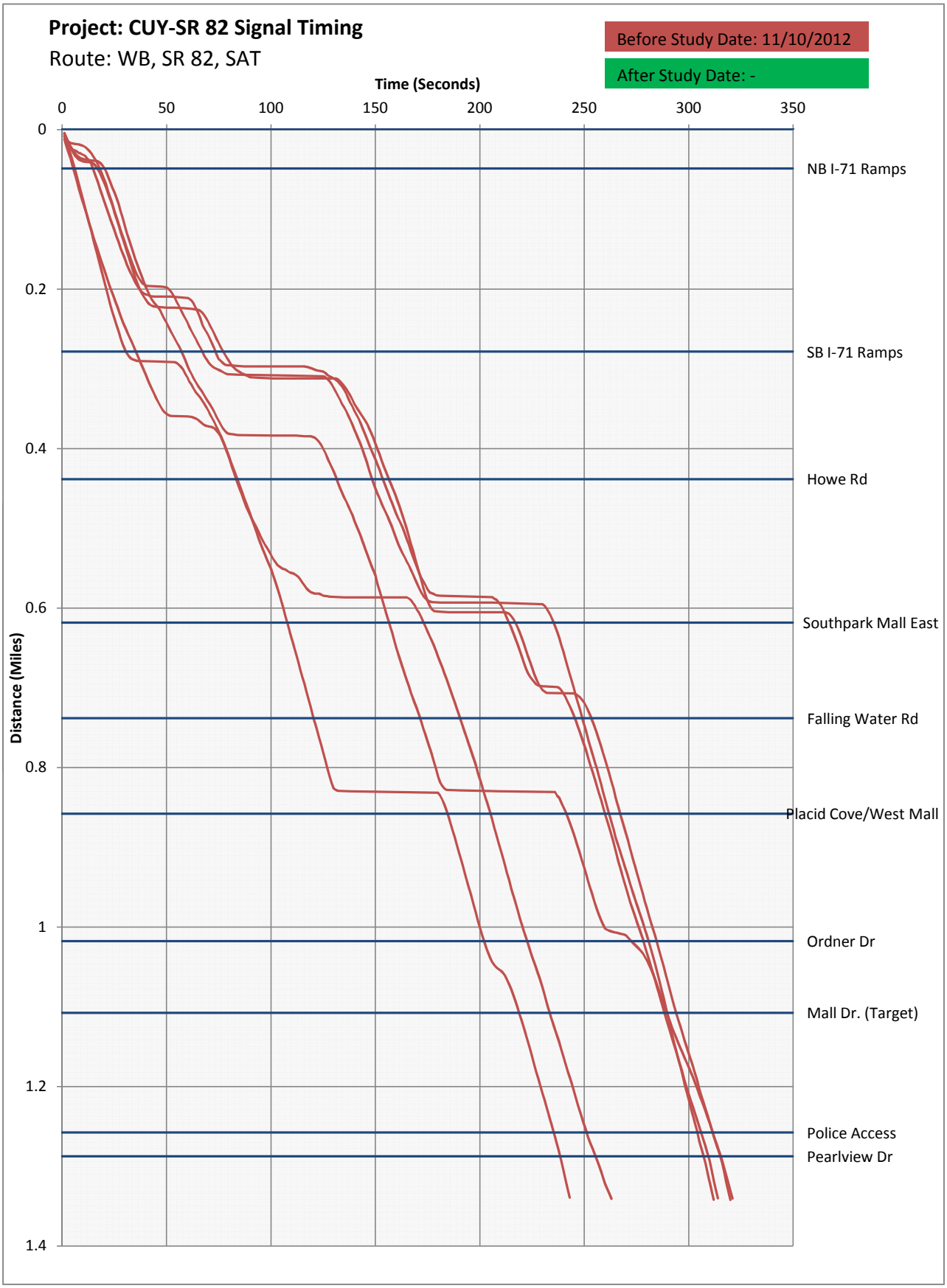

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, SAT
Before Study Date: 11/10/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** HOL Weekday Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	9	0.14	24.71	3.6
2	158.4	Police Access	3	0	35.55	0
3	792	Mall Dr. (Target)	29.4	0.43	18.51	14.4
4	475.2	Ordner Dr	16.8	0.14	19.59	6.6
5	844.8	Placid Cove/West Mall	33	0.29	17.57	16.2
6	633.6	Falling Water Rd	14.4	0	30.58	0
7	633.6	Southpark Mall East	21.6	0.14	20.02	9.6
8	950.4	Howe Rd	78	1.14	8.33	64.2
9	844.8	SB I-71 Ramps	18.6	0	31.2	0
10	1214.4	NB I-71 Ramps	30	0.14	27.58	5.4
	6864	**feet**	**253.8**	**2.4**	**23.4**	**120.0**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run

Scenario: HOL Weekday Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	36	32.73	40	8	40	40	36	0
Police Access	30	45	45	30	30	36	36	0
Mall Dr. (Target)	34.62	31.03	34.62	19.15	14.52	12.86	11.39	0
Ordner Dr	38.57	6.21	36	23.48	31.76	30	28.42	0
Placid Cove/West Mall	8.5	21.33	9.06	33.1	35.56	30	30.97	0
Falling Water Rd	31.3	32.73	30	36	30	28.8	27.69	0
Southpark Mall East	34.29	37.89	37.89	5.62	32.73	32.73	36	0
Howe Rd	7.01	8.12	6.39	32.73	7.88	7.88	7.5	0
SB I-71 Ramps	29.09	30	30	36.92	30.97	34.29	28.24	0
NB I-71 Ramps	30	30.67	24.64	35.38	26.04	21.9	28.75	0
Average Speed	**27.9**	**27.6**	**29.4**	**26.0**	**27.9**	**27.4**	**27.1**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** HOL Weekday Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	6	6.6	5.4	27	5.4	5.4	6	0
Police Access	3.6	2.4	2.4	3.6	3.6	3	3	0
Mall Dr. (Target)	15.6	17.4	15.6	28.2	37.2	42	47.4	0
Ordner Dr	8.4	52.2	9	13.8	10.2	10.8	11.4	0
Placid Cove/West Mall	67.8	27	63.6	17.4	16.2	19.2	18.6	0
Falling Water Rd	13.8	13.2	14.4	12	14.4	15	15.6	0
Southpark Mall East	12.6	11.4	11.4	76.8	13.2	13.2	12	0
Howe Rd	92.4	79.8	101.4	19.8	82.2	82.2	86.4	0
SB I-71 Ramps	19.8	19.2	19.2	15.6	18.6	16.8	20.4	0
NB I-71 Ramps	27.6	27	33.6	23.4	31.8	37.8	28.8	0
Total Travel Time	**267.6**	**256.2**	**276.0**	**237.6**	**232.8**	**245.4**	**249.6**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** HOL Weekday Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	1	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	1	1	1	0
Ordner Dr	0	1	0	0	0	0	0	0
Placid Cove/West Mall	1	0	1	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	1	0	0	0	0
Howe Rd	1	1	1	0	1	1	3	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	1	0	0
Total Stops	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**3.0**	**4.0**	**0.0**

Route: SR 82 EB

Total Delay by Run

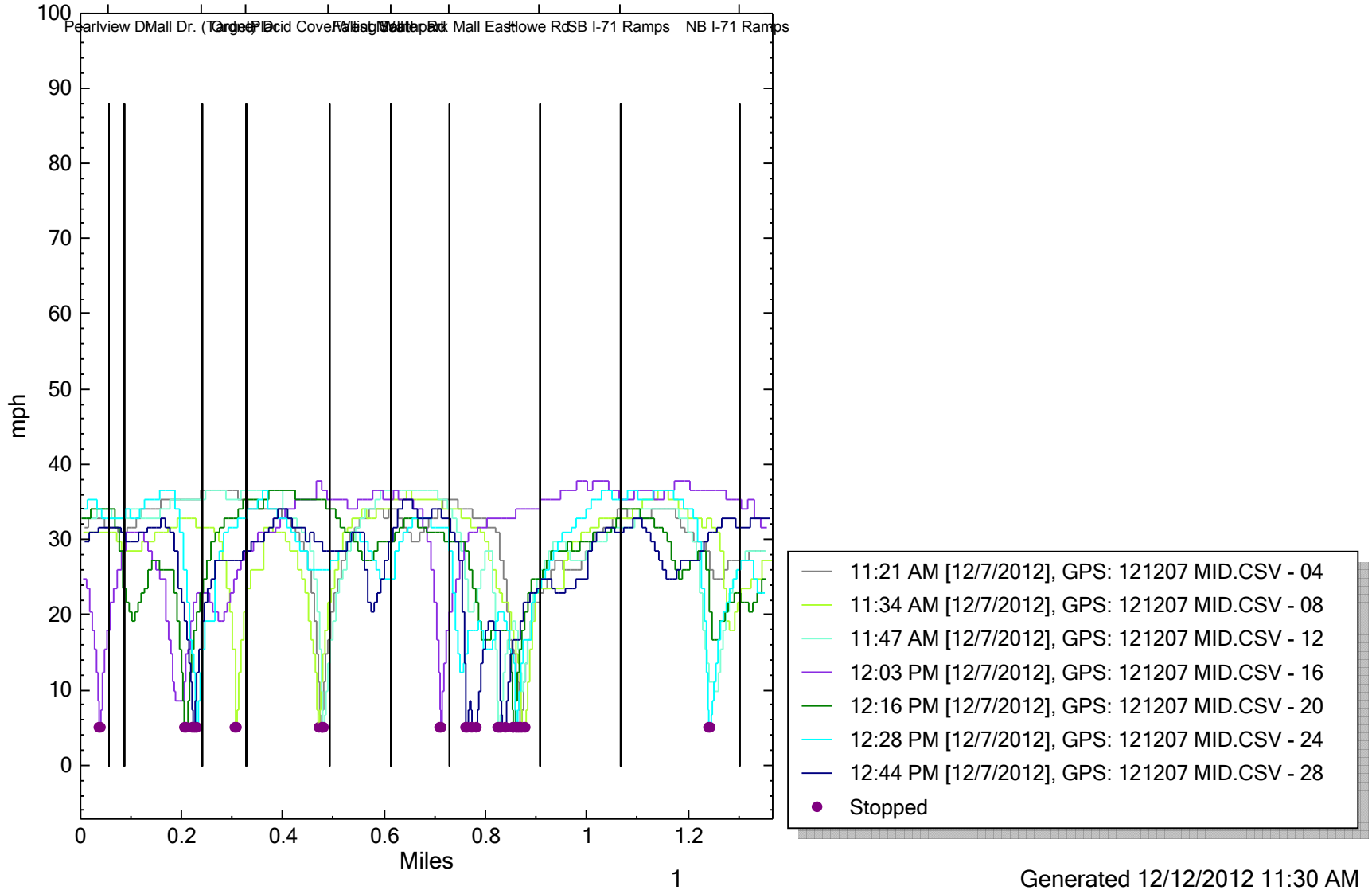
Scenario: HOL Weekday Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	24	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	16.2	21	28.8	34.2	0
Ordner Dr	0	43.8	0	1.8	0	1.2	0	0
Placid Cove/West Mall	53.4	10.8	48.6	0	0	0	0	0
Falling Water Rd	0	0	1.2	0	0	0	0	0
Southpark Mall East	0	0	0	67.2	0	0	0	0
Howe Rd	76.8	63	87	0	70.2	73.8	76.8	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	3	12	0	4.8	16.2	0	0
Total Delay	**130.2**	**120.6**	**148.8**	**109.2**	**96.0**	**120.0**	**111.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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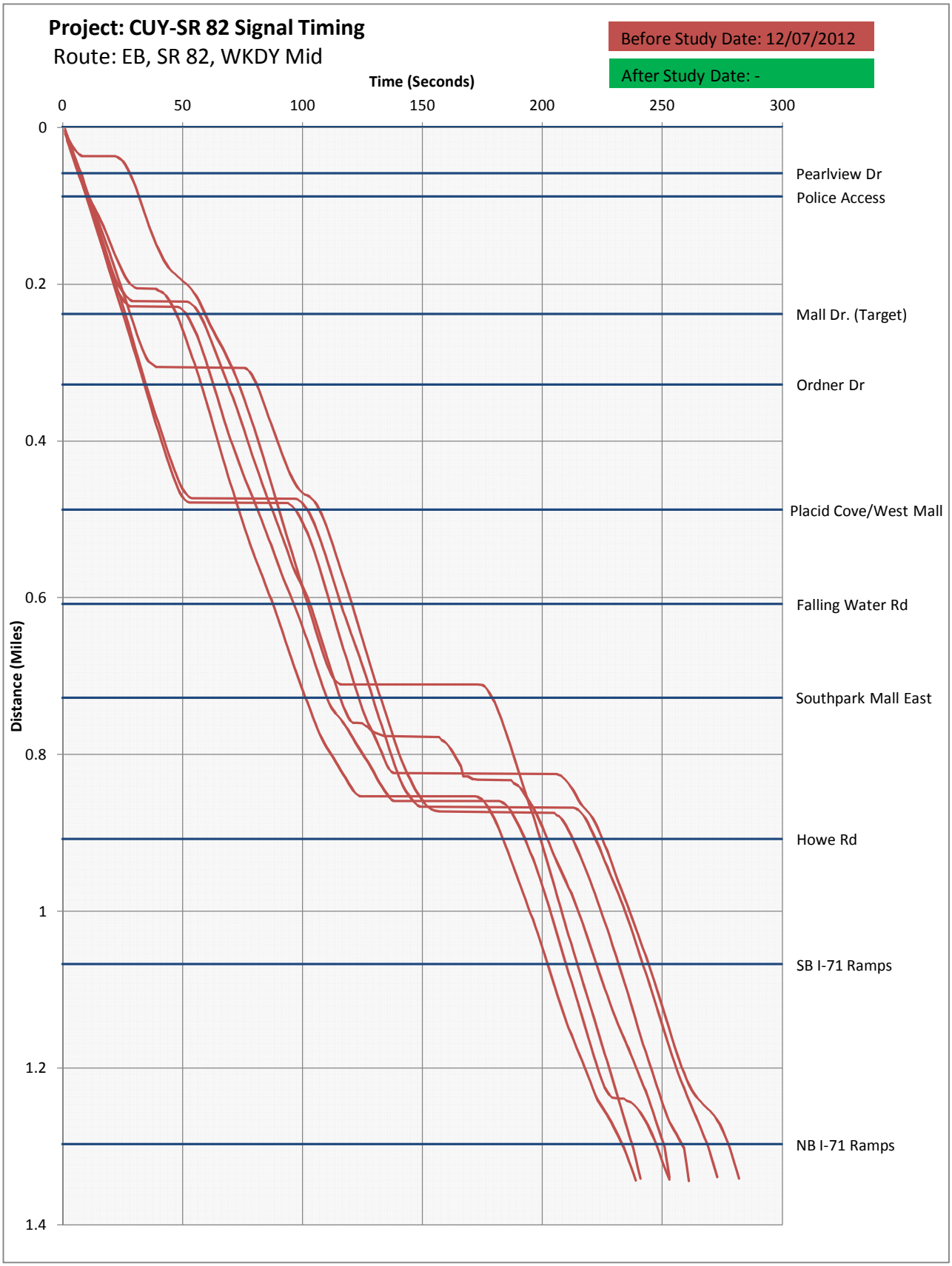

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, WKDY Mid
Before Study Date: 12/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** HOL Weekday Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	17.7	0.5	20.06	14.7
2	1214.4	SB I-71 Ramps	52	0.5	19.54	27.9
3	844.8	Howe Rd	85.6	1.5	6.78	76.9
4	950.4	Southpark Mall East	35.2	0.33	26.41	17.8
5	633.6	Falling Water Rd	14.5	0	31.04	3.2
6	633.6	Placid Cove/West Mall	28	0.33	25.17	15.5
7	844.8	Ordner Dr	23.6	0.17	28.88	6.1
8	475.2	Mall Dr. (Target)	12.7	0.17	28.44	3.5
9	792	Police Access	27.5	0.33	24.41	11
10	158.4	Pearlview Dr	4.2	0	26.07	0
	6811.2	**feet**	**301.0**	**3.8**	**23.7**	**176.6**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run

Scenario: HOL Weekday Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	21.43	7.32	42.86	37.5	5.36	5.88	0	0
SB I-71 Ramps	17.04	27.6	9.45	10	29.36	23.79	0	0
Howe Rd	6.96	7.44	6.04	6.08	6.91	7.22	0	0
Southpark Mall East	27	31.76	30.86	31.76	30.86	6.21	0	0
Falling Water Rd	34.29	32.73	32.73	34.29	32.73	19.46	0	0
Placid Cove/West Mall	34.29	36	34.29	6.37	8.78	31.3	0	0
Ordner Dr	10.91	34.29	33.1	32	32	30.97	0	0
Mall Dr. (Target)	36	38.57	33.75	21.6	15	25.71	0	0
Police Access	32.14	33.33	12.16	28.12	30	10.71	0	0
Pearlview Dr	30	30	22.5	22.5	25.71	25.71	0	0
Average Speed	**25.0**	**27.9**	**25.8**	**23.0**	**21.7**	**18.7**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run

Scenario: HOL Weekday Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	8.4	24.6	4.2	4.8	33.6	30.6	0	0
SB I-71 Ramps	48.6	30	87.6	82.8	28.2	34.8	0	0
Howe Rd	82.8	77.4	95.4	94.8	83.4	79.8	0	0
Southpark Mall East	24	20.4	21	20.4	21	104.4	0	0
Falling Water Rd	12.6	13.2	13.2	12.6	13.2	22.2	0	0
Placid Cove/West Mall	12.6	12	12.6	67.8	49.2	13.8	0	0
Ordner Dr	52.8	16.8	17.4	18	18	18.6	0	0
Mall Dr. (Target)	9	8.4	9.6	15	21.6	12.6	0	0
Police Access	16.8	16.2	44.4	19.2	18	50.4	0	0
Pearlview Dr	3.6	3.6	4.8	4.8	4.2	4.2	0	0
Total Travel Time	**271.2**	**222.6**	**310.2**	**340.2**	**290.4**	**371.4**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** HOL Weekday Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	1	0	0	1	1	0	0
SB I-71 Ramps	1	0	1	1	0	0	0	0
Howe Rd	1	1	1	2	2	2	0	0
Southpark Mall East	0	0	0	0	0	2	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	0	0	1	1	0	0	0
Ordner Dr	1	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	1	0	0	0
Police Access	0	0	1	0	0	1	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**3.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**0.0**	**0.0**

Route: SR 82 WB

Total Delay by Run

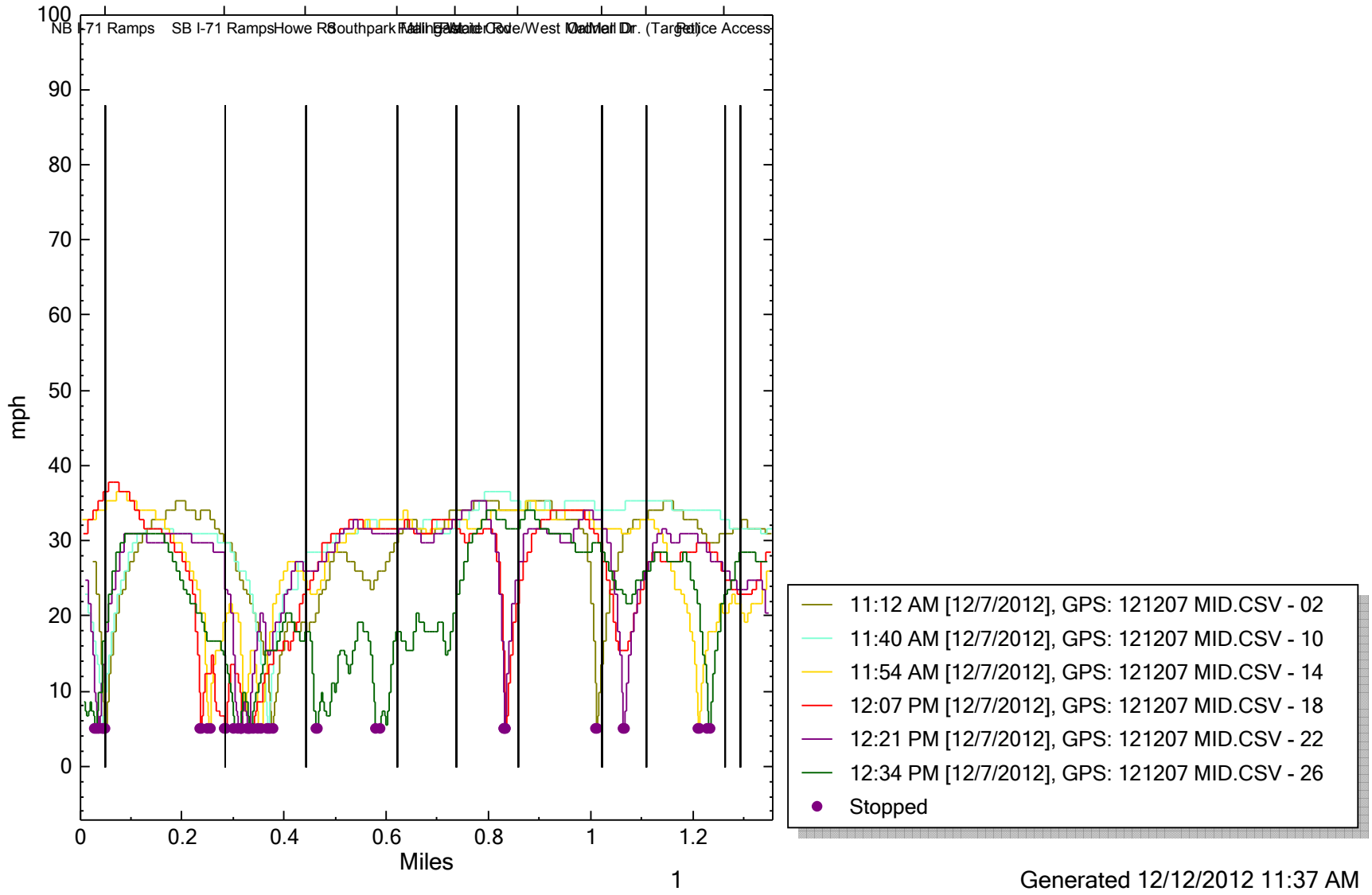
Scenario: HOL Weekday Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	4.2	22.2	0	0	31.2	30.6	0	0
SB I-71 Ramps	22.8	3	66.6	64.2	0	10.8	0	0
Howe Rd	75	61.8	81.6	91.8	73.2	78	0	0
Southpark Mall East	2.4	0	0	0	0	104.4	0	0
Falling Water Rd	0	0	0	0	0	19.2	0	0
Placid Cove/West Mall	0	0	0	55.8	37.2	0	0	0
Ordner Dr	36.6	0	0	0	0	0	0	0
Mall Dr. (Target)	-0.6	0	0	7.8	13.8	0	0	0
Police Access	0	0	31.2	0	0	34.8	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**140.4**	**87.0**	**179.4**	**219.6**	**155.4**	**277.8**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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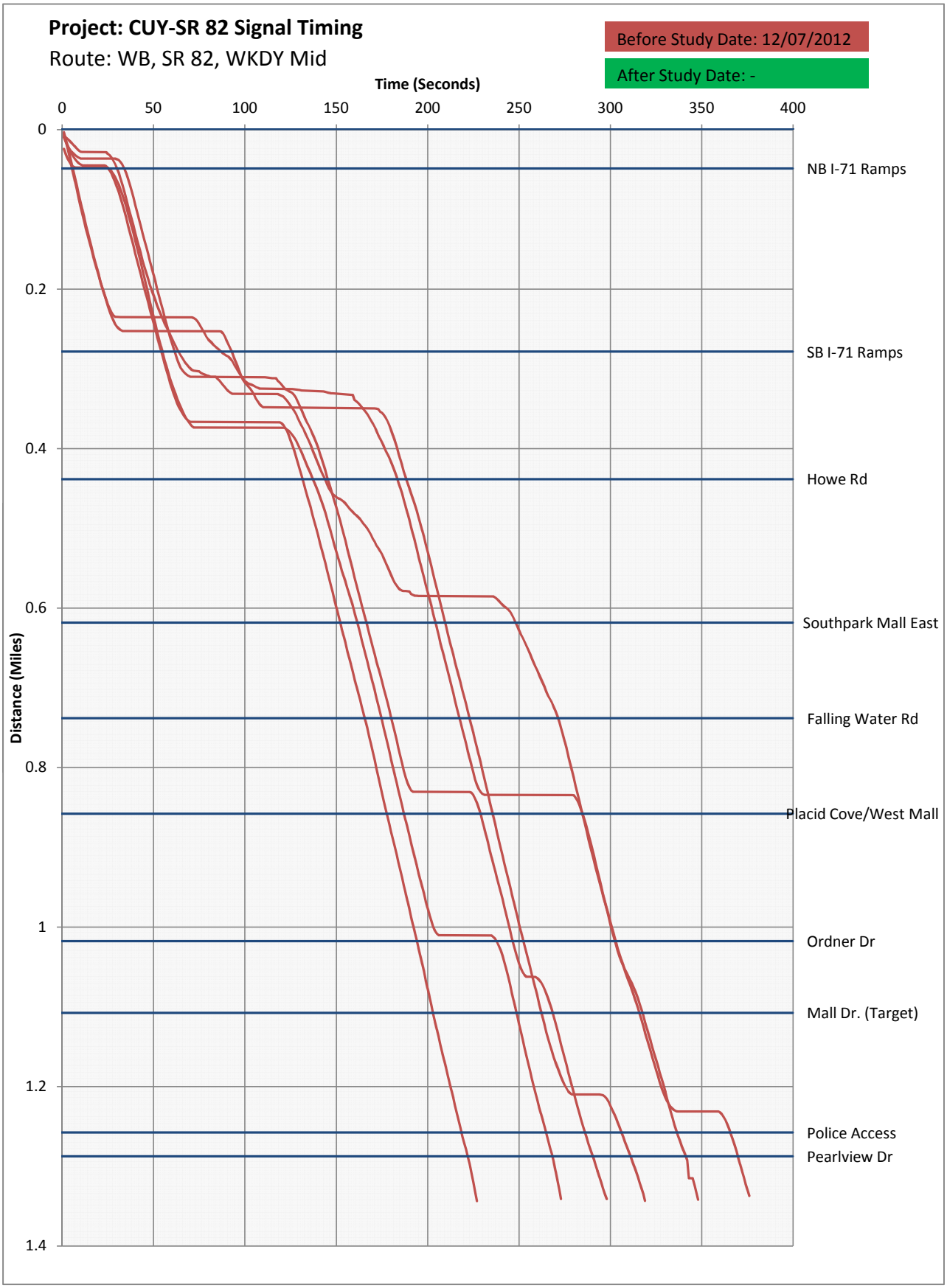

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, WKDY Mid
Before Study Date: 12/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
400
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** HOL Weekday Off

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	12.6	0.2	16.75	7.8
2	158.4	Police Access	3.6	0	29.24	1.2
3	792	Mall Dr. (Target)	22.8	0.2	23.46	6
4	475.2	Ordner Dr	16.8	0.2	19.14	7.8
5	844.8	Placid Cove/West Mall	17.4	0	32.95	0
6	633.6	Falling Water Rd	12.6	0	33.74	0
7	633.6	Southpark Mall East	56.4	0.6	7.68	45.6
8	950.4	Howe Rd	58.2	0.6	11.13	40.2
9	844.8	SB I-71 Ramps	22.8	0	25.18	7.8
10	1214.4	NB I-71 Ramps	28.2	0.2	29.56	3
	6864	**feet**	**251.4**	**2.0**	**22.9**	**119.4**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** HOL Weekday Off

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	6.1	32.73	22.5	32.73	32.73	0	0	0
Police Access	20	30	30	45	30	0	0	0
Mall Dr. (Target)	24.32	13.24	32.14	34.62	28.12	0	0	0
Ordner Dr	33.75	33.75	33.75	7.01	33.75	0	0	0
Placid Cove/West Mall	30	35.56	35.56	29.09	35.56	0	0	0
Falling Water Rd	32.73	36	34.29	32.73	34.29	0	0	0
Southpark Mall East	5.22	32.73	4.68	31.3	5.45	0	0	0
Howe Rd	30	8.06	24	4.98	20	0	0	0
SB I-71 Ramps	21.82	34.29	29.09	23.41	21.33	0	0	0
NB I-71 Ramps	31.36	21.23	33.66	32.09	33.66	0	0	0
Average Speed	**23.5**	**27.8**	**28.0**	**27.3**	**27.5**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run

Scenario: HOL Weekday Off

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	35.4	6.6	9.6	6.6	6.6	0	0	0
Police Access	5.4	3.6	3.6	2.4	3.6	0	0	0
Mall Dr. (Target)	22.2	40.8	16.8	15.6	19.2	0	0	0
Ordner Dr	9.6	9.6	9.6	46.2	9.6	0	0	0
Placid Cove/West Mall	19.2	16.2	16.2	19.8	16.2	0	0	0
Falling Water Rd	13.2	12	12.6	13.2	12.6	0	0	0
Southpark Mall East	82.8	13.2	92.4	13.8	79.2	0	0	0
Howe Rd	21.6	80.4	27	130.2	32.4	0	0	0
SB I-71 Ramps	26.4	16.8	19.8	24.6	27	0	0	0
NB I-71 Ramps	26.4	39	24.6	25.8	24.6	0	0	0
Total Travel Time	**262.2**	**238.2**	**232.2**	**298.2**	**231.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** HOL Weekday Off

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	1	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	1	0	0	0	0	0	0
Ordner Dr	0	0	0	1	0	0	0	0
Placid Cove/West Mall	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	1	0	1	0	1	0	0	0
Howe Rd	0	1	0	2	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	1	0	0	0	0	0	0
Total Stops	**2.0**	**3.0**	**1.0**	**3.0**	**1.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Total Delay by Run

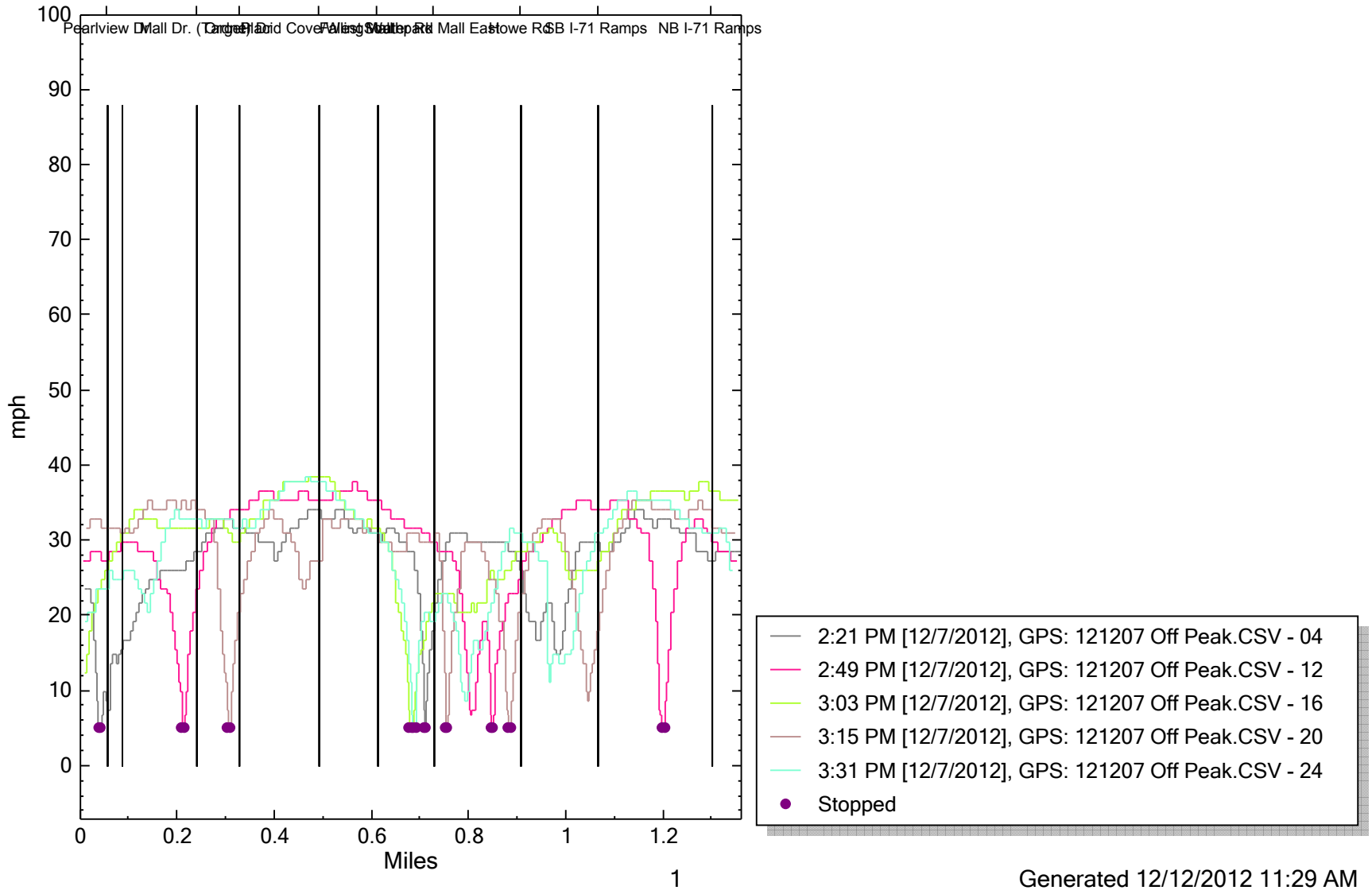
Scenario: HOL Weekday Off

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	31.8	0	4.2	0	1.8	0	0	0
Police Access	5.4	0	0	0	0	0	0	0
Mall Dr. (Target)	4.2	25.8	0	0	0	0	0	0
Ordner Dr	0	0	0	40.2	0	0	0	0
Placid Cove/West Mall	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	72.6	0	84	0	70.8	0	0	0
Howe Rd	0	67.8	0	115.2	16.8	0	0	0
SB I-71 Ramps	12	0	0	11.4	16.2	0	0	0
NB I-71 Ramps	0	15	0	0	0	0	0	0
Total Delay	**126.0**	**108.6**	**88.2**	**166.8**	**105.6**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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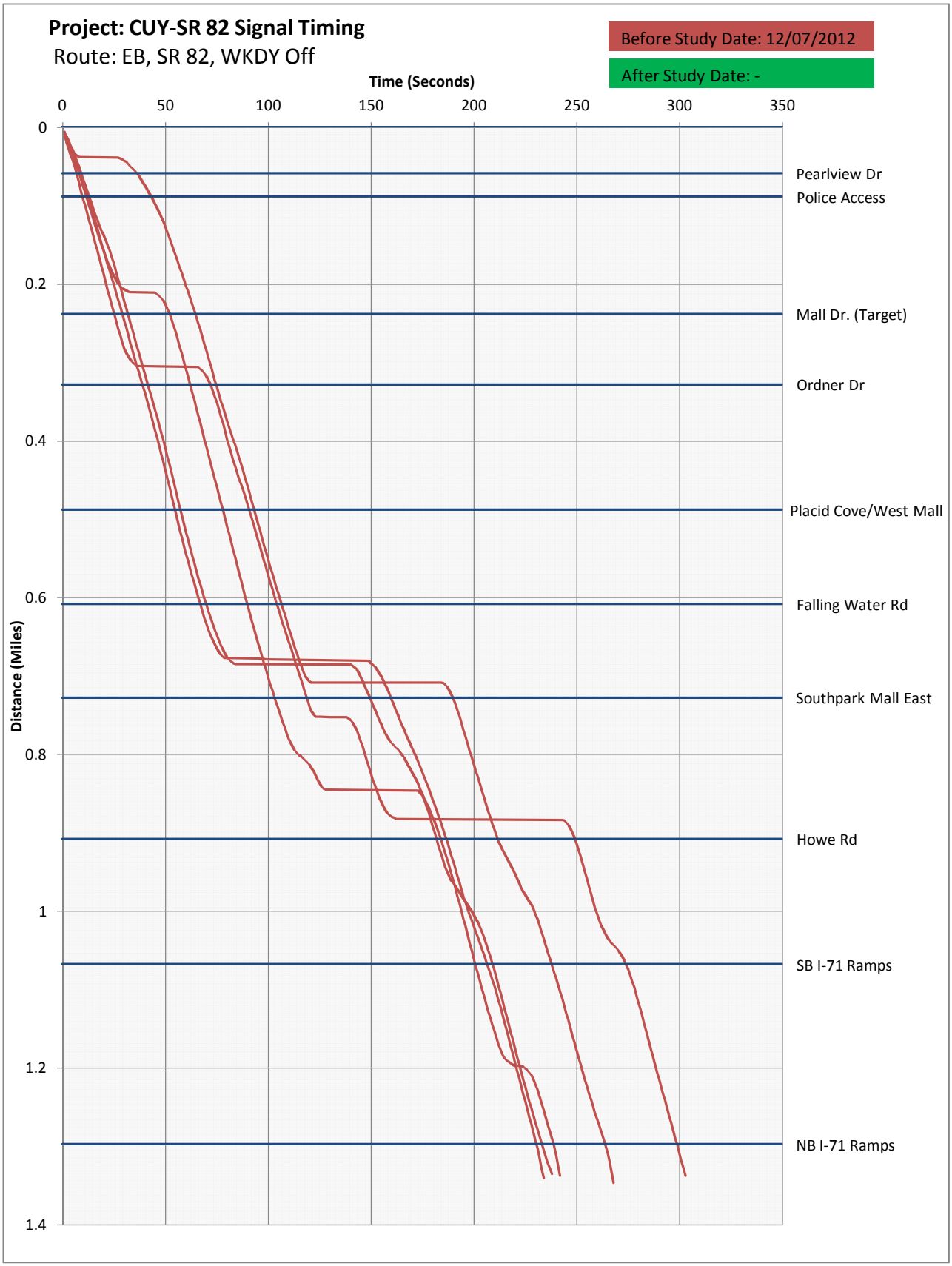

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, WKDY Off
Before Study Date: 12/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** HOL Weekday Off

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	16.8	0.67	10.77	13.8
2	1214.4	SB I-71 Ramps	61.8	1	13.34	40.2
3	844.8	Howe Rd	84	1.5	6.86	70.8
4	950.4	Southpark Mall East	34.8	0.17	18.76	13.2
5	633.6	Falling Water Rd	14.4	0	29.49	0
6	633.6	Placid Cove/West Mall	34.2	0.5	12.53	22.2
7	844.8	Ordner Dr	19.2	0	29.76	1.2
8	475.2	Mall Dr. (Target)	10.2	0	32.04	0.6
9	792	Police Access	27	0.33	19.92	10.2
10	158.4	Pearlview Dr	3.6	0	27.79	0
	6811.2	**feet**	**306.0**	**4.2**	**20.1**	**172.2**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run

Scenario: HOL Weekday Off

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	8.82	37.5	6.82	50	7.89	7.89	0	0
SB I-71 Ramps	22.26	31.36	6.83	11.13	11.04	21.9	0	0
Howe Rd	3.3	10.91	5.22	25.26	8.89	7.33	0	0
Southpark Mall East	27.69	30.86	30	30	6.92	24.55	0	0
Falling Water Rd	27.69	27.69	28.8	28.8	32.73	31.3	0	0
Placid Cove/West Mall	32.73	6.26	31.3	14.12	37.89	6.26	0	0
Ordner Dr	33.1	25.26	33.1	30.97	35.56	24	0	0
Mall Dr. (Target)	33.75	31.76	36	33.75	38.57	23.48	0	0
Police Access	12.68	31.03	11.25	31.03	33.33	25.71	0	0
Pearlview Dr	22.5	30	25.71	30	30	25.71	0	0
Average Speed	**22.5**	**26.3**	**21.5**	**28.5**	**24.3**	**19.8**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** HOL Weekday Off

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	20.4	4.8	26.4	3.6	22.8	22.8	0	0
SB I-71 Ramps	37.2	26.4	121.2	74.4	75	37.8	0	0
Howe Rd	174.6	52.8	110.4	22.8	64.8	78.6	0	0
Southpark Mall East	23.4	21	21.6	21.6	93.6	26.4	0	0
Falling Water Rd	15.6	15.6	15	15	13.2	13.8	0	0
Placid Cove/West Mall	13.2	69	13.8	30.6	11.4	69	0	0
Ordner Dr	17.4	22.8	17.4	18.6	16.2	24	0	0
Mall Dr. (Target)	9.6	10.2	9	9.6	8.4	13.8	0	0
Police Access	42.6	17.4	48	17.4	16.2	21	0	0
Pearlview Dr	4.8	3.6	4.2	3.6	3.6	4.2	0	0
Total Travel Time	**358.8**	**243.6**	**387.0**	**217.2**	**325.2**	**311.4**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** HOL Weekday Off

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	0	1	0	1	1	0	0
SB I-71 Ramps	0	0	3	1	2	0	0	0
Howe Rd	2	1	3	0	2	1	0	0
Southpark Mall East	0	0	0	0	1	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	1	0	1	0	1	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Police Access	1	0	1	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**4.0**	**2.0**	**8.0**	**2.0**	**6.0**	**3.0**	**0.0**	**0.0**

Route: SR 82 WB

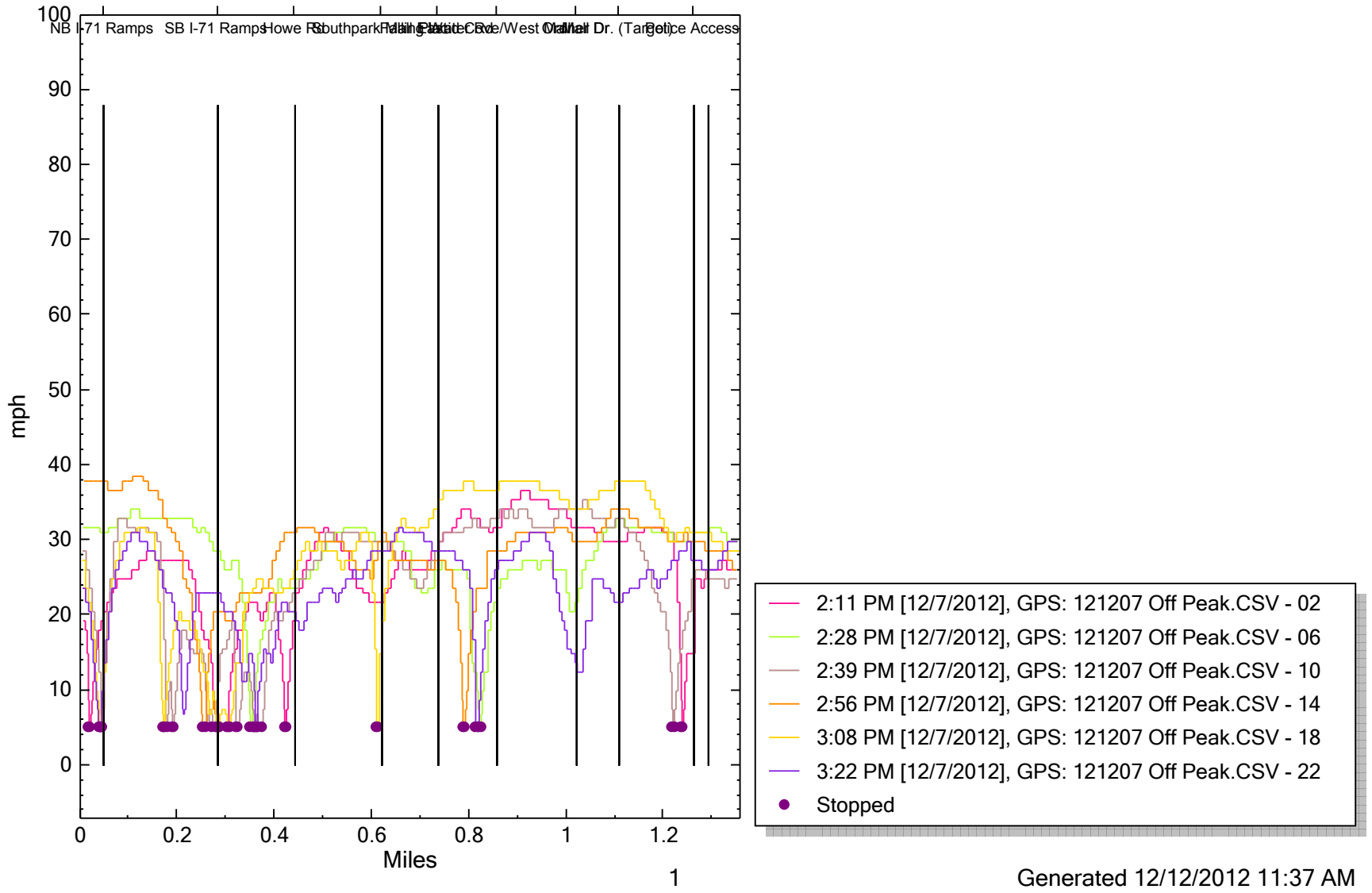
Total Delay by Run **Scenario:** HOL Weekday Off

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	20.4	0	22.8	0	19.8	19.8	0	0
SB I-71 Ramps	10.2	0	107.4	52.8	60.6	10.8	0	0
Howe Rd	164.4	37.2	104.4	3	46.2	67.8	0	0
Southpark Mall East	0	0	0	0	73.8	3.6	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	58.2	0	18	0	57	0	0
Ordner Dr	0	0	0	0	0	7.8	0	0
Mall Dr. (Target)	0	0	0	0	0	4.2	0	0
Police Access	28.8	0	33	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**223.8**	**95.4**	**267.6**	**73.8**	**200.4**	**171.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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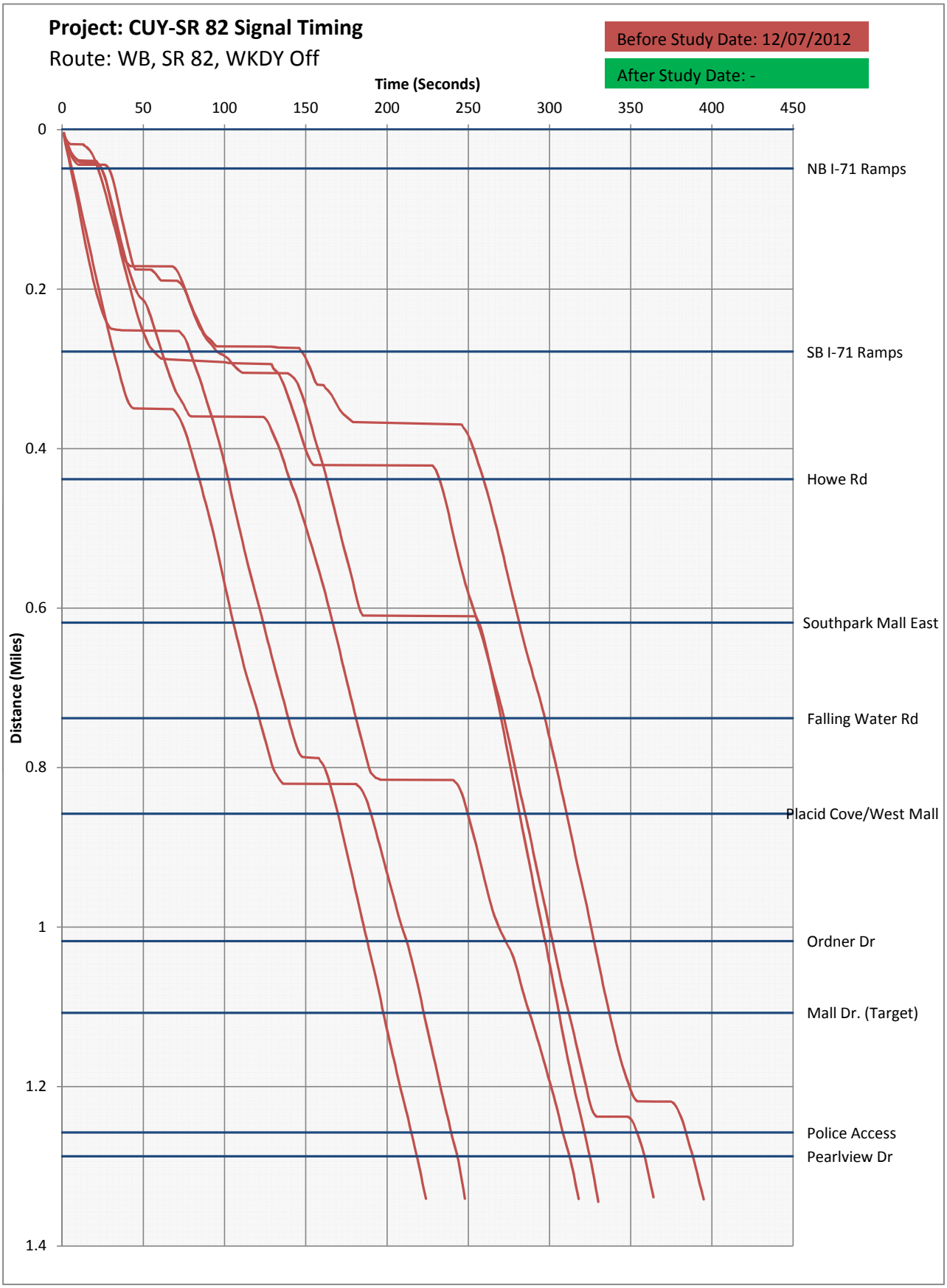

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, WKDY Off
Before Study Date: 12/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
400
450
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** HOL Weekday PM

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	6	0	36.1	0
2	158.4	Police Access	3	0	36.78	0
3	792	Mall Dr. (Target)	25.2	0.2	21.39	8.4
4	475.2	Ordner Dr	18.6	0.2	17.67	8.4
5	844.8	Placid Cove/West Mall	42.6	0.6	13.56	25.8
6	633.6	Falling Water Rd	31.8	0.2	13.53	18
7	633.6	Southpark Mall East	28.2	0.6	15.26	18
8	950.4	Howe Rd	106.2	1.6	6.1	92.4
9	844.8	SB I-71 Ramps	24	0	23.8	6
10	1214.4	NB I-71 Ramps	28.2	0	29.53	1.8
	6864	**feet**	**313.8**	**3.4**	**21.4**	**178.8**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** HOL Weekday PM

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	40	40	36	40	30	0	0	0
Police Access	36	36	45	45	30	0	0	0
Mall Dr. (Target)	32.14	26.47	28.12	10.71	27.27	0	0	0
Ordner Dr	6.92	24.55	31.76	30	31.76	0	0	0
Placid Cove/West Mall	19.59	30	9.9	35.56	6.49	0	0	0
Falling Water Rd	25.71	4.39	27.69	32.73	27.69	0	0	0
Southpark Mall East	16.36	7.58	15.32	30	27.69	0	0	0
Howe Rd	5.48	5.48	4.17	5.45	30	0	0	0
SB I-71 Ramps	25.95	25.26	26.67	21.82	20.87	0	0	0
NB I-71 Ramps	32.09	23.39	34.5	26.04	35.38	0	0	0
Average Speed	**24.0**	**22.3**	**25.9**	**27.7**	**26.7**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** HOL Weekday PM

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	5.4	5.4	6	5.4	7.2	0	0	0
Police Access	3	3	2.4	2.4	3.6	0	0	0
Mall Dr. (Target)	16.8	20.4	19.2	50.4	19.8	0	0	0
Ordner Dr	46.8	13.2	10.2	10.8	10.2	0	0	0
Placid Cove/West Mall	29.4	19.2	58.2	16.2	88.8	0	0	0
Falling Water Rd	16.8	98.4	15.6	13.2	15.6	0	0	0
Southpark Mall East	26.4	57	28.2	14.4	15.6	0	0	0
Howe Rd	118.2	118.2	155.4	118.8	21.6	0	0	0
SB I-71 Ramps	22.2	22.8	21.6	26.4	27.6	0	0	0
NB I-71 Ramps	25.8	35.4	24	31.8	23.4	0	0	0
Total Travel Time	**310.8**	**393.0**	**340.8**	**289.8**	**233.4**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** HOL Weekday PM

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	1	0	0	0	0
Ordner Dr	1	0	0	0	0	0	0	0
Placid Cove/West Mall	1	0	1	0	1	0	0	0
Falling Water Rd	0	1	0	0	0	0	0	0
Southpark Mall East	0	2	1	0	0	0	0	0
Howe Rd	1	1	5	1	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Stops	**3.0**	**4.0**	**7.0**	**2.0**	**1.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 EB

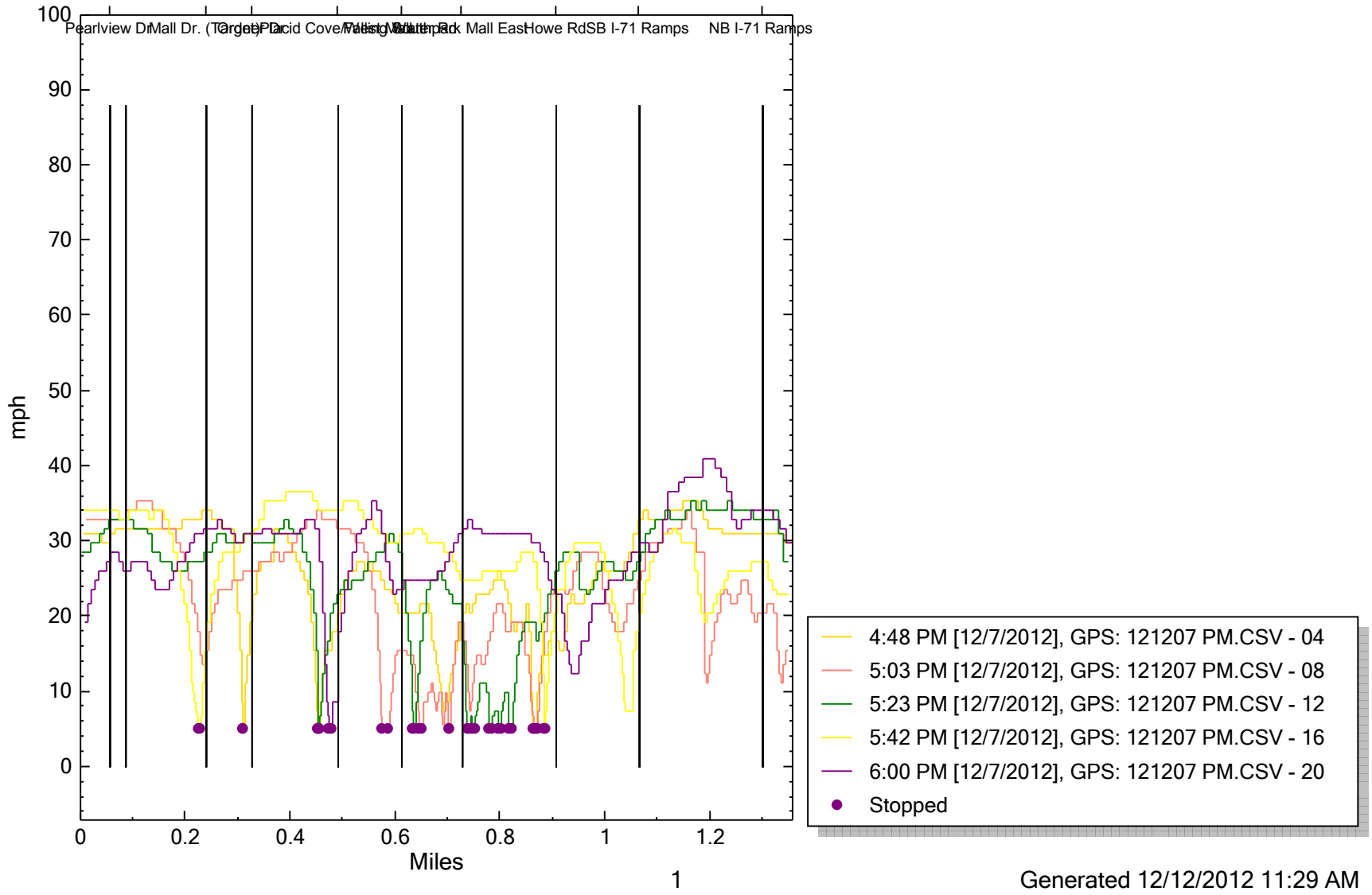
Total Delay by Run **Scenario:** HOL Weekday PM

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	1.2	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	4.8	0	37.8	0	0	0	0
Ordner Dr	39.6	1.2	0	0.6	0	0	0	0
Placid Cove/West Mall	15	0	40.8	0	73.8	0	0	0
Falling Water Rd	0	90	0	0	0	0	0	0
Southpark Mall East	18	57	16.2	0	0	0	0	0
Howe Rd	102	110.4	150.6	97.8	0	0	0	0
SB I-71 Ramps	3	4.8	0	10.8	12	0	0	0
NB I-71 Ramps	0	9	0	1.2	0	0	0	0
Total Delay	**177.6**	**277.2**	**207.6**	**148.2**	**87.0**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



1

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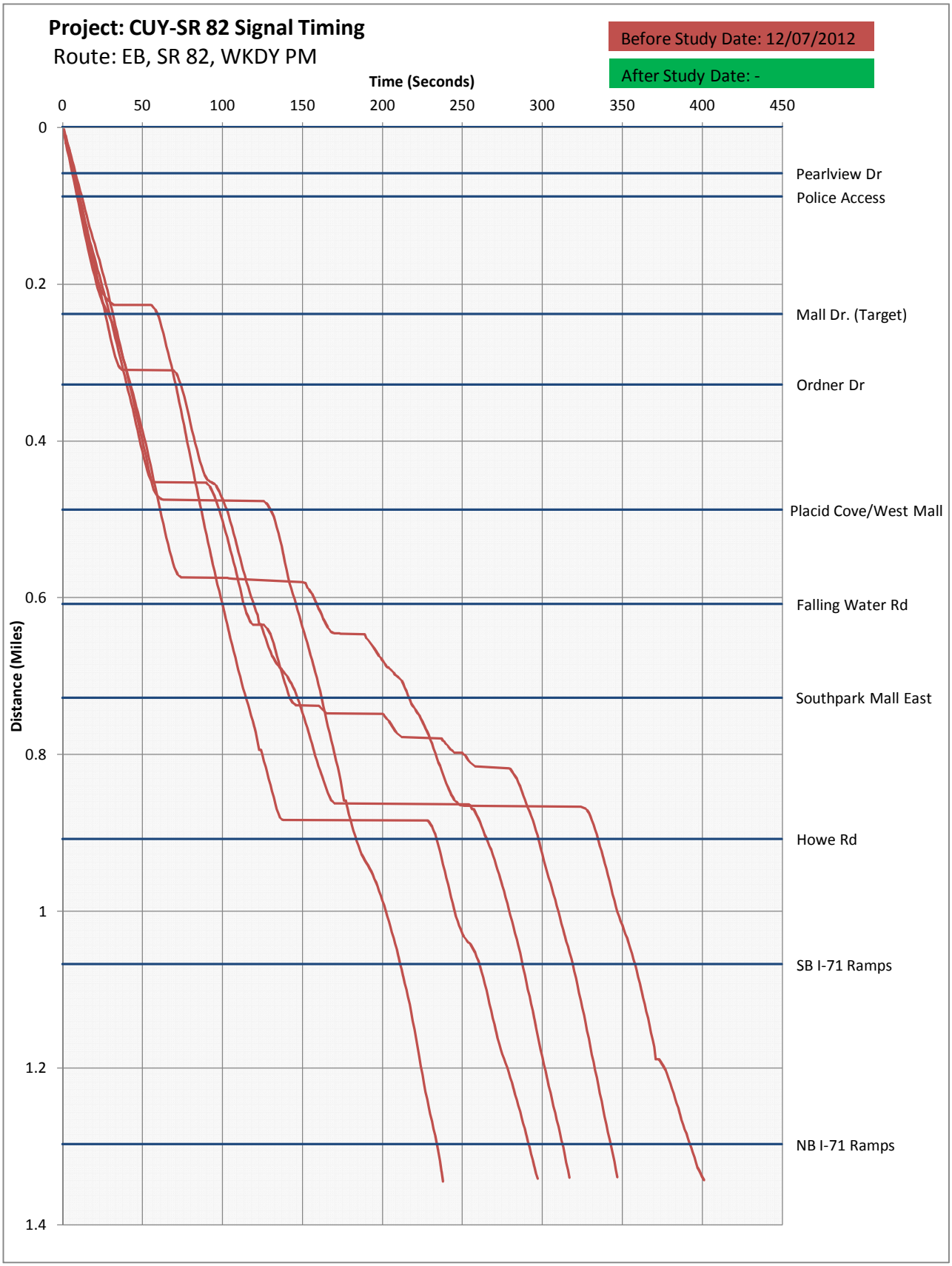

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, WKDY PM
Before Study Date: 12/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
400
450
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** HOL Weekday PM

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	25.56	1	7.468	22.8
2	1214.4	SB I-71 Ramps	190.92	3.4	4.93	179.76
3	844.8	Howe Rd	57.24	1.4	10.46	45.96
4	950.4	Southpark Mall East	46.32	0.6	21.2	28.2
5	633.6	Falling Water Rd	13.08	0	33.32	0
6	633.6	Placid Cove/West Mall	42.36	0.6	16.45	30.6
7	844.8	Ordner Dr	22.2	0	26.42	2.64
8	475.2	Mall Dr. (Target)	12.84	0.2	29.35	3.24
9	792	Police Access	18.24	0	29.83	0
10	158.4	Pearlview Dr	4.2	0	25.93	0
	6811.2	**feet**	**407.4**	**7.2**	**20.5**	**313.2**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** HOL Weekday PM

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	10.71	8.57	6.25	5.56	6.25	0	0	0
SB I-71 Ramps	9.32	4.05	3.88	3.68	3.72	0	0	0
Howe Rd	8.5	8.42	14.33	11.16	9.9	0	0	0
Southpark Mall East	7.15	32.73	22.5	8.78	34.84	0	0	0
Falling Water Rd	32.73	36	30	30	37.89	0	0	0
Placid Cove/West Mall	34.29	7.42	6.67	26.67	7.2	0	0	0
Ordner Dr	22.33	30	27.43	22.33	30	0	0	0
Mall Dr. (Target)	30	13.5	25.71	36	41.54	0	0	0
Police Access	30	29.03	26.47	34.62	29.03	0	0	0
Pearlview Dr	30	25.71	22.5	25.71	25.71	0	0	0
Average Speed	**21.5**	**19.5**	**18.6**	**20.5**	**22.6**	**0.0**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** HOL Weekday PM

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	16.8	21	28.8	32.4	28.8	0	0	0
SB I-71 Ramps	88.8	204.6	213.6	225	222.6	0	0	0
Howe Rd	67.8	68.4	40.2	51.6	58.2	0	0	0
Southpark Mall East	90.6	19.8	28.8	73.8	18.6	0	0	0
Falling Water Rd	13.2	12	14.4	14.4	11.4	0	0	0
Placid Cove/West Mall	12.6	58.2	64.8	16.2	60	0	0	0
Ordner Dr	25.8	19.2	21	25.8	19.2	0	0	0
Mall Dr. (Target)	10.8	24	12.6	9	7.8	0	0	0
Police Access	18	18.6	20.4	15.6	18.6	0	0	0
Pearlview Dr	3.6	4.2	4.8	4.2	4.2	0	0	0
Total Travel Time	**348.0**	**450.0**	**449.4**	**468.0**	**449.4**	**0.0**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** HOL Weekday PM

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	1	1	1	1	0	0	0
SB I-71 Ramps	2	4	5	4	2	0	0	0
Howe Rd	1	3	1	1	1	0	0	0
Southpark Mall East	2	0	0	1	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	1	1	0	1	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	1	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**6.0**	**10.0**	**8.0**	**7.0**	**5.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 WB

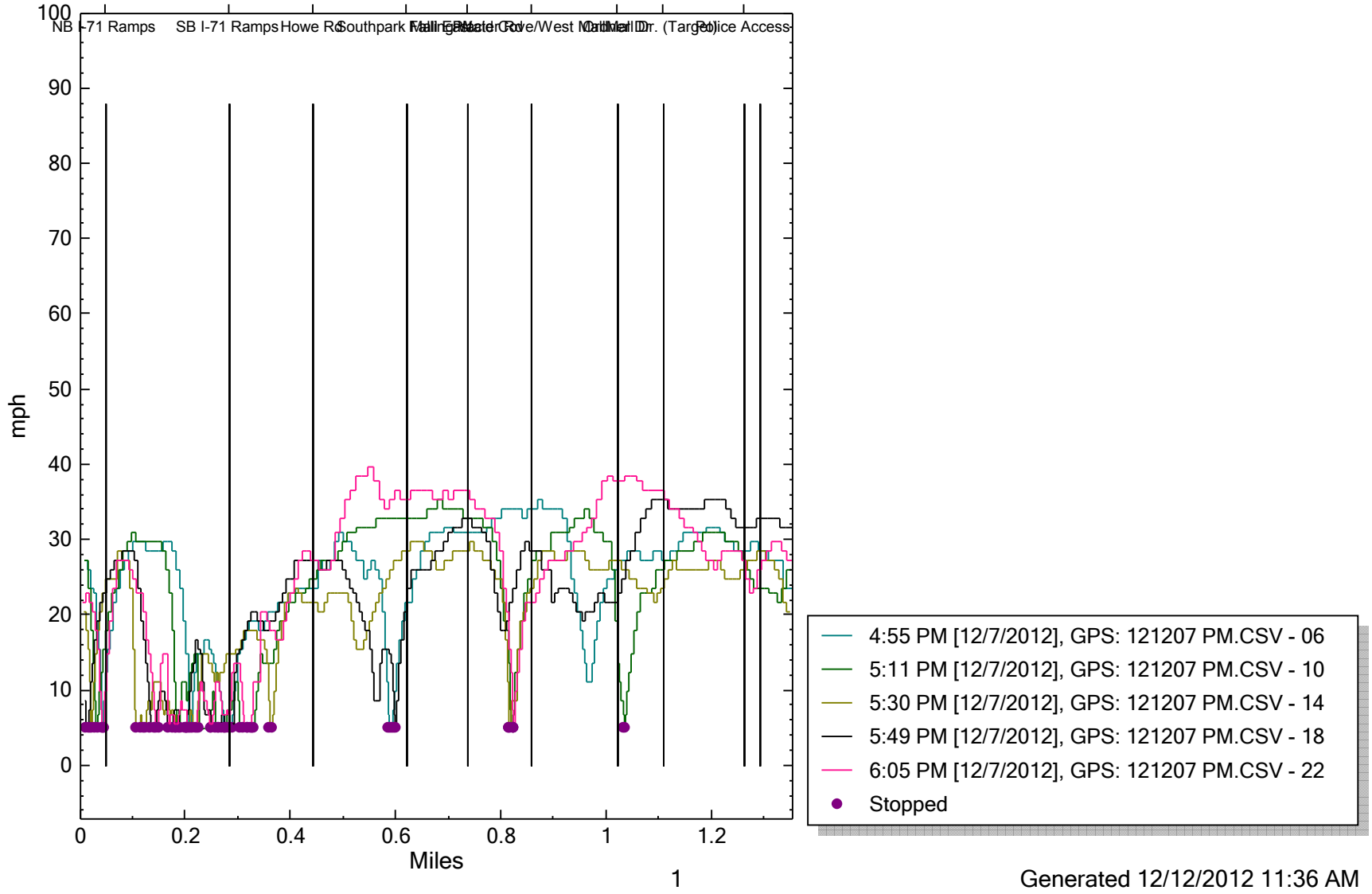
Total Delay by Run **Scenario:** HOL Weekday PM

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	13.2	19.2	25.8	30.6	25.2	0	0	0
SB I-71 Ramps	72	188.4	207.6	217.2	213.6	0	0	0
Howe Rd	54	59.4	30.6	39	46.8	0	0	0
Southpark Mall East	72	0	7.8	61.2	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	48	52.8	3	49.2	0	0	0
Ordner Dr	10.2	1.8	0	1.2	0	0	0	0
Mall Dr. (Target)	0	16.2	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**221.4**	**333.0**	**324.6**	**352.2**	**334.8**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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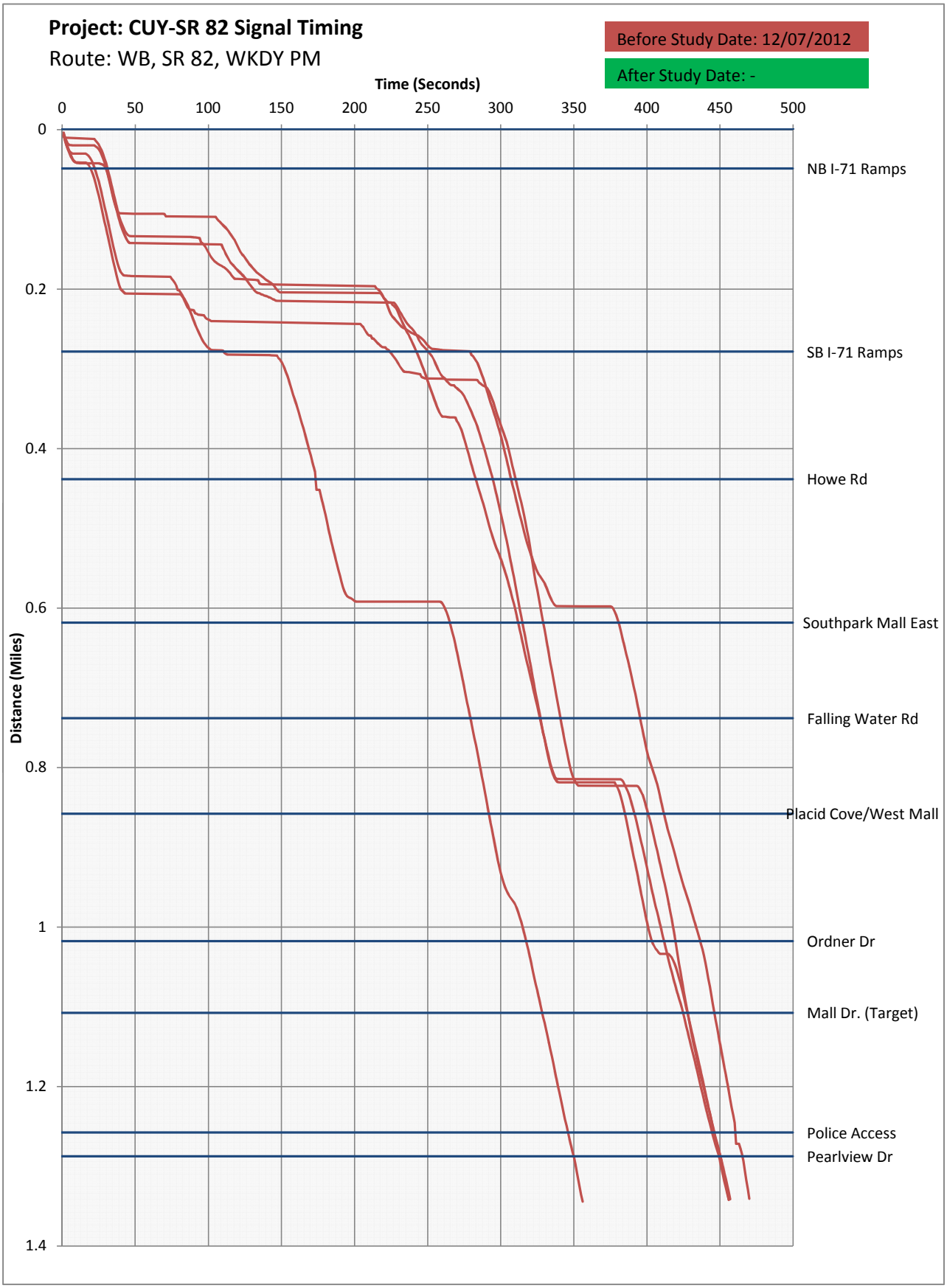

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, WKDY PM
Before Study Date: 12/07/2012
After Study Date: -
Time (Seconds)
0
50
100
150
200
250
300
350
400
450
500
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** HOL SAT Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	14.4	0.33	15.29	9.6
2	158.4	Police Access	3	0	37.64	0
3	792	Mall Dr. (Target)	32.4	0.33	16.77	15
4	475.2	Ordner Dr	13.2	0.17	24.25	4.2
5	844.8	Placid Cove/West Mall	37.8	0.33	15.33	21
6	633.6	Falling Water Rd	13.2	0	32.27	0
7	633.6	Southpark Mall East	35.4	0.33	12.19	24
8	950.4	Howe Rd	76.8	1	8.44	61.2
9	844.8	SB I-71 Ramps	19.2	0	29.63	1.8
10	1214.4	NB I-71 Ramps	24	0	34.38	0
	6864	**feet**	**269.4**	**2.5**	**22.6**	**136.8**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** HOL SAT Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	36	21.18	36	6.43	32.73	9.73	0	0
Police Access	60	30	45	36	36	36	0	0
Mall Dr. (Target)	30	25	9.68	30	8.65	31.03	0	0
Ordner Dr	33.75	28.42	14.21	31.76	18.62	33.75	0	0
Placid Cove/West Mall	8.14	6.71	30.97	34.29	34.29	34.29	0	0
Falling Water Rd	28.8	30	32.73	36	34.29	31.3	0	0
Southpark Mall East	37.89	40	34.29	6.21	28.8	4.65	0	0
Howe Rd	34.84	38.57	6.1	15.88	5.84	3.87	0	0
SB I-71 Ramps	38.4	36.92	25.95	30	25.95	26.67	0	0
NB I-71 Ramps	39.43	36.32	33.66	30.67	35.38	32.09	0	0
Average Speed	**34.7**	**29.3**	**26.9**	**25.7**	**26.1**	**24.3**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** HOL SAT Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	6	10.2	6	33.6	6.6	22.2	0	0
Police Access	1.8	3.6	2.4	3	3	3	0	0
Mall Dr. (Target)	18	21.6	55.8	18	62.4	17.4	0	0
Ordner Dr	9.6	11.4	22.8	10.2	17.4	9.6	0	0
Placid Cove/West Mall	70.8	85.8	18.6	16.8	16.8	16.8	0	0
Falling Water Rd	15	14.4	13.2	12	12.6	13.8	0	0
Southpark Mall East	11.4	10.8	12.6	69.6	15	93	0	0
Howe Rd	18.6	16.8	106.2	40.8	111	167.4	0	0
SB I-71 Ramps	15	15.6	22.2	19.2	22.2	21.6	0	0
NB I-71 Ramps	21	22.8	24.6	27	23.4	25.8	0	0
Total Travel Time	**187.2**	**213.0**	**284.4**	**250.2**	**290.4**	**390.6**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** HOL SAT Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	1	0	1	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	1	0	1	0	0	0
Ordner Dr	0	0	1	0	0	0	0	0
Placid Cove/West Mall	1	1	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	1	0	1	0	0
Howe Rd	0	0	1	2	1	2	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Stops	**1.0**	**1.0**	**3.0**	**4.0**	**2.0**	**4.0**	**0.0**	**0.0**

Route: SR 82 EB

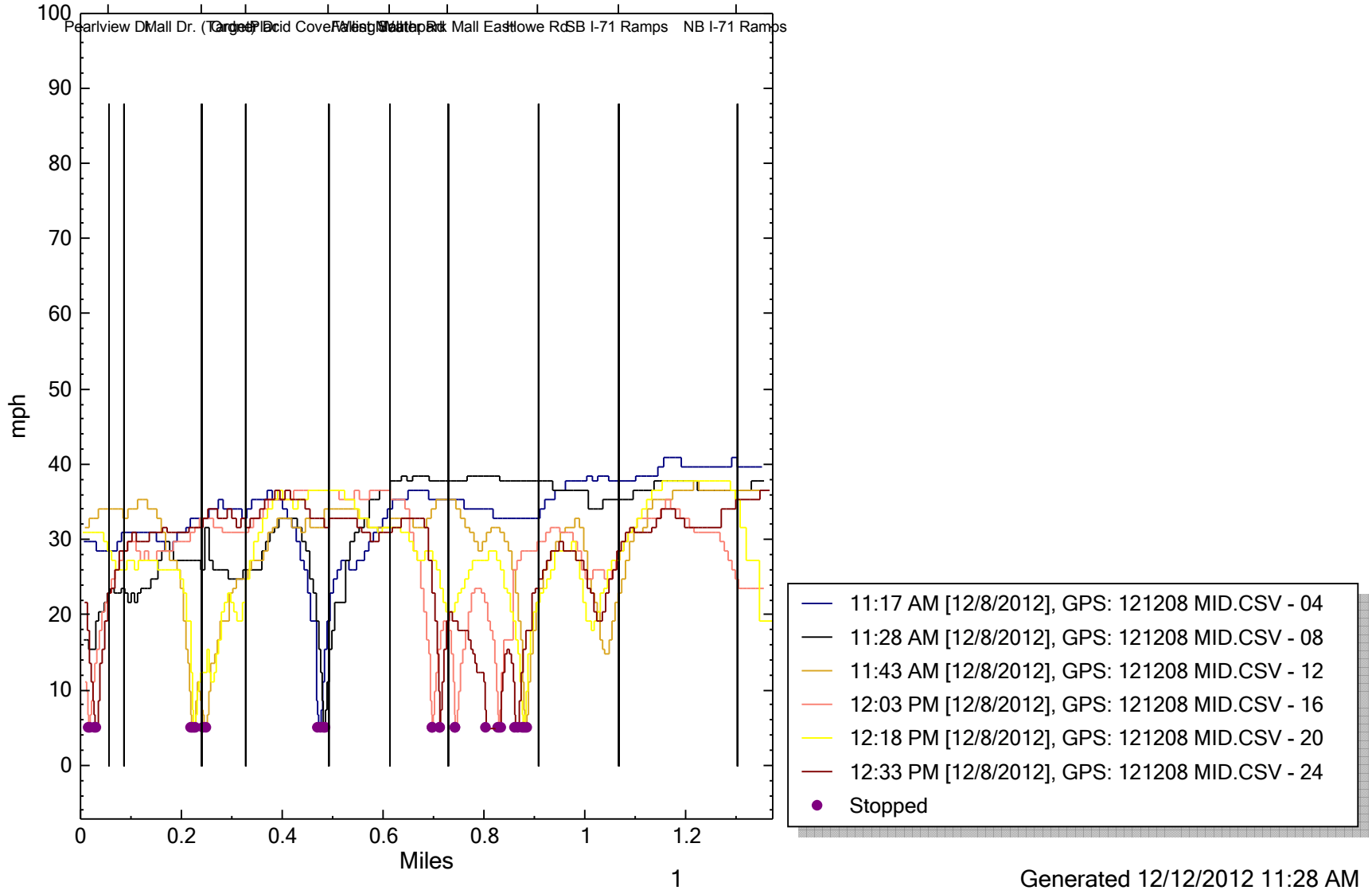
Total Delay by Run **Scenario:** HOL SAT Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	6.6	0	30.6	0	19.8	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	42.6	0	46.8	0	0	0
Ordner Dr	0	0	15	0	10.2	0	0	0
Placid Cove/West Mall	57.6	69.6	0	0	0	0	0	0
Falling Water Rd	0	1.2	0	0	0	0	0	0
Southpark Mall East	0	0	0	61.8	0	83.4	0	0
Howe Rd	0	0	88.8	25.2	91.2	163.2	0	0
SB I-71 Ramps	0	0	6	0	4.2	1.8	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Delay	**57.6**	**77.4**	**152.4**	**117.6**	**152.4**	**268.2**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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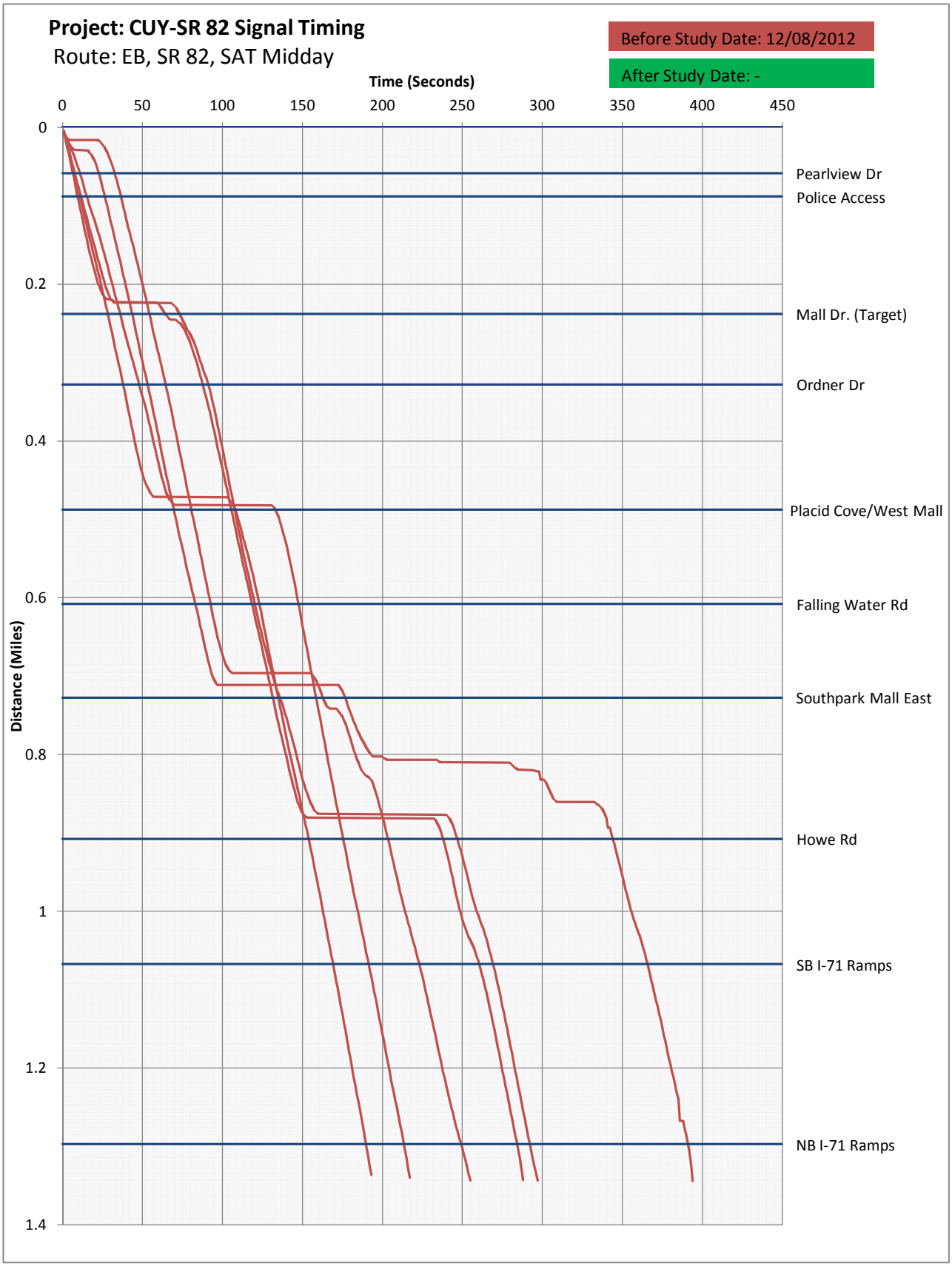
Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, SAT Midday
Before Study Date: 12/08/2012
After Study Date: -
Time (Seconds)
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50
100
150
200
250
300
350
400
450
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** HOL SAT Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	16.70	0.5	16.73	14.3
2	1214.4	SB I-71 Ramps	42.60	0.5	20.80	18.2
3	844.8	Howe Rd	70.80	1.5	8.32	59
4	950.4	Southpark Mall East	48.00	0.5	18.69	29.7
5	633.6	Falling Water Rd	16.20	0.17	28.11	2.3
6	633.6	Placid Cove/West Mall	37.80	0.67	17.80	26
7	844.8	Ordner Dr	21.20	0.00	27.49	1.7
8	475.2	Mall Dr. (Target)	19.80	0.33	23.27	10.5
9	792	Police Access	22.90	0.17	25.34	4.2
10	158.4	Pearlview Dr	4.30	0.00	25.65	0.7
	6811.2	**feet**	**300.3**	**4.3**	**21.2**	**152.3**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** HOL SAT Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	5.88	18.75	23.08	7.5	37.5	7.69	0	0
SB I-71 Ramps	26.54	13.8	20.91	14.53	26.04	23	0	0
Howe Rd	9.14	8.28	6.27	10.21	7.93	8.07	0	0
Southpark Mall East	27.69	8.12	26.34	15.43	6.84	27.69	0	0
Falling Water Rd	32.73	17.56	36	26.67	30	25.71	0	0
Placid Cove/West Mall	31.3	18	10	7.42	34.29	5.76	0	0
Ordner Dr	26.67	23.41	33.1	28.24	25.26	28.24	0	0
Mall Dr. (Target)	33.75	28.42	14.21	6.21	27	30	0	0
Police Access	13.64	25.71	30	28.12	26.47	28.12	0	0
Pearlview Dr	25.71	25.71	20	30	22.5	30	0	0
Average Speed	**23.3**	**18.8**	**22.0**	**17.4**	**24.4**	**21.4**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** HOL SAT Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	30.6	9.6	7.8	24	4.8	23.4	0	0
SB I-71 Ramps	31.2	60	39.6	57	31.8	36	0	0
Howe Rd	63	69.6	91.8	56.4	72.6	71.4	0	0
Southpark Mall East	23.4	79.8	24.6	42	94.8	23.4	0	0
Falling Water Rd	13.2	24.6	12	16.2	14.4	16.8	0	0
Placid Cove/West Mall	13.8	24	43.2	58.2	12.6	75	0	0
Ordner Dr	21.6	24.6	17.4	20.4	22.8	20.4	0	0
Mall Dr. (Target)	9.6	11.4	22.8	52.2	12	10.8	0	0
Police Access	39.6	21	18	19.2	20.4	19.2	0	0
Pearlview Dr	4.2	4.2	5.4	3.6	4.8	3.6	0	0
Total Travel Time	**250.2**	**328.8**	**282.6**	**349.2**	**291.0**	**300.0**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** HOL SAT Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	0	0	1	0	1	0	0
SB I-71 Ramps	0	1	1	1	0	0	0	0
Howe Rd	1	1	2	2	2	1	0	0
Southpark Mall East	0	1	0	1	1	0	0	0
Falling Water Rd	0	1	0	0	0	0	0	0
Placid Cove/West Mall	0	1	1	1	0	1	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	1	1	0	0	0	0
Police Access	1	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**3.0**	**5.0**	**5.0**	**7.0**	**3.0**	**3.0**	**0.0**	**0.0**

Route: SR 82 WB

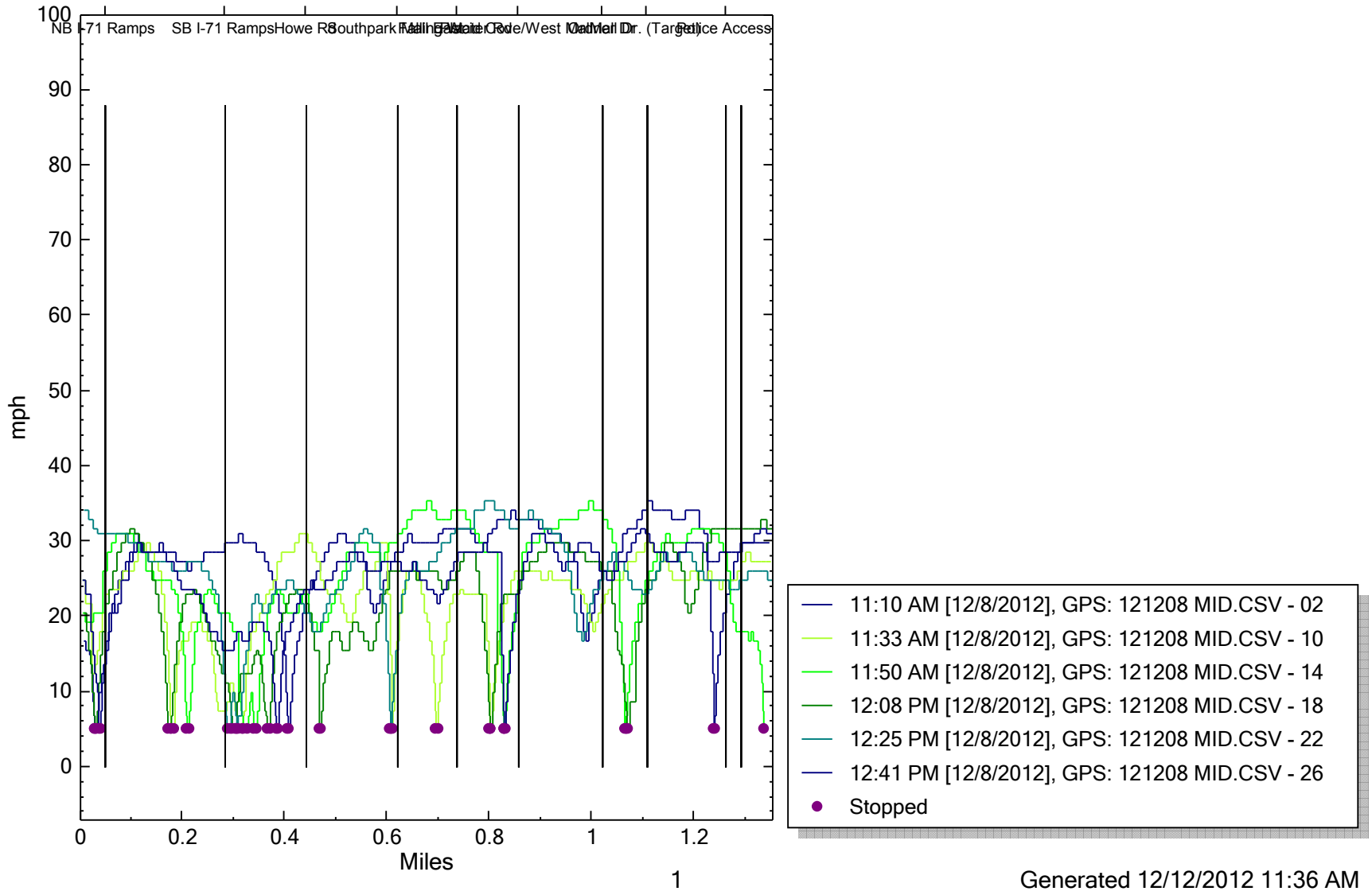
Total Delay by Run **Scenario:** HOL SAT Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	30.6	7.2	3	22.8	0	22.2	0	0
SB I-71 Ramps	1.8	45	13.2	37.2	3	9	0	0
Howe Rd	48	57	78	48	56.4	66.6	0	0
Southpark Mall East	0	59.4	6	34.8	78	0	0	0
Falling Water Rd	0	13.8	0	0	0	0	0	0
Placid Cove/West Mall	0	10.8	34.2	46.2	0	64.8	0	0
Ordner Dr	3	3	0	0	4.2	0	0	0
Mall Dr. (Target)	0	0	16.2	46.8	0	0	0	0
Police Access	25.2	0	0	0	0	0	0	0
Pearlview Dr	0	0	4.2	0	0	0	0	0
Total Delay	**108.6**	**196.2**	**154.8**	**235.8**	**141.6**	**162.6**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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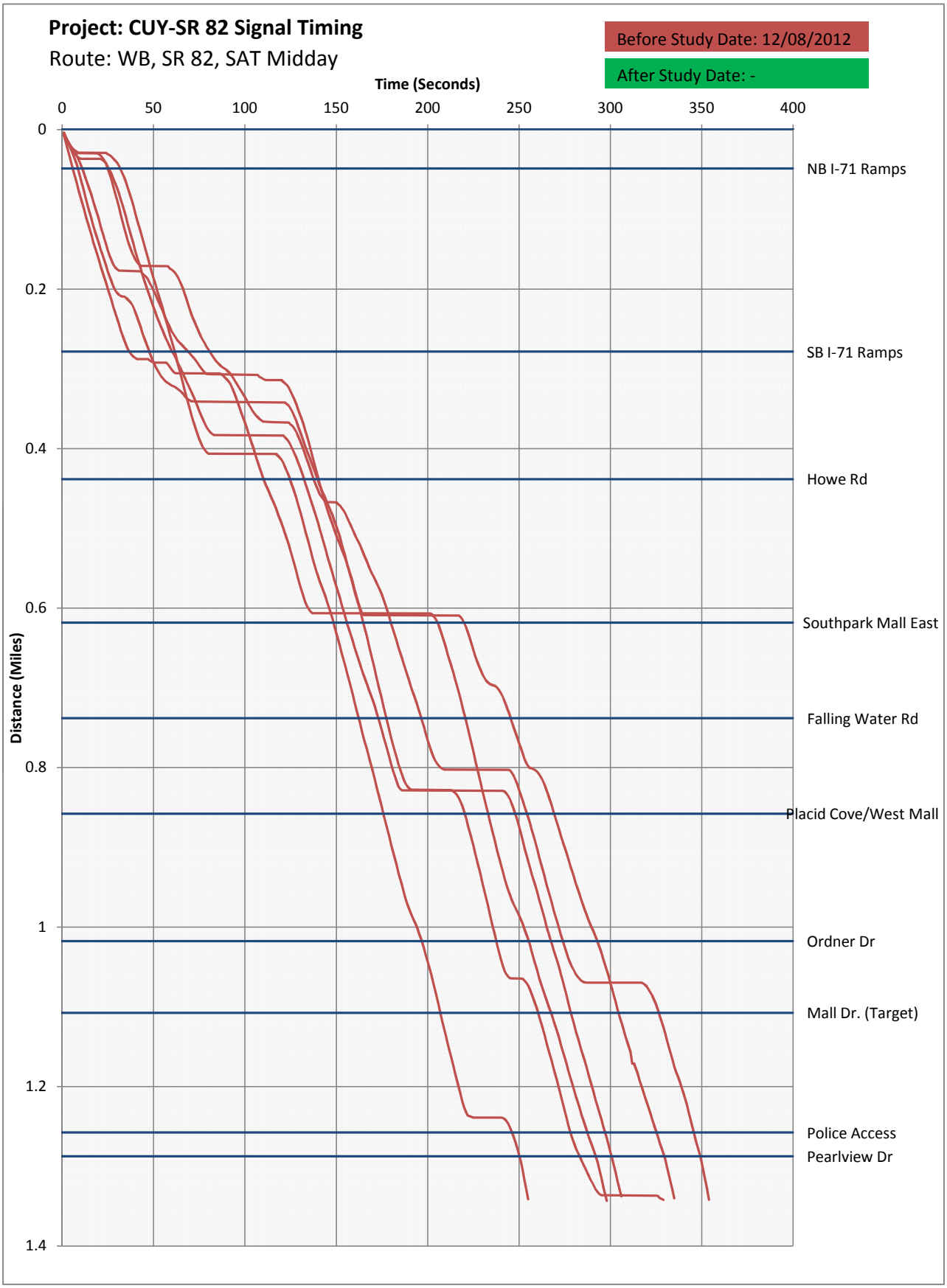
Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, SAT Midday
Before Study Date: 12/08/2012
After Study Date: -
Time (Seconds)
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50
100
150
200
250
300
350
400
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Appendix H:

Optimized Travel Time Study Reports

Route: I-71 & SR 82 NB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	422.4	Howe Rd	58.2	0.75	4.97	54.6
2	844.8	SB I-71 Ramps	58.8	1	9.77	44.4
	1267.2	**feet**	**117.0**	**1.8**	**7.4**	**99.0**
	0.24	**miles**				

Route: I-71 & SR 82 NB

Average Speed by Run

Scenario: AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	20	2.7	2.96	8.89	22.86	2.62	5.93	6.86
SB I-71 Ramps	10.79	10.32	17.45	10	9.7	8	8.28	8.28
Average Speed	**15.4**	**6.5**	**10.2**	**9.4**	**16.3**	**5.3**	**7.1**	**7.6**

Route: I-71 & SR 82 NB

Travel Time by Run

Scenario: AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	14.4	106.8	97.2	32.4	12.6	109.8	48.6	42
SB I-71 Ramps	53.4	55.8	33	57.6	59.4	72	69.6	69.6
Total Travel Time	**67.8**	**162.6**	**130.2**	**90.0**	**72.0**	**181.8**	**118.2**	**111.6**

Route: I-71 & SR 82 NB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	0	1	1	1	0	1	1	1
SB I-71 Ramps	1	1	1	1	1	1	1	1
Total Stops	**1.0**	**2.0**	**2.0**	**2.0**	**1.0**	**2.0**	**2.0**	**2.0**

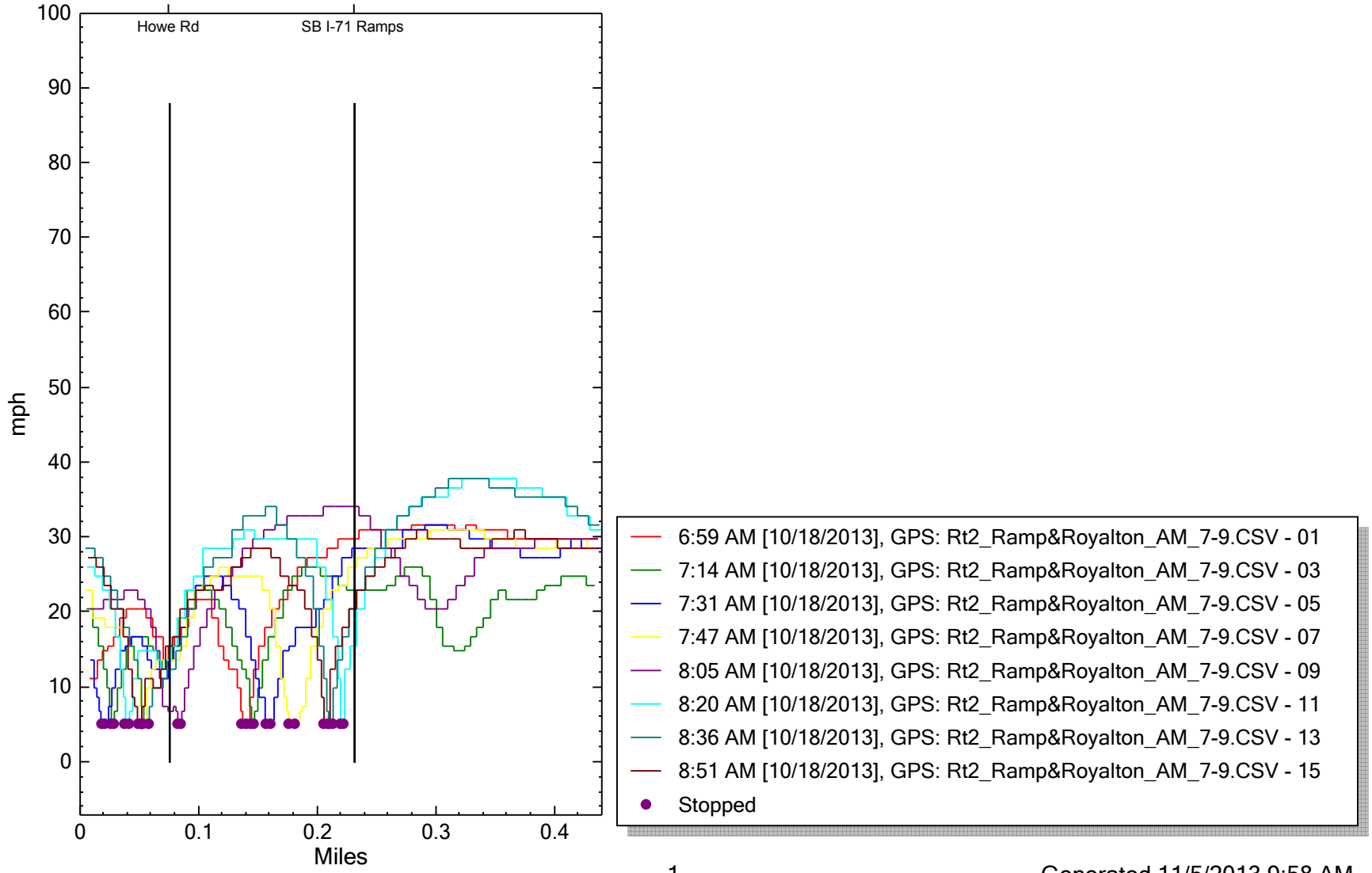
Route: I-71 & SR 82 NB

Total Delay by Run

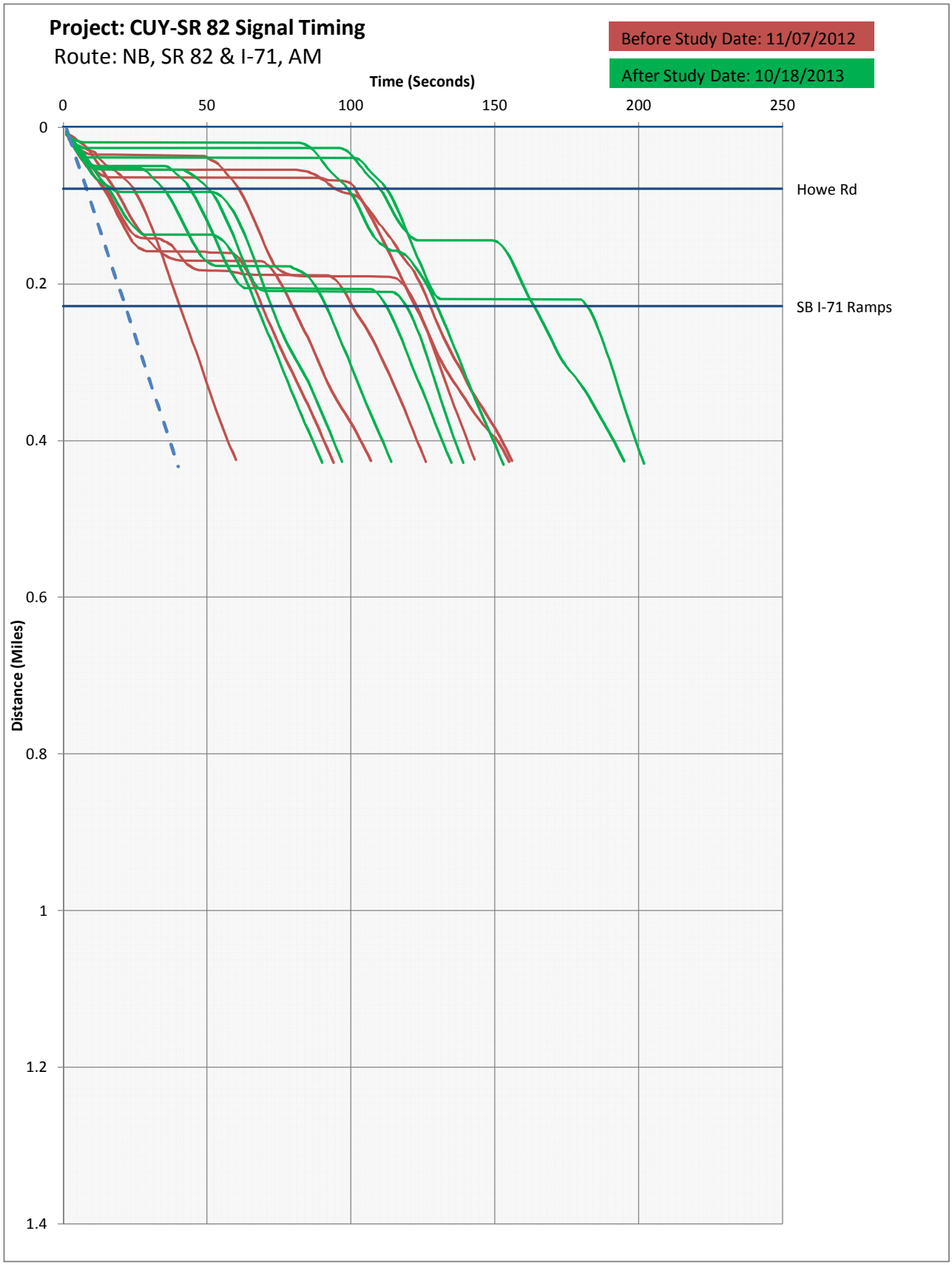
Scenario: AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	11.4	106.2	97.2	31.8	3	106.2	43.8	37.2
SB I-71 Ramps	40.8	42	21	43.2	45	57	54	52.8
Total Delay	**52.2**	**148.2**	**118.2**	**75.0**	**48.0**	**163.2**	**97.8**	**90.0**

Speed Profile - I-71 & SR 82 NB



Generated 11/5/2013 9:58 AM


Project: CUY-SR 82 Signal Timing
Route: NB, SR 82 & I-71, AM
Before Study Date: 11/07/2012
After Study Date: 10/18/2013
Time (Seconds)
0
50
100
150
200
250
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Howe Rd
SB I-71 Ramps

Route: I-71 & SR 82 NB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	422.4	Howe Rd	46.2	0.75	6.27	41.4
2	844.8	SB I-71 Ramps	45	0.62	12.84	30.6
	1267.2	**feet**	**91.2**	**1.4**	**9.6**	**72.0**
	0.24	**miles**				

Route: I-71 & SR 82 NB

Average Speed by Run **Scenario:** PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	4.32	3.69	3.56	25.26	5.52	17.14	9.06	9.6
SB I-71 Ramps	36.92	8.73	33.1	10.11	8.57	10.55	36.92	8.81
Average Speed	**20.6**	**6.2**	**18.3**	**17.7**	**7.0**	**13.8**	**23.0**	**9.2**

Route: I-71 & SR 82 NB

Travel Time by Run

Scenario: PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	66.6	78	81	11.4	52.2	16.8	31.8	30
SB I-71 Ramps	15.6	66	17.4	57	67.2	54.6	15.6	65.4
Total Travel Time	**82.2**	**144.0**	**98.4**	**68.4**	**119.4**	**71.4**	**47.4**	**95.4**

Route: I-71 & SR 82 NB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	1	1	1	0	1	0	1	1
SB I-71 Ramps	0	1	0	1	1	1	0	1
Total Stops	**1.0**	**2.0**	**1.0**	**1.0**	**2.0**	**1.0**	**1.0**	**2.0**

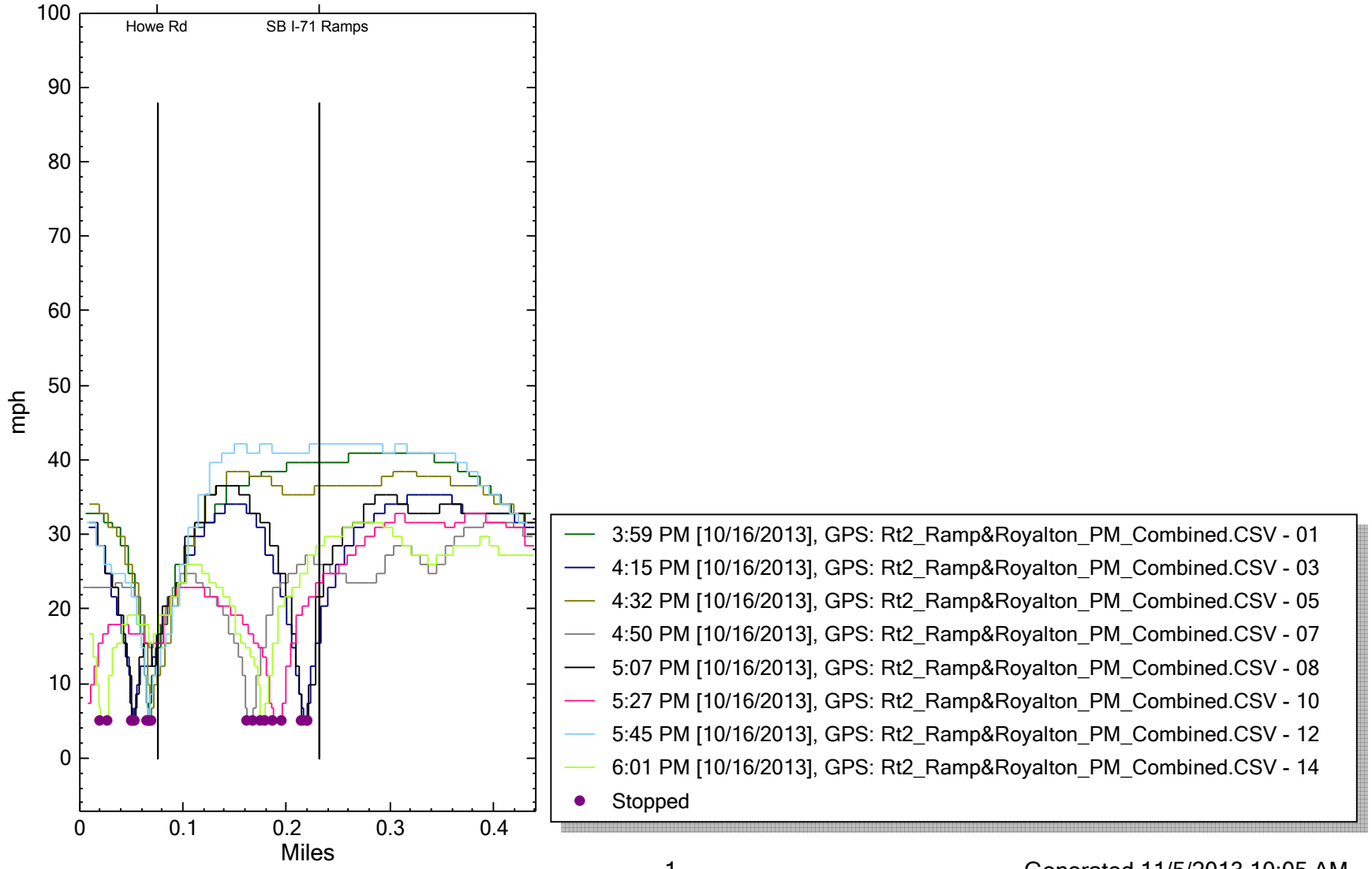
Route: I-71 & SR 82 NB

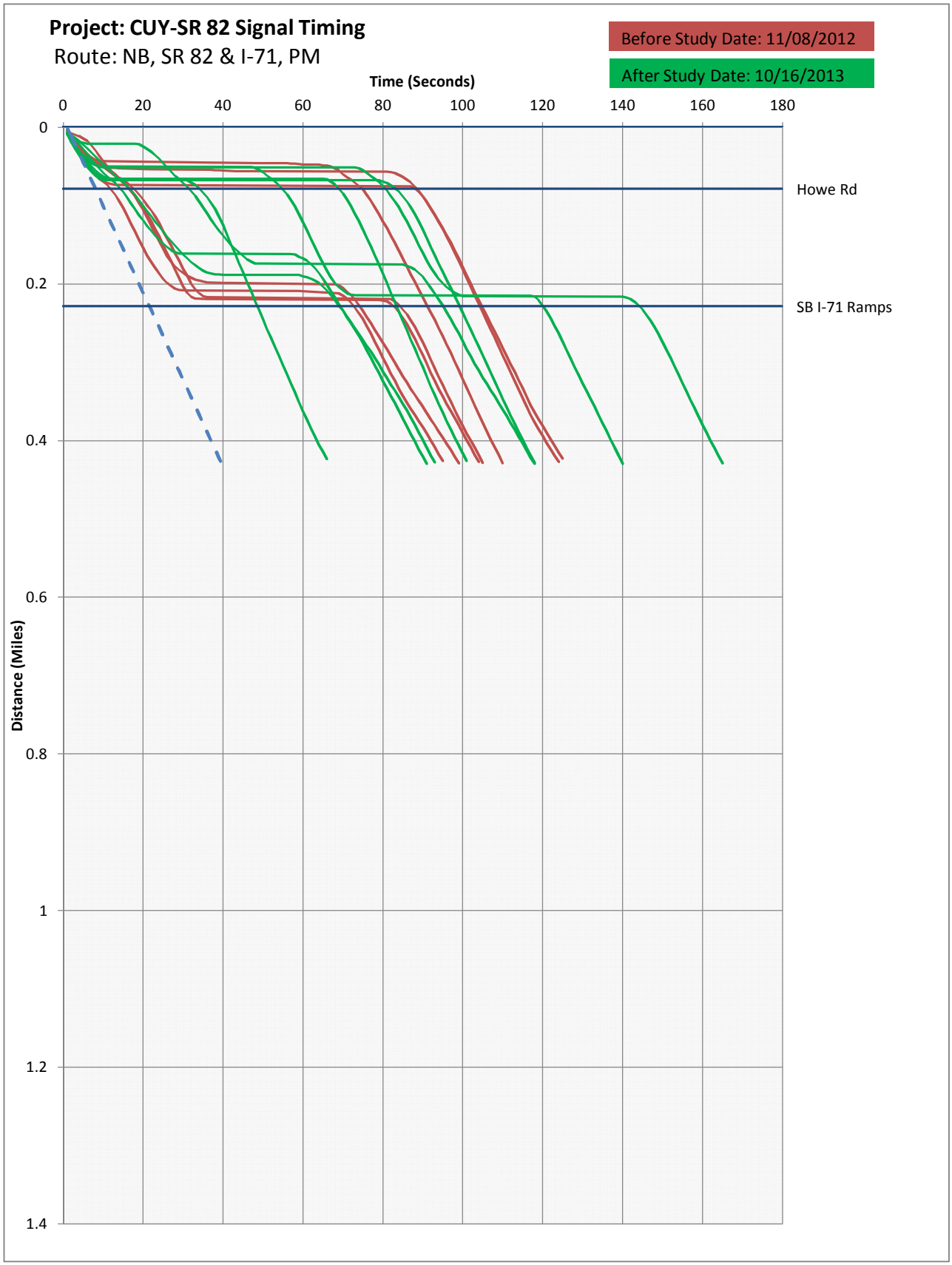
Total Delay by Run

Scenario: PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Howe Rd	60	73.8	75	3	48	16.8	25.2	30
SB I-71 Ramps	1.2	52.8	1.8	42	52.2	42	1.8	49.8
Total Delay	**61.2**	**126.6**	**76.8**	**45.0**	**100.2**	**58.8**	**27.0**	**79.8**

Speed Profile - I-71 & SR 82 NB




Project: CUY-SR 82 Signal Timing
Route: NB, SR 82 & I-71, PM
Before Study Date: 11/08/2012
After Study Date: 10/16/2013
Time (Seconds)
0
20
40
60
80
100
120
140
160
180
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Howe Rd
SB I-71 Ramps

Route: I-71 & SR 82 SB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	633.6	Checkpoint1	18	0.12	24.21	6.6
2	211.2	Checkpoint2	16.8	0.5	8.51	14.4
3	158.4	SB I-71 Ramps	5.4	0	20.03	0.6
4	792	Howe Rd	111.6	1	4.85	98.4
	1795.2	**feet**	**151.8**	**1.6**	**14.4**	**120.0**
	0.34	**miles**				

Route: I-71 & SR 82 SB

Average Speed by Run **Scenario:** AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	34.29	8.18	27.69	30	31.3	37.89	34.29	42.35
Checkpoint2	4.62	20	6.67	3.69	7.06	24	26.67	34.29
SB I-71 Ramps	18	20	20	20	20	18	20	25.71
Howe Rd	4.21	4.52	4.37	4.23	3.96	6.57	6	6.47
Average Speed	**15.3**	**13.2**	**14.7**	**14.5**	**15.6**	**21.6**	**21.7**	**27.2**

Route: I-71 & SR 82 SB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	12.6	52.8	15.6	14.4	13.8	11.4	12.6	10.2
Checkpoint2	31.2	7.2	21.6	39	20.4	6	5.4	4.2
SB I-71 Ramps	6	5.4	5.4	5.4	5.4	6	5.4	4.2
Howe Rd	128.4	119.4	123.6	127.8	136.2	82.2	90	83.4
Total Travel Time	**178.2**	**184.8**	**166.2**	**186.6**	**175.8**	**105.6**	**113.4**	**102.0**

Route: I-71 & SR 82 SB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	0	1	0	0	0	0	0	0
Checkpoint2	1	0	1	1	1	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
Howe Rd	1	1	1	1	1	1	1	1
Total Stops	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**1.0**	**1.0**	**1.0**

Route: I-71 & SR 82 SB

Total Delay by Run **Scenario:** AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	0	42	4.2	3	3	0	0	0
Checkpoint2	30	4.8	21.6	37.2	19.2	0	0	0
SB I-71 Ramps	3	0	1.2	0	0	0	0	0
Howe Rd	115.8	105.6	112.2	118.2	123	67.8	76.8	70.2
Total Delay	**148.8**	**152.4**	**139.2**	**158.4**	**145.2**	**67.8**	**76.8**	**70.2**

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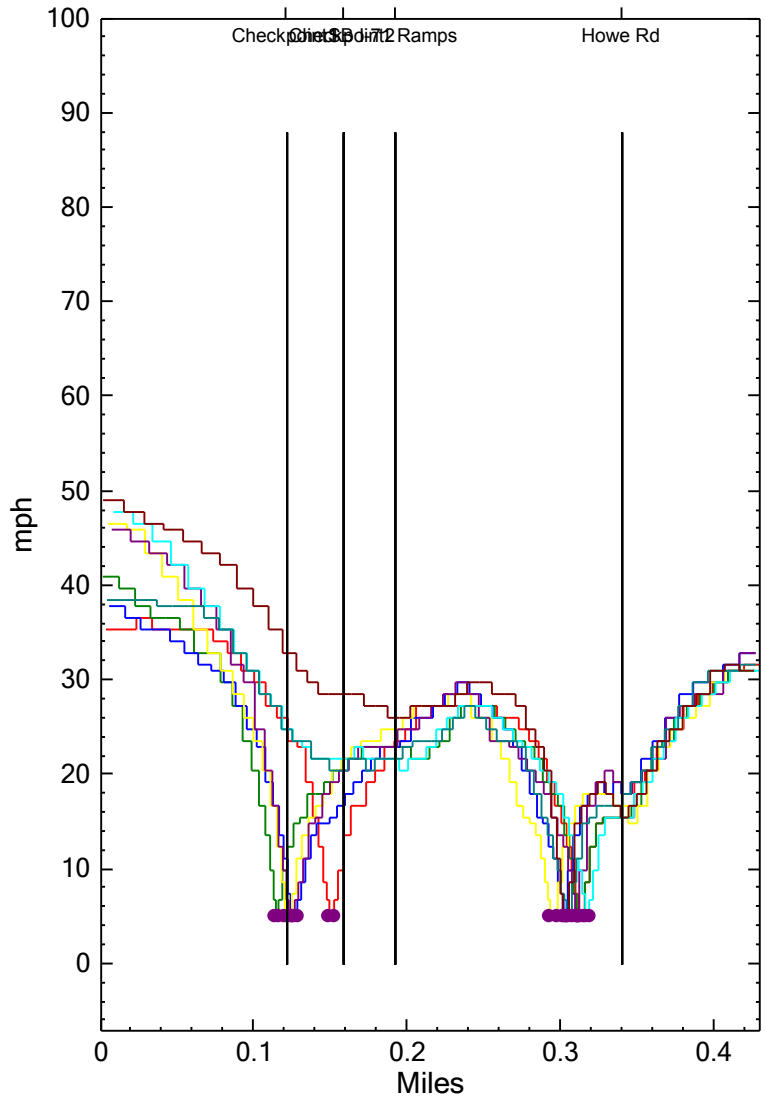
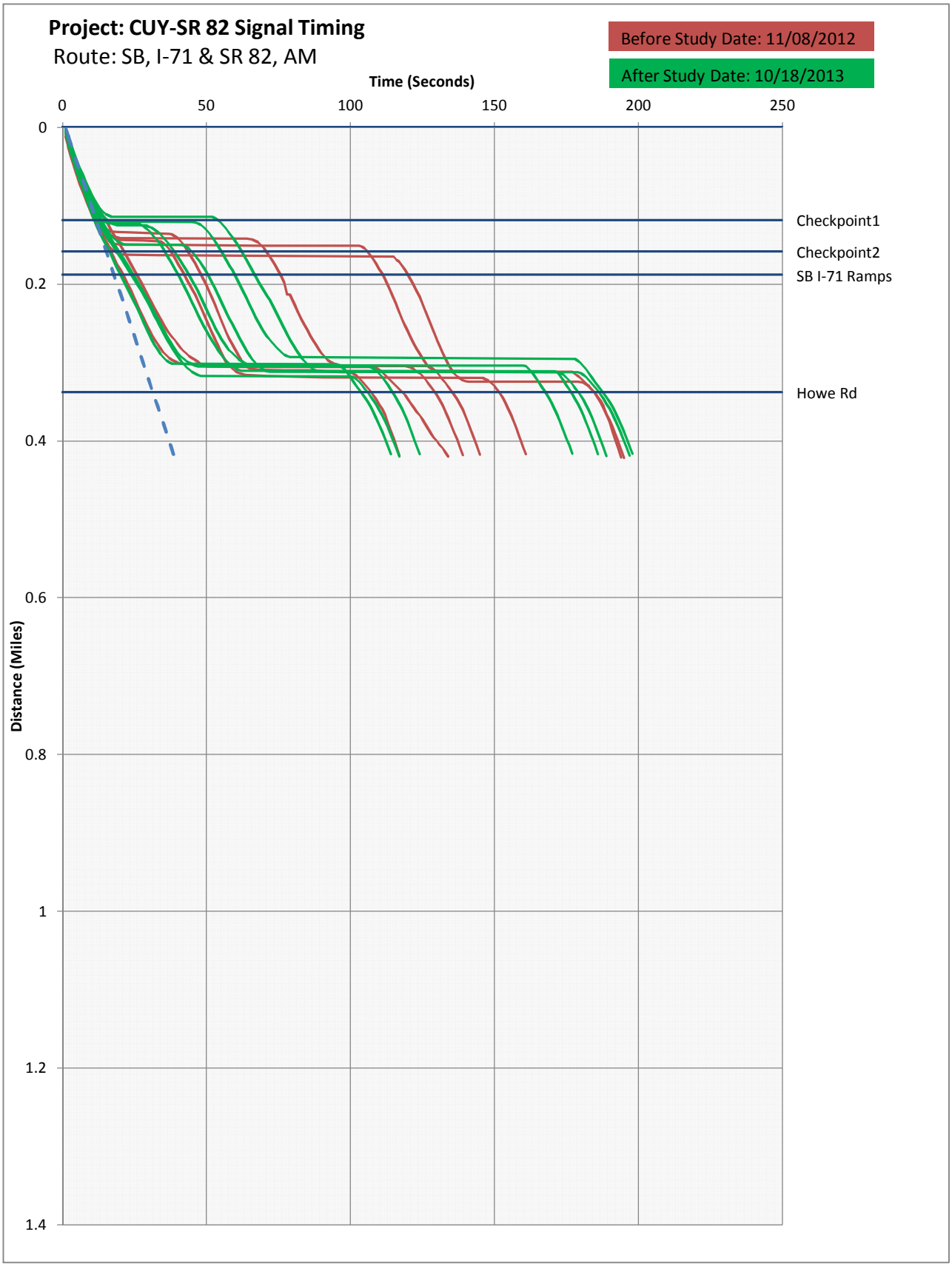
Speed Profile - I-71 & SR 82 SB

SR 82 Travel Time Study



7:08 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 02
7:24 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 04
7:41 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 06
7:57 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 08
8:14 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 10
8:31 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 12
8:46 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 14
9:01 AM [10/18/2013], GPS: Rt2_Ramp&Royalton_AM_7-9.CSV - 16
Stopped

Generated 11/5/2013 10:03 AM


Project: CUY-SR 82 Signal Timing
Route: SB, I-71 & SR 82, AM
Before Study Date: 11/08/2012
After Study Date: 10/18/2013
Time (Seconds)
0
50
100
150
200
250
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Checkpoint1
Checkpoint2
SB I-71 Ramps
Howe Rd

Route: I-71 & SR 82 SB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	633.6	Checkpoint1	21	0.29	20.77	9
2	211.2	Checkpoint2	72	0.86	2	71.4
3	158.4	SB I-71 Ramps	23.4	0.14	4.66	19.8
4	792	Howe Rd	103.8	1	5.2	91.2
	1795.2	**feet**	**220.2**	**2.3**	**8.2**	**191.4**
	0.34	**miles**				

Route: I-71 & SR 82 SB

Average Speed by Run

Scenario: PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	25.71	32.73	31.3	14.4	40	9.11	32.73	0
Checkpoint2	2.22	1.66	1.6	34.29	1.46	1.73	1.9	0
SB I-71 Ramps	18	20	20	22.5	18	15	0.85	0
Howe Rd	4.89	5.39	5.11	6.29	5	5.06	4.92	0
Average Speed	**12.7**	**14.9**	**14.5**	**19.4**	**16.1**	**7.7**	**10.1**	**0.0**

Route: I-71 & SR 82 SB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	16.8	13.2	13.8	30	10.8	47.4	13.2	0
Checkpoint2	64.8	87	90	4.2	98.4	83.4	75.6	0
SB I-71 Ramps	6	5.4	5.4	4.8	6	7.2	127.2	0
Howe Rd	110.4	100.2	105.6	85.8	108	106.8	109.8	0
Total Travel Time	**198.0**	**205.8**	**214.8**	**124.8**	**223.2**	**244.8**	**325.8**	**0.0**

Route: I-71 & SR 82 SB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	0	0	0	1	0	1	0	0
Checkpoint2	1	1	1	0	1	1	1	0
SB I-71 Ramps	0	0	0	0	0	0	1	0
Howe Rd	1	1	1	1	1	1	1	0
Total Stops	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**3.0**	**3.0**	**0.0**

Route: I-71 & SR 82 SB

Total Delay by Run **Scenario:** PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Checkpoint1	4.2	1.8	1.2	19.8	0	35.4	1.8	0
Checkpoint2	64.8	87	90	0	97.8	83.4	75.6	0
SB I-71 Ramps	6	0	0	0	2.4	7.2	124.2	0
Howe Rd	99	85.8	97.8	71.4	93.6	97.2	94.8	0
Total Delay	**174.0**	**174.6**	**189.0**	**91.2**	**193.8**	**223.2**	**296.4**	**0.0**

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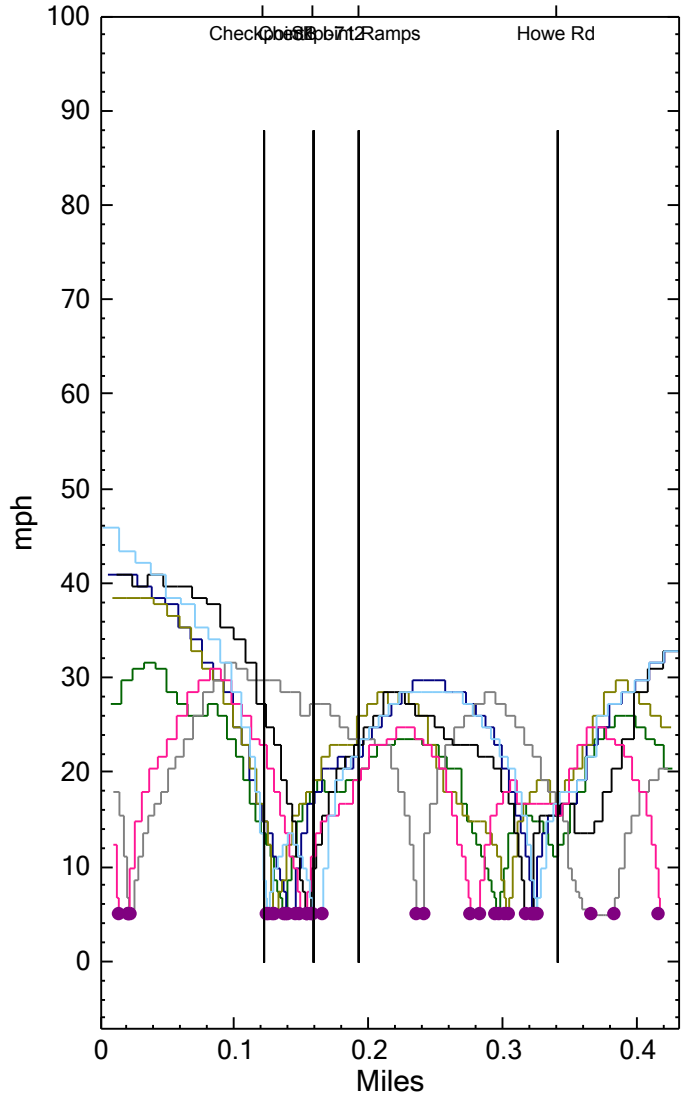
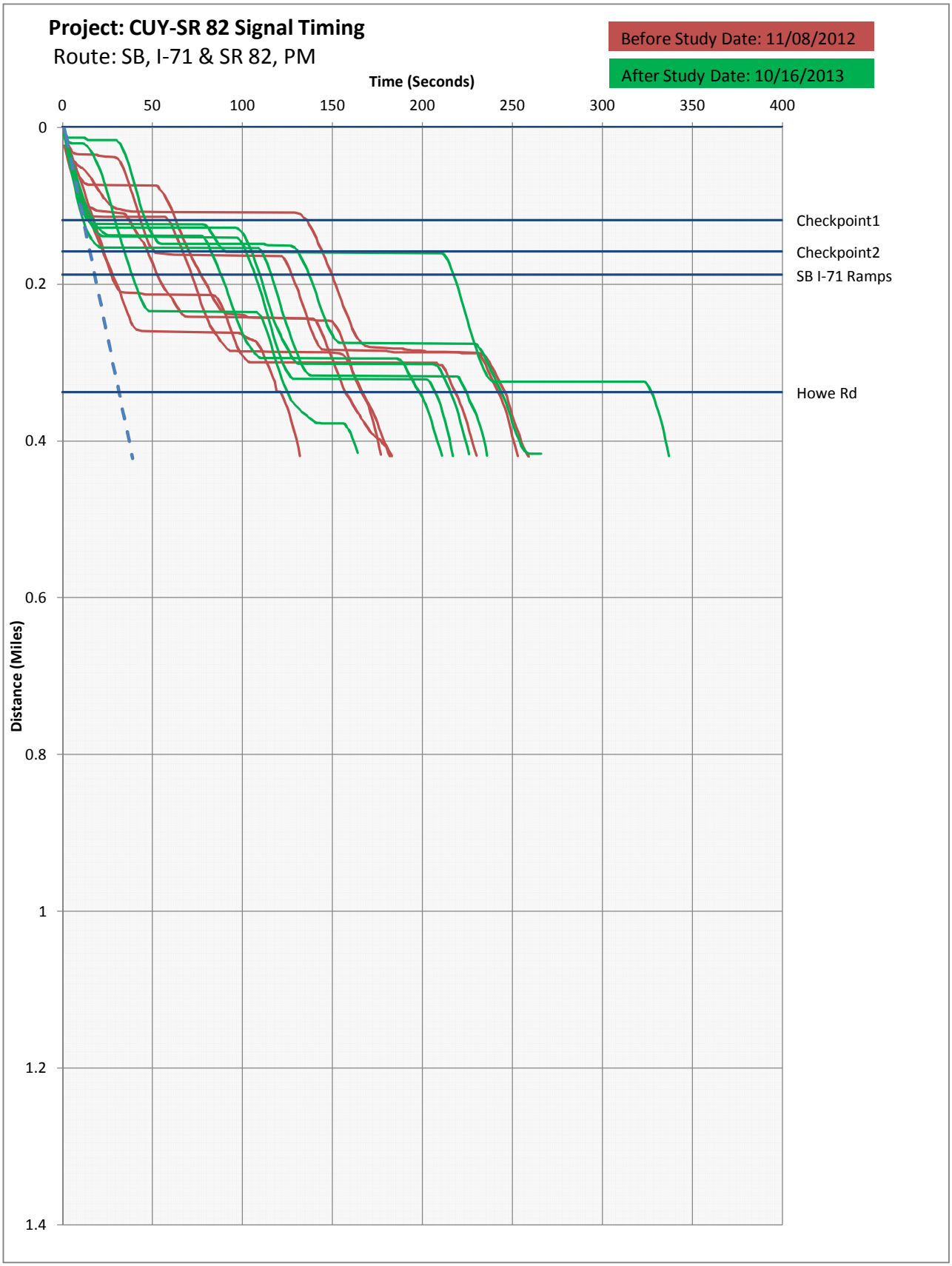
Speed Profile - I-71 & SR 82 SB

SR 82 Travel Time Study



4:09 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 02
4:25 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 04
4:42 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 06
5:19 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 09
5:37 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 11
5:54 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 13
6:11 PM [10/16/2013], GPS: Rt2_Ramp&Royalton_PM_Combined.CSV - 15
Stopped

Generated 11/5/2013 10:04 AM


Project: CUY-SR 82 Signal Timing
Route: SB, I-71 & SR 82, PM
Before Study Date: 11/08/2012
After Study Date: 10/16/2013
Time (Seconds)
0
50
100
150
200
250
300
350
400
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Checkpoint1
Checkpoint2
SB I-71 Ramps
Howe Rd

Route: SR 82 EB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	6	0	36.33	0
2	158.4	Police Access	2.4	0	41.85	0
3	792	Mall Dr. (Target)	25.2	0.38	21.6	9.6
4	475.2	Ordner Dr	12	0.12	26.5	3
5	844.8	Placid Cove/West Mall	22.8	0.12	25.23	6.6
6	633.6	Falling Water Rd	12.6	0	34.45	0
7	633.6	Southpark Mall East	11.4	0.0	37.2	0.0
8	950.4	Howe Rd	66.0	0.9	9.8	52.2
9	844.8	SB I-71 Ramps	20.4	0.0	28.5	3.6
10	1214.4	NB I-71 Ramps	23.4	0.0	35.0	0.6
	6864	**feet**	**202.2**	**1.5**	**29.6**	**75.6**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	24	40	40	40	36	45	32.73	45
Police Access	36	45	45	36	45	45	45	45
Mall Dr. (Target)	27.27	36	33.33	14.06	12.16	15.79	30	37.5
Ordner Dr	11.74	38.57	33.75	30	24.55	28.42	36	38.57
Placid Cove/West Mall	9.9	36.92	33.1	35.56	30.97	33.1	34.29	24.62
Falling Water Rd	31.3	37.89	34.29	36	36	36	36	28.8
Southpark Mall East	37.89	34.29	36	37.89	37.89	40	37.89	37.89
Howe Rd	15.43	9.56	9.15	8.18	7.77	8.18	37.24	7.35
SB I-71 Ramps	18.11	30.97	30	34.29	30.97	33.1	36.92	24
NB I-71 Ramps	26.54	34.5	36.32	37.3	36.32	39.43	35.38	36.32
Average Speed	**23.8**	**34.4**	**33.1**	**30.9**	**29.8**	**32.4**	**36.1**	**32.5**

Route: SR 82 EB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	9	5.4	5.4	5.4	6	4.8	6.6	4.8
Police Access	3	2.4	2.4	3	2.4	2.4	2.4	2.4
Mall Dr. (Target)	19.8	15	16.2	38.4	44.4	34.2	18	14.4
Ordner Dr	27.6	8.4	9.6	10.8	13.2	11.4	9	8.4
Placid Cove/West Mall	58.2	15.6	17.4	16.2	18.6	17.4	16.8	23.4
Falling Water Rd	13.8	11.4	12.6	12	12	12	12	15
Southpark Mall East	11.4	12.6	12	11.4	11.4	10.8	11.4	11.4
Howe Rd	42	67.8	70.8	79.2	83.4	79.2	17.4	88.2
SB I-71 Ramps	31.8	18.6	19.2	16.8	18.6	17.4	15.6	24
NB I-71 Ramps	31.2	24	22.8	22.2	22.8	21	23.4	22.8
Total Travel Time	**247.8**	**181.2**	**188.4**	**215.4**	**232.8**	**210.6**	**132.6**	**214.8**

Route: SR 82 EB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	1	1	1	0	0
Ordner Dr	1	0	0	0	0	0	0	0
Placid Cove/West Mall	1	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	0	0	0	0	0
Howe Rd	1	1	1	1	1	1	0	1
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Stops	**3.0**	**1.0**	**1.0**	**2.0**	**2.0**	**2.0**	**0.0**	**1.0**

Route: SR 82 EB

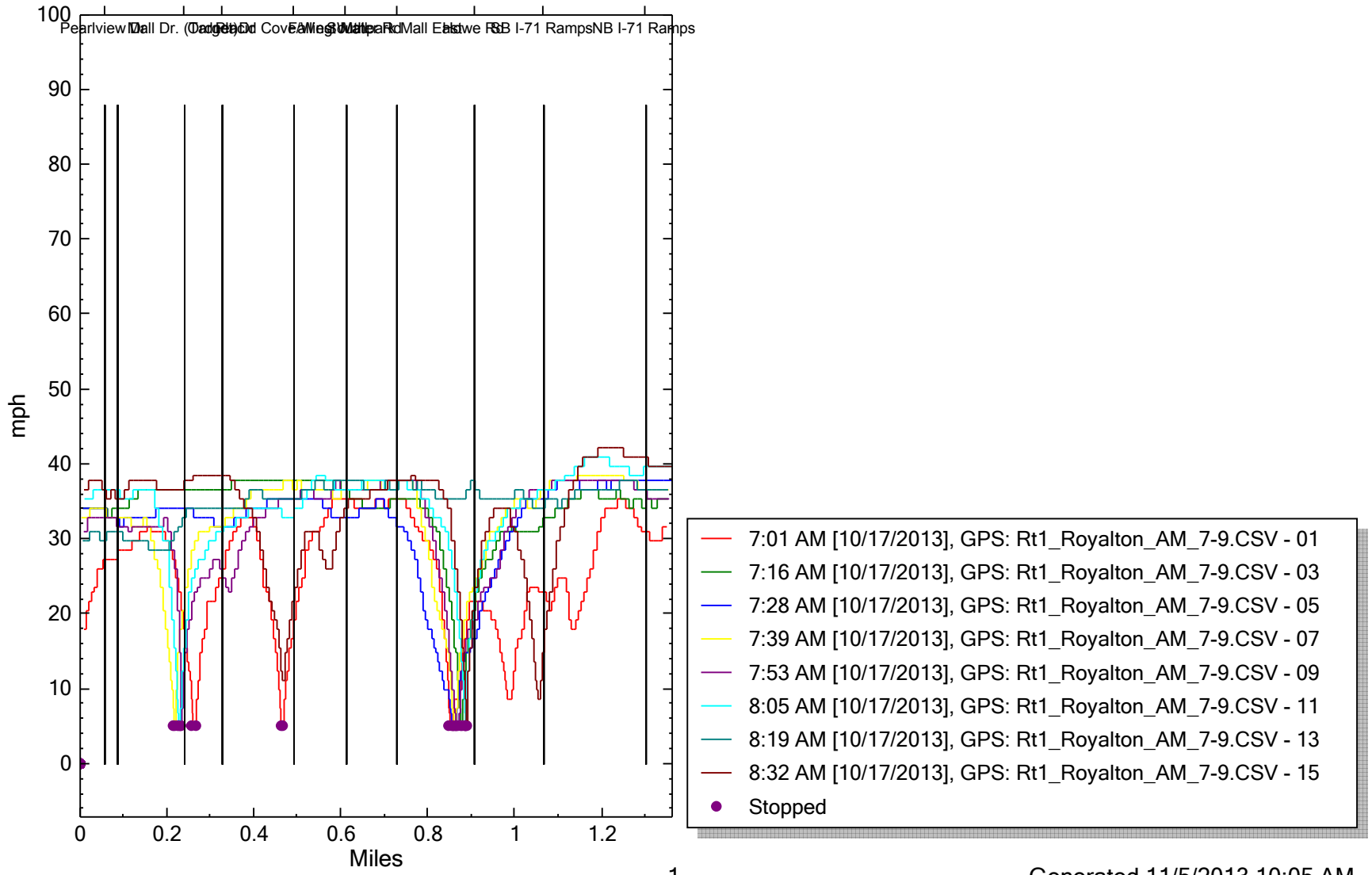
Total Delay by Run **Scenario:** AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	1.8	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	1.8	0	0	24	28.8	21.6	0	0
Ordner Dr	21.6	0	0	0	2.4	0.6	0	0
Placid Cove/West Mall	45	0	0	0	0	0	0	9
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	0	0	0	0	0
Howe Rd	28.2	52.8	63	64.8	70.8	64.2	0	72
SB I-71 Ramps	19.2	0	1.2	0	0	0	0	9.6
NB I-71 Ramps	4.2	0	0	0	0	0	0	0
Total Delay	**121.8**	**52.8**	**64.2**	**88.8**	**102.0**	**86.4**	**0.0**	**90.6**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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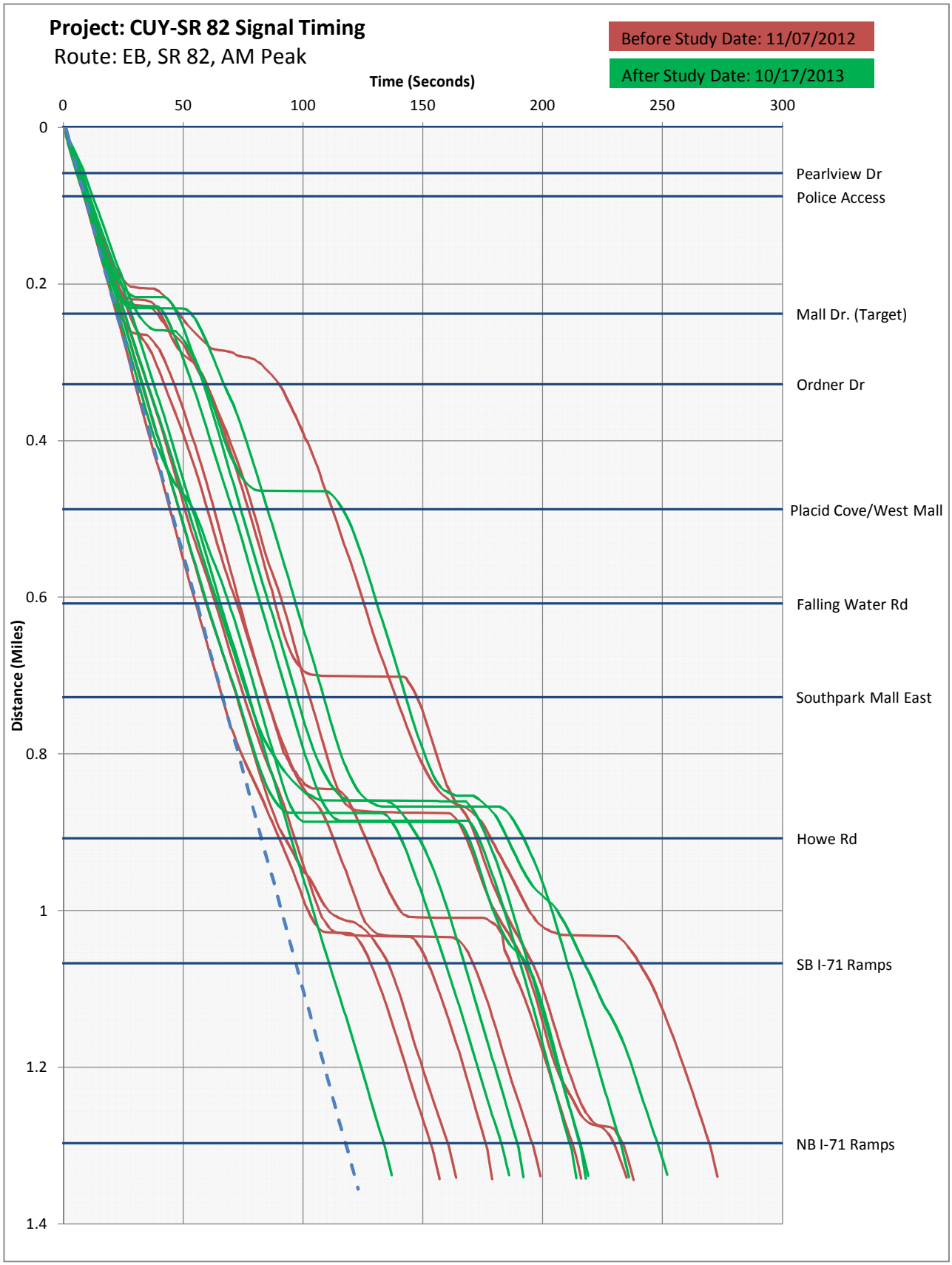

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, AM Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** AM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	4.2	0.0	41.4	0.0
2	1214.4	SB I-71 Ramps	23.4	0.0	35.4	0.6
3	844.8	Howe Rd	32.4	0.4	17.7	18.0
4	950.4	Southpark Mall East	21.6	0.0	30.2	2.4
5	633.6	Falling Water Rd	13.2	0.0	32.9	1.2
6	633.6	Placid Cove/West Mall	15.6	0.1	27.5	3.6
7	844.8	Ordner Dr	16.8	0.0	34.0	0.0
8	475.2	Mall Dr. (Target)	11.4	0.1	28.1	3.0
9	792	Police Access	21.6	0.25	24.67	6
10	158.4	Pearlview Dr	3.6	0	30.86	0
	6811.2	**feet**	**163.8**	**0.9**	**30.3**	**34.8**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** AM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	37.5	42.86	37.5	37.5	50	42.86	37.5	50
SB I-71 Ramps	36.32	34.5	27.6	37.3	35.38	37.3	39.43	37.3
Howe Rd	8.35	40	36.92	22.86	26.67	12.15	11.29	35.56
Southpark Mall East	32.73	24	36	33.75	24.55	33.75	33.75	28.42
Falling Water Rd	37.89	27.69	40	36	37.89	37.89	21.18	34.29
Placid Cove/West Mall	36	11.08	36	34.29	36	40	28.8	32.73
Ordner Dr	35.56	30	35.56	33.1	35.56	35.56	33.1	33.1
Mall Dr. (Target)	41.54	31.76	36	31.76	38.57	38.57	36	11.02
Police Access	36	32.14	32.14	18.75	34.62	11.39	33.33	30
Pearlview Dr	36	25.71	36	25.71	36	30	36	30
Average Speed	**33.8**	**30.0**	**35.4**	**31.1**	**35.5**	**31.9**	**31.0**	**32.2**

Route: SR 82 WB

Travel Time by Run **Scenario:** AM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	4.8	4.2	4.8	4.8	3.6	4.2	4.8	3.6
SB I-71 Ramps	22.8	24	30	22.2	23.4	22.2	21	22.2
Howe Rd	69	14.4	15.6	25.2	21.6	47.4	51	16.2
Southpark Mall East	19.8	27	18	19.2	26.4	19.2	19.2	22.8
Falling Water Rd	11.4	15.6	10.8	12	11.4	11.4	20.4	12.6
Placid Cove/West Mall	12	39	12	12.6	12	10.8	15	13.2
Ordner Dr	16.2	19.2	16.2	17.4	16.2	16.2	17.4	17.4
Mall Dr. (Target)	7.8	10.2	9	10.2	8.4	8.4	9	29.4
Police Access	15	16.8	16.8	28.8	15.6	47.4	16.2	18
Pearlview Dr	3	4.2	3	4.2	3	3.6	3	3.6
Total Travel Time	**181.8**	**174.6**	**136.2**	**156.6**	**141.6**	**190.8**	**177.0**	**159.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** AM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	0	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
Howe Rd	1	0	0	0	0	1	1	0
Southpark Mall East	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	1	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	1
Police Access	0	0	0	1	0	1	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**1.0**	**1.0**	**0.0**	**1.0**	**0.0**	**2.0**	**1.0**	**1.0**

Route: SR 82 WB

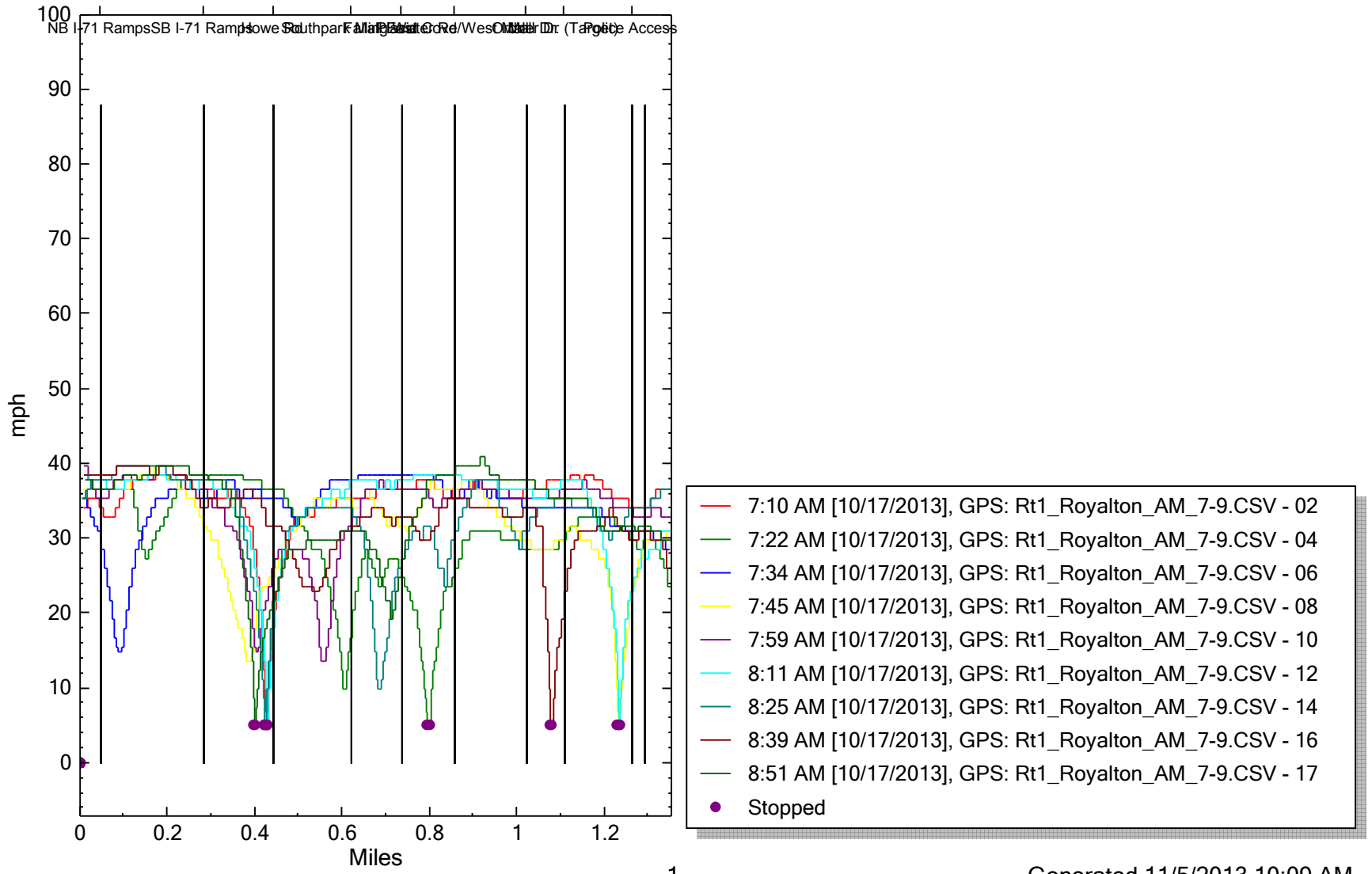
Total Delay by Run **Scenario:** AM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	0	0	0	0	0	0
SB I-71 Ramps	0	0	7.2	0	0	0	0	0
Howe Rd	55.8	0	0	10.2	4.8	33.6	38.4	0
Southpark Mall East	0	10.8	0	0	7.2	-0.6	0	0
Falling Water Rd	0	0	0	0	0	0	10.8	0
Placid Cove/West Mall	0	28.2	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	25.2
Police Access	0	0	0	13.8	0	33	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**55.8**	**39.0**	**7.2**	**24.0**	**12.0**	**66.0**	**49.2**	**25.2**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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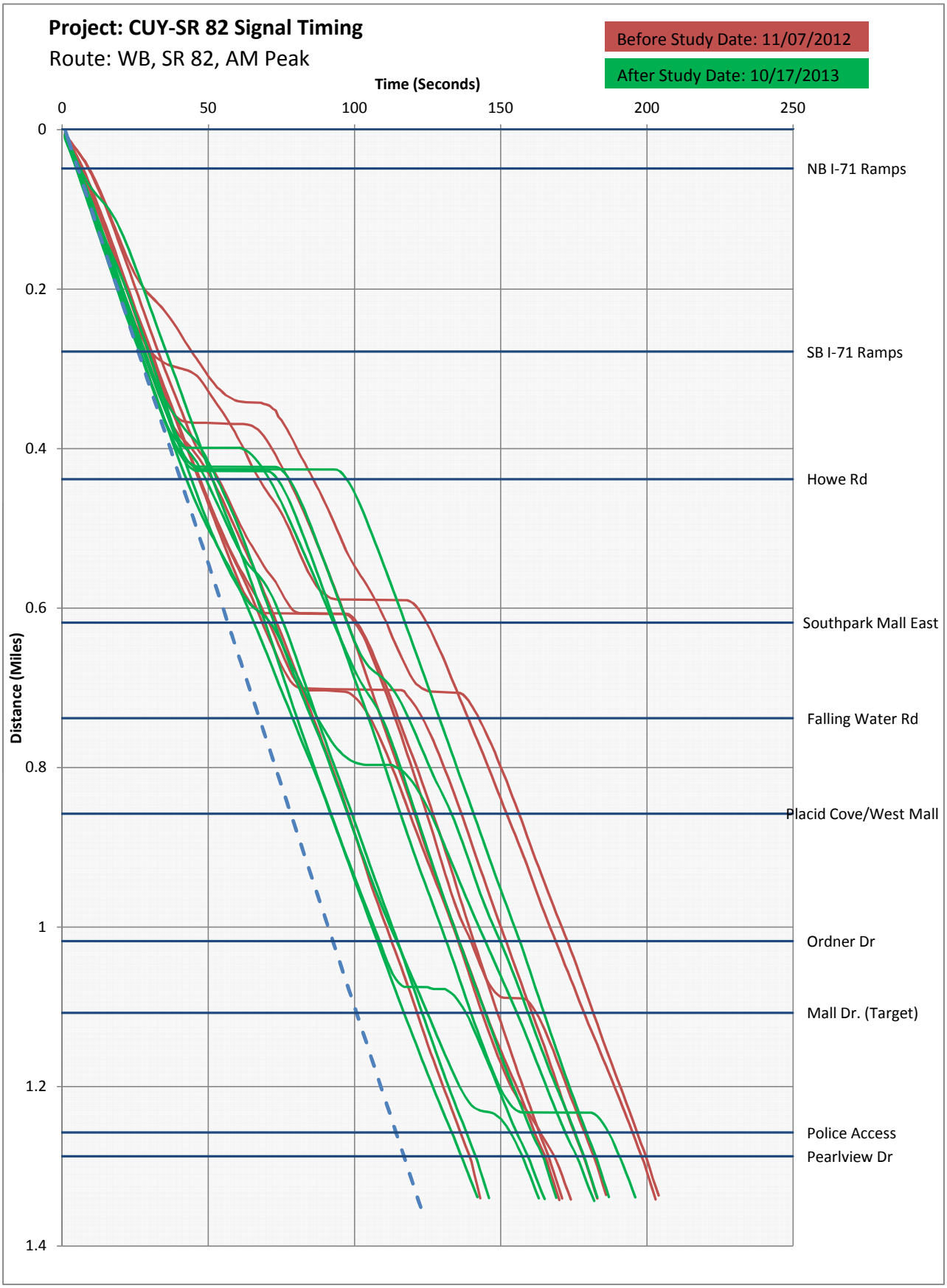

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, AM Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	9	0.12	23.54	4.2
2	158.4	Police Access	3	0	35.66	0
3	792	Mall Dr. (Target)	20.4	0.12	26.4	4.8
4	475.2	Ordner Dr	13.2	0.12	24.95	4.8
5	844.8	Placid Cove/West Mall	27	0.25	21.26	10.8
6	633.6	Falling Water Rd	13.2	0	32.93	0.6
7	633.6	Southpark Mall East	18.6	0.12	23.26	6.6
8	950.4	Howe Rd	66	0.75	9.78	50.4
9	844.8	SB I-71 Ramps	19.8	0.12	29.27	3.6
10	1214.4	NB I-71 Ramps	22.8	0	36.01	0
	6864	**feet**	**213.0**	**1.6**	**26.3**	**85.8**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	36	45	36	40	20	40	40	7.35
Police Access	36	36	36	45	25.71	60	45	22.5
Mall Dr. (Target)	29.03	33.33	23.68	31.03	19.15	39.13	36	16.67
Ordner Dr	14.59	38.57	16.88	38.57	27	41.54	41.54	18
Placid Cove/West Mall	32	36.92	18.11	34.29	32	9.5	35.56	14.33
Falling Water Rd	37.89	37.89	30	36	36	31.3	36	23.23
Southpark Mall East	42.35	37.89	34.29	6.73	34.29	37.89	36	31.3
Howe Rd	7.3	8.93	7.83	38.57	7.2	37.24	9.08	7.2
SB I-71 Ramps	30	30.97	20.43	40	34.29	38.4	27.43	23.41
NB I-71 Ramps	38.33	33.66	37.3	38.33	34.5	38.33	35.38	32.09
Average Speed	**30.3**	**33.9**	**26.1**	**34.9**	**27.0**	**37.3**	**34.2**	**19.6**

Route: SR 82 EB

Travel Time by Run **Scenario:** Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	6	4.8	6	5.4	10.8	5.4	5.4	29.4
Police Access	3	3	3	2.4	4.2	1.8	2.4	4.8
Mall Dr. (Target)	18.6	16.2	22.8	17.4	28.2	13.8	15	32.4
Ordner Dr	22.2	8.4	19.2	8.4	12	7.8	7.8	18
Placid Cove/West Mall	18	15.6	31.8	16.8	18	60.6	16.2	40.2
Falling Water Rd	11.4	11.4	14.4	12	12	13.8	12	18.6
Southpark Mall East	10.2	11.4	12.6	64.2	12.6	11.4	12	13.8
Howe Rd	88.8	72.6	82.8	16.8	90	17.4	71.4	90
SB I-71 Ramps	19.2	18.6	28.2	14.4	16.8	15	21	24.6
NB I-71 Ramps	21.6	24.6	22.2	21.6	24	21.6	23.4	25.8
Total Travel Time	**219.0**	**186.6**	**243.0**	**179.4**	**228.6**	**168.6**	**186.6**	**297.6**

Route: SR 82 EB

Number of Stops by Run **Scenario:** Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	1
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	1
Ordner Dr	1	0	0	0	0	0	0	0
Placid Cove/West Mall	0	0	0	0	0	1	0	1
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	0	1	0	0	0	0
Howe Rd	1	1	1	0	1	0	1	1
SB I-71 Ramps	0	0	1	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Stops	**2.0**	**1.0**	**2.0**	**1.0**	**1.0**	**1.0**	**1.0**	**4.0**

Route: SR 82 EB

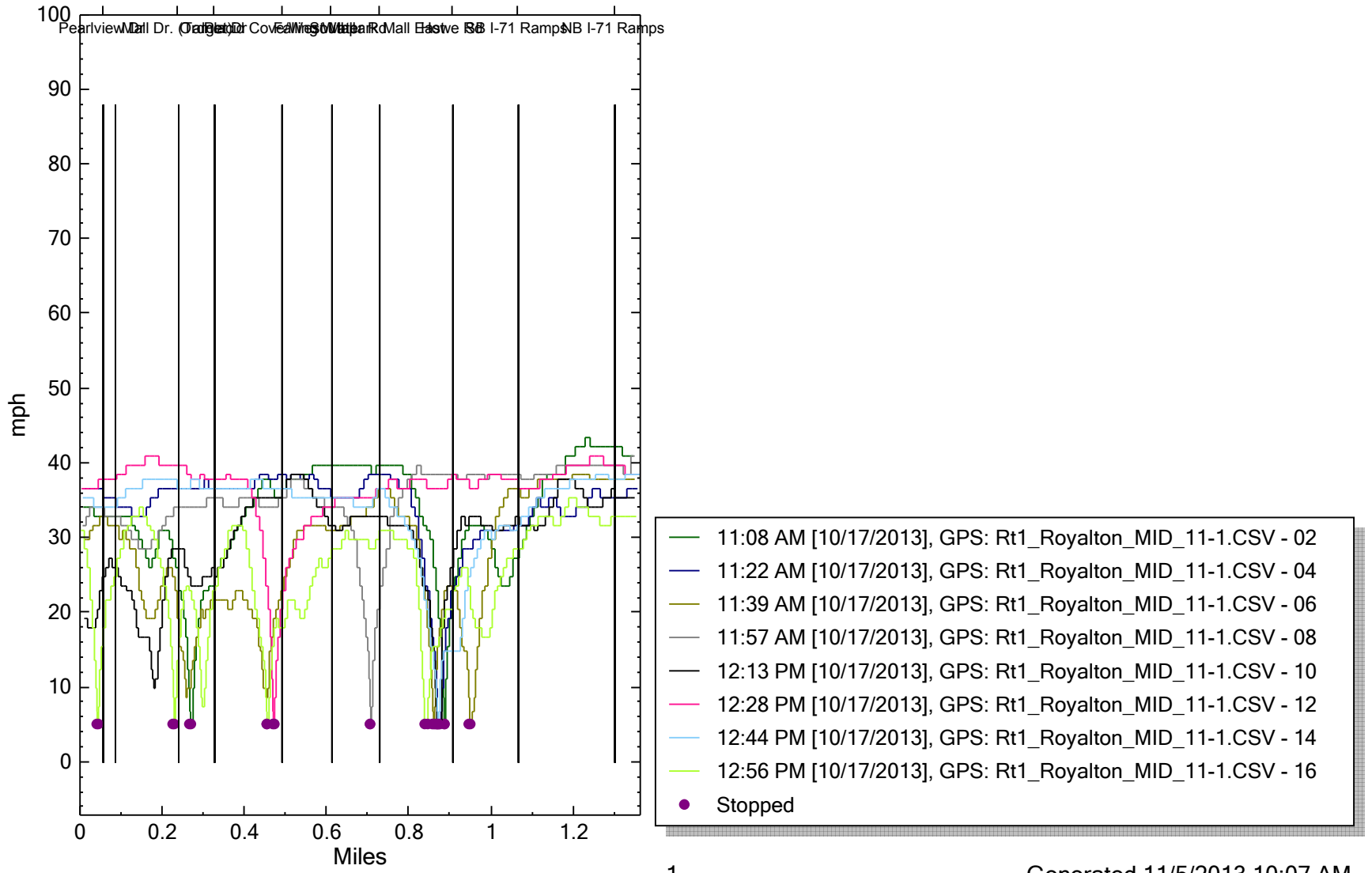
Total Delay by Run **Scenario:** Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	9	0	0	25.8
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	6	0	15	0	0	18
Ordner Dr	15	0	13.2	0	0	0	0	9
Placid Cove/West Mall	0	0	13.8	0	0	45	0	27.6
Falling Water Rd	0	0	0	0	0	0	0	3
Southpark Mall East	0	0	0	52.8	0	0	0	0
Howe Rd	74.4	58.2	64.8	0	72	0	58.2	73.8
SB I-71 Ramps	0	0	16.2	0	0	0	4.8	9
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Delay	**89.4**	**58.2**	**114.0**	**52.8**	**96.0**	**45.0**	**63.0**	**166.2**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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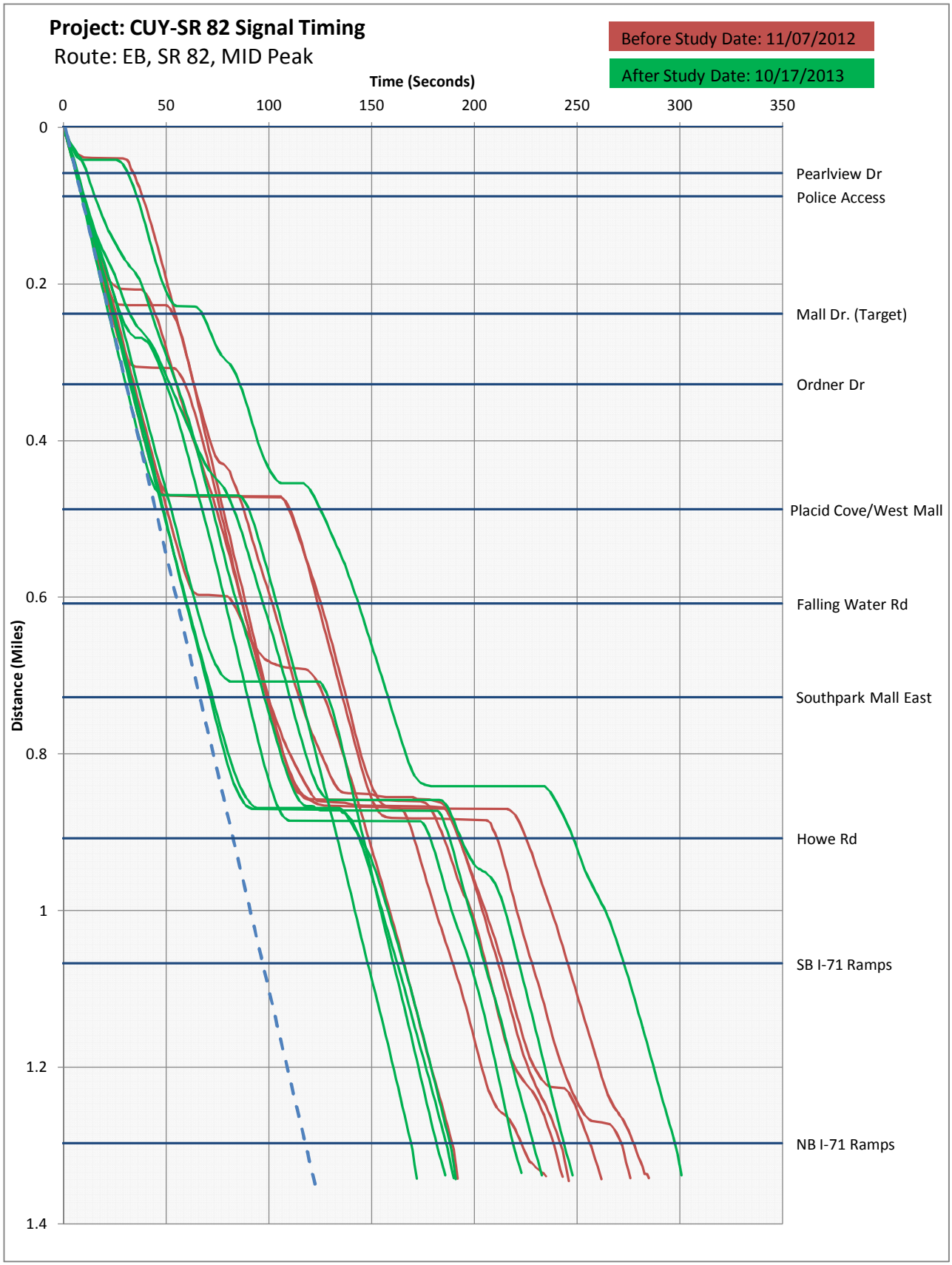

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, MID Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** Midday

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	11.4	0.38	15.7	8.4
2	1214.4	SB I-71 Ramps	26.4	0	31.28	0.6
3	844.8	Howe Rd	66.6	1	8.61	52.8
4	950.4	Southpark Mall East	22.2	0	29.37	1.8
5	633.6	Falling Water Rd	14.4	0	29.68	1.8
6	633.6	Placid Cove/West Mall	31.8	0.38	13.69	19.8
7	844.8	Ordner Dr	21.6	0.12	26.7	4.8
8	475.2	Mall Dr. (Target)	20.4	0.38	15.81	12
9	792	Police Access	18.6	0.12	29.4	2.4
10	158.4	Pearlview Dr	3.6	0	31.15	0
	6811.2	**feet**	**237.0**	**2.4**	**23.1**	**104.4**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** Midday

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	12.5	42.86	9.09	42.86	4.92	42.86	42.86	42.86
SB I-71 Ramps	27.06	36.32	26.04	35.38	27.06	31.36	35.38	35.38
Howe Rd	7.22	7.87	7.27	9.7	7.74	10.79	9.23	10.91
Southpark Mall East	30.86	22.5	31.76	32.73	30	30	26.34	33.75
Falling Water Rd	27.69	18	34.29	36	32.73	30	34.29	36
Placid Cove/West Mall	36	10.75	37.89	6.32	32.73	5.07	37.89	37.89
Ordner Dr	40	30	28.24	33.1	29.09	35.56	35.56	11.85
Mall Dr. (Target)	38.57	33.75	6.59	38.57	9.31	38.57	9	33.75
Police Access	37.5	33.33	32.14	16.36	28.12	37.5	32.14	34.62
Pearlview Dr	36	30	36	25.71	30	30	36	36
Average Speed	**29.3**	**26.5**	**24.9**	**27.7**	**23.2**	**29.2**	**29.9**	**31.3**

Route: SR 82 WB

Travel Time by Run **Scenario:** Midday

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	14.4	4.2	19.8	4.2	36.6	4.2	4.2	4.2
SB I-71 Ramps	30.6	22.8	31.8	23.4	30.6	26.4	23.4	23.4
Howe Rd	79.8	73.2	79.2	59.4	74.4	53.4	62.4	52.8
Southpark Mall East	21	28.8	20.4	19.8	21.6	21.6	24.6	19.2
Falling Water Rd	15.6	24	12.6	12	13.2	14.4	12.6	12
Placid Cove/West Mall	12	40.2	11.4	68.4	13.2	85.2	11.4	11.4
Ordner Dr	14.4	19.2	20.4	17.4	19.8	16.2	16.2	48.6
Mall Dr. (Target)	8.4	9.6	49.2	8.4	34.8	8.4	36	9.6
Police Access	14.4	16.2	16.8	33	19.2	14.4	16.8	15.6
Pearlview Dr	3	3.6	3	4.2	3.6	3.6	3	3
Total Travel Time	**213.6**	**241.8**	**264.6**	**250.2**	**267.0**	**247.8**	**210.6**	**199.8**

Route: SR 82 WB

Number of Stops by Run **Scenario:** Midday

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	1	0	1	0	1	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
Howe Rd	1	1	1	1	1	1	1	1
Southpark Mall East	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	1	0	1	0	1	0	0
Ordner Dr	0	0	0	0	0	0	0	1
Mall Dr. (Target)	0	0	1	0	1	0	1	0
Police Access	0	0	0	1	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**2.0**	**2.0**	**3.0**	**3.0**	**3.0**	**2.0**	**2.0**	**2.0**

Route: SR 82 WB

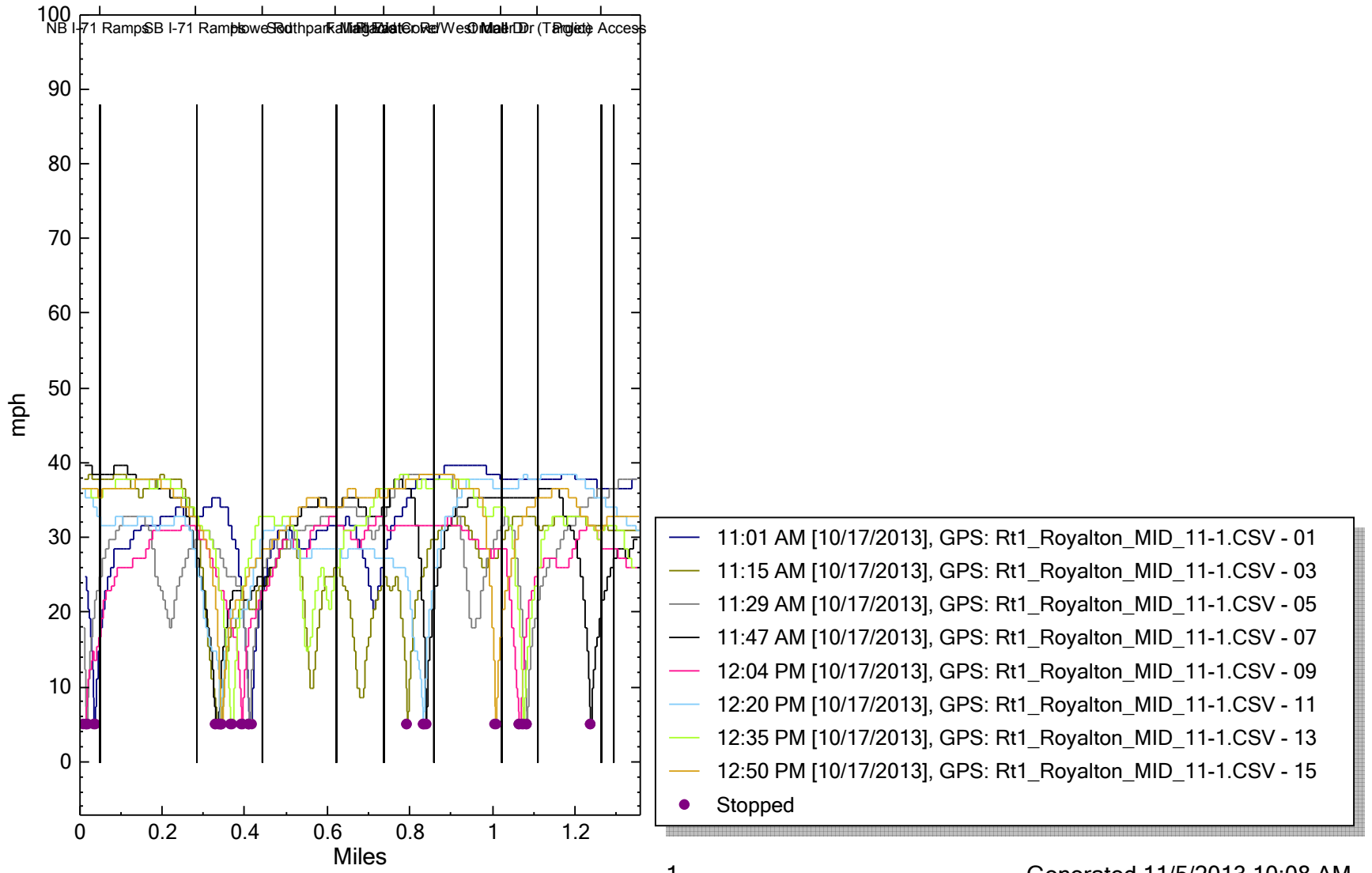
Total Delay by Run **Scenario:** Midday

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	10.8	0	17.4	0	36.6	0	0	0
SB I-71 Ramps	3	0	3	0	1.2	0	0	0
Howe Rd	66	61.2	63	43.2	61.2	43.2	46.8	36
Southpark Mall East	0	9	0	0	0	0	4.8	0
Falling Water Rd	0	15	0	0	0	0	0	0
Placid Cove/West Mall	0	28.2	0	57	0	73.2	0	0
Ordner Dr	0	0	4.8	0	0	0	0	34.8
Mall Dr. (Target)	0	0	43.2	0	28.2	0	28.2	-1.2
Police Access	0	0	0	21	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**79.8**	**113.4**	**131.4**	**121.2**	**127.2**	**116.4**	**79.8**	**69.6**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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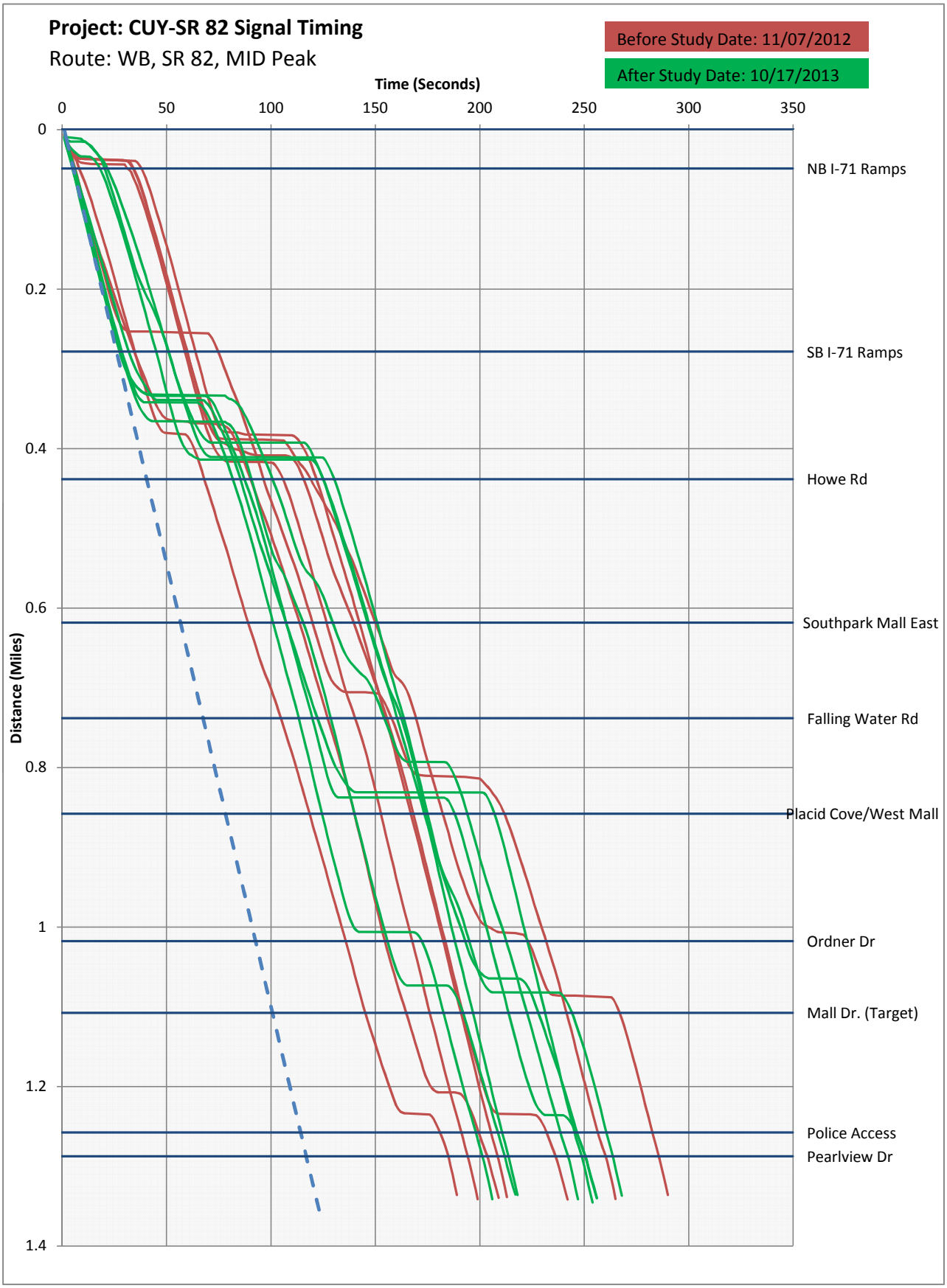

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, MID Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** Off Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	7.2	0	30.92	1.2
2	158.4	Police Access	3.6	0	32.28	0
3	792	Mall Dr. (Target)	21.6	0.29	25.11	6.6
4	475.2	Ordner Dr	10.8	0	30.62	1.2
5	844.8	Placid Cove/West Mall	27	0.14	21.16	11.4
6	633.6	Falling Water Rd	15.6	0.14	28.14	3
7	633.6	Southpark Mall East	56.4	0.86	7.67	46.8
8	950.4	Howe Rd	67.8	0.71	9.56	49.8
9	844.8	SB I-71 Ramps	18.6	0	31.36	0.6
10	1214.4	NB I-71 Ramps	24.6	0	33.68	0
	6864	**feet**	**253.2**	**2.1**	**25.1**	**120.6**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** Off Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	40	40	40	22.5	36	36	18.95	0
Police Access	45	36	45	18	45	36	30	0
Mall Dr. (Target)	36	30	33.33	15.52	34.62	31.03	16.07	0
Ordner Dr	36	30	36	22.5	38.57	31.76	27	0
Placid Cove/West Mall	6.86	35.56	22.86	34.29	38.4	32	36.92	0
Falling Water Rd	31.3	34.29	28.8	37.89	36	13.58	37.89	0
Southpark Mall East	37.89	4.97	4.56	40	5.62	9.6	6.32	0
Howe Rd	7.25	27.69	6.51	7.71	4.98	30	25.12	0
SB I-71 Ramps	25.95	35.56	28.24	28.24	34.29	38.4	33.1	0
NB I-71 Ramps	34.5	40.59	30	30.67	30	38.33	34.5	0
Average Speed	**30.1**	**31.5**	**27.5**	**25.7**	**30.3**	**29.7**	**26.6**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** Off Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	5.4	5.4	5.4	9.6	6	6	11.4	0
Police Access	2.4	3	2.4	6	2.4	3	3.6	0
Mall Dr. (Target)	15	18	16.2	34.8	15.6	17.4	33.6	0
Ordner Dr	9	10.8	9	14.4	8.4	10.2	12	0
Placid Cove/West Mall	84	16.2	25.2	16.8	15	18	15.6	0
Falling Water Rd	13.8	12.6	15	11.4	12	31.8	11.4	0
Southpark Mall East	11.4	87	94.8	10.8	76.8	45	68.4	0
Howe Rd	89.4	23.4	99.6	84	130.2	21.6	25.8	0
SB I-71 Ramps	22.2	16.2	20.4	20.4	16.8	15	17.4	0
NB I-71 Ramps	24	20.4	27.6	27	27.6	21.6	24	0
Total Travel Time	**276.6**	**213.0**	**315.6**	**235.2**	**310.8**	**189.6**	**223.2**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** Off Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	1	0	0	1	0
Ordner Dr	0	0	0	0	0	0	0	0
Placid Cove/West Mall	1	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	1	0	0
Southpark Mall East	0	1	1	0	2	1	1	0
Howe Rd	1	0	1	1	2	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Stops	**2.0**	**1.0**	**2.0**	**2.0**	**4.0**	**2.0**	**2.0**	**0.0**

Route: SR 82 EB

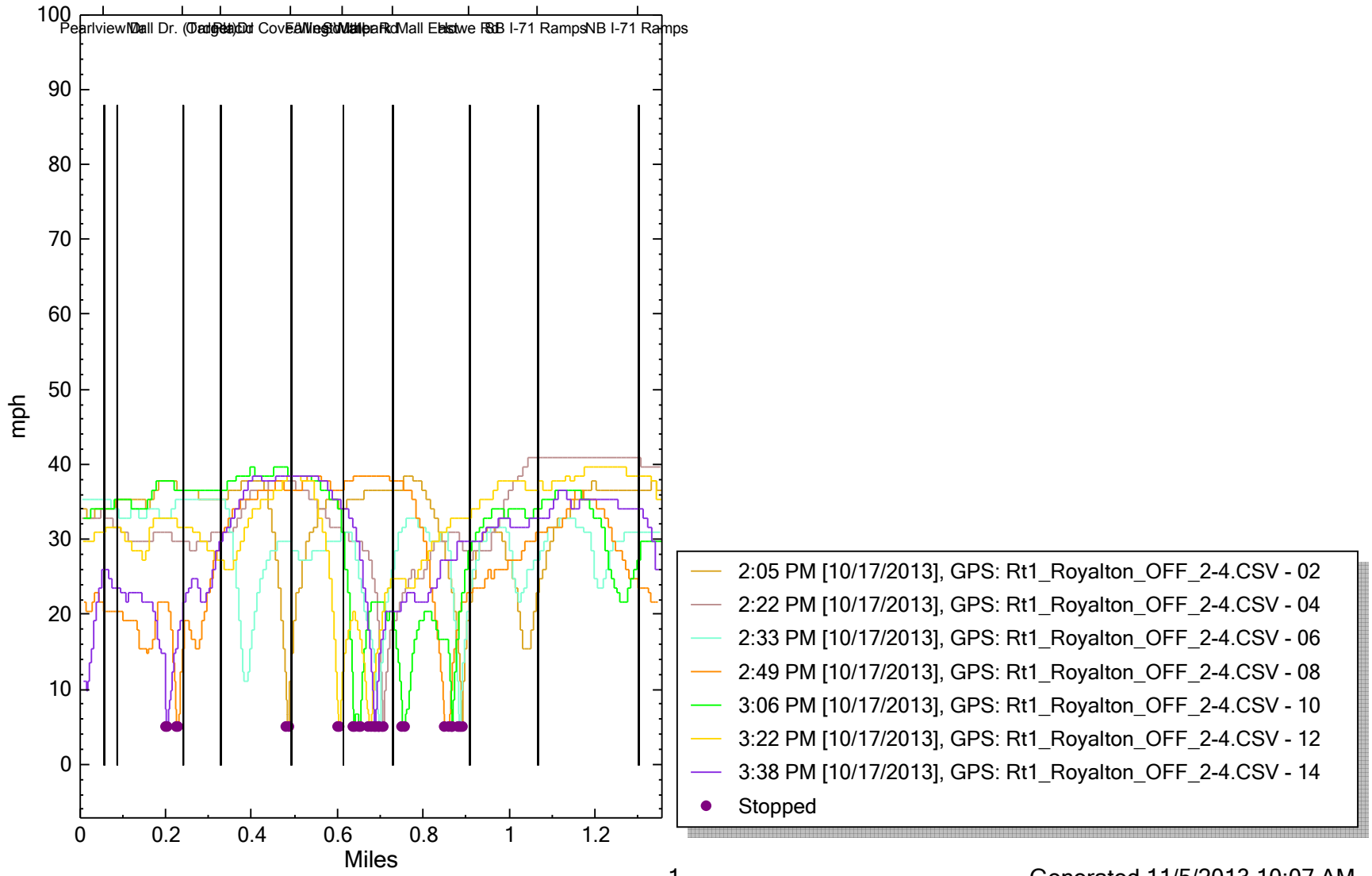
Total Delay by Run **Scenario:** Off Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	8.4	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	28.8	0	0	19.2	0
Ordner Dr	0	0	0	8.4	0	0	0	0
Placid Cove/West Mall	70.2	0	9	0	0	0	0	0
Falling Water Rd	0.6	0	0	0	0	21.6	0	0
Southpark Mall East	0	77.4	85.2	0	66	39.6	58.2	0
Howe Rd	74.4	0.6	82.2	69	122.4	0	0	0
SB I-71 Ramps	6	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
Total Delay	**151.2**	**78.0**	**176.4**	**106.2**	**188.4**	**61.2**	**85.8**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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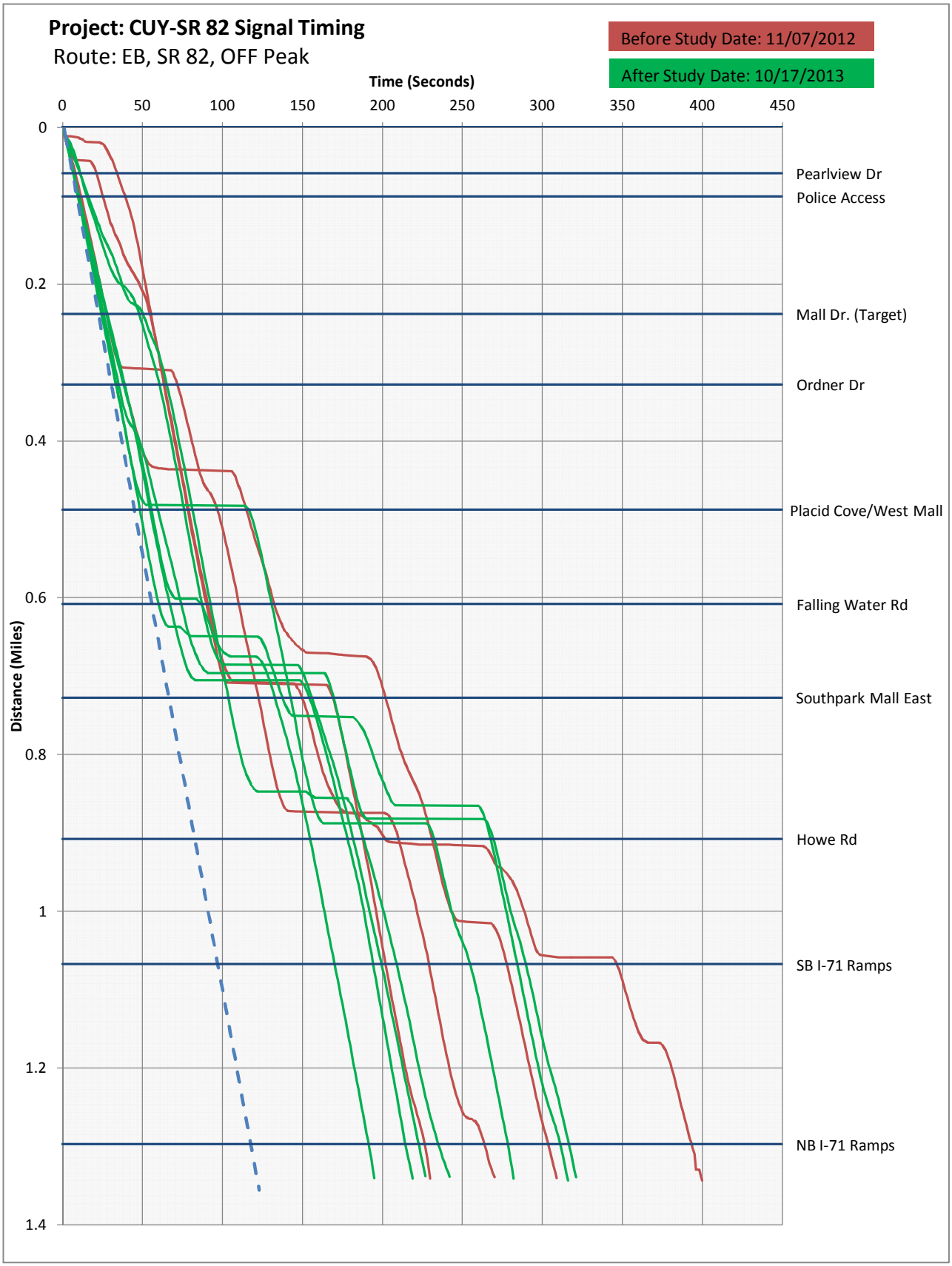

Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, OFF Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
300
350
400
450
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** Off Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	4.8	0	39.8	0
2	1214.4	SB I-71 Ramps	23.4	0	35.27	0.6
3	844.8	Howe Rd	40.2	0.75	14.35	25.2
4	950.4	Southpark Mall East	31.2	0.38	20.81	12
5	633.6	Falling Water Rd	14.4	0	29.75	1.2
6	633.6	Placid Cove/West Mall	27	0.25	16.02	14.4
7	844.8	Ordner Dr	18	0	31.56	0
8	475.2	Mall Dr. (Target)	18	0.25	18.26	9.6
9	792	Police Access	25.8	0.25	20.82	9.6
10	158.4	Pearlview Dr	3.6	0	28.14	0
	6811.2	**feet**	**206.4**	**1.9**	**25.5**	**72.6**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** Off Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	37.5	33.33	37.5	42.86	42.86	37.5	42.86	37.5
SB I-71 Ramps	37.3	34.5	37.3	35.38	38.33	37.3	36.32	27.6
Howe Rd	20.43	15.48	13.71	12	8.21	25.26	10.11	36.92
Southpark Mall East	31.76	15.43	28.42	27	10.69	16.12	30	37.24
Falling Water Rd	32.73	24.83	32.73	34.29	19.46	31.3	36	36
Placid Cove/West Mall	36	6.26	34.29	6.05	30	31.3	37.89	36
Ordner Dr	35.56	27.43	35.56	30	30	29.09	34.29	33.1
Mall Dr. (Target)	7.2	33.75	8.18	36	33.75	31.76	33.75	33.75
Police Access	27.27	36	33.33	16.67	31.03	22.5	9.38	21.95
Pearlview Dr	36	30	30	22.5	25.71	30	25.71	25.71
Average Speed	**30.2**	**25.7**	**29.1**	**26.3**	**27.0**	**29.2**	**29.6**	**32.6**

Route: SR 82 WB

Travel Time by Run **Scenario:** Off Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	4.8	5.4	4.8	4.2	4.2	4.8	4.2	4.8
SB I-71 Ramps	22.2	24	22.2	23.4	21.6	22.2	22.8	30
Howe Rd	28.2	37.2	42	48	70.2	22.8	57	15.6
Southpark Mall East	20.4	42	22.8	24	60.6	40.2	21.6	17.4
Falling Water Rd	13.2	17.4	13.2	12.6	22.2	13.8	12	12
Placid Cove/West Mall	12	69	12.6	71.4	14.4	13.8	11.4	12
Ordner Dr	16.2	21	16.2	19.2	19.2	19.8	16.8	17.4
Mall Dr. (Target)	45	9.6	39.6	9	9.6	10.2	9.6	9.6
Police Access	19.8	15	16.2	32.4	17.4	24	57.6	24.6
Pearlview Dr	3	3.6	3.6	4.8	4.2	3.6	4.2	4.2
Total Travel Time	**184.8**	**244.2**	**193.2**	**249.0**	**243.6**	**175.2**	**217.2**	**147.6**

Route: SR 82 WB

Number of Stops by Run **Scenario:** Off Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	0	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
Howe Rd	1	1	1	1	1	0	1	0
Southpark Mall East	0	1	0	0	1	1	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	1	0	1	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	1	0	1	0	0	0	0	0
Police Access	0	0	0	1	0	0	1	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**2.0**	**3.0**	**2.0**	**3.0**	**2.0**	**1.0**	**2.0**	**0.0**

Route: SR 82 WB

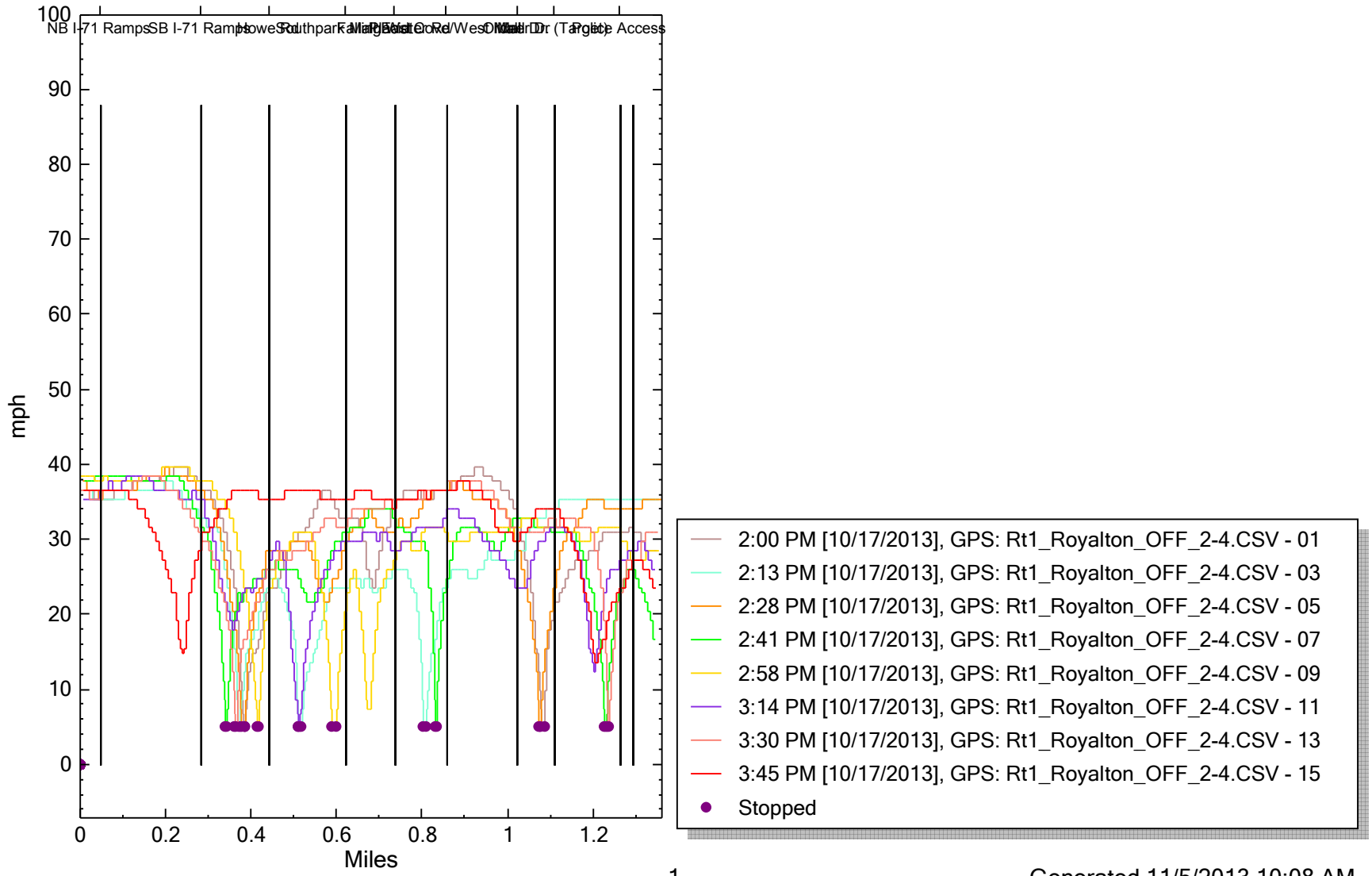
Total Delay by Run **Scenario:** Off Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	0	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	6
Howe Rd	16.8	24	27	31.2	57	3	43.2	0
Southpark Mall East	0	27	0	0	43.8	22.8	0	0
Falling Water Rd	0	0	0	0	10.8	0	0	0
Placid Cove/West Mall	0	58.2	0	58.8	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	41.4	0	34.2	0	0	0	0	0
Police Access	0	0	0	18	0	7.8	43.2	9
Pearlview Dr	0	0	0	0	0	0	0	0
Total Delay	**58.2**	**109.2**	**61.2**	**108.0**	**111.6**	**33.6**	**86.4**	**15.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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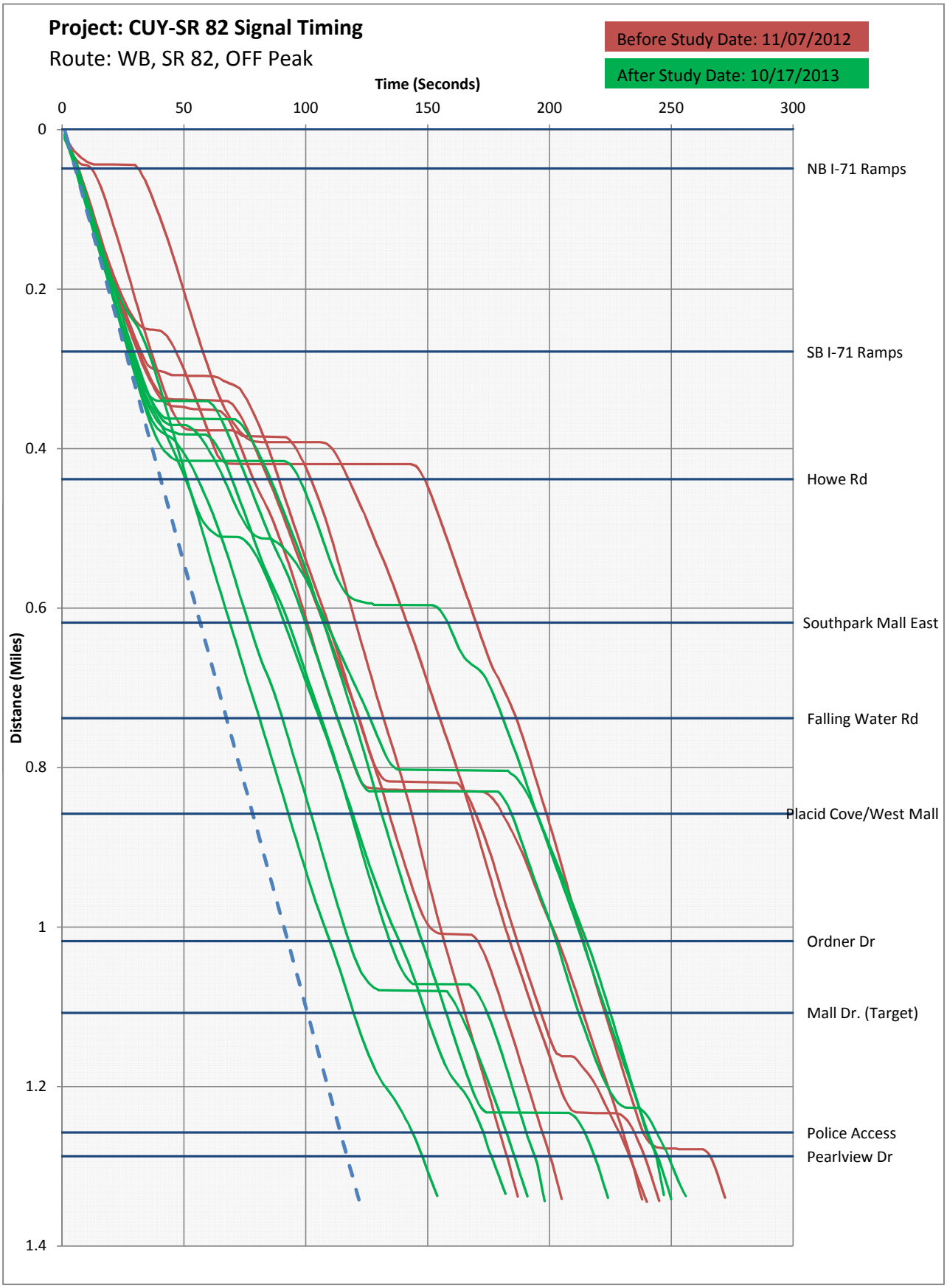

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, OFF Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
300
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	6	0	35.11	0
2	158.4	Police Access	3	0	36.22	0
3	792	Mall Dr. (Target)	21	0.14	25.76	4.8
4	475.2	Ordner Dr	9.6	0	33.51	0.6
5	844.8	Placid Cove/West Mall	42	0.43	13.71	26.4
6	633.6	Falling Water Rd	13.8	0	31.43	0
7	633.6	Southpark Mall East	48.6	0.57	8.88	37.2
8	950.4	Howe Rd	55.8	0.43	11.66	36.6
9	844.8	SB I-71 Ramps	18	0.14	31.87	1.2
10	1214.4	NB I-71 Ramps	28.2	0.29	29.23	5.4
	6864	**feet**	**246.0**	**2.0**	**25.7**	**112.2**
	1.3	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	45	27.69	40	36	36	32.73	32.73	0
Police Access	36	30	30	45	45	45	25.71	0
Mall Dr. (Target)	33.33	23.68	32.14	37.5	28.12	33.33	13.04	0
Ordner Dr	36	23.48	36	38.57	33.75	38.57	33.75	0
Placid Cove/West Mall	8	34.29	34.29	8	33.1	7.01	34.29	0
Falling Water Rd	28.8	32.73	31.3	32.73	34.29	31.3	28.8	0
Southpark Mall East	34.29	7.27	4.9	30	5.29	36	6	0
Howe Rd	6.21	25.12	32.73	5.81	30.86	7.66	29.19	0
SB I-71 Ramps	30.97	23.41	38.4	32	34.29	33.1	35.56	0
NB I-71 Ramps	16.83	32.86	39.43	33.66	36.32	25.09	38.33	0
Average Speed	**27.5**	**26.1**	**31.9**	**29.9**	**31.7**	**29.0**	**27.7**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	4.8	7.8	5.4	6	6	6.6	6.6	0
Police Access	3	3.6	3.6	2.4	2.4	2.4	4.2	0
Mall Dr. (Target)	16.2	22.8	16.8	14.4	19.2	16.2	41.4	0
Ordner Dr	9	13.8	9	8.4	9.6	8.4	9.6	0
Placid Cove/West Mall	72	16.8	16.8	72	17.4	82.2	16.8	0
Falling Water Rd	15	13.2	13.8	13.2	12.6	13.8	15	0
Southpark Mall East	12.6	59.4	88.2	14.4	81.6	12	72	0
Howe Rd	104.4	25.8	19.8	111.6	21	84.6	22.2	0
SB I-71 Ramps	18.6	24.6	15	18	16.8	17.4	16.2	0
NB I-71 Ramps	49.2	25.2	21	24.6	22.8	33	21.6	0
Total Travel Time	**304.8**	**213.0**	**209.4**	**285.0**	**209.4**	**276.6**	**225.6**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	1	0
Ordner Dr	0	0	0	0	0	0	0	0
Placid Cove/West Mall	1	0	0	1	0	1	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	1	1	0	1	0	1	0
Howe Rd	1	0	0	1	0	1	0	0
SB I-71 Ramps	0	1	0	0	0	0	0	0
NB I-71 Ramps	1	0	0	0	0	1	0	0
Total Stops	**3.0**	**2.0**	**1.0**	**2.0**	**1.0**	**3.0**	**2.0**	**0.0**

Route: SR 82 EB

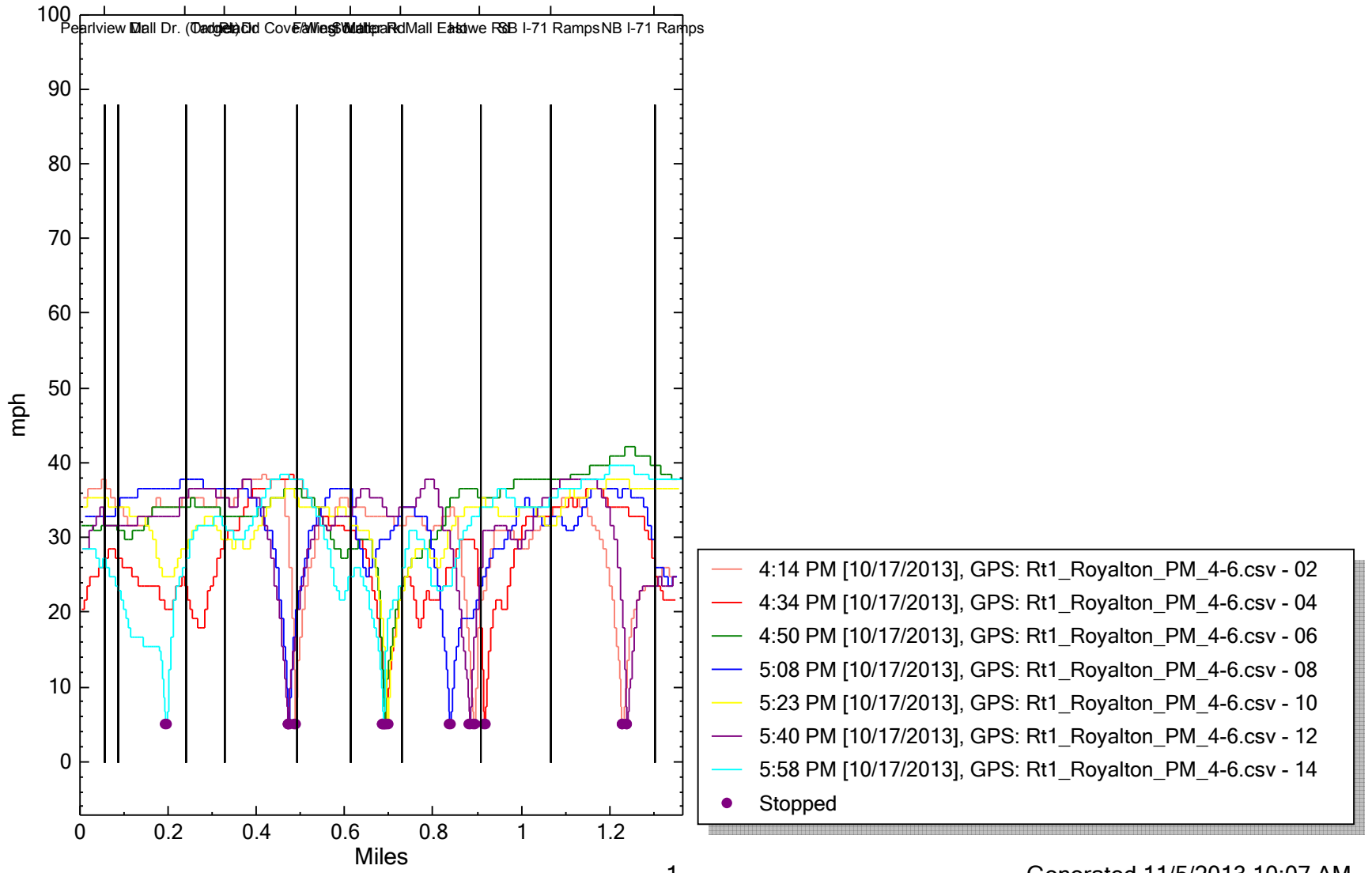
Total Delay by Run **Scenario:** PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	0	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	34.2	0
Ordner Dr	0	4.8	0	0	0	0	0	0
Placid Cove/West Mall	57.6	0	0	57	0	69	0	0
Falling Water Rd	1.2	0	0	0	0	0	0	0
Southpark Mall East	0	49.8	76.8	0	72	0	61.2	0
Howe Rd	88.2	3	0	97.8	0	67.8	0	0
SB I-71 Ramps	0	7.8	0	0	0	0	0	0
NB I-71 Ramps	25.8	0	0	0	0	10.2	0	0
Total Delay	**172.8**	**65.4**	**76.8**	**154.8**	**72.0**	**147.0**	**95.4**	**0.0**

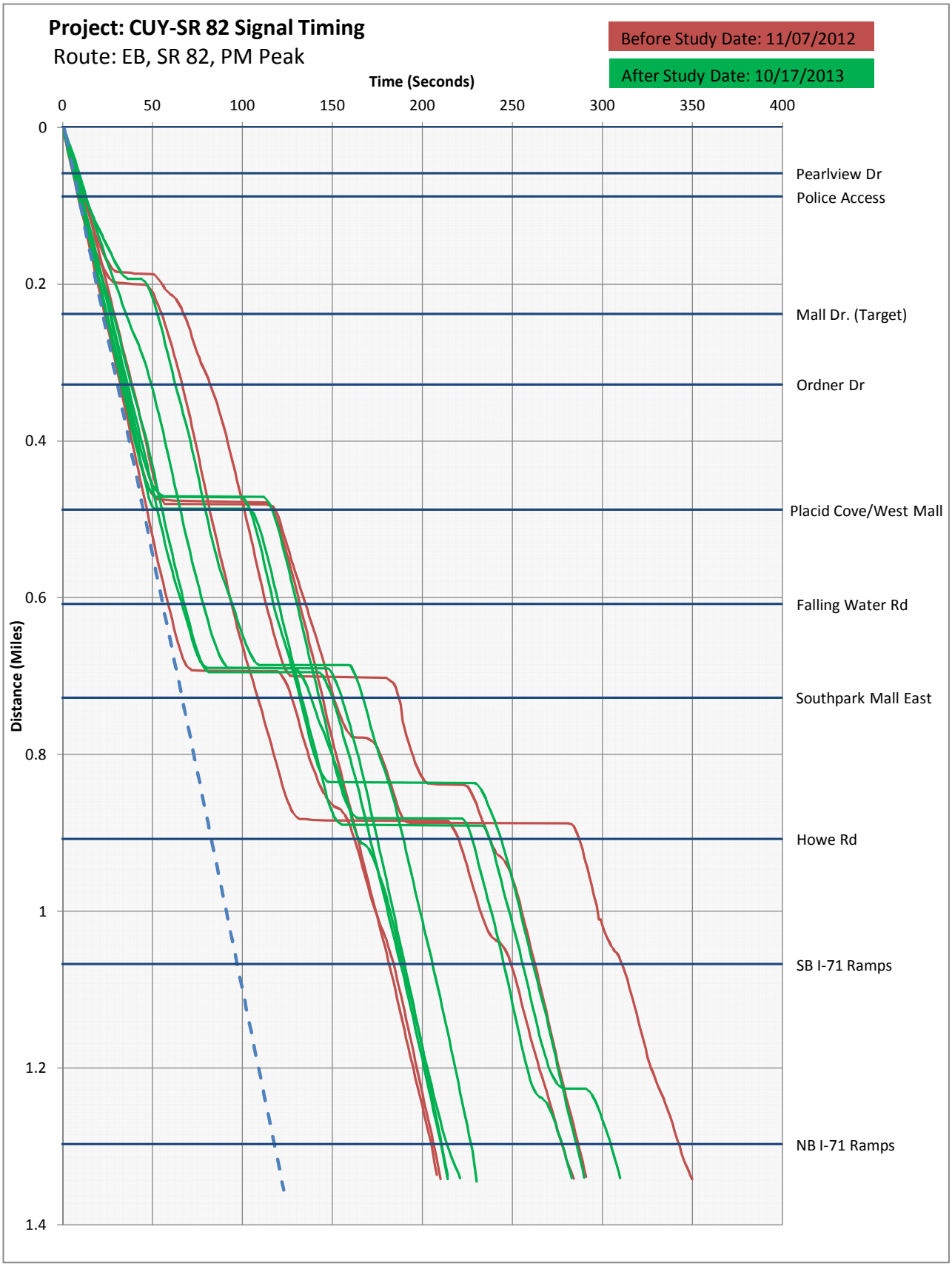
TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



Generated 11/5/2013 10:07 AM


Project: CUY-SR 82 Signal Timing
Route: EB, SR 82, PM Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
50
100
150
200
250
300
350
400
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** PM Peak

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	7.8	0.14	23.05	4.2
2	1214.4	SB I-71 Ramps	70.8	1	11.66	49.2
3	844.8	Howe Rd	64.8	0.86	8.89	52.8
4	950.4	Southpark Mall East	27	0.29	23.83	7.2
5	633.6	Falling Water Rd	13.8	0	31.12	0.6
6	633.6	Placid Cove/West Mall	13.8	0	31.34	1.2
7	844.8	Ordner Dr	18	0	31.73	0
8	475.2	Mall Dr. (Target)	9.6	0	34.43	0
9	792	Police Access	27.6	0.29	19.66	11.4
10	158.4	Pearlview Dr	4.2	0	24.91	0.6
	6811.2	**feet**	**257.4**	**2.6**	**24.1**	**127.2**
	1.29	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** PM Peak

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	33.33	50	8.33	17.65	50	37.5	37.5	0
SB I-71 Ramps	5.07	12.9	15.33	19.71	37.3	7.67	19.17	0
Howe Rd	8.14	7.5	11.29	16.27	7.5	8.57	7.62	0
Southpark Mall East	28.42	34.84	32.73	13.67	29.19	16.36	31.76	0
Falling Water Rd	34.29	32.73	36	23.23	30	30	36	0
Placid Cove/West Mall	32.73	22.5	36	32.73	32.73	28.8	37.89	0
Ordner Dr	30.97	30	35.56	27.43	34.29	30	35.56	0
Mall Dr. (Target)	36	33.75	36	31.76	31.76	33.75	38.57	0
Police Access	33.33	30	16.67	8.74	20.45	24.32	34.62	0
Pearlview Dr	30	36	22.5	18	22.5	22.5	36	0
Average Speed	**27.2**	**29.0**	**25.0**	**20.9**	**29.6**	**23.9**	**31.5**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** PM Peak

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	5.4	3.6	21.6	10.2	3.6	4.8	4.8	0
SB I-71 Ramps	163.2	64.2	54	42	22.2	108	43.2	0
Howe Rd	70.8	76.8	51	35.4	76.8	67.2	75.6	0
Southpark Mall East	22.8	18.6	19.8	47.4	22.2	39.6	20.4	0
Falling Water Rd	12.6	13.2	12	18.6	14.4	14.4	12	0
Placid Cove/West Mall	13.2	19.2	12	13.2	13.2	15	11.4	0
Ordner Dr	18.6	19.2	16.2	21	16.8	19.2	16.2	0
Mall Dr. (Target)	9	9.6	9	10.2	10.2	9.6	8.4	0
Police Access	16.2	18	32.4	61.8	26.4	22.2	15.6	0
Pearlview Dr	3.6	3	4.8	6	4.8	4.8	3	0
Total Travel Time	**335.4**	**245.4**	**232.8**	**265.8**	**210.6**	**304.8**	**210.6**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** PM Peak

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	1	0	0	0	0	0
SB I-71 Ramps	2	1	1	1	0	1	1	0
Howe Rd	1	1	1	0	1	1	1	0
Southpark Mall East	0	0	0	1	0	1	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	0	0	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Police Access	0	0	1	1	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
Total Stops	**3.0**	**2.0**	**4.0**	**3.0**	**1.0**	**3.0**	**2.0**	**0.0**

Route: SR 82 WB

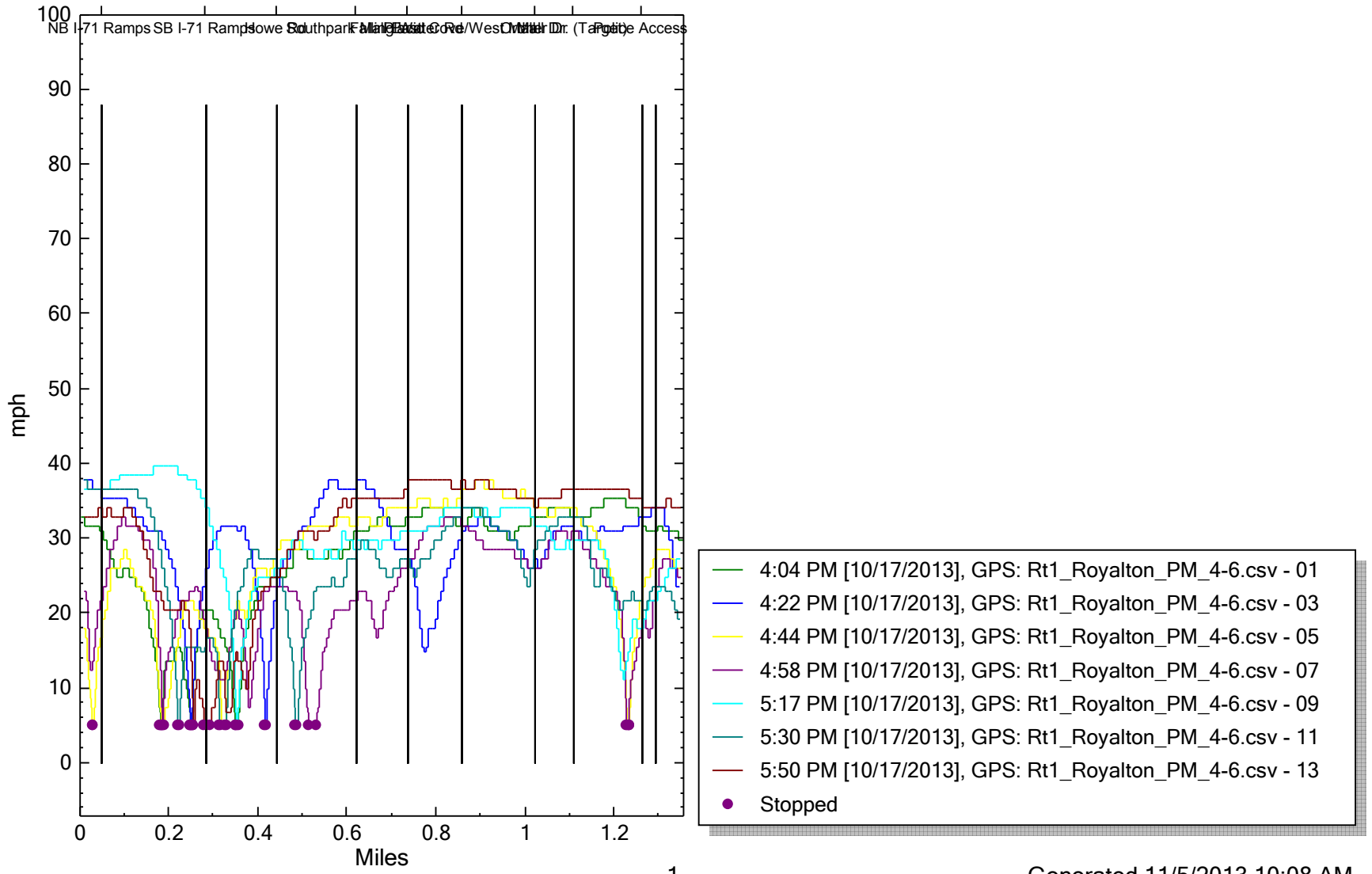
Total Delay by Run **Scenario:** PM Peak

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	0	21.6	7.2	0	0	0	0
SB I-71 Ramps	147	40.8	31.8	16.2	0	91.8	17.4	0
Howe Rd	60	61.2	37.8	27.6	60	54	67.8	0
Southpark Mall East	0	0	0	30	0	21	0	0
Falling Water Rd	0	0	0	4.8	0	0	0	0
Placid Cove/West Mall	0	7.8	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Police Access	0	0	19.2	47.4	14.4	0	0	0
Pearlview Dr	0	0	0	3.6	0.6	0	0	0
Total Delay	**207.0**	**109.8**	**110.4**	**136.8**	**75.0**	**166.8**	**85.2**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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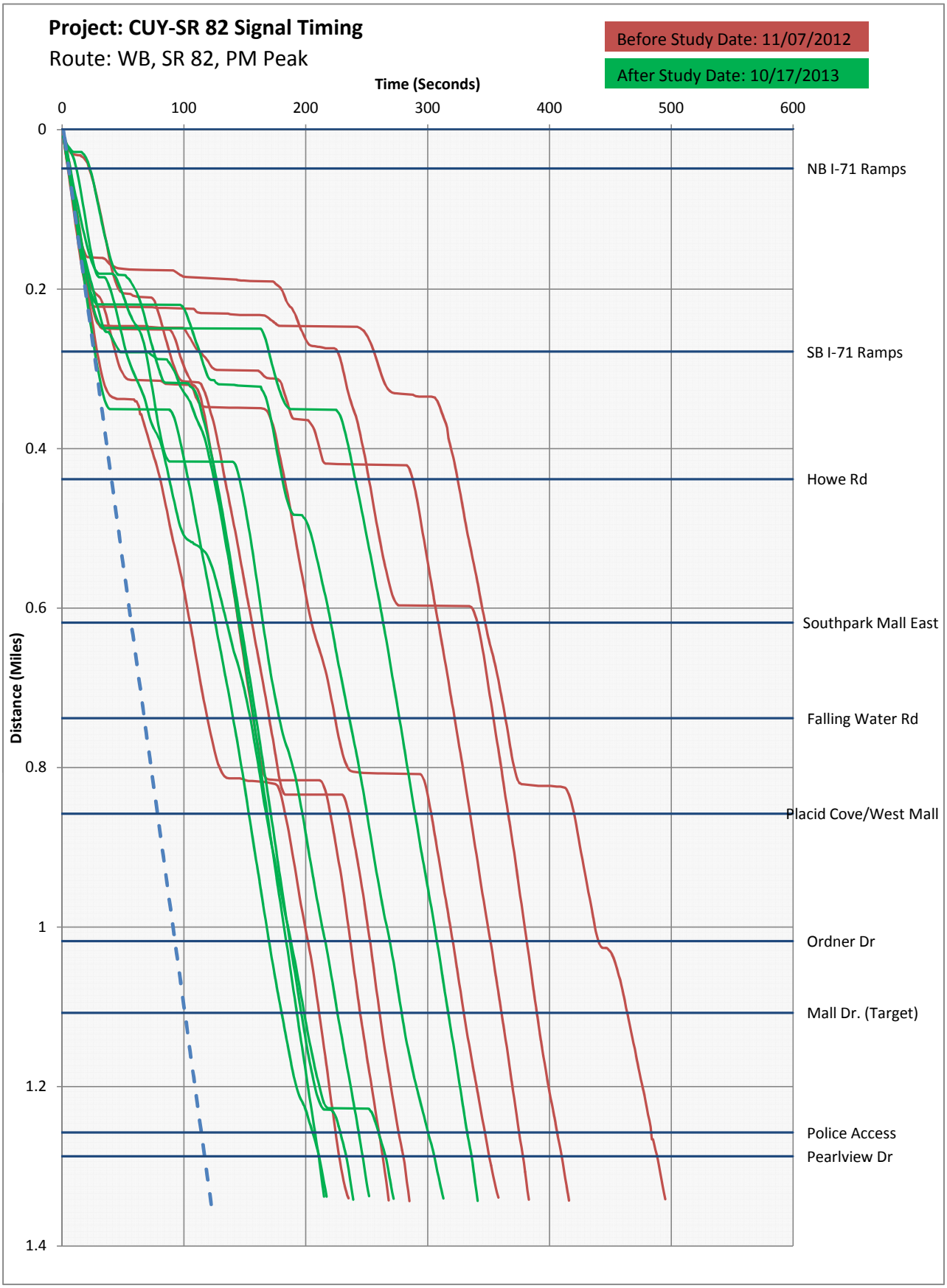

Project: CUY-SR 82 Signal Timing
Route: WB, SR 82, PM Peak
Before Study Date: 11/07/2012
After Study Date: 10/17/2013
Time (Seconds)
0
100
200
300
400
500
600
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr

Route: SR 82 EB

Overall Output Statistics **Scenario:** SAT Peak-AFTER

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	316.8	Pearlview Dr	12	0.17	18.17	7.2
2	158.4	Police Access	2.4	0	44.08	0
3	792	Mall Dr. (Target)	16.2	0	33.9	0
4	475.2	Ordner Dr	14.4	0.17	22.04	6.6
5	844.8	Placid Cove/West Mall	28.2	0.17	20.23	13.2
6	633.6	Falling Water Rd	13.2	0	32.21	0
7	633.6	Southpark Mall East	43.2	0.33	9.94	31.8
8	950.4	Howe Rd	27.6	0.33	23.39	7.2
9	844.8	SB I-71 Ramps	17.4	0	33.09	0
10	1214.4	NB I-71 Ramps	22.2	0	36.87	0
11	264	(Route End)	3	0	56.65	0
	7128	**feet**	**199.8**	**1.2**	**30.1**	**66.0**
	1.35	**miles**				

Route: SR 82 EB

Average Speed by Run **Scenario:** SAT Peak-AFTER

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	51.43	40	40	40	4.93	32.73	0	0
Police Access	45	60	45	60	30	45	0	0
Mall Dr. (Target)	34.62	39.13	32.14	39.13	30	30	0	0
Ordner Dr	36	41.54	17.42	38.57	38.57	9	0	0
Placid Cove/West Mall	36.92	6.96	29.09	38.4	41.74	23.41	0	0
Falling Water Rd	31.3	32.73	32.73	40	40	24	0	0
Southpark Mall East	31.3	40	4.04	4.65	30	20	0	0
Howe Rd	28.42	24	29.19	15.88	26.34	22.5	0	0
SB I-71 Ramps	36.92	32	35.56	28.24	36.92	30	0	0
NB I-71 Ramps	39.43	36.32	36.32	36.32	37.3	36.32	0	0
(Route End)	60	75	50	60	50	50	0	0
Average Speed	**39.2**	**38.9**	**32.0**	**36.5**	**33.3**	**29.4**	**0.0**	**0.0**

Route: SR 82 EB

Travel Time by Run **Scenario:** SAT Peak-AFTER

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	4.2	5.4	5.4	5.4	43.8	6.6	0	0
Police Access	2.4	1.8	2.4	1.8	3.6	2.4	0	0
Mall Dr. (Target)	15.6	13.8	16.8	13.8	18	18	0	0
Ordner Dr	9	7.8	18.6	8.4	8.4	36	0	0
Placid Cove/West Mall	15.6	82.8	19.8	15	13.8	24.6	0	0
Falling Water Rd	13.8	13.2	13.2	10.8	10.8	18	0	0
Southpark Mall East	13.8	10.8	106.8	93	14.4	21.6	0	0
Howe Rd	22.8	27	22.2	40.8	24.6	28.8	0	0
SB I-71 Ramps	15.6	18	16.2	20.4	15.6	19.2	0	0
NB I-71 Ramps	21	22.8	22.8	22.8	22.2	22.8	0	0
(Route End)	3	2.4	3.6	3	3.6	3.6	0	0
Total Travel Time	**136.8**	**205.8**	**247.8**	**235.2**	**178.8**	**201.6**	**0.0**	**0.0**

Route: SR 82 EB

Number of Stops by Run **Scenario:** SAT Peak-AFTER

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	1	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Ordner Dr	0	0	0	0	0	1	0	0
Placid Cove/West Mall	0	1	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Southpark Mall East	0	0	1	1	0	0	0	0
Howe Rd	0	1	0	1	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Stops	**0.0**	**2.0**	**1.0**	**2.0**	**1.0**	**1.0**	**0.0**	**0.0**

Route: SR 82 EB

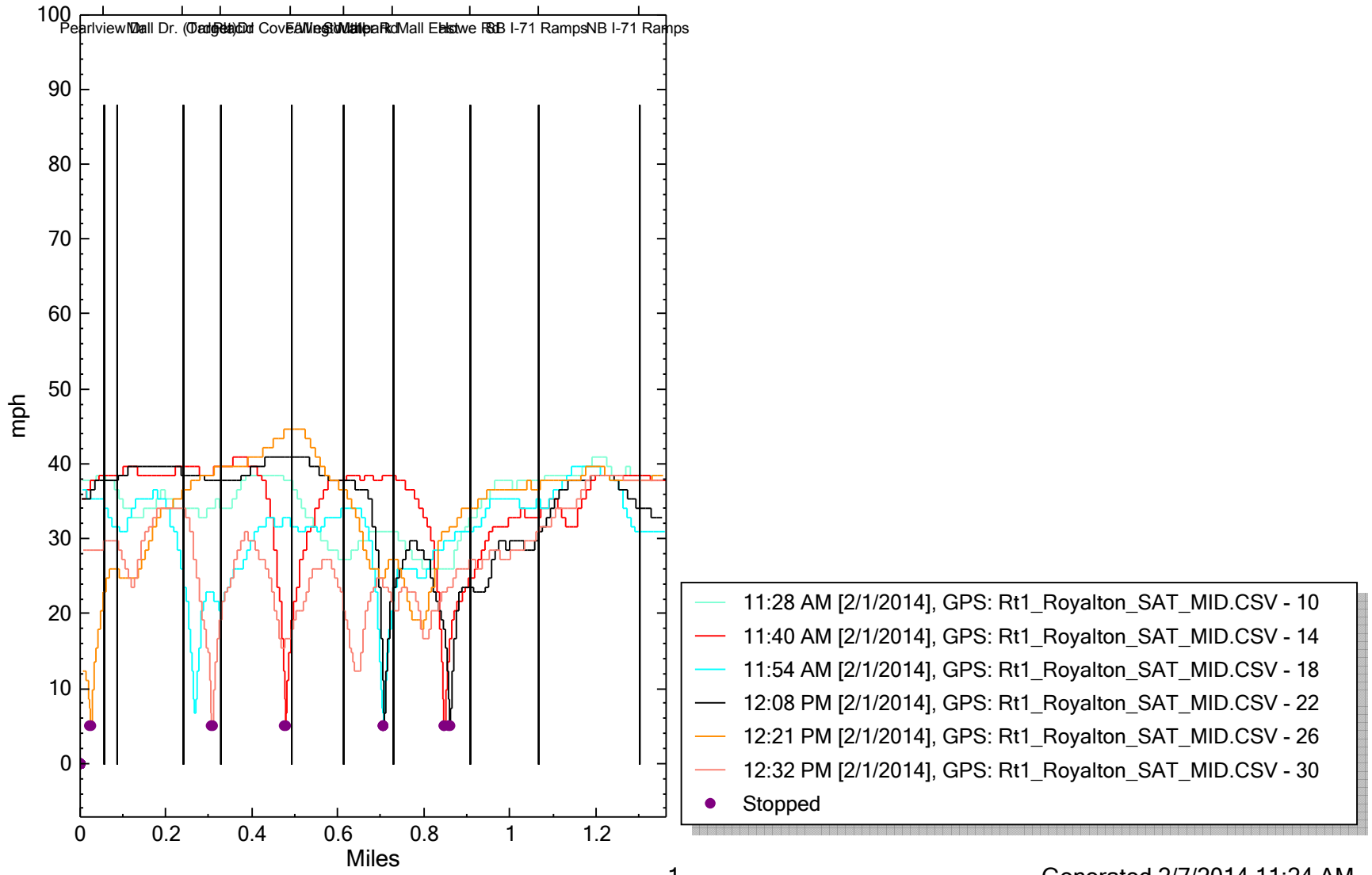
Total Delay by Run **Scenario:** SAT Peak-AFTER

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
Pearlview Dr	0	0	0	0	42	0	0	0
Police Access	0	0	0	0	0	0	0	0
Mall Dr. (Target)	0	0	0	0	0	0	0	0
Ordner Dr	0	0	9	0	0	31.8	0	0
Placid Cove/West Mall	0	69	0	0	0	8.4	0	0
Falling Water Rd	0	0	0	0	0	0.6	0	0
Southpark Mall East	0	0	97.2	82.2	0	10.8	0	0
Howe Rd	0	10.2	0	21	6	4.8	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
NB I-71 Ramps	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Delay	**0.0**	**79.2**	**106.2**	**103.2**	**48.0**	**56.4**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 EB

SR 82 Travel Time Study



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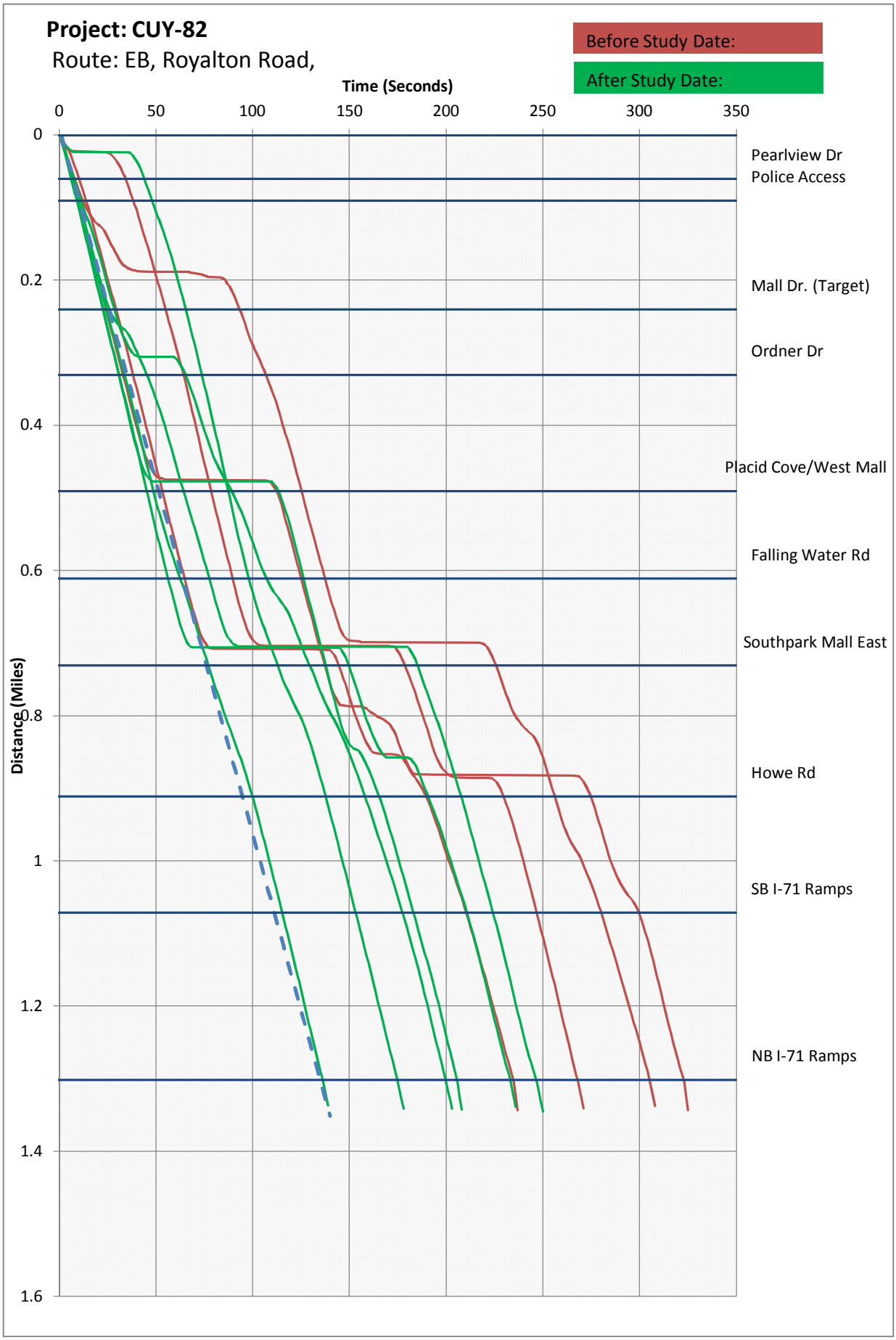

Project: CUY-82
Route: EB, Royalton Road,
Before Study Date:
After Study Date:
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
Pearlview Dr
Police Access
Mall Dr. (Target)
Ordner Dr
Placid Cove/West Mall
Falling Water Rd
Southpark Mall East
Howe Rd
SB I-71 Ramps
NB I-71 Ramps

Route: SR 82 WB

Overall Output Statistics **Scenario:** SAT Peak-AFTER

Checkpoint #	Length	Checkpoint	Travel Time	# of Stops	Avg Speed	Total Delay
1	264	NB I-71 Ramps	12.6	0.2	14.18	7.8
2	1214.4	SB I-71 Ramps	28.8	0	28.49	3
3	844.8	Howe Rd	67.8	1	8.49	53.4
4	950.4	Southpark Mall East	24.6	0	26.54	3
5	633.6	Falling Water Rd	13.8	0	31.95	0
6	633.6	Placid Cove/West Mall	28.8	0.4	15.16	15.6
7	844.8	Ordner Dr	24.6	0.2	23.18	8.4
8	475.2	Mall Dr. (Target)	22.8	0.6	14.32	14.4
9	792	Police Access	18	0	30.34	0.6
10	158.4	Pearlview Dr	3.6	0	27.87	0
11	316.8	(Route End)	4.8	0	44.1	0
	7128	**feet**	**250.2**	**2.4**	**24.1**	**106.2**
	1.35	**miles**				

Route: SR 82 WB

Average Speed by Run **Scenario:** SAT Peak-AFTER

	Average Speed (MPH)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	25	4.05	42.86	50	42.86	0	0	0
SB I-71 Ramps	27.6	19.17	37.3	32.86	33.66	0	0	0
Howe Rd	7.5	6.96	7.44	14.12	9.41	0	0	0
Southpark Mall East	22.5	30.86	30.86	22.04	29.19	0	0	0
Falling Water Rd	30	34.29	34.29	26.67	36	0	0	0
Placid Cove/West Mall	11.25	36	34.29	30	6.67	0	0	0
Ordner Dr	29.09	36.92	35.56	10.55	32	0	0	0
Mall Dr. (Target)	36	41.54	5.45	20	15.88	0	0	0
Police Access	28.12	34.62	30	29.03	30	0	0	0
Pearlview Dr	36	36	25.71	22.5	30	0	0	0
(Route End)	51.43	45	40	40	51.43	0	0	0
Average Speed	**27.7**	**29.6**	**29.4**	**27.1**	**28.8**	**0.0**	**0.0**	**0.0**

Route: SR 82 WB

Travel Time by Run **Scenario:** SAT Peak-AFTER

	Travel Time (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	7.2	44.4	4.2	3.6	4.2	0	0	0
SB I-71 Ramps	30	43.2	22.2	25.2	24.6	0	0	0
Howe Rd	76.8	82.8	77.4	40.8	61.2	0	0	0
Southpark Mall East	28.8	21	21	29.4	22.2	0	0	0
Falling Water Rd	14.4	12.6	12.6	16.2	12	0	0	0
Placid Cove/West Mall	38.4	12	12.6	14.4	64.8	0	0	0
Ordner Dr	19.8	15.6	16.2	54.6	18	0	0	0
Mall Dr. (Target)	9	7.8	59.4	16.2	20.4	0	0	0
Police Access	19.2	15.6	18	18.6	18	0	0	0
Pearlview Dr	3	3	4.2	4.8	3.6	0	0	0
(Route End)	4.2	4.8	5.4	5.4	4.2	0	0	0
Total Travel Time	**250.8**	**262.8**	**253.2**	**229.2**	**253.2**	**0.0**	**0.0**	**0.0**

Route: SR 82 WB

Number of Stops by Run **Scenario:** SAT Peak-AFTER

	Number of Stops							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	1	0	0	0	0	0	0
SB I-71 Ramps	0	0	0	0	0	0	0	0
Howe Rd	1	1	1	1	1	0	0	0
Southpark Mall East	0	0	0	0	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	1	0	0	0	1	0	0	0
Ordner Dr	0	0	0	1	0	0	0	0
Mall Dr. (Target)	0	0	1	1	1	0	0	0
Police Access	0	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Stops	**2.0**	**2.0**	**2.0**	**3.0**	**3.0**	**0.0**	**0.0**	**0.0**

Route: SR 82 WB

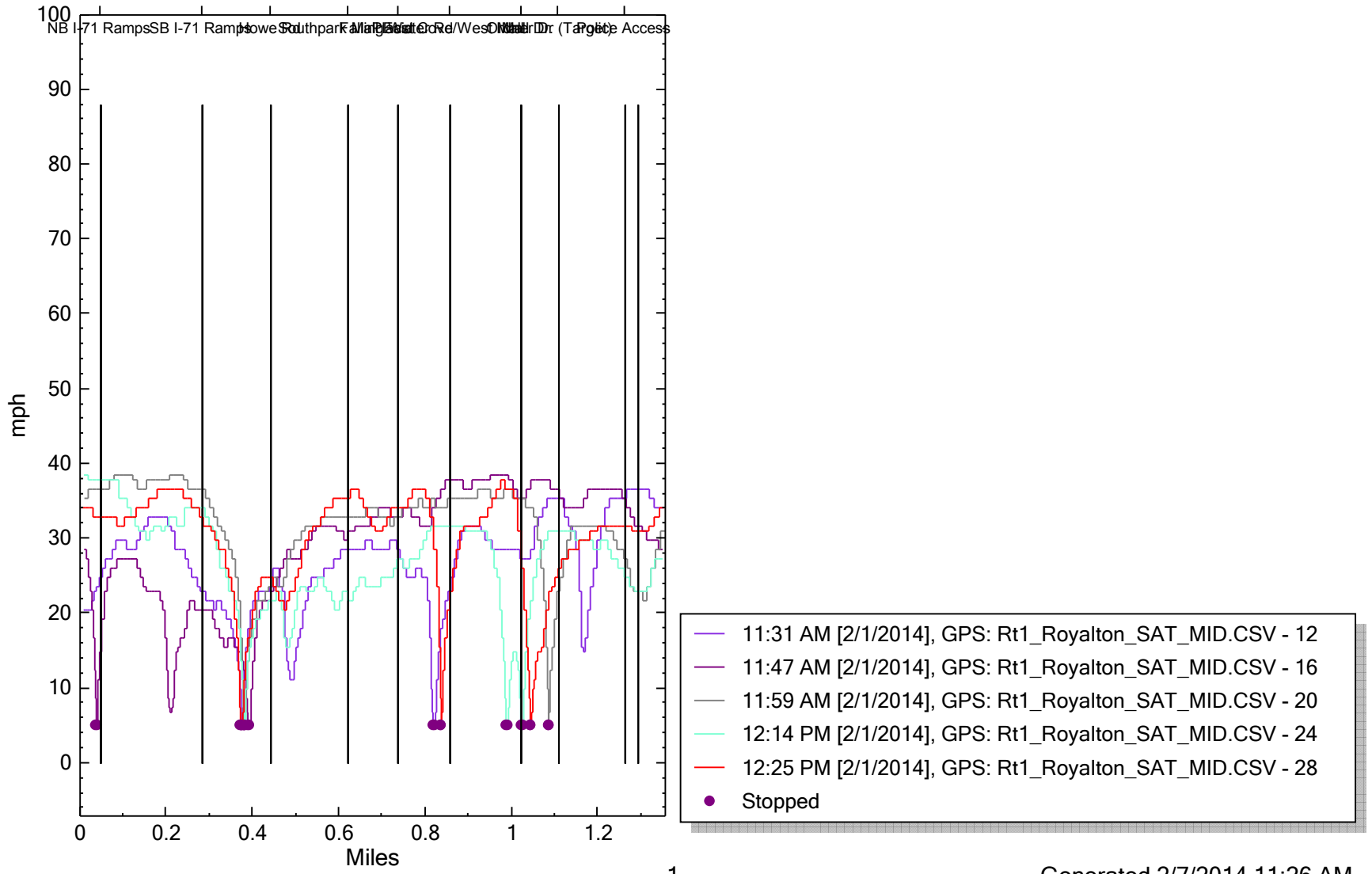
Total Delay by Run **Scenario:** SAT Peak-AFTER

	Total Delay (seconds)							
	RUN 1	**RUN 2**	**RUN 3**	**RUN 4**	**RUN 5**	**RUN 6**	**RUN 7**	**RUN 8**
NB I-71 Ramps	0	39	0	0	0	0	0	0
SB I-71 Ramps	0	16.2	0	0	0	0	0	0
Howe Rd	60	75	61.8	25.2	46.2	0	0	0
Southpark Mall East	10.2	0	0	4.8	0	0	0	0
Falling Water Rd	0	0	0	0	0	0	0	0
Placid Cove/West Mall	25.8	0	0	0	52.8	0	0	0
Ordner Dr	0	0	0	40.8	0	0	0	0
Mall Dr. (Target)	0	0	52.2	7.2	13.8	0	0	0
Police Access	3	0	0	0	0	0	0	0
Pearlview Dr	0	0	0	0	0	0	0	0
(Route End)	0	0	0	0	0	0	0	0
Total Delay	**99.0**	**130.2**	**114.0**	**78.0**	**112.8**	**0.0**	**0.0**	**0.0**

TEC Engineering, Inc.

Speed Profile - SR 82 WB

SR 82 Travel Time Study



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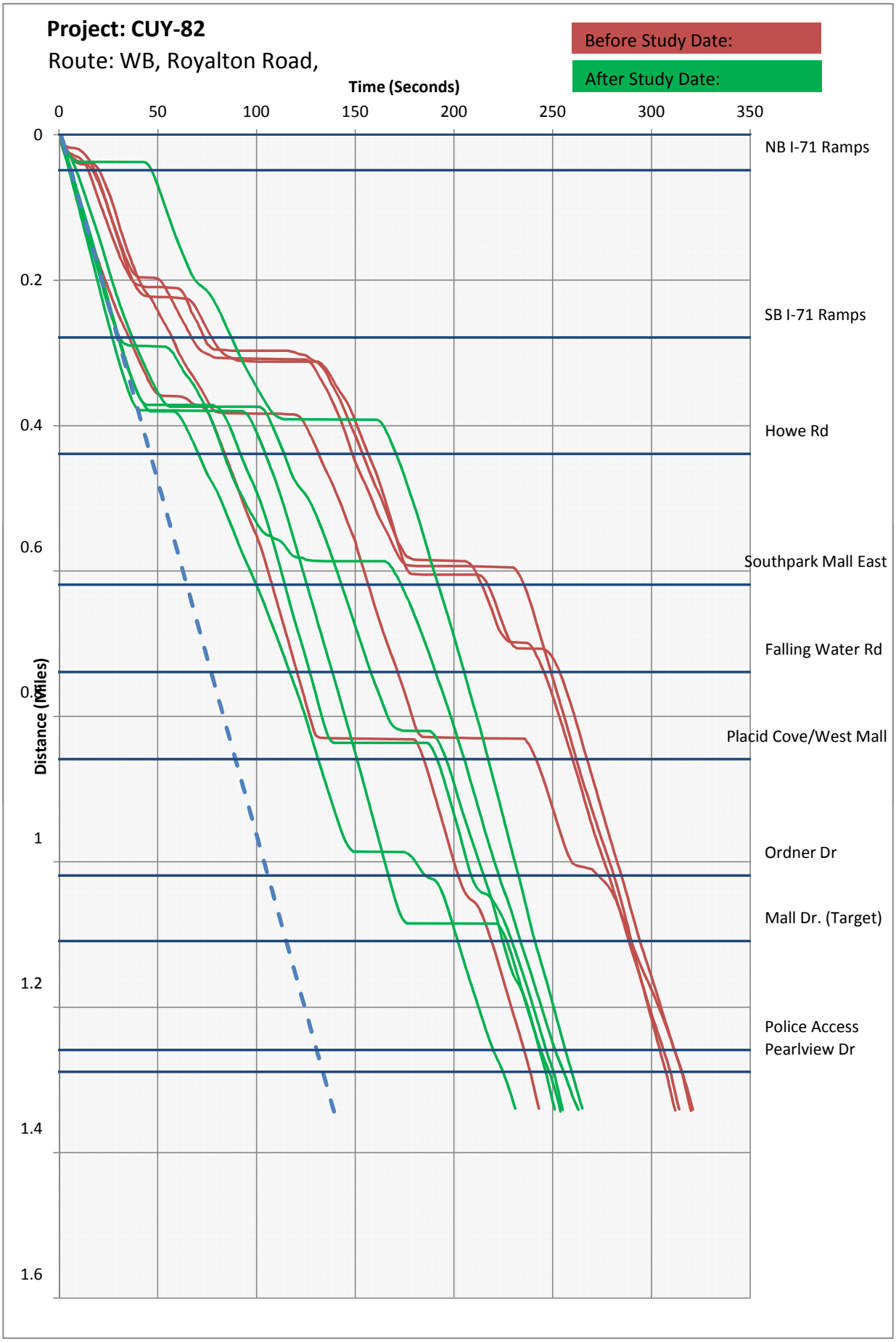
Project: CUY-82
Route: WB, Royalton Road,
Before Study Date:
After Study Date:
Time (Seconds)
0
50
100
150
200
250
300
350
Distance (Miles)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
NB I-71 Ramps
SB I-71 Ramps
Howe Rd
Southpark Mall East
Falling Water Rd
Placid Cove/West Mall
Ordner Dr
Mall Dr. (Target)
Police Access
Pearlview Dr