



## MEMORANDUM

**To:** Shell MacPherson, PACLAND  
**From:** Preston Stinger, Fehr & Peers  
**Date:** February 15, 2007  
**Subject:** Cedar Hills Wal-Mart Traffic Impact Study

UT06-734

The purpose of this memorandum is to provide an update to the original *Cedar Hills Wal-Mart Development Traffic Impact Study* dated January 23, 2007. This memorandum summarizes the transportation related impacts of the Wal-Mart development during the High School afternoon peak period. As requested by the Cedar Hills City Planning Commission, this was scoped to determine the PM peak period with respect to the High School traffic at the study intersections and accesses.

### Summary & Conclusions

Based on the analysis the proposed Wal-Mart development will have acceptable traffic impacts to the surrounding area.

Fehr & Peers does not recommend any additional mitigations from the *Cedar Hills Wal-Mart Development Traffic Impact Study*.

- There is no operational need to signalize the Northwest access (intersection #1). The delay experienced by the exiting eastbound vehicles (High School traffic) at the Northwest access (intersection #1) will occur during one hour only of the day. There is no conflict of turning movements at this intersection.
- Movements in or out of the West access (intersection #2) should not be restricted. The delays experienced at the Wal-Mart approach will be contained on-site and not on 4800 West. There is no conflict of turning movements at this intersection.

See the Appendix for additional information including detailed LOS reports, queuing reports and traffic counts.

### Analysis Methodology

The Highway Capacity Manual 2000 (HCM 2000) methodology was used in this study to remain consistent with “state-of-the-practice” professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized intersections, the LOS is provided for the overall intersection (weighted average of all

approach delays). For unsignalized intersections, LOS is reported based on the worst approach.

Using Synchro/SimTraffic simulation software and the HCM 2000 methodology, the PM peak hour LOS was computed for each study intersection.

Synchro/SimTraffic was used because it provides a stochastic analysis of the roadway network. This simulation analysis accounts for interaction between study intersections. These results serve as a base for the analysis of the impacts of the proposed development. The purpose of the analysis is to study the pertinent roadways during the peak travel periods of the day under existing and future traffic and geometric conditions.

### **Traffic Volumes**

Fehr & Peers performed afternoon (2:00 PM to 4:00 PM) traffic counts on Tuesday, January 30, 2007 at the three High School accesses on 4800 West near the proposed Wal-Mart site (see the Appendix for the detailed traffic counts). The traffic counts were adjusted to represent volumes for an average day of the year. Based on daily and monthly adjustment factors published by Utah Department of Transportation (UDOT).

The existing (2007) High School peak period (2:15 PM to 3:15 PM) has approximately 300 more vehicles at the 4800 West/Cedar Hills Dr. intersection than the PM Peak period (5:00 PM to 6:00 PM).

### **Analysis**

An analysis was performed for all the study intersections and accesses during the High School peak period for existing (2007) background conditions, existing (2007) plus project conditions, future (2030) background conditions, and future (2030) plus project conditions.

#### Existing (2007)

For existing (2007) background conditions, all intersections and accesses operate at an LOS C or better.

For existing (2007) plus project conditions, all intersections and accesses operate at an LOS C or better, except the Northwest access (intersection #1) on 4800 West.

- The 128 vehicles using the eastbound approach at intersection #1 will experience LOS D (28.4 seconds of delay) conditions during the peak one hour of the day. The rest of the day it operates at LOS C or better.

Table 1 shows the results of the existing (2007) plus project analysis. Figure 1 shows the High School peak hour volumes of the existing (2007) plus project scenario.

#### Future (2030)

It should be noted that in the future years the background PM peak period (5:00 PM to 6:00 PM) traffic will continue to grow larger while the High School peak period (2:15 PM to 3:15 PM) will not grow as incrementally, due to the capacity of the High School. However, Fehr & Peers analyzed the year 2030 as if the High School peak traffic grew at the same rate the PM peak would, thus creating the worse case scenario.

It was assumed that 4800 West would be a five-lane facility in the future year 2030. For 2030 background conditions, all intersections operate at an LOS C or better.

For 2030 plus project conditions, all intersections operate at an LOS C or better, except the Northwest access (intersection #1) on 4800 West and the Southwest access (intersection #4) on Cedar Hills Drive.

- The 128 vehicles using the eastbound approach at intersection #1 will experience LOS E (35.4 seconds of delay) conditions during the peak one hour of the day. The rest of the day it operates at LOS C or better.
- The 14 vehicles using the southbound approach at the intersection #4 will experience LOS D (34.2 seconds of delay) conditions during the peak one hour of the day. This delay will be contained on-site.

Because the delays are experienced during the peak one of the day, signaling is not recommended.

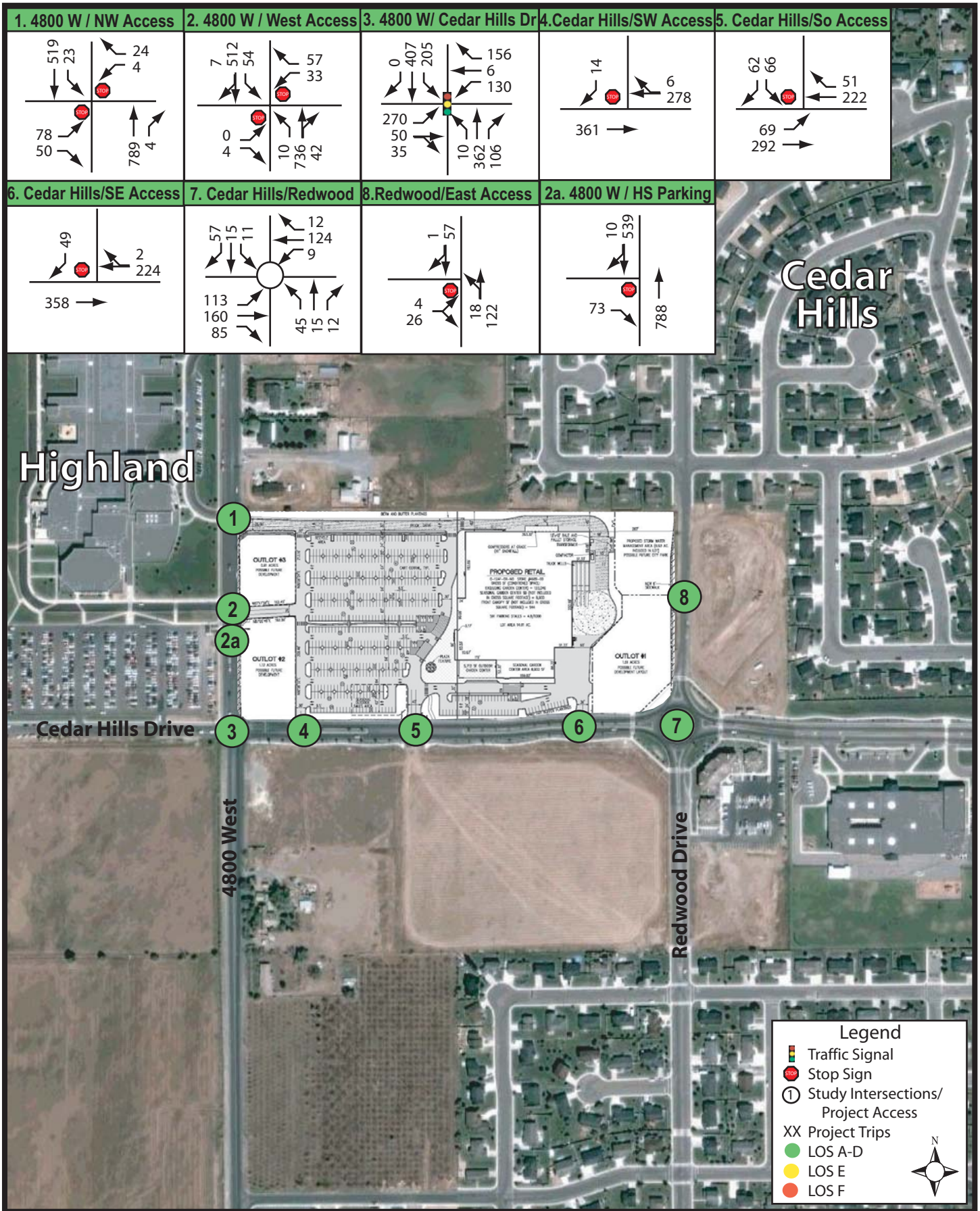
**Table 1**  
**Existing (2007) Plus Project Level of Service**

| Intersection |  |                       | PM Peak          |  | High School Peak |  |
|--------------|--|-----------------------|------------------|--|------------------|--|
| ID           | Description                            | Approach <sup>1</sup> | LOS <sup>1</sup> | Avg. Delay<br>(Sec / Veh) <sup>2</sup> | LOS <sup>1</sup> | Avg. Delay<br>(Sec / Veh) <sup>2</sup> |
| 1            | 4800 West/<br>Northwest Access         | EB                    | B                | 13.2                                   | D                | 28.4                                   |
| 2            | 4800 West/<br>West Access              | WB                    | A                | 9.1                                    | C                | 16.4                                   |
| 2a           | 4800 West/<br>H.S. Parking Lot         | EB                    | A                | 3.7                                    | A                | 6.3                                    |
| 3            | 4800 West/<br>Cedar Hills Drive        | Signal                | B                | 11.8                                   | C                | 21.0                                   |
| 4            | Cedar Hills/<br>Southwest Access       | SB                    | A                | 4.2                                    | A                | 4.4                                    |
| 5            | Cedar Hills Drive/<br>South Access     | SB                    | A                | 9.5                                    | A                | 8.6                                    |
| 6            | Cedar Hills Drive/<br>Southeast Access | SB                    | A                | 4.2                                    | A                | 4.1                                    |
| 7            | Cedar Hills Drive/<br>Redwood Drive    | WB                    | A                | 3.7                                    | A                | 3.4                                    |
| 8            | Redwood Drive/<br>East Access          | EB                    | A                | 3.1                                    | A                | 3.2                                    |

1. This represents the worst approach LOS and delay (seconds / vehicle) for unsignalized intersections or overall LOS and delay for signalized intersections.

2. This represents the worst approach LOS and delay (seconds / vehicle) for unsignalized intersections or overall LOS and delay for signalized intersections.

Source: Fehr & Peers, February 2007.



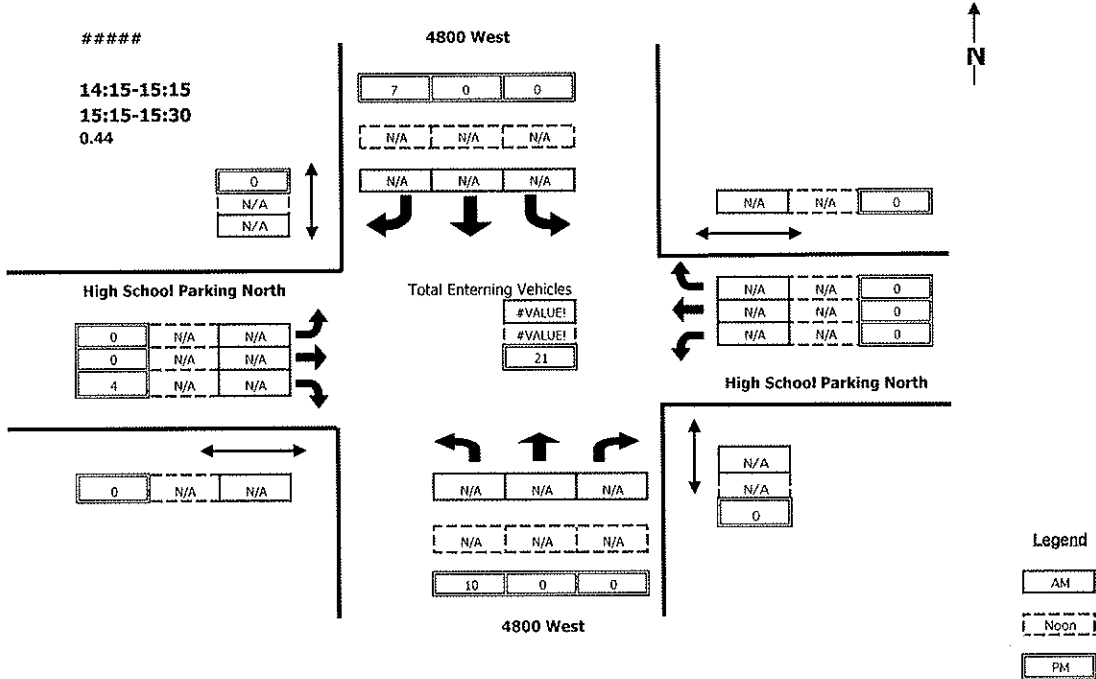
Intersection Turning Movement Summary

|                       |                           |                                  |              |
|-----------------------|---------------------------|----------------------------------|--------------|
| <b>Intersection:</b>  | 4800 W / HS Parking North | <b>Date:</b>                     | 1-30-07, Tue |
| <b>North/South:</b>   | 4800 West                 | <b>Day of Week Adjustment:</b>   | 101.7%       |
| <b>East/West:</b>     | High School Parking North | <b>Month of Year Adjustment:</b> | 98.6%        |
| <b>Jurisdiction:</b>  | Cedar Hills, UT           | <b>Adjustment Station #:</b>     | 350          |
| <b>Project Title:</b> |                           | <b>Growth Rate:</b>              | 0.0%         |
| <b>Project No:</b>    | 06-734                    | <b>Number of Years:</b>          | 0            |
| <b>Weather:</b>       |                           |                                  |              |

AM PEAK HOUR PERIOD:  
AM PEAK 15 MINUTE PERIOD:  
AM PHF: #####

NOON PEAK HOUR PERIOD:  
NOON PEAK 15 MINUTE PERIOD:  
NOON PHF: #####

PM PEAK HOUR PERIOD: 14:15-15:15  
PM PEAK 15 MINUTE PERIOD: 15:15-15:30  
PM PHF: 0.44



| RAW COUNT SUMMARIES | 4800 West Northbound |      |       |      | 4800 West Southbound |      |       |      | High School Parking North Eastbound |      |       |      | High School Parking North Westbound |      |       |      |
|---------------------|----------------------|------|-------|------|----------------------|------|-------|------|-------------------------------------|------|-------|------|-------------------------------------|------|-------|------|
|                     | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                                | Thru | Right | Peds | Left                                | Thru | Right | Peds |

| AM PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period           | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 7:00-7:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:15-7:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:30-7:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:45-8:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:00-8:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:15-8:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:30-8:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:45-9:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| NOON PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period             | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 11:00-11:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:15-11:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:30-11:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:45-12:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:00-12:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:15-12:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:30-12:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:45-13:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| PM PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period           | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 14:00-14:15      | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1     |
| 14:15-14:30      | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4     |
| 14:30-14:45      | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6     |
| 14:45-15:00      | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6     |
| 15:00-15:15      | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5     |
| 15:15-15:30      | 4 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12    |
| 15:30-15:45      | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4     |
| 15:45-16:00      | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6     |

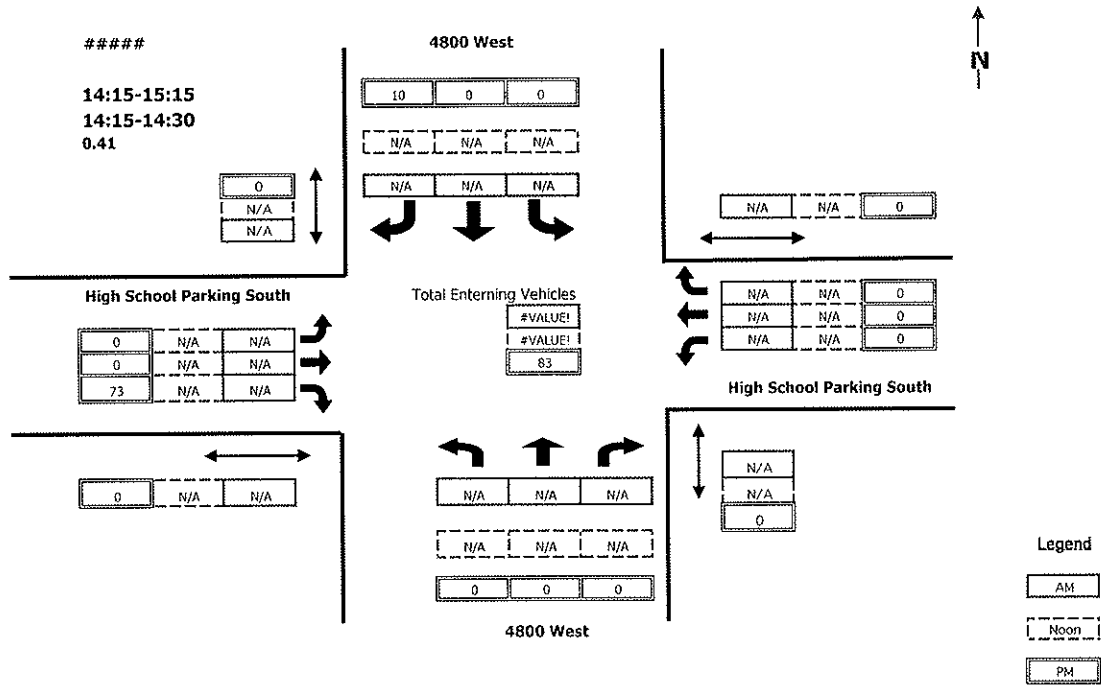
Intersection Turning Movement Summary

|                       |                           |                                  |              |
|-----------------------|---------------------------|----------------------------------|--------------|
| <b>Intersection:</b>  | 4800 W / HS Parking South | <b>Date:</b>                     | 1-30-07, Tue |
| <b>North/South:</b>   | 4800 West                 | <b>Day of Week Adjustment:</b>   | 101.7%       |
| <b>East/West:</b>     | High School Parking South | <b>Month of Year Adjustment:</b> | 98.6%        |
| <b>Jurisdiction:</b>  | Cedar Hills, UT           | <b>Adjustment Station #:</b>     | 350          |
| <b>Project Title:</b> |                           | <b>Growth Rate:</b>              | 0.0%         |
| <b>Project No:</b>    | 06-734                    | <b>Number of Years:</b>          | 0            |
| <b>Weather:</b>       |                           |                                  |              |

AM PEAK HOUR PERIOD:  
AM PEAK 15 MINUTE PERIOD:  
AM PHF: #####

NOON PEAK HOUR PERIOD:  
NOON PEAK 15 MINUTE PERIOD:  
NOON PHF: #####

PM PEAK HOUR PERIOD: 14:15-15:15  
PM PEAK 15 MINUTE PERIOD: 14:15-14:30  
PM PHF: 0.41



**Legend**

|      |
|------|
| AM   |
| Noon |
| PM   |

| RAW COUNT SUMMARIES       | 4800 West Northbound |      |       |      | 4800 West Southbound |      |       |      | High School Parking South Eastbound |      |       |      | High School Parking South Westbound |      |       |      | TOTAL |
|---------------------------|----------------------|------|-------|------|----------------------|------|-------|------|-------------------------------------|------|-------|------|-------------------------------------|------|-------|------|-------|
|                           | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                                | Thru | Right | Peds | Left                                | Thru | Right | Peds |       |
| <b>AM PERIOD COUNTS</b>   |                      |      |       |      |                      |      |       |      |                                     |      |       |      |                                     |      |       |      |       |
| Period                    | A                    | B    | C     | D    | E                    | F    | G     | H    | I                                   | J    | K     | L    | M                                   | N    | O     | P    | TOTAL |
| 7:00-7:15                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 7:15-7:30                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 7:30-7:45                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 7:45-8:00                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 8:00-8:15                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 8:15-8:30                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 8:30-8:45                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 8:45-9:00                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| <b>NOON PERIOD COUNTS</b> |                      |      |       |      |                      |      |       |      |                                     |      |       |      |                                     |      |       |      |       |
| Period                    | A                    | B    | C     | D    | E                    | F    | G     | H    | I                                   | J    | K     | L    | M                                   | N    | O     | P    | TOTAL |
| 11:00-11:15               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 11:15-11:30               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 11:30-11:45               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 11:45-12:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 12:00-12:15               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 12:15-12:30               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 12:30-12:45               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| 12:45-13:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |
| <b>PM PERIOD COUNTS</b>   |                      |      |       |      |                      |      |       |      |                                     |      |       |      |                                     |      |       |      |       |
| Period                    | A                    | B    | C     | D    | E                    | F    | G     | H    | I                                   | J    | K     | L    | M                                   | N    | O     | P    | TOTAL |
| 14:00-14:15               | 0                    | 0    | 0     | 0    | 0                    | 0    | 2     | 0    | 0                                   | 0    | 49    | 0    | 0                                   | 0    | 0     | 0    | 2     |
| 14:15-14:30               | 0                    | 0    | 0     | 0    | 0                    | 0    | 2     | 0    | 0                                   | 0    | 49    | 0    | 0                                   | 0    | 0     | 0    | 51    |
| 14:30-14:45               | 0                    | 0    | 0     | 0    | 0                    | 0    | 1     | 0    | 0                                   | 0    | 20    | 0    | 0                                   | 0    | 0     | 0    | 21    |
| 14:45-15:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 5     | 0    | 0                                   | 0    | 3     | 0    | 0                                   | 0    | 0     | 0    | 8     |
| 15:00-15:15               | 0                    | 0    | 0     | 0    | 0                    | 0    | 2     | 0    | 0                                   | 0    | 1     | 0    | 0                                   | 0    | 0     | 0    | 3     |
| 15:15-15:30               | 0                    | 0    | 0     | 0    | 0                    | 0    | 5     | 0    | 0                                   | 0    | 1     | 0    | 0                                   | 0    | 0     | 0    | 6     |
| 15:30-15:45               | 0                    | 0    | 0     | 0    | 0                    | 0    | 2     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 2     |
| 15:45-16:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0                                   | 0    | 0     | 0    | 0     |

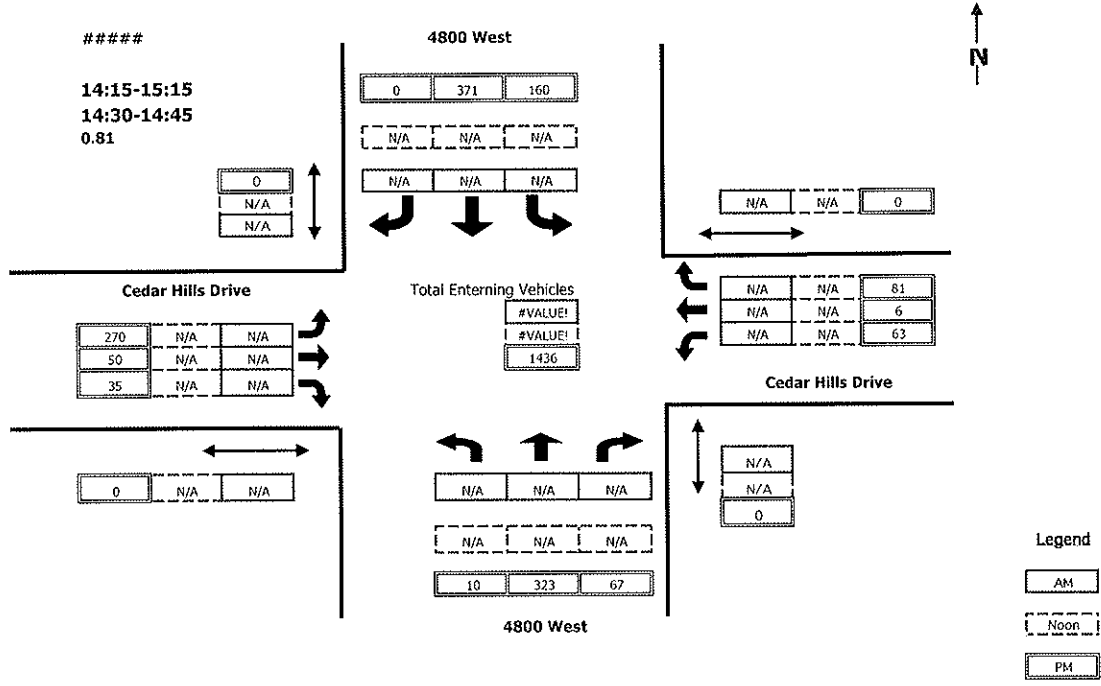
Intersection Turning Movement Summary

|                       |                              |                                  |              |
|-----------------------|------------------------------|----------------------------------|--------------|
| <b>Intersection:</b>  | 4800 W / Cedar Hills         | <b>Date:</b>                     | 1-30-07, Tue |
| <b>Jurisdiction:</b>  | North/South: 4800 West       | <b>Day of Week Adjustment:</b>   | 101.7%       |
| <b>Project Title:</b> | East/West: Cedar Hills Drive | <b>Month of Year Adjustment:</b> | 98.6%        |
| <b>Project No:</b>    | Cedar Hills, UT              | <b>Adjustment Station #:</b>     | 350          |
| <b>Weather:</b>       | 06-734                       | <b>Growth Rate:</b>              | 0.0%         |
|                       |                              | <b>Number of Years:</b>          | 0            |

AM PEAK HOUR PERIOD:  
AM PEAK 15 MINUTE PERIOD:  
AM PHF: #####

NOON PEAK HOUR PERIOD:  
NOON PEAK 15 MINUTE PERIOD:  
NOON PHF: #####

PM PEAK HOUR PERIOD: 14:15-15:15  
PM PEAK 15 MINUTE PERIOD: 14:30-14:45  
PM PHF: 0.81



| RAW COUNT | 4800 West Northbound |      |       |      | 4800 West Southbound |      |       |      | Cedar Hills Drive Eastbound |      |       |      | Cedar Hills Drive Westbound |      |       |      |
|-----------|----------------------|------|-------|------|----------------------|------|-------|------|-----------------------------|------|-------|------|-----------------------------|------|-------|------|
|           | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                        | Thru | Right | Peds | Left                        | Thru | Right | Peds |

| AM PERIOD COUNTS | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| 7:00-7:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:15-7:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:30-7:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:45-8:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:00-8:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:15-8:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:30-8:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:45-9:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| NOON PERIOD COUNTS | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| 11:00-11:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:15-11:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:30-11:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:45-12:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:00-12:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:15-12:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:30-12:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:45-13:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| PM PERIOD COUNTS | A | B  | C  | D | E  | F  | G | H | I   | J  | K  | L | M  | N | O  | P | TOTAL |
|------------------|---|----|----|---|----|----|---|---|-----|----|----|---|----|---|----|---|-------|
| 14:00-14:15      | 2 | 42 | 12 | 0 | 15 | 54 | 2 | 0 | 10  | 1  | 2  | 0 | 10 | 4 | 13 | 0 | 167   |
| 14:15-14:30      | 5 | 83 | 12 | 0 | 63 | 97 | 0 | 0 | 125 | 13 | 16 | 0 | 20 | 0 | 4  | 0 | 438   |
| 14:30-14:45      | 3 | 85 | 20 | 0 | 48 | 95 | 0 | 0 | 107 | 24 | 9  | 0 | 14 | 2 | 34 | 0 | 441   |
| 14:45-15:00      | 1 | 71 | 14 | 0 | 16 | 88 | 0 | 0 | 23  | 7  | 7  | 0 | 18 | 2 | 15 | 0 | 262   |
| 15:00-15:15      | 1 | 84 | 21 | 0 | 33 | 91 | 0 | 0 | 15  | 6  | 3  | 0 | 11 | 2 | 28 | 0 | 295   |
| 15:15-15:30      | 1 | 92 | 22 | 0 | 37 | 71 | 1 | 0 | 7   | 1  | 2  | 0 | 13 | 1 | 22 | 0 | 270   |
| 15:30-15:45      | 3 | 77 | 17 | 0 | 34 | 79 | 1 | 0 | 7   | 1  | 3  | 0 | 17 | 0 | 35 | 0 | 274   |
| 15:45-16:00      | 3 | 76 | 20 | 0 | 27 | 80 | 2 | 0 | 1   | 0  | 3  | 0 | 20 | 1 | 20 | 0 | 253   |



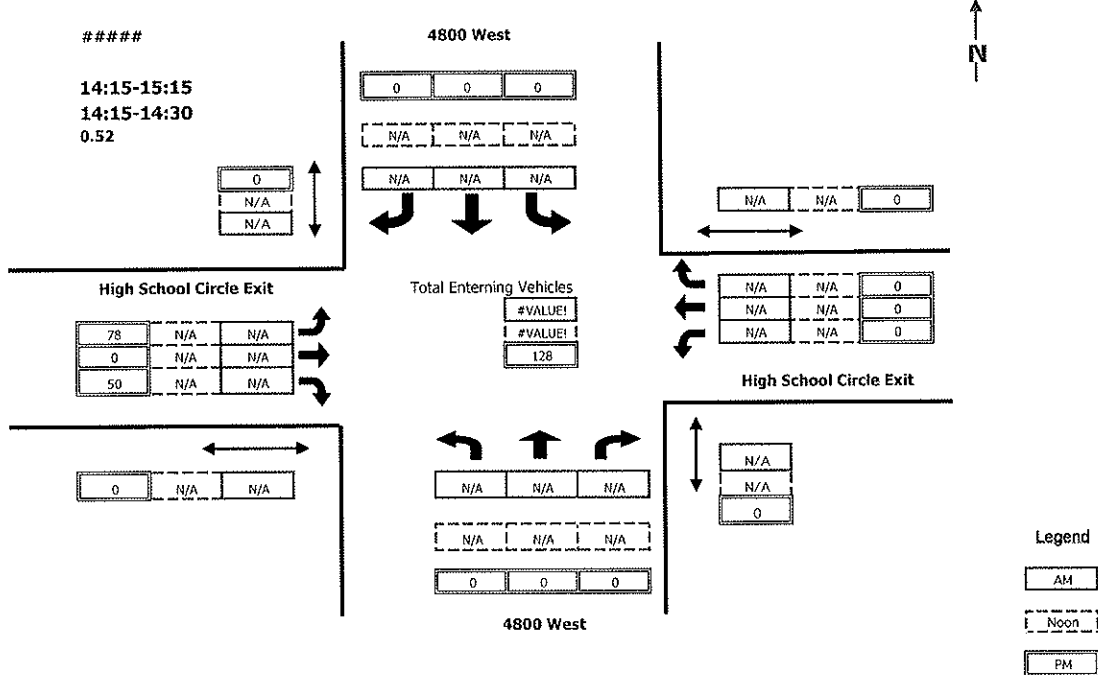
Intersection Turning Movement Summary

|                       |                         |                                  |              |
|-----------------------|-------------------------|----------------------------------|--------------|
| <b>Intersection:</b>  | 4800 W / HS Circle Exit | <b>Date:</b>                     | 1-30-07, Tue |
| <b>North/South:</b>   | 4800 West               | <b>Day of Week Adjustment:</b>   | 101.7%       |
| <b>East/West:</b>     | High School Circle Exit | <b>Month of Year Adjustment:</b> | 98.6%        |
| <b>Jurisdiction:</b>  | Cedar Hills, UT         | <b>Adjustment Station #:</b>     | 350          |
| <b>Project Title:</b> |                         | <b>Growth Rate:</b>              | 0.0%         |
| <b>Project No:</b>    | 06-734                  | <b>Number of Years:</b>          | 0            |
| <b>Weather:</b>       |                         |                                  |              |

AM PEAK HOUR PERIOD:  
AM PEAK 15 MINUTE PERIOD:  
AM PHF: #####

NOON PEAK HOUR PERIOD:  
NOON PEAK 15 MINUTE PERIOD:  
NOON PHF: #####

PM PEAK HOUR PERIOD: 14:15-15:15  
PM PEAK 15 MINUTE PERIOD: 14:15-14:30  
PM PHF: 0.52



| RAW COUNT SUMMARIES | 4800 West Northbound |      |       |      | 4800 West Southbound |      |       |      | High School Circle Exit Eastbound |      |       |      | High School Circle Exit Westbound |      |       |      |
|---------------------|----------------------|------|-------|------|----------------------|------|-------|------|-----------------------------------|------|-------|------|-----------------------------------|------|-------|------|
|                     | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                              | Thru | Right | Peds | Left                              | Thru | Right | Peds |

| AM PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period           | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 7:00-7:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:15-7:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:30-7:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:45-8:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:00-8:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:15-8:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:30-8:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:45-9:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| NOON PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period             | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 11:00-11:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:15-11:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:30-11:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:45-12:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:00-12:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:15-12:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:30-12:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:45-13:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| PM PERIOD COUNTS |   |   |   |   |   |   |   |   |    |   |    |   |   |   |   |   |       |
|------------------|---|---|---|---|---|---|---|---|----|---|----|---|---|---|---|---|-------|
| Period           | A | B | C | D | E | F | G | H | I  | J | K  | L | M | N | O | P | TOTAL |
| 14:00-14:15      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5  | 0 | 3  | 0 | 0 | 0 | 0 | 0 | 8     |
| 14:15-14:30      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 62    |
| 14:30-14:45      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 36    |
| 14:45-15:00      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 0 | 3  | 0 | 0 | 0 | 0 | 0 | 10    |
| 15:00-15:15      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 5  | 0 | 0 | 0 | 0 | 0 | 20    |
| 15:15-15:30      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8  | 0 | 7  | 0 | 0 | 0 | 0 | 0 | 15    |
| 15:30-15:45      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 5  | 0 | 0 | 0 | 0 | 0 | 15    |
| 15:45-16:00      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0 | 1  | 0 | 0 | 0 | 0 | 0 | 3     |



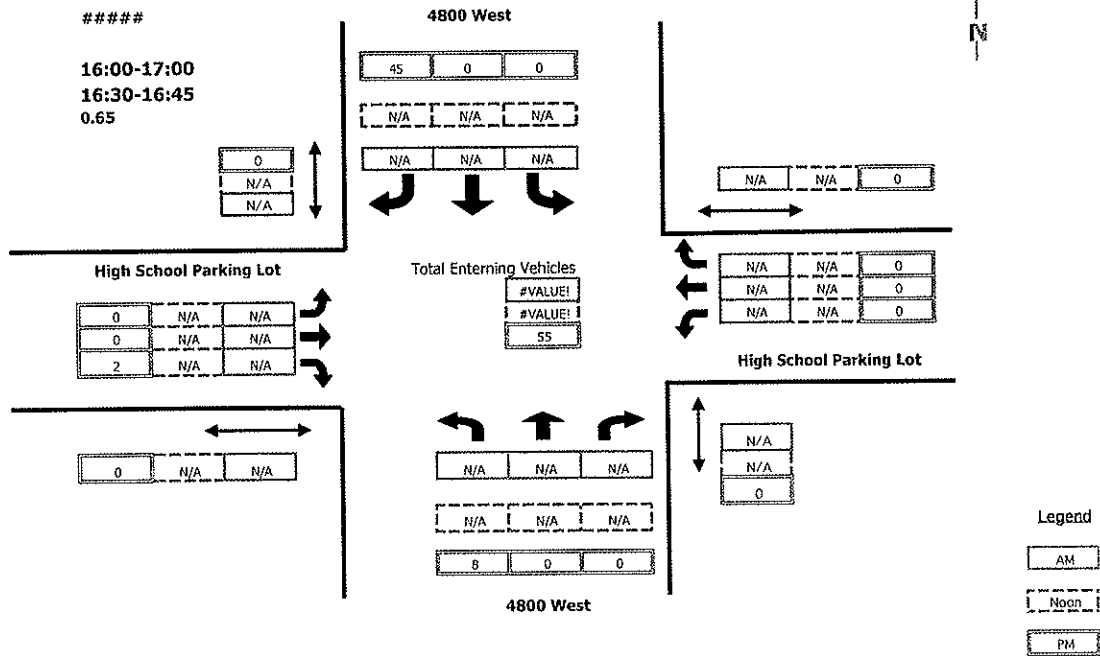
Intersection Turning Movement Summary

|                       |                     |                                  |              |
|-----------------------|---------------------|----------------------------------|--------------|
| <b>Intersection:</b>  | 4800 W / HS Parking | <b>Date:</b>                     | 1-30-07, Tue |
| <b>Jurisdiction:</b>  | Cedar Hills, UT     | <b>Day of Week Adjustment:</b>   | 101.7%       |
| <b>Project Title:</b> | 07-734              | <b>Month of Year Adjustment:</b> | 98.6%        |
| <b>Project No:</b>    |                     | <b>Adjustment Station #:</b>     | 350          |
| <b>Weather:</b>       |                     | <b>Growth Rate:</b>              | 0.0%         |
|                       |                     | <b>Number of Years:</b>          | 0            |

AM PEAK HOUR PERIOD:  
AM PEAK 15 MINUTE PERIOD:  
AM PHF: #####

NOON PEAK HOUR PERIOD:  
NOON PEAK 15 MINUTE PERIOD:  
NOON PHF: #####

PM PEAK HOUR PERIOD: 16:00-17:00  
PM PEAK 15 MINUTE PERIOD: 16:30-16:45  
PM PHF: 0.65



| RAW COUNT SUMMARIES       | 4800 West Northbound |      |       |      | 4800 West Southbound |      |       |      | High School Parking Lot Eastbound |      |       |      | High School Parking Lot Westbound |      |       |      | TOTAL |
|---------------------------|----------------------|------|-------|------|----------------------|------|-------|------|-----------------------------------|------|-------|------|-----------------------------------|------|-------|------|-------|
|                           | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                              | Thru | Right | Peds | Left                              | Thru | Right | Peds |       |
| <b>AM PERIOD COUNTS</b>   |                      |      |       |      |                      |      |       |      |                                   |      |       |      |                                   |      |       |      |       |
| Period                    | A                    | B    | C     | D    | E                    | F    | G     | H    | I                                 | J    | K     | L    | M                                 | N    | O     | P    | TOTAL |
| 7:00-7:15                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 7:15-7:30                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 7:30-7:45                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 7:45-8:00                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 8:00-8:15                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 8:15-8:30                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 8:30-8:45                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 8:45-9:00                 | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| <b>NOON PERIOD COUNTS</b> |                      |      |       |      |                      |      |       |      |                                   |      |       |      |                                   |      |       |      |       |
| Period                    | A                    | B    | C     | D    | E                    | F    | G     | H    | I                                 | J    | K     | L    | M                                 | N    | O     | P    | TOTAL |
| 11:00-11:15               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 11:15-11:30               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 11:30-11:45               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 11:45-12:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 12:00-12:15               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 12:15-12:30               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 12:30-12:45               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| 12:45-13:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 0     |
| <b>PM PERIOD COUNTS</b>   |                      |      |       |      |                      |      |       |      |                                   |      |       |      |                                   |      |       |      |       |
| Period                    | A                    | B    | C     | D    | E                    | F    | G     | H    | I                                 | J    | K     | L    | M                                 | N    | O     | P    | TOTAL |
| 16:00-16:15               | 2                    | 0    | 0     | 0    | 0                    | 0    | 8     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 10    |
| 16:15-16:30               | 3                    | 0    | 0     | 0    | 0                    | 0    | 10    | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 13    |
| 16:30-16:45               | 3                    | 0    | 0     | 0    | 0                    | 0    | 17    | 0    | 0                                 | 0    | 1     | 0    | 0                                 | 0    | 0     | 0    | 21    |
| 16:45-17:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 10    | 0    | 0                                 | 0    | 1     | 0    | 0                                 | 0    | 0     | 0    | 11    |
| 17:00-17:15               | 2                    | 0    | 0     | 0    | 0                    | 0    | 5     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 7     |
| 17:15-17:30               | 2                    | 0    | 0     | 0    | 0                    | 0    | 3     | 0    | 0                                 | 0    | 0     | 0    | 0                                 | 0    | 0     | 0    | 5     |
| 17:30-17:45               | 3                    | 0    | 0     | 0    | 0                    | 0    | 4     | 0    | 0                                 | 0    | 1     | 0    | 0                                 | 0    | 0     | 0    | 8     |
| 17:45-18:00               | 0                    | 0    | 0     | 0    | 0                    | 0    | 1     | 0    | 1                                 | 0    | 1     | 0    | 0                                 | 0    | 0     | 0    | 3     |

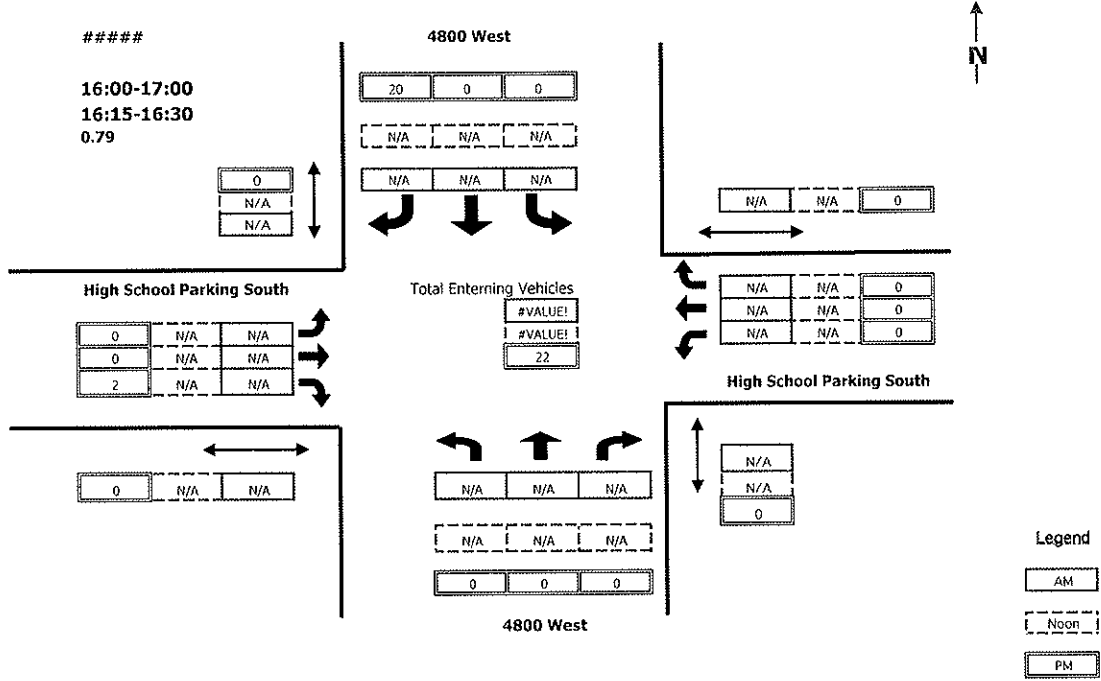
Intersection Turning Movement Summary

|                       |                           |                                  |              |
|-----------------------|---------------------------|----------------------------------|--------------|
| <b>Intersection:</b>  | 4800 W / HS Parking South | <b>Date:</b>                     | 1-30-07, Tue |
| <b>North/South:</b>   | 4800 West                 | <b>Day of Week Adjustment:</b>   | 101.7%       |
| <b>East/West:</b>     | High School Parking South | <b>Month of Year Adjustment:</b> | 98.6%        |
| <b>Jurisdiction:</b>  | Cedar Hills, UT           | <b>Adjustment Station #:</b>     | 350          |
| <b>Project Title:</b> |                           | <b>Growth Rate:</b>              | 0.0%         |
| <b>Project No:</b>    | 07-734                    | <b>Number of Years:</b>          | 0            |
| <b>Weather:</b>       |                           |                                  |              |

AM PEAK HOUR PERIOD:  
AM PEAK 15 MINUTE PERIOD:  
AM PHF: #####

NOON PEAK HOUR PERIOD:  
NOON PEAK 15 MINUTE PERIOD:  
NOON PHF: #####

PM PEAK HOUR PERIOD: 16:00-17:00  
PM PEAK 15 MINUTE PERIOD: 16:15-16:30  
PM PHF: 0.79



| RAW COUNT SUMMARIES | 4800 West Northbound |      |       |      | 4800 West Southbound |      |       |      | High School Parking South Eastbound |      |       |      | High School Parking South Westbound |      |       |      |
|---------------------|----------------------|------|-------|------|----------------------|------|-------|------|-------------------------------------|------|-------|------|-------------------------------------|------|-------|------|
|                     | Left                 | Thru | Right | Peds | Left                 | Thru | Right | Peds | Left                                | Thru | Right | Peds | Left                                | Thru | Right | Peds |

| AM PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period           | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 7:00-7:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:15-7:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:30-7:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 7:45-8:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:00-8:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:15-8:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:30-8:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 8:45-9:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| NOON PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period             | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 11:00-11:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:15-11:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:30-11:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 11:45-12:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:00-12:15        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:15-12:30        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:30-12:45        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 12:45-13:00        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |

| PM PERIOD COUNTS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Period           | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | TOTAL |
| 16:00-16:15      | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6     |
| 16:15-16:30      | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7     |
| 16:30-16:45      | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5     |
| 16:45-17:00      | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4     |
| 17:00-17:15      | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3     |
| 17:15-17:30      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0     |
| 17:30-17:45      | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3     |
| 17:45-18:00      | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2     |



## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** Existing Background **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: 4800 West & **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 663           | 675           | 102        | 25      | 0.9             | A        | --      |
|              | <b>Subtotal</b> | <b>663</b>    | <b>675</b>    | <b>102</b> | --      | <b>0.9</b>      | <b>A</b> | --      |
| SB           | T               | 430           | 439           | 102        | 21      | 1.9             | A        | --      |
|              | <b>Subtotal</b> | <b>430</b>    | <b>439</b>    | <b>102</b> | --      | <b>1.9</b>      | <b>A</b> | --      |
| EB           | L               | 78            | 73            | 94         | 3       | 26.0            | D        | --      |
|              | R               | 50            | 48            | 96         | 6       | 5.4             | A        | --      |
|              | <b>Subtotal</b> | <b>128</b>    | <b>121</b>    | <b>95</b>  | --      | <b>17.8</b>     | <b>C</b> | --      |
| <b>Total</b> |                 | <b>1221</b>   | <b>1235</b>   | <b>101</b> | --      | <b>2.9</b>      | <b>A</b> | --      |

**Intersection:** 2: 4800 West & **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | L               | 12            | 10            | 83         | 3       | 4.6             | A        | --      |
|              | T               | 662           | 675           | 102        | 25      | 0.3             | A        | --      |
|              | <b>Subtotal</b> | <b>674</b>    | <b>685</b>    | <b>102</b> | --      | <b>0.4</b>      | <b>A</b> | --      |
| SB           | T               | 466           | 471           | 101        | 21      | 0.7             | A        | --      |
|              | R               | 14            | 16            | 114        | 6       | 0.2             | A        | --      |
|              | <b>Subtotal</b> | <b>480</b>    | <b>487</b>    | <b>101</b> | --      | <b>0.6</b>      | <b>A</b> | --      |
| EB           | L               | 1             | 1             | 100        | 0       | 24.3            | C        | --      |
|              | R               | 2             | 3             | 150        | 2       | 5.1             | A        | --      |
|              | <b>Subtotal</b> | <b>3</b>      | <b>4</b>      | <b>133</b> | --      | <b>9.4</b>      | <b>A</b> | --      |
| <b>Total</b> |                 | <b>1157</b>   | <b>1176</b>   | <b>102</b> | --      | <b>0.5</b>      | <b>A</b> | --      |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** Existing Background **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |             | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|-------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev     | Avg             | LOS       | Std Dev   |
| NB           | L               | 10            | 9             | 90         | 3           | 15.6            | B         | --        |
|              | T               | 323           | 326           | 101        | 19          | 15.8            | B         | --        |
|              | R               | 67            | 64            | 96         | 7           | 8.8             | A         | --        |
|              | <b>Subtotal</b> | <b>400</b>    | <b>399</b>    | <b>100</b> | <b>--</b>   | <b>14.7</b>     | <b>B</b>  | <b>--</b> |
| SB           | L               | 160           | 163           | 102        | 13          | 12.5            | B         | --        |
|              | T               | 371           | 372           | 100        | 14          | 9.0             | A         | --        |
|              | <b>Subtotal</b> | <b>531</b>    | <b>535</b>    | <b>101</b> | <b>--</b>   | <b>10.1</b>     | <b>B</b>  | <b>--</b> |
| EB           | L               | 270           | 271           | 100        | 17          | 30.9            | C         | --        |
|              | T               | 50            | 50            | 100        | 6           | 28.4            | C         | --        |
|              | R               | 35            | 35            | 100        | 7           | 12.6            | B         | --        |
|              | <b>Subtotal</b> | <b>355</b>    | <b>356</b>    | <b>100</b> | <b>--</b>   | <b>28.7</b>     | <b>C</b>  | <b>--</b> |
| WB           | L               | 63            | 57            | 90         | 8           | 25.3            | C         | --        |
|              | T               | 6             | 6             | 100        | 2           | 25.8            | C         | --        |
|              | R               | 81            | 87            | 107        | 12          | 8.4             | A         | --        |
|              | <b>Subtotal</b> | <b>150</b>    | <b>150</b>    | <b>100</b> | <b>--</b>   | <b>15.5</b>     | <b>B</b>  | <b>--</b> |
| <b>Total</b> | <b>1436</b>     | <b>1441</b>   | <b>100</b>    | <b>--</b>  | <b>16.5</b> | <b>B</b>        | <b>--</b> |           |

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 20            | 20            | 100        | 3          | 3.0             | A         | --        |
|              | T               | 13            | 13            | 100        | 5          | 2.9             | A         | --        |
|              | R               | 12            | 12            | 100        | 3          | 2.8             | A         | --        |
|              | <b>Subtotal</b> | <b>45</b>     | <b>45</b>     | <b>100</b> | <b>--</b>  | <b>2.9</b>      | <b>A</b>  | <b>--</b> |
| SB           | L               | 3             | 4             | 133        | 1          | 2.8             | A         | --        |
|              | T               | 7             | 6             | 86         | 2          | 2.6             | A         | --        |
|              | R               | 34            | 35            | 103        | 5          | 2.8             | A         | --        |
|              | <b>Subtotal</b> | <b>44</b>     | <b>44</b>     | <b>100</b> | <b>--</b>  | <b>2.8</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 84            | 81            | 96         | 6          | 4.9             | A         | --        |
|              | T               | 134           | 137           | 102        | 11         | 4.8             | A         | --        |
|              | R               | 59            | 60            | 102        | 9          | 4.6             | A         | --        |
|              | <b>Subtotal</b> | <b>277</b>    | <b>278</b>    | <b>100</b> | <b>--</b>  | <b>4.8</b>      | <b>A</b>  | <b>--</b> |
| WB           | L               | 9             | 9             | 100        | 3          | 3.0             | A         | --        |
|              | T               | 96            | 97            | 101        | 13         | 3.2             | A         | --        |
|              | R               | 10            | 10            | 100        | 3          | 3.0             | A         | --        |
|              | <b>Subtotal</b> | <b>115</b>    | <b>115</b>    | <b>100</b> | <b>--</b>  | <b>3.2</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>481</b>      | <b>483</b>    | <b>100</b>    | <b>--</b>  | <b>4.0</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** Existing Background **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 674           | 685           | 102        | 26      | 1.4             | A        | --      |
|              | <b>Subtotal</b> | <b>674</b>    | <b>685</b>    | <b>102</b> | --      | <b>1.4</b>      | <b>A</b> | --      |
| SB           | T               | 458           | 463           | 101        | 21      | 0.6             | A        | --      |
|              | R               | 10            | 11            | 110        | 2       | 0.0             | A        | --      |
|              | <b>Subtotal</b> | <b>468</b>    | <b>474</b>    | <b>101</b> | --      | <b>0.6</b>      | <b>A</b> | --      |
| EB           | R               | 73            | 73            | 100        | 10      | 5.5             | A        | --      |
|              | <b>Subtotal</b> | <b>73</b>     | <b>73</b>     | <b>100</b> | --      | <b>5.5</b>      | <b>A</b> | --      |
| <b>Total</b> |                 | <b>1215</b>   | <b>1232</b>   | <b>101</b> | --      | <b>1.3</b>      | <b>A</b> | --      |



## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** PM Peak (5-6) **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: NW & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| NB           | T               | 494           | 501           | 101        | 20        | 0.8             | A        | --        |
|              | R               | 4             | 5             | 125        | 3         | 0.2             | A        | --        |
|              | <b>Subtotal</b> | <b>498</b>    | <b>506</b>    | <b>102</b> | <b>--</b> | <b>0.8</b>      | <b>A</b> | <b>--</b> |
| SB           | L               | 22            | 25            | 109        | 5         | 8.9             | A        | --        |
|              | T               | 588           | 597           | 102        | 19        | 2.8             | A        | --        |
|              | <b>Subtotal</b> | <b>610</b>    | <b>622</b>    | <b>102</b> | <b>--</b> | <b>3.1</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 8             | 8             | 100        | 3         | 20.8            | C        | --        |
|              | R               | 9             | 8             | 89         | 3         | 5.8             | A        | --        |
|              | <b>Subtotal</b> | <b>17</b>     | <b>16</b>     | <b>94</b>  | <b>--</b> | <b>13.2</b>     | <b>B</b> | <b>--</b> |
| WB           | L               | 4             | 3             | 75         | 1         | 21.2            | C        | --        |
|              | R               | 23            | 24            | 104        | 5         | 6.0             | A        | --        |
|              | <b>Subtotal</b> | <b>27</b>     | <b>27</b>     | <b>100</b> | <b>--</b> | <b>7.7</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>1152</b>   | <b>1170</b>   | <b>102</b> | <b>--</b> | <b>2.3</b>      | <b>A</b> | <b>--</b> |

**Intersection:** 2: W & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| NB           | L               | 7             | 7             | 100        | 3         | 4.4             | A        | --        |
|              | T               | 443           | 450           | 102        | 17        | 0.6             | A        | --        |
|              | R               | 38            | 38            | 100        | 7         | 0.1             | A        | --        |
|              | <b>Subtotal</b> | <b>488</b>    | <b>495</b>    | <b>101</b> | <b>--</b> | <b>0.6</b>      | <b>A</b> | <b>--</b> |
| SB           | L               | 52            | 52            | 100        | 9         | 4.5             | A        | --        |
|              | T               | 523           | 531           | 102        | 17        | 0.9             | A        | --        |
|              | R               | 26            | 24            | 92         | 3         | 0.2             | A        | --        |
|              | <b>Subtotal</b> | <b>601</b>    | <b>608</b>    | <b>101</b> | <b>--</b> | <b>1.2</b>      | <b>A</b> | <b>--</b> |
| WB           | L               | 32            | 31            | 97         | 7         | 14.3            | B        | --        |
|              | R               | 55            | 56            | 102        | 6         | 6.2             | A        | --        |
|              | <b>Subtotal</b> | <b>87</b>     | <b>87</b>     | <b>100</b> | <b>--</b> | <b>9.1</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>1176</b>   | <b>1189</b>   | <b>101</b> | <b>--</b> | <b>1.5</b>      | <b>A</b> | <b>--</b> |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** PM Peak (5-6) **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |             | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|-------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev     | Avg             | LOS       | Std Dev   |
| NB           | L               | 32            | 33            | 103        | 6           | 14.1            | B         | --        |
|              | T               | 282           | 278           | 99         | 11          | 15.2            | B         | --        |
|              | R               | 130           | 130           | 100        | 11          | 8.8             | A         | --        |
|              | <b>Subtotal</b> | <b>444</b>    | <b>440</b>    | <b>99</b>  | <b>--</b>   | <b>13.3</b>     | <b>B</b>  | <b>--</b> |
| SB           | L               | 209           | 206           | 99         | 12          | 10.4            | B         | --        |
|              | T               | 321           | 330           | 103        | 16          | 7.0             | A         | --        |
|              | R               | 7             | 7             | 100        | 3           | 2.4             | A         | --        |
|              | <b>Subtotal</b> | <b>537</b>    | <b>542</b>    | <b>101</b> | <b>--</b>   | <b>8.2</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 26            | 26            | 100        | 5           | 27.5            | C         | --        |
|              | T               | 20            | 20            | 100        | 5           | 31.7            | C         | --        |
|              | R               | 7             | 6             | 86         | 2           | 9.3             | A         | --        |
|              | <b>Subtotal</b> | <b>53</b>     | <b>52</b>     | <b>98</b>  | <b>--</b>   | <b>27.0</b>     | <b>C</b>  | <b>--</b> |
| WB           | L               | 131           | 128           | 98         | 5           | 22.2            | C         | --        |
|              | T               | 47            | 44            | 94         | 7           | 21.0            | C         | --        |
|              | R               | 180           | 191           | 106        | 8           | 5.6             | A         | --        |
|              | <b>Subtotal</b> | <b>358</b>    | <b>363</b>    | <b>101</b> | <b>--</b>   | <b>13.3</b>     | <b>B</b>  | <b>--</b> |
| <b>Total</b> | <b>1392</b>     | <b>1397</b>   | <b>100</b>    | <b>--</b>  | <b>11.8</b> | <b>B</b>        | <b>--</b> |           |

**Intersection:** 4: Cedar Hills Drive & SW **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| SB           | R               | 13            | 13            | 100        | 3          | 4.2             | A         | --        |
|              | <b>Subtotal</b> | <b>13</b>     | <b>13</b>     | <b>100</b> | <b>--</b>  | <b>4.2</b>      | <b>A</b>  | <b>--</b> |
| EB           | T               | 359           | 356           | 99         | 17         | 0.6             | A         | --        |
|              | <b>Subtotal</b> | <b>359</b>    | <b>356</b>    | <b>99</b>  | <b>--</b>  | <b>0.6</b>      | <b>A</b>  | <b>--</b> |
| WB           | T               | 345           | 349           | 101        | 13         | 0.6             | A         | --        |
|              | R               | 6             | 6             | 100        | 3          | 0.3             | A         | --        |
|              | <b>Subtotal</b> | <b>351</b>    | <b>355</b>    | <b>101</b> | <b>--</b>  | <b>0.6</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>723</b>      | <b>723</b>    | <b>100</b>    | <b>--</b>  | <b>0.7</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** PM Peak (5-6) **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 5: Cedar Hills Drive & S **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| SB           | L               | 63            | 61            | 97         | 8         | 14.6            | B        | --        |
|              | R               | 59            | 60            | 102        | 6         | 4.3             | A        | --        |
|              | <b>Subtotal</b> | <b>122</b>    | <b>121</b>    | <b>99</b>  | <b>--</b> | <b>9.5</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 66            | 65            | 98         | 5         | 3.3             | A        | --        |
|              | T               | 293           | 290           | 99         | 16        | 0.4             | A        | --        |
|              | <b>Subtotal</b> | <b>359</b>    | <b>355</b>    | <b>99</b>  | <b>--</b> | <b>0.9</b>      | <b>A</b> | <b>--</b> |
| WB           | T               | 292           | 295           | 101        | 12        | 0.6             | A        | --        |
|              | R               | 49            | 51            | 102        | 8         | 0.7             | A        | --        |
|              | <b>Subtotal</b> | <b>341</b>    | <b>346</b>    | <b>101</b> | <b>--</b> | <b>0.6</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>822</b>    | <b>822</b>    | <b>100</b> | <b>--</b> | <b>2.1</b>      | <b>A</b> | <b>--</b> |

**Intersection:** 6: Cedar Hills Drive & SE **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| SB           | R               | 47            | 49            | 104        | 6         | 4.2             | A        | --        |
|              | <b>Subtotal</b> | <b>47</b>     | <b>49</b>     | <b>104</b> | <b>--</b> | <b>4.2</b>      | <b>A</b> | <b>--</b> |
| EB           | T               | 356           | 352           | 99         | 15        | 0.8             | A        | --        |
|              | <b>Subtotal</b> | <b>356</b>    | <b>352</b>    | <b>99</b>  | <b>--</b> | <b>0.8</b>      | <b>A</b> | <b>--</b> |
| WB           | T               | 294           | 297           | 101        | 16        | 0.8             | A        | --        |
|              | R               | 2             | 2             | 100        | 1         | 0.7             | A        | --        |
|              | <b>Subtotal</b> | <b>296</b>    | <b>299</b>    | <b>101</b> | <b>--</b> | <b>0.8</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>699</b>    | <b>700</b>    | <b>100</b> | <b>--</b> | <b>1.0</b>      | <b>A</b> | <b>--</b> |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** PM Peak (5-6) **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 64            | 65            | 102        | 9          | 3.4             | A         | --        |
|              | T               | 17            | 17            | 100        | 4          | 3.5             | A         | --        |
|              | R               | 16            | 18            | 113        | 5          | 3.3             | A         | --        |
|              | <b>Subtotal</b> | <b>97</b>     | <b>100</b>    | <b>103</b> | <b>--</b>  | <b>3.4</b>      | <b>A</b>  | <b>--</b> |
| SB           | L               | 11            | 10            | 91         | 2          | 2.6             | A         | --        |
|              | T               | 15            | 15            | 93         | 3          | 2.4             | A         | --        |
|              | R               | 88            | 92            | 105        | 8          | 2.6             | A         | --        |
|              | <b>Subtotal</b> | <b>114</b>    | <b>117</b>    | <b>103</b> | <b>--</b>  | <b>2.6</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 112           | 110           | 98         | 7          | 3.3             | A         | --        |
|              | T               | 159           | 156           | 98         | 10         | 3.4             | A         | --        |
|              | R               | 85            | 86            | 101        | 12         | 3.2             | A         | --        |
|              | <b>Subtotal</b> | <b>356</b>    | <b>352</b>    | <b>99</b>  | <b>--</b>  | <b>3.3</b>      | <b>A</b>  | <b>--</b> |
| WB           | L               | 11            | 11            | 100        | 2          | 3.4             | A         | --        |
|              | T               | 144           | 141           | 98         | 10         | 3.7             | A         | --        |
|              | R               | 14            | 15            | 107        | 6          | 3.4             | A         | --        |
|              | <b>Subtotal</b> | <b>169</b>    | <b>167</b>    | <b>99</b>  | <b>--</b>  | <b>3.7</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>736</b>      | <b>736</b>    | <b>100</b>    | <b>--</b>  | <b>3.3</b> | <b>A</b>        | <b>--</b> |           |

**Intersection:** 8: E & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 17            | 17            | 94         | 4          | 2.4             | A         | --        |
|              | T               | 15            | 126           | 840        | 12         | 0.7             | A         | --        |
|              | <b>Subtotal</b> | <b>32</b>     | <b>143</b>    | <b>447</b> | <b>--</b>  | <b>0.9</b>      | <b>A</b>  | <b>--</b> |
| SB           | T               | 13            | 13            | 100        | 4          | 0.2             | A         | --        |
|              | R               | 1             | 2             | 200        | 1          | 0.1             | A         | --        |
|              | <b>Subtotal</b> | <b>14</b>     | <b>15</b>     | <b>107</b> | <b>--</b>  | <b>0.1</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 4             | 3             | 75         | 1          | 4.3             | A         | --        |
|              | R               | 25            | 26            | 104        | 5          | 2.9             | A         | --        |
|              | <b>Subtotal</b> | <b>29</b>     | <b>29</b>     | <b>100</b> | <b>--</b>  | <b>3.1</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>75</b>       | <b>187</b>    | <b>249</b>    | <b>--</b>  | <b>1.2</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** PM Peak (5-6) **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 488           | 496           | 102        | 17      | 1.6             | A        | --      |
|              | <b>Subtotal</b> | <b>488</b>    | <b>496</b>    | <b>102</b> | --      | <b>1.6</b>      | <b>A</b> | --      |
| SB           | T               | 535           | 540           | 101        | 21      | 0.7             | A        | --      |
|              | R               | 20            | 22            | 110        | 5       | 0.2             | A        | --      |
|              | <b>Subtotal</b> | <b>555</b>    | <b>562</b>    | <b>101</b> | --      | <b>0.7</b>      | <b>A</b> | --      |
| EB           | R               | 2             | 3             | 150        | 2       | 3.7             | A        | --      |
|              | <b>Subtotal</b> | <b>2</b>      | <b>3</b>      | <b>150</b> | --      | <b>3.7</b>      | <b>A</b> | --      |
| <b>Total</b> |                 | <b>1045</b>   | <b>1060</b>   | <b>101</b> | --      | <b>1.1</b>      | <b>A</b> | --      |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: NW & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| NB           | T               | 788           | 789           | 100        | 25        | 1.2             | A        | --        |
|              | R               | 4             | 5             | 125        | 3         | 0.2             | A        | --        |
|              | <b>Subtotal</b> | <b>792</b>    | <b>794</b>    | <b>100</b> | <b>--</b> | <b>1.2</b>      | <b>A</b> | <b>--</b> |
| SB           | L               | 23            | 21            | 91         | 4         | 12.0            | B        | --        |
|              | T               | 526           | 533           | 101        | 20        | 2.5             | A        | --        |
|              | <b>Subtotal</b> | <b>549</b>    | <b>554</b>    | <b>101</b> | <b>--</b> | <b>2.8</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 78            | 76            | 97         | 10        | 41.8            | E        | --        |
|              | R               | 50            | 51            | 102        | 5         | 8.5             | A        | --        |
|              | <b>Subtotal</b> | <b>128</b>    | <b>127</b>    | <b>99</b>  | <b>--</b> | <b>28.4</b>     | <b>D</b> | <b>--</b> |
| WB           | L               | 4             | 3             | 75         | 2         | 36.0            | E        | --        |
|              | R               | 24            | 24            | 100        | 4         | 12.9            | B        | --        |
|              | <b>Subtotal</b> | <b>28</b>     | <b>27</b>     | <b>96</b>  | <b>--</b> | <b>15.6</b>     | <b>C</b> | <b>--</b> |
| <b>Total</b> |                 | <b>1497</b>   | <b>1502</b>   | <b>100</b> | <b>--</b> | <b>4.3</b>      | <b>A</b> | <b>--</b> |

**Intersection:** 2: W & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| NB           | L               | 12            | 10            | 83         | 3         | 4.3             | A        | --        |
|              | T               | 734           | 733           | 100        | 27        | 0.8             | A        | --        |
|              | R               | 42            | 44            | 105        | 3         | 0.1             | A        | --        |
|              | <b>Subtotal</b> | <b>788</b>    | <b>787</b>    | <b>100</b> | <b>--</b> | <b>0.8</b>      | <b>A</b> | <b>--</b> |
| SB           | L               | 54            | 52            | 96         | 6         | 9.2             | A        | --        |
|              | T               | 512           | 521           | 102        | 18        | 0.8             | A        | --        |
|              | R               | 14            | 15            | 107        | 2         | 0.2             | A        | --        |
|              | <b>Subtotal</b> | <b>580</b>    | <b>587</b>    | <b>101</b> | <b>--</b> | <b>1.5</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 1             | 2             | 200        | 1         | 13.0            | B        | --        |
|              | R               | 2             | 3             | 150        | 1         | 5.5             | A        | --        |
|              | <b>Subtotal</b> | <b>3</b>      | <b>4</b>      | <b>133</b> | <b>--</b> | <b>8.1</b>      | <b>A</b> | <b>--</b> |
| WB           | L               | 33            | 33            | 100        | 6         | 28.3            | D        | --        |
|              | R               | 57            | 61            | 107        | 5         | 10.0            | A        | --        |
|              | <b>Subtotal</b> | <b>90</b>     | <b>95</b>     | <b>106</b> | <b>--</b> | <b>16.4</b>     | <b>C</b> | <b>--</b> |
| <b>Total</b> |                 | <b>1461</b>   | <b>1473</b>   | <b>101</b> | <b>--</b> | <b>2.1</b>      | <b>A</b> | <b>--</b> |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |             | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|-------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev     | Avg             | LOS       | Std Dev   |
| NB           | L               | 10            | 9             | 90         | 2           | 16.5            | B         | --        |
|              | T               | 362           | 360           | 99         | 18          | 21.5            | C         | --        |
|              | R               | 106           | 104           | 98         | 5           | 10.6            | B         | --        |
|              | <b>Subtotal</b> | <b>478</b>    | <b>472</b>    | <b>99</b>  | <b>--</b>   | <b>19.0</b>     | <b>B</b>  | <b>--</b> |
| SB           | L               | 205           | 206           | 100        | 8           | 15.5            | B         | --        |
|              | T               | 405           | 408           | 101        | 10          | 9.9             | A         | --        |
|              | <b>Subtotal</b> | <b>610</b>    | <b>614</b>    | <b>101</b> | <b>--</b>   | <b>11.7</b>     | <b>B</b>  | <b>--</b> |
| EB           | L               | 270           | 275           | 102        | 19          | 44.7            | D         | --        |
|              | T               | 50            | 49            | 98         | 9           | 42.7            | D         | --        |
|              | R               | 35            | 39            | 111        | 6           | 24.0            | C         | --        |
|              | <b>Subtotal</b> | <b>355</b>    | <b>363</b>    | <b>102</b> | <b>--</b>   | <b>42.2</b>     | <b>D</b>  | <b>--</b> |
| WB           | L               | 130           | 128           | 98         | 13          | 26.2            | C         | --        |
|              | T               | 6             | 7             | 117        | 2           | 28.4            | C         | --        |
|              | R               | 156           | 153           | 98         | 10          | 10.0            | A         | --        |
|              | <b>Subtotal</b> | <b>292</b>    | <b>288</b>    | <b>99</b>  | <b>--</b>   | <b>17.6</b>     | <b>B</b>  | <b>--</b> |
| <b>Total</b> | <b>1735</b>     | <b>1737</b>   | <b>100</b>    | <b>--</b>  | <b>21.0</b> | <b>C</b>        | <b>--</b> |           |

**Intersection:** 4: Cedar Hills Drive & SW **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |           |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|-----------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %         | Std Dev    | Avg             | LOS       | Std Dev   |
| SB           | R               | 14            | 12            | 86        | 2          | 4.4             | A         | --        |
|              | <b>Subtotal</b> | <b>14</b>     | <b>12</b>     | <b>86</b> | <b>--</b>  | <b>4.4</b>      | <b>A</b>  | <b>--</b> |
| EB           | T               | 361           | 359           | 99        | 17         | 0.7             | A         | --        |
|              | <b>Subtotal</b> | <b>361</b>    | <b>359</b>    | <b>99</b> | <b>--</b>  | <b>0.7</b>      | <b>A</b>  | <b>--</b> |
| WB           | T               | 278           | 275           | 99        | 19         | 0.6             | A         | --        |
|              | R               | 6             | 6             | 100       | 3          | 0.2             | A         | --        |
|              | <b>Subtotal</b> | <b>284</b>    | <b>281</b>    | <b>99</b> | <b>--</b>  | <b>0.6</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>659</b>      | <b>652</b>    | <b>99</b>     | <b>--</b> | <b>0.7</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 5: Cedar Hills Drive & S **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| SB           | L               | 66            | 66            | 100        | 10        | 13.0            | B        | --        |
|              | R               | 62            | 66            | 106        | 9         | 4.1             | A        | --        |
|              | <b>Subtotal</b> | <b>128</b>    | <b>132</b>    | <b>103</b> | <b>--</b> | <b>8.6</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 69            | 65            | 94         | 8         | 3.0             | A        | --        |
|              | T               | 292           | 294           | 101        | 13        | 0.4             | A        | --        |
|              | <b>Subtotal</b> | <b>361</b>    | <b>359</b>    | <b>99</b>  | <b>--</b> | <b>0.9</b>      | <b>A</b> | <b>--</b> |
| WB           | T               | 222           | 215           | 97         | 14        | 0.5             | A        | --        |
|              | R               | 51            | 52            | 102        | 4         | 0.6             | A        | --        |
|              | <b>Subtotal</b> | <b>273</b>    | <b>267</b>    | <b>98</b>  | <b>--</b> | <b>0.6</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>762</b>    | <b>757</b>    | <b>99</b>  | <b>--</b> | <b>2.1</b>      | <b>A</b> | <b>--</b> |

**Intersection:** 6: Cedar Hills Drive & SE **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| SB           | R               | 49            | 48            | 98         | 7         | 4.1             | A        | --        |
|              | <b>Subtotal</b> | <b>49</b>     | <b>48</b>     | <b>98</b>  | <b>--</b> | <b>4.1</b>      | <b>A</b> | <b>--</b> |
| EB           | T               | 358           | 360           | 101        | 16        | 0.8             | A        | --        |
|              | <b>Subtotal</b> | <b>358</b>    | <b>360</b>    | <b>101</b> | <b>--</b> | <b>0.8</b>      | <b>A</b> | <b>--</b> |
| WB           | T               | 224           | 220           | 98         | 7         | 0.7             | A        | --        |
|              | R               | 2             | 3             | 100        | 2         | 0.6             | A        | --        |
|              | <b>Subtotal</b> | <b>226</b>    | <b>222</b>    | <b>98</b>  | <b>--</b> | <b>0.7</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>633</b>    | <b>630</b>    | <b>100</b> | <b>--</b> | <b>1.0</b>      | <b>A</b> | <b>--</b> |



## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 45            | 46            | 102        | 9          | 3.2             | A         | --        |
|              | T               | 15            | 17            | 113        | 4          | 3.3             | A         | --        |
|              | R               | 12            | 13            | 108        | 3          | 3.3             | A         | --        |
|              | <b>Subtotal</b> | <b>72</b>     | <b>76</b>     | <b>106</b> | <b>--</b>  | <b>3.2</b>      | <b>A</b>  | <b>--</b> |
| SB           | L               | 11            | 12            | 109        | 2          | 2.5             | A         | --        |
|              | T               | 15            | 15            | 100        | 3          | 2.6             | A         | --        |
|              | R               | 57            | 56            | 98         | 6          | 2.6             | A         | --        |
|              | <b>Subtotal</b> | <b>83</b>     | <b>83</b>     | <b>100</b> | <b>--</b>  | <b>2.6</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 113           | 110           | 97         | 12         | 3.4             | A         | --        |
|              | T               | 160           | 162           | 101        | 8          | 3.4             | A         | --        |
|              | R               | 85            | 88            | 104        | 8          | 3.2             | A         | --        |
|              | <b>Subtotal</b> | <b>358</b>    | <b>360</b>    | <b>101</b> | <b>--</b>  | <b>3.3</b>      | <b>A</b>  | <b>--</b> |
| WB           | L               | 9             | 10            | 111        | 2          | 3.3             | A         | --        |
|              | T               | 124           | 118           | 95         | 6          | 3.5             | A         | --        |
|              | R               | 12            | 14            | 117        | 5          | 3.4             | A         | --        |
|              | <b>Subtotal</b> | <b>145</b>    | <b>142</b>    | <b>98</b>  | <b>--</b>  | <b>3.4</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>658</b>      | <b>661</b>    | <b>100</b>    | <b>--</b>  | <b>3.2</b> | <b>A</b>        | <b>--</b> |           |

**Intersection:** 8: E & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 18            | 18            | 100        | 2          | 2.4             | A         | --        |
|              | T               | 15            | 123           | 820        | 13         | 0.6             | A         | --        |
|              | <b>Subtotal</b> | <b>33</b>     | <b>140</b>    | <b>424</b> | <b>--</b>  | <b>0.8</b>      | <b>A</b>  | <b>--</b> |
| SB           | T               | 13            | 13            | 100        | 3          | 0.2             | A         | --        |
|              | R               | 1             | 1             | 100        | 1          | 0.1             | A         | --        |
|              | <b>Subtotal</b> | <b>14</b>     | <b>14</b>     | <b>100</b> | <b>--</b>  | <b>0.2</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 4             | 5             | 125        | 2          | 4.4             | A         | --        |
|              | R               | 26            | 28            | 108        | 5          | 3.0             | A         | --        |
|              | <b>Subtotal</b> | <b>30</b>     | <b>32</b>     | <b>107</b> | <b>--</b>  | <b>3.2</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>77</b>       | <b>187</b>    | <b>243</b>    | <b>--</b>  | <b>1.2</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 788           | 788           | 100        | 26      | 1.8             | A        | --      |
|              | <b>Subtotal</b> | <b>788</b>    | <b>788</b>    | <b>100</b> | --      | <b>1.8</b>      | <b>A</b> | --      |
| SB           | T               | 537           | 545           | 101        | 16      | 0.8             | A        | --      |
|              | R               | 10            | 11            | 110        | 3       | 0.1             | A        | --      |
|              | <b>Subtotal</b> | <b>547</b>    | <b>556</b>    | <b>102</b> | --      | <b>0.7</b>      | <b>A</b> | --      |
| EB           | R               | 73            | 68            | 93         | 8       | 6.3             | A        | --      |
|              | <b>Subtotal</b> | <b>73</b>     | <b>68</b>     | <b>93</b>  | --      | <b>6.3</b>      | <b>A</b> | --      |
| <b>Total</b> |                 | <b>1408</b>   | <b>1412</b>   | <b>100</b> | --      | <b>1.6</b>      | <b>A</b> | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: NW & 4800 West **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | T        | 127            | 31                 | --        | --      | 1                  | --        | --      |
| SB       | L        | 150            | 44                 | --        | --      | 11                 | --        | --      |
|          | T        | 934            | 3                  | --        | --      | 0                  | --        | --      |
| EB       | L        | 50             | 82                 | Yes       | --      | 46                 | --        | --      |
|          | R        | 464            | 149                | --        | --      | 38                 | --        | --      |
| WB       | L        | 100            | 28                 | --        | --      | 3                  | --        | --      |
|          | R        | 353            | 47                 | --        | --      | 14                 | --        | --      |

**Intersection:** 2: W & 4800 West **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 100            | 31                 | --        | --      | 5                  | --        | --      |
|          | T        | 63             | 23                 | --        | --      | 1                  | --        | --      |
|          | R        | 63             | 23                 | --        | --      | 1                  | --        | --      |
| SB       | L        | 100            | 66                 | --        | --      | 26                 | --        | --      |
| EB       | L        | 274            | 14                 | --        | --      | 1                  | --        | --      |
|          | R        | 274            | 32                 | --        | --      | 2                  | --        | --      |
| WB       | L        | 366            | 71                 | --        | --      | 27                 | --        | --      |
|          | R        | 366            | 78                 | --        | --      | 34                 | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 300            | 36                 | --        | --      | 6                  | --        | --      |
|          | T        | 966            | 306                | --        | --      | 145                | --        | --      |
|          | R        | 120            | 144                | Yes       | --      | 50                 | --        | --      |
| SB       | L        | 300            | 157                | --        | --      | 70                 | --        | --      |
|          | T        | 232            | 238                | Yes       | --      | 103                | --        | --      |
| EB       | L        | 100            | 133                | Yes       | --      | 110                | Yes       | --      |
|          | T        | 953            | 385                | --        | --      | 129                | --        | --      |
|          | R        | 953            | 385                | --        | --      | 129                | --        | --      |
| WB       | L        | 100            | 180                | Yes       | --      | 66                 | --        | --      |
|          | T        | 156            | 180                | Yes       | --      | 15                 | --        | --      |
|          | R        | 100            | 170                | Yes       | --      | 48                 | --        | --      |

**Intersection:** 4: Cedar Hills Drive & SW **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | R        | 249            | 38                 | --        | --      | 10                 | --        | --      |
| WB       | T        | 260            | 57                 | --        | --      | 3                  | --        | --      |
|          | R        | 260            | 57                 | --        | --      | 3                  | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 5: Cedar Hills Drive & S **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | L        | 100            | 54                 | --        | --      | 27                 | --        | --      |
|          | R        | 353            | 49                 | --        | --      | 23                 | --        | --      |
| EB       | L        | 100            | 47                 | --        | --      | 15                 | --        | --      |
| WB       | R        | 100            | 22                 | --        | --      | 1                  | --        | --      |

**Intersection:** 6: Cedar Hills Drive & SE **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | R        | 372            | 54                 | --        | --      | 26                 | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 946            | 38                 | --        | --      | 7                  | --        | --      |
|          | T        | 946            | 38                 | --        | --      | 7                  | --        | --      |
|          | R        | 946            | 38                 | --        | --      | 7                  | --        | --      |
|          | U        | 946            | 38                 | --        | --      | 7                  | --        | --      |
| SB       | L        | 389            | 33                 | --        | --      | 5                  | --        | --      |
|          | T        | 389            | 33                 | --        | --      | 5                  | --        | --      |
|          | R        | 389            | 33                 | --        | --      | 5                  | --        | --      |
|          | U        | 389            | 33                 | --        | --      | 5                  | --        | --      |
| EB       | L        | 246            | 61                 | --        | --      | 22                 | --        | --      |
|          | T        | 246            | 61                 | --        | --      | 22                 | --        | --      |
|          | R        | 246            | 61                 | --        | --      | 22                 | --        | --      |
|          | U        | 246            | 61                 | --        | --      | 22                 | --        | --      |
| WB       | L        | 946            | 51                 | --        | --      | 14                 | --        | --      |
|          | T        | 946            | 51                 | --        | --      | 14                 | --        | --      |
|          | R        | 946            | 51                 | --        | --      | 14                 | --        | --      |
|          | U        | 946            | 51                 | --        | --      | 14                 | --        | --      |

**Intersection:** 8: E & Redwood Dr **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 389            | 32                 | --        | --      | 1                  | --        | --      |
|          | T        | 389            | 32                 | --        | --      | 1                  | --        | --      |
| EB       | L        | 392            | 49                 | --        | --      | 21                 | --        | --      |
|          | R        | 392            | 49                 | --        | --      | 21                 | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-mart **HCM:** 2000  
**Scenario:** Existing + Project **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | T        | 63             | 43                 | --        | --      | 2                  | --        | --      |
|          | R        | 63             | 43                 | --        | --      | 2                  | --        | --      |
| EB       | R        | 181            | 78                 | --        | --      | 34                 | --        | --      |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030 Background Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: 4800 West & **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 942           | 959           | 102        | 28      | 0.6             | A        | --      |
|              | <b>Subtotal</b> | <b>942</b>    | <b>959</b>    | <b>102</b> | --      | <b>0.6</b>      | <b>A</b> | --      |
| SB           | T               | 796           | 798           | 100        | 31      | 1.7             | A        | --      |
|              | <b>Subtotal</b> | <b>796</b>    | <b>798</b>    | <b>100</b> | --      | <b>1.7</b>      | <b>A</b> | --      |
| EB           | L               | 78            | 76            | 97         | 9       | 28.7            | D        | --      |
|              | R               | 50            | 53            | 106        | 6       | 5.6             | A        | --      |
|              | <b>Subtotal</b> | <b>128</b>    | <b>129</b>    | <b>101</b> | --      | <b>19.3</b>     | <b>C</b> | --      |
| <b>Total</b> |                 | <b>1866</b>   | <b>1886</b>   | <b>101</b> | --      | <b>2.3</b>      | <b>A</b> | --      |

**Intersection:** 2: 4800 West & **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | L               | 12            | 10            | 83         | 4       | 5.9             | A        | --      |
|              | T               | 941           | 958           | 102        | 28      | 0.2             | A        | --      |
|              | <b>Subtotal</b> | <b>953</b>    | <b>968</b>    | <b>102</b> | --      | <b>0.3</b>      | <b>A</b> | --      |
| SB           | T               | 832           | 838           | 101        | 34      | 0.5             | A        | --      |
|              | R               | 14            | 14            | 100        | 4       | 0.2             | A        | --      |
|              | <b>Subtotal</b> | <b>846</b>    | <b>853</b>    | <b>101</b> | --      | <b>0.5</b>      | <b>A</b> | --      |
| EB           | L               | 1             | 1             | 100        | 1       | 20.8            | C        | --      |
|              | R               | 2             | 3             | 150        | 2       | 5.4             | A        | --      |
|              | <b>Subtotal</b> | <b>3</b>      | <b>4</b>      | <b>133</b> | --      | <b>10.3</b>     | <b>B</b> | --      |
| <b>Total</b> |                 | <b>1802</b>   | <b>1825</b>   | <b>101</b> | --      | <b>0.4</b>      | <b>A</b> | --      |



## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030 Background Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |             | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|-------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev     | Avg             | LOS       | Std Dev   |
| NB           | L               | 10            | 9             | 90         | 3           | 16.0            | B         | --        |
|              | T               | 546           | 550           | 101        | 20          | 18.3            | B         | --        |
|              | R               | 113           | 112           | 99         | 11          | 9.8             | A         | --        |
|              | <b>Subtotal</b> | <b>669</b>    | <b>671</b>    | <b>100</b> | <b>--</b>   | <b>16.8</b>     | <b>B</b>  | <b>--</b> |
| SB           | L               | 270           | 265           | 98         | 10          | 17.2            | B         | --        |
|              | T               | 627           | 640           | 102        | 32          | 9.9             | A         | --        |
|              | <b>Subtotal</b> | <b>897</b>    | <b>905</b>    | <b>101</b> | <b>--</b>   | <b>12.1</b>     | <b>B</b>  | <b>--</b> |
| EB           | L               | 270           | 282           | 104        | 17          | 41.8            | D         | --        |
|              | T               | 50            | 47            | 92         | 5           | 37.3            | D         | --        |
|              | R               | 35            | 36            | 103        | 9           | 16.4            | B         | --        |
|              | <b>Subtotal</b> | <b>355</b>    | <b>364</b>    | <b>103</b> | <b>--</b>   | <b>38.7</b>     | <b>D</b>  | <b>--</b> |
| WB           | L               | 106           | 106           | 100        | 5           | 26.9            | C         | --        |
|              | T               | 6             | 5             | 83         | 2           | 30.6            | C         | --        |
|              | R               | 137           | 136           | 99         | 9           | 6.9             | A         | --        |
|              | <b>Subtotal</b> | <b>249</b>    | <b>247</b>    | <b>99</b>  | <b>--</b>   | <b>16.0</b>     | <b>B</b>  | <b>--</b> |
| <b>Total</b> | <b>2170</b>     | <b>2188</b>   | <b>101</b>    | <b>--</b>  | <b>18.4</b> | <b>B</b>        | <b>--</b> |           |

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |           |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|-----------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %         | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 52            | 52            | 100       | 5          | 3.1             | A         | --        |
|              | T               | 19            | 17            | 89        | 4          | 3.5             | A         | --        |
|              | R               | 20            | 19            | 95        | 4          | 3.4             | A         | --        |
|              | <b>Subtotal</b> | <b>91</b>     | <b>89</b>     | <b>98</b> | <b>--</b>  | <b>3.3</b>      | <b>A</b>  | <b>--</b> |
| SB           | L               | 5             | 3             | 60        | 1          | 3.3             | A         | --        |
|              | T               | 12            | 12            | 100       | 3          | 3.2             | A         | --        |
|              | R               | 96            | 96            | 100       | 5          | 3.2             | A         | --        |
|              | <b>Subtotal</b> | <b>113</b>    | <b>111</b>    | <b>98</b> | <b>--</b>  | <b>3.2</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 125           | 123           | 98        | 8          | 6.0             | A         | --        |
|              | T               | 216           | 212           | 98        | 11         | 6.0             | A         | --        |
|              | R               | 92            | 90            | 98        | 15         | 5.8             | A         | --        |
|              | <b>Subtotal</b> | <b>433</b>    | <b>425</b>    | <b>98</b> | <b>--</b>  | <b>5.9</b>      | <b>A</b>  | <b>--</b> |
| WB           | L               | 15            | 15            | 100       | 3          | 3.2             | A         | --        |
|              | T               | 101           | 99            | 98        | 9          | 3.4             | A         | --        |
|              | R               | 17            | 17            | 100       | 5          | 3.0             | A         | --        |
|              | <b>Subtotal</b> | <b>133</b>    | <b>131</b>    | <b>98</b> | <b>--</b>  | <b>3.3</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>770</b>      | <b>755</b>    | <b>98</b>     | <b>--</b> | <b>4.8</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030 Background Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 953           | 968           | 102        | 28      | 1.3             | A        | --      |
|              | <b>Subtotal</b> | <b>953</b>    | <b>968</b>    | <b>102</b> | --      | <b>1.3</b>      | <b>A</b> | --      |
| SB           | T               | 824           | 830           | 101        | 32      | 0.5             | A        | --      |
|              | R               | 10            | 10            | 100        | 3       | 0.0             | A        | --      |
|              | <b>Subtotal</b> | <b>834</b>    | <b>841</b>    | <b>101</b> | --      | <b>0.5</b>      | <b>A</b> | --      |
| EB           | R               | 73            | 75            | 103        | 10      | 5.0             | A        | --      |
|              | <b>Subtotal</b> | <b>73</b>     | <b>75</b>     | <b>103</b> | --      | <b>5.0</b>      | <b>A</b> | --      |
| <b>Total</b> |                 | <b>1860</b>   | <b>1884</b>   | <b>101</b> | --      | <b>1.1</b>      | <b>A</b> | --      |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: NW & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| NB           | T               | 1067          | 1081          | 101        | 41        | 0.8             | A        | --        |
|              | R               | 4             | 5             | 125        | 2         | 0.2             | A        | --        |
|              | <b>Subtotal</b> | <b>1071</b>   | <b>1086</b>   | <b>101</b> | <b>--</b> | <b>0.7</b>      | <b>A</b> | <b>--</b> |
| SB           | L               | 23            | 23            | 100        | 4         | 14.1            | B        | --        |
|              | T               | 892           | 887           | 99         | 27        | 1.9             | A        | --        |
|              | <b>Subtotal</b> | <b>915</b>    | <b>910</b>    | <b>99</b>  | <b>--</b> | <b>2.2</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 78            | 80            | 103        | 9         | 53.7            | F        | --        |
|              | R               | 50            | 52            | 104        | 5         | 7.3             | A        | --        |
|              | <b>Subtotal</b> | <b>128</b>    | <b>132</b>    | <b>103</b> | <b>--</b> | <b>35.4</b>     | <b>E</b> | <b>--</b> |
| WB           | L               | 4             | 3             | 75         | 2         | 29.1            | D        | --        |
|              | R               | 24            | 25            | 104        | 6         | 9.6             | A        | --        |
|              | <b>Subtotal</b> | <b>28</b>     | <b>28</b>     | <b>100</b> | <b>--</b> | <b>11.7</b>     | <b>B</b> | <b>--</b> |
| <b>Total</b> |                 | <b>2142</b>   | <b>2156</b>   | <b>101</b> | <b>--</b> | <b>3.6</b>      | <b>A</b> | <b>--</b> |

**Intersection:** 2: W & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| NB           | L               | 12            | 12            | 100        | 4         | 6.1             | A        | --        |
|              | T               | 1013          | 1023          | 101        | 42        | 0.4             | A        | --        |
|              | R               | 42            | 43            | 102        | 5         | 0.1             | A        | --        |
|              | <b>Subtotal</b> | <b>1067</b>   | <b>1078</b>   | <b>101</b> | <b>--</b> | <b>0.4</b>      | <b>A</b> | <b>--</b> |
| SB           | L               | 54            | 57            | 106        | 4         | 9.2             | A        | --        |
|              | T               | 878           | 870           | 99         | 25        | 0.6             | A        | --        |
|              | R               | 14            | 16            | 114        | 5         | 0.1             | A        | --        |
|              | <b>Subtotal</b> | <b>946</b>    | <b>943</b>    | <b>100</b> | <b>--</b> | <b>1.1</b>      | <b>A</b> | <b>--</b> |
| EB           | L               | 1             | 1             | 100        | 0         | 43.3            | E        | --        |
|              | R               | 2             | 4             | 200        | 2         | 6.2             | A        | --        |
|              | <b>Subtotal</b> | <b>3</b>      | <b>5</b>      | <b>167</b> | <b>--</b> | <b>14.3</b>     | <b>B</b> | <b>--</b> |
| WB           | L               | 33            | 30            | 91         | 5         | 34.5            | D        | --        |
|              | R               | 57            | 62            | 109        | 6         | 7.8             | A        | --        |
|              | <b>Subtotal</b> | <b>90</b>     | <b>93</b>     | <b>103</b> | <b>--</b> | <b>16.5</b>     | <b>C</b> | <b>--</b> |
| <b>Total</b> |                 | <b>2106</b>   | <b>2118</b>   | <b>101</b> | <b>--</b> | <b>1.5</b>      | <b>A</b> | <b>--</b> |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |             | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|-------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev     | Avg             | LOS       | Std Dev   |
| NB           | L               | 10            | 8             | 80         | 2           | 17.2            | B         | --        |
|              | T               | 585           | 587           | 100        | 24          | 19.1            | B         | --        |
|              | R               | 152           | 149           | 98         | 10          | 10.6            | B         | --        |
|              | <b>Subtotal</b> | <b>747</b>    | <b>744</b>    | <b>100</b> | <b>--</b>   | <b>17.4</b>     | <b>B</b>  | <b>--</b> |
| SB           | L               | 315           | 312           | 99         | 11          | 18.6            | B         | --        |
|              | T               | 661           | 654           | 99         | 37          | 9.1             | A         | --        |
|              | <b>Subtotal</b> | <b>976</b>    | <b>967</b>    | <b>99</b>  | <b>--</b>   | <b>12.2</b>     | <b>B</b>  | <b>--</b> |
| EB           | L               | 270           | 277           | 103        | 14          | 47.9            | D         | --        |
|              | T               | 50            | 46            | 92         | 6           | 45.5            | D         | --        |
|              | R               | 35            | 35            | 100        | 7           | 22.0            | C         | --        |
|              | <b>Subtotal</b> | <b>355</b>    | <b>358</b>    | <b>101</b> | <b>--</b>   | <b>45.1</b>     | <b>D</b>  | <b>--</b> |
| WB           | L               | 173           | 170           | 98         | 13          | 53.1            | D         | --        |
|              | T               | 6             | 6             | 100        | 3           | 48.0            | D         | --        |
|              | R               | 212           | 212           | 100        | 15          | 16.0            | B         | --        |
|              | <b>Subtotal</b> | <b>391</b>    | <b>388</b>    | <b>99</b>  | <b>--</b>   | <b>32.8</b>     | <b>C</b>  | <b>--</b> |
| <b>Total</b> | <b>2469</b>     | <b>2457</b>   | <b>99</b>     | <b>--</b>  | <b>21.8</b> | <b>C</b>        | <b>--</b> |           |

**Intersection:** 4: Cedar Hills Drive & SW **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| SB           | R               | 14            | 15            | 107        | 4          | 34.2            | D         | --        |
|              | <b>Subtotal</b> | <b>14</b>     | <b>15</b>     | <b>107</b> | <b>--</b>  | <b>34.2</b>     | <b>D</b>  | <b>--</b> |
| EB           | T               | 517           | 507           | 98         | 19         | 0.7             | A         | --        |
|              | <b>Subtotal</b> | <b>517</b>    | <b>507</b>    | <b>98</b>  | <b>--</b>  | <b>0.7</b>      | <b>A</b>  | <b>--</b> |
| WB           | T               | 377           | 372           | 99         | 21         | 5.6             | A         | --        |
|              | R               | 6             | 5             | 83         | 2          | 3.3             | A         | --        |
|              | <b>Subtotal</b> | <b>383</b>    | <b>378</b>    | <b>99</b>  | <b>--</b>  | <b>5.6</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>914</b>      | <b>899</b>    | <b>98</b>     | <b>--</b>  | <b>3.3</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 5: Cedar Hills Drive & S **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |           |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|-----------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %         | Std Dev   | Avg             | LOS      | Std Dev   |
| SB           | L               | 66            | 65            | 97        | 7         | 17.1            | C        | --        |
|              | R               | 62            | 62            | 100       | 7         | 5.9             | A        | --        |
|              | <b>Subtotal</b> | <b>128</b>    | <b>126</b>    | <b>98</b> | <b>--</b> | <b>11.6</b>     | <b>B</b> | <b>--</b> |
| EB           | L               | 69            | 66            | 96        | 9         | 3.7             | A        | --        |
|              | T               | 448           | 442           | 99        | 20        | 0.6             | A        | --        |
|              | <b>Subtotal</b> | <b>517</b>    | <b>507</b>    | <b>98</b> | <b>--</b> | <b>1.0</b>      | <b>A</b> | <b>--</b> |
| WB           | T               | 321           | 315           | 98        | 17        | 1.3             | A        | --        |
|              | R               | 51            | 54            | 106       | 5         | 0.9             | A        | --        |
|              | <b>Subtotal</b> | <b>372</b>    | <b>369</b>    | <b>99</b> | <b>--</b> | <b>1.3</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>1017</b>   | <b>1003</b>   | <b>99</b> | <b>--</b> | <b>2.4</b>      | <b>A</b> | <b>--</b> |

**Intersection:** 6: Cedar Hills Drive & SE **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |           | Delay/Veh (sec) |          |           |
|--------------|-----------------|---------------|---------------|------------|-----------|-----------------|----------|-----------|
|              |                 |               | Avg           | %          | Std Dev   | Avg             | LOS      | Std Dev   |
| SB           | R               | 49            | 46            | 94         | 6         | 4.5             | A        | --        |
|              | <b>Subtotal</b> | <b>49</b>     | <b>46</b>     | <b>94</b>  | <b>--</b> | <b>4.5</b>      | <b>A</b> | <b>--</b> |
| EB           | T               | 514           | 505           | 98         | 21        | 1.1             | A        | --        |
|              | <b>Subtotal</b> | <b>514</b>    | <b>505</b>    | <b>98</b>  | <b>--</b> | <b>1.1</b>      | <b>A</b> | <b>--</b> |
| WB           | T               | 323           | 324           | 100        | 19        | 1.0             | A        | --        |
|              | R               | 2             | 3             | 100        | 2         | 1.0             | A        | --        |
|              | <b>Subtotal</b> | <b>325</b>    | <b>326</b>    | <b>100</b> | <b>--</b> | <b>1.0</b>      | <b>A</b> | <b>--</b> |
| <b>Total</b> |                 | <b>888</b>    | <b>878</b>    | <b>99</b>  | <b>--</b> | <b>1.2</b>      | <b>A</b> | <b>--</b> |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 77            | 77            | 100        | 10         | 3.7             | A         | --        |
|              | T               | 21            | 22            | 105        | 6          | 3.5             | A         | --        |
|              | R               | 20            | 21            | 105        | 8          | 3.5             | A         | --        |
|              | <b>Subtotal</b> | <b>118</b>    | <b>120</b>    | <b>102</b> | <b>--</b>  | <b>3.6</b>      | <b>A</b>  | <b>--</b> |
| SB           | L               | 13            | 13            | 100        | 4          | 3.3             | A         | --        |
|              | T               | 20            | 22            | 110        | 6          | 3.1             | A         | --        |
|              | R               | 119           | 119           | 99         | 10         | 3.3             | A         | --        |
|              | <b>Subtotal</b> | <b>152</b>    | <b>154</b>    | <b>101</b> | <b>--</b>  | <b>3.2</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 154           | 151           | 98         | 10         | 3.9             | A         | --        |
|              | T               | 242           | 239           | 99         | 18         | 4.0             | A         | --        |
|              | R               | 118           | 114           | 97         | 12         | 3.7             | A         | --        |
|              | <b>Subtotal</b> | <b>514</b>    | <b>504</b>    | <b>98</b>  | <b>--</b>  | <b>3.9</b>      | <b>A</b>  | <b>--</b> |
| WB           | L               | 15            | 15            | 100        | 3          | 3.6             | A         | --        |
|              | T               | 129           | 131           | 102        | 7          | 3.9             | A         | --        |
|              | R               | 19            | 22            | 116        | 5          | 3.7             | A         | --        |
|              | <b>Subtotal</b> | <b>163</b>    | <b>168</b>    | <b>103</b> | <b>--</b>  | <b>3.8</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>947</b>      | <b>946</b>    | <b>100</b>    | <b>--</b>  | <b>3.7</b> | <b>A</b>        | <b>--</b> |           |

**Intersection:** 8: E & Redwood Dr **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |            | Delay/Veh (sec) |           |           |
|--------------|-----------------|---------------|---------------|------------|------------|-----------------|-----------|-----------|
|              |                 |               | Avg           | %          | Std Dev    | Avg             | LOS       | Std Dev   |
| NB           | L               | 18            | 17            | 94         | 4          | 3.1             | A         | --        |
|              | T               | 176           | 178           | 101        | 11         | 1.0             | A         | --        |
|              | <b>Subtotal</b> | <b>194</b>    | <b>195</b>    | <b>101</b> | <b>--</b>  | <b>1.2</b>      | <b>A</b>  | <b>--</b> |
| SB           | T               | 126           | 126           | 100        | 14         | 0.7             | A         | --        |
|              | R               | 1             | 2             | 200        | 1          | 0.5             | A         | --        |
|              | <b>Subtotal</b> | <b>127</b>    | <b>128</b>    | <b>101</b> | <b>--</b>  | <b>0.7</b>      | <b>A</b>  | <b>--</b> |
| EB           | L               | 4             | 4             | 100        | 2          | 5.3             | A         | --        |
|              | R               | 26            | 26            | 100        | 2          | 3.3             | A         | --        |
|              | <b>Subtotal</b> | <b>30</b>     | <b>29</b>     | <b>97</b>  | <b>--</b>  | <b>3.6</b>      | <b>A</b>  | <b>--</b> |
| <b>Total</b> | <b>351</b>      | <b>353</b>    | <b>101</b>    | <b>--</b>  | <b>1.2</b> | <b>A</b>        | <b>--</b> |           |

## SIMTRAFFIC LEVEL OF SERVICE REPORT Including Upstream Delays

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach     | Movement        | Demand Volume | Volume Served |            |         | Delay/Veh (sec) |          |         |
|--------------|-----------------|---------------|---------------|------------|---------|-----------------|----------|---------|
|              |                 |               | Avg           | %          | Std Dev | Avg             | LOS      | Std Dev |
| NB           | T               | 1067          | 1077          | 101        | 38      | 1.5             | A        | --      |
|              | <b>Subtotal</b> | <b>1067</b>   | <b>1077</b>   | <b>101</b> | --      | <b>1.5</b>      | <b>A</b> | --      |
| SB           | T               | 903           | 893           | 99         | 28      | 0.6             | A        | --      |
|              | R               | 10            | 9             | 90         | 3       | 0.0             | A        | --      |
|              | <b>Subtotal</b> | <b>913</b>    | <b>903</b>    | <b>99</b>  | --      | <b>0.6</b>      | <b>A</b> | --      |
| EB           | R               | 73            | 74            | 101        | 13      | 5.7             | A        | --      |
|              | <b>Subtotal</b> | <b>73</b>     | <b>74</b>     | <b>101</b> | --      | <b>5.7</b>      | <b>A</b> | --      |
| <b>Total</b> |                 | <b>2053</b>   | <b>2054</b>   | <b>100</b> | --      | <b>1.2</b>      | <b>A</b> | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 1: NW & 4800 West **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | T        | 127            | 22                 | --        | --      | 1                  | --        | --      |
|          | R        | 127            | 22                 | --        | --      | 1                  | --        | --      |
| SB       | L        | 150            | 44                 | --        | --      | 14                 | --        | --      |
| EB       | L        | 125            | 131                | Yes       | --      | 57                 | --        | --      |
|          | R        | 452            | 106                | --        | --      | 32                 | --        | --      |
| WB       | L        | 100            | 36                 | --        | --      | 3                  | --        | --      |
|          | R        | 354            | 51                 | --        | --      | 20                 | --        | --      |

**Intersection:** 2: W & 4800 West **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 100            | 32                 | --        | --      | 7                  | --        | --      |
|          | T        | 63             | 8                  | --        | --      | 0                  | --        | --      |
|          | R        | 63             | 8                  | --        | --      | 0                  | --        | --      |
| SB       | L        | 100            | 71                 | --        | --      | 26                 | --        | --      |
|          | T        | 127            | 8                  | --        | --      | 0                  | --        | --      |
| EB       | L        | 262            | 17                 | --        | --      | 1                  | --        | --      |
|          | R        | 262            | 32                 | --        | --      | 4                  | --        | --      |
| WB       | L        | 354            | 76                 | --        | --      | 27                 | --        | --      |
|          | R        | 354            | 78                 | --        | --      | 33                 | --        | --      |



## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 3: Cedar Hills Drive & 4800 West **Type:** Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 300            | 42                 | --        | --      | 7                  | --        | --      |
|          | T        | 966            | 219                | --        | --      | 121                | --        | --      |
|          | R        | 120            | 142                | Yes       | --      | 48                 | --        | --      |
| SB       | L        | 300            | 272                | --        | --      | 109                | --        | --      |
|          | T        | 232            | 264                | Yes       | --      | 79                 | --        | --      |
| EB       | L        | 150            | 180                | Yes       | --      | 138                | --        | --      |
|          | T        | 941            | 383                | --        | --      | 99                 | --        | --      |
|          | R        | 941            | 383                | --        | --      | 99                 | --        | --      |
| WB       | L        | 100            | 381                | Yes       | --      | 128                | Yes       | --      |
|          | T        | 144            | 453                | Yes       | --      | 92                 | --        | --      |
|          | R        | 100            | 373                | Yes       | --      | 85                 | --        | --      |

**Intersection:** 4: Cedar Hills Drive & SW **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | R        | 249            | 48                 | --        | --      | 15                 | --        | --      |
| WB       | T        | 260            | 182                | --        | --      | 30                 | --        | --      |
|          | R        | 260            | 182                | --        | --      | 30                 | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 5: Cedar Hills Drive & S **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | L        | 100            | 64                 | --        | --      | 29                 | --        | --      |
|          | R        | 353            | 58                 | --        | --      | 22                 | --        | --      |
| EB       | L        | 100            | 51                 | --        | --      | 20                 | --        | --      |
| WB       | T        | 400            | 74                 | --        | --      | 6                  | --        | --      |
|          | R        | 100            | 36                 | --        | --      | 2                  | --        | --      |

**Intersection:** 6: Cedar Hills Drive & SE **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | R        | 372            | 53                 | --        | --      | 27                 | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project\_Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 7: Cedar Hills Drive & Redwood Dr **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 946            | 49                 | --        | --      | 15                 | --        | --      |
|          | T        | 946            | 49                 | --        | --      | 15                 | --        | --      |
|          | R        | 946            | 49                 | --        | --      | 15                 | --        | --      |
|          | U        | 946            | 49                 | --        | --      | 15                 | --        | --      |
| SB       | L        | 389            | 46                 | --        | --      | 13                 | --        | --      |
|          | T        | 389            | 46                 | --        | --      | 13                 | --        | --      |
|          | R        | 389            | 46                 | --        | --      | 13                 | --        | --      |
|          | U        | 389            | 46                 | --        | --      | 13                 | --        | --      |
| EB       | L        | 246            | 78                 | --        | --      | 31                 | --        | --      |
|          | T        | 246            | 78                 | --        | --      | 31                 | --        | --      |
|          | R        | 246            | 78                 | --        | --      | 31                 | --        | --      |
|          | U        | 246            | 78                 | --        | --      | 31                 | --        | --      |
| WB       | L        | 946            | 51                 | --        | --      | 19                 | --        | --      |
|          | T        | 946            | 51                 | --        | --      | 19                 | --        | --      |
|          | R        | 946            | 51                 | --        | --      | 19                 | --        | --      |
|          | U        | 946            | 51                 | --        | --      | 19                 | --        | --      |

**Intersection:** 8: E & Redwood Dr **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| NB       | L        | 389            | 34                 | --        | --      | 2                  | --        | --      |
|          | T        | 389            | 34                 | --        | --      | 2                  | --        | --      |
| EB       | L        | 392            | 47                 | --        | --      | 20                 | --        | --      |
|          | R        | 392            | 47                 | --        | --      | 20                 | --        | --      |

## SIMTRAFFIC QUEUING REPORT Including Upstream Queues

**Project:** Cedar Hills Wal-Mart **HCM:** 2000  
**Scenario:** 2030+Project Mitigated **PHF:** 1  
**TOD:** High School **Analysis Period:** Hourly **# of Runs:** 10

**Intersection:** 19: High School & 4800 West **Type:** Un-Signalized

| Approach | Movement | Storage Length | Maximum Queue (ft) |           |         | Average Queue (ft) |           |         |
|----------|----------|----------------|--------------------|-----------|---------|--------------------|-----------|---------|
|          |          |                | Avg                | > Storage | Std Dev | Avg                | > Storage | Std Dev |
| SB       | T        | 63             | 52                 | --        | --      | 2                  | --        | --      |
|          | R        | 63             | 11                 | --        | --      | 0                  | --        | --      |
| EB       | R        | 169            | 66                 | --        | --      | 34                 | --        | --      |