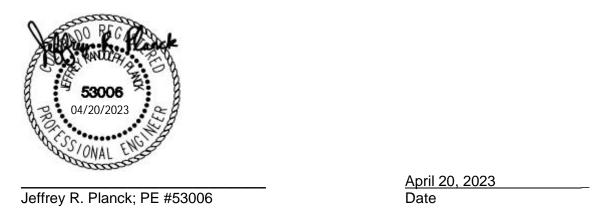
Kimley » Horn	P233
1685	50 Steppler Road
T	raffic Study Letter
	PCD File No.
EI F	Paso County, Colorado
	Revise to Traffic Study Memorandum

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Mr/Charlie Stewart 16650 Steppler Road

Colorado Springs, Colorado 80908

4/25/23



Please also provide analysis of Settlers Ranch Road and Steppler Road and include a long term analysis as required and done in the recent Abert Ranch Subdivision (PCD File

16850 Steppler Road 196639000 Page 2

April 20, 2023

Mr. Charlie Stewar\$F1911)
16850 Steppler Road
Colorado Springs, CO 80908

Re: 16850 Steppler Road – Traffic Study Letter

El Paso County, Colorado

Dear Mr. Stewart,

This letter documents the results of a traffic study including trip generation, trip distribution, traffic assignment, and intersection analysis for the proposed 16850 Steppler Road single family development along Settlers Ranch Road to the north of Hodgen Road in El Paso County, Colorado. A road impact fee assessment as well as a sight distance evaluation are also both included in this traffic study. This traffic study supports a rezoning effort for the 36.2-acre parcel which has the potential to include approximately 14 single-family homes, each on approximately 2.5-acre lots. No subdivision plat is proposed at this stage. Of note, most of the single-family homes in the surrounding area are also on 2.5-acre lots. A vicinity map is attached in **Figure 1**. A conceptual site plan for the project is attached.

For purposes of this study, it was assumed that this project will be completed in the next several years. Therefore, analysis was conducted for the 2026 short-term horizon. Per scoping with El Paso County, a long-term horizon is not included in this study. This study follows El Paso County guidelines to serve as a Traffic Memorandum based on the daily trip generation being between 100 and 500 trips per day.

The intersection of Hodgen Road and Timber Meadow Drive (Intersection #1) and the Settler Ranch Road and Timber Meadow Drive (#2) intersection are incorporated into this traffic study in accordance with El Paso County standards and requirements. Access to the development is anticipated to be along Settlers Ranch Road and this access is also included for evaluation in this traffic study.

Regional access to 16850 Steppler Road will be provided by Interstate 25 (I-25), State Highway 83 (SH-83), and SH-105 while primary access to the site will be provided by SH-83, Hodgen Road, and Steppler Road. Direct access to the site will be provided by a proposed future access along Settlers Ranch Road to the northeast of the Settlers Ranch Rd and Timber Meadow Drive (#2) intersection.

EXISTING ROADWAY NETWORK

Hodgen Road is an east-west roadway with one through lane in each direction and a posted speed limit of 55 miles per hour within the study area. The El Paso County Major Transportation Corridor Plan (MTCP) identifies Hodgen Road as a minor arterial through the 2060 horizon.

Rural local roadways per criteria have a 30mph design & posted speed. Please revise.



Timber Meadows Drive is a Rural Collector roadway as identified in previous traffic studies by Settlers Ranch subdivision and per the existing 1500 ADT (fig 3). Revise accordingly.

196639000 Page 3

Timber Meadow Drive is a north-south roadway with one through lane in each direction and a posted speed limit of 30 miles per hour. This roadway operates as a two-lane local roadway classification based on the existing and future traffic volumes and due to houses fronting this roadway.

Settlers Ranch Road provides one through lane in each direction. No posted speed limit along Settlers Ranch Road coùld be determined from Google Street View, but it is assumed to operate with a speed limit of 25 miles per hour as a local residential road. This roadway operates as a two-lane local roadway classification based on the existing and future traffic volumes.

The intersection of Hodgen Road and Timber Meadow Drive (#1) is an unsignalized intersection with stop control on the northbound and southbound Timber Meadow Drive approaches to the intersection. The eastbound and westbound Hodgen Road approaches each provide a left turn lane, a through lane, and a right turn lane in each direction. The northbound and southbound approach each provide one lane for shared left/through/right turning movements in each direction. An aerial photo that illustrates the existing intersection configuration is below (north is up).



Hodgen Road & Timber Meadow Drive (#1)



The intersection of Settlers Ranch Road and Timber Meadow Drive (#2) is an unsignalized 'T'-intersection with stop control on the westbound Settlers Ranch Road approach to the intersection. Each approach to the intersection provides one through lane for shared turning movements in each direction. An aerial photo that illustrates the existing intersection configuration is below.



Settlers Ranch Road & Timber Meadow Drive (#2)

The intersection lane configuration and control for the study area key intersections is shown in attached **Figure 2**.

PEDESTRIAN AND BICYCLE FACILITIES REVIEW

There are no pedestrian and bicycle facilities along the roadways within the study area. This project is not anticipated to create the need for these alternate travel mode facilities.

PUBLIC TRANSPORTATION SERVICES FACILITY REVIEW

There is no public transportation service in this area. With the rural nature of the site, it is believed that public transportation to serve this area is not feasible.

Kimley»Horn

Please indicate what your background values account for besides the annual growth as it does not appear to account for the most current approved phase of the settler ranch subdivision Filing 2C (PCD File SF1818). Filing 2C added 11 lots to the existing14 lots along Settlers Ranch Rd.

16850 Steppler Road 196639000 Page 5

EXISTING AND FUTURE TRAFFIC VOLUME

Existing turning movement counts were conducted at the study intersections on Thursday, April 6, 2023 during the morning peak hour and Wednesday, April 5, 2025 during the afternoon peak hour. The counts were conducted on weather conditions during the other periods of these turning movement counts at these intersections. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on these count dates. The existing intersection traffic volumes are also shown in attached **Figure 3** with count sheets attached. For purposes of this analysis, the volume traveling eastbound and westbound along Settlers Ranch Road from these traffic counts were conservatively assumed to carry through the project access along Settlers Ranch Road.

According to traffic projections provided by CDOT Online Transportation Information System (OTIS), SH-83 approximately two-thirds of a mile to the west of the site is expected to have an average 20-year growth factor of approximately 1.56. This equates to an annual growth rate of approximately 2.23 percent. This annual growth rate was used to calculate short-term 2026 background traffic projections at the study area intersections as shown in **Figure 4**. CDOT traffic projection information is attached.

TRIP GENERATION

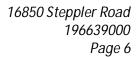
Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Manual fitted curve equations that apply to Single-Family Detached Housing (ITE Code 210) for traffic associated with this development. The following **Table 1** summarizes the estimated trip generation for traffic associated with the development (calculations attached).

Table 1 – 16850 Steppler Road Traffic Generation

		We	ekday	Vehicle	s Trip	S	
	Deiby	AN	l Peak	Hour	PM	Peak	Hour
Land Use and Size	Daily	ln	Out	Total	ln	Out	Total
Single Family Detached Housing - 14 Dwelling Units (ITE 210)	166	3	9	12	10	6	16

As shown in the table and based on ITE Trip Generation calculations, 16850 Steppler Road is expected to generate approximately 166 weekday daily trips, with 12 of these trips occurring during the morning peak hour and 16 of these trips occurring during the afternoon peak hour.

¹ Institute of Transportation Engineers, Trip Generation Manual, Eleventh Edition, Washington DC, 2021.





TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. **Figure 5** illustrates the trip distribution and **Figure 6** illustrates the traffic assignment for this project.

Of note, while it is recognized that some vehicles from this proposed development may use the future connection of Settlers Ranch Road to Steppler Road to travel north or south along Steppler Road, as well as some vehicles possibly continuing north along Timber Meadow Drive to the north of Settlers Ranch Road, because the trip generation of this development is so low and the vehicles that would perform these movements would be minimal, the trip distribution was conservatively assigned fully to Hodgen Road eastbound and westbound.

TOTAL (BACKGROUND PLUS PROJECT) TRAFFIC

Site traffic volumes were added to the background volumes to represent estimated total traffic conditions for the 2026 horizon. These total traffic volumes for the study area are illustrated for the 2026 horizon year in **Figure 7**.

TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies at the project key intersections for the 2026 opening year horizon. The acknowledged source for determining overall capacity is the Highway Capacity Manual².

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways, standard traffic engineering practice recommends LOS D as the minimum threshold for acceptable operations for intersections and LOS E for movements. **Table 2** below shows the definition of level of service for unsignalized intersections.

² Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.



Table 2 - Level of Service Definitions

Level of Service	Unsignalized Intersection Average Total Delay (sec/veh)							
Α	≤ 10							
В	> 10 and ≤ 15							
С	> 15 and ≤ 25							
D	> 25 and ≤ 35							
E	> 35 and ≤ 50							
F	> 50							

Transportation Research Board, Highway Capacity Manual, Sixth Edition, Washington DC, 2016.

Study area intersections were analyzed based on average total delay analysis for unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stopcontrolled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole.

Calculations for the level of service at the key intersections identified for the study are attached. The traffic analysis is based on the lane geometry and intersection control shown in Figure 2. The peak hour factor by intersection approach were used as determined by the existing turning movement counts. Synchro traffic analysis software was used to analyze the study area key intersections for level of service. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

Hodgen Road & Timber Meadow Drive (#1)

The intersection of Hodgen Road and Timber Meadow Drive (#1) is unsignalized with stop control on the northbound and southbound Timber Meadow Drive approaches to the intersection. The intersection movements currently operate acceptably at LOS C or better during both peak hours. With the addition of project traffic, the intersection movements are anticipated to continue operating at an acceptable level of service through the 2026 opening-year horizon. Therefore, improvements or modifications are not anticipated to be needed at this intersection based on the addition of project traffic. Table 3 provides the results of the level of service at this intersection.



Table 3 - Hodgen Road & Timber Meadow Drive (#1) LOS Results

Table 3 – Hougeli Noad & Hill	- Inou	711 51110				
	AM Peal	k Hour	PM Peal	k Hour		
Scenario	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
2022 Existing						
Northbound Approach	13.9	В	20.4	С		
Eastbound Left	7.8	Α	8.0	Α		
Westbound Left	7.6	Α	8.5	Α		
Southbound Approach	10.3	В	11.4	В		
2026 Background						
Northbound Approach	14.5	В	22.1	С		
Eastbound Left	7.9	Α	8.0	Α		
Westbound Left	7.6	Α	8.6	Α		
Southbound Approach	10.5	В	11.7	В		
2026 Background Plus Project						
Northbound Approach	15.0	С	23.0	С		
Eastbound Left	7.9	Α	8.0	Α		
Westbound Left	7.6	Α	8.6	Α		
Southbound Approach	10.7	В	12.0	В		

Settlers Ranch Road & Timber Meadow Drive (#2)

The 'T'-intersection of Settlers Ranch Road and Timber Meadow Drive (#2) is unsignalized with stop control on the westbound Settlers Ranch Road approach to the intersection. The intersection movements currently operate acceptably at LOS A during both peak hours. With the addition of project traffic, the intersection movements are anticipated to continue operating at an acceptable level of service through the 2026 opening-year horizon. Therefore, improvements or modifications are not anticipated to be needed at this intersection based on the addition of project traffic. **Table 4** provides the results of the level of service at this intersection.

Table 4 – Settlers Ranch Road & Timber Meadow Drive (#2) LOS Results

	AM Peal	k Hour	PM Peal	k Hour
Scenario	Delay	LOS	Delay	LOS
	(sec/veh)	LUS	(sec/veh)	LUS
2022 Existing				
Westbound Approach	8.8	Α	9.5	Α
Southbound Left	7.3	Α	0.0	Α
2026 Background				
Westbound Approach	8.9	Α	9.6	Α
Southbound Left	7.3	Α	0.0	Α
2026 Background Plus Project				
Westbound Approach	9.0	Α	9.8	Α
Southbound Left	7.3	Α	0.0	Α



Settlers Ranch Road & Project Access (#3)

The proposed 'T'-intersection of Settlers Ranch Road and Project Access (#3) is anticipated to be an unsignalized intersection with stop control on the northbound project access approach to the intersection with a recommended R1-1 "STOP" sign posted. The intersection is anticipated to operate well with one lane in each direction for shared turning movements and turn lanes are not anticipated to be needed or warranted at this intersection. With the addition of project traffic to this proposed intersection, the intersection movements are anticipated to operate at an acceptable LOS A through the 2026 horizon. **Table 5** provides the results of the level of service at this intersection.

Table 5 – Settlers Ranch Road & Project Access (#3) LOS Results

		AM Peal	k Hour	PM Peal	k Hour
Scenario		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
refer to ECM table 2-21		(Sec/ven)		(Sec/veii)	
	l Plus Project				
and revise the distance	•	0.6	Α	0.6	Α
accordingly throughout	oach	8.6	А	8.6	А
accordingly throughout		0.0	Α	0.0	Α
this paragraph due to the		0.0	, ,	0.0	
tillo paragrapii dae to tile	\				

SIGHT DISTANCE EVALUATION

30mph design speed

It is recommended that sight triangles be provided at the project access along Settlers Ranch Road to give drivers exiting the project access a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. AASHTO standards were used along this roadway to determine the sight distance needs. The following identifies sight distance requirements for the Settlers Ranch Road intersection associated with the project.

revise to 30 mph

With AASHTO standards and a residential roadway assumed speed limit of 25 miles per hour, the intersection sight distance for vehicles turning right from stop from the project access is 240 feet. Therefore, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line-of-sight distance of 240 feet located in the middle of the eastbound through lane along Settlers Ranch Road. The intersection sight distance for vehicles turning left from stop from the project access is 280 feet. Therefore, all obstructions for left-turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 14.5 from the edge of the major road traveled way and a line-of-sight distance of 280 feet located in the middle of the westbound through lane along Settlers Ranch Road.

2-21 footnote 2
Further, Table 2-21 from the El Paso County Engineering Criteria Manual identifies an intersection sight distance of 280 feet for a two-lane roadway with a design speed of 25 miles per hour.

Although the exact location of the proposed access along Settlers Ranch Road is not yet known at this time for the purposes of this traffic study, when this project access is determined and constructed, the sight triangles should be designated for vehicles turning out of the project access and onto Settlers Ranch Road. However, although the grade of

may be paid at time



Settlers Ranch Road varies along the roadway, it should be noted the existing roadway alignment has very little sight obstructions adjacent to the roadway and it is not anticipated that this will become an issue. Road Impact fees

ROAD IMPACT FEE EVALUATION

of building permit. At the request of El Paso County, a road impact fee evaluation was conducted f Revise if necessary project based on the anticipated 14 single-family homes proposed to be constru project. The road impact fee per dwelling unit for single-family homes based on El Paso County Impact Fee Schedule guidelines is \$3,830 per dwelling unit. Based on this per unit fee, this project would result in a total road impact fee of \$53,620. Road impact fees are due upon plat recordation.

CONCLUSIONS AND RECOMMENDATIONS

Based on the traffic analysis presented in this report, Kimley-Horn and Associates, Inc. believes the 16850 Steppler Road project will be successfully incorporated into the existing and future roadway network. The following outlines the conclusions and recommendations from our traffic analysis:

- The project is proposed to construct approximately 14 single-family homes with project access anticipated to be gained along Settlers Ranch Road to the northeast of the Settlers Ranch Road and Timber Meadow Drive (#2) intersection. Access to the project is anticipated to be an unsignalized 'T'-intersection with stop control on the northbound project access approach to the intersection with an R1-1 "STOP" sign posted on this approach. Turn lanes are not anticipated to be needed at this intersection.
- The project is anticipated to generate approximately 166 weekday daily trips, with 12 of these trips occurring during the morning peak hour and 16 of these trips occurring during the afternoon peak hour.
- No improvements are anticipated to be needed at the Hodgen Road and Timber Meadow Drive (#1) or Settlers Ranch Road and Timber Meadow Drive (#2) intersections through the 2026 horizon with the addition of project traffic.
- Sight distance triangles should be provided at the proposed project access along Settlers Ranch Road, when constructed, based on the 280-foot intersection sight distance for vehicles turning from stop.
- The El Paso County road impact fee for the proposed 14 single-family homes in this project would result in a total of \$53,620 based on the \$3,830 per-unit fee for singlefamily homes.

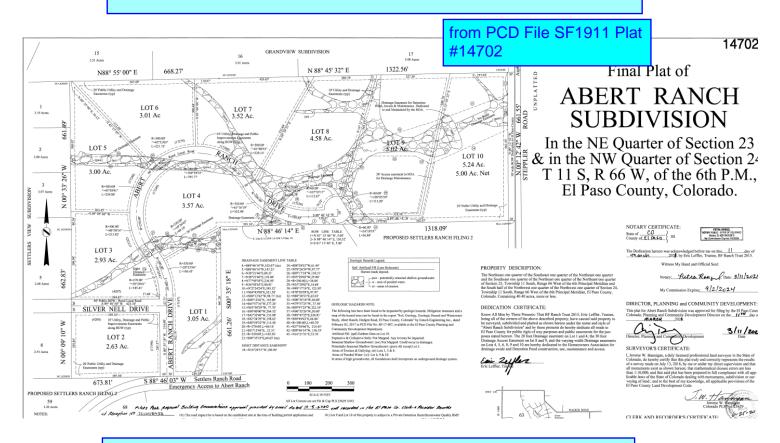
Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Jeffrey R. Planck, P.E. Project Traffic Engineer -Please list any previous studies in the area (i.e. Abert Ranch, Settlers Ranch, Settlers View)

-Provide analysis of turn lane requirements at Timber Meadows and Hodgen. Per the total traffic volumes (figure 7) it appears that the threshold for a southbound dedicated right turn lane on Timber Meadows is met. Provide recommendations whether a dedicated right turn lane should be installed or if the queuing and widen radius that was allowed in the first fillings of Settlers ranch is sufficient. (previous TIS from Settlers Ranch will be uploaded onto EDARP for your use. See page 2 #7)

-With the addition of these 14 lots, the code maximum of 25 lots on a dead end road will be exceeded therefore a secondary access will be needed. Please discuss where the secondary access will be obtained. FYI: Abert Ranch worked with Settlers Ranch by providing a secondary emergency access through Settlers Ranch Rd to Steppler Rd from Abert Ranch Drive to the east. Consider working with Settlers Ranch to extend the gravel cul-de-sac to Abert Ranch Drive.



Provide analysis of this subdivisions fair share contribution for the paving of Steppler Road. The adjacent subdivisions, Abert Ranch and Settlers View (PCD File SF1841) have each provided fair share contribution.

Additionally please contact CDOT regarding any requirements they may have. Please include any correspondence from CDOT in your report.



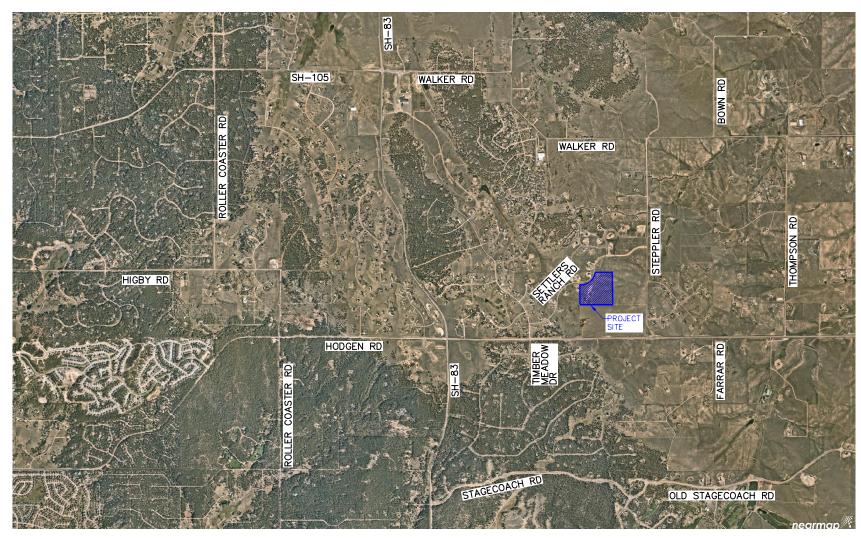
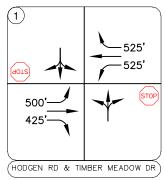


FIGURE 1
16850 STEPPLER ROAD
EL PASO COUNTY, COLORADO
VICINITY MAP









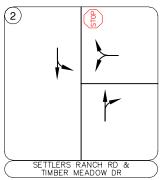
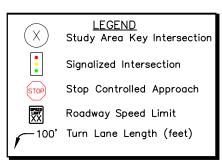


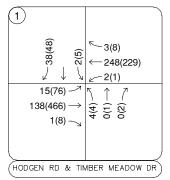
FIGURE 2
16850 STEPPLER ROAD
EL PASO COUNTY, COLORADO
EXISTING GEOMETRY AND CONTROL



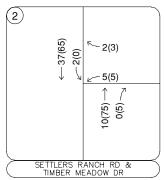








Thursday, April 6, 2023 (Wednesday, April 5, 2023) 8:00 to 9:00AM (4:30 to 5:30PM) 7:00 to 8:00AM (4:00 to 5:00PM)



Thursday, April 6, 2023 (Wednesday, April 5, 2023)

FIGURE 3 16850 STEPPLER ROAD EL PASO COUNTY, COLORADO 2023 EXISTING TRAFFIC VOLUMES

LEGEND



Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

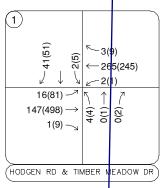
XX,X00

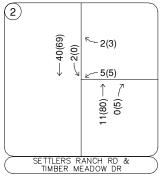
Estimated Daily Traffic Volume











See comment on page 5 and adjust your analysis accordingly.

FIGURE 4 16850 STEPPLER ROAD EL PASO COUNTY, COLORADO 2026 BACKGROUND TRAFFIC VOLUMES

LEGEND



Study Area Key Intersection

XXX(XXX)

Weekday AM(PM)

Peak Hour Traffic Volumes

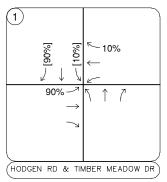
XX,X00

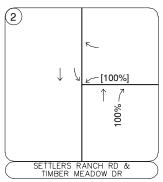
Estimated Daily Traffic Volume











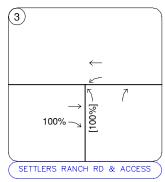


FIGURE 5 16850 STEPPLER ROAD EL PASO COUNTY, COLORADO PROJECT TRIP DISTRIBUTION



<u>LEGEND</u>

Study Area Key Intersection



Project Access Intersection



External Trip Distribution Percentage

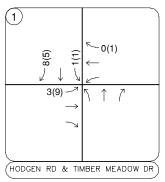


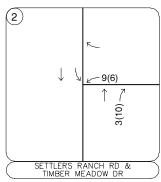
XX%[XX%] Entering[Exiting]
Trip Distribution Percentage











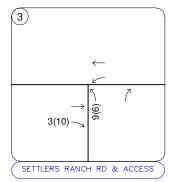


FIGURE 6 16850 STEPPLER ROAD EL PASO COUNTY, COLORADO PROJECT TRAFFIC ASSIGNMENT

LEGEND



Study Area Key Intersection



Project Access Intersection



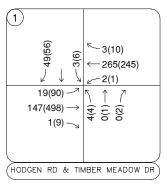
XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes

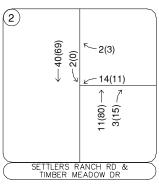
XX,X00 Estimated Daily Traffic Volume











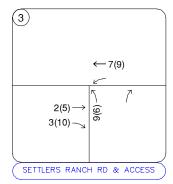


FIGURE 7 16850 STEPPLER ROAD EL PASO COUNTY, COLORADO 2026 TOTAL TRAFFIC VOLUMES

LEGEND

Study Area Key Intersection



Project Access Intersection



XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume



Intersection Count Sheets



El Paso County ,CO 16850 Steppler Rd AM Peak Hodgen Rd and Timber Meadow Dr

Hodgen Road

File Name: Hodgen and Timber Meadow AM

Timber Meadow Dr

Int. Total

App. Total

Site Code: IPO 644 Start Date: 4/6/2023

Page No : 1

Timber Meadow Dr

Eastbound Westbound Northbound Southbound Thru Right Peds Thru Right Peds Start Time Left Thru Right Peds Left Right Peds Left Left Thru App. Total App. Total App. Total 07:00 AM 07:15 AM 07:30 AM 07:45 AM

Hodgen Road

Total	10	79	2	0	91	0	307	0	0	307	2	0	0	0	2	2	0	39	0	41	441
	ı					l					Ì				ı						
08:00 AM	2	24	0	0	26	0	60	0	0	60	0	0	0	0	0	0	0	7	0	7	93
08:15 AM	5	21	0	0	26	1	56	0	0	57	0	0	0	0	0	2	0	10	0	12	95
08:30 AM	4	48	0	0	52	1	66	2	0	69	2	0	0	0	2	0	0	17	0	17	140
08:45 AM	4	45	1	0	50	0	66	1	0	67	2	0	0	0	2	0	0	4	0	4	123
Total	15	138	1	0	154	2	248	3	0	253	4	0	0	0	4	2	0	38	0	40	451
	'					!									'					,	
Grand Total	_	217	3	0	245	2	555	3	0	560	6	0	0	0	6	4	0	77	0	81	892
Apprch %	10.2	88.6	1.2	0		0.4	99.1	0.5	0		100	0	0	0		4.9	0	95.1	0		

Groups Printed- Automobiles - Bicycle and Pedestrian

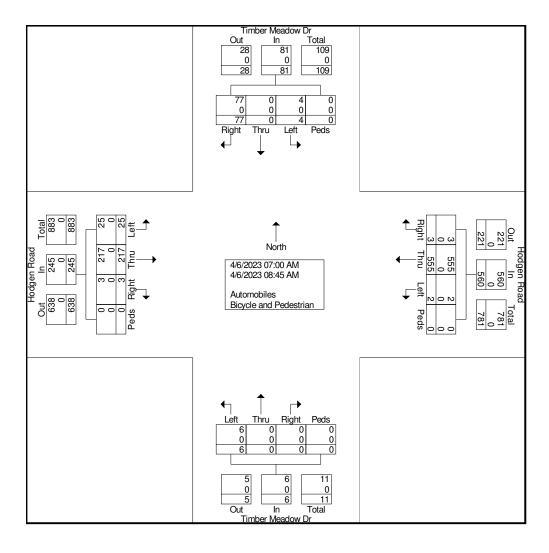
Total % 2.8 0.3 27.5 0.2 62.2 0.3 62.8 0.7 0.7 0.4 8.6 9.1 24.3 Automobiles % Automobiles Bicycle and Pedestriar % Bicycle and



El Paso County ,CO File Name : Hodgen and Timber Meadow AM

16850 Steppler Rd Site Code : IPO 644 AM Peak Start Date : 4/6/2023

Hodgen Rd and Timber Meadow Dr Page No : 2



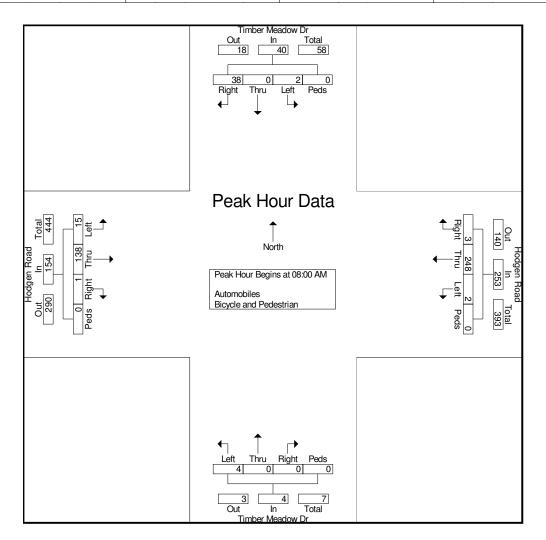


El Paso County ,CO 16850 Steppler Rd AM Peak Hodgen Rd and Timber Meadow Dr File Name: Hodgen and Timber Meadow AM

Site Code: IPO 644 Start Date: 4/6/2023

Page No : 3

		Но	dgen F	Road			Hodgen Road					Timbe	er Mea	dow D	r		Timbe	er Mea	dow D	r	
		Е	astbou	ınd			W	estbo	und			N	orthbo	und			Sc	outhbo	und		
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Tot
Peak Hour A	nalysis	From	07:00	AM to	08:45 A	M - Pe	ak 1 o	f 1							•						
Peak Hour fo	r Entir	e Inter	sectior	n Begin	ns at 08:	00 AM															
08:00 AM	2	24	0	0	26	0	60	0	0	60	0	0	0	0	0	0	0	7	0	7	93
08:15 AM	5	21	0	0	26	1	56	0	0	57	0	0	0	0	0	2	0	10	0	12	95
08:30 AM	4	48	0	0	52	1	66	2	0	69	2	0	0	0	2	0	0	17	0	17	140
08:45 AM	4	45	1	0	50	0	66	1	0	67	2	0	0	0	2	0	0	4	0	4	123
Total Volume	15	138	1	0	154	2	248	3	0	253	4	0	0	0	4	2	0	38	0	40	451
% App. Total	9.7	89.6	0.6	0		0.8	98	1.2	0		100	0	0	0		5	0	95	0		
PHF	.750	.719	.250	.000	.740	.500	.939	.375	.000	.917	.500	.000	.000	.000	.500	.250	.000	.559	.000	.588	.805





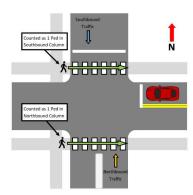
El Paso County ,CO 16850 Steppler Rd AM Peak Hodgen Rd and Timber Meadow Dr File Name: Hodgen and Timber Meadow AM

Site Code: IPO 644 Start Date: 4/6/2023

Page No : 4

Image 1

The number of pedestrians shown on this report is representative of the crossing on the approaching leg, i.e. pedestrians crossing the north side of the intersection are counted as pedestrians in the southbound crosswalk, as that is the approaching leg that they are crossing (see figure below). Diagonal crossings are counted on the two legs that will get the pedestrian to the same end point. Diagonals can be counted separately if discussed prior to count.





El Paso County ,CO 16850 Steppler Rd PM Peak Hodgen Rd and Timber Meadow Dr File Name : Hodgen and Timber Meadow PM Site Code : IPO 644

Site Code: IPO 644 Start Date: 4/5/2023

Page No : 1

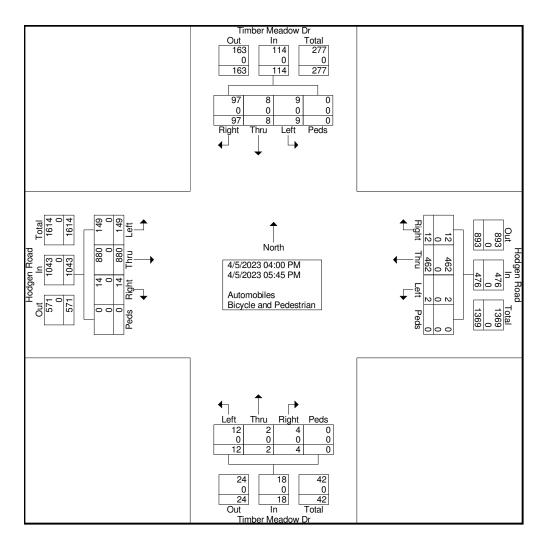
	Groups Printed- Automobiles - Bicycle and Pedestrian																				
			dgen F					dgen F						idow D)r				dow D)r	
Start Time	Left	Thru	astbou Right			Left	Thru	estbou			Left	Thru	orthbo			Left	Thru	outhbo			
04:00 PM	1	103	Right 1	Peds 0	App. Total	Leit 0	59	Right 0	Peds 0	App. Total	1	1 mru 1	Right 2	Peds 0	App. Total	1	6	Right 24	Peds 0	App. Total	Int. Total
	<u>'</u>		'	-				_	_		'	'		_		'	_		•	_	
04:15 PM	35	102	3	0	140	1	52	3	0	56	3	0	0	0	3	0	2	10	0	12	211
04:30 PM	13	115	4	0	132	0	62	1	0	63	2	0	1	0	3	0	0	10	0	10	208
04:45 PM	23	109	2	0	134	0	63	2	0	65	1	0	0	0	1	2	0	15	0	17	217
Total	72	429	10	0	511	1	236	6	0	243	7	1	3	0	11	3	8	59	0	70	835
	'				'	ı					•				,						
05:00 PM	16	109	0	0	125	1	47	3	0	51	1	1	1	0	3	1	0	12	0	13	192
05:15 PM	24	133	2	0	159	0	57	2	0	59	0	0	0	0	0	2	0	11	0	13	231
05:30 PM	16	116	1	0	133	0	62	1	0	63	3	0	0	0	3	2	0	4	0	6	205
05:45 PM	21	93	1	0	115	0	60	0	0	60	1	0	0	0	1	1	0	11	0	12	188
Total	77	451	4	0	532	1	226	6	0	233	5	1	1	0	7	6	0	38	0	44	816
	1										ı										
Grand Total	149	880	14	0	1043	2	462	12	0	476	12	2	4	0	18	9	8	97	0	114	1651
Apprch %	14.3	84.4	1.3	0		0.4	97.1	2.5	0		66.7	11.1	22.2	0		7.9	7	85.1	0		
Total %	9	53.3	8.0	0	63.2	0.1	28	0.7	0	28.8	0.7	0.1	0.2	0	1.1	0.5	0.5	5.9	0	6.9	
Automobiles	149	880	14	0	1043	2	462	12	0	476	12	2	4	0	18	9	8	97	0	114	1651
% Automobiles	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian																					



File Name : Hodgen and Timber Meadow PM Site Code : IPO 644 El Paso County, CO

16850 Steppler Rd PM Peak Start Date : 4/5/2023

Hodgen Rd and Timber Meadow Dr Page No : 2





El Paso County, CO 16850 Steppler Rd PM Peak

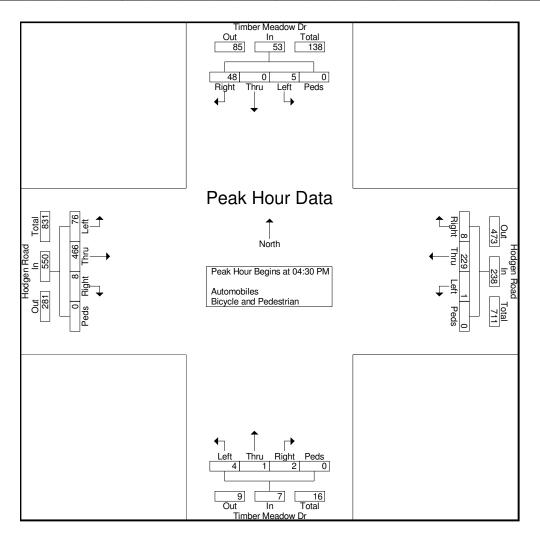
Hodgen Rd and Timber Meadow Dr

File Name : Hodgen and Timber Meadow PM Site Code : IPO 644

Start Date : 4/5/2023

Page No : 3

		Ho	dgen F	Road			Но	dgen F	Road			Timbe	er Mea	dow D	r		Timbe	er Mea	dow D)r	
		E	astbou	und			W	estbo	und			No	orthbo	und			Sc	outhbo	und		
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour A	nalysi	s Fron	า 04:00	0 PM t	o 05:45	PM -	Peak 1	of 1										•			
Peak Hour fo	or Enti	re Inte	rsectio	n Beg	jins at 0	4:30 F	M														
04:30 PM	13	115	4	0	132	0	62	1	0	63	2	0	1	0	3	0	0	10	0	10	208
04:45 PM	23	109	2	0	134	0	63	2	0	65	1	0	0	0	1	2	0	15	0	17	217
05:00 PM	16	109	0	0	125	1	47	3	0	51	1	1	1	0	3	1	0	12	0	13	192
05:15 PM	24	133	2	0	159	0	57	2	0	59	0	0	0	0	0	2	0	11	0	13	231
Total Volume	76	466	8	0	550	1	229	8	0	238	4	1	2	0	7	5	0	48	0	53	848
% App. Total	13.8	84.7	1.5	0		0.4	96.2	3.4	0		57.1	14.3	28.6	0		9.4	0	90.6	0		
PHF	.792	.876	.500	.000	.865	.250	.909	.667	.000	.915	.500	.250	.500	.000	.583	.625	.000	.800	.000	.779	.918





El Paso County ,CO 16850 Steppler Rd PM Peak

Hodgen Rd and Timber Meadow Dr

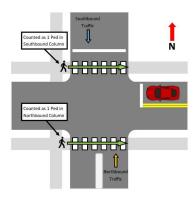
File Name: Hodgen and Timber Meadow PM

Site Code: IPO 644 Start Date: 4/5/2023

Page No : 4

Image 1

The number of pedestrians shown on this report is representative of the crossing on the approaching leg, i.e. pedestrians crossing the north side of the intersection are counted as pedestrians in the southbound crosswalk, as that is the approaching leg that they are crossing (see figure below). Diagonal crossings are counted on the two legs that will get the pedestrian to the same end point. Diagonals can be counted separately if discussed prior to count.





16850 Steppler Rd Site Code : IPO 644
AM Peak Start Date : 4/6/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 1

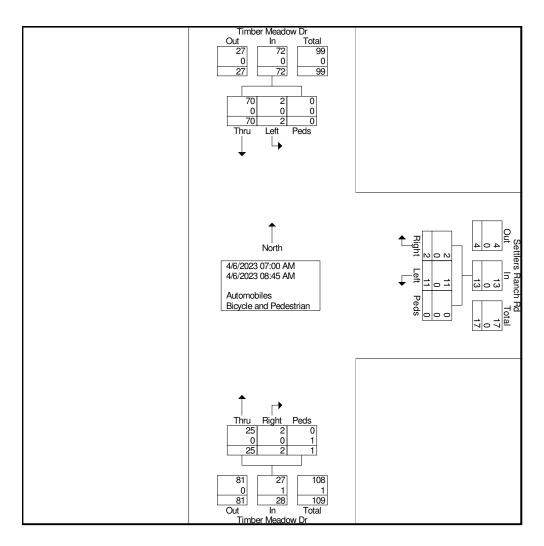
Groups Printed- Automobiles - Bicycle and Pedestrian

		Settlers F	Ranch Ro		Timber Meadow Dr Timber Meadow Dr									
		Westl		•			bound				bound	•		
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total	
07:00 AM	1	1	0	2	0	0	0	0	1	7	0	8	10	
07:15 AM	1	1	0	2	4	0	1	5	1	8	0	9	16	
07:30 AM	3	0	0	3	4	0	0	4	0	16	0	16	23	
07:45 AM	0	0	0	0	2	0	0	2	0	6	0	6	8	
Total	5	2	0	7	10	0	1	11	2	37	0	39	57	
08:00 AM	1	0	0	1	1	0	0	1	0	5	0	5	7	
08:15 AM	2	0	0	2	4	1	0	5	0	10	0	10	17	
08:30 AM	3	0	0	3	5	1	0	6	0	14	0	14	23	
08:45 AM	0	0	0	0	5	0	0	5	0	4	0	4	9	
Total	6	0	0	6	15	2	0	17	0	33	0	33	56	
Grand Total	11	2	0	13	25	2	1	28	2	70	0	72	113	
Apprch %	84.6	15.4	0		89.3	7.1	3.6		2.8	97.2	0			
Total %	9.7	1.8	0	11.5	22.1	1.8	0.9	24.8	1.8	61.9	0	63.7		
Automobiles	11	2	0	13	25	2	0	27	2	70	0	72	112	
% Automobiles	100	100	0	100	100	100	0	96.4	100	100	0	100	99.1	
Bicycle and Pedestrian	0	0	0	0	0	0	1	1	0	0	0	0	1	
% Bicycle and Pedestrian	0	0	0	0	0	0	100	3.6	0	0	0	0	0.9	



16850 Steppler Rd Site Code : IPO 644 AM Peak Start Date : 4/6/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 2

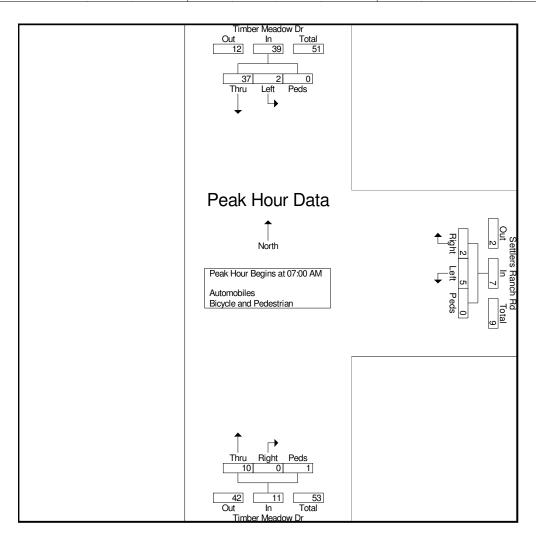




16850 Steppler Rd Site Code : IPO 644 AM Peak Start Date : 4/6/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 3

		Settlers	Ranch Ro	d		Timber M	1eadow D)r)r			
		West	bound			North	bound			South	nbound		
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis	From 07:0	00 AM to	08:45 AM	- Peak 1 of	1	•			•				
Peak Hour for Entire	e Intersect	ion Begins	at 07:00	AM									
07:00 AM	1	1	0	2	0	0	0	0	1	7	0	8	10
07:15 AM	1	1	0	2	4	0	1	5	1	8	0	9	16
07:30 AM	3	0	0	3	4	0	0	4	0	16	0	16	23
07:45 AM	0	0	0	0	2	0	0	2	0	6	0	6	8
Total Volume	5	2	0	7	10	0	1	11	2	37	0	39	57
% App. Total	71.4	28.6	0		90.9	0	9.1		5.1	94.9	0		
PHF	.417	.500	.000	.583	.625	.000	.250	.550	.500	.578	.000	.609	.620



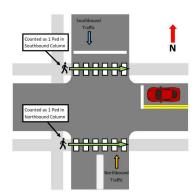


16850 Steppler Rd Site Code : IPO 644 AM Peak Start Date : 4/6/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 4

Image 1

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El Paso County ,CO 16850 Steppler Rd File Name: Settlers Ranch and Timber Meadow PM

Site Code: IPO 644 PM Peak Start Date : 4/5/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 1

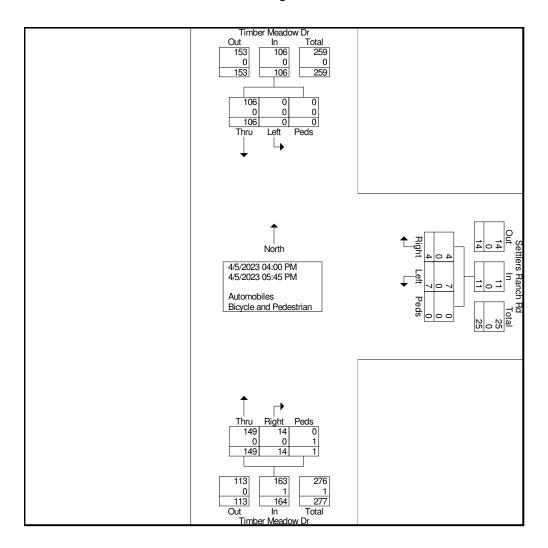
Groups Printed- Automobiles - Bicycle and Pedestrian

		Settlers F		d	rinted- Automobiles - Bicycle and Pedesi Timber Meadow Dr				Timber Meadow Dr Southbound				
			bound		Northbound								
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
04:00 PM	0	1	0	1	10	2	0	12	0	30	0	30	43
04:15 PM	4	0	0	4	25	2	1	28	0	11	0	11	43
04:30 PM	0	2	0	2	15	1	0	16	0	11	0	11	29
04:45 PM	1	0	0	1	25	0	0	25	0	13	0	13	39
Total	5	3	0	8	75	5	1	81	0	65	0	65	154
ı				ı					1			I	
05:00 PM	0	0	0	0	18	2	0	20	0	12	0	12	32
05:15 PM	0	1	0	1	22	4	0	26	0	13	0	13	40
05:30 PM	2	0	0	2	14	2	0	16	0	4	0	4	22
05:45 PM	0	0	0	0	20	1	0	21	0	12	0	12	33
Total	2	1	0	3	74	9	0	83	0	41	0	41	127
Grand Total	7	4	0	11	149	14	1	164	0	106	0	106	281
Apprch %	63.6	36.4	0		90.9	8.5	0.6	101	0	100	0	100	201
Total %	2.5	1.4	0	3.9	53	5	0.4	58.4	0	37.7	0	37.7	
Automobiles	7	4	0	11	149	14	0	163	0	106	0	106	280
% Automobiles	100	100	0	100	100	100	0	99.4	0	100	0	100	99.6
Bicycle and Pedestrian	0	0	0	0	0	0	1	_ 1	0	0	0	0	1
% Bicycle and Pedestrian	0	0	0	0	0	0	100	0.6	0	0	0	0	0.4



16850 Steppler Rd Site Code : IPO 644 PM Peak Start Date : 4/5/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 2

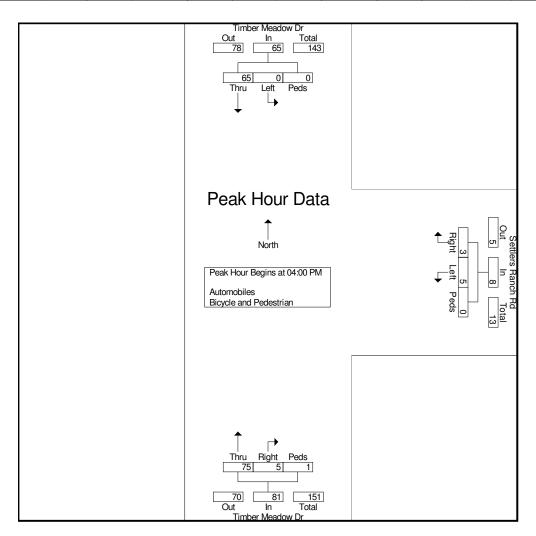




16850 Steppler Rd Site Code : IPO 644 PM Peak Start Date : 4/5/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 3

	Settlers Ranch Rd				Timber Meadow Dr				Timber Meadow Dr				
	Westbound					North	bound		Southbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	1	0	1	10	2	0	12	0	30	0	30	43
04:15 PM	4	0	0	4	25	2	1	28	0	11	0	11	43
04:30 PM	0	2	0	2	15	1	0	16	0	11	0	11	29
04:45 PM	1	0	0	1	25	0	0	25	0	13	0	13	39
Total Volume	5	3	0	8	75	5	1	81	0	65	0	65	154
% App. Total	62.5	37.5	0		92.6	6.2	1.2		0	100	0		
PHF	.313	.375	.000	.500	.750	.625	.250	.723	.000	.542	.000	.542	.895



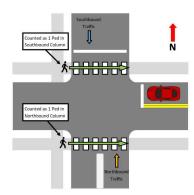


16850 Steppler Rd Site Code : IPO 644 PM Peak Start Date : 4/5/2023

Settlers Ranch Rd and Timber Meadow Dr Page No : 4

Image 1

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Traffic Projections

ROUTE	REFPT	ENDREFPT	AADT	YR20FACTOR	GROWTHRATE	DHV	LOCATION
083A	23.127	25.87	15000	1.55	2.22%	10	ON SH 83 N/O NORTH GATE RD
083A	25.87	28.132	14000	1.56	2.25%	10.5	ON SH 83 S/O SH 105 WALKER RD
	A	verage		1.555	2.23%		

Trip Generation Worksheet



Project	16850 Steppler Road				
Subject	Trip Generation for Sin	gle-Family D	Detached Housing		
Designed by	TJD	Date	April 10, 2023	Job No.	196310000
Checked by		Date	•	Sheet No.	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independent Variable - Dwelling Units (X)

$$X = 14$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 220)

Directional Distribution: 26% ent. 74% exit.
$$Ln(T) = 0.91 Ln(X) + 0.12$$
 $T = 12$ Average Vehicle Trip Ends $Ln(T) = 0.91 * Ln(14) + 0.12$ $T = 12$ Average Vehicle Trip Ends $T = 12$ Average Vehicle Trip Ends $T = 12$ Average Vehicle Trip Ends $T = 12$ $T = 12$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 221)

Directional Distribution: 63% ent. 37% exit.
$$Ln(T) = 0.94 \ Ln(X) + 0.27$$

$$T = 16 \quad \text{Average Vehicle Trip Ends}$$

$$10 \quad \text{entering} \quad 6 \quad \text{exiting}$$

$$10 \quad \text{exit} \quad 10 \quad 10 \quad \text{exit} \quad 10 \quad \text{exit}$$

Weekday (200 Series Page 219)

Directional Distribution: 50% entering, 50% exiting
$$Ln(T) = 0.92 Ln(X) + 2.68$$
 $T = 166$ Average Vehicle Trip Ends $Ln(T) = 0.92 * Ln(14) + 2.68$ 83 entering 83 exiting $R = 166$

Intersection Capacity Analysis Outputs

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	+	7	¥	+	7		4			4	
Traffic Vol, veh/h	15	138	1	2	248	3	4	0	0	2	0	38
Future Vol, veh/h	15	138	1	2	248	3	4	0	0	2	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	525	-	525	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	92	92	92	50	50	50	59	59	59
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	186	1	2	270	3	8	0	0	3	0	64
Major/Minor N	/lajor1			Major2			Minor1			Minor2		
Conflicting Flow All	273	0	0	187	0	0	534	503	186	501	501	270
Stage 1	_, _	-	-	-	-	-	226	226	-	274	274	-
Stage 2	_	_	_	-	_	-	308	277	-	227	227	_
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	_	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	_	6.12	5.52	-	6.12	5.52	-
	2.218	_	_	2.218	_	-	3.518		3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1290	-	-	1387	-	-	457	471	856	480	472	769
Stage 1	-	-	_	-	-	-	777	717	-	732	683	-
Stage 2	-	-	-	-	-	-	702	681	-	776	716	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1290	-	-	1387	-	-	413	463	856	474	464	769
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	463	-	474	464	-
Stage 1	-	-	-	-	-	-	765	706	-	720	682	-
Stage 2	-	-	-	-	-	-	642	680	-	764	705	-
, in the second												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.1			13.9			10.3		
HCM LOS	0.0			U. I			13.9 B			10.3 B		
HOW LOS							U			D		
Minor Long/Maior M		JDI1	EDI	EDT	EDD	WDI	WDT	WED	CDL1			
Minor Lane/Major Mvm	t ľ	VBLn1	EBL	EBT	EBR	WBL	WBT	WBR S				
Capacity (veh/h)		413	1290	-	-	1387	-	-	746			
HCM Control Polov (a)		0.019		-	-	0.002	-		0.091			
HCM Long LOS		13.9	7.8	-	-	7.6	-	-	10.3			
HCM Deth % tile O(vob)		0.1	A	-	-	A	-	-	0.3			
HCM 95th %tile Q(veh)		U. I	0	-	-	0	-	-	0.3			

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	†	7	ሻ	†	7		4			4	
Traffic Vol, veh/h	76	466	8	1	229	8	4	1	2	5	0	48
Future Vol, veh/h	76	466	8	1	229	8	4	1	2	5	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	525	-	525	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	92	92	92	58	58	58	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	536	9	1	249	9	7	2	3	6	0	62
Major/Minor N	/lajor1		1	Major2		ı	Minor1			Minor2		
Conflicting Flow All	258	0	0	545	0	0	997	970	536	968	970	249
Stage 1	-	-	-	-	-	-	710	710	-	251	251	-
Stage 2	-	-	-	-	-	-	287	260	-	717	719	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1307	-	-	1024	-	-	223	253	545	233	253	790
Stage 1	-	-	-	-	-	-	424	437	-	753	699	-
Stage 2	-	-	-	-	-	-	720	693	-	421	433	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1307	-	-	1024	-	-	195	236	545	218	236	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	236	-	218	236	-
Stage 1	-	-	-	-	-	-	396	408	-	703	698	-
Stage 2	-	-	-	-	-	-	663	692	-	389	404	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0			20.4			11.4		
HCM LOS							С			В		
Minor Lane/Major Mvm	t N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR:	CDI n1			
	t I						WDI					
Capacity (veh/h)		246	1307	-	-	1024	-	-	633			
HCM Control Dolay (c)		0.049		-	-	0.001	-		0.107			
HCM Control Delay (s) HCM Lane LOS		20.4 C	8	-	-	8.5	-	-	11.4			
HCM 95th %tile Q(veh)		0.2	A 0.2	-	-	A 0	-	-	0.4			
HOW FOUT WHIE Q(VEH)		0.2	0.2	-	•	U	-	-	0.4			

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	^	7	ň	+	7		4			4	
Traffic Vol, veh/h	16	147	1	2	265	3	4	0	0	2	0	41
Future Vol, veh/h	16	147	1	2	265	3	4	0	0	2	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	525	-	525	-	-	-	-	-	-
Veh in Median Storage	-,#	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	92	92	92	50	50	50	59	59	59
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	199	1	2	288	3	8	0	0	3	0	69
Major/Minor N	/lajor1		ľ	Major2		ı	Minor1			Minor2		
Conflicting Flow All	291	0	0	200	0	0	571	538	199	536	536	288
Stage 1	-	-	-		-	-	243	243	-	292	292	
Stage 2	_	_	_	_	_	_	328	295	_	244	244	_
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1		-	_		_	-	6.12	5.52	-	6.12	5.52	
Critical Hdwy Stg 2	-	-	-	-	-	_	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	_	2.218	_	-	3.518	4.018	3.318	3.518		3.318
Pot Cap-1 Maneuver	1271	-	-	1372	-	-	432	450	842	455	451	751
Stage 1		-	_		_	-	761	705	-	716	671	-
Stage 2	-	-	-	-	-	-	685	669	-	760	704	-
Platoon blocked, %		-	_		_	-						
Mov Cap-1 Maneuver	1271	-	-	1372	-	-	386	442	842	449	443	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	386	442	-	449	443	-
Stage 1	-	-	-	-	-	-	748	693	-	704	670	-
Stage 2	-	-	-	-	-	-	621	668	-	747	692	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.1			14.5			10.5		
HCM LOS	0.0			U. I			14.5 B			10.5 B		
TIOWI LOS							В			ט		
Minor Long /Minim Mi		UDI 1	EDI	EDT	EDD	MDI	WET	MPD	2DI 4			
Minor Lane/Major Mvm	it ľ	VBLn1	EBL	EBT	EBR	WBL	WBT	WBR S				
Capacity (veh/h)		386	1271	-	-	1372	-	-	728			
HCM Cardad Palace (a)		0.021		-	-	0.002	-	-	0.1			
HCM Control Delay (s)		14.5	7.9	-	-	7.6	-	-	10.5			
HCM Lane LOS		В	A	-	-	A	-	-	В			
HCM 95th %tile Q(veh)		0.1	0.1	-	-	0	-	-	0.3			

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<u></u>	7	ሻ	<u></u>	7		4			4	
Traffic Vol, veh/h	81	498	9	1	245	9	4	1	2	5	0	51
Future Vol, veh/h	81	498	9	1	245	9	4	1	2	5	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
•	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	525	-	525	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	92	92	92	58	58	58	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	572	10	1	266	10	7	2	3	6	0	65
Major/Minor M	ajor1		N	Major2		ľ	Minor1		ľ	Minor2		
Conflicting Flow All	276	0	0	582	0	0	1064	1036	572	1034	1036	266
Stage 1	-	-	-	-	-	-	758	758	-	268	268	-
Stage 2	-		_		-		306	278		766	768	
Critical Hdwy	4.12	_	_	4.12	_	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	_	-	-	_	-	-	6.12	5.52	-	6.12	5.52	_
Critical Hdwy Stg 2	_	-	-	_	_	-	6.12	5.52	-	6.12	5.52	-
3 3	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
	1287	-	-	992	-	-	201	232	520	210	232	773
Stage 1	-	-	-	-	-	-	399	415	-	738	687	-
Stage 2	-	-	-	-	-	-	704	680	-	395	411	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1287	-	-	992	-	-	174	215	520	196	215	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	215	-	196	215	-
Stage 1	-	-	-	-	-	-	370	385	-	685	686	-
Stage 2	-	-	-	-	-	-	644	679	-	362	381	-
Ü												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0			22.1			11.7		
HCM LOS	•••			U			C			В		
TIOW EOO												
Minor Long/Major Mumt		IDI n1	EDI	ГПТ	EDD	WDI	WDT	WDD	CDI n1			
Minor Lane/Major Mvmt	ľ	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR :				
Capacity (veh/h)		222	1287	-	-	992	-	-				
HCM Lane V/C Ratio		0.054		-		0.001	-		0.117			
HCM Long LOS		22.1	8	-	-	8.6	-	-				
HCM Lane LOS		С	A	-	-	A	-	-	В			
HCM 95th %tile Q(veh)		0.2	0.2	-	-	0	-	-	0.4			

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	¥	†	7	ň	+	7		4			4	
Traffic Vol, veh/h	19	147	1	2	265	3	4	0	0	3	0	49
Future Vol, veh/h	19	147	1	2	265	3	4	0	0	3	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	525	-	525	-	-	-	-	-	-
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	92	92	92	50	50	50	59	59	59
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	199	1	2	288	3	8	0	0	5	0	83
Major/Minor N	/lajor1			Major2		N	Minor1		ı	Minor2		
Conflicting Flow All	291	0	0	200	0	0	586	546	199	544	544	288
Stage 1	-	-	-	-	-	-	251	251	-	292	292	
Stage 2	_	_	_	_	_	_	335	295	_	252	252	_
Critical Hdwy	4.12	_	_	4.12	_	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1		_	_		_	_	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	_	_	_	_	_	_	6.12	5.52	_	6.12	5.52	_
	2.218	_	_	2.218	_	_	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1271	_	-	1372	_	-	422	445	842	450	446	751
Stage 1	-	_	_	-	_	_	753	699		716	671	-
Stage 2	-	-	-	-	-	-	679	669	-	752	698	-
Platoon blocked, %		-	_		_	-					3,3	
Mov Cap-1 Maneuver	1271	-	-	1372	-	-	369	436	842	442	437	751
Mov Cap-2 Maneuver	-	-	_		_	-	369	436	-	442	437	-
Stage 1	-	-	-	-	-	-	738	685	-	702	670	-
Stage 2	-	-	_	_	_	-	603	668	-	737	684	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.1			15			10.7		
HCM LOS	0.7			U. I			C			В		
TOW LOS							U			ט		
Minor Lang/Major Mum	+ N	IDI n1	EDI	EDT	EDD	WDI	WDT	WDD	CDI n1			
Minor Lane/Major Mvm	t r	VBLn1	1271	EBT	EBR	WBL	WBT	WBR S				
Capacity (veh/h)		369	1271	-	-	1372	-	-	722			
HCM Control Dolay (c)		0.022	0.02	-	-	0.002	-		0.122			
HCM Long LOS		15	7.9	-	-	7.6	-	-	10.7			
HCM Lane LOS HCM 95th %tile Q(veh)		C	Α	-	-	A	-	-	В			
ncivi yotii %tile Q(ven)		0.1	0.1	-	-	0	-	-	0.4			

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	↑	7	7		7		4			4	
Traffic Vol, veh/h	90	498	9	1	245	10	4	1	2	6	0	56
Future Vol, veh/h	90	498	9	1	245	10	4	1	2	6	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	425	525	-	525	-	-	-	-	-	-
Veh in Median Storage	e,# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	92	92	92	58	58	58	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	572	10	1	266	11	7	2	3	8	0	72
Major/Minor N	Major1		<u> </u>	Major2			Vinor1			Minor2		
Conflicting Flow All	277	0	0	582	0	0	1088	1057	572	1054	1056	266
Stage 1	-	-	-	-	-	-	778	778	-	268	268	-
Stage 2	-	-	-	-	-	-	310	279	-	786	788	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1286	-	-	992	-	-	193	225	520	204	225	773
Stage 1	-	-	-	-	-	-	389	407	-	738	687	-
Stage 2	-	-	-	-	-	-	700	680	-	385	402	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1286	-	-	992	-	-	164	207	520	189	207	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	207	-	189	207	-
Stage 1	-	-	-	-	_	-	358	374	-	679	686	-
Stage 2	-	-	-	-	-	-	634	679	-	350	370	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0			23			12		
HCM LOS							С			В		
Minor Lane/Major Mvm	nt N	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR S	SBLn1			
Capacity (veh/h)		212	1286	-	-	992	-	-	595			
HCM Lane V/C Ratio		0.057	0.08	-	_	0.001	-	_	0.134			
HCM Control Delay (s)		23	8	_	-	8.6	_	_	12			
HCM Lane LOS		C	A	_	_	A	_	_	В			
HCM 95th %tile Q(veh))	0.2	0.3	-	_	0	_	-	0.5			
		3.2	3.0						3.0			

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		ĵ.			ની
Traffic Vol, veh/h	5	2	10	0	2	37
Future Vol, veh/h	5	2	10	0	2	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	_	-	_	-
Veh in Median Storage		_	0	-	-	0
Grade, %	0	_	0	_	_	0
Peak Hour Factor	58	58	55	55	61	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	3	18	0	3	61
IVIVIII I IOW	,	3	10	U	J	UI
	Minor1		/lajor1		Major2	
Conflicting Flow All	85	18	0	0	18	0
Stage 1	18	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	916	1061	-	-	1599	-
Stage 1	1005	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	914	1061	-	-	1599	-
Mov Cap-2 Maneuver	914	_	-	-	_	_
Stage 1	1005	_	_	_	-	_
Stage 2	954	_	_	_	_	_
Olugo Z	701					
Approach	WB		NB		SB	
HCM Control Delay, s	8.8		0		0.4	
HCM LOS	Α					
Minor Lane/Major Mvm	,t	NBT	NIDDV	VBLn1	SBL	SBT
	IL	NDT	NDKV			301
Capacity (veh/h)		-	-	952	1599	-
HCM Lane V/C Ratio		-	-	0.013		-
HCM Control Delay (s)		-	-	8.8	7.3	0
HCM Lane LOS		-	-	A	A	Α
HCM 95th %tile Q(veh))	-	-	0	0	-

0.6 WBL						
	1 \//					
	L VV	VBR	NBT	NBR	SBL	SBT
			1			4
	5	3	75	5	0	65
	5	3	75	5	0	65
	0	0	0	0	0	0
Stop		Stop	Free	Free	Free	Free
						None
						-
			Λ			0
~						0
						54
						2
10	U	6	104	/	Ü	120
Minor ¹	1	N	/lajor1	N	/lajor2	
228	8	108		0	111	0
		_	-	-	_	-
		-	-	-	-	-
		6.22	-	-	4.12	-
				_		_
		_	_	_	_	_
		318	_	_	2 218	_
				-		-
			_	_	-	_
						_
700	J	_	-	-	-	
or 740	0 (0.14	-		1/70	-
			-			
			-	-		-
			-	-		-
905	5	-	-	-	-	-
WE	В		NB		SB	
			NES	VD	05:	057
vmt	N	NBT	NBRV			SBT
		-	-		1479	-
		-	-		-	-
(s)		-	-	9.5	0	-
		-	-	Α	Α	-
reh)		-	-	0.1	0	-
er er ((s	Minor 22 10 12 6.4 5.4 3.51 76 91 90 T 76 91 90 WI s 9.	Minor1 228 108 120 6.42 5.42 5.42 3.518 760 916 905 760 916 905 WB S 9.5 A	- None 0	- None - 0 0 0 0 - 0 50 50 72 2 2 2 2 10 6 104 Minor1 Major1 228 108 0 108 120 6.42 6.22 - 5.42 5.42 3.518 3.318 - 760 946 - 916 905 760 946 - 916 905 760 946 - 916 905 760 946 - 916 905 760 946 - 916 916 905 760 946 - 916 917 918 91	- None - None 0	- None - None - Ope, # 0 - Ope, #

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		ĵ.		000	4
Traffic Vol, veh/h	5	2	11	0	2	40
Future Vol, veh/h	5	2	11	0	2	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-		-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	, # 0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	58	58	55	55	61	61
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	3	20	0	3	66
Major/Minor N	/linor1	N	/lajor1	ľ	Major2	
Conflicting Flow All	92	20	0	0	20	0
Stage 1	20	-	-	U	-	-
Stage 2	72	-	_	_	_	
Critical Hdwy	6.42	6.22		_	4.12	_
Critical Hdwy Stg 1	5.42	-	_	_	7.12	_
Critical Hdwy Stg 2	5.42	_	_	_	_	_
	3.518	3 318	_	_	2.218	_
Pot Cap-1 Maneuver	908	1058	-	-	1596	-
Stage 1	1003	-	-	_	-	_
Stage 2	951	-	_	_	-	_
Platoon blocked, %			-	_		_
Mov Cap-1 Maneuver	906	1058	_	_	1596	_
Mov Cap-2 Maneuver	906	-	_	-	-	-
Stage 1	1003	-	_	-	-	-
Stage 2	949	-	_	_	-	-
J						
Annroach	WD		ND		CD	
Approach	WB		NB		SB	
HCM Control Delay, s	8.9		0		0.3	
HCM LOS	Α					
Minor Lane/Major Mvm	t	NBT	NBRV	VBLn1	SBL	SBT
				0.45	1596	_
Capacity (veh/h)		-	-	945	1390	
Capacity (veh/h) HCM Lane V/C Ratio		-		0.013		-
				0.013		
HCM Lane V/C Ratio		-	-	0.013	0.002	-

2: Timber Meadow Drive & Settlers Ranch Road 0

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	¥		\$			सी
Traffic Vol, veh/h	5	3	80	5	0	69
Future Vol, veh/h	5	3	80	5	0	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	e, # 0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	72	72	54	54
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	6	111	7	0	128
		_		•	-	
N A - ' /N A '	M:1		1-!1		4-1	
	Minor1		/lajor1		Major2	
Conflicting Flow All	243	115	0	0	118	0
Stage 1	115	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518		-	-	2.218	-
Pot Cap-1 Maneuver	745	937	-	-	1470	-
Stage 1	910	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	745	937	-	-	1470	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	9.6		0		0	
			U		U	
HCM LOS	Λ					
HCM LOS	Α					
HCM LOS Minor Lane/Major Mvm		NBT	NBRV	VBLn1	SBL	SBT
Minor Lane/Major Mvm Capacity (veh/h)		NBT -	NBRV -	VBLn1 807	SBL 1470	SBT -
Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	nt	NBT -	NBRV -	807 0.02		
Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	nt	-	-	807 0.02 9.6	1470 - 0	-
Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	nt	-	-	807 0.02	1470	-

Int Delay, s/veh Movement Lane Configurations Traffic Vol, veh/h Future Vol, veh/h Future Vol, veh/h Conflicting Peds, #/h Sign Control RT Channelized Storage Length Veh in Median Storag Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Stg 1 Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach HCM Control Delay,	#/hr corage r %	2.2 WBL 14 14 0 Stop - 0 2,# 0 58 2 24 Minor1 95 23 72	23 -	NBT 11 11 0 Free - 0 0 55 2 20 Major1	NBR 3 3 0 Free None 55 2 5	SBL 2 2 0 Free 61 2 3	SBT 40 40 0 Free None 0 61 2 66
Lane Configurations Traffic Vol, veh/h Future Vol, veh/h Conflicting Peds, #/h Sign Control RT Channelized Storage Length Veh in Median Storage Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	#/hr corage r %	14 14 0 Stop - 0 8, # 0 0 58 2 24 Minor1 95 23	2 2 0 Stop None - - - 58 2 3	11 11 0 Free - 0 0 55 2 20	3 3 0 Free None - - - 55 2 5	2 2 0 Free - - - 61 2 3	40 40 0 Free None 0 0 61 2
Lane Configurations Traffic Vol, veh/h Future Vol, veh/h Conflicting Peds, #/h Sign Control RT Channelized Storage Length Veh in Median Storage Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	#/hr corage r %	14 14 0 Stop - 0 8, # 0 0 58 2 24 Minor1 95 23	2 2 0 Stop None - - - 58 2 3	11 11 0 Free - 0 0 55 2 20	3 3 0 Free None - - - 55 2 5	2 2 0 Free - - - 61 2 3	40 40 0 Free None 0 0 61 2
Traffic Vol, veh/h Future Vol, veh/h Conflicting Peds, #/h Sign Control RT Channelized Storage Length Veh in Median Storag Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	#/hr corage r %	14 14 0 Stop - 0 2, # 0 0 58 2 24 Minor1 95 23	2 0 Stop None - - 58 2 3	11 11 0 Free - 0 0 55 2 20	3 0 Free None - - - 55 2 5	2 0 Free - - - 61 2 3	40 40 0 Free None - 0 0 61 2
Future Vol, veh/h Conflicting Peds, #/h Sign Control RT Channelized Storage Length Veh in Median Storag Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	#/hr corage r %	14 0 Stop 0 0, # 0 0 58 2 24 Minor1 95 23	2 0 Stop None - - 58 2 3	11 0 Free - 0 0 55 2 20	3 0 Free None - - - 55 2 5	2 0 Free - - - 61 2 3	40 0 Free None - 0 0 61 2
Conflicting Peds, #/h Sign Control RT Channelized Storage Length Veh in Median Storag Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-2 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	#/hr orage r %	Stop - 0 0 , # 0 0 58 2 24 Minor1 95 23	0 Stop None - - - 58 2 3	0 Free - 0 0 55 2 20 Major1	0 Free None - - - 55 2 5	0 Free - - - 61 2 3	0 Free None - 0 0 61 2
Sign Control RT Channelized Storage Length Veh in Median Storage Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	orage r %	Stop	Stop None - - - 58 2 3	Free 0 0 55 2 20 Major1 0	Free None 55 2 5 5	Free 61 2 3	Free None 0 0 61 2
RT Channelized Storage Length Veh in Median Storage Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	r %	0 e, # 0 0 58 2 24 Minor1 95 23	None 58 2 3 3	- 0 0 55 2 20 Major1	None 55 2 5 M	- - - 61 2 3	None 0 0 61 2
Storage Length Veh in Median Storag Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	r %	0 e, # 0 0 58 2 24 Minor1 95 23	58 2 3	0 0 55 2 20 Major1	- - - 55 2 5	- - 61 2 3 Major2	0 0 61 2
Veh in Median Storager Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	r %	e, # 0 0 58 2 24 Minor1 95 23	58 2 3	0 0 55 2 20 Major1 0	- - 55 2 5	- 61 2 3 Major2	0 0 61 2
Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	r %	0 58 2 24 Minor1 95 23	58 2 3 -	0 55 2 20 Major1 0	55 2 5	61 2 3 Major2	0 61 2
Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	% 	58 2 24 <u>Minor1</u> 95 23	58 2 3	55 2 20 Major1 0	55 2 5	61 2 3 Major2	61 2
Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	% 	2 24 <u>Minor1</u> 95 23	2 3 N 23	2 20 <u>Major1</u> 0	2 5 N	2 3 Major2	2
Mymt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	1	24 Minor1 95 23	3 N 23	20 <u>Major1</u> 0	5 N	3 Major2	
Mymt Flow Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	1	24 Minor1 95 23	3 N 23	20 <u>Major1</u> 0	5 N	3 Major2	
Major/Minor Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		<u>Minor1</u> 95 23	23 -	Major1 0	N	Major2	
Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		95 23	23 -	0			
Conflicting Flow All Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		95 23	23 -	0			
Stage 1 Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	ΔII	23	-		0	~-	
Stage 2 Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach						25	0
Critical Hdwy Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		72		-	-	-	-
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		, _	-	-	-	-	-
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	1	5.42	-	-	-	-	-
Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		5.42	_	_	_	_	_
Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	_	3.518	3 318	_	_	2.218	_
Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	ıver	905	1054	_	_	4-00	_
Stage 2 Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach	IVCI	1000	-	_	_	1307	_
Platoon blocked, % Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2 Approach		951	-	-	-		
Mov Cap-1 Maneuve Mov Cap-2 Maneuve Stage 1 Stage 2	0/	901	-	-	-	-	-
Mov Cap-2 Maneuve Stage 1 Stage 2		000	1054	-	-	1500	-
Stage 1 Stage 2 Approach		903	1054	-	-	1589	-
Stage 2 Approach	uver	903	-	-	-	-	-
Approach		1000	-	-	-	-	-
		949	-	-	-	-	-
		WB		NB		SB	
HUIVI UNITOLI DEIAV	01/ 5						
	ay, s	9		0		0.3	
HCM LOS		Α					
Minor Lane/Major My		nt	NBT	NBRV	VRI n1	SBL	SBT
	r Mym	it.	NUT	אוטוגי		1589	301
Capacity (veh/h)	r Mvm		-	-			-
HCM Central Dalay			-	-		0.002	-
HCM Control Delay (atio		-	-	9	7.3	0
HCM Lane LOS	atio		-	-	A	A	Α
HCM 95th %tile Q(ve	atio ay (s)			-	0.1	0	-

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y	אטויי	1	אפא	ODL	<u>ઝકા</u>
Traffic Vol, veh/h	11	3	80	15	0	69
						69
Future Vol, veh/h	11	3	80	15	0	
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage	e, # 0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	72	72	54	54
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	6	111	21	0	128
IVIVIIIL I IOW	22	- 0	111	Z 1	U	120
Major/Minor I	Minor1		/lajor1	N	/lajor2	
Conflicting Flow All	250	122	0	0	132	0
Stage 1	122	-	-	-	-	-
Stage 2	128	_	_	_	_	_
Critical Hdwy	6.42	6.22	-	_	4.12	_
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42		-	-	-	-
Follow-up Hdwy	3.518		-	-	2.218	-
Pot Cap-1 Maneuver	739	929	-	-	1453	-
Stage 1	903	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	739	929	_	_	1453	-
Mov Cap-2 Maneuver	739	-	-	_	-	_
Stage 1	903					
	898	-	-	-	-	-
Stage 2	070	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	9.8		0		0	
HCM LOS	9.0 A		U		U	
HOWI LUS	А					
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)			-	773	1453	-
HCM Lane V/C Ratio						
		-		0.036	-	-
HCM Control Delay (s)		-	-	9.8	0	-
HCM Lane LOS	,	-	-	Α	Α	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection						
Int Delay, s/veh	3.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>	LDI	VVDL	<u>₩Ы</u>	₩.	NUIN
Traffic Vol, veh/h	2	3	0	7	9	0
Future Vol, veh/h	2	3	0	7	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0
-	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None	Stop -	None
Storage Length	-	NONE -	-	-	0	INUITE -
Veh in Median Storage,			-	0	0	-
Grade, %	0		_	0	0	-
Peak Hour Factor	92	92	92	92	92	92
	2	2	2		2	2
Heavy Vehicles, %	2	3		2	10	0
Mvmt Flow	Z	3	0	ď	10	U
Major/Minor Major/Minor	ajor1	N	Major2	ľ	Minor1	
Conflicting Flow All	0	0	5	0	12	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	8	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1616	-	1008	1080
Stage 1	-	-	-	-	1019	-
Stage 2	_	-	_	_	1015	-
Platoon blocked, %	_	_		_		
Mov Cap-1 Maneuver	_	_	1616	_	1008	1080
Mov Cap-2 Maneuver	_	_	-	_	1008	-
Stage 1	_	_	_	_	1019	-
Stage 2	_	_	_	_	1017	_
Stage 2					1013	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.6	
HCM LOS					Α	
Minor Lane/Major Mvmt	N	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	<u> </u>	1008	-		1616	-
HCM Lane V/C Ratio		0.01	-	-	1010	-
HCM Control Delay (s)		8.6	-	-	0	
HCM Lane LOS		Α	_	_	A	-
HCM 95th %tile Q(veh)		0	-	-	0	-
How four four Q(veri)		U			U	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	LDR	1100	4	¥	HOR
Traffic Vol, veh/h	5	10	0	9	6	0
Future Vol, veh/h	5	10	0	9	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	Stop -	None
Storage Length	-	None -		None -	0	None -
Veh in Median Storage	, # 0	_	_	0	0	_
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	0	10	7	0
Major/Minor N	/lajor1		Major2	_	Vinor1	
Conflicting Flow All	0	0	16	0	21	11
Stage 1	-	-	-	-	11	- ' '
Stage 2	-	_	_	_	10	_
Critical Hdwy			4.12	-	6.42	6.22
Critical Hdwy Stg 1		-	4.12	-	5.42	0.22
	-	-				
Critical Hdwy Stg 2	-	-	2 210	-	5.42	2 210
Follow-up Hdwy	-	-	2.218		3.518	
Pot Cap-1 Maneuver	-	-	1602	-	996	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1602	-	996	1070
Mov Cap-2 Maneuver	-	-	-	-	996	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1013	-
Annroach	ED		WD		ND	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		8.6	
HCM LOS					Α	
Minor Lane/Major Mvm	t ſ	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	. 1	996		LDIX	1602	-
			-			
HCM Lane V/C Ratio		0.007	-	-	0	-
		0 /				-
HCM Long LOS		8.6	-	-		
HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh)		8.6 A 0	-	-	A 0	-

Conceptual Site Plan

