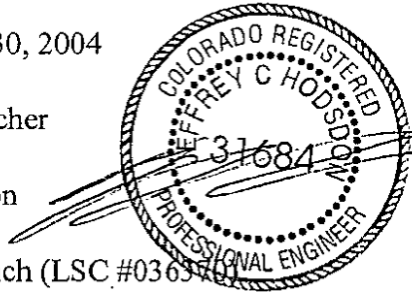




516 North Tejon Street  
 Colorado Springs, CO 80903  
 (719) 633-2868  
 FAX (719) 633-5430  
 E-mail: [lsc@lscs.com](mailto:lsc@lscs.com)  
 Web Site: <http://www.lscs.com>

## MEMORANDUM

DATE: November 30, 2004  
 TO: Gary Hamacher  
 FROM: Jeff Hodsdon  
 SUBJECT: Settlers Ranch (LSC #036376)



This memorandum is in response to comments dated September 30, 2004 from the El Paso County Development Services Department, Engineering Division regarding Settlers Ranch. LSC prepared a revised traffic study for this development dated August 5, 2004. Following are the El Paso County comments followed by our responses.

2. *The traffic report needs to address the phases and triggering of improvements by the phases. Phases and triggering was provided in a memorandum. The eastbound right-turn at Hodgen Road and State Highway 83 was not addressed. Address this turn lane as required by CDOT and the opposing left-turn lane at Timber Meadow Drive (Walden Way).*

The stop-sign controlled, single lane westbound approach to the Hodgen Road/SH 83 intersection currently operates at LOS D. Based on 2003 traffic data (as shown in the August 5, 2004 report) **plus** the traffic generated by 65 lots, the LOS on this approach will just exceed LOS D at the end of Phase 3. However, additional growth in background traffic both since the year 2003 and in the years 2005 to 2006 (until Phase 3 is built out) may use up this existing small amount of excess capacity. LSC recommends that the morning peak-hour volumes be recounted prior to approval of each final plat to determine if the short right-turn lane at the Hodgen Road/SH 83 intersection is required at that time.

The design of the left-turn lane at the Hodgen Road/Timber Meadow Drive intersection will include a 100-foot extension of the full-width painted median east of the intersection before beginning the redirect tapers to the east. This will facilitate striping of a short opposing left turn as requested.

3. *The traffic report needs to address Timber Meadow Drive (Walden Way) as a collector. This is a new development and will be required to meet current standards with an 80-foot right-of-way.*

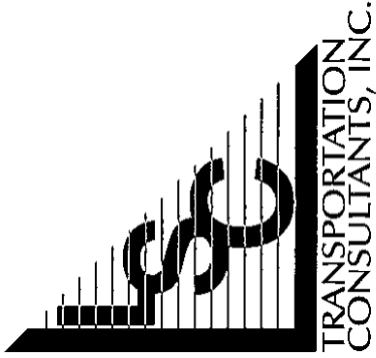
It is my understanding that the plan has been revised to show an 80-foot right-of-way.

7. *A southbound right-turn deceleration lane and an eastbound right-turn deceleration lane will be required at the Timber Meadow Drive (Walden Way) and Hodgen Road intersection based on the 2008 total traffic. Response is to construct a widened radius for right turning traffic which will help to allow a left turning vehicle to get beside. A shortened right deceleration lane can be used, but more than just a widened radius. Possibly a turn lane like was agreed on at the intersection of Black Forest/Hodgen Road should be proposed.*

A short right-turn lane sufficient for the right-turning traffic to pass the left-turning traffic will be provided. The design will be shown at the platting and construction plan stage of Phase 1 and will be supported by a queuing analysis.

9. *The report shows 30 ADT on Settlers Ridge Road for the year 2008. This leg of the development has 42 lots which equates to about 420 ADT. However, the 2025 (built out) site generated traffic for this roadway is 20 ADT. Revise as necessary; include the intersection traffic at Settlers Ridge and Steppler Roads. Carry the evaluation out until the traffic impacts are insignificant. Does the entering sight distance at this intersection meet the access code requirements? The sight distance has been stated to be adequate per the State Access Code for a posted speed of 30 MPH. The State Access Code states that a Single Unit Truck is to be used if access is a part of any school bus route. Steppler Road is a school bus route and it is assumed Steppler Ridge Road will also become a school bus route. Thus, the entering sight distance is required to be 390' not the 300' stated in the memorandum. The report states that 345' is provided. The developer will be required to meet the State Access Code.*

It is our understanding that with the design and construction of this access, the minor corrections in the Steppler Road profile will be done in order to bring the sight distance up to the standard for school buses.



## MEMORANDUM

DATE: August 10, 2004  
TO: Mark Davis  
FROM: Jeff Hodsdon  
SUBJECT: Settlers Ranch  
LSC #036370

This memorandum is in response to comments dated June 18, 2004 from the El Paso County Department of Transportation regarding Settlers Ranch. LSC prepared a traffic study for this development dated April 20, 2004.

The following are LSC's responses to the comments that pertain to that traffic study:

- 1. The site is divided into 5 phases. The traffic report addresses 2008 and 2025 traffic conditions. How does the 2008 traffic correlate to the phasing plan? In the conclusions and recommendations section the lane geometry is divided into short and long term. How does the short and long term relate to the phasing plan?*
- 2. The traffic report needs to be addressed based on the phases and triggering of improvements by the phases.*

2008 and 2025 both assume buildout of the site. 2008 traffic volumes assume (for purposes of the CDOT requirements) that Hodgen not yet extended to Baptist.

The eastbound left-turn deceleration lane at Hodgen/Timber Meadow Way would be required with Phase 1. The right-turn acceleration lane is required at Phase 5. The project's proportionate share participation in the future signal at SH 83 and Hodgen could be collected for each phase at the time of platting.

3. *The traffic report needs to address Timber Meadow Drive (Walden Way) as a collector.*

To be consistent with the requirements for the Walden Subdivision, Timber Meadow Drive (connecting to Walden Way) should be designated a minor residential collector, but have a 60-foot right-of-way.

4. *Provide the total traffic ADT on Hodgen and Stepler Roads for the existing traffic conditions. Also provide existing intersection traffic at the intersection of State Highway and Walden Way.*

ADT volumes on Hodgen and Stepler have been provided in the updated traffic study. The following is our reasoning for not counting actual current traffic volumes at this intersection: the projected volumes at the intersection of Walden Way are projected to be much higher than the current volumes at buildout of the area; this intersection is planned for extensive improvements; and this particular project's impacts are a relatively small percentage at this intersection. If we were to count this intersection, it would likely show low turning volume with a good level of service. At this point, developers of Walden Village will agree to complete the improvements in association with the access permit for this intersection.

5. *On Figure 5, the Directional Distribution shows no traffic to the north on Stepler Road. Is this reasonable? The traffic to the west of SH-83 on Hodgen Road seems low with a proposed new 4-lane roadway to I-25 versus an older 2-lane curvy road that extends to approximately the same location at the north side of Colorado Springs.*

We have adjusted our directional distribution and our trip assignment per your comment.

6. *The report shows site generated traffic of 380 in year 2008 and 770 in year 2025 on Timber Meadow Drive (Walden Way). The total traffic for year 2008 is 2,005 and for year 2025 is 2,065 ADT. Based on an increase in site traffic of 330 ADT and only 60 in the total traffic, where is the additional traffic being rerouted?*

The 380 trip volume was a typographical error that has been fixed in the updated report. The correct 2008 ADT just north of Hodgen is 740. The 2025 volume is also projected to be 740.

7. *A south bound right-turn deceleration lane and an east bound right-turn deceleration lane will be required at the Timber Meadow Drive (Walden Way) and Hodgen Road intersection based on the 2008 total traffic.*

As the southbound through and left-turning volumes are projected to be light, with a short, likely one vehicle, queue length approaching Hodgen Road, LSC recommends that a flared radius on the north-west corner be constructed and not a full right-turn deceleration lane. This intersection is not planned for signalization, therefore a full "deceleration" lane would not be needed as there would be a stop condition. The flared southbound approach would provide additional width for right-turning vehicles to maneuver around any vehicle that might be queued at Hodgen, waiting to turn left or proceed straight through.

As for the westbound right-turn lane on Hodgen approaching Timber Meadow Drive, the volumes projected are close to the threshold and it is my understanding that the developer is agreeable to constructing this lane. The logical time may be in conjunction with the construction of either the left-turn lane or the right-turn acceleration lane.

8. *The site generated traffic exceeds the amount required for a west bound left-turn deceleration lane at the intersection of Highway 83 and Hodgen Road by 2008. This auxiliary lane or a west bound right deceleration lane will be required based on triggering of the phases.*

A westbound left-turn lane will be needed with large increases in through traffic associated with the Baptist Road-Hodgen connection project **and** signalization. Given the low east-west through volumes, a left-turn lane is not practical or necessary. LSC did recommend a short right-turn lane for capacity should the Baptist Road connection project be delayed.

9. *The report shows 30 ADT on Settlers Ridge Road for the year 2008. This leg of the development has 42 lots which equates to about 420 ADT. However, the 2025 (built out) site generated traffic for this roadway is 20 ADT. Revise as necessary: include the intersection traffic at Settlers Ridge and Stepler Roads. Carry the evaluation out until the traffic impacts are insignificant. Does the entering sight distance at this intersection meet the access code requirements?*

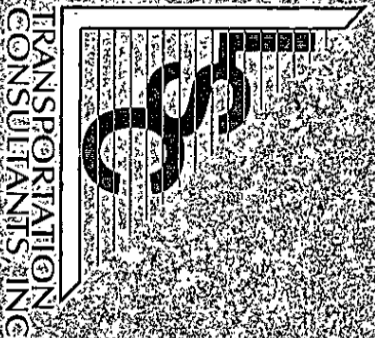
We have added traffic volumes on Stepler in the revised analysis.

LSC has completed an analysis of the sight distance at the site access to Stepler Road. The sight distance to the north is about 345 feet. The sight distance to the south is over 1,000 feet. Based on the criteria found in the Colorado State Highway Access Code, the required entering sight distance for a two-lane roadway with a posted speed limit of 30 miles per hour and a grade of less than three percent is 300 feet for passenger cars and pickup trucks. The design sight distance along the highway with a posted speed limit of 30 miles per hour is 200 feet.

10. *This development will be required by CDOT to participate or put up collateral for the signalization of the Highway 83 and Hodgen Road intersection based on their fair and equitable share of the traffic in this intersection.*

2008 volumes shown assume Hodgen not yet extended to Baptist Road. Although it is our understanding that this connection is planned to occur prior to 2008, CDOT has no assurances that this connection will occur and needs to have a baseline for the percentage contribution to the cost of a signal. Should the County extend Hodgen to Baptist as expected prior to 2008, and the signal is installed as part of that project, the amount escrowed for the signal should be returned to the developer or the percentage contribution reevaluated.

Settlers Ranch  
Traffic Impact Analysis  
Revised: August 5, 2004



LSC TRANSPORTATION CONSULTANTS, INC.

516 North Tejon Street  
Colorado Springs, CO 80903  
(719) 633-2868  
FAX (719) 633-5430  
E-mail: [lsc@lscs.com](mailto:lsc@lscs.com)  
Web Site: <http://www.lscs.com>



August 5, 2004

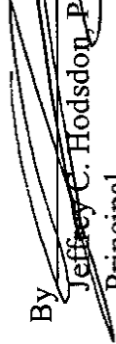
Mr. Mark Davis  
Hodgen Settlers Ranch LLC  
17583 Colonial Park Drive  
Colorado Springs, CO 80132

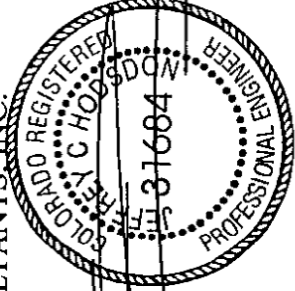
Dear Mr. Davis:

We are pleased to present our updated report of the traffic impacts associated with the Settlers Ranch development. Please call if you have any questions.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By   
Jeffrey C. Hodsdon, P.E., PTOE  
Principal



JCH:bjwb

RE: Settlers Ranch  
LSC #036370

Settlers Ranch  
Traffic Impact Analysis  
Revised: August 5, 2004

Prepared for:

Hodgen Settlers Ranch LLC  
17583 Colonial Park Drive  
Colorado Springs, CO 80132  
(719) 481-9435

Prepared by:

LSC Transportation Consultants, Inc.  
516 North Tejon Street  
Colorado Springs, CO 80903  
(719) 633-2868

LSC #036370

August 5, 2004



## TABLE OF CONTENTS

| Section | Title  | Page |
|---------|--|------|
| A       | INTRODUCTION .....                                       | 1    |
| B       | BACKGROUND AND LAND USE PLAN .....                       | 3    |
| C       | ROADWAY AND TRAFFIC CONDITIONS .....                     | 6    |
|         | Area Streets and Roads .....                             | 6    |
|         | Existing Traffic and Lane Geometry .....                 | 6    |
|         | Existing Level of Service .....                          | 7    |
| D       | TRIP GENERATION .....                                    | 9    |
| E       | TRAFFIC DISTRIBUTION AND ASSIGNMENT .....                | 11   |
| F       | TRAFFIC IMPACTS .....                                    | 13   |
|         | Site-Generated Traffic .....                             | 13   |
|         | Projected Future Background Traffic .....                | 13   |
|         | Existing Plus Site-Generated Traffic .....               | 18   |
|         | Year 2008 and Year 2025 Total Traffic .....              | 18   |
|         | Intersection Level of Service .....                      | 22   |
|         | Traffic Signal Warrant Analysis .....                    | 24   |
|         | Average Daily Traffic Impacts .....                      | 24   |
| G       | CONCLUSIONS AND RECOMMENDATIONS .....                    | 25   |
|         | Trip Generation .....                                    | 25   |
|         | Average Daily Traffic Impacts .....                      | 25   |
|         | Intersection Levels of Service and Recommendations ..... | 25   |
|         | Hodgen Road/SH 83 Intersection .....                     | 25   |
|         | Hodgen Road/Timber Meadow Drive .....                    | 26   |
|         | Cost Recovery Agreement .....                            | 26   |

APPENDIX

## LIST OF TABULATIONS

| Table | Title                          | Page |
|-------|--------------------------------|------|
| 1     | Trip Generation Estimate ..... | 10   |
| 2     | Level of Service .....         | 23   |

## LIST OF ILLUSTRATIONS

| Figure | Title   | Page |
|--------|---|------|
| 1      | Vicinity Map .....  | 2    |
| 2      | Area Buildout of Land Use .....                           | 4    |
| 3      | Site Plan .....   | 5    |
| 4      | Existing Traffic, Traffic Control and Lane Geometry ..... | 8    |
| 5      | Directional Distribution of Site-Generated Traffic .....  | 12   |
| 6      | Year 2008 Assignment of Site-Generated Traffic .....      | 14   |
| 7      | Year 2025 Assignment of Site-Generated Traffic .....      | 15   |
| 8      | Year 2008 Background Traffic .....                        | 16   |
| 9      | Year 2025 Background Traffic .....                        | 17   |
| 10     | Existing Plus Site-Generated Traffic .....                | 19   |
| 11     | Year 2008 Total Traffic .....                             | 20   |
| 12     | Year 2025 Total Traffic .....                             | 21   |
| 13     | Short-Term Lane Geometry .....                            | 27   |
| 14     | Long-Term Lane Geometry .....                             | 28   |

# SECTION A

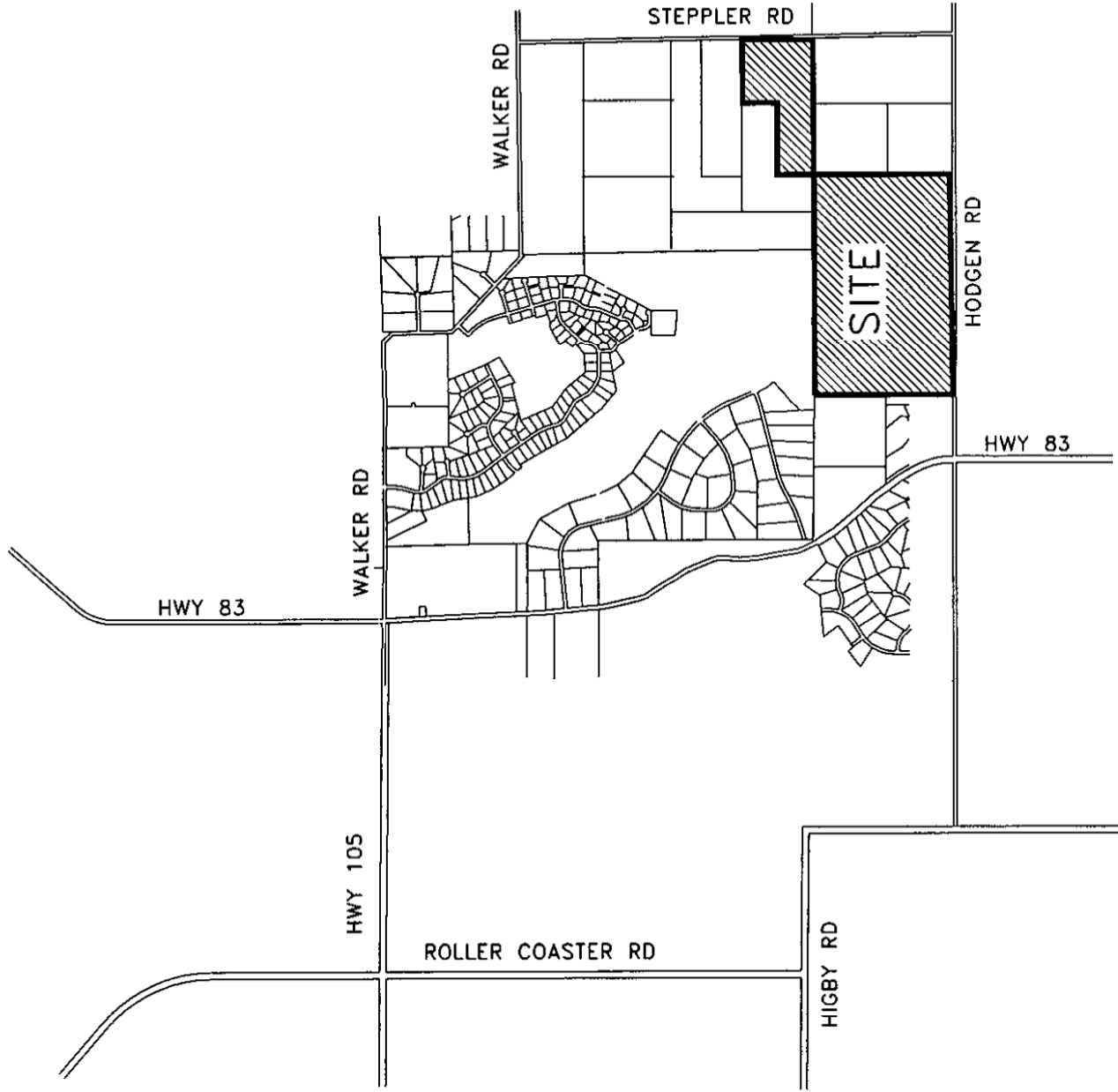
## Introduction

---

LSC has prepared this updated traffic impact report for the proposed Settlers Ranch residential development. The site is located east of State Highway (SH) 83 and north of Hodgen Road, north of Colorado Springs in El Paso County, Colorado. The site is planned to include 86 new single-family detached houses. Access is planned to Hodgen Road on the south and Stepler Road on the east. Also, with the planned development of the Walden Village project, there would be a connection to the northwest to Walden Way. The site location is shown on

Figure 1.

This report is being prepared for submittal to El Paso County. The report contains an estimate of the traffic to be generated by the proposed development, estimates of the projected site-generated traffic volumes on the area street system, and changes in area traffic circulation as a result of this project. It presents the impacts of additional traffic on the roadway system and recommendations regarding roadway system improvements to mitigate these traffic impacts.



*Not to Scale*

**Vicinity Map**  
Settlers Ranch

**Figure 1**  
**LSC # 036370**



## SECTION B

# Background and Land Use Plan

---

The proposed development is located in a primarily residential area. There are existing subdivisions to the north and northwest of this site, each with a separate access system. The proposed Walden Village subdivision is located just north of Settlers Ranch. The addition of the planned Walden Village subdivision will essentially connect the two existing subdivisions and their road systems. This will create a large interconnected residential area with interconnected streets. Figure 2 shows a composite of the area east of SH 83 between Walker Road and Hodgen Road. It shows the existing Walden subdivision, the new Walden Village, and this proposed Settlers Ranch project.

The 303-acre site, shown in Figure 3, is planned to be developed with 86 single-family detached homes. The site will have one full-movement access to Hodgen Road at what will be an extension of Timber Meadow Drive to the north. One full-movement access from Stepler Road on the east is also proposed. With the completion of Phase 5 of this subdivision **and** the Walden Village subdivision to the north, the extension of Timber Meadow Drive north connecting to Walden Way will be completed at buildout. The phasing plan for this project is contained in the appendix.



Not to Scale

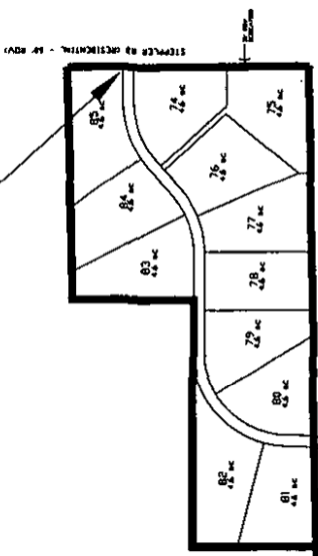


TRANSPORTATION  
CONSULTANTS, INC.

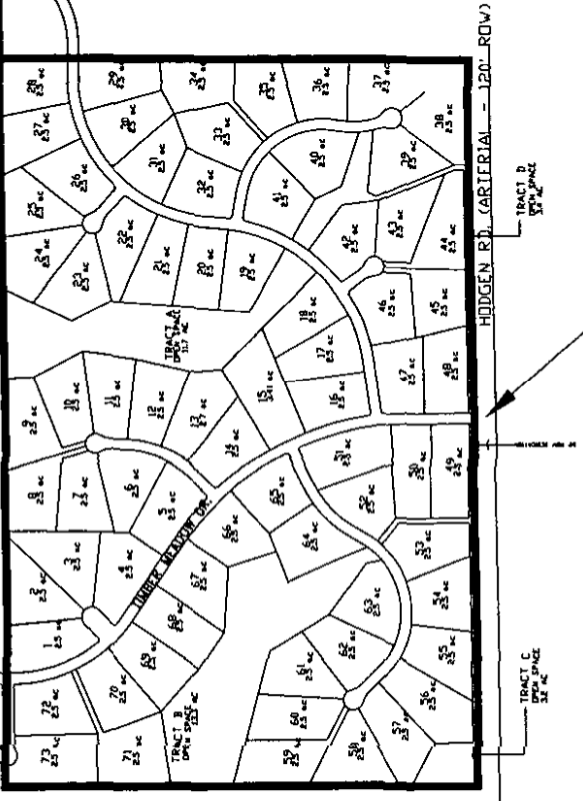
## Area Buildout of Land Use Settlers Ranch

Figure 2  
LSC # 036370

Full-movement access



Access connection



Planned full-movement access aligning with Timber Meadow Dr.



Not to Scale

**Site Plan**  
Settlers Ranch

**Figure 3**  
LSC # 036370



SECTION C

# Roadway and Traffic Conditions

---

## AREA STREETS AND ROADS

The major roadways in the vicinity of the site are shown in Figure 1 and described below:

- **Colorado State Highway 83** extends from Colorado Springs north to Parker and areas of southeast Denver. In the vicinity of the site it is classified as R-A, Regional Highway. At this location, SH 83 is a two-lane rural highway with two- to four-foot shoulders and a speed limit of 60 miles per hour (mph). The intersection with Hodgen Road is unsignalized with Stop-sign control for eastbound and westbound traffic. The intersection with Walden Way is also unsignalized with Stop-sign control for westbound traffic.
  
- **Hodgen Road** is a two-lane paved Major Arterial road with continuity from SH 83 on the west to Eastonville Road on the east. Hodgen Road terminates approximately 1,100 feet west of SH 83. The long-range plan shows that Hodgen Road is planned to be extended from its terminus west to connect to Baptist Road. The speed limit on Hodgen Road is generally 55 mph.
  
- **Walden Way/Timber Meadow Drive** is a local gravel road approximately 24 feet wide currently serving the residential areas northwest of the site. Walden Way is planned to be extended to the south through this site to connect with Timber Meadow Drive which will be extended north from Hodgen Road.

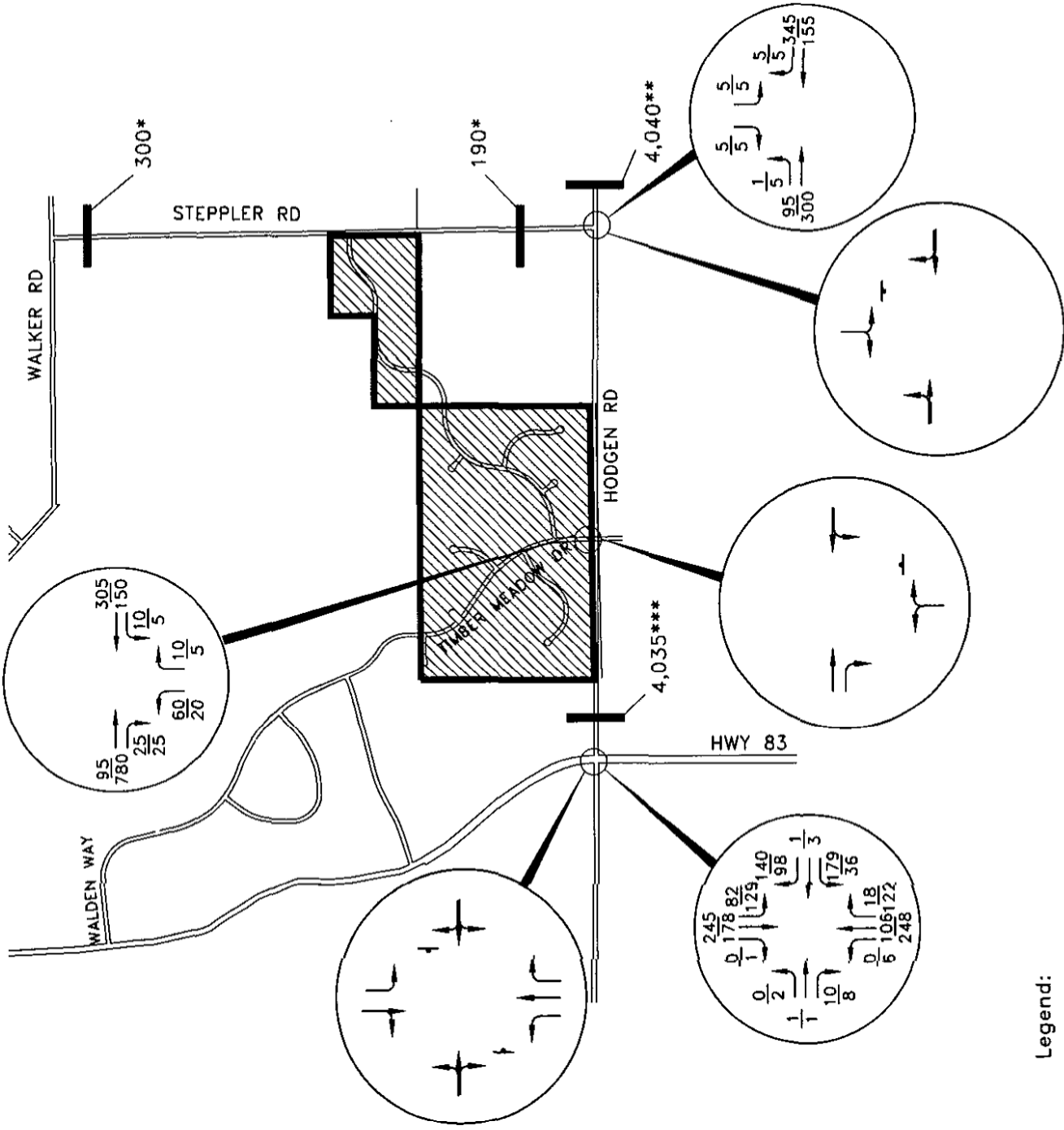
## EXISTING TRAFFIC AND LANE GEOMETRY

Figure 4 shows the existing lane geometry plus weekday morning and afternoon peak-hour traffic volumes. Traffic volumes at SH 83/Hodgen Road are based on data collected in June 2003. The raw count data are attached. Counts were not conducted at the intersection of SH 83/Hodgen Road as the volumes at this intersection will increase significantly with the buildout of the area east of SH 83 and south of Walker Road. Total volumes have been modeled with buildout land use and new connections.



## **EXISTING LEVEL OF SERVICE**

Intersection level of service is presented and discussed in Section F along with projected level of service. The intersection of Hodgen Road/SH 83 is currently operating at an acceptable level of service.



Legend:

xxx am  
xxx pm

- Weekday peak-hour traffic (vehicles per hour)  
(Based on counts by LSC June 2003 and July 2004)

XX,XXX - Average weekday traffic (vehicles per day)

\* (Based on counts by LSC July 2004)

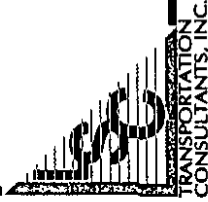
\*\* (Based on the LSC report of the Jergensen Parcel in 2000)

\*\*\* (Based on county data October 2003)

↓ - Stop sign

Not to Scale

Existing Traffic, Traffic Control and Lane Geometry Figure 4  
Settlers Ranch LSC # 036370



## SECTION D

# Trip Generation

---

The proposed Settlers Ranch development is expected to contain 86 single-family detached houses upon completion. The amount of traffic to be generated by Settlers Ranch has been estimated using nationally published trip generation rates by the Institute of Transportation Engineers (ITE) in its report *Trip Generation, 7<sup>th</sup> Edition, 2003*. Average weekday and peak-hour trips have been estimated. Table 1 shows the results of the trip generation estimate. As shown in the table, the development is expected to generate about 823 vehicle-trips on the average weekday (half entering and half exiting in a 24-hour period). During the morning peak hour, about 16 vehicles would enter and 48 vehicles would exit the site. During the afternoon peak hour, about 55 vehicles would enter and 32 vehicles would exit the site. The morning peak hour generally occurs for one hour between 6:30 and 8:30 a.m., and the afternoon peak hour occurs for one hour between 4:30 and 6:30 p.m.

**Table 1**  
**Trip Generation Estimate**  
*Settlers Ranch*

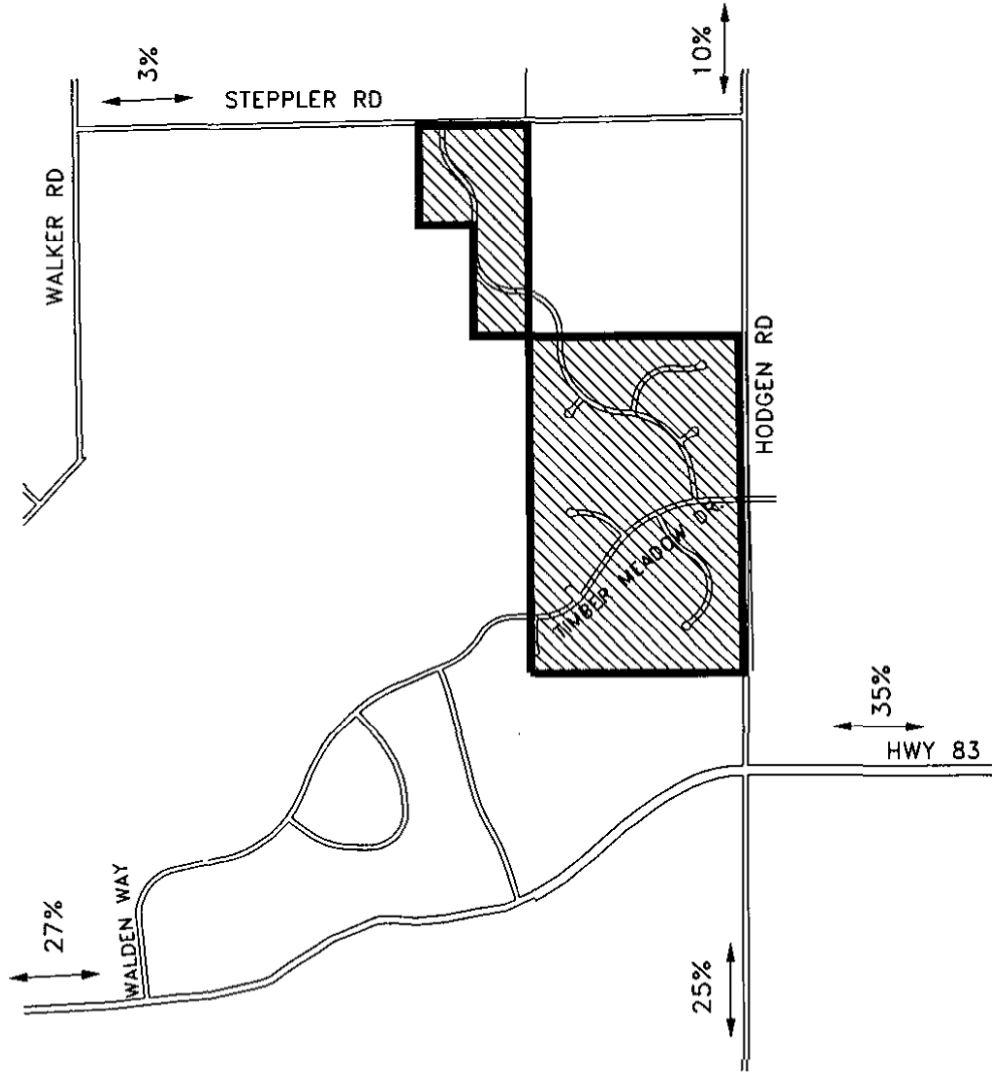
| Land Use Code   | Land Use Description           | Trip Generation Units | Trip Generation Rates <sup>(1)</sup> |                   |      |                     | Total Trips Generated |                         |                   |     |                     |     |
|---|--------------------------------|-----------------------|--------------------------------------|-------------------|------|---------------------|-----------------------|-------------------------|-------------------|-----|---------------------|-----|
|   |                                |                       | Average Weekday Traffic              | Morning Peak Hour |      | Afternoon Peak Hour |                       | Average Weekday Traffic | Morning Peak Hour |     | Afternoon Peak Hour |     |
|   |                                |                       |                                      | In                | Out  | In                  | Out                   |                         | In                | Out | In                  | Out |
| 210   | Single-Family Detached Housing | 86 DU                 | 9.57                                 | 0.19              | 0.56 | 0.64                | 0.37                  | 823                     | 16                | 48  | 55                  | 32  |
| Notes:<br>(1) Source: "Trip Generation," Institute of Transportation Engineers, 7 <sup>th</sup> ed., 2003.<br>(2) DU=Dwelling Units |                                |                       |                                      |                   |      |                     |                       |                         |                   |     |                     |     |
| Source: LSC Transportation Consultants, Inc.  |                                |                       |                                      |                   |      | Date: 08/05/04      |                       |                         |                   |     |                     |     |

## SECTION E

# Traffic Distribution and Assignment

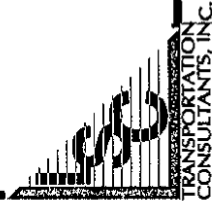
---

The directional distribution of site-generated traffic on the adjacent roadway system is an important factor in the determination of the traffic impacts of the site. The specific trip distribution estimates are shown in Figure 5. These estimates represent the percentages of site-generated traffic projected to be oriented to and from the major approaches to the site. This directional distribution estimate is based on the following factors: the location of the site with respect to the Colorado Springs metropolitan area and other developed areas; the roadway system serving the site with the new internal street connections in place; the land use proposed for the site; and existing traffic counts. In calculating the distribution, Hodgen Road was assumed to be connected to Baptist Road on the west, which is expected to be completed by the time Settlers Ranch is built out. The directional distribution has been revised slightly at the request of County DOT staff.



Legend:

XXX% - Percent of Directional distribution



**Directional Distribution of Site-Generated Traffic** Figure 5  
 Settlers Ranch LSC # 036370

## SECTION F

# Traffic Impacts

---

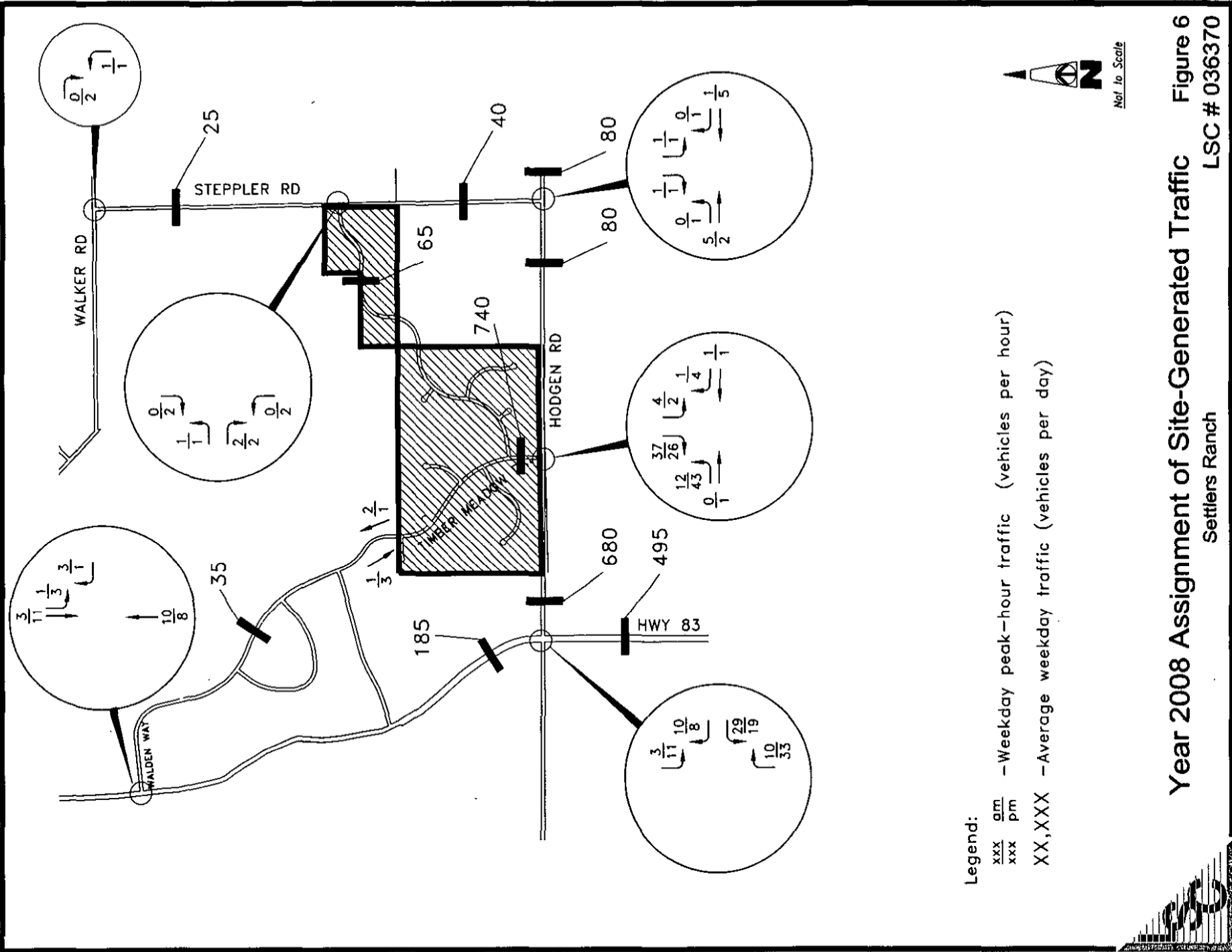
### **SITE-GENERATED TRAFFIC**

When the distribution percentages shown in Figure 5 are applied to the trip generation estimate shown in Table 1, the resulting site-generated traffic volumes can be determined. Figures 6 and 7 show the weekday morning and afternoon peak-hour, site-generated traffic volume estimates for Year 2008 and Year 2025, respectively.

### **PROJECTED FUTURE BACKGROUND TRAFFIC**

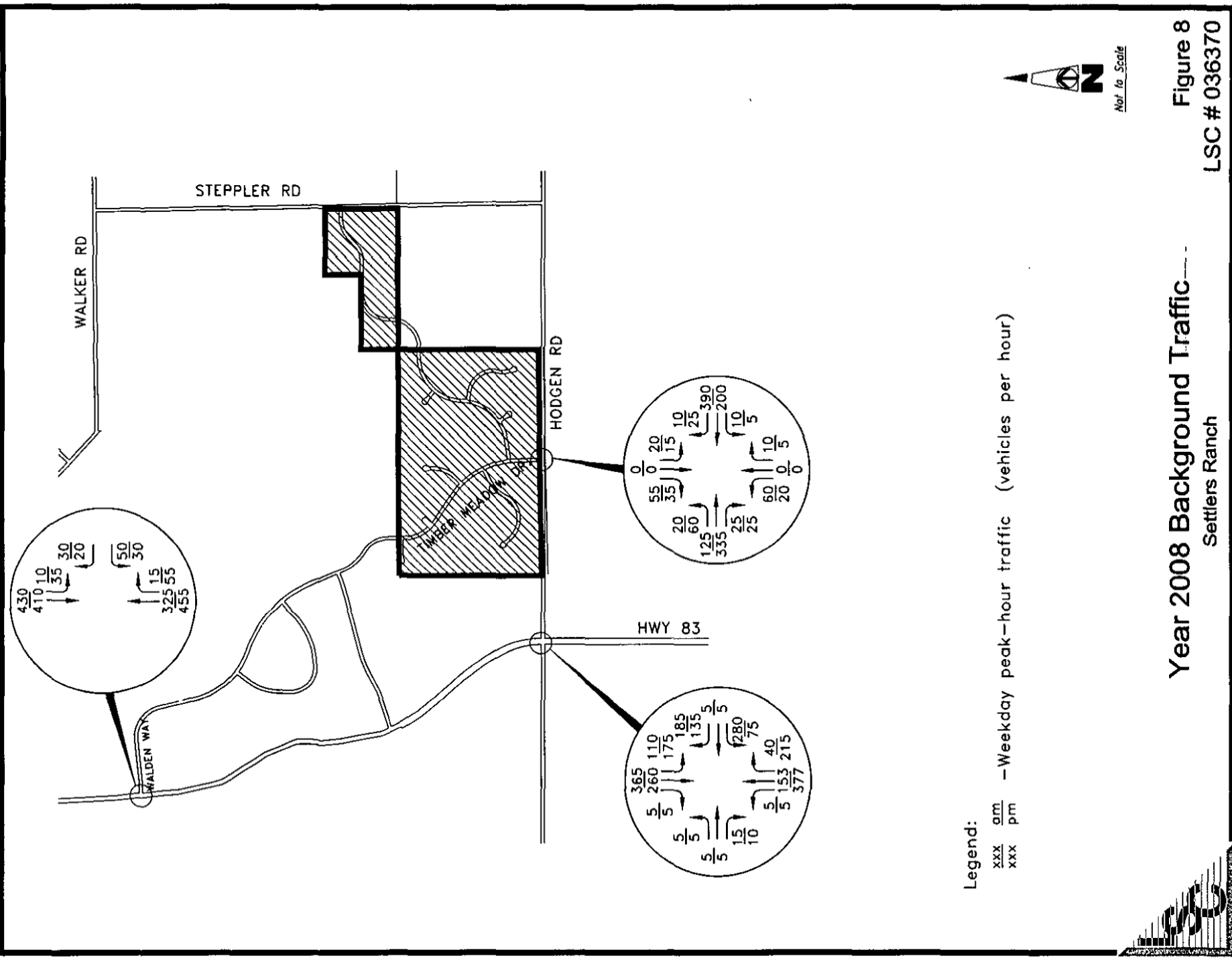
Figures 8 and 9 show the projected background traffic volumes for Year 2008 and Year 2025, respectively, on the adjacent street system. Background traffic is the traffic projected to be on the roadway system without consideration of the proposed Settlers Ranch development. Background traffic volumes include through traffic and traffic generated by the development of area vacant parcels, but assume zero traffic generated by the site.

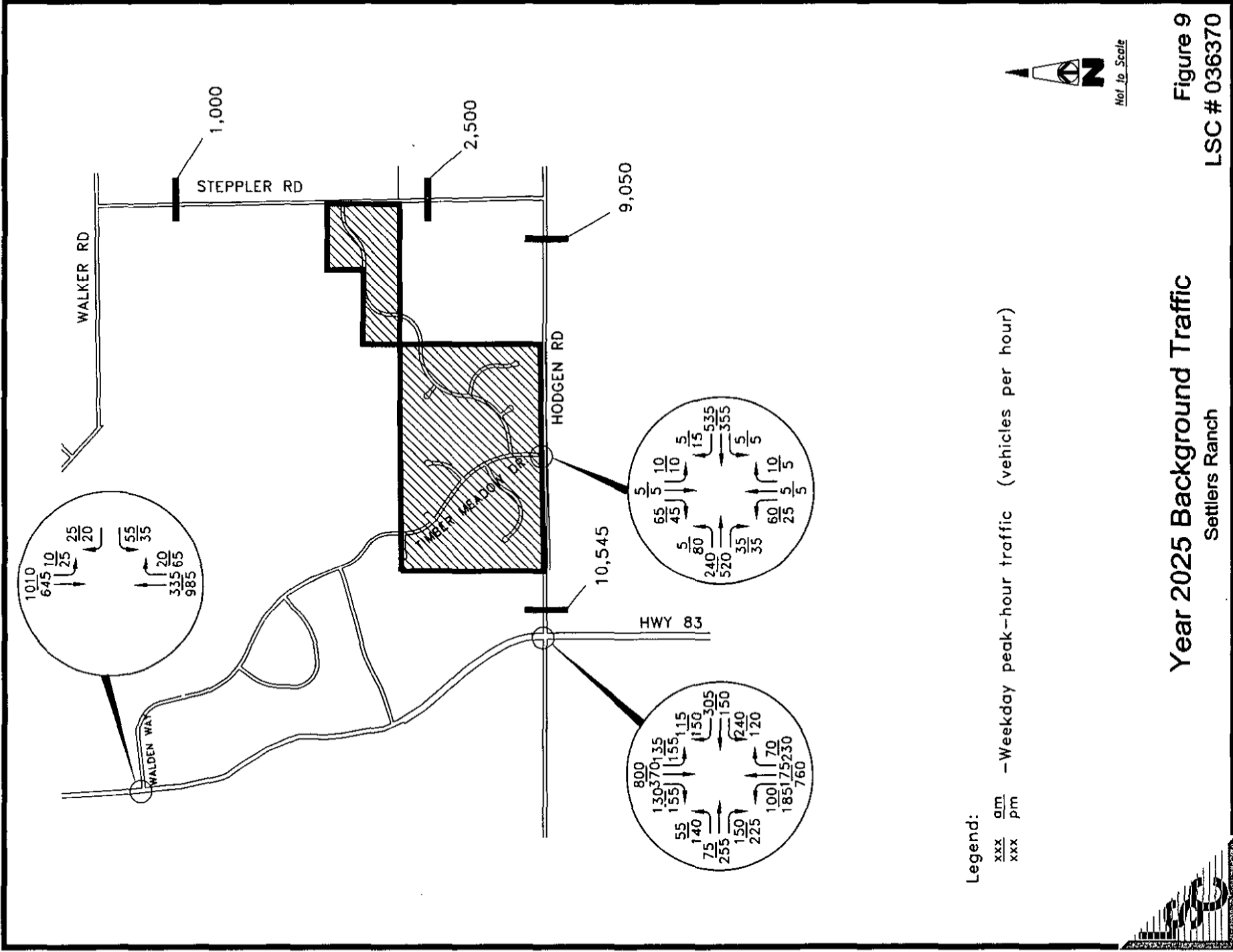
Estimates of Year 2008 traffic volumes at the intersection of SH 83/Hodgen Road have been developed by applying a growth factor of 1.28 (five percent growth per year) to existing traffic counts conducted by LSC in June 2003. Also, existing through traffic volumes on Hodgen Road were raised by applying a five percent annual growth rate. In addition, traffic expected to be generated by the Walden Village residential development on the northwest were also added to the background traffic. The undeveloped parcels just west of this site have also been assumed to be developed at a comparable density.











**Figure 9**  
LSC # 036370



Year 2008 and Year 2025 background traffic at SH 83/Hodgen Road and Hodgen Road/Timber Meadow Drive (future site access) was taken from the High Forest Ranch study. Since the volumes taken from the High Forest Ranch study were for Year 2020, a two percent annual growth rate was applied on Year 2020 volume to calculate Year 2025 volume.

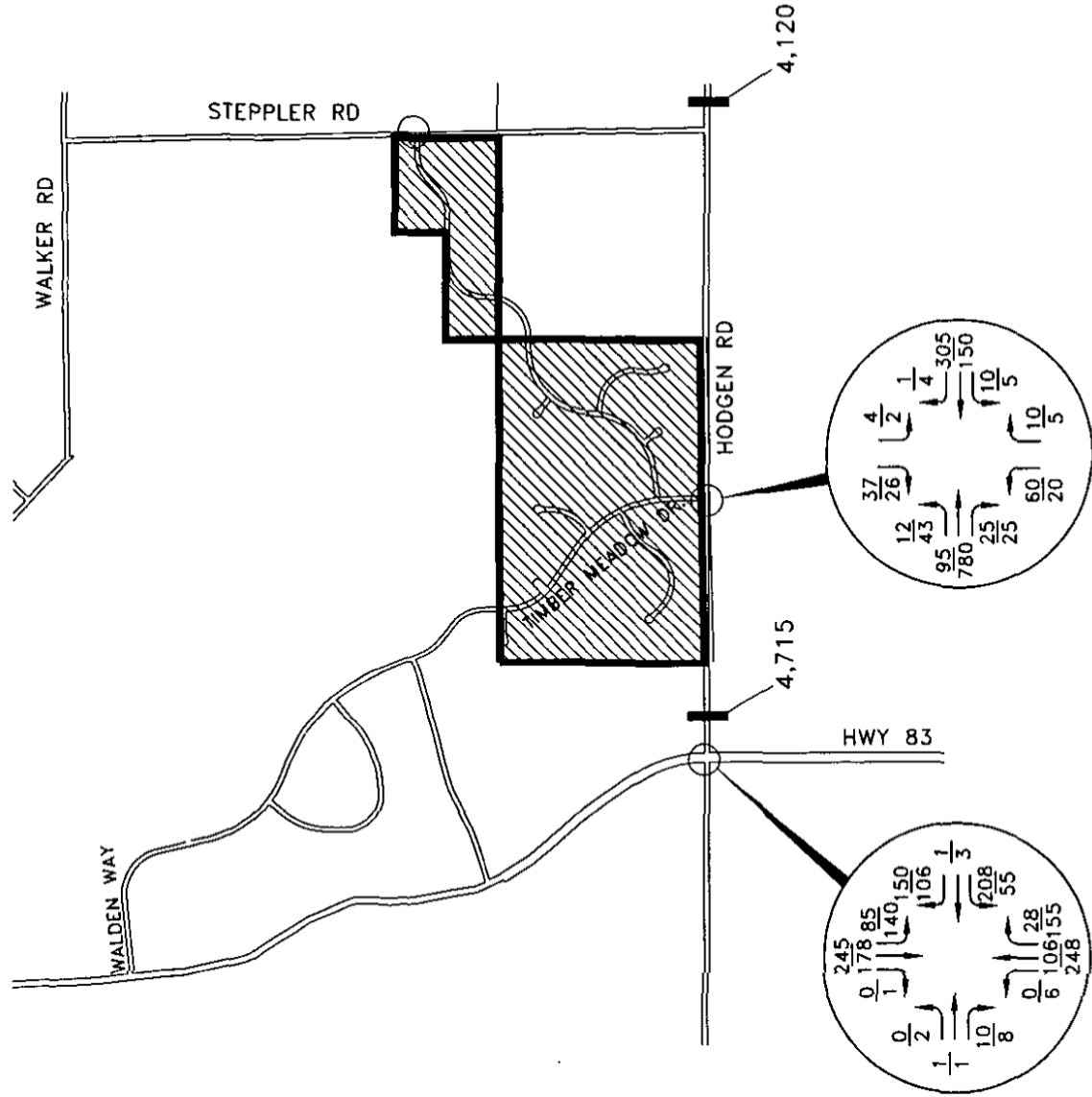
Traffic generated by the surrounding residential areas has been reassigned to the newly interconnected street network and added onto projected background traffic for Year 2008 and Year 2025. The *LSC Walden Village Traffic Impact Study* performed in July 2003 contains details about the traffic assumptions for the Walden subdivisions at buildout.

### **EXISTING PLUS SITE-GENERATED TRAFFIC**

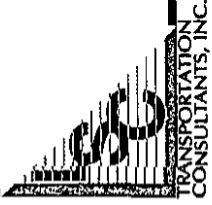
Figure 10 shows the sum of existing traffic volumes plus site-generated traffic volumes. These volumes identify the immediate impacts of the development.

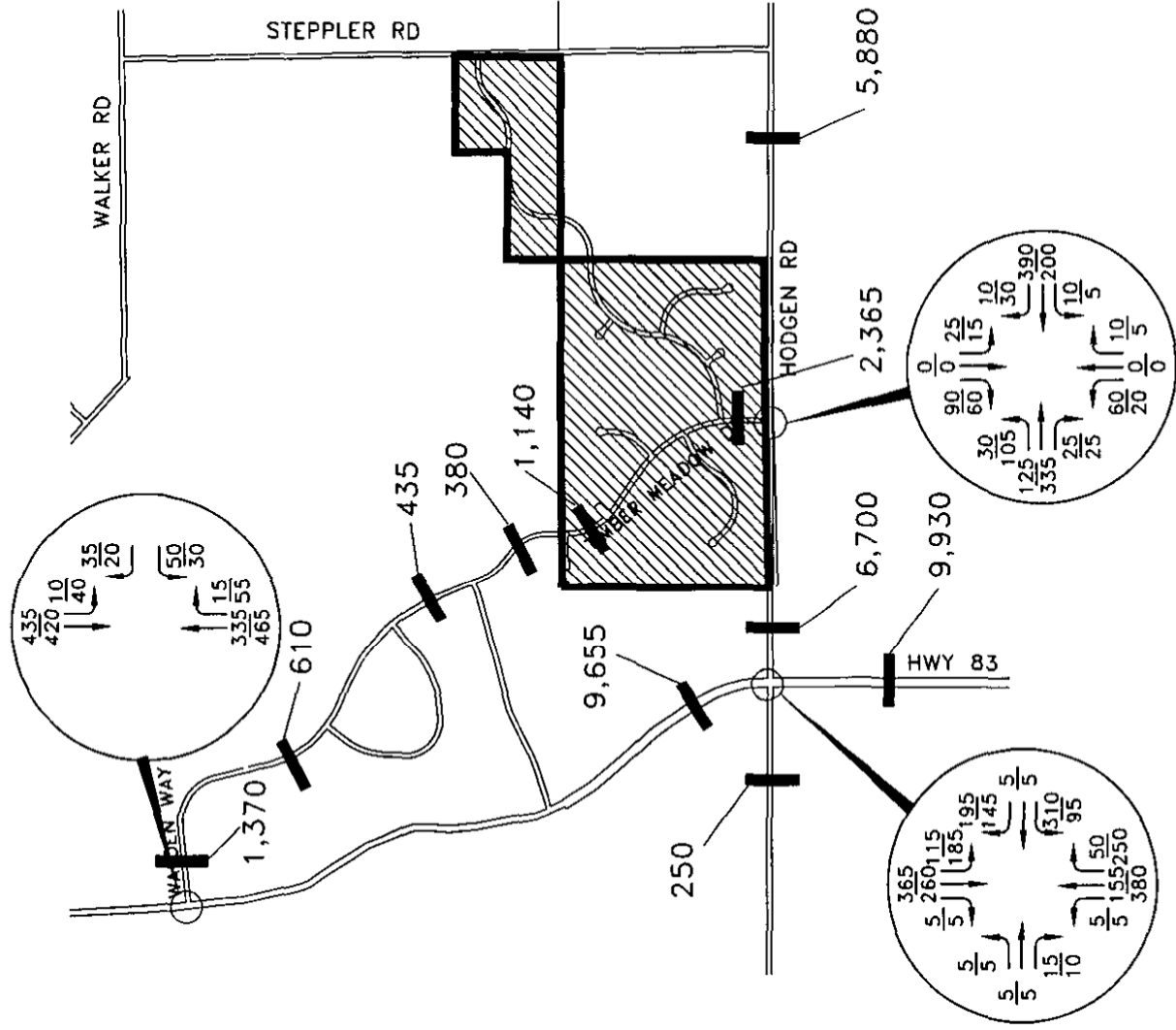
### **YEAR 2008 AND YEAR 2025 TOTAL TRAFFIC**

Total traffic volumes for Year 2008 and Year 2025 are shown in Figures 11 and 12, respectively. Total traffic volumes are the sum of background traffic volumes from Figures 8 and 9 plus site-generated traffic volumes from Figures 6 and 7, respectively.



Existing Plus Site-Generated Traffic  
Settlers Ranch



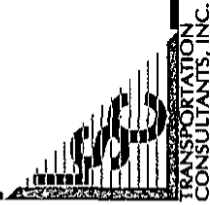


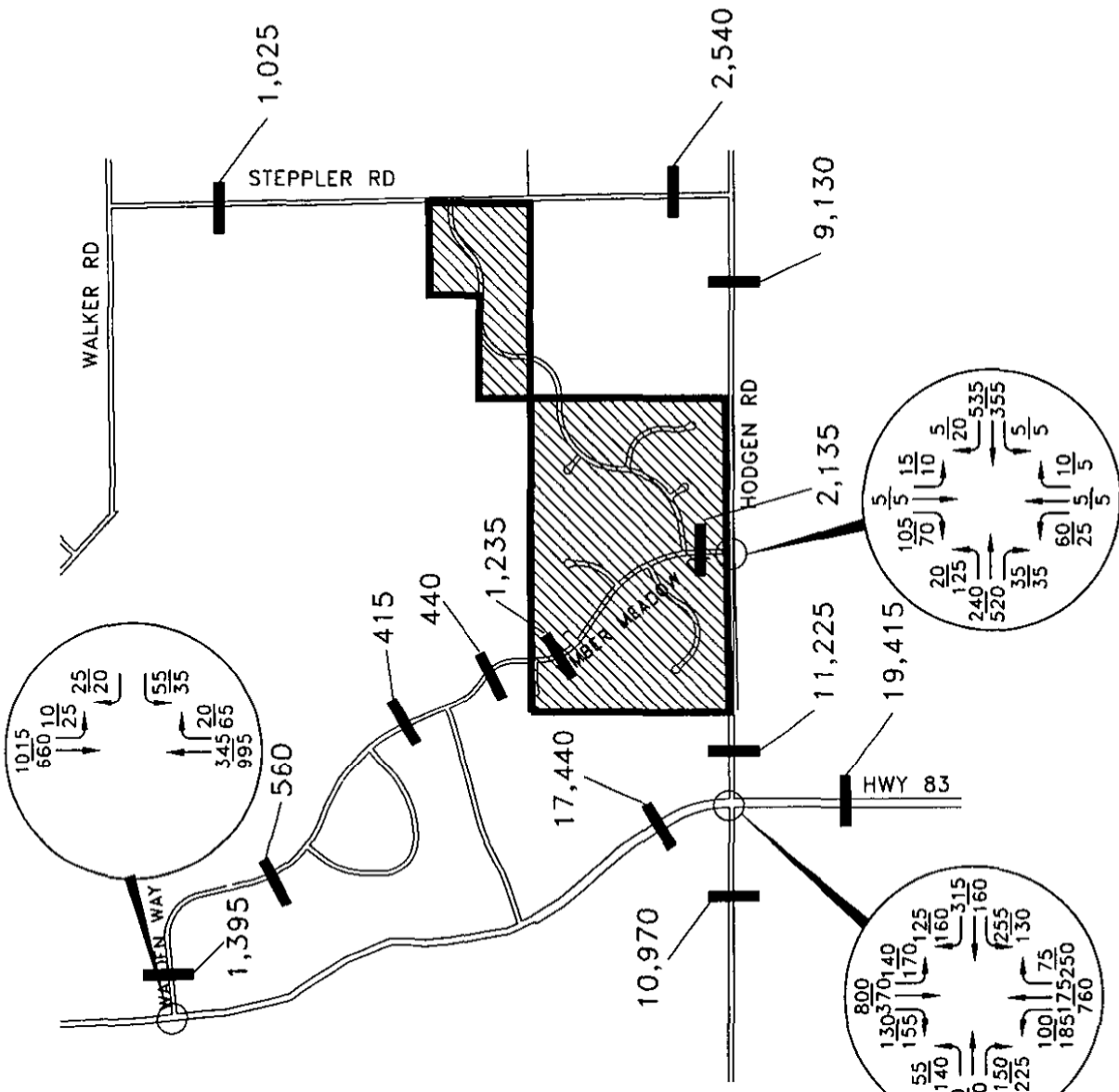
Legend:  
 xxx am - Weekday peak-hour traffic (vehicles per hour)  
 xxx pm - Weekday peak-hour traffic (vehicles per hour)  
 XX,XXX - Average week-day traffic (vehicles per day)



Year 2008 Total Traffic  
 Settlers Ranch

Figure 11  
 LSC # 036370



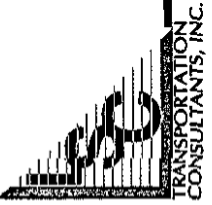


Legend:  
 xxx am - Weekday peak-hour traffic (vehicles per hour)  
 xxx pm - Average weekday traffic (vehicles per day)  
 XX,XXX - Average weekday traffic (vehicles per day)



Year 2025 Total Traffic  
 Settlers Ranch

Figure 12  
 LSC # 036370



## INTERSECTION LEVEL OF SERVICE

The intersections of SH 83/Hodgen Road and Hodgen Road/Timber Meadow Drive have been analyzed to determine the projected levels of service based on procedures outlined in the 2000 *Highway Capacity Manual*, using the unsignalized and signalized operations method of analysis. Table 2 shows the results of the level of service analysis, and the level of service calculation sheets are attached. Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from “A” to “F.” Level of Service A is indicative of very little congestion or delay, and Level of Service F is indicative of a high level of congestion or delay. Unsignalized intersection level of service is expressed in terms of the levels of service of specific turning movements/approaches—most notably, the minor street approach.

- **SH 83/Hodgen Road:** This intersection is currently operating at LOS D or better for all movements during both morning and evening peak hours. Under the Year 2008 traffic condition, this unsignalized intersection will operate at a LOS F for the westbound approach during the morning peak hour with or without the addition of site-generated traffic. However, this intersection is expected to be signalized, and as a signalized intersection it is expected to operate at LOS D or better for all movements during both morning and evening peak hours with or without the addition of site-generated traffic through Year 2025. Site-generated traffic will increase the delay by six seconds.
- **Hodgen Road/Timber Meadow Drive:** This unsignalized intersection is expected to operate at an acceptable LOS C or better for all movements (except northbound approach) through Year 2025 during both the morning and evening peak hours with or without the addition of site-generated traffic. The northbound approach will operate at LOS F during the evening peak hour of Year 2025.



**Table 2  
Level of Service  
Settlers Ranch**

| Intersection         | Traffic Control     | Existing               |            | Existing Plus Site-Generated |            | 2008 Background |            | 2008 Total |            | 2025 Background |            | 2025 Total |            |
|----------------------|---------------------|------------------------|------------|------------------------------|------------|-----------------|------------|------------|------------|-----------------|------------|------------|------------|
|                      |                     | AM                     | PM         | AM                           | PM         | AM              | PM         | AM         | PM         | AM              | PM         | AM         | PM         |
| SH 83/Hodgen         | TWSC <sup>(1)</sup> | D<br>WB <sup>(2)</sup> | B<br>WB/EB | E<br>WB                      | C<br>WB    | ---             | ---        | ---        | ---        | ---             | ---        | ---        | ---        |
|                      | Signal              | ---                    | ---        | ---                          | ---        | C               | B          | C          | B          | C               | C          | C          | C          |
| Hodgen/Timber Meadow | TWSC                | B<br>NB                | C<br>NB    | C<br>NB LT                   | E<br>NB LT | C<br>NB LT      | C<br>NB LT | C<br>NB LT | C<br>NB LT | D<br>NB LT      | E<br>NB LT | E<br>NB LT | F<br>NB LT |

<sup>(1)</sup> TWSC - Two-way Stop-sign control

<sup>(2)</sup> Worst case turning movement level of service –

NB - northbound, SB - southbound, EB - eastbound, LT - left-turn movement

**LSC Transportation Consultants, Inc.**

## **TRAFFIC SIGNAL WARRANT ANALYSIS**

The intersection of SH 83/Hodgen Road would likely meet Four-Hour Vehicular Volume Traffic Signal warrants as outlined in the *Manual on Uniform Traffic Control Devices* (MUTCD) by 2008. The four hours analyzed were 6:30 to 7:30 a.m., 7:30 to 8:30 a.m., 4:30 to 5:30 p.m., and 5:30 to 6:30 p.m. The traffic signal warrant graph is included in the Appendix. The satisfaction of a warrant does not in itself require the installation of a signal. The decision to signalize this intersection and the timing of the installation would need to be made by the Colorado Department of Transportation.

## **AVERAGE DAILY TRAFFIC IMPACTS**

Each of the figures show projected average daily traffic volumes on roadway sections.

## Conclusions and Recommendations

---

### TRIP GENERATION

The Settlers Ranch development is expected to generate about 823 new vehicle-trips on the average weekday (half entering and half exiting in a 24-hour period). During the morning peak hour, about 16 vehicles would enter and 48 vehicles would exit the site. During the afternoon peak hour, about 55 vehicles would enter and 32 vehicles would exit the site. The morning peak hour generally occurs for one hour between 6:30 and 8:30 a.m., and the afternoon peak hour occurs for one hour between 4:30 and 6:30 p.m.

### AVERAGE DAILY TRAFFIC IMPACTS

The figures show projected average daily traffic volumes on roadway sections within Walden.

### INTERSECTION LEVELS OF SERVICE AND RECOMMENDATIONS

The recommended traffic control and lane geometry for Year 2008 and Year 2025 are shown in Figures 13 and 14, respectively.

#### Hodgen Road/SH 83 Intersection

The westbound approach at the intersection of SH 83/Hodgen Road, which is currently a single-lane approach, will operate at LOS F during both the morning and evening peak hours of Year 2008 with or without the addition of site-generated traffic (assumes the Walden Way/Timber Meadow Drive connection to Hodgen has been made). Regarding improvements on the westbound approach to SH 83, one possible solution to improve the level of service and capacity prior to the extension of Hodgen to Baptist could be to add a westbound right-turn lane. This would separate the westbound right turns and westbound left turns into separate lanes. This would be a short-term improvement, as once Hodgen is extended west to Baptist Road, the County will need to construct separate lanes

for each turning movement eastbound and westbound as part of that project. This intersection will certainly require signalization in the future, and timing of signalization should be based on MUTCD signal warrants. The study shows this intersection will meet a peak-hour signal warrant by Year 2008.

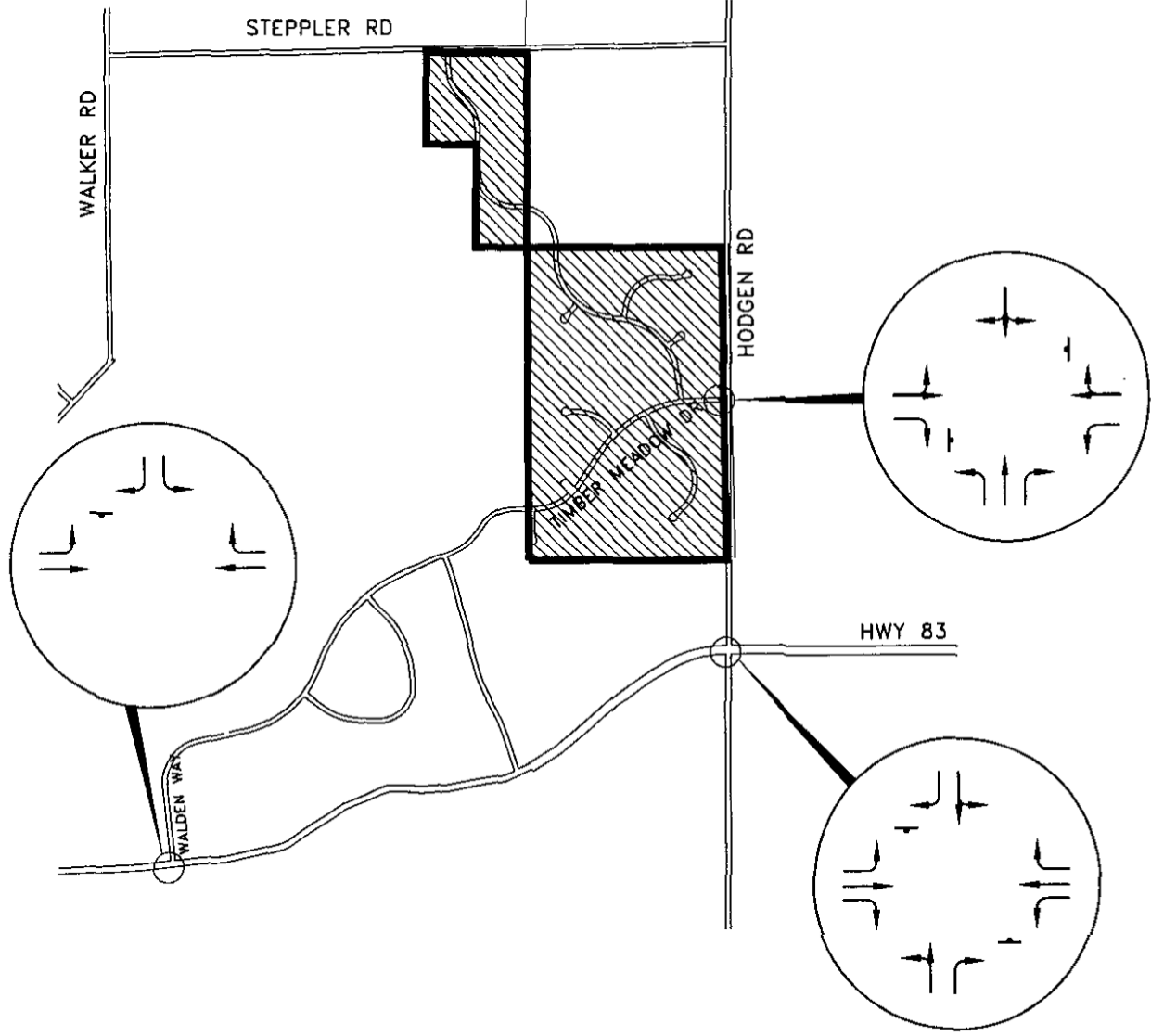
### **Hodgen Road/Timber Meadow Drive**

The future intersection of Hodgen Road/Timber Meadow Drive will operate at an acceptable LOS D or better for all the movements during both morning and evening peak hours with or without the addition of site-generated traffic through Year 2025 with the recommended lane geometry shown in Figure 14. The following turn lanes are necessary upon connection to Hodgen Road according to the County Access Code—widening of Hodgen to provide an eastbound left-turn lane and a westbound right-turn acceleration lane will be required. Regarding the need for a westbound right-turn deceleration lane, current estimates show the projected right-turn volume at a level below the threshold of 25 vehicles per hour. As the projected volume is close to the threshold volume, and Hodgen Road is a significant east/west Arterial with a posted speed of 55 mph, the County may require that funds be placed in escrow amounting to a proportionate share of the cost of future construction of this lane.

### **COST RECOVERY AGREEMENT**

A cost recovery agreement should be implemented and administered by the County as a mechanism to allow this developer to be reimbursed a portion of the cost for any of the above improvements constructed that also benefit any developments that may follow the development of Settlers Ranch.

2008 volumes shown assume Hodgen not yet extended to Baptist Road. Although it is our understanding that this connection is planned to occur prior to 2008, CDOT has no assurances that this connection will occur and needs to have a baseline for the percentage contribution to the cost of a signal. Should the County extend Hodgen to Baptist as expected prior to 2008, and the signal is installed as part of that project, the amount escrowed for the signal should be returned to the developer or the percentage contribution reevaluated.



Legend:

↓ - Stop sign



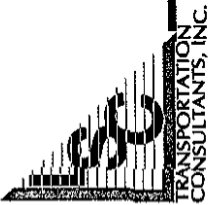
Not to Scale

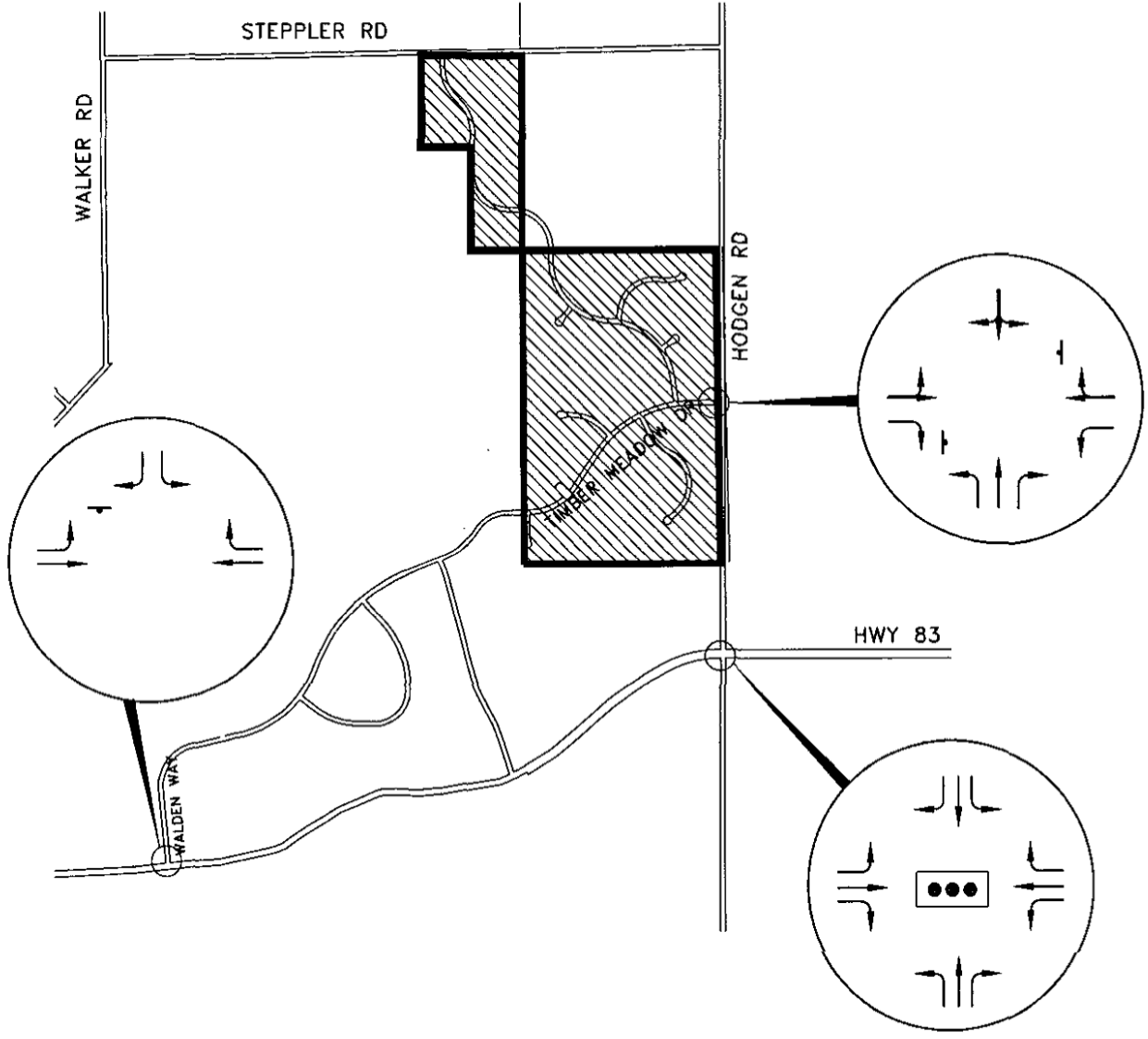
# Short-Term Lane Geometry

Settlers Ranch

Figure 13

LSC # 036370





- Legend:
- ⊥ - Stop sign
  - ⬆ ⬇ ⬆ - Traffic Signal

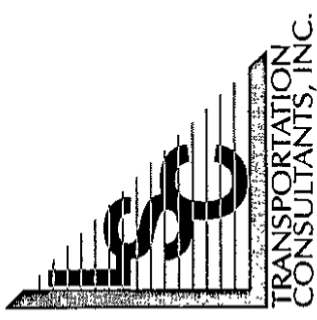
## Long-Term Lane Geometry

Settlers Ranch

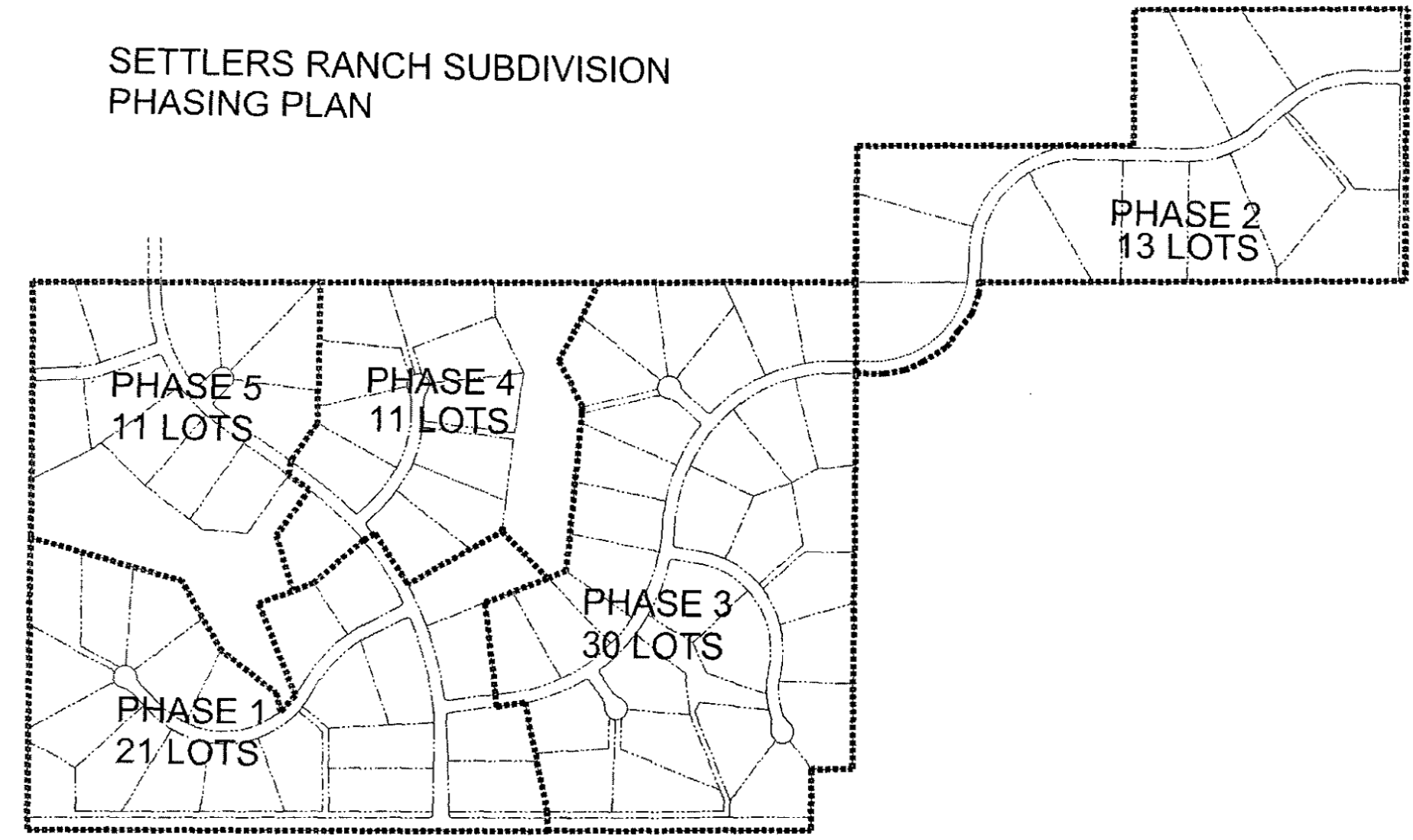
Figure 14  
LSC # 036370



# Appendix



# SETTLERS RANCH SUBDIVISION PHASING PLAN

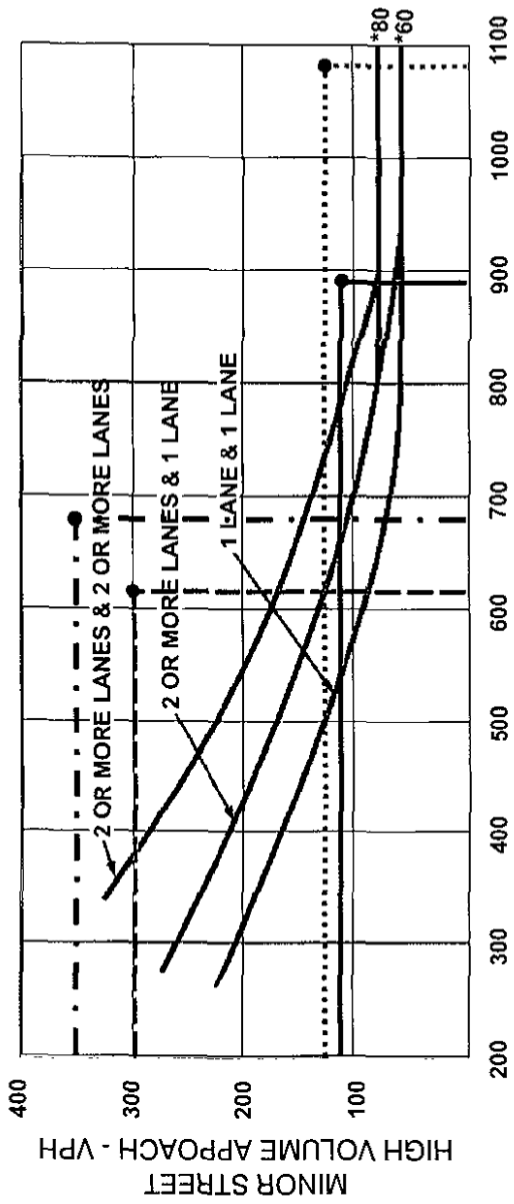




State Hwy 83 / Hodgen Rd.

Signal Warrant Chart  
 Warrant 2 - Four-Hour Vehicular Volume (70% Factor)

2008 Total Traffic



MAJOR STREET - TOTAL OF BOTH APPROACHES - (MPH)

\*Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

Approach volumes include right-turning vehicles in exclusive right-turn lanes on the major street

Original graphs taken from Manual on Uniform Traffic Controls, 2000

- 6:30-7:30 A.M.
- - - 7:30-8:30 A.M.
- ..... 4:30-5:30 P.M.
- \_\_\_\_\_ 5:30-6:30 P.M.

HCM Unsignalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

Settlers Ranch (LSC # 036270)  
 AM Existing



| Movement                          | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations               | ↔     |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      |
| Sign Control                      | Stop  |      |      | Stop |      |      | Free |      |      | Free |      |      |
| Grade                             | 0%    |      |      | 0%   |      |      | 0%   |      |      | 0%   |      |      |
| Volume (veh/h)                    | 0     | 1    | 10   | 179  | 1    | 140  | 0    | 106  | 18   | 82   | 245  | 0    |
| Peak Hour Factor                  | 0.45  | 0.45 | 0.45 | 0.89 | 0.89 | 0.89 | 0.81 | 0.81 | 0.81 | 0.88 | 0.88 | 0.88 |
| Hourly flow rate (vph)            | 0     | 2    | 22   | 201  | 1    | 157  | 0    | 131  | 22   | 93   | 278  | 0    |
| Pedestrians                       |       |      |      |      |      |      |      |      |      |      |      |      |
| Lane Width (ft)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| Walking Speed (ft/s)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Percent Blockage                  |       |      |      |      |      |      |      |      |      |      |      |      |
| Right turn flare (veh)            |       |      |      |      |      |      |      |      |      |      |      |      |
| Median type                       | None  |      |      |      |      |      |      |      |      |      |      |      |
| Median storage veh                |       |      |      |      |      |      |      |      |      |      |      |      |
| Upstream signal (ft)              |       |      |      |      |      |      |      |      |      |      |      |      |
| pX, platoon unblocked             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC, conflicting volume            | 754   | 618  | 278  | 619  | 596  | 131  | 278  | 153  |      |      |      |      |
| vC1, stage 1 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC2, stage 2 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vCu, unblocked vol                | 754   | 618  | 278  | 619  | 596  | 131  | 278  | 153  |      |      |      |      |
| tC, single (s)                    | 7.1   | 6.5  | 6.2  | 7.1  | 6.5  | 6.2  | 4.1  | 4.1  |      |      |      |      |
| tC, 2 stage (s)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| tF (s)                            | 3.5   | 4.0  | 3.3  | 3.5  | 4.0  | 3.3  | 2.2  | 2.2  |      |      |      |      |
| p0 queue free %                   | 100   | 99   | 97   | 45   | 100  | 83   | 100  | 93   |      |      |      |      |
| cM capacity (veh/h)               | 256   | 379  | 760  | 368  | 390  | 919  | 1284 | 1427 |      |      |      |      |
| Direction Lane #                  | EB1   | WB1  | NB1  | NB2  | NB3  | SB1  | SB2  |      |      |      |      |      |
| Volume Total                      | 24    | 360  | 0    | 131  | 22   | 93   | 278  |      |      |      |      |      |
| Volume Left                       | 0     | 201  | 0    | 0    | 0    | 93   | 0    |      |      |      |      |      |
| Volume Right                      | 22    | 157  | 0    | 0    | 22   | 0    | 0    |      |      |      |      |      |
| cSH                               | 697   | 499  | 1700 | 1700 | 1700 | 1427 | 1700 |      |      |      |      |      |
| Volume to Capacity                | 0.04  | 0.72 | 0.00 | 0.08 | 0.01 | 0.07 | 0.16 |      |      |      |      |      |
| Queue Length 95th (ft)            | 3     | 145  | 0    | 0    | 0    | 5    | 0    |      |      |      |      |      |
| Control Delay (s)                 | 10.4  | 28.6 | 0.0  | 0.0  | 0.0  | 7.7  | 0.0  |      |      |      |      |      |
| Lane LOS                          | B     | D    | A    |      |      |      |      |      |      |      |      |      |
| Approach Delay (s)                | 10.4  | 28.6 | 0.0  | 1.9  |      |      |      |      |      |      |      |      |
| Approach LOS                      | B     | D    | A    |      |      |      |      |      |      |      |      |      |
| Intersection Summary              |       |      |      |      |      |      |      |      |      |      |      |      |
| Average Delay                     | 12.4  |      |      |      |      |      |      |      |      |      |      |      |
| Intersection Capacity Utilization | 44.8% |      |      |      |      |      |      |      |      |      |      |      |
| Analysis Period (min)             | 15    |      |      |      |      |      |      |      |      |      |      |      |
| ICU Level of Service              | A     |      |      |      |      |      |      |      |      |      |      |      |

HCM Unsignalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

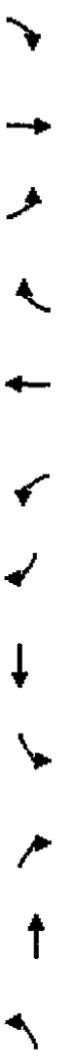
Settlers Ranch (LSC # 036370)  
 PM Existing



| Movement                          | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations               | 4     |      |      | 4    |      |      | ↑    |      |      | ↑    |      |      |
| Sign Control                      | Stop  |      |      | Stop |      |      | Free |      |      | Free |      |      |
| Grade                             | 0%    |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)                    | 2     | 1    | 8    | 36   | 3    | 98   | 6    | 248  | 122  | 129  | 178  | 1    |
| Peak Hour Factor                  | 0.68  | 0.68 | 0.68 | 0.90 | 0.90 | 0.90 | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 3     | 1    | 12   | 40   | 3    | 109  | 6    | 264  | 130  | 143  | 198  | 1    |
| Pedestrians                       |       |      |      |      |      |      |      |      |      |      |      |      |
| Lane Width (ft)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| Walking Speed (ft/s)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Percent Blockage                  |       |      |      |      |      |      |      |      |      |      |      |      |
| Right turn flare (veh)            |       |      |      |      |      |      |      |      |      |      |      |      |
| Median type                       | None  |      |      |      |      |      |      |      |      |      |      |      |
| Median storage (veh)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Upstream signal (ft)              |       |      |      |      |      |      |      |      |      |      |      |      |
| pX, platoon unblocked             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC, conflicting volume            | 872   | 891  | 198  | 774  | 762  | 264  | 199  |      |      |      |      | 394  |
| vC1, stage 1 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC2, stage 2 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vCu, unblocked vol                | 872   | 891  | 198  | 774  | 762  | 264  | 199  |      |      |      |      | 394  |
| tC, single (s)                    | 7.1   | 6.5  | 6.2  | 7.1  | 6.5  | 6.2  | 4.1  |      |      |      |      | 4.1  |
| tC, 2 stage (s)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| tF (s)                            | 3.5   | 4.0  | 3.3  | 3.5  | 4.0  | 3.3  | 2.2  |      |      |      |      | 2.2  |
| p0 queue free %                   | 99    | 99   | 99   | 86   | 99   | 86   | 100  |      |      |      |      | 88   |
| cM capacity (veh/h)               | 208   | 246  | 843  | 280  | 292  | 775  | 1373 |      |      |      |      | 1165 |
| Direction, Lane #                 | EB1   | WB1  | NB1  | NB2  | NB3  | SB1  | SB2  |      |      |      |      |      |
| Volume Total                      | 16    | 152  | 6    | 264  | 130  | 143  | 199  |      |      |      |      |      |
| Volume Left                       | 3     | 40   | 6    | 0    | 0    | 143  | 0    |      |      |      |      |      |
| Volume Right                      | 12    | 109  | 0    | 0    | 130  | 0    | 1    |      |      |      |      |      |
| cSH                               | 475   | 516  | 1373 | 1700 | 1700 | 1165 | 1700 |      |      |      |      |      |
| Volume to Capacity                | 0.03  | 0.29 | 0.00 | 0.16 | 0.08 | 0.12 | 0.12 |      |      |      |      |      |
| Queue Length 95th (ft)            | 3     | 31   | 0    | 0    | 0    | 10   | 0    |      |      |      |      |      |
| Control Delay (s)                 | 12.8  | 14.9 | 7.6  | 0.0  | 0.0  | 8.5  | 0.0  |      |      |      |      |      |
| Lane LOS                          | B     | B    | A    | A    | A    | A    | A    |      |      |      |      |      |
| Approach Delay (s)                | 12.8  | 14.9 | 0.1  |      |      | 3.6  |      |      |      |      |      |      |
| Approach LOS                      | B     | B    | B    |      |      | B    |      |      |      |      |      |      |
| Intersection Summary              |       |      |      |      |      |      |      |      |      |      |      |      |
| Average Delay                     | 4.1   |      |      |      |      |      |      |      |      |      |      |      |
| Intersection Capacity Utilization | 42.9% |      |      |      |      |      |      |      |      |      |      |      |
| Analysis Period (min)             | 15    |      |      |      |      |      |      |      |      |      |      |      |
| ICU Level of Service              | A     |      |      |      |      |      |      |      |      |      |      |      |

HCM Unsignalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

Hodgen Settlers Ranch (LSC # 036370)  
 AM Existing Plus Site Generated Traffic



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Sign: Control          |      | Stop |      |      | Stop |      |      | Free |      |      | Free |      |
| Grade                  |      | 0%   |      |      | 0%   |      |      | 0%   |      |      | 0%   |      |
| Volume (veh/h)         | 0    | 1    | 10   | 208  | 1    | 150  | 0    | 106  | 28   | 85   | 245  | 0    |
| Peak Hour Factor       | 0.45 | 0.45 | 0.45 | 0.89 | 0.89 | 0.89 | 0.81 | 0.81 | 0.81 | 0.88 | 0.88 | 0.88 |
| Hourly flow rate (vph) | 0    | 2    | 22   | 234  | 1    | 169  | 0    | 131  | 35   | 97   | 278  | 0    |

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type: None

Median storage (veh)

Upstream signal (ft)

pX, platoon unblocked

vC, conflicting volume: 772 637 278 626 602 131 278 165

vC1, stage 1 conf vol

vC2, stage 2 conf vol

vCu, unblocked vol: 772 637 278 626 602 131 278 165

tC, single (s): 7.1 6.5 6.2 7.1 6.5 6.2 4.1 4.1

tC, 2 stage (s)

tE (s): 3.5 4.0 3.3 3.5 4.0 3.3 2.2 2.2

p0 queue free %: 100 99 97 36 100 82 100 93

cM capacity (veh/h): 245 368 760 363 385 919 1284 1413

Direction, Lane # EB1 WB1 NB1 NB2 NB3 SB1 SB2

Volume Total: 24 403 0 131 35 97 278

Volume Left: 0 234 0 0 0 97 0

Volume Right: 22 169 0 0 35 0 0

cSH: 693 486 1700 1700 1700 1413 1700

Volume to Capacity: 0.04 0.83 0.00 0.08 0.02 0.07 0.16

Queue Length 95th (ft): 3 204 0 0 0 5 0

Control Delay (s): 10.4 39.1 0.0 0.0 0.0 7.7 0.0

Lane LOS: B E A

Approach Delay (s): 10.4 39.1 0.0 2.0

Approach LOS: B E

Intersection Summary

Average Delay: 17.3

Intersection Capacity Utilization: 47.0% ICU Level of Service: A

Analysis Period (min): 15

HCM Unsignalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

Settlers Ranch (LSC # 036370)  
 PM Existing plus Site-Generated



| Movement                          | EBL     | EBT  | EBR  | WBL     | WBT  | WBR  | NBL     | NBT  | NBR  | SBL     | SBT  | SBR  |
|-----------------------------------|---------|------|------|---------|------|------|---------|------|------|---------|------|------|
| Lane Configurations               | 4P      |      |      | 4P      |      |      | 4P      |      |      | 4P      |      |      |
| Sign/Control                      | Stop 0% |      |      | Stop 0% |      |      | Free 0% |      |      | Free 0% |      |      |
| Grade                             | 0%      |      |      |         |      |      |         |      |      |         |      |      |
| Volume (veh/h)                    | 2       | 1    | 8    | 55      | 3    | 106  | 6       | 248  | 155  | 140     | 178  | 1    |
| Peak Hour Factor                  | 0.68    | 0.68 | 0.68 | 0.90    | 0.90 | 0.90 | 0.94    | 0.94 | 0.94 | 0.90    | 0.90 | 0.90 |
| Hourly flow rate (vph)            | 3       | 1    | 12   | 61      | 3    | 118  | 6       | 264  | 165  | 156     | 198  | 1    |
| Pedestrians                       |         |      |      |         |      |      |         |      |      |         |      |      |
| Lane Width (ft)                   |         |      |      |         |      |      |         |      |      |         |      |      |
| Walking Speed (ft/s)              |         |      |      |         |      |      |         |      |      |         |      |      |
| Percent Blockage                  |         |      |      |         |      |      |         |      |      |         |      |      |
| Right turn flare (veh)            |         |      |      |         |      |      |         |      |      |         |      |      |
| Median type                       | None    |      |      |         |      |      |         |      |      |         |      |      |
| Median storage (veh)              |         |      |      |         |      |      |         |      |      |         |      |      |
| Upstream signal (ft)              |         |      |      |         |      |      |         |      |      |         |      |      |
| pX, platoon unblocked             |         |      |      |         |      |      |         |      |      |         |      |      |
| vC, conflicting volume            | 905     | 951  | 198  | 798     | 787  | 264  | 199     |      |      |         |      | 429  |
| vC1, stage 1 conf vol             |         |      |      |         |      |      |         |      |      |         |      |      |
| vC2, stage 2 conf vol             |         |      |      |         |      |      |         |      |      |         |      |      |
| vCu, unblocked vol                | 905     | 951  | 198  | 798     | 787  | 264  | 199     |      |      |         |      | 429  |
| tC, single (s)                    | 7.1     | 6.5  | 6.2  | 7.1     | 6.5  | 6.2  | 4.1     |      |      |         |      | 4.1  |
| tC, 2 stage (s)                   |         |      |      |         |      |      |         |      |      |         |      |      |
| tE (s)                            | 3.5     | 4.0  | 3.3  | 3.5     | 4.0  | 3.3  | 2.2     |      |      |         |      | 2.2  |
| p0 queue free %                   | 98      | 99   | 99   | 77      | 99   | 85   | 100     |      |      |         |      | 86   |
| cM capacity (veh/h)               | 193     | 223  | 843  | 266     | 278  | 775  | 1373    |      |      |         |      | 1131 |
| Direction, Lane #                 | EB1     | WB1  | NB1  | NB2     | NB3  | SB1  | SB2     |      |      |         |      |      |
| Volume Total                      | 16      | 182  | 6    | 264     | 165  | 156  | 199     |      |      |         |      |      |
| Volume Left                       | 3       | 61   | 6    | 0       | 0    | 156  | 0       |      |      |         |      |      |
| Volume Right                      | 12      | 118  | 0    | 0       | 165  | 0    | 1       |      |      |         |      |      |
| cSH                               | 452     | 463  | 1373 | 1700    | 1700 | 1131 | 1700    |      |      |         |      |      |
| Volume to Capacity                | 0.04    | 0.39 | 0.00 | 0.16    | 0.10 | 0.14 | 0.12    |      |      |         |      |      |
| Queue Length 95th (ft)            | 3       | 46   | 0    | 0       | 0    | 12   | 0       |      |      |         |      |      |
| Control Delay (s)                 | 13.3    | 17.7 | 7.6  | 0.0     | 0.0  | 8.7  | 0.0     |      |      |         |      |      |
| Lane LOS                          | B       | C    | A    |         |      | A    |         |      |      |         |      |      |
| Approach Delay (s)                | 13.3    | 17.7 | 0.1  |         |      | 3.8  |         |      |      |         |      |      |
| Approach LOS                      | B       | C    |      |         |      |      |         |      |      |         |      |      |
| Intersection Summary              |         |      |      |         |      |      |         |      |      |         |      |      |
| Average Delay                     | 4.9     |      |      |         |      |      |         |      |      |         |      |      |
| Intersection Capacity Utilization | 47.2%   |      |      |         |      |      |         |      |      |         |      |      |
| Analysis Period (min)             | 15      |      |      |         |      |      |         |      |      |         |      |      |
| ICU/Level of Service              | A       |      |      |         |      |      |         |      |      |         |      |      |

# HCM Signalized Intersection Capacity Analysis

1: Hodgen Rd & SH 83

8/5/2004



| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR                  |     |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-----|
| Lane Configurations               | 4     | ↑     | ↑     | 4     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑                    |     |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900                 |     |
| Total Lost time (s)               | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0                  |     |
| Lane Util. Factor                 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00                 |     |
| Frt                               | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85                 |     |
| Flt: Protected                    | 0.98  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00                 |     |
| Satd. Flow (prot)                 | 1817  | 1583  | 1775  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1770  | 1863  | 1583                 |     |
| Flt: Permitted                    | 0.91  | 1.00  | 0.72  | 1.00  | 0.44  | 1.00  | 1.00  | 1.00  | 0.63  | 1.00  | 1.00  | 1.00                 |     |
| Satd. Flow (perm)                 | 1704  | 1583  | 1346  | 1583  | 826   | 1863  | 1583  | 1772  | 1863  | 1772  | 1863  | 1583                 |     |
| Volume (vph)                      | 5     | 15    | 280   | 5     | 185   | 5     | 153   | 40    | 10    | 365   | 5     | 5                    |     |
| Peak-hour factor, PHF             | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92                 |     |
| Adj. Flow (vph)                   | 5     | 16    | 304   | 5     | 201   | 5     | 166   | 43    | 120   | 397   | 5     | 5                    |     |
| RTOR Reduction (vph)              | 0     | 0     | 13    | 0     | 0     | 145   | 0     | 0     | 21    | 0     | 0     | 2                    |     |
| Lane Group Flow (vph)             | 10    | 3     | 309   | 56    | 5     | 166   | 22    | 120   | 397   | 3     | 3     | 3                    |     |
| Turn Type                         | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | Perm  | pm+pt | Perm  | Perm                 |     |
| Protected Phases                  | 7     | 4     | 5     | 3     | 8     | 1     | 5     | 2     | 1     | 6     | 6     | 6                    |     |
| Permitted Phases                  | 4     | 4     | 8     | 8     | 2     | 2     | 2     | 2     | 2     | 6     | 6     | 6                    |     |
| Actuated Green, G (s)             | 20.0  | 20.0  | 31.0  | 31.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 53.0  | 53.0  | 53.0                 |     |
| Effective Green, g (s)            | 20.0  | 20.0  | 31.0  | 31.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 53.0  | 53.0  | 53.0                 |     |
| Actuated/g/C Ratio                | 0.20  | 0.20  | 0.31  | 0.31  | 0.28  | 0.56  | 0.52  | 0.52  | 0.58  | 0.53  | 0.53  | 0.53                 |     |
| Clearance Time (s)                | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0                  |     |
| Lane Grp Cap. (vph)               | 345   | 380   | 464   | 507   | 500   | 969   | 823   | 710   | 987   | 839   | 839   | 839                  |     |
| v/s Ratio Prot                    | 0.00  | 0.00  | c0:07 | 0.01  | 0.00  | 0.09  | c0:01 | c0:21 | c0:01 | c0:21 | c0:01 | c0:21                |     |
| v/s Ratio:Perm                    | 0.00  | 0.00  | c0:13 | 0.03  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.09  | 0.01  | 0.09                 |     |
| v/c Ratio                         | 0.03  | 0.01  | 0.67  | 0.11  | 0.01  | 0.17  | 0.03  | 0.17  | 0.03  | 0.17  | 0.03  | 0.17                 |     |
| Uniform Delay, d1                 | 32.2  | 32.1  | 30.0  | 26.8  | 10.1  | 12.6  | 11.7  | 9.5   | 14.0  | 11.1  | 11.1  | 11.1                 |     |
| Progression Factor                | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00                 |     |
| Incremental Delay, d2             | 0.2   | 0.0   | 7.4   | 0.4   | 0.0   | 0.4   | 0.1   | 0.5   | 1.2   | 0.0   | 0.0   | 0.0                  |     |
| Delay (s)                         | 32.3  | 32.1  | 37.4  | 27.2  | 10.1  | 13.0  | 11.7  | 10.0  | 15.3  | 11.1  | 11.1  | 11.1                 |     |
| Level of Service                  | C     | C     | D     | C     | B     | B     | B     | B     | A     | B     | B     | B                    |     |
| Approach Delay (s)                | 32.2  |       | 33.4  |       | 12.7  |       |       |       | 14.0  |       |       |                      |     |
| Approach LOS                      | C     |       | C     |       | B     |       |       |       | B     |       |       |                      |     |
| Intersection Summary              |       |       |       |       |       |       |       |       |       |       |       |                      |     |
| HCM Average Control Delay         | 21.9  |       |       |       |       |       |       |       |       |       |       | HCM Level of Service | C   |
| HCM Volume to Capacity ratio      | 0.46  |       |       |       |       |       |       |       |       |       |       |                      |     |
| Actuated Cycle Length (s)         | 100.0 |       |       |       |       |       |       |       |       |       |       | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 55.0% |       |       |       |       |       |       |       |       |       |       | ICU Level of Service | A   |
| Analysis Period (min)             | 15    |       |       |       |       |       |       |       |       |       |       |                      |     |
| c Critical Lane Group             |       |       |       |       |       |       |       |       |       |       |       |                      |     |

HCM Signalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

8/5/2004



| Movement               | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT  | SBR  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| Lane Configurations    | 4     | ↑     | ↑     | 4     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑    | ↑    |
| Ideal Flow (vphpl)     | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 |
| Total Lost time (s)    | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  | 4.0  |
| Lane Util. Factor      | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 |
| Frt                    | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 0.85  | 1.00 | 0.85 |
| Flt Protected          | 0.98  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 0.95 | 1.00 |
| Satd. Flow (prot)      | 1817  | 1583  | 1779  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  | 1770 | 1863 |
| Flt Permitted          | 0.97  | 1.00  | 0.76  | 1.00  | 0.53  | 1.00  | 1.00  | 1.00  | 0.42  | 1.00  | 1.00 | 1.00 |
| Satd. Flow (perm)      | 1809  | 1583  | 1419  | 1583  | 988   | 1863  | 1583  | 1863  | 782   | 1863  | 1583 | 1583 |
| Volume (vph)           | 5     | 10    | 75    | 5     | 135   | 5     | 377   | 215   | 175   | 260   | 5    | 5    |
| Peak-hour factor, PHF  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 | 0.92 |
| Adj. Flow (vph)        | 5     | 11    | 82    | 5     | 147   | 5     | 410   | 234   | 190   | 283   | 5    | 5    |
| RTOR Reduction (vph)   | 0     | 0     | 8     | 0     | 0     | 110   | 0     | 0     | 112   | 0     | 0    | 2    |
| Lane Group Flow (vph)  | 0     | 10    | 13    | 0     | 87    | 37    | 5     | 410   | 122   | 190   | 283  | 3    |
| Turn Type              | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | Perm  | pm+pt | Perm | Perm |
| Protected Phases       | 7     | 4     | 5     | 3     | 8     | 1     | 5     | 2     | 1     | 6     | 1    | 6    |
| Permitted Phases       | 4     | 4     | 8     | 8     | 2     | 2     | 2     | 2     | 2     | 6     | 6    | 6    |
| Actuated Green, G (s)  | 26.0  | 25.0  | 26.0  | 25.0  | 58.0  | 52.0  | 52.0  | 52.0  | 58.0  | 52.0  | 52.0 | 52.0 |
| Effective Green, g (s) | 26.0  | 25.0  | 26.0  | 25.0  | 58.0  | 52.0  | 52.0  | 52.0  | 58.0  | 52.0  | 52.0 | 52.0 |
| Actuated g/C Ratio     | 0.26  | 0.25  | 0.26  | 0.25  | 0.58  | 0.52  | 0.52  | 0.52  | 0.58  | 0.52  | 0.52 | 0.52 |
| Clearance Time (s)     | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  | 4.0  |
| Lane Grp Cap (vph)     | 471   | 459   | 394   | 459   | 620   | 969   | 823   | 513   | 969   | 823   | 969  | 823  |
| v/s Ratio Prot         | 0.00  | 0.00  | c0.02 | 0.00  | 0.00  | c0.22 |       |       | c0.02 | 0.15  |      |      |
| v/s Ratio Perm         | 0.00  | 0.00  | c0.04 | 0.02  | 0.00  |       |       |       | 0.08  | 0.19  |      | 0.00 |
| v/c Ratio              | 0.02  | 0.01  | 0.22  | 0.08  | 0.01  | 0.42  | 0.15  | 0.37  | 0.29  | 0.29  | 0.00 | 0.00 |
| Uniform Delay, d1      | 27.5  | 28.2  | 29.0  | 28.7  | 9.0   | 14.8  | 12.5  | 10.5  | 13.6  | 11.5  | 11.5 | 11.5 |
| Progression Factor     | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 |
| Incremental Delay, d2  | 0.1   | 0.0   | 1.3   | 0.3   | 0.0   | 1.4   | 0.4   | 2.0   | 0.8   | 0.0   | 0.0  | 0.0  |
| Delay (s)              | 27.6  | 28.2  | 30.3  | 29.0  | 9.0   | 16.1  | 12.9  | 12.6  | 14.3  | 11.5  | 11.5 | 11.5 |
| Level of Service       | C     | C     | C     | C     | A     | B     | B     | B     | B     | B     | B    | B    |
| Approach Delay (s)     | 27.9  |       | 29.5  |       | 14.9  |       |       |       | 13.6  |       |      |      |
| Approach LOS           | C     |       | C     |       | B     |       |       |       | B     |       |      |      |

| Intersection Summary              |       |                           |
|-----------------------------------|-------|---------------------------|
| HCM Average Control Delay         | 17.1  | HCM Level of Service B    |
| HCM Volume to Capacity ratio      | 0.36  |                           |
| Actuated Cycle Length (s)         | 100.0 | Sum of lost time (s) 16.0 |
| Intersection Capacity Utilization | 50.6% | ICU Level of Service A    |
| Analysis Period (min)             | 15    |                           |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

8/5/2004



| Movement               | EBL             | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR  |
|------------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    | 4 ↑ ↑ ↑ ↑ ↑ ↑ ↑ |       |       |       |       |       |       |       |       |       |       |      |
| Ideal Flow (vphpl)     | 1900            | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Total Lost time (s)    | 4.0             | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Util. Factor      | 1.00            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Frt                    | 1.00            | 0.85  | 1.00  | 0.85  | 1.00  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 1.00  | 0.85 |
| Flt Protected          | 0.98            | 1.00  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00 |
| Satd. Flow (prot)      | 1817            | 1583  | 1775  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1770  | 1863  | 1583 |
| Flt Permitted          | 0.91            | 1.00  | 0.72  | 1.00  | 0.44  | 1.00  | 1.00  | 1.00  | 0.63  | 1.00  | 1.00  | 1.00 |
| Satd. Flow (perm)      | 1696            | 1583  | 1346  | 1583  | 826   | 1863  | 1583  | 1168  | 1863  | 1583  | 1863  | 1583 |
| Volume (vph)           | 5               | 5     | 15    | 310   | 5     | 195   | 5     | 155   | 50    | 115   | 365   | 5    |
| Peak-hour factor, PHF  | 0.92            | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 |
| Adj. Flow (vph)        | 5               | 5     | 16    | 337   | 5     | 212   | 5     | 168   | 54    | 125   | 397   | 5    |
| RTOR Reduction (vph)   | 0               | 0     | 13    | 0     | 0     | 153   | 0     | 0     | 26    | 0     | 0     | 2    |
| Lane Group Flow (vph)  | 0               | 10    | 3     | 0     | 342   | 59    | 5     | 168   | 28    | 125   | 397   | 3    |
| Turn Type              | pm+pt           | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | pm+pt | Perm |
| Protected Phases       | 7               | 4     | 5     | 3     | 8     | 1     | 5     | 2     | 1     | 1     | 6     | 6    |
| Permitted Phases       | 4               | 4     | 4     | 8     | 8     | 2     | 2     | 2     | 2     | 6     | 6     | 6    |
| Actuated Green, G (s)  | 20.0            | 20.0  | 20.0  | 31.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 58.0  | 53.0  | 53.0 |
| Effective Green, g (s) | 20.0            | 20.0  | 20.0  | 31.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 58.0  | 53.0  | 53.0 |
| Actuated g/C Ratio     | 0.20            | 0.20  | 0.20  | 0.31  | 0.28  | 0.56  | 0.52  | 0.52  | 0.52  | 0.58  | 0.53  | 0.53 |
| Clearance Time (s)     | 4.0             | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Grp Cap (vph)     | 344             | 380   | 464   | 507   | 500   | 969   | 823   | 708   | 987   | 839   | 839   | 839  |
| v/s Ratio Prot         | 0.00            | 0.00  | c0.08 | 0.01  | 0.00  | 0.09  |       |       | c0.01 | c0.21 |       |      |
| v/s Ratio Perm         | 0.00            | 0.00  | c0.15 | 0.03  | 0.01  |       |       |       | 0.02  | 0.09  |       | 0.00 |
| v/c Ratio              | 0.03            | 0.01  | 0.74  | 0.12  | 0.01  | 0.17  | 0.03  | 0.18  | 0.40  | 0.40  | 0.00  | 0.00 |
| Uniform Delay, d1      | 32.2            | 32.1  | 30.9  | 26.8  | 10.1  | 12.7  | 11.7  | 9.5   | 14.0  | 11.1  |       |      |
| Progression Factor     | 1.00            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Incremental Delay, d2  | 0.2             | 0.0   | 10.0  | 0.5   | 0.0   | 0.4   | 0.1   | 0.5   | 1.2   | 0.0   |       |      |
| Delay (s)              | 32.3            | 32.1  | 40.9  | 27.3  | 10.1  | 13.1  | 11.8  | 10.1  | 15.3  | 11.1  |       |      |
| Level of Service       | C               | C     | D     | C     | B     | B     | B     | B     | B     | B     | B     | B    |
| Approach Delay (s)     | 32.2            |       | 35.7  |       | 12.7  |       |       |       | 14.0  |       |       |      |
| Approach LOS           | C               |       | D     |       | B     |       |       |       | B     |       |       |      |

| Intersection Summary              |       |                          |
|-----------------------------------|-------|--------------------------|
| HCM Average Control Delay         | 23.1  | HCM Level of Service C   |
| HCM Volume to Capacity ratio      | 0.49  |                          |
| Actuated Cycle Length (s)         | 100.0 | Sum of lost time (s) 8.0 |
| Intersection Capacity Utilization | 56.6% | ICU Level of Service B   |
| Analysis Period (min)             | 15    |                          |
| c Critical Lane Group             |       |                          |



# HCM Signalized Intersection Capacity Analysis

## 1: Hodgen Rd & SH 83

8/5/2004



| Movement               | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    | 4     | ↑     | ↑     | 4     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑    |
| Ideal Flow (vphpl)     | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Total Lost time (s)    | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Util. Factor      | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Frt                    | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85 |
| Flt Protected          | 0.98  | 1.00  | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00 |
| Satd. Flow (prot)      | 1817  | 1583  | 1778  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1770  | 1863  | 1583 |
| Flt Permitted          | 0.99  | 1.00  | 1.00  | 0.74  | 1.00  | 0.55  | 1.00  | 1.00  | 0.36  | 1.00  | 1.00  | 1.00 |
| Satd. Flow (perm)      | 1847  | 1583  | 1387  | 1583  | 1032  | 1863  | 1583  | 1583  | 671   | 1863  | 1583  | 1583 |
| Volume (vph)           | 5     | 5     | 10    | 95    | 5     | 145   | 5     | 380   | 250   | 185   | 260   | 5    |
| Peak-hour factor, PHF  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 |
| Adj. Flow (vph)        | 5     | 5     | 11    | 103   | 5     | 158   | 5     | 413   | 272   | 201   | 283   | 5    |
| RTOR Reduction (vph)   | 0     | 0     | 8     | 0     | 0     | 114   | 0     | 0     | 147   | 0     | 0     | 3    |
| Lane Group Flow (vph)  | 0     | 10    | 3     | 0     | 108   | 44    | 5     | 413   | 125   | 201   | 283   | 2    |
| Turn Type              | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | pm+pt | pm+pt | pm+pt | Perm |
| Protected Phases       | 7     | 4     | 5     | 3     | 8     | 1     | 5     | 2     | 1     | 6     | 6     |      |
| Permitted Phases       | 4     | 4     | 4     | 8     | 8     | 2     | 2     | 2     | 2     | 6     | 6     |      |
| Actuated Green, G (s)  | 31.0  | 27.0  | 27.0  | 27.0  | 28.0  | 52.0  | 46.0  | 46.0  | 46.0  | 58.0  | 49.0  | 49.0 |
| Effective Green, g (s) | 31.0  | 27.0  | 27.0  | 28.0  | 28.0  | 52.0  | 46.0  | 46.0  | 46.0  | 58.0  | 49.0  | 49.0 |
| Actuated g/C Ratio     | 0.31  | 0.27  | 0.27  | 0.27  | 0.28  | 0.52  | 0.46  | 0.46  | 0.46  | 0.58  | 0.49  | 0.49 |
| Clearance Time (s)     | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane/Grp Cap. (vph)    | 570   | 491   | 406   | 507   | 581   | 857   | 728   | 488   | 913   | 776   | 776   |      |
| v/s Ratio Prot         | 0.00  | 0.00  | c0.02 | 0.01  | 0.00  | c0.22 |       |       | c0.04 | 0.15  |       |      |
| v/s Ratio Perm         | c0.00 | 0.00  | c0.05 | 0.02  | 0.00  |       |       |       | 0.08  | 0.20  |       | 0.00 |
| v/c Ratio              | 0.02  | 0.01  | 0.27  | 0.09  | 0.01  | 0.48  | 0.17  | 0.41  | 0.31  | 0.00  |       |      |
| Uniform Delay, d1      | 23.9  | 26.7  | 28.7  | 26.6  | 11.6  | 18.7  | 15.8  | 11.4  | 15.3  | 13.0  |       |      |
| Progression Factor     | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Incremental Delay, d2  | 0.1   | 0.0   | 1.6   | 0.3   | 0.0   | 1.9   | 0.5   | 2.6   | 0.9   | 0.0   |       |      |
| Delay (s)              | 24.0  | 26.7  | 30.3  | 26.9  | 11.6  | 20.7  | 16.3  | 13.9  | 16.2  | 13.0  |       |      |
| Level of Service       | C     | C     | C     | C     | B     | C     | B     | C     | B     | B     | B     | B    |
| Approach Delay (s)     | 25.4  |       | 28.3  |       | 18.9  |       |       |       |       |       | 15.2  |      |
| Approach LOS           | C     |       | C     |       | B     |       |       |       |       |       | B     |      |

| Intersection Summary              |       |                           |
|-----------------------------------|-------|---------------------------|
| HCM Average Control Delay         | 19.5  | HCM Level of Service B    |
| HCM Volume to Capacity ratio      | 0.44  |                           |
| Actuated Cycle Length (s)         | 100.0 | Sum of lost time (s) 24.0 |
| Intersection Capacity Utilization | 52.4% | ICU Level of Service A    |
| Analysis Period (min)             | 15    |                           |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

1: Hodgen Rd & SH 83

8/5/2004



| Movement                          | EBL   | EBT   | EBR   | WBL                  | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR  |
|-----------------------------------|-------|-------|-------|----------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations               | ↑     | ↑     | ↑     | ↑                    | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑    |
| Ideal Flow (Vphpl)                | 1900  | 1900  | 1900  | 1900                 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Total Lost time (s)               | 4.0   | 4.0   | 4.0   | 4.0                  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Util. Factor                 | 1.00  | 1.00  | 1.00  | 1.00                 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Frt                               | 1.00  | 1.00  | 0.85  | 1.00                 | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85 |
| Flt/Protected                     | 0.95  | 1.00  | 1.00  | 0.95                 | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00 |
| Satd. Flow (prot)                 | 1770  | 1863  | 1583  | 1770                 | 1863  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583 |
| Flt/Permitted                     | 0.52  | 1.00  | 1.00  | 0.57                 | 1.00  | 1.00  | 0.09  | 1.00  | 1.00  | 0.61  | 1.00  | 1.00 |
| Satd. Flow (perm)                 | 971   | 1863  | 1583  | 1054                 | 1863  | 1583  | 159   | 1863  | 1583  | 1129  | 1863  | 1583 |
| Volume (vph)                      | 55    | 70    | 150   | 305                  | 240   | 115   | 100   | 175   | 75    | 135   | 800   | 130  |
| Peak-hour factor, PHF             | 0.92  | 0.92  | 0.92  | 0.92                 | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 |
| Adj. Flow (vph)                   | 60    | 76    | 163   | 332                  | 261   | 125   | 109   | 190   | 82    | 147   | 870   | 141  |
| RTOR Reduction (vph)              | 0     | 0     | 103   | 0                    | 0     | 90    | 0     | 0     | 0     | 39    | 0     | 0    |
| Lane Group Flow (vph)             | 60    | 76    | 60    | 332                  | 261   | 35    | 109   | 190   | 43    | 147   | 870   | 88   |
| Turn Type                         | pm+pt | pm+ov | pm+pt | pm+ov                | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | pm+pt | Perm |
| Protected Phases                  | 7     | 4     | 5     | 3                    | 8     | 1     | 5     | 2     | 1     | 6     | 6     |      |
| Permitted Phases                  | 4     | 4     | 8     | 8                    | 2     | 2     | 2     | 2     | 2     | 6     | 6     |      |
| Actuated Green, G (s)             | 20.0  | 16.0  | 20.0  | 31.0                 | 23.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 53.0  | 53.0 |
| Effective Green, g (s)            | 20.0  | 16.0  | 20.0  | 31.0                 | 23.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 53.0  | 53.0 |
| Actuated g/C Ratio                | 0.20  | 0.16  | 0.20  | 0.31                 | 0.23  | 0.28  | 0.56  | 0.52  | 0.52  | 0.58  | 0.53  | 0.53 |
| Clearance Time (s)                | 4.0   | 4.0   | 4.0   | 4.0                  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Grp Cap (vph)                | 226   | 298   | 380   | 406                  | 428   | 507   | 153   | 969   | 823   | 687   | 987   | 839  |
| v/s Ratio Prot                    | 0.01  | 0.04  | 0.01  | c0.09                | 0.14  | 0.00  | c0.03 | 0.10  |       | 0.01  | c0.47 |      |
| v/s Ratio Perm                    | 0.04  |       | 0.03  | c0.16                |       | 0.02  | 0.37  |       | 0.03  | 0.11  |       | 0.06 |
| v/c Ratio                         | 0.27  | 0.26  | 0.16  | 0.82                 | 0.61  | 0.07  | 0.71  | 0.20  | 0.05  | 0.21  | 0.88  | 0.11 |
| Uniform Delay, d1                 | 33.1  | 36.8  | 33.0  | 30.8                 | 34.5  | 26.4  | 19.5  | 12.8  | 11.8  | 9.7   | 20.7  | 11.7 |
| Progression Factor                | 1.00  | 1.00  | 1.00  | 1.00                 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Incremental Delay, d2             | 2.9   | 2.1   | 0.9   | 16.6                 | 6.3   | 0.3   | 24.5  | 0.5   | 0.1   | 0.7   | 11.2  | 0.3  |
| Delay (s)                         | 36.0  | 38.8  | 33.9  | 47.3                 | 40.8  | 26.7  | 44.0  | 13.3  | 12.0  | 10.4  | 31.9  | 12.0 |
| Level of Service                  | D     | D     | C     | D                    | D     | C     | D     | B     | B     | B     | C     | B    |
| Approach Delay (s)                | 35.6  |       |       | 41.4                 |       | 21.8  |       |       |       | 26.8  |       |      |
| Approach LOS                      | D     |       |       | D                    |       | C     |       |       |       | C     |       | C    |
| Intersection Summary              |       |       |       |                      |       |       |       |       |       |       |       |      |
| HCM Average Control Delay         | 31.2  |       |       | HCM Level of Service |       |       | C     |       |       |       |       |      |
| HCM Volume to Capacity ratio      | 0.81  |       |       |                      |       |       |       |       |       |       |       |      |
| Actuated Cycle Length (s)         | 100.0 |       |       |                      |       |       |       |       |       |       |       |      |
| Intersection Capacity Utilization | 81.6% |       |       | Sum of lost time (s) |       |       | 8.0   |       |       | D     |       |      |
| Analysis Period (min)             | 15    |       |       |                      |       |       |       |       |       |       |       |      |
| c Critical Lane Group             |       |       |       |                      |       |       |       |       |       |       |       |      |

HCM Signalized Intersection Capacity Analysis  
 1: Hodgen Rd & SH 83

8/5/2004



| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR                  |      |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|------|
| Lane Configurations               | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑     | ↑                    |      |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900                 |      |
| Total Lost time (s)               | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0                  |      |
| Lane Util. Factor                 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00                 |      |
| Frt                               | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85                 |      |
| Flt Protected                     | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00                 |      |
| Satd. Flow (prot)                 | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583                 |      |
| Flt Permitted                     | 0.51  | 1.00  | 1.00  | 0.32  | 1.00  | 1.00  | 0.43  | 1.00  | 1.00  | 0.10  | 1.00  | 1.00                 |      |
| Satd. Flow (perm)                 | 957   | 1863  | 1583  | 588   | 1863  | 1583  | 794   | 1863  | 1583  | 194   | 1863  | 1583                 |      |
| Volume (vph)                      | 140   | 230   | 225   | 120   | 150   | 150   | 185   | 760   | 255   | 155   | 370   | 155                  |      |
| Peak-hour factor, PHF             | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92                 |      |
| Adj. Flow (vph)                   | 152   | 250   | 245   | 130   | 163   | 163   | 201   | 826   | 277   | 168   | 402   | 168                  |      |
| RTOR Reduction (vph)              | 0     | 0     | 184   | 0     | 0     | 120   | 0     | 0     | 133   | 0     | 0     | 81                   |      |
| Lane Group Flow (vph)             | 152   | 250   | 61    | 130   | 163   | 43    | 201   | 826   | 144   | 168   | 402   | 87                   |      |
| Turn Type                         | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | pm+pt | Perm                 |      |
| Protected Phases                  | 7     | 4     | 5     | 3     | 8     | 1     | 5     | 2     | 1     | 6     |       |                      |      |
| Permitted Phases                  | 4     | 4     | 4     | 8     | 8     | 2     | 2     | 2     | 2     | 6     |       |                      |      |
| Actuated Green, G (s)             | 26.0  | 19.0  | 25.0  | 26.0  | 19.0  | 25.0  | 58.0  | 52.0  | 52.0  | 58.0  | 52.0  | 52.0                 |      |
| Effective Green, g (s)            | 26.0  | 19.0  | 25.0  | 26.0  | 19.0  | 25.0  | 58.0  | 52.0  | 52.0  | 58.0  | 52.0  | 52.0                 |      |
| Actuated g/C Ratio                | 0.26  | 0.19  | 0.25  | 0.26  | 0.19  | 0.25  | 0.58  | 0.52  | 0.52  | 0.58  | 0.52  | 0.52                 |      |
| Clearance Time (s)                | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0                  |      |
| Lane Grp Cap. (vph)               | 306   | 354   | 459   | 236   | 354   | 459   | 519   | 969   | 823   | 207   | 969   | 823                  |      |
| v/s Ratio Prot                    | 0.03  | c0.13 | 0.01  | c0.04 | 0.09  | 0.01  | 0.02  | c0.44 |       | c0.05 | 0.22  |                      |      |
| v/s Ratio Perm                    | 0.09  |       | 0.03  | 0.10  |       | 0.02  | 0.20  |       | 0.09  | 0.42  |       | 0.06                 |      |
| v/c Ratio                         | 0.50  | 0.71  | 0.13  | 0.55  | 0.46  | 0.09  | 0.39  | 0.85  | 0.18  | 0.81  | 0.41  | 0.11                 |      |
| Uniform Delay, d1                 | 30.0  | 37.9  | 29.1  | 30.0  | 36.0  | 28.8  | 10.6  | 20.7  | 12.7  | 18.8  | 14.7  | 12.2                 |      |
| Progression Factor                | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00                 |      |
| Incremental Delay, d2             | 5.7   | 11.3  | 0.6   | 9.0   | 4.3   | 0.4   | 2.2   | 9.4   | 0.5   | 28.1  | 1.3   | 0.3                  |      |
| Delay (s)                         | 35.7  | 49.2  | 29.7  | 39.0  | 40.2  | 29.2  | 12.7  | 30.1  | 13.1  | 46.9  | 16.0  | 12.5                 |      |
| Level of Service                  | D     | D     | C     | D     | D     | C     | B     | C     | B     | D     | B     | B                    |      |
| Approach Delay (s)                | 38.6  |       |       |       | 35.9  |       | 23.8  |       |       | 22.2  |       |                      |      |
| Approach LOS                      | D     |       |       |       | D     |       | C     |       |       | C     |       | C                    |      |
| Intersection Summary              |       |       |       |       |       |       |       |       |       |       |       |                      |      |
| HCM Average Control Delay         | 28.2  |       |       |       |       |       |       |       |       |       |       | HCM Level of Service | C    |
| HCM Volume to Capacity ratio      | 0.79  |       |       |       |       |       |       |       |       |       |       |                      |      |
| Actuated Cycle Length (s)         | 100.0 |       |       |       |       |       |       |       |       |       |       | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 80.7% |       |       |       |       |       |       |       |       |       |       | ICU Level of Service | D    |
| Analysis Period (min)             | 15    |       |       |       |       |       |       |       |       |       |       |                      |      |
| c Critical Lane Group             |       |       |       |       |       |       |       |       |       |       |       |                      |      |

# HCM Signalized Intersection Capacity Analysis

1: Hodgen Rd & SH 83

8/5/2004



| Movement                          | EBL   | EBT   | EBR   | WBL                  | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR  |
|-----------------------------------|-------|-------|-------|----------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations               | 1900  | 1900  | 1900  | 1900                 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Ideal Flow (vphpl)                | 4.0   | 4.0   | 4.0   | 4.0                  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Total Lost time (s)               | 1.00  | 1.00  | 1.00  | 1.00                 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Lane Util. Factor                 | 1.00  | 1.00  | 0.85  | 1.00                 | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85 |
| Frt                               | 0.95  | 1.00  | 1.00  | 0.95                 | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00 |
| Satd. Flow (prot)                 | 1770  | 1863  | 1583  | 1770                 | 1863  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583 |
| Flt Permitted                     | 0.31  | 1.00  | 1.00  | 0.55                 | 1.00  | 1.00  | 0.09  | 1.00  | 1.00  | 0.61  | 1.00  | 1.00 |
| Satd. Flow (perm)                 | 578   | 1863  | 1583  | 1027                 | 1863  | 1583  | 159   | 1863  | 1583  | 1129  | 1863  | 1583 |
| Volume (vph)                      | 55    | 80    | 150   | 255                  | 315   | 125   | 100   | 175   | 75    | 140   | 800   | 130  |
| Peak-hour factor, PHF             | 0.92  | 0.92  | 0.92  | 0.92                 | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 |
| Adj. Flow (vph)                   | 60    | 87    | 163   | 277                  | 342   | 136   | 109   | 190   | 82    | 152   | 870   | 141  |
| RTOR Reduction (vph)              | 0     | 0     | 109   | 0                    | 0     | 98    | 0     | 0     | 39    | 0     | 0     | 53   |
| Lane Grp Flow (vph)               | 60    | 87    | 54    | 277                  | 342   | 38    | 109   | 190   | 43    | 152   | 870   | 88   |
| Turn Type                         | pm+pt | pm+pt | pm+ov | pm+pt                | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | pm+pt | pm+pt | Perm |
| Protected Phases                  | 7     | 4     | 5     | 3                    | 8     | 1     | 5     | 2     | 1     | 5     | 6     | 6    |
| Permitted Phases                  | 4     | 4     | 4     | 8                    | 8     | 2     | 2     | 2     | 2     | 2     | 6     | 6    |
| Actuated Green, G (s)             | 20.0  | 16.0  | 20.0  | 31.0                 | 23.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 53.0  | 53.0 |
| Effective Green, g (s)            | 20.0  | 16.0  | 20.0  | 31.0                 | 23.0  | 28.0  | 56.0  | 52.0  | 52.0  | 58.0  | 53.0  | 53.0 |
| Actuated g/C Ratio                | 0.20  | 0.16  | 0.20  | 0.31                 | 0.23  | 0.28  | 0.56  | 0.52  | 0.52  | 0.58  | 0.53  | 0.53 |
| Clearance Time (s)                | 4.0   | 4.0   | 4.0   | 4.0                  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Grp Cap. (vph)               | 163   | 298   | 380   | 400                  | 428   | 507   | 153   | 969   | 823   | 687   | 987   | 839  |
| v/s Ratio Prot                    | 0.01  | 0.05  | 0.01  | c0.08                | c0.18 | 0.00  | c0.03 | 0.10  | 0.01  | c0.12 | 0.06  | 0.06 |
| v/s Ratio Perm                    | 0.06  | 0.03  | 0.14  | 0.14                 | 0.02  | 0.37  | 0.03  | 0.12  | 0.03  | 0.12  | 0.06  | 0.11 |
| v/c Ratio                         | 0.37  | 0.29  | 0.14  | 0.69                 | 0.80  | 0.08  | 0.71  | 0.20  | 0.05  | 0.22  | 0.88  | 0.11 |
| Uniform Delay, d1                 | 33.4  | 37.0  | 32.9  | 28.9                 | 36.3  | 26.5  | 19.5  | 12.8  | 11.8  | 9.7   | 20.7  | 11.7 |
| Progression Factor                | 1.00  | 1.00  | 1.00  | 1.00                 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Incremental Delay, d2             | 6.3   | 2.5   | 0.8   | 9.5                  | 14.4  | 0.3   | 24.5  | 0.5   | 0.1   | 0.7   | 11.2  | 0.3  |
| Delay (s)                         | 39.7  | 39.5  | 33.7  | 38.4                 | 50.7  | 26.8  | 44.0  | 13.3  | 12.0  | 10.4  | 31.9  | 12.0 |
| Level of Service                  | D     | D     | C     | D                    | D     | C     | D     | B     | B     | B     | C     | B    |
| Approach Delay (s)                | 36.5  |       | 41.9  |                      | 21.8  |       |       |       |       | 26.7  |       |      |
| Approach LOS                      | D     |       | D     |                      | C     |       |       |       |       | C     |       |      |
| Intersection Summary              |       |       |       |                      |       |       |       |       |       |       |       |      |
| HCM Average Control Delay         | 31.5  |       |       | HCM Level of Service |       |       | C     |       |       |       |       |      |
| HCM Volume to Capacity ratio      | 0.79  |       |       |                      |       |       |       |       |       |       |       |      |
| Actuated Cycle Length (s)         | 100.0 |       |       | Sum of lost time (s) |       |       | 8.0   |       |       | D     |       |      |
| Intersection Capacity Utilization | 80.9% |       |       | ICU Level of Service |       |       | D     |       |       |       |       |      |
| Analysis Period (min)             | 15    |       |       |                      |       |       |       |       |       |       |       |      |
| c Critical Lane Group             |       |       |       |                      |       |       |       |       |       |       |       |      |

# HCM Signalized Intersection Capacity Analysis

1: Hodgen Rd & SH 83

8/5/2004



| Movement               | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 |
| Ideal Flow (vphpl)     | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Total Lost time (s)    | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Lane Util. Factor      | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85  | 1.00  | 1.00  | 0.85 |
| Frt                    | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00 |
| Satd. Flow (prot)      | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  | 1770  | 1863  | 1583 |
| Flt Permitted          | 0.44  | 1.00  | 1.00  | 0.29  | 1.00  | 1.00  | 0.44  | 1.00  | 1.00  | 0.08  | 1.00  | 1.00 |
| Satd. Flow (perm)      | 823   | 1863  | 1583  | 549   | 1863  | 1583  | 816   | 1863  | 1583  | 152   | 1863  | 1583 |
| Volume (vph)           | 140   | 270   | 225   | 130   | 160   | 160   | 185   | 760   | 250   | 170   | 370   | 155  |
| Peak-hour factor, PHF  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 |
| Adj. Flow (vph)        | 152   | 293   | 245   | 141   | 174   | 174   | 201   | 826   | 272   | 185   | 402   | 168  |
| RTOR Reduction (vph)   | 0     | 0     | 159   | 0     | 0     | 105   | 0     | 0     | 147   | 0     | 0     | 86   |
| Lane Group Flow (vph)  | 152   | 293   | 86    | 141   | 174   | 69    | 201   | 826   | 125   | 185   | 402   | 82   |
| Turn Type              | pm+pt | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+ov | pm+pt | pm+pt | pm+pt | pm+pt | Perm |
| Protected Phases       | 7     | 4     | 5     | 3     | 8     | 1     | 5     | 2     | 1     | 6     | 6     | 6    |
| Permitted Phases       | 4     | 4     | 4     | 8     | 8     | 2     | 2     | 2     | 2     | 6     | 6     | 6    |
| Actuated Green, G (s)  | 31.0  | 21.0  | 27.0  | 27.0  | 19.0  | 28.0  | 52.0  | 46.0  | 46.0  | 58.0  | 49.0  | 49.0 |
| Effective Green, g (s) | 31.0  | 21.0  | 27.0  | 27.0  | 19.0  | 28.0  | 52.0  | 46.0  | 46.0  | 58.0  | 49.0  | 49.0 |
| Actuated g/C Ratio     | 0.31  | 0.21  | 0.27  | 0.27  | 0.19  | 0.28  | 0.52  | 0.46  | 0.46  | 0.58  | 0.49  | 0.49 |
| Clearance Time (s)     | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  |
| Lane Grp Cap (vph)     | 350   | 391   | 491   | 246   | 354   | 507   | 482   | 857   | 728   | 234   | 913   | 776  |
| v/s Ratio Prot         | c0.04 | c0.16 | 0.01  | c0.05 | 0.09  | 0.01  | 0.03  | c0.44 | c0.07 | 0.22  | c0.07 | 0.22 |
| v/s Ratio Perm         | 0.09  | 0.04  | 0.11  | 0.03  | 0.19  | 0.03  | 0.19  | 0.08  | 0.39  | 0.05  | 0.08  | 0.05 |
| v/c Ratio              | 0.43  | 0.75  | 0.17  | 0.57  | 0.49  | 0.14  | 0.42  | 0.96  | 0.17  | 0.79  | 0.44  | 0.11 |
| Uniform Delay, d1      | 26.3  | 37.0  | 28.0  | 29.5  | 36.2  | 26.9  | 13.5  | 26.2  | 15.8  | 25.1  | 16.6  | 13.7 |
| Progression Factor     | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| Incremental Delay, d2  | 3.9   | 12.4  | 0.8   | 9.4   | 4.8   | 0.6   | 2.6   | 23.1  | 0.5   | 23.3  | 1.5   | 0.3  |
| Delay (s)              | 30.2  | 49.4  | 28.7  | 38.8  | 41.0  | 27.5  | 16.1  | 49.3  | 16.3  | 48.4  | 18.1  | 14.0 |
| Level of Service       | C     | D     | C     | D     | D     | C     | B     | D     | B     | D     | B     | B    |
| Approach Delay (s)     | 37.8  | 37.8  | 35.6  | 35.6  | 35.6  | 37.3  | 37.3  | 37.3  | 37.3  | 24.6  | 24.6  | 24.6 |
| Approach LOS           | D     | D     | D     | D     | D     | D     | D     | D     | D     | C     | C     | C    |

| Intersection Summary              |       |                           |
|-----------------------------------|-------|---------------------------|
| HCM Average Control Delay         | 34.2  | HCM Level of Service C    |
| HCM Volume to Capacity ratio      | 0.90  |                           |
| Actuated Cycle Length (s)         | 100.0 | Sum of lost time (s) 20.0 |
| Intersection Capacity Utilization | 84.2% | ICU Level of Service E    |
| Analysis Period (min)             | 15    |                           |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 3: Hodgen Rd & Timber Meadow Drive

Settlers Ranch (LSC # 036270)  
 AM Existing



| Movement                          | EBT     | EBR  | WBL  | WBT  | NBL  | NBR  |
|-----------------------------------|---------|------|------|------|------|------|
| Lane Configurations               | ↑ ↑ ↑ ↑ |      |      |      |      |      |
| Signi Control                     | Free    | Free | Free | Stop | Stop | Stop |
| Grade                             | 0%      |      |      |      |      |      |
| Volume (veh/h)                    | 95      | 25   | 10   | 305  | 60   | 10   |
| Peak Hour Factor                  | 0.85    | 0.85 | 0.85 | 0.85 | 0.75 | 0.75 |
| Hourly flow rate (vph)            | 112     | 29   | 12   | 359  | 80   | 13   |
| Pedestrians                       |         |      |      |      |      |      |
| Lane Width (ft)                   |         |      |      |      |      |      |
| Walking Speed (ft/s)              |         |      |      |      |      |      |
| Percent Blockage                  |         |      |      |      |      |      |
| Right turn flare (veh)            |         |      |      |      |      |      |
| Median type                       | None    |      |      |      |      |      |
| Median storage (veh)              |         |      |      |      |      |      |
| Upstream signal (ft)              |         |      |      |      |      |      |
| pX, platoon unblocked             |         |      |      |      |      |      |
| vC, conflicting volume            | 141     | 494  | 112  |      |      |      |
| vC1, stage 1 conf vol             |         |      |      |      |      |      |
| vC2, stage 2 conf vol             | 141     | 494  | 112  |      |      |      |
| vCu, unblocked vol                | 4       | 6    | 4    | 6    | 4    | 6    |
| tC, single (s)                    | 2.2     | 3.5  | 3.3  |      |      |      |
| tC, 2 stage (s)                   | 99      | 85   | 99   |      |      |      |
| tF (s)                            | 1442    | 530  | 941  |      |      |      |
| p0 queue free %                   |         |      |      |      |      |      |
| cM capacity (veh/h)               |         |      |      |      |      |      |
| Direction, Lane #                 | EB1     | EB2  | WB1  | NB1  |      |      |
| Volume Total                      | 112     | 29   | 371  | 93   |      |      |
| Volume Left                       | 0       | 0    | 12   | 80   |      |      |
| Volume Right                      | 0       | 29   | 0    | 13   |      |      |
| cSH                               | 1700    | 1700 | 1442 | 565  |      |      |
| Volume to Capacity                | 0.07    | 0.02 | 0.01 | 0.17 |      |      |
| Queue Length 95th (ft)            | 0       | 0    | 1    | 15   |      |      |
| Control Delay (s)                 | 0.0     | 0.0  | 0.3  | 12.6 |      |      |
| Lane LOS                          | A       |      | B    |      |      |      |
| Approach Delay (s)                | 0.0     | 0.3  | 12.6 |      |      |      |
| Approach LOS                      | B       |      |      |      |      |      |
| Intersection Summary              |         |      |      |      |      |      |
| Average Delay                     | 2.1     |      |      |      |      |      |
| Intersection Capacity Utilization | 33.9%   |      |      |      |      |      |
| Analysis Period (min)             | 15      |      |      |      |      |      |
| ICU Level of Service              | A       |      |      |      |      |      |

HCM Unsignalized Intersection Capacity Analysis  
 3: Hodgen Rd & Timber Meadow Drive

Settlers Ranch (LSC # 036370)  
 PM Existing



| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL  | NBR                    |
|-----------------------------------|------|------|-------|------|------|------------------------|
| Lane Configurations               | ↑    | ↑    | ↑     | 4    | ↑    | ↑                      |
| Sign. Control                     | Free | Free | Free  | Stop | Stop | Stop                   |
| Grade                             | 0%   | 0%   | 0%    | 0%   | 0%   | 0%                     |
| Volume (veh/h)                    | 260  | 25   | 5     | 150  | 20   | 5                      |
| Peak Hour Factor                  | 0.85 | 0.85 | 0.85  | 0.85 | 0.75 | 0.75                   |
| Hourly flow rate (vph)            | 918  | 29   | 6     | 176  | 27   | 7                      |
| Pedestrians                       |      |      |       |      |      |                        |
| Lane Width (ft)                   |      |      |       |      |      |                        |
| Walking Speed (ft/s)              |      |      |       |      |      |                        |
| Percent Blockage                  |      |      |       |      |      |                        |
| Right turn flare (veh)            |      |      |       |      |      |                        |
| Median type                       |      |      |       |      | None |                        |
| Median storage (veh)              |      |      |       |      |      |                        |
| Upstream signal (ft)              |      |      |       |      |      |                        |
| pX, platoon unblocked             |      |      |       |      |      |                        |
| vC, conflicting volume            |      |      | 947   |      | 1106 | 918                    |
| vC1, stage 1 conf vol             |      |      |       |      |      |                        |
| vC2, stage 2 conf vol             |      |      | 947   |      | 1106 | 918                    |
| vCu, unblocked vol                |      |      | 41    |      | 64   | 62                     |
| tC, single (s)                    |      |      |       |      |      |                        |
| tC, 2 stage (s)                   |      |      |       |      |      |                        |
| tF (s)                            |      |      | 2.2   |      | 3.5  | 3.3                    |
| p0 queue free %                   |      |      | 99    |      | 88   | 98                     |
| cM capacity (veh/h)               |      |      | 725   |      | 231  | 329                    |
| Direction, Lane #                 | EB1  | EB2  | WB1   | NB1  |      |                        |
| Volume Total                      | 918  | 29   | 182   | 33   |      |                        |
| Volume Left                       | 0    | 0    | 6     | 27   |      |                        |
| Volume Right                      | 0    | 29   | 0     | 7    |      |                        |
| cSH                               | 1700 | 1700 | 725   | 246  |      |                        |
| Volume to Capacity                | 0.54 | 0.02 | 0.01  | 0.14 |      |                        |
| Queue Length 95th (ft)            | 0    | 0    | 1     | 12   |      |                        |
| Control Delay (s)                 | 0.0  | 0.0  | 0.4   | 21.9 |      |                        |
| Lane LOS                          | A    | A    | C     | C    |      |                        |
| Approach Delay (s)                | 0.0  | 0.0  | 0.4   | 21.9 |      |                        |
| Approach LOS                      |      |      | C     | C    |      |                        |
| Intersection Summary              |      |      |       |      |      |                        |
| Average Delay                     |      |      | 0.7   |      |      |                        |
| Intersection Capacity Utilization |      |      | 51.1% |      |      | ICU Level of Service A |
| Analysis Period (min)             |      |      | 15    |      |      |                        |

HCM Unsignalized Intersection Capacity Analysis  
 3: Hodgen Rd & Timber Meadow

Hodgen Settlers Ranch (LSC # 036370)  
 AM Existing Plus Site Generated Traffic



| Movement                          | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |     |  |  |     |  |  |     |  |  |     |  |  |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|-----|--|--|-----|--|--|-----|--|--|-----|--|--|
| Lane Configurations               |       | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |     |  |  |     |  |  |     |  |  |     |  |  |
| Sign Control                      |       | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free |     |  |  |     |  |  |     |  |  |     |  |  |
| Grade                             | 0%    |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Volume (veh/h)                    | 12    | 95   | 25   | 10   | 305  | 1    | 60   | 0    | 10   | 4    | 0    | 37   |     |  |  |     |  |  |     |  |  |     |  |  |
| Peak Hour Factor                  | 0.92  | 0.85 | 0.85 | 0.85 | 0.85 | 0.92 | 0.75 | 0.92 | 0.75 | 0.92 | 0.92 | 0.92 |     |  |  |     |  |  |     |  |  |     |  |  |
| Hourly flow rate (vph)            | 13    | 112  | 29   | 12   | 359  | 1    | 80   | 0    | 13   | 4    | 0    | 40   |     |  |  |     |  |  |     |  |  |     |  |  |
| Pedestrians                       |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Lane Width (ft)                   |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Walking Speed (ft/s)              |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Percent Blockage                  |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Right turn flare (veh)            | 4     |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Median type                       | None  |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Median storage veh                |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Upstream signal (ft)              |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| pX, platoon unblocked             |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| vC, conflicting volume            | 360   |      |      | 141  |      |      | 540  |      |      | 521  |      |      | 112 |  |  | 534 |  |  | 550 |  |  | 359 |  |  |
| vC1, stage 1 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| vC2, stage 2 conf vol             | 360   |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| vCu, unblocked vol                | 360   |      |      | 141  |      |      | 540  |      |      | 521  |      |      | 112 |  |  | 534 |  |  | 550 |  |  | 359 |  |  |
| tC, single (s)                    | 4.1   |      |      | 4.1  |      |      | 7.1  |      |      | 6.5  |      |      | 6.2 |  |  | 7.1 |  |  | 6.5 |  |  | 6.2 |  |  |
| tC, 2 stage (s)                   |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| tF (s)                            | 2.2   |      |      | 2.2  |      |      | 3.5  |      |      | 4.0  |      |      | 3.3 |  |  | 3.5 |  |  | 4.0 |  |  | 3.3 |  |  |
| p0 queue free %                   | 99    |      |      | 99   |      |      | 81   |      |      | 100  |      |      | 99  |  |  | 99  |  |  | 100 |  |  | 94  |  |  |
| cM capacity (veh/h)               | 1199  |      |      | 1442 |      |      | 1420 |      |      | 451  |      |      | 941 |  |  | 444 |  |  | 434 |  |  | 685 |  |  |
| Direction, Lane #                 | EB 1  | EB 2 | EB 3 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Volume Total                      | 13    | 112  | 29   | 12   | 360  | 80   | 13   | 45   |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Volume Left                       | 13    | 0    | 0    | 12   | 0    | 80   | 0    | 4    |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Volume Right                      | 0     | 0    | 29   | 0    | 1    | 0    | 13   | 40   |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| cSH                               | 1199  | 1700 | 1700 | 1442 | 1700 | 420  | 941  | 759  |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Volume to Capacity                | 0.01  | 0.07 | 0.02 | 0.01 | 0.21 | 0.19 | 0.01 | 0.06 |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Queue Length 95th (ft)            | 1     | 0    | 0    | 1    | 0    | 17   | 1    | 5    |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Control Delay (s)                 | 8.0   | 0.0  | 0.0  | 7.5  | 0.0  | 15.6 | 8.9  | 10.8 |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Lane LOS                          | A     | A    | A    | C    | A    | A    | A    | B    |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Approach Delay (s)                | 0.7   |      |      | 0.2  |      |      | 14.6 |      |      | 10.8 |      |      | B   |  |  | B   |  |  |     |  |  |     |  |  |
| Approach LOS                      | B     |      |      | B    |      |      | B    |      |      | B    |      |      | B   |  |  |     |  |  |     |  |  |     |  |  |
| Intersection Summary              |       |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Average Delay                     | 3.1   |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Intersection Capacity Utilization | 32.8% |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| Analysis Period (min)             | 15    |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |
| ICU Level of Service              | A     |      |      |      |      |      |      |      |      |      |      |      |     |  |  |     |  |  |     |  |  |     |  |  |



HCM Unsignalized Intersection Capacity Analysis  
 3: Hodgen Rd & Timber Meadow

Settlers Ranch (LSC # 0363370)  
 PM Existing plus Site-Generated



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign. Control          | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| Grade                  | 0%   |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)         | 43   | 780  | 25   | 5    | 150  | 4    | 20   | 0    | 5    | 2    | 0    | 26   |
| Peak Hour Factor       | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.92 | 0.75 | 0.92 | 0.75 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 47   | 918  | 29   | 6    | 176  | 4    | 27   | 0    | 7    | 2    | 0    | 28   |

Pedestrians

| Lane Width (ft) | Walking Speed (ft/s) | Percent Blockage | Right turn flare (veh) | Median type | Median storage (veh) | Upstream signal (ft) | pX, platoon unblocked | vC, conflicting volume | vC1, stage 1 conf vol | vC2, stage 2 conf vol | vCu, unblocked vol | tC, single (s) | tC, 2 stage (s) | IF (s) | p0 queue free % | cM capacity (veh/h) |     |
|-----------------|----------------------|------------------|------------------------|-------------|----------------------|----------------------|-----------------------|------------------------|-----------------------|-----------------------|--------------------|----------------|-----------------|--------|-----------------|---------------------|-----|
|                 |                      |                  |                        |             |                      |                      |                       | 181                    | 947                   | 947                   | 1228               | 1204           | 1204            | 918    | 1208            | 1231                | 179 |
|                 |                      |                  |                        |             |                      |                      |                       | 181                    | 947                   | 947                   | 1228               | 1204           | 1204            | 918    | 1208            | 1231                | 179 |
|                 |                      |                  |                        |             |                      |                      |                       | 41                     | 41                    | 41                    | 71                 | 6.5            | 6.2             | 7.1    | 6.5             | 6.2                 | 6.2 |
|                 |                      |                  |                        |             |                      |                      |                       | 2.2                    | 2.2                   | 2.2                   | 3.5                | 4.0            | 3.3             | 3.5    | 4.0             | 3.3                 | 3.3 |
|                 |                      |                  |                        |             |                      |                      |                       | 97                     | 99                    | 99                    | 82                 | 100            | 98              | 99     | 100             | 97                  | 97  |
|                 |                      |                  |                        |             |                      |                      |                       | 1395                   | 725                   | 725                   | 145                | 176            | 329             | 152    | 170             | 170                 | 864 |

Direction, Lane #

| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|-------------------|------|------|------|------|------|------|------|------|------|
| Volume Total      | 47   | 918  | 29   | 6    | 181  | 27   | 7    | 2    | 28   |
| Volume Left       | 47   | 0    | 0    | 6    | 0    | 27   | 0    | 2    | 0    |
| Volume Right      | 0    | 0    | 29   | 0    | 4    | 0    | 7    | 0    | 28   |
| cSH               | 1395 | 1700 | 1700 | 725  | 1700 | 145  | 329  | 152  | 864  |

Volume to Capacity

| Volume to Capacity     | 0.03 | 0.54 | 0.02 | 0.01 | 0.11 | 0.18 | 0.02 | 0.01 | 0.03 |
|------------------------|------|------|------|------|------|------|------|------|------|
| Queue Length 95th (ft) | 3    | 0    | 0    | 1    | 0    | 16   | 2    | 1    | 3    |

Control Delay (s)

| Control Delay (s)  | 7.7 | 0.0 | 0.0  | 10.0 | 0.0 | 35.3 | 16.2 | 29.1 | 9.3 |
|--------------------|-----|-----|------|------|-----|------|------|------|-----|
| Lane LOS           | A   | B   | B    | E    | C   | D    | A    | A    | A   |
| Approach Delay (s) | 0.4 | 0.3 | 31.5 | 10.7 |     |      |      |      |     |
| Approach LOS       |     | D   | B    | B    |     |      |      |      |     |

Intersection Summary

|                                   |       |
|-----------------------------------|-------|
| Average Delay                     | 1.4   |
| Intersection Capacity Utilization | 55.5% |
| ICU Level of Service              | B     |
| Analysis Period (min)             | 15    |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↑    | ↑    | ↑    | ↑    | ↔    | ↔    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign Control           | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| Grade                  | 0%   |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)         | 20   | 125  | 25   | 10   | 390  | 10   | 60   | 0    | 10   | 20   | 0    | 55   |
| Peak Hour Factor       | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 24   | 136  | 29   | 12   | 424  | 12   | 71   | 0    | 12   | 24   | 0    | 65   |

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type

Median storage (veh)

Upstream signal (ft)

pX, platoon unblocked

vC1, conflicting volume

vC1, stage 1 conf vol

vC2, stage 2 conf vol

vCu, unblocked vol

tC, single (s)

tC, 2 stage (s)

tE (s)

p0 queue free %

cM capacity (veh/h)

|     |      |      |     |     |     |     |     |
|-----|------|------|-----|-----|-----|-----|-----|
| EB1 | 165  | 669  | 642 | 136 | 648 | 666 | 430 |
| EB2 | 165  | 669  | 642 | 136 | 648 | 666 | 430 |
| EB3 | 41   | 71   | 615 | 62  | 71  | 615 | 62  |
| WB1 | 22   | 22   | 40  | 33  | 35  | 40  | 33  |
| WB2 | 98   | 99   | 78  | 100 | 99  | 94  | 100 |
| WB3 | 1124 | 1413 | 326 | 381 | 913 | 370 | 369 |
| NB1 | 669  | 642  | 136 | 648 | 666 | 430 |     |
| NB2 | 669  | 642  | 136 | 648 | 666 | 430 |     |
| NB3 | 41   | 71   | 615 | 62  | 71  | 615 | 62  |
| SB1 | 22   | 22   | 40  | 33  | 35  | 40  | 33  |
| SB2 | 98   | 99   | 78  | 100 | 99  | 94  | 100 |
| SB3 | 1124 | 1413 | 326 | 381 | 913 | 370 | 369 |

| Direction, Lane #      | EB1  | EB2  | EB3  | WB1  | NB1  | NB2  | SB1  |
|------------------------|------|------|------|------|------|------|------|
| Volume Total           | 24   | 136  | 29   | 447  | 71   | 12   | 88   |
| Volume Left            | 24   | 0    | 0    | 12   | 71   | 0    | 24   |
| Volume Right           | 0    | 0    | 29   | 12   | 0    | 12   | 65   |
| cSH                    | 1124 | 1700 | 1700 | 1413 | 326  | 913  | 853  |
| Volume to Capacity     | 0.02 | 0.08 | 0.02 | 0.01 | 0.22 | 0.01 | 0.10 |
| Queue Length 95th (ft) | 2    | 0    | 0    | 1    | 20   | 1    | 9    |
| Control Delay (s)      | 8.3  | 0.0  | 0.0  | 0.3  | 19.1 | 9.0  | 12.5 |
| Lane LOS               | A    | A    | A    | C    | A    | A    | B    |
| Approach Delay (s)     | 1.0  | 0.3  | 17.6 | 12.5 |      |      |      |
| Approach LOS           | C    | C    | B    | B    |      |      |      |

| Intersection Summary              |       |
|-----------------------------------|-------|
| Average Delay                     | 3.6   |
| Intersection Capacity Utilization | 45.9% |
| Analysis Period (min)             | 15    |
| ICU Level of Service              | A     |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement                          | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations               |       | ↑    | ↑    | ↑    | ↔    | ↔    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign Control                      |       | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| Grade                             | 0%    |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)                    | 60    | 335  | 25   | 5    | 200  | 25   | 20   | 0    | 5    | 15   | 0    | 35   |
| Peak Hour Factor                  | 0.85  | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph)            | 71    | 364  | 29   | 6    | 217  | 29   | 24   | 0    | 6    | 18   | 0    | 41   |
| Pedestrians                       |       |      |      |      |      |      |      |      |      |      |      |      |
| Lane Width (ft)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| Walking Speed (ft/s)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Percent Blockage                  |       |      |      |      |      |      |      |      |      |      |      |      |
| Right turn flare (veh)            | 8     |      |      |      |      |      |      |      |      |      |      |      |
| Median type                       | None  |      |      |      |      |      |      |      |      |      |      |      |
| Median storage (veh)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Upstream signal (ft)              |       |      |      |      |      |      |      |      |      |      |      |      |
| pX, platoon unblocked             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC, conflicting volume            | 247   | 394  | 394  | 770  | 764  | 364  | 755  | 779  | 232  | 232  | 6.5  | 6.2  |
| vC1, stage 1 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC2, stage 2 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vCu, unblocked vol                | 247   | 394  | 394  | 770  | 764  | 364  | 755  | 779  | 232  | 232  | 6.5  | 6.2  |
| tC, single (s)                    | 4.1   | 4.1  | 4.1  | 7.1  | 6.5  | 6.2  | 7.1  | 6.5  | 6.2  | 7.1  | 6.5  | 6.2  |
| tC, 2 stage (s)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| tF (s)                            | 2.2   | 2.2  | 2.2  | 3.5  | 4.0  | 3.3  | 3.5  | 4.0  | 3.3  | 3.5  | 4.0  | 3.3  |
| p0 queue free %                   | 95    | 99   | 99   | 92   | 100  | 99   | 94   | 100  | 99   | 94   | 100  | 95   |
| cM capacity (veh/h)               | 1319  | 1165 | 1165 | 288  | 314  | 681  | 308  | 308  | 681  | 308  | 308  | 607  |
| Direction, Lane #                 | EB1   | EB2  | EB3  | WB1  | NB1  | NB2  | SB1  | SB2  | SB3  | WB1  | WB2  | WB3  |
| Volume Total                      | 71    | 364  | 29   | 253  | 24   | 6    | 59   | 24   | 6    | 59   | 24   | 6    |
| Volume Left                       | 71    | 0    | 0    | 6    | 24   | 0    | 18   | 0    | 0    | 0    | 0    | 0    |
| Volume Right                      | 0     | 0    | 29   | 29   | 0    | 6    | 41   | 0    | 0    | 0    | 0    | 0    |
| cSH                               | 1319  | 1700 | 1700 | 1165 | 288  | 681  | 1026 | 288  | 681  | 1026 | 288  | 681  |
| Volume to Capacity                | 0.05  | 0.21 | 0.02 | 0.01 | 0.08 | 0.01 | 0.06 | 0.01 | 0.08 | 0.01 | 0.06 | 0.01 |
| Queue Length 95th (ft)            | 4     | 0    | 0    | 0    | 7    | 1    | 5    | 0    | 7    | 1    | 5    | 0    |
| Control Delay (s)                 | 7.9   | 0.0  | 0.0  | 0.2  | 18.6 | 10.3 | 12.0 | 0.2  | 18.6 | 10.3 | 12.0 | 0.2  |
| Lane LOS                          | A     | A    | A    | C    | B    | B    | B    | A    | C    | B    | B    | A    |
| Approach Delay (s)                | 1.2   | 0.2  | 17.0 | 12.0 | 12.0 | 12.0 | 12.0 | 1.2  | 17.0 | 12.0 | 12.0 | 1.2  |
| Approach LOS                      | C     | C    | C    | B    | B    | B    | B    | C    | C    | B    | B    | C    |
| Intersection Summary              |       |      |      |      |      |      |      |      |      |      |      |      |
| Average Delay                     | 2.3   |      |      |      |      |      |      |      |      |      |      |      |
| Intersection Capacity Utilization | 47.7% |      |      |      |      |      |      |      |      |      |      |      |
| ICU Level of Service              | A     |      |      |      |      |      |      |      |      |      |      |      |
| Analysis Period (min)             | 15    |      |      |      |      |      |      |      |      |      |      |      |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↖    | ↑    | ↗    | ↖    | ↕    | ↗    | ↖    | ↑    | ↗    | ↖    | ↗    | ↖    |
| Sign Control           | Free |      |      | Free |      |      | Stop |      |      | Stop |      |      |
| Grade                  | 0%   |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)         | 30   | 125  | 25   | 10   | 390  | 10   | 60   | 0    | 10   | 25   | 0    | 90   |
| Peak Hour Factor       | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 35   | 136  | 29   | 12   | 424  | 12   | 71   | 0    | 12   | 29   | 0    | 106  |

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type

Median storage (veh)

Upstream signal (ft)

|                        |      |
|------------------------|------|
| pX, platoon unblocked  |      |
| vC, conflicting volume | 436  |
| vC1, stage 1 conf vol  | 165  |
| vC2, stage 2 conf vol  | 165  |
| vCu, unblocked vol     | 436  |
| tC, single (s)         | 4.1  |
| tC, 2 stage (s)        | 2.2  |
| tF (s)                 | 97   |
| p0 queue free %        | 1124 |
| cM capacity (veh/h)    | 1413 |

| Direction, Lane #      | EB1  | EB2  | EB3  | WB1  | NB1  | NB2  | SB1  |
|------------------------|------|------|------|------|------|------|------|
| Volume Total           | 35   | 136  | 29   | 447  | 71   | 12   | 135  |
| Volume Left            | 35   | 0    | 0    | 12   | 71   | 0    | 29   |
| Volume Right           | 0    | 0    | 29   | 12   | 0    | 12   | 106  |
| cSH                    | 1124 | 1700 | 1700 | 1413 | 280  | 913  | 799  |
| Volume to Capacity     | 0.03 | 0.08 | 0.02 | 0.01 | 0.25 | 0.01 | 0.17 |
| Queue Length 95th (ft) | 2    | 0    | 0    | 1    | 24   | 1    | 15   |
| Control Delay (s)      | 8.3  | 0.0  | 0.0  | 0.3  | 22.2 | 9.0  | 12.8 |
| Lane LOS               | A    | A    | A    | C    | A    | A    | B    |
| Approach Delay (s)     | 1.5  | 0.3  | 20.3 | 12.8 |      |      |      |
| Approach LOS           | C    |      |      |      |      |      |      |

| Intersection Summary              |       |
|-----------------------------------|-------|
| Average Delay                     | 4.4   |
| Intersection Capacity Utilization | 45.9% |
| Analysis Period (min)             | 15    |
| ICU Level of Service              | A     |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↑    | ↑    | ↑    | ↑    | ↔    | ↔    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign/Control           | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| Grade                  | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   |
| Volume (veh/h)         | 105  | 335  | 25   | 5    | 200  | 30   | 20   | 0    | 5    | 15   | 0    | 60   |
| Peak Hour Factor       | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 124  | 364  | 29   | 6    | 217  | 35   | 24   | 0    | 6    | 18   | 0    | 71   |

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type

Median storage (veh)

Upstream signal (ft)

pX, platoon unblocked

vC, conflicting volume

vC1, stage 1 conf vol

vC2, stage 2 conf vol

vCu, unblocked vol

tC, single (s)

tC, 2 stage (s)

iF (s)

p0 queue free %

cM capacity (veh/h)

Direction, Lane #

Volume Total

Volume Left

Volume Right

cSH

Volume to Capacity

Queue Length 95th (ft)

Control Delay (s)

Lane LOS

Approach Delay (s)

Approach LOS

Intersection Summary

Average Delay

Intersection Capacity Utilization

Analysis Period (min)

ICU Level of Service

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement                          | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-----------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations               | ↑     | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign. Control                     | Free  | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| Grade                             | 0%    |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)                    | 5     | 240  | 35   | 5    | 535  | 5    | 60   | 5    | 10   | 10   | 5    | 65   |
| Peak Hour Factor                  | 0.85  | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph)            | 6     | 261  | 41   | 6    | 582  | 6    | 71   | 6    | 12   | 12   | 6    | 76   |
| Pedestrians                       |       |      |      |      |      |      |      |      |      |      |      |      |
| Lane Width (ft)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| Walking Speed (ft/s)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Percent Blockage                  |       |      |      |      |      |      |      |      |      |      |      |      |
| Right turn flare (veh)            | 8     |      |      |      |      |      |      |      |      |      |      |      |
| Median type                       | None  |      |      |      |      |      |      |      |      |      |      |      |
| Median storage (veh)              |       |      |      |      |      |      |      |      |      |      |      |      |
| Upstream signal (ft)              |       |      |      |      |      |      |      |      |      |      |      |      |
| pX, platoon unblocked             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC1 conflicting volume            | 587   |      | 302  |      |      |      | 910  | 872  | 261  | 884  | 910  | 584  |
| vC1, stage 1 conf vol             |       |      |      |      |      |      |      |      |      |      |      |      |
| vC2 stage 2 conf vol              |       |      |      |      |      |      |      |      |      |      |      |      |
| vCu, unblocked vol                | 587   |      | 302  |      |      |      | 910  | 872  | 261  | 884  | 910  | 584  |
| tC, single (s)                    | 4.1   |      | 4.1  |      |      |      | 7.1  | 6.5  | 6.2  | 7.1  | 6.5  | 6.2  |
| tC, 2 stage (s)                   |       |      |      |      |      |      |      |      |      |      |      |      |
| tE (s)                            | 2.2   |      | 2.2  |      |      |      | 3.5  | 4.0  | 3.3  | 3.5  | 4.0  | 3.3  |
| p0 queue free %                   | 99    |      | 100  |      |      |      | 67   | 98   | 98   | 95   | 98   | 85   |
| cM capacity (veh/h)               | 988   |      | 1259 |      |      |      | 212  | 286  | 778  | 256  | 272  | 511  |
| Direction Lane #                  | EB 1  | EB 2 | EB 3 | WB 1 | NB 1 | NB 2 | SB 1 |      |      |      |      |      |
| Volume Total                      | 6     | 261  | 41   | 593  | 71   | 18   | 94   |      |      |      |      |      |
| Volume Left                       | 6     | 0    | 0    | 6    | 71   | 0    | 12   |      |      |      |      |      |
| Volume Right                      | 0     | 0    | 41   | 6    | 0    | 12   | 76   |      |      |      |      |      |
| cSH                               | 988   | 1700 | 1700 | 1259 | 212  | 494  | 629  |      |      |      |      |      |
| Volume to Capacity                | 0.01  | 0.15 | 0.02 | 0.00 | 0.33 | 0.04 | 0.15 |      |      |      |      |      |
| Queue Length 95th (ft)            | 0     | 0    | 0    | 0    | 35   | 3    | 13   |      |      |      |      |      |
| Control Delay (s)                 | 8.7   | 0.0  | 0.0  | 0.1  | 30.2 | 12.6 | 14.5 |      |      |      |      |      |
| Lane LOS                          | A     | A    | D    | B    | B    | B    | B    |      |      |      |      |      |
| Approach Delay (s)                | 0.2   | 0.1  | 26.7 | 14.5 |      |      |      |      |      |      |      |      |
| Approach LOS                      | D     | D    | B    | B    |      |      |      |      |      |      |      |      |
| Intersection Summary              |       |      |      |      |      |      |      |      |      |      |      |      |
| Average Delay                     | 3.6   |      |      |      |      |      |      |      |      |      |      |      |
| Intersection Capacity Utilization | 49.1% |      |      |      |      |      |      |      |      |      |      |      |
| ICU Level of Service              | A     |      |      |      |      |      |      |      |      |      |      |      |
| Analysis Period (min)             | 15    |      |      |      |      |      |      |      |      |      |      |      |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↑    | ↑    | ↑    | ↑    | ↔    | ↔    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign Control           | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| Grade                  | 0%   |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)         | 80   | 520  | 35   | 5    | 355  | 15   | 25   | 5    | 5    | 10   | 5    | 45   |
| Peak Hour Factor       | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 94   | 565  | 41   | 6    | 386  | 18   | 29   | 6    | 6    | 12   | 6    | 53   |
| Pedestrians            |      |      |      |      |      |      |      |      |      |      |      |      |

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type

Median storage (veh)

Upstream signal (ft)

pX, platoon unblocked

vC, conflicting volume

vC1, stage 1 conf vol

vC2, stage 2 conf vol

vCu, unblocked vol

tC, single (s)

tC, 2 stage (s)

tF (s)

p0 queue free %

cM capacity (veh/h)

Direction, Lane #

Volume Total

Volume Left

Volume Right

cSH

Volume to Capacity

Queue Length 95th (ft)

Control Delay (s)

Lane LOS

Approach Delay (s)

Approach LOS

| Direction, Lane #      | EB1  | EB2  | EB3  | WB1  | NB1  | NB2  | SB1  |
|------------------------|------|------|------|------|------|------|------|
| Volume Total           | 94   | 565  | 41   | 409  | 29   | 12   | 71   |
| Volume Left            | 94   | 0    | 0    | 6    | 29   | 0    | 12   |
| Volume Right           | 0    | 0    | 41   | 18   | 0    | 6    | 53   |
| cSH                    | 1155 | 1700 | 1700 | 972  | 138  | 264  | 633  |
| Volume to Capacity     | 0.08 | 0.33 | 0.02 | 0.01 | 0.21 | 0.04 | 0.11 |
| Queue Length 95th (ft) | 7    | 0    | 0    | 0    | 19   | 3    | 9    |
| Control Delay (s)      | 8.4  | 0.0  | 0.0  | 0.2  | 38.1 | 19.3 | 15.9 |
| Lane LOS               | A    | A    | A    | E    | C    | C    | C    |
| Approach Delay (s)     | 1.1  | 0.2  | 0.2  | 32.8 | 15.9 | 15.9 | 15.9 |
| Approach LOS           | D    | D    | D    | C    | C    | C    | C    |

| Intersection Summary              |       |
|-----------------------------------|-------|
| Average Delay                     | 2.7   |
| Intersection Capacity Utilization | 65.3% |
| ICU Level of Service              | C     |
| Analysis Period (min)             | 15    |

# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↑    | ↑    | ↑    | ↑    | ↔    | ↔    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign Control           | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| Grade                  | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   |
| Volume (veh/h)         | 20   | 240  | 35   | 5    | 535  | 5    | 60   | 5    | 10   | 15   | 5    | 105  |
| Peak Hour Factor       | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 24   | 261  | 41   | 6    | 582  | 6    | 71   | 6    | 12   | 18   | 6    | 124  |

Pedestrians

|                        |      |
|------------------------|------|
| Lane Width (ft)        |      |
| Walking Speed (ft/s)   |      |
| Percent Blockage       |      |
| Right turn flare (veh) | 8    |
| Median type            | None |
| Median storage (veh)   |      |

|                        |     |      |     |     |     |     |     |     |
|------------------------|-----|------|-----|-----|-----|-----|-----|-----|
| Upstream signal (ft)   |     |      |     |     |     |     |     |     |
| pX, platoon unblocked  |     |      |     |     |     |     |     |     |
| vC1 conflicting volume | 587 | 302  | 969 | 907 | 261 | 919 | 945 | 584 |
| vC1, stage 1 conf vol  |     |      |     |     |     |     |     |     |
| vC2, stage 2 conf vol  |     |      |     |     |     |     |     |     |
| vCu, unblocked vol     | 587 | 302  | 969 | 907 | 261 | 919 | 945 | 584 |
| tC, single (s)         | 4.1 | 4.1  | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s)        |     |      |     |     |     |     |     |     |
| tF (s)                 | 2.2 | 2.2  | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free %        | 98  | 100  | 58  | 98  | 98  | 93  | 98  | 76  |
| cM capacity (veh/h)    | 988 | 1259 | 170 | 268 | 778 | 239 | 254 | 511 |

| Direction              | Lane # | EB 1 | EB 2 | EB 3 | WB 1 | NB 1 | NB 2 | SB 1 |
|------------------------|--------|------|------|------|------|------|------|------|
| Volume Total           |        | 24   | 261  | 41   | 593  | 71   | 18   | 147  |
| Volume Left            |        | 24   | 0    | 0    | 6    | 71   | 0    | 18   |
| Volume Right           |        | 0    | 0    | 41   | 6    | 0    | 12   | 124  |
| cSH                    |        | 988  | 1700 | 1700 | 1259 | 170  | 476  | 609  |
| Volume to Capacity     |        | 0.02 | 0.15 | 0.02 | 0.00 | 0.42 | 0.04 | 0.24 |
| Queue Length 95th (ft) |        | 2    | 0    | 0    | 0    | 46   | 3    | 24   |
| Control Delay (s)      |        | 8.7  | 0.0  | 0.0  | 0.1  | 40.5 | 12.9 | 15.4 |
| Lane LOS               |        | A    | A    | E    | B    | C    | C    | C    |
| Approach Delay (s)     |        | 0.6  | 0.1  | 35.0 | 15.4 |      |      |      |
| Approach LOS           |        | D    | D    |      |      |      |      |      |

|                                   |       |
|-----------------------------------|-------|
| Intersection Summary              |       |
| Average Delay                     | 4.9   |
| Intersection Capacity Utilization | 49.1% |
| ICU Level of Service              | A     |
| Analysis Period (min)             | 15    |



# HCM Unsignalized Intersection Capacity Analysis

## 3: Hodgen Rd & Timber Meadow Drive

8/5/2004



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations    | ↑    | ↑    | ↑    | ↔    | ↔    | ↔    | ↑    | ↑    | ↑    | ↑    | ↑    | ↑    |
| Sign Control           | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| Grade                  | 0%   |      |      |      |      |      |      |      |      |      |      |      |
| Volume (veh/h)         | 125  | 520  | 35   | 5    | 355  | 20   | 25   | 5    | 5    | 10   | 5    | 70   |
| Peak Hour Factor       | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (yph) | 147  | 565  | 41   | 6    | 386  | 24   | 29   | 6    | 6    | 12   | 6    | 82   |

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type

Median storage (veh)

Upstream signal (ft)

pX, platoon unblocked

|                        |     |     |      |      |     |      |      |     |
|------------------------|-----|-----|------|------|-----|------|------|-----|
| vC, conflicting volume | 409 | 606 | 1313 | 1280 | 565 | 1278 | 1310 | 398 |
| vC1, stage 1 conf vol  |     |     |      |      |     |      |      |     |
| vC2, stage 2 conf vol  |     |     |      |      |     |      |      |     |
| vCu, unblocked vol     | 409 | 606 | 1313 | 1280 | 565 | 1278 | 1310 | 398 |
| tC, single (s)         | 4.1 | 4.1 | 7.1  | 6.5  | 6.2 | 7.1  | 6.5  | 6.2 |
| tC, 2 stage (s)        |     |     |      |      |     |      |      |     |

|                     |      |     |     |     |     |     |     |     |
|---------------------|------|-----|-----|-----|-----|-----|-----|-----|
| tF (s)              | 2.2  | 2.2 | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free %     | 87   | 99  | 71  | 96  | 99  | 90  | 96  | 87  |
| cM capacity (veh/h) | 1149 | 972 | 103 | 144 | 524 | 123 | 138 | 652 |

| Direction, Lane #      | EB.1 | EB.2 | EB.3 | WB.1 | NB.1 | NB.2 | SB.1 |
|------------------------|------|------|------|------|------|------|------|
| Volume Total           | 147  | 565  | 41   | 415  | 29   | 12   | 100  |
| Volume Left            | 147  | 0    | 0    | 6    | 29   | 0    | 12   |
| Volume Right           | 0    | 0    | 41   | 24   | 0    | 6    | 82   |
| cSH                    | 1149 | 1700 | 1700 | 972  | 103  | 225  | 726  |
| Volume to Capacity     | 0.13 | 0.33 | 0.02 | 0.01 | 0.29 | 0.05 | 0.14 |
| Queue Length 95th (ft) | 11   | 0    | 0    | 0    | 27   | 4    | 12   |
| Control Delay (s)      | 8.6  | 0.0  | 0.0  | 0.2  | 53.5 | 21.9 | 15.9 |
| Lane LOS               | A    | A    | F    | C    | C    | C    | C    |
| Approach Delay (s)     | 1.7  | 0.2  | 44.4 | 15.9 |      |      |      |
| Approach LOS           | E    | E    | C    | C    |      |      |      |

|                                   |       |
|-----------------------------------|-------|
| Intersection Summary              |       |
| Average Delay                     | 3.6   |
| Intersection Capacity Utilization | 65.6% |
| ICU Level of Service              | C     |
| Analysis Period (min)             | 15    |



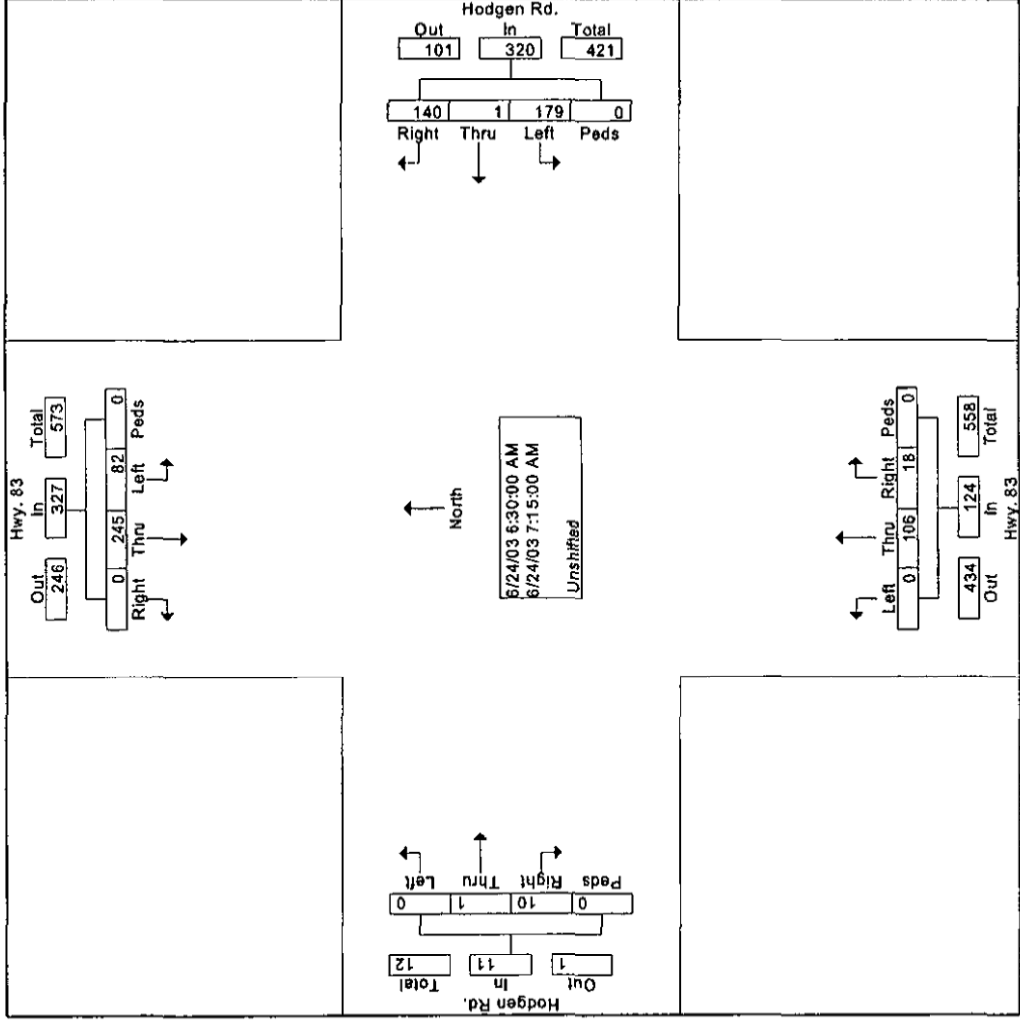
LSC Transportation Consultants Inc.  
Intersection Counts

File Name : 035860A2  
Site Code : 00624031  
Start Date : 06/24/2003  
Page No : 2

| Start Time       | Hwy. 83 North |      |      |       | Hodgen Rd. East |      |      |       | Hwy. 83 South |      |      |       | Hodgen Rd. West |      |      |       |      |
|------------------|---------------|------|------|-------|-----------------|------|------|-------|---------------|------|------|-------|-----------------|------|------|-------|------|
|                  | Rig ht        | Thru | Left | Ped s | Rig ht          | Thru | Left | Ped s | Rig ht        | Thru | Left | Ped s | Rig ht          | Thru | Left | Ped s |      |
| 06:30 AM         | 0             | 245  | 82   | 0     | 140             | 1    | 179  | 0     | 320           | 18   | 106  | 0     | 0               | 0    | 0    | 0     | 0    |
| Volume           | 0             | 74   | 25   | 0.0   | 43              | 0.3  | 55   | 0.0   | 14            | 85   | 0.0  | 0.0   | 0.0             | 9.1  | 0.0  | 0.0   | 0.0  |
| Percent          | 0.0           | 9    | 1    |       | 8               |      | 9    |       | 5             | 5    |      |       |                 | 3    | 0    | 0     | 0    |
| 07:15 AM         | 0             | 72   | 20   | 0     | 37              | 0    | 44   | 0     | 81            | 5    | 27   | 0     | 0               | 0    | 0    | 0     | 0    |
| Volume           | 0             | 20   | 0    |       | 4               | 34   | 0    | 0     | 38            | 4    | 34   | 0     | 0               | 0    | 0    | 0     | 0    |
| Peak Factor      | 0             | 0.88 | 0    | 0.89  | 0.89            | 0.89 | 0.89 | 0.89  | 0.81          | 0.81 | 0.81 | 0.81  | 0.81            | 0.81 | 0.81 | 0.81  | 0.81 |
| High Int. Volume | 0             | 72   | 20   | 0     | 43              | 0    | 46   | 0     | 89            | 4    | 34   | 0     | 0               | 5    | 1    | 0     | 0    |
| Peak Factor      | 0             | 0.88 | 0    | 0.89  | 0.89            | 0.89 | 0.89 | 0.89  | 0.81          | 0.81 | 0.81 | 0.81  | 0.81            | 0.81 | 0.81 | 0.81  | 0.81 |
| Int. Total       |               |      |      | 9     |                 |      |      | 9     |               |      |      |       |                 |      |      |       | 8    |

Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1

Intersection on



LSC Transportation Consultants Inc.  
Intersection Counts

101 N Tejon St Suite 200  
Colorado Springs, CO 80903  
Phone (719) 633-2868  
E-mail: lsc@lscscs.com

File Name : 0358660P2  
Site Code : 00623032  
Start Date : 06/23/2003  
Page No : 1

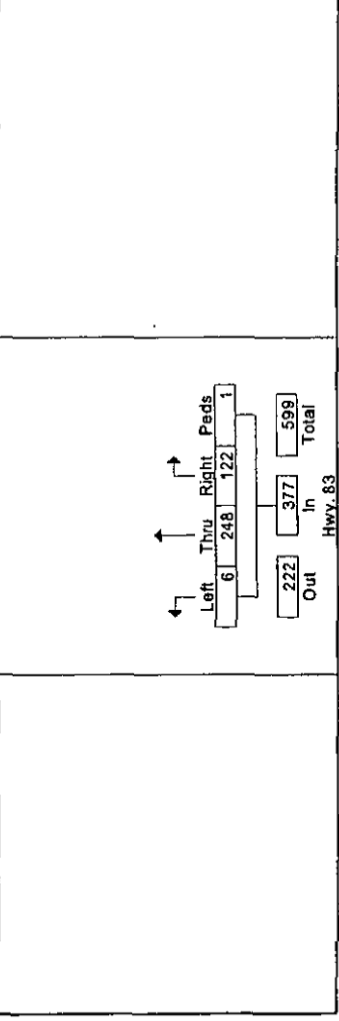
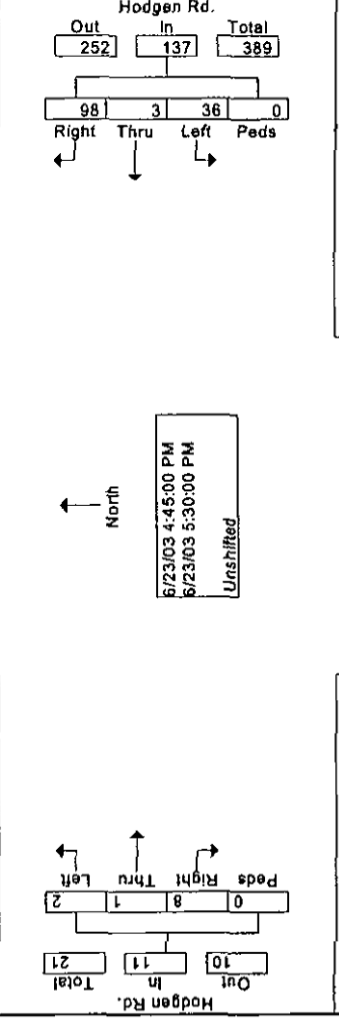
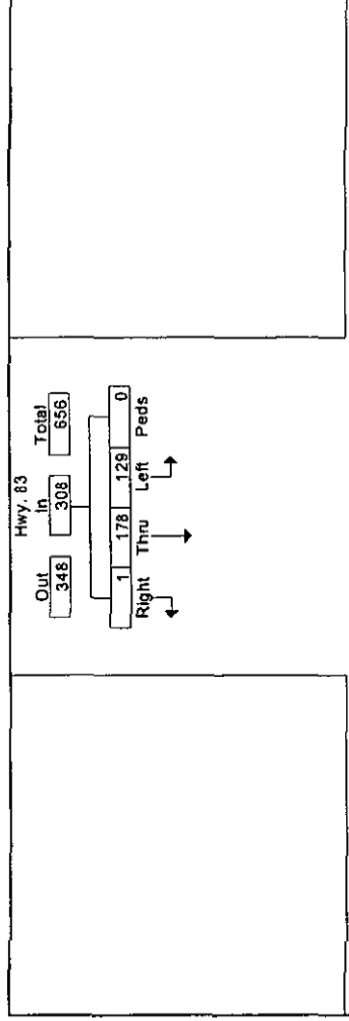
Groups Printed- Unshifted

| Start Time  | Hwy. 83 North |      |      |      |      |      | Hwy. 83 South |      |      |      |      |      | Hwy. Rd. West |      |      |      |      |      |      |
|-------------|---------------|------|------|------|------|------|---------------|------|------|------|------|------|---------------|------|------|------|------|------|------|
|             | Right         |      | Left |      | Peds |      | Right         |      | Left |      | Peds |      | Right         |      | Left |      | Peds |      |      |
|             | Thru          | Thru | Thru | Thru | Thru | Thru | Thru          | Thru | Thru | Thru | Thru | Thru | Thru          | Thru | Thru | Thru | Thru | Thru |      |
| Factor      | 1.0           | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  | 1.0           | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  | 1.0           | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  |
| 04:30 PM    | 1             | 51   | 38   | 0    | 14   | 0    | 11            | 0    | 30   | 49   | 2    | 0    | 1             | 0    | 0    | 0    | 0    | 0    | 197  |
| 04:45 PM    | 1             | 50   | 34   | 0    | 22   | 0    | 10            | 0    | 30   | 60   | 4    | 0    | 2             | 0    | 0    | 0    | 0    | 0    | 213  |
| Total       | 2             | 101  | 72   | 0    | 36   | 0    | 21            | 0    | 60   | 109  | 6    | 0    | 3             | 0    | 0    | 0    | 0    | 0    | 410  |
| 05:00 PM    | 0             | 49   | 30   | 0    | 27   | 1    | 7             | 0    | 27   | 60   | 1    | 0    | 2             | 0    | 0    | 1    | 0    | 0    | 205  |
| 05:15 PM    | 0             | 37   | 34   | 0    | 28   | 0    | 10            | 0    | 36   | 64   | 0    | 0    | 2             | 1    | 1    | 1    | 0    | 0    | 213  |
| 05:30 PM    | 0             | 42   | 31   | 0    | 21   | 2    | 9             | 0    | 29   | 64   | 1    | 1    | 2             | 0    | 0    | 0    | 0    | 0    | 202  |
| 05:45 PM    | 0             | 28   | 27   | 0    | 24   | 0    | 7             | 0    | 26   | 63   | 2    | 0    | 1             | 0    | 0    | 0    | 0    | 0    | 178  |
| Total       | 0             | 156  | 122  | 0    | 100  | 3    | 33            | 0    | 118  | 251  | 4    | 1    | 7             | 1    | 2    | 2    | 0    | 0    | 798  |
| 06:00 PM    | 1             | 31   | 34   | 0    | 20   | 0    | 8             | 0    | 19   | 41   | 0    | 0    | 3             | 1    | 1    | 1    | 0    | 0    | 159  |
| 06:15 PM    | 1             | 31   | 20   | 0    | 14   | 0    | 10            | 0    | 23   | 50   | 1    | 0    | 2             | 0    | 0    | 0    | 0    | 0    | 152  |
| Grand Total | 4             | 319  | 248  | 0    | 170  | 3    | 72            | 0    | 220  | 451  | 11   | 1    | 15            | 2    | 3    | 0    | 0    | 0    | 1519 |
| Approch %   | 0.7           | 55.9 | 43.4 | 0.0  | 69.4 | 1.2  | 29.4          | 0.0  | 32.2 | 66.0 | 1.6  | 0.1  | 75.0          | 10.0 | 15.0 | 0.0  | 0.0  | 0.0  |      |
| Total %     | 0.3           | 21.0 | 16.3 | 0.0  | 11.2 | 0.2  | 4.7           | 0.0  | 14.5 | 29.7 | 0.7  | 0.1  | 1.0           | 0.1  | 0.2  | 0.0  | 0.0  | 0.0  |      |

LSC Transportation Consultants Inc.  
Intersection Counts

File Name : 035860P2  
Site Code : 00623032  
Start Date : 06/23/2003  
Page No : 2

| Start Time  | Hwy. 83 North |      |      |       | Hodgen Rd. East |      |      |       | Hwy. 83 South |      |      |       | Hodgen Rd. West |      |      |       |     |     |     |    |
|---|---------------|------|------|-------|-----------------|------|------|-------|---------------|------|------|-------|-----------------|------|------|-------|-----|-----|-----|----|
|   | Rig ht        | Thru | Left | Ped s | Rig ht          | Thru | Left | Ped s | Rig ht        | Thru | Left | Ped s | Rig ht          | Thru | Left | Ped s |     |     |     |    |
| Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1 |               |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
| Intersecti on                                     | 04:45 PM      |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
| Volume  | 1             | 178  | 129  | 0     | 308             | 98   | 3    | 36    | 0             | 137  | 122  | 248   | 6               | 1    | 377  | 8     | 1   | 2   | 0   | 11 |
| Percent   | 0.3           | 57.  | 41.  | 0.0   |                 | 71.  | 2.2  | 26.   | 0.0           |      | 32.  | 65.   | 1.6             | 0.3  |      | 72.   | 9.1 | 18. | 0.0 |    |
|   | 8             | 9    |      |       |                 | 5    |      | 3     |               |      | 4    | 8     |                 |      |      | 7     | 2   |     |     |    |
| 05:15 Volume                                      | 0             | 37   | 34   | 0     | 71              | 28   | 0    | 10    | 0             | 38   | 36   | 64    | 0               | 0    | 100  | 2     | 1   | 1   | 0   | 4  |
| Peak Factor                                       | 0.978         |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
| High Int. Time                                    | 04:45 PM      |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
| Volume  | 1             | 50   | 34   | 0     | 85              | 28   | 0    | 10    | 0             | 38   | 36   | 64    | 0               | 0    | 100  | 2     | 1   | 1   | 0   | 4  |
| Peak Factor                                       | 0.90          |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
|   | 6             |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
|   | 1             |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
|   | 05:15 PM      |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
|   | 05:15 PM      |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
|   | 0.94          |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |
|   | 3             |      |      |       |                 |      |      |       |               |      |      |       |                 |      |      |       |     |     |     |    |

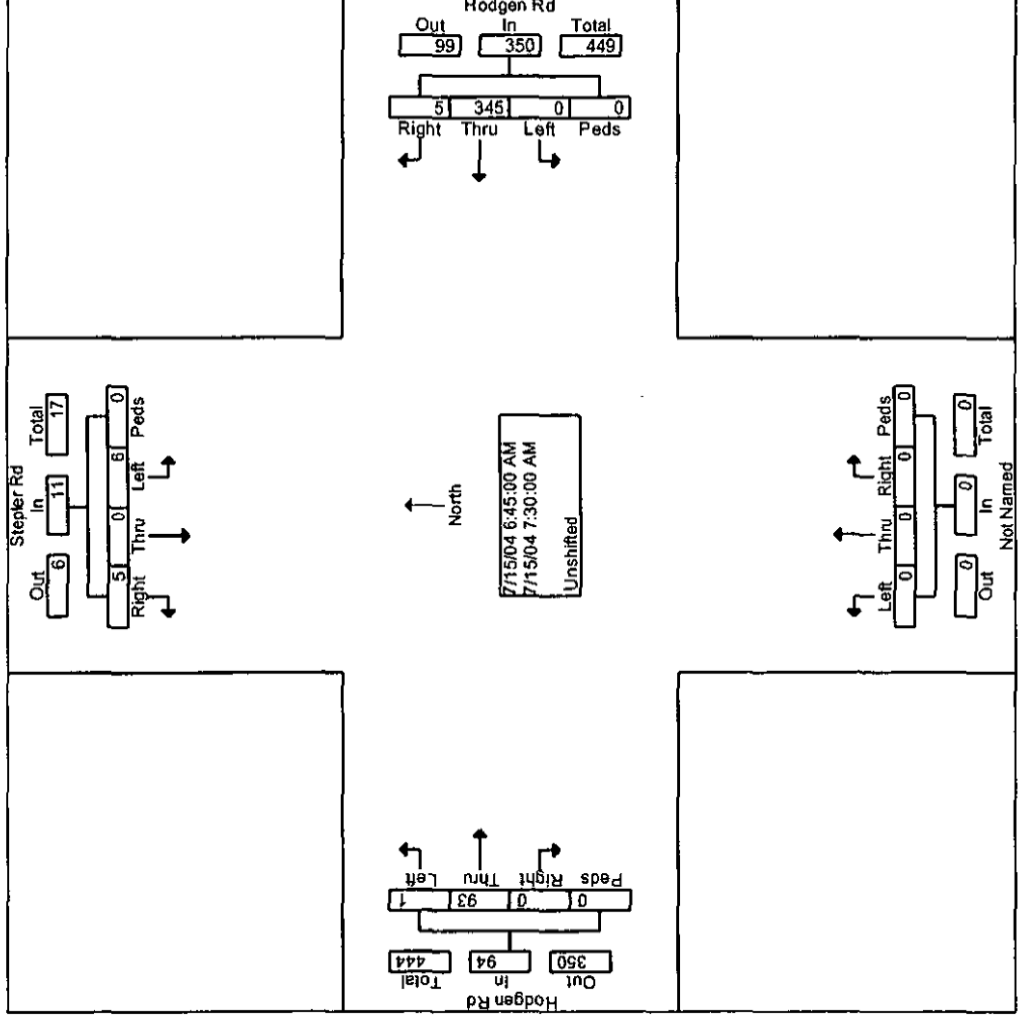




LSC Transportation Consultants Inc.  
Intersection Counts

File Name : Hodgen Rd A  
Site Code : 00715041  
Start Date : 07/15/2004  
Page No : 2

|                  | Stepler Rd North                                  |      |      |          |               | Hodgen Rd East |      |      |          |               | South     |      |      |          |               | Hodgen Rd West |      |      |          |               |               |
|------------------|---|------|------|----------|---------------|----------------|------|------|----------|---------------|-----------|------|------|----------|---------------|----------------|------|------|----------|---------------|---------------|
|                  | Rig<br>ht   | Thru | Left | Ped<br>s | App.<br>Total | Rig<br>ht      | Thru | Left | Ped<br>s | App.<br>Total | Rig<br>ht | Thru | Left | Ped<br>s | App.<br>Total | Rig<br>ht      | Thru | Left | Ped<br>s | App.<br>Total | Int.<br>Total |
| Start Time       | Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1 |      |      |          |               |                |      |      |          |               |           |      |      |          |               |                |      |      |          |               |               |
| Intersection     | 06:45 AM  |      |      |          |               |                |      |      |          |               |           |      |      |          |               |                |      |      |          |               |               |
| Volume           | 5   | 0    | 6    | 0        | 11            | 5              | 345  | 0    | 0        | 350           | 0         | 0    | 0    | 0        | 0             | 0              | 93   | 1    | 0        | 94            | 455           |
| Percent          | 45  | 0.0  | 54   | 0.0      |               | 1.4            | 98.6 | 0.0  | 0.0      |               | 0.0       | 0.0  | 0.0  | 0.0      |               | 0.0            | 98.9 | 1.1  | 0.0      |               |               |
| 07:15 Volume     | 2   | 0    | 1    | 0        | 3             | 2              | 88   | 0    | 0        | 90            | 0         | 0    | 0    | 0        | 0             | 0              | 27   | 0    | 0        | 27            | 120           |
| Peak Factor      | 0.948   |      |      |          |               |                |      |      |          |               |           |      |      |          |               |                |      |      |          |               |               |
| High Int. Factor | 07:15 AM  |      |      |          |               |                |      |      |          |               |           |      |      |          |               |                |      |      |          |               |               |
| Volume           | 2   | 0    | 3    | 0        | 5             | 1              | 94   | 0    | 0        | 95            | 0         | 0    | 0    | 0        | 0             | 0              | 27   | 0    | 0        | 27            | 0.87          |
| Peak Factor      | 0.550   |      |      |          |               |                |      |      |          |               |           |      |      |          |               |                |      |      |          |               |               |



LSC Transportation Consultants Inc.  
 Intersection Counts

516 N. Tejon St.  
 Colorado Springs, CO 80903  
 Phone (719) 633-2868  
 E-mail: lsc@lscs.com

File Name : Hodgen Rd PM  
 Site Code : 00715042  
 Start Date : 07/15/2004  
 Page No : 1

Groups Printed- Unshifted

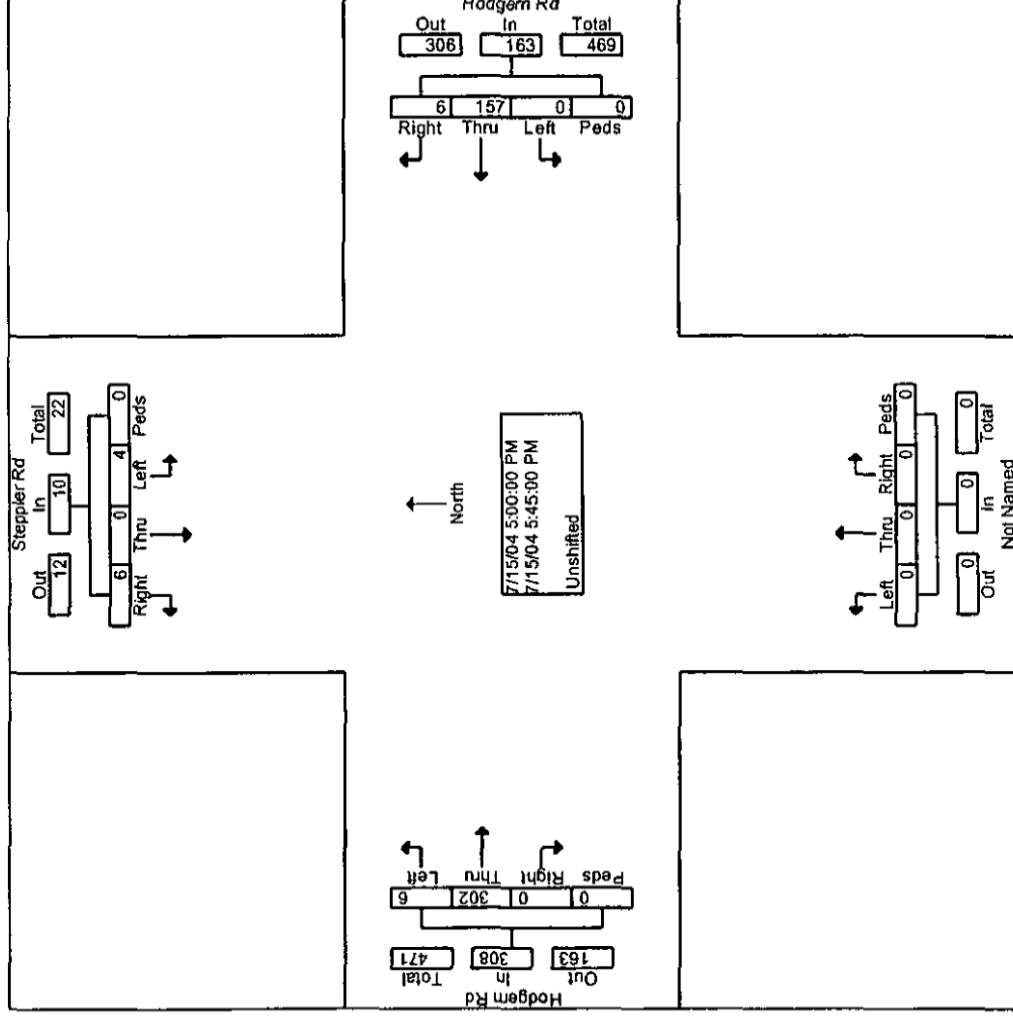
| Start Time  | Steppler Rd<br>North |      |      |      |       |      | Hodgen Rd<br>East |      |      |      |       |      | South |      |       |      |      |      | Hodgen Rd<br>West |      |      |      |  |  |
|-------------|----------------------|------|------|------|-------|------|-------------------|------|------|------|-------|------|-------|------|-------|------|------|------|-------------------|------|------|------|--|--|
|             | Right                | Thru | Left | Peds | Right | Peds | Right             | Thru | Left | Peds | Right | Thru | Left  | Peds | Right | Thru | Left | Peds | Right             | Thru | Left | Peds |  |  |
|             | Factor               |      |      |      |       |      |                   |      |      |      |       |      |       |      |       |      |      |      |                   |      |      |      |  |  |
| 04:30 PM    | 1.0                  | 1.0  | 1.0  | 1.0  | 1.0   | 1.0  | 1.0               | 1.0  | 1.0  | 1.0  | 1.0   | 1.0  | 1.0   | 1.0  | 1.0   | 1.0  | 1.0  | 1.0  | 1.0               | 1.0  | 1.0  | 1.0  |  |  |
| 04:45 PM    | 0                    | 0    | 1    | 0    | 3     | 0    | 28                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    | 0    | 0    | 0                 | 58   | 0    | 0    |  |  |
| Total       | 1                    | 0    | 3    | 0    | 0     | 0    | 38                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 58   | 0    | 0    | 0                 | 58   | 0    | 0    |  |  |
| 05:00 PM    | 1                    | 0    | 4    | 0    | 3     | 0    | 66                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 116  | 0    | 0    | 0                 | 116  | 0    | 0    |  |  |
| 05:15 PM    | 3                    | 0    | 0    | 0    | 0     | 0    | 42                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 76   | 1    | 0    | 0                 | 76   | 1    | 0    |  |  |
| 05:30 PM    | 2                    | 0    | 0    | 0    | 1     | 0    | 30                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 84   | 0    | 0    | 0                 | 84   | 0    | 0    |  |  |
| 05:45 PM    | 0                    | 0    | 4    | 0    | 3     | 0    | 39                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 76   | 0    | 0    | 0                 | 76   | 0    | 0    |  |  |
| Total       | 1                    | 0    | 0    | 0    | 2     | 0    | 46                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 66   | 5    | 0    | 0                 | 66   | 5    | 0    |  |  |
| Total       | 6                    | 0    | 4    | 0    | 6     | 0    | 157               | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 302  | 6    | 0    | 0                 | 302  | 6    | 0    |  |  |
| 06:00 PM    | 0                    | 0    | 4    | 0    | 3     | 0    | 39                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 66   | 1    | 0    | 0                 | 66   | 1    | 0    |  |  |
| 06:15 PM    | 0                    | 0    | 1    | 0    | 1     | 0    | 38                | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 61   | 1    | 0    | 0                 | 61   | 1    | 0    |  |  |
| Grand Total | 7                    | 0    | 13   | 0    | 13    | 0    | 300               | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 545  | 8    | 0    | 0                 | 545  | 8    | 0    |  |  |
| Approch %   | 35.0                 | 0.0  | 65.0 | 0.0  | 4.2   | 0.0  | 95.8              | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 0.0   | 0.0  | 0.0   | 98.6 | 1.4  | 0.0  | 0.0               | 98.6 | 1.4  | 0.0  |  |  |
| Total %     | 0.8                  | 0.0  | 1.5  | 0.0  | 1.5   | 0.0  | 33.9              | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 0.0   | 0.0  | 0.0   | 61.5 | 0.9  | 0.0  | 0.0               | 61.5 | 0.9  | 0.0  |  |  |



LSC Transportation Consultants Inc.  
Intersection Counts

File Name : Hodgen Rd PM  
Site Code : 00715042  
Start Date : 07/15/2004  
Page No : 2

| Start Time  | Steppler Rd North |      |      |       |            | Hodgen Rd East |      |      |       |            | South  |      |      |       |            | Hodgen Rd West |      |      |       |            |            |
|---|-------------------|------|------|-------|------------|----------------|------|------|-------|------------|--------|------|------|-------|------------|----------------|------|------|-------|------------|------------|
|   | Rig ht            | Thru | Left | Ped s | App. Total | Rig ht         | Thru | Left | Ped s | App. Total | Rig ht | Thru | Left | Ped s | App. Total | Rig ht         | Thru | Left | Ped s | App. Total | Int. Total |
| Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1 |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| Intersecti on 05:00 PM                            |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| Volume  | 6                 | 0    | 4    | 0     | 10         | 6              | 157  | 0    | 0     | 163        | 0      | 0    | 0    | 0     | 0          | 0              | 302  | 6    | 0     | 308        | 481        |
| Percent   | 60.               | 0.0  | 40.  | 0.0   | 3.7        | 96.            | 0.0  | 0.0  | 0.0   | 0.0        | 0.0    | 0.0  | 0.0  | 0.0   | 0.0        | 0.0            | 98.  | 1.9  | 0.0   | 0.0        |            |
| 05:30   |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| Volume  | 0                 | 0    | 4    | 0     | 4          | 3              | 39   | 0    | 0     | 42         | 0      | 0    | 0    | 0     | 0          | 0              | 76   | 0    | 0     | 76         | 122        |
| Peak Factor 0.986                                 |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| High Int. 05:30 PM                                |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| Volume  | 0                 | 0    | 4    | 0     | 4          | 2              | 46   | 0    | 0     | 48         | 0      | 0    | 0    | 0     | 0          | 0              | 84   | 0    | 0     | 84         | 0.917      |
| Peak Factor 0.625                                 |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| High Int. 05:15 PM                                |                   |      |      |       |            |                |      |      |       |            |        |      |      |       |            |                |      |      |       |            |            |
| Volume  | 0                 | 0    | 0    | 0     | 0          | 0              | 0    | 0    | 0     | 0          | 0      | 0    | 0    | 0     | 0          | 0              | 0    | 0    | 0     | 0          | 0.986      |



| Begin Time | Both directions |             |            |             |            |     |     | Weekday Avg. | Sat. 07/24 | Sun. 07/25 | Week Avg. |
|------------|-----------------|-------------|------------|-------------|------------|-----|-----|--------------|------------|------------|-----------|
|            | Mon. 07/19      | Tues. 07/20 | Wed. 07/21 | Thur. 07/22 | Fri. 07/23 |     |     |              |            |            |           |
| 12:00 am   | *               | *           | *          | *           | *          | *   | 0   | *            | *          | *          | 0         |
| 01:00      | *               | *           | *          | *           | 1          | *   | 1   | *            | *          | *          | 1         |
| 02:00      | *               | *           | *          | *           | 2          | *   | 2   | *            | *          | *          | 2         |
| 03:00      | *               | *           | *          | *           | 0          | *   | 0   | *            | *          | *          | 0         |
| 04:00      | *               | *           | *          | *           | 0          | *   | 0   | *            | *          | *          | 0         |
| 05:00      | *               | *           | *          | *           | 6          | *   | 6   | *            | *          | *          | 6         |
| 06:00      | *               | *           | *          | *           | 3          | *   | 3   | *            | *          | *          | 3         |
| 07:00      | *               | *           | *          | *           | 12         | *   | 12  | *            | *          | *          | 12        |
| 08:00      | *               | *           | *          | *           | 12         | *   | 12  | *            | *          | *          | 12        |
| 09:00      | *               | *           | *          | *           | 28         | *   | 28  | *            | *          | *          | 28*       |
| 10:00      | *               | *           | *          | *           | 10         | *   | 10  | *            | *          | *          | 10        |
| 11:00      | *               | *           | *          | *           | 13         | *   | 13  | *            | *          | *          | 13*       |
| 12:00 pm   | *               | *           | *          | *           | 10         | *   | 10  | *            | *          | *          | 10        |
| 01:00      | *               | *           | *          | *           | 14         | *   | 14  | *            | *          | *          | 14*       |
| 02:00      | *               | *           | *          | *           | 19         | *   | 18  | *            | *          | *          | 18*       |
| 03:00      | *               | *           | *          | *           | 15         | *   | 15  | *            | *          | *          | 15*       |
| 04:00      | *               | *           | *          | *           | 9          | *   | 9   | *            | *          | *          | 9         |
| 05:00      | *               | *           | *          | *           | 16         | *   | 16  | *            | *          | *          | 16*       |
| 06:00      | *               | *           | *          | *           | 0          | *   | 0   | *            | *          | *          | 0         |
| 07:00      | *               | *           | *          | *           | 5          | *   | 5   | *            | *          | *          | 5         |
| 08:00      | *               | *           | *          | *           | 5          | *   | 5   | *            | *          | *          | 5         |
| 09:00      | *               | *           | *          | *           | 3          | *   | 3   | *            | *          | *          | 3         |
| 10:00      | *               | *           | *          | *           | 2          | *   | 2   | *            | *          | *          | 2         |
| 11:00      | *               | *           | *          | *           | 4          | *   | 4   | *            | *          | *          | 4         |
| Totals     | 0               | 0           | 0          | 78          | 127        | 188 | 188 | 0            | 0          | 0          | 188       |

% Avg. WKDa .0% .0% .0% 41.4% 67.5%  
% Avg. Day .0% .0% .0% 41.4% 67.5%

AM Peak Volume

09:00 28

09:00 28

PM Peak Volume

02:00 19

02:00 18

ADTS

Steppler Rd. n/o Hodgen  
El Paso County, CO

LSC Transportation Consultants  
Traffic Counts  
Automated

Site Code : 000000000000  
Start Date: 07/22/2004  
File I.D. : N:\COUNTS\TUR

Page : 1

| Begin Time         | Thur. 07/22 |       | Fri. 07/23 |       | Sat. 07/24 |      | Daily Avg. |      |
|--------------------|-------------|-------|------------|-------|------------|------|------------|------|
|                    | A.M.        | P.M.  | A.M.       | P.M.  | A.M.       | P.M. | A.M.       | P.M. |
| 12:00              | *           | *     | 0          | 1     | *          | *    | 0          | 1    |
| 12:15              | *           | *     | 0          | 5     | *          | *    | 0          | 5    |
| 12:30              | *           | *     | 0          | 0     | *          | *    | 0          | 0    |
| 12:45              | *           | *     | 0          | 4     | *          | *    | 0          | 4    |
| 01:00              | *           | *     | 0          | 7     | *          | *    | 0          | 7    |
| 01:15              | *           | *     | 1          | 0     | *          | *    | 1          | 0    |
| 01:30              | *           | *     | 0          | 4     | *          | *    | 0          | 4    |
| 01:45              | *           | *     | 0          | 3     | *          | *    | 0          | 3    |
| 02:00              | *           | 1     | 0          | 3     | *          | *    | 0          | 2    |
| 02:15              | *           | 2     | 2          | 3     | *          | *    | 1          | 2    |
| 02:30              | *           | 11    | 0          | 5     | *          | *    | 0          | 8    |
| 02:45              | *           | 5     | 1          | 5     | *          | *    | 1          | 5    |
| 03:00              | *           | 4     | 0          | *     | *          | *    | 0          | 4    |
| 03:15              | *           | 5     | 0          | *     | *          | *    | 0          | 5    |
| 03:30              | *           | 2     | 0          | *     | *          | *    | 0          | 2    |
| 03:45              | *           | 4     | 0          | *     | *          | *    | 0          | 4    |
| 04:00              | *           | 2     | 0          | *     | *          | *    | 0          | 2    |
| 04:15              | *           | 2     | 0          | *     | *          | *    | 0          | 2    |
| 04:30              | *           | 1     | 0          | *     | *          | *    | 0          | 1    |
| 04:45              | *           | 4     | 0          | *     | *          | *    | 0          | 4    |
| 05:00              | *           | 5     | 1          | *     | *          | *    | 1          | 5    |
| 05:15              | *           | 2     | 0          | *     | *          | *    | 0          | 2    |
| 05:30              | *           | 6     | 4          | *     | *          | *    | 4          | 6    |
| 05:45              | *           | 3     | 1          | *     | *          | *    | 1          | 3    |
| 06:00              | *           | 0     | 1          | *     | *          | *    | 1          | 0    |
| 06:15              | *           | 0     | 1          | *     | *          | *    | 1          | 0    |
| 06:30              | *           | 0     | 1          | *     | *          | *    | 1          | 0    |
| 06:45              | *           | 0     | 0          | *     | *          | *    | 0          | 0    |
| 07:00              | *           | 0     | 4          | *     | *          | *    | 4          | 0    |
| 07:15              | *           | 3     | 2          | *     | *          | *    | 2          | 3    |
| 07:30              | *           | 0     | 4          | *     | *          | *    | 4          | 0    |
| 07:45              | *           | 2     | 2          | *     | *          | *    | 2          | 2    |
| 08:00              | *           | 1     | 2          | *     | *          | *    | 2          | 1    |
| 08:15              | *           | 2     | 3          | *     | *          | *    | 3          | 2    |
| 08:30              | *           | 1     | 3          | *     | *          | *    | 3          | 1    |
| 08:45              | *           | 1     | 4          | *     | *          | *    | 4          | 1    |
| 09:00              | *           | 2     | 8          | *     | *          | *    | 8          | 2    |
| 09:15              | *           | 0     | 5          | *     | *          | *    | 5          | 0    |
| 09:30              | *           | 1     | 13         | *     | *          | *    | 13         | 1    |
| 09:45              | *           | 0     | 2          | *     | *          | *    | 2          | 0    |
| 10:00              | *           | 0     | 4          | *     | *          | *    | 4          | 0    |
| 10:15              | *           | 0     | 1          | *     | *          | *    | 1          | 0    |
| 10:30              | *           | 0     | 4          | *     | *          | *    | 4          | 0    |
| 10:45              | *           | 2     | 1          | *     | *          | *    | 1          | 2    |
| 11:00              | *           | 1     | 4          | *     | *          | *    | 4          | 1    |
| 11:15              | *           | 2     | 2          | *     | *          | *    | 2          | 2    |
| 11:30              | *           | 0     | 5          | *     | *          | *    | 5          | 0    |
| 11:45              | *           | 1     | 2          | *     | *          | *    | 2          | 1    |
| Total              | 0           | 78    | 87         | 40    | 0          | 0    | 87         | 100  |
| Combined Peak Hour |             | 02:30 | 08:45      | 12:15 |            | 0    | 08:45      | 187  |
| Volume             |             | .25   | .30        | .16   |            |      | .30        |      |
| P.H.F.             |             | .56   | .57        | .57   |            |      | .57        |      |

ADTS

| Begin Time | Mon. 07/19 |   | Tues. |   | Wed. |   | Thur. |     | Fri. |     | Weekday |     | Sat. |   | Sun. |   |
|------------|------------|---|-------|---|------|---|-------|-----|------|-----|---------|-----|------|---|------|---|
|            | 1          | 2 | 1     | 2 | 1    | 2 | 1     | 2   | 1    | 2   | 1       | 2   | 1    | 2 | 1    | 2 |
| 12:00 am   | *          | * | *     | * | *    | * | *     | *   | *    | *   | *       | 1   | 1    | * | *    | * |
| 01:00      | *          | * | *     | * | *    | * | *     | *   | *    | 1   | 1       | 1   | 1    | * | *    | * |
| 02:00      | *          | * | *     | * | *    | * | *     | *   | 0    | 0   | 2       | 0   | *    | * | *    | * |
| 03:00      | *          | * | *     | * | *    | * | *     | *   | 0    | 0   | 2       | 0   | *    | * | *    | * |
| 04:00      | *          | * | *     | * | *    | * | *     | *   | 0    | 0   | 0       | 0   | *    | * | *    | * |
| 05:00      | *          | * | *     | * | *    | * | *     | *   | 1    | 6   | 1       | 6   | *    | * | *    | * |
| 06:00      | *          | * | *     | * | *    | * | *     | *   | 1    | 5   | 1       | 5   | *    | * | *    | * |
| 07:00      | *          | * | *     | * | *    | * | *     | *   | 8    | 6   | 8       | 6   | *    | * | *    | * |
| 08:00      | *          | * | *     | * | *    | * | *     | *   | 11   | 4   | 11      | 4   | *    | * | *    | * |
| 09:00      | *          | * | *     | * | *    | * | *     | *   | 11   | 23  | 11      | 23  | *    | * | *    | * |
| 10:00      | *          | * | *     | * | *    | * | *     | *   | 8    | 9   | 8       | 9   | *    | * | *    | * |
| 11:00      | *          | * | *     | * | *    | * | *     | *   | 11   | 14  | 11      | 14  | *    | * | *    | * |
| 12:00 pm   | *          | * | *     | * | *    | * | *     | *   | 10   | 9   | 10      | 9   | *    | * | *    | * |
| 01:00      | *          | * | *     | * | *    | * | *     | *   | 14   | 17  | 14      | 17  | *    | * | *    | * |
| 02:00      | *          | * | *     | * | *    | * | *     | *   | 11   | 19  | 11      | 19  | *    | * | *    | * |
| 03:00      | *          | * | *     | * | *    | * | *     | 11  | 18   | *   | 11      | 18  | *    | * | *    | * |
| 04:00      | *          | * | *     | * | *    | * | *     | 5   | 11   | *   | 5       | 11  | *    | * | *    | * |
| 05:00      | *          | * | *     | * | *    | * | *     | 11  | 6    | *   | 11      | 6   | *    | * | *    | * |
| 06:00      | *          | * | *     | * | *    | * | *     | 3   | 8    | *   | 3       | 8   | *    | * | *    | * |
| 07:00      | *          | * | *     | * | *    | * | *     | 2   | 3    | *   | 2       | 3   | *    | * | *    | * |
| 08:00      | *          | * | *     | * | *    | * | *     | 3   | 2    | *   | 3       | 2   | *    | * | *    | * |
| 09:00      | *          | * | *     | * | *    | * | *     | 0   | 2    | *   | 0       | 2   | *    | * | *    | * |
| 10:00      | *          | * | *     | * | *    | * | *     | 3   | 1    | *   | 3       | 1   | *    | * | *    | * |
| 11:00      | *          | * | *     | * | *    | * | *     | 41  | 53   | 88  | 118     | 129 | 171  | 0 | 0    | 0 |
| Totals     | 0          | 0 | 0     | 0 | 0    | 0 | 94    | 206 | 300  | 206 | 300     | 300 | 0    | 0 | 0    | 0 |

| Avg. Day        | .0% | .0% | .0% | .0% | .0% | .0% | 31.7% | 30.9% | 68.2% | 69.0% | .0% | .0% | .0% | .0% | .0% |
|-----------------|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-----|-----|-----|-----|-----|
| AM Peaks Volume |     |     |     |     |     |     | 08:00 | 09:00 | 08:00 | 09:00 |     |     |     |     |     |
|                 |     |     |     |     |     |     | 11    | 23    | 11    | 23    |     |     |     |     |     |

| PM Peaks Volume | 03:00 | 03:00 | 01:00 | 02:00 | 01:00 | 02:00 |
|-----------------|-------|-------|-------|-------|-------|-------|
|                 | 11    | 18    | 14    | 19    | 14    | 19    |

ADTS

Steppler Rd. n/o Pony Pond  
El Paso County, CO

LSC Transportation Consultants  
Traffic Counts  
Automated

Site Code : 000000000000  
Start Date: 07/22/2004  
File I.D. : N:\COUNTS\TUB

1=Northbound, 2=SB  
Page : 1

| Begin Time | Thur. 07/22 |       | Fri 07/23 |       | Combined |       | 1     |       | 2     |       | Combined |      | Page |
|------------|-------------|-------|-----------|-------|----------|-------|-------|-------|-------|-------|----------|------|------|
|            | A.M.        | P.M.  | A.M.      | P.M.  | A.M.     | P.M.  | A.M.  | P.M.  | A.M.  | P.M.  | A.M.     | P.M. |      |
| 12:00      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 8    |
| 12:15      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 3    |
| 12:30      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 1    |
| 12:45      | *           | *     | *         | *     | 1        | 1     | 1     | 1     | 1     | 1     | 1        | 1    | 7    |
| 01:00      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 2    |
| 01:15      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 12   |
| 01:30      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 4    |
| 01:45      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 8    |
| 02:00      | *           | *     | *         | *     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 7    |
| 02:15      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 6    |
| 02:30      | *           | 5     | 5         | 5     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 0    |
| 02:45      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 8    |
| 03:00      | *           | 4     | 4         | 4     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | 8    |
| 03:15      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 03:30      | *           | 4     | 4         | 4     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 03:45      | *           | 3     | 3         | 3     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 04:00      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 04:15      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 04:30      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 04:45      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 05:00      | *           | 4     | 4         | 4     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 05:15      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 05:30      | *           | 3     | 3         | 3     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 05:45      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 06:00      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 06:15      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 06:30      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 06:45      | *           | 3     | 3         | 3     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 07:00      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 07:15      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 07:30      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 07:45      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 08:00      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 08:15      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 08:30      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 08:45      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 09:00      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 09:15      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 09:30      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 09:45      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 10:00      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 10:15      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 10:30      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 10:45      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 11:00      | *           | 1     | 1         | 1     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 11:15      | *           | 2     | 2         | 2     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 11:30      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| 11:45      | *           | 0     | 0         | 0     | 0        | 0     | 0     | 0     | 0     | 0     | 0        | 0    | *    |
| Totals     | 0           | 48    | 0         | 48    | 53       | 88    | 53    | 35    | 73    | 45    | 126      | 80   |      |
| Day Totals | .0%         | 45.2% | .0%       | 54.7% | 25.7%    | 16.9% | 35.4% | 21.8% |       |       |          | 206  |      |
| Peaks      | 03:00       |       | 02:45     |       | 08:30    | 01:00 | 09:00 | 02:00 | 09:00 | 09:00 | 12:45    |      |      |
| Volume     | 11          |       | 18        |       | 15       | 14    | 23    | 19    | 34    | 31    |          |      |      |
| P.H.F.     | .68         |       | .75       |       | .53      | .7    | .57   | .79   | .56   | .64   |          |      |      |