ELKS CROSSING RAPID CITY, SOUTH DAKOTA TRAFFIC IMPACT ANALYSIS

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Rapid City Growth Management Department

Elks Crossing - Rapid City, South Dakota

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I. INTRODUCTION

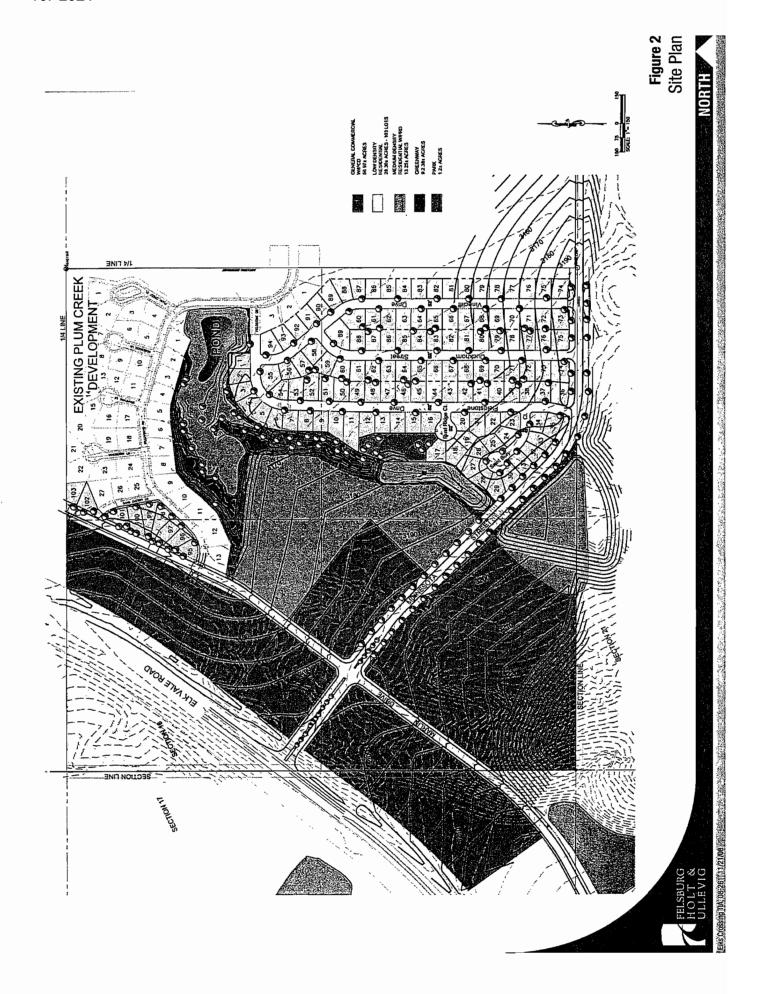
The Elks Crossing development is proposed to be located east of Elk Vale Road along the future extension of Minnesota Street in the City of Rapid City, South Dakota. The proposed development would cover approximately 115 acres within the Southeast Connector Neighborhood in Rapid City, South Dakota. Land uses proposed for the site include 200 multifamily residential units, 135 single family units, 33,000 Square Feet of office development, and approximately 367,000 Square Feet of retail development. Future retail development would be clustered along Elk Vale Road, while residential development would cover the east portion of the site. The roadway network in the vicinity of the site can be seen on **Figure 1**.

Currently eastern access to Elk Vale Road is provided by a right-in-right-out intersection at Willowbend Road. In the future, the Willowbend Road access would be eliminated and access to the site would primarily be provided via the connection of Minnesota Street east of Elk Vale Road. Marlin Drive would provide for traffic circulation within the site, running parallel to and east of Elk Vale Road, which can be seen on **Figure 2**.

The purposes of this study are to assess the traffic impacts on the adjacent roadways related to the proposed development and to determine the necessary intersection geometry and signalization requirements for the intersections of Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive. To accomplish these objectives, two future scenarios are considered:

- Short-Term Future. This scenario examines the traffic impacts at Year 2011 associated
 with partial buildout of the site completed. A portion of the site north of Minnesota Street
 would be constructed during this scenario. Minnesota Street would be extended east
 from Elk Vale Road to serve the Elks Crossing development and the surrounding
 developments of Elks Country Estates and Elk Meadows, but would not connect to Jolly
 Lane.
- Long-Term Future. This scenario examines the traffic impacts at Year 2030 associated with full buildout of the site. Minnesota Street would be extended west from Elk Vale Road as a Minor Arterial, and east past Jolly Lane. The Long-Term Future assumes complete buildout of the proposed development and the surrounding developments of Elks Country Estates and Elk Meadows, and other surrounding developments shown in the draft Southeast Connector Neighborhood Future Land Use Plan (www.rcgov.org).





II. EXISTING CONDITIONS

A. Existing Roadway Network

- Elk Vale Road. A Principal Arterial, Elk Vale Road has a north-south orientation in the
 vicinity of the site and a posted speed limit of 60 MPH. Elk Vale Road is four lanes wide
 and provides a regional connection to and through Rapid City north of the site.
- South Dakota (SD) Highway 44. This highway has a southeast-northwest orientation and runs across Rapid City as Omaha Street. In the vicinity of the site, Highway 44 is a four lane arterial providing access to downtown Rapid City north of the site.
- South Dakota Highway 79. This highway has a north-south orientation and runs across Rapid City as Cambell Street. In the vicinity of the site, Highway 79 is a four lane arterial providing access to downtown Rapid City west of the site.
- Jolly Lane. A Collector roadway, Jolly Lane extends north from the Elks Country Estates development to SD 44.

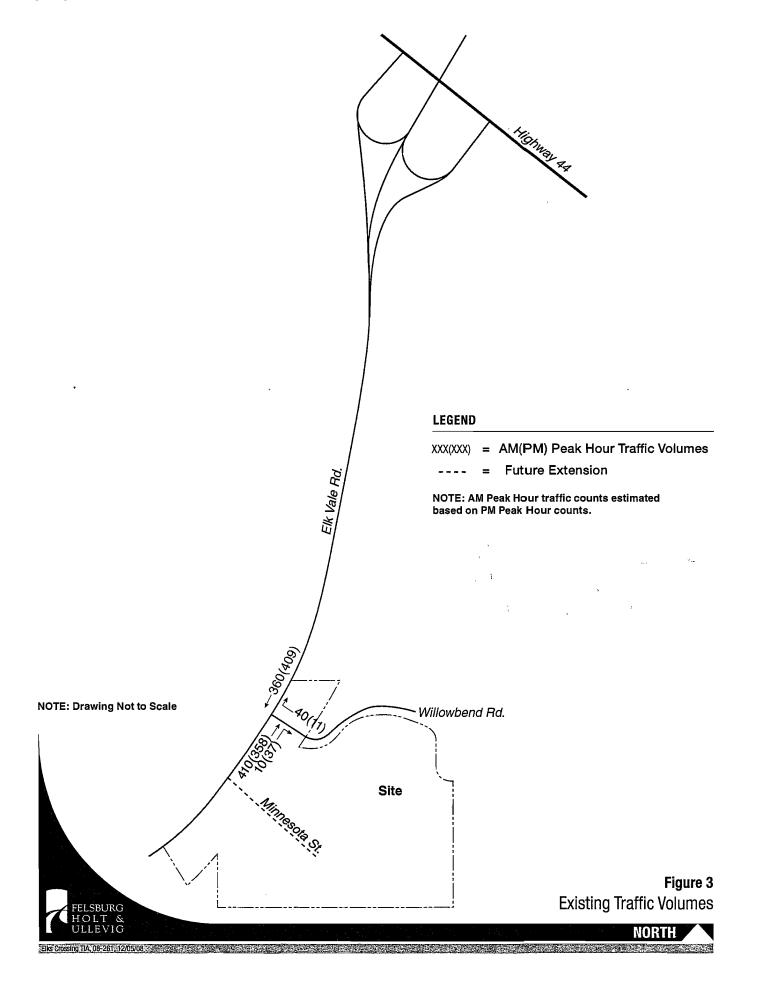
B. Surrounding Land Use

Located in the City of Rapid City, the proposed development site is located east of Elk Vale Road and west of the existing Elks Country Estates. Surrounding land use in the vicinity of the intersections of Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive includes residential development east of the site, including the developments of Elks Country Estates and Elk Meadows. South of the site, office and commercial development is planned. To the west of Elk Vale Road, office, commercial, and residential is planned along the future extension of Minnesota Street. **Figure 4** depicts existing and future development in the vicinity of the site.

C. Existing Traffic Volumes

Existing traffic volumes at the Elk Vale Road / Willowbend Road intersection are presented on **Figure 3**. Traffic counts were conducted during November of 2008 during the weekday PM peak hour. Morning peak hour volumes were estimated based upon the PM peak. The counts were performed at the intersection of Willowbend Road, north of the future site, to account for existing traffic at Elks Country Estates, which is allowed right-in-right-out access to Elk Vale Road.





III. FUTURE CONDITIONS WITHOUT DEVELOPMENT

A. Future Roadway Network Improvements

As shown on **Figure 4**, the following roadway improvements are anticipated to occur in the future without the proposed development.

- *Minnesota Street*. Minnesota Street would be constructed to create a minor arterial providing access between Highway 79 and locations east of the proposed site.
- **Jolly Lane**. Jolly Lane would be extended as a Collector from the existing location at Elks Country Estates south through Elk Meadows, connecting with the Minnesota Street extension.
- Several southern roads would be constructed to connect Minnesota Street south through the zoned office, commercial, and residential.
- Fairmont Boulevard. Fairmont Boulevard would be extended west to Elk Vale Road as a Minor Arterial in the Long-Term Future.

B. Short-Term Future (Year 2011) Background Traffic Conditions

Traffic Volumes

The following steps were taken to project Short-Term Future background traffic volumes:

- PM peak hour traffic counts were conducted at the intersection of Elk Vale Road with Willowbend Road. AM peak hour counts were estimated based on the PM peak hour results.
- The Willowbend connection to Elk Vale Road is planned to be closed when Minnesota Street is constructed. To account for this change, counted traffic volumes were shifted to the Elk Vale / Minnesota Street intersection.
- 3. Based on the Rapid City Regional Travel Demand model, an annual growth rate of 3.2 percent was applied to existing traffic volumes along Elk Vale Road.
- 4. Traffic volumes generated by future development surrounding the site were added to account for new residential development within the Elks County Estates and Elks Meadows subdivisions. It was assumed that proposed new development of Elks Meadows would reach 50 percent of total buildout by the Year 2011.

Figure 4 identifies the Short-Term Future background development parcels east of the project site. Year 2011 projected traffic volumes can be seen on **Figure 5**.

Traffic Operations

To address Short-Term Future traffic operations along Elk Vale Road without the development, intersection analyses were conducted using the techniques from the HCM-2000.



Traffic operations within the study area were evaluated according to techniques documented in the <u>Highway Capacity Manual</u>, (Transportation Research Board, 2000) using the existing traffic volumes and intersection geometry. Level of Service (LOS) is a qualitative measure of traffic operational conditions, based on roadway capacity and vehicle delay. Level of Service is described by a letter designation ranging from A to F, with LOS A representing almost free-flow travel, while LOS F represents congested conditions. For signalized intersections, LOS is calculated for the entire intersection while LOS for unsignalized intersections is calculated for movements which must yield right-of-way to other traffic movements.

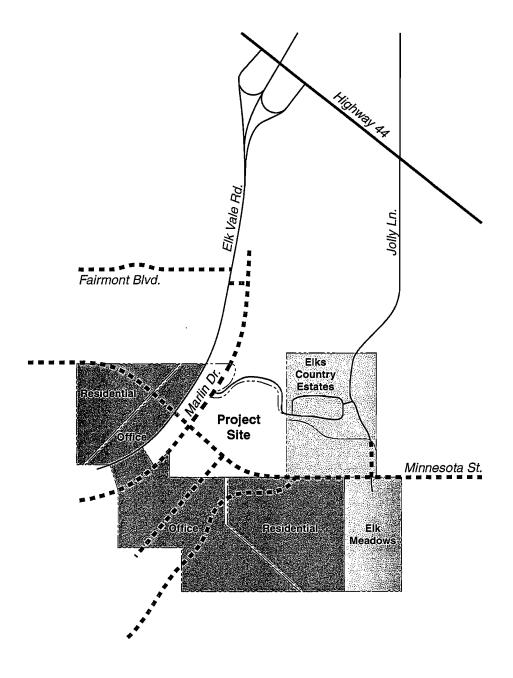
Figure 5 shows the results for projected Year 2011 background traffic conditions, including traffic control devices and intersection lane geometry. The stop controlled approach at Minnesota Street / Marlin Drive and the signalized intersection at Elk Vale Road / Minnesota Street would operate at LOS C or better during both peak hours.

Operational results are described below by intersection:

- Elk Vale Road / Minnesota Road: This proposed intersection Short-Term Future background traffic conditions were evaluated based on information included in the Manual on Uniform Traffic Control Devices (MUTCD) which indicate that the intersection would meet Warrant 3, Peak Hour criteria for signalization. The proposed signalized intersection is anticipated to operate at LOS C during both peak hours by the Year 2011.
- Minnesota Road / Marlin Drive: This proposed intersection Short-Term Future background traffic conditions were evaluated based on information included in the Manual on Uniform Traffic Control Devices (MUTCD) which indicate that the intersection would not warrant signalization. Therefore, with construction of the Minnesota Street / Marlin Drive intersection, it is anticipated that southbound Marlin Drive would be STOP sign controlled. This planned traffic control device would result in satisfactory peak hour operations at all critical movements. All movements are anticipated to operate at LOS B or better during both peak hours.

Level of service worksheets for Year 2011 background traffic may be found in Appendix A.





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Short-Term & Long-Term Future Development

= Long-Term Future Development in Southeast Connector LU Plan

■■■ = Long-Term Future Roadway Network

■■■ = Short-Term Future Roadway Network

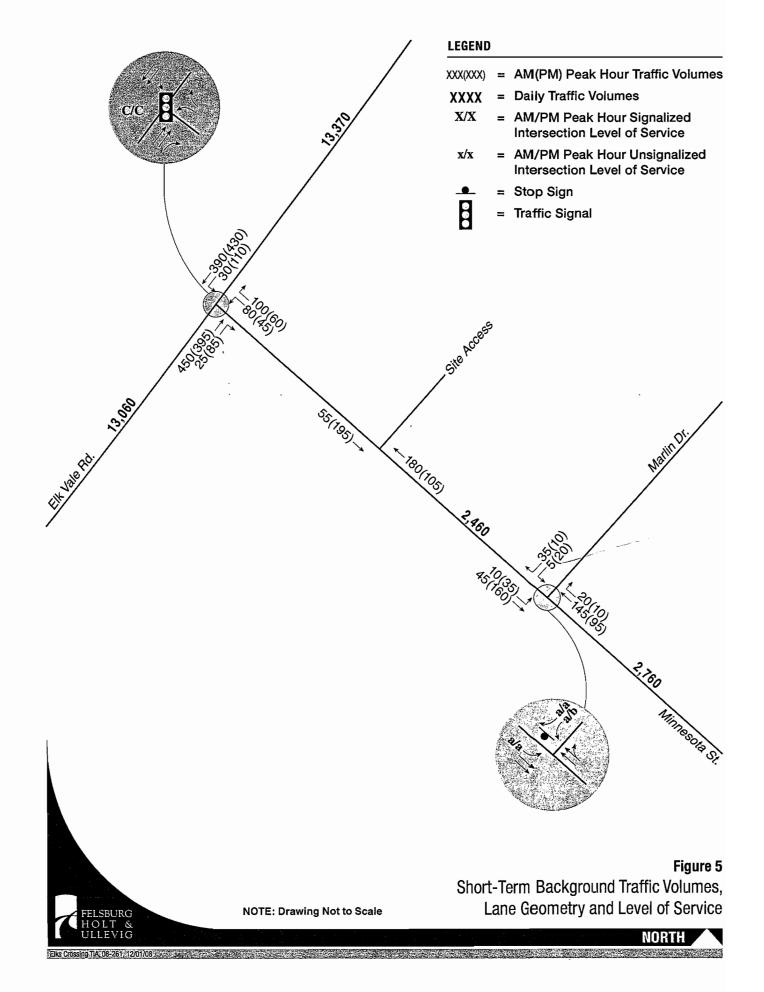
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Figure 4
Background Development Parcels

NORTH



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C. Long-Term Future (Year 2030) Background Traffic Conditions

Traffic Volumes

The following steps were taken to project Long-Term Future background traffic volumes:

- 1. Based on the Rapid City Regional Travel Demand model, an annual growth rate of 3.2 percent was applied to existing traffic volumes along Elk Vale Road.
- Elks Country Estates, located due east of the site, is proposed to be fully built out with 110 single family dwelling units and 96 multi-family dwelling units. Estimated vehicletrips associated with this development were added to the growth projections. Estimates were developed based on information included in *Trip Generation* (Institute of Transportation Engineers, 8th Edition, 2008).
- 3. Elk Meadows, located southeast of the site, is proposed to be fully built out with 288 single family dwelling units. Estimated vehicle-trips associated with this development were added to the growth projections.
- 4. Approximately 144 acres of land immediately south of the site is proposed to be developed into office and commercial space totaling 442 KSF (1,000 Square Feet). Estimated vehicle-trips associated with this development were added to the growth projections.
- 5. Approximately 115 acres of land southeast of the site is proposed to be developed into single family units totaling 414 dwelling units. Estimated vehicle trips associated with this development were added to the growth projections.
- 6. Approximately 38 acres of land west of Elk Vale Road along Minnesota Street is proposed to be developed into office space totaling 70 KSF and single family homes totaling 146 units. Estimated vehicle trips associated with this development were added to the growth projections.
- 7. In addition, the land use plans for the area east of the project site was examined to determine future through traffic along Minnesota Street that could be expected by the classification change of the road into a Minor Arterial.

Figure 4 identifies the Long-Term Future background development parcels east of the project site. Year 2030 projected traffic volumes can be seen on **Figure 6**.

Traffic Operations

To address Long-Term Future traffic operations along Elk Vale Road without the development, a LOS analysis was conducted using the techniques from the HCM-2000.

Figure 6 shows the results of the projected Year 2011 background traffic conditions, including traffic control devices and intersection lane geometry. The signalized intersections of Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive would operate at LOS C or better during both peak hours.

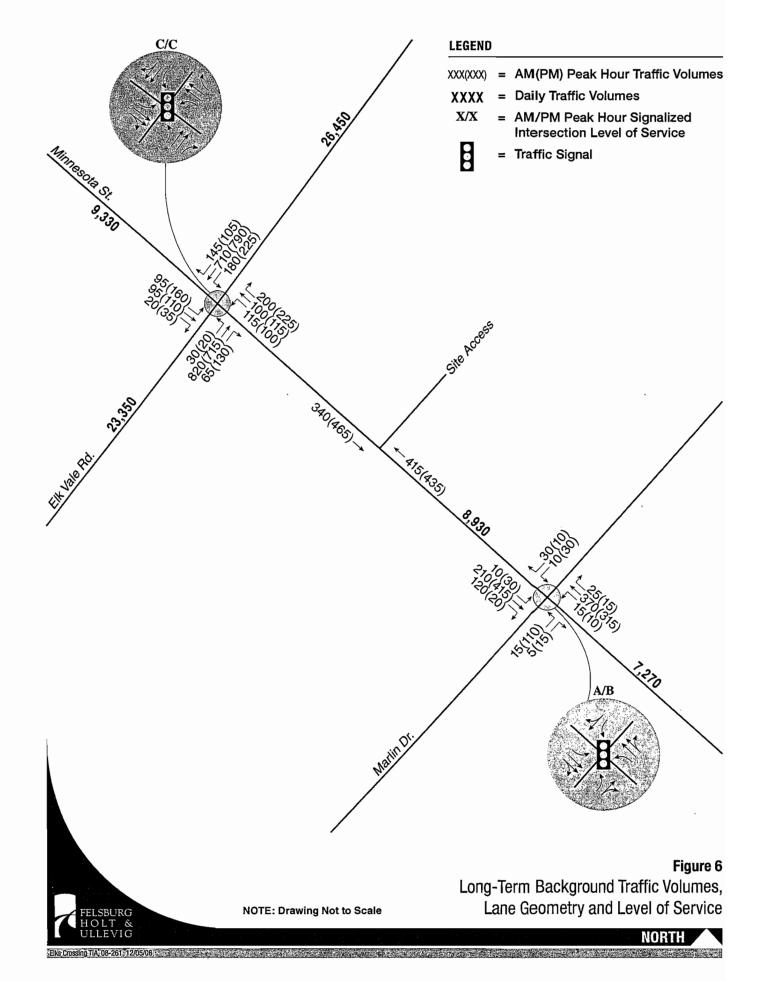


Operational results are described below by intersection:

- Elk Vale Road / Minnesota Street: By Year 2030, this signalized intersection would be redesigned to include the west leg of Minnesota Street and allow all turning movements at the intersection. The resulting intersection would operate at LOS C or better during each peak period.
- Minnesota Street / Marlin Drive: By Year 2030, the intersection would be redesigned to
 include the south leg of Marlin Drive and allow all turning movements at the intersection.
 Also by Year 2030, traffic conditions at this intersection are anticipated to meet signal
 warrants outlined in the MUTCD. Under signalized control, the resulting intersection
 would operate at LOS B or better during each peak period.

Level of service worksheets for Year 2030 background traffic may be found in **Appendix B**.





IV. SITE TRIP GENERATION AND DISTRIBUTION

A. Trip Generation

The number of vehicle-trips to be generated by the proposed development was estimated based on trip rates and procedures documented in <u>Trip Generation</u> (Institute of Transportation Engineers (ITE), 8th Edition, 2008) and the <u>Trip Generation Handbook</u> (ITE, 2nd Edition, 2004). Land use codes (LUC) 210 (Single Family Detached), LUC 220 (Apartments), LUC 710 (General Office Building), and LUC 820 (Shopping Center) were used to estimate trips for the development. Given the location of the site along Elk Vale Road and the mixed-use nature of the site, trip generation estimates included calculations of retail pass-by trips and vehicle-trips that would remain internal to the site.

Short-Term Future

As discussed in Section I of this report, it is anticipated that the Short-Term site development would include the portion north of Minnesota Street. The completed construction would include 30 KSF of retail uses, 33 KSF of office, 100 apartment dwelling units, and 64 single family dwelling units. Pass-by trips, or vehicle-trips attracted to the site from traffic already passing on the adjacent streets, were estimated to comprise 45 percent of the land use trips generated. Site trip generation estimates were also adjusted to account for the internal trips that would occur between the residences and retail space within the proposed development. A calculation sheet for internal capture in the Short-Term Future can be seen in **Appendix C**.

As shown in **Table 1**, the site is anticipated to generate approximately 4,745 total vehicle-trips per day by the Year 2011, with approximately 1,989 pass-by and internal vehicle-trips. It is estimated that approximately 276 new vehicle trips would occur during the PM peak hour.

Table 1. Year 2011 - Trip Generatio	on Summary
-------------------------------------	------------

Land Use	LUC	Size Units Rate		Daily	AM Peak Hour			PM Peak Hour			
Lanuese	LUC	SIZE	Office	or Eq	Daily	ln	Out	Total	ln.	Out	Total
Retail	820	30	KSF	Eq	3,105	46	30	76	139	145	284
Office/Commercial	710	33	KSF	Rate	363	45	6	51	8	41	49
Medium Density Residential	220	100	DU	Rate	665	10	41	51	40	22	62
Low Density Residential	210	64	DU	Rate	612	12	36	48	41	24	65
	_		To	tal Trips	4,745	113	113	226	228	232	460
		Tota	al Interr	nal Trips	762	10	10	20	36	36	72
Passby Trips (45% of External Retail Trips)						31	12	43	56	56	112
Total New External Trips					2,756	72	91	163	136	140	276

Long-Term Future

It is anticipated that the development would reach full buildout by the Year 2030. The completed construction would include 367 KSF of general commercial, 33 KSF of office and commercial, 200 apartment dwelling units, and 135 single family dwelling units. Pass-by vehicle trips would represent approximately 27 percent of site retail traffic. An example calculation sheet for internal capture in the Long-Term Future can be seen in **Appendix C**.



Table 2 summarizes Year 2030 trip generation estimates. As shown, the site would generate approximately 18,796 total vehicle-trips per day, with approximately 6,003 pass-by and internal vehicle-trips. It is estimated that approximately 1,221 new vehicle trips would occur during the PM peak hour due to the proposed development.

Table 2. Year 2030 Trip Generation	Summary
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Land Use LUC Size Units Rate			Daily	e AN	AM Peak Hour			PM Peak Hour			
Eallu Ose	LUC	Size	Urills	or Eq	Daily	ln .	Out	Total	. In	Out.	Total
Retail	820	367	KSF	Eq	15,811	202	130	332	745	775	1,520
Office/Commercial	710	33	KSF	Rate	363	45	6	51	8	41	49
Medium Density Residential	220	200	DU	Rate	1,330	20	82	102	81	43	124
Low Density Residential	210	135	DU	Rate	1,292	25	76	101	86	50	136
				Total	18,796	292	294	586	920	909	1,829
	,	Tota	al Intern	al Trips	2,003	38	38	7 6	114	114	228
Passby Trips (27% of External Retail Trips)						49	30	7 9	185	195	380
Total New External Trips						205	226	431	621	600	1,221

B. Trip Distribution and Traffic Assignment

The site trip distribution assumptions for the future analysis time periods are shown on **Figure 7** and **Figure 9**. The distribution for both of these scenarios was developed based on the existing traffic patterns and the location of the site relative to existing and future land uses in the surrounding area. The Long-Term Future scenario has its own distribution, separate from the Short-Term Future scenario, since a new roadway connection to Highway 79 is anticipated via the newly extended Minnesota Street as well as due to the development of the surrounding roadway network which would occur over time.

The Short-Term Future trip distribution would allocate 5 percent of site traffic to/from the north via Jolly Lane, 40 percent to/from the south via Elk Vale Road, and 55 percent to/from the north via Elk Vale Road.

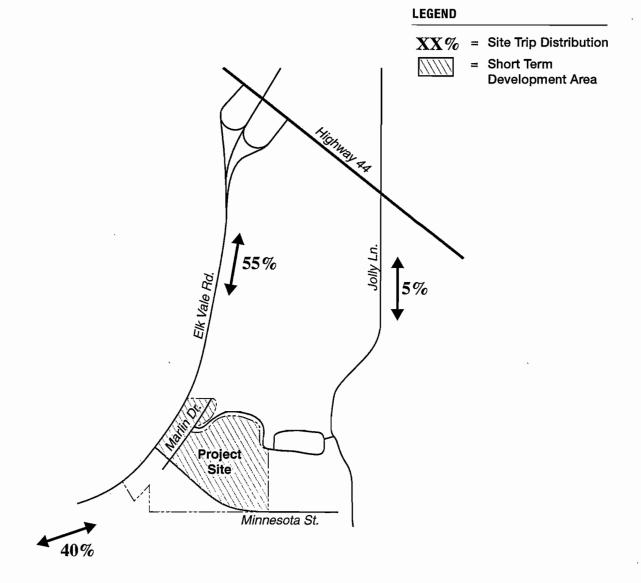
For the Long-Term Future scenario, the trip distribution would allocate 15 percent of site traffic to/from the north via Marlin Drive, 35 percent to/from the north via Elk Vale Road, 15 percent to/from the west via Minnesota Street, 20 percent to/from the south via Elk Vale Road, and the remaining 15 percent of trips are split evenly between north Jolly Lane, east Minnesota Street, and south Marlin Drive. The allocation of 15 percent of site traffic to Marlin Drive north was based on the assumption that Marlin Drive would provide a connection to Elk Vale Road and Fairmont Boulevard west. This percentage would decrease if such connections were not completed.

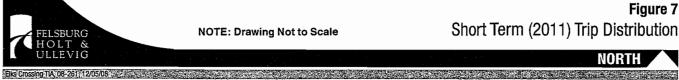
For both future scenarios, passby trips were assigned to Elk Vale Road based on the existing north-south directional split during peak hours.



Trips to and from the site were assigned to the roadway network based on the Short-Term Future and Long-Term Future trip distribution percentages. Daily and Peak hour site generated traffic volumes can be seen on **Figure 8** for the Year 2011 and on **Figure 10** for the Year 2030.

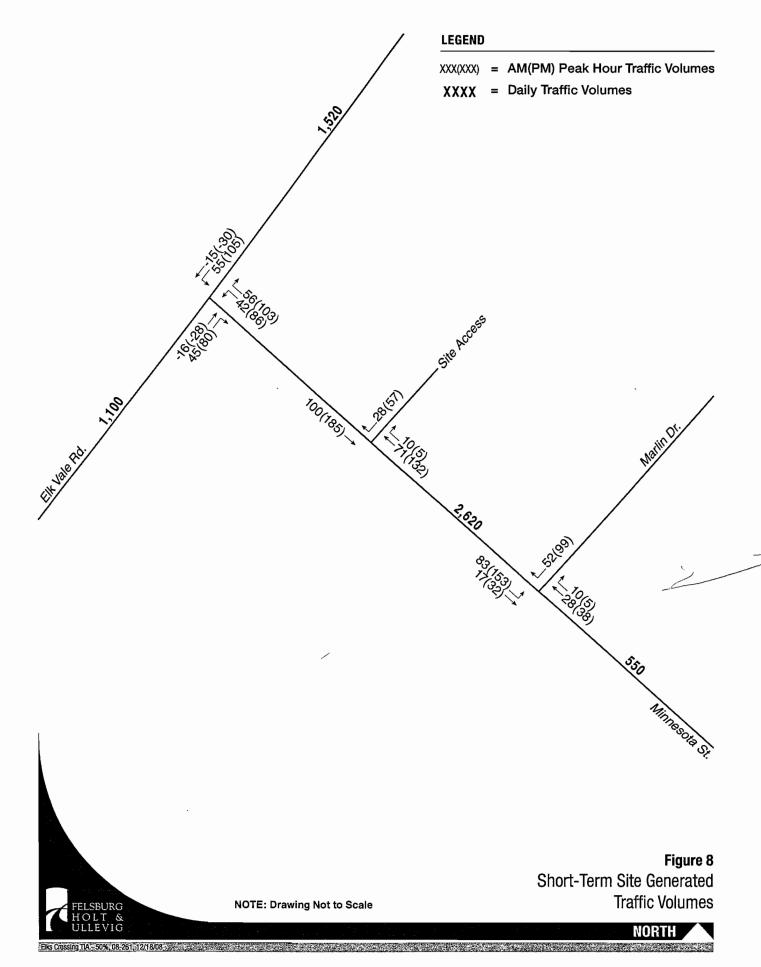






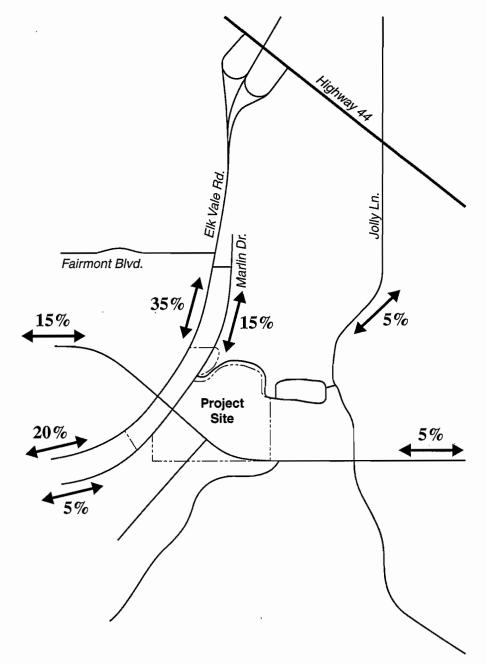
NOTE: Drawing Not to Scale

Figure 7 Short Term (2011) Trip Distribution



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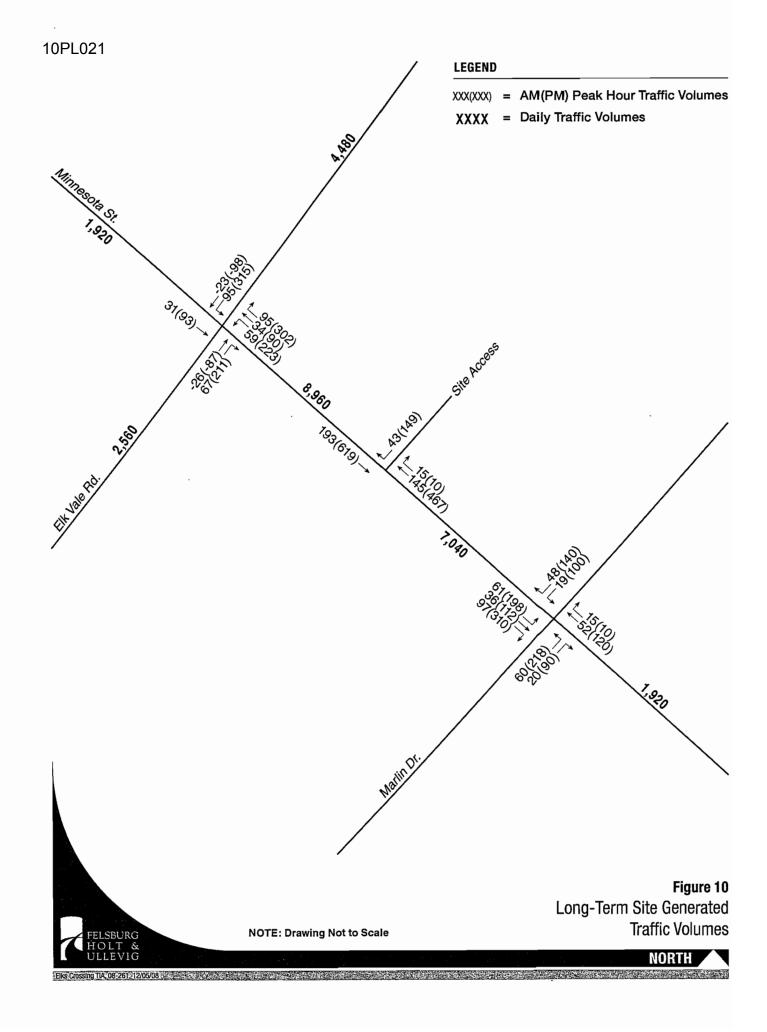
XX% = Site Trip Distribution





NOTE: Drawing Not to Scale

Figure 9 Long Term (2030) Trip Distribution



V. FUTURE CONDITIONS WITH DEVELOPMENT

A. Site Accesses

Primary access to the proposed development is planned to be provided via multiple accesses along Minnesota Street and Marlin Drive, with network access via the intersection of Elk Vale Road / Minnesota.

B. Short-Term Future (Year 2011) Total Traffic Conditions

Traffic Volumes

The site generated traffic volumes from **Figure 8** were added to the 2011 background traffic volumes shown on **Figure 5** in order to determine total traffic volumes for the Short-Term Future scenario. The projected Year 2011 traffic volumes are shown on **Figure 11**. The proposed development would add approximately 10 percent to daily traffic volumes along Elk Vale Road and would double traffic along Minnesota Street east of Elk Vale Road.

Traffic Operations

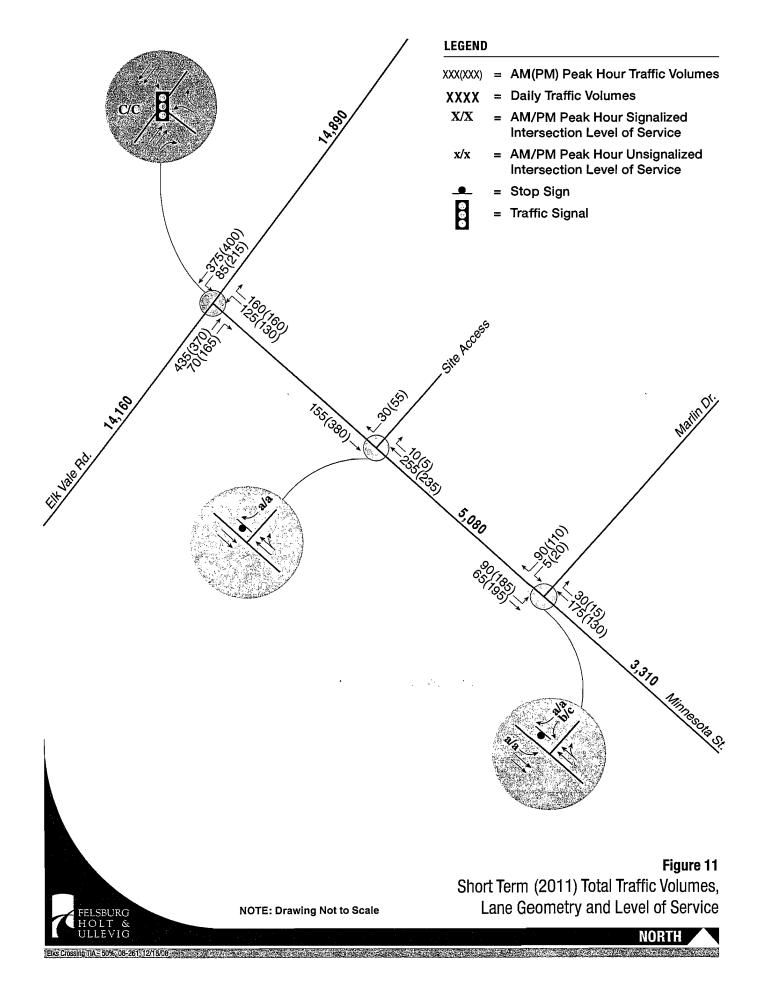
To address Short-Term Future (Year 2011) traffic operations along Elk Vale Road, a LOS analysis was conducted using the techniques from the HCM-2000. Projected Year 2011 total traffic conditions can be seen on **Figure 11**.

Operational results are described below by intersection:

- Elk Vale Road / Minnesota Road: This proposed intersection Short-Term Future total traffic conditions were evaluated based on information included in the *Manual on Uniform Traffic Control Devices* (MUTCD) which indicate that the intersection would meet Warrant 3, Peak Hour criteria for signalization. The proposed signalized intersection is anticipated to operate at LOS C during both peak hours during the Year 2030.
- Minnesota Road / Marlin Drive: This proposed intersection Short-Term Future total
 traffic conditions were evaluated based on information included in the Manual on
 Uniform Traffic Control Devices (MUTCD) which indicate that the intersection would not
 warrant signalization. Therefore, with construction of the Minnesota Street / Marlin Drive
 intersection, it is anticipated that southbound Marlin Drive would be STOP sign
 controlled. This planned traffic control device would result in satisfactory peak hour
 operations at all critical movements with LOS C or better for all movements.

Level of service worksheets for Year 2011 total traffic may be found in **Appendix D**.





Auxiliary Lanes

In order to accommodate the volume increases due to the site traffic, the auxiliary lanes would need to be lengthened to adequately handle the addition of site traffic to the study intersections. **Table 3** provides the Total Traffic turn lane lengths.

Table 3. Short-Term Future – Total Traffic Turn Lane Lengths

Intersection	Approach	Lane Type	Storage Length (feet)
	Westbound	Left turn lane	100
Elk Vale Road /	Westbound	Right turn lane	50
Minnesota Street	Northbound	Right turn lane	75
	Southbound	Left turn lane	132 ¹
Minnesota Street /	Eastbound	Left turn lane	50
Marlin Drive	Southbound	Left turn lane	50

Actual 95th percentile queue length result from intersection LOS analysis. Actual result is reported here to demonstrate that short term storage requirements may be roughly accommodated within the current available southbound left turn lane storage length of 125 feet.

Since Elk Vale Road is a state highway, the total auxiliary lane lengths required are prescribed by the Road Design Manual. The northbound right turn lane at Elk Vale Road / Minnesota Street would require a total length of 507 feet, including the taper. The southbound left turn lane at Elk Vale Road / Minnesota Street would require a total length of 587 feet, including the taper. This length is roughly equivalent to the length of the current southbound left turn lane along Elk Vale Road.

C. Long-Term Future (Year 2030) Total Traffic Conditions

Traffic Volumes

The site generated traffic volumes on **Figure 10** were added to the projected Year 2030 background traffic volumes on **Figure 6** in order to obtain the Year 2030 total traffic volumes shown on **Figure 12**. The proposed development would add approximately 20 percent to daily traffic volumes along Elk Vale Road and approximately double volumes along Minnesota Street east of Elk Vale Road.

Traffic Operations

To address Long-Term Future (Year 2030) traffic operations along Elk Vale Road with all of the development constructed, a LOS analysis was conducted using the techniques from the HCM-2000. The projected Year 2030 total traffic conditions can be seen on **Figure 12**. Operational results are described below by intersection:

- Elk Vale Road / Minnesota Street: By the Year 2030, the signalized intersection would be redesigned to include the west leg of Minnesota Street and allow all turning movements at the intersection. The resulting intersection would operate at LOS C during the AM peak period and LOS D during the PM peak period.
- Minnesota Street / Marlin Drive: By the Year 2030, the intersection would be redesigned to include the south leg of Marlin Drive and allow all turning movements at the intersection. Also by Year 2030, traffic conditions at this intersection are anticipated



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to meet signal Warrant 3, Peak Hour criteria for signalization, outlined in the MUTCD. Under signalized control, the intersection would operate at LOS B during the AM peak period and LOS C during the PM peak period.

Level of service worksheets for Year 2030 total traffic may be found in **Appendix E**.



Auxiliary Lanes

In order to accommodate the volume increases due to the buildout of the site and surrounding area, the auxiliary lanes as depicted in **Table 3** would need to be lengthened, and in some cases additional lanes would need to be added to adequately handle the addition of traffic to the study intersections. **Table 4** provides the total traffic turn lane lengths as required to attain acceptable LOS values throughout the system as well as to account for the close spacing of the Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive intersections

Two locations require the addition of a second separate left turn lane to account for the increased turn volumes in the Long-Term Future. These movements are the southbound and westbound left turns at the Elk Vale Road / Minnesota Street intersection. In addition, many of the turn lanes require additional storage length to accommodate the increased volumes for the total traffic scenario. **Table 4** shows a summary of the recommended turn lanes and the corresponding storage lengths.

Table 4. Long-Term Future – Total Traffic Turn Lane Lengths

Intersection	Approach	Lane Type	Storage Length (feet)
	Westbound	Dual left turn lane	150
Elk Vale Road /	Westboulid	Right turn lane	200
Minnesota Street	Northbound	Right turn lane	75
	Southbound	Dual left turn lane	275
Minnesota Street /	Eastbound	Left turn lane	150
Marlin Drive	Southbound	Left turn lane	50

Since Elk Vale Road is a state highway, the total auxiliary lane lengths required are prescribed by the Road Design Manual. The northbound right turn lane at Elk Vale Road / Minnesota Street would require a total length of 530 feet, including the taper. The southbound dual left turn lanes at Elk Vale Road / Minnesota Street would require a total length of 730 feet, including the taper.

D. Level of Service Summary

Table 5 was prepared as a summary of the preceding level of service analyses.



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Table 5. Intersection Level of Service Summary – AM / PM Peak Hour

			AM./ PM Intersection Level of Service & Delay								
Intersection	Traffic Control	Critical Movements	A TENEDRO DE LE CONTRACTOR	t-Term ground	The Property of the Park	t-Term otal		-Term ground	Long To	-Term otal	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	
Elk Vale Road / Minnesota Street	Signal	ALL	C/C	32/30	C/C	30/27	C/C	31/35	C/D	31/36	
Minnesota Street	Stop	SB LT	a/b	9/11	b/c	13/17	*	*	*	*	
/ Marlin Drive	Signal	ALL	*	*	*	*	A/B	9/14	B/C	19/28	



VII. SUMMARY AND RECOMMENDATIONS

The Elks Crossing development is proposed to be located east of Elk Vale Road along the future extension of Minnesota Street in the City of Rapid City, South Dakota. The proposed development would cover approximately 115 acres within the Southeast Connector Neighborhood in Rapid City, South Dakota. Land uses proposed for the site include 200 multifamily residential units, 135 single family units, 33,000 Square Feet of office development, and approximately 367,000 Square Feet of retail development. Future retail development would be clustered along Elk Vale Road, while residential development would cover the east portion of the site.

The intersection of Elk Vale Road / Minnesota Street is anticipated to be the main access for the development. Marlin Drive would provide for traffic circulation within the site, running parallel to and east of Elk Vale Road.

At buildout, the Elks Crossing development is estimated to generate approximately 12,800 total vehicle-trips per day, with 431 of these trips occurring during the AM peak hour and 1,221 trips during the PM peak hour.

Findings and recommendations related to the analysis for this site are summarized below by future scenario.

A. Short-Term Future

The following roadway improvements are planned to be completed by Year 2011.

- Construct Minnesota Street east of Elk Vale Road to provide access to the east.
 Signalize the intersection at Elk Vale Road and Minnesota Street.
- Construct Marlin Drive north of Minnesota Street as a parallel road to Elk Vale Road to
 provide movement throughout the project site and surrounding area. Add STOP sign
 control to the southbound leg at the intersection of Minnesota Street and Marlin Drive.
- The site would require the construction of turn lanes at the intersections of Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive as shown in **Table 6**.

In the Short-Term Future condition, the signalized intersection of Elk Vale Road / Minnesota Street would operate at LOS C during both the AM and PM peak hours. The intersection of Minnesota Street / Marlin Drive would be stop sign controlled with a stop sign for southbound Marlin Drive drivers and would operate at LOS C or better for all movements.



Table 6. Short-Term Future Total – Intersection Auxiliary Lanes

Intersection	Approach	Lane Type	Storage Length (feet)
	Westbound	Left turn lane	100
Elk Vale Road /	Westboulid	Right turn lane	50
Minnesota Street	Northbound	Right turn lane	75
	Southbound	Left turn lane	132 ¹
Minnesota Street /	Eastbound	Left turn lane	50
Marlin Drive	Southbound	Left turn lane	50

Actual 95th percentile queue length result from intersection LOS analysis. Actual result is reported here to demonstrate that short term storage requirements may be roughly accommodated within the current available southbound left turn lane storage length of 125 feet.

The northbound right turn lane at Elk Vale Road / Minnesota Street would require a total length of 507 feet, including the taper. The southbound left turn lane at Elk Vale Road / Minnesota Street would require a total length of 587 feet, including the taper. This length is roughly equivalent to the length of the current southbound left turn lane along Elk Vale Road.

B. Long-Term Future

The following roadway improvements are planned to be completed by Year 2030.

- Minnesota Street would be constructed to create a Minor Arterial providing access between Highway 79 and locations east of the proposed site.
- Jolly Lane would be extended from the existing location at Elks Country Estates south through Elk Meadows.
- Several southern roads would be constructed to connect Minnesota Street south through the zoned office and residential areas.
- Signalize the intersection at Minnesota Street and Marlin Drive.
- The site would require construction of additional turn lanes and/or added turn lane lengths at the intersections of Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive as shown in Table 7.

In the Long-Term Future condition, the signalized intersections of Elk Vale Road / Minnesota Street and Minnesota Street / Marlin Drive would operate at LOS D or better during both the AM and PM peak hours.



Table 7. Long-Term Future Total – Intersection Auxiliary Lanes

Intersection	Approach	Lane Type	Storage Length (feet)
	Westbound	Dual left turn lane	150
Elk Vale Road /	VVESIDOUIIU	Right turn lane	200
Minnesota Street	Northbound	Right turn lane	. 75
	Southbound	Dual left turn lane	275
Minnesota Street /	Eastbound	Left turn lane	150
Marlin Drive	Southbound	Left turn lane	50

The northbound right turn lane at Elk Vale Road / Minnesota Street would require a total length of 530 feet, including the taper. The southbound dual left turn lanes at Elk Vale Road / Minnesota Street would require a total length of 730 feet, including the taper.

Given the above lane geometry along Minnesota Street and storage lengths, the site can be completed given the proposed intersection spacing of 500 feet between Elk Vale Road and Marlin Drive. In addition, it is anticipated that the intersection of Minnesota Street / Marlin Drive would need to be signalized when warranted, anticipated to occur by the year 2030 at the latest.



Traffic Impact Analysis

APPENDIX A 2011 BACKGROUND LEVEL OF SERVICE WORKSHEETS



	F	*	×	~	4	K		
Movement	. NWE	NWR	NET	e NER	SWL	SWT		
Lane Configurations	ሻ	7	朴	7	ኝ	^		M-DACATOR MANAGEMENT
Volume (vph)	80	100	450	25	30	390		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	ettiminettäätäätäätäätäätäätään muunintävii, muunita viihalliina van muunti siinaa tenä luunita viihaa on maa yhä Ta	
Lane Width	10	12	12	12	12	12		25.23
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		COMMENCE
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95		
Frt	1.00	0.85	1.00	0.85	1.00	1.00		And and an analysis and an analysis
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1652	1583	3195	1583	1770	3195	and oppositely the following appropriate the contributions for the contribution of the	W-2000 V-101
Flt Permitted	0.95	1.00	1.00	1.00	0.23	1.00		
Satd. Flow (perm)	1652	1583	3195	1583	423	3195		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	87	109	489	27	33	424	and the state of the	?*************************************
RTOR Reduction (vph)	0	40	0	21	0	0.		
Lane Group Flow (vph)	87	69	489	6	33	424	Storak til angeligt for kilopia mit an mit per mpu kama masa karenggapagni bippapagi sigtegapagi kilopiki siy kilo	PERMITTER PERMIT
Heavy Vehicles (%)	2%	2%	13%	2%	2%	13%		
Turn Type	en en stagt filman ellerge ope, må per op, i skyptet filmand et p	Perm	c . Hers haves maketon	Perm	pm+pt	erneter, in other day, herte	stiller – ståtstiller i viktige år venskiller om en kræstere – rekenskiller vikterklingerends filliger enkte bede størsteller.	ra construente de la secono
Protected Phases	2	اوره فالهاد فيكشره برسيوه وينسلو	4	John Salt	3	% 8 %		
Permitted Phases	markatan persentan and adapting properties in professional for	2	a saminarenda	4	8	era manggapan ngambatasa ma	- the goldschild was reminded the section of the control of the co	Policies Children
Actuated Green, G (s)	68.1	68.1	202	23.2	31.9	31.9		
Effective Green, g (s)	68.1	68.1	23.2	23.2	31.9	31.9		TOTAL TOTAL
Actuated g/C Ratio	0.63	0.63	0.21	0.21	0.30	0.30		ar and
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		F5007008271
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		34400
Lane Grp Cap (vph)	1042	998	686	340	184	944		
v/s Rátio Prot	c0.05	0.04	c0.15	0.00	0.01	c0.13		10002,000 200000000000000000000000000000
v/s Ratio Perm	0.00	0.04	~~~~	0.00	0.05	SAME T		THE STATE
v/c Ratio	0.08	0.07	0.71	0.02	0.18	0.45		
Uniform Delay, d1	7.8 1.00	7.7 1.00	39.3 1.00	33.4 1.00	28.3 1.00	30.9 1.00	ka kan nadi kaka tahun ka ka ka ka ka manana ka ka ka ka ka ka ka ka ka manana ka k Ka ka manana ka	GUVA
Progression Factor Incremental Delay, d2	0.2	0.1	3.5	0.0	0.5	0.3		
Delay (s)	7.9	7.8	42.8	33.4	28.8	31.3 31.3		Server Server
Level of Service	7.9. A	A	94 .0	" 33.4 C	20.0 C	C	Land St.	e de la companya de l
Approach Delay (s)	and an experience of the paper		42.3			31.1		37.W3
Approach LOS	A A	شونسيتسه يستسيقت	D	Same of the Same	and talken in an anning	C	Late takki a Balan salat inasah satu tara risarat, sasa Bantinta abbah salih salih sani takki dibahatan sasabilik babi	255-27
						and the second second		
Intersection Summary			20.0		ONL	- (C :		
HCM Average Control De		ment my control with a strictly spin y color	32.2		CIVI Level	of Service	<u>C</u>	
HCM Volume to Capacity	and the state of the		0.26		um of lo-4	timo (a)	120	
Actuated Cycle Length (s		nga - atau arganjag tandhibi atau anjad	108.0		um of lost LL Level o		12.0 A	
Intersection Capacity Util	ızalıdı	· · · · · · · · · · · · · · · · · · ·	30.2%	ال	on reveic	i Service		
Analysis Period (min)	دة الطاعري والإن المحدودة والاداد والمحمولة الأمام والاداد	nel fallendes attaché applicas des l	15		elevater scholeder en	Alver of Charles - Sales Charles	and the state of t	
c Critical Larie Group								

HCM Unsignalized Intersection Capacity Analysis 2: Minnesota St & Marlin Dr

11/26/2008

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Movement	SEL	SET	NWT	NWR	SWL	SWR	
Lane Configurations	*	ተተ	↑ β	POST-COLUMN VII. T. JULY BOOM TO	ሻ	7	
Volume (veh/h)	10	45	145	20	5	35	
Sign Control	and the property of the second se	Free	Free	To the state of th	Stop	- Desir No. 1	external manufactures and the final distribution of a refer to the final times and a substitution of a refer to the substitution of a refer to the substitution of a refer to the substi
Grade	A STATE OF THE PROPERTY OF THE	0%	0%	al-title-coloranie con se	0%	and the second	and the statement of the second control of the second seco
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	11;	49	158	22	5.	38	
Pedestrians	promotery process of the desiration of the first section of the first se	nd ing Sulfan yan kulikud na magan	a communicación de la properción de la p	manage, a more,		water and district of programmer in the part	makan iliku ngangi king mga palaga kan mgagkara, magagkara mga makan mga mga gagan nga nga nga nga nga nga nga Mga nga nga nga nga nga nga nga nga nga n
Lane Width (ft)				مستفسد ممد فما معام			on announces o senso e alma estratibilista dunini estado la mendiada de del colonidada elementa e adulada e adulada e
Walking Speed (ft/s)	ana manggang nagan panan da panan manggan n	arine mangkalenterinandh	Acres derivate	and and a second a second dis-	arana and	ne may market in the	ar compared from an extra part construction of the construction of
Percent Blockage		Landrad Landra	المناب أستحيطت			amen brown sales.	Made his about all his behind but he is the instance of the call of his and he will be a filled and
Right turn flare (veh)	stations and on childrin	. The line strains	Control of the contro	gavena es	alan in the same	and the second s	and the state of t
Median type		None	None	Indendia.	; ,,	a ser summer and a service	a a ann ann a sa airte le com a ann ann ann a dhealann an dhealann ann an an an an an an an an an ann an a
Median storage veh) Upstream signal (ff)		614		C1861, 15			annan at an anna beeleks at diana, actoribit hal bean antibumant black all bear at diale and at retain a diana
pX, platoon unblocked	المستناد المستناد	014	وسائني بالمانسي		· · · · ·		Martine and the first section of the first section
graduative and it are the professional and the prof	179	and the same	Agencia de la composição	alignam and de America.	215	90	
vC1, stage 1 conf vol		netering the transfer of the second	marite was surrent with	and the first property to the partition of the same of	210		a Samban na Atrasa di kamala wa ilikuwaka wa ilikuwa wa ilikuwa wa masa wikili wa 12 kita kata kata ka mala la
vC2, stage 2 conf vol	Calle Self Lating	Santa Caranta de Caran	73 1 770		روسته مدستره پختودتوم د در در د	N TO TH	
vCu, unblocked vol	179	latin Table Late and a	ALL SEEDING	ika wasali kan	215	90	
tC, single (s)	4.1		Anton Conflictions		6.8	6.9	
tC, 2 stage (s)	are on a substitute of the sub	olinik kerania di kalika anda middhe		Ci. Shiredar'd san Alisa	Line Silve Silve	ille state and the trade of the second	al a tali tida ata asand Manori a talandan kanada Kali Kaja ana Kilika kata kata kata kata kata kata kata k
tF (s)	2.2				3.5	3.3	
p0 queue free %	99	and an other formation of the section of	Editor of the Section	parties of the Control of the observable	99	96	y may a fig. 1, 2, 2, 3, 3, 4, 2, 2, 2, 2, 3, 4, 4, 5, 4, 5, 4, 5, 4, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,
cM capacity (veh/h)	1394				748	950	
Direction Lane#	' SEA	SE2	SES	NW 1	NW 2	SW4	SW 2
Volume Total		24	24	105	74	5	38
Volume Left	11	0	0	0	0	5	
Volume Right	0	0	0	0	22	0	38
cSH	1394	1700	1700	1700	1700	748	950
Volume to Capacity	0.01	0.01	0.01	0.06	0.04	0.01	0.04
Queue Length 95th (ft)	1	0	0	0	0	1	3
Control Delay (s)	7.6	0.0	0.0	0.0	0.0	9.8	8.9
Lane LOS	A	ann tolling an tippen to	endergye ing mineral distance incorporate angles	n ner germanlyksamel er lykka ykki man h	kakiy hadidir Fransıyası'n modus m	Α	A security of the security of
Approach Delay (s)	1.4			0.0		9.1	
Approach LOS						Α	
Intersection Summany							
Average Delay			1.7				
Intersection Capacity Utiliza	ation	and the formation of the second	18.3%	ICI	J Level	of Service	e A
Analysis Period (min)	*		15	W 2502 14, 1868 21 11 2 18 18	, , , , , , , , , , , , , , , , , , , ,		men f. verm at . en electrodresse sementen en entre en

HCM Unsignalized Intersection Capacity Analysis 7: Minnesota St & Site Access

11/26/2008

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Movement	SEL	SET	NWT	NWR	SWL	SWR	
Lane Configurations		^	† \$		- 11) ALC // (1444)	7	
Volume (veh/h)	0	55	180	. 0	0	0	
Sign Control		Free	Free		Stop		THE STATE OF THE S
Grade	desimple man	0%	0%	enter to different decomment.	0%	to the second section of the second	and the second s
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	and the state of t
Hourly flow rate (vph)	0	60	196	0.	0	. 0	alle, and training. While do not consider the same and a support of the constraint o
Pedestrians	Edding Same	a nomalerelifikanı es				en Anterior A term	enterinen i i i mantening - gill, dem i indigita samplikalahalahan menamen - en i i indigi i i intel i indigi et den bibliomen menamen samban samb
Lane Width (ft)		weger men minne		and a second and discourse and a			and the contract which the contract with the con
Walking Speed (ff/s)	heren a maintant indication	and transmission of comment		managam camanang.	·		and the second s
Percent Blockage Right turn flare (veh)	- L	سند شده شاهاست	and the		en and the same	والمسادة كالشاورة الأسام	Chalandrich auch deus bei vollande auch auch auch bestehen Freuer auch er Gebauer auch der Gebaute stall nober von
Median type	engeption of America	None	None	and the second	r romani	7 7 7	minuteri santan kanda majangan Makati Parlan minimuteri na matah majakan Makati Makati Makati Makati Masa maja Majaran
Median storage veh)	201.	NOITE .	INOTIC	led will aread it	The second of the second of	and the sales	and the second state of the second se
Upstream signal (ft)	ald and the	310		#4.74.34 K		The Property	
pX, platoon unblocked	L.L		and the same to a serious and	allin to the Market and and and an	Alexan a tradic		na, maanumista ahaa ahaa ahaa ahaa ahaa ahaa ahaa a
vC, conflicting volume	196			All he seems	226	98	and the second section of the second section is the second section of the section of the second section of the section of the second section of the section of the second section of the section of the second section of the second section of the second section of the second section of the section of th
vC1, stage 1 conf vol		tion allowed an arranged	in all was a stale	our marketing theres.		a made a Straigh ha	raan siiraa ah indiseembaraa ka maraa ee indabaraa dha ah indiseemba ah indiseemba ah indiseemba ah indiseemba siiraa ah indiseemba
vC2, stage 2 conf vol			A September 1997	Swe I	11 J. H		
vCu, unblocked vol	196	of Statematical and an area of the second se	anga ami king atang at Magabban Sapa m	n kirilikas majashijalikas panas jan m	226	98	myddiadd safdfad ganni felliaeth y charles y felliaeth y charles ar fae'r Charles a gallan ar Gallan ar Charles a ch
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)		****		A STANSON STANSON STANSON			NO. OFFICE AND ADDRESS OF THE CONTROL OF THE CONTRO
tF (s)	2.2				3.5	3.3	
p0 queue free %	100	en skillen statt om en en kansse førser	er og 4 game rane	and weight wing all the state of the state o	100	100	maler versich man versicht des verfällschaften nach staden Versich städen nerst eine staden der staden stätelne seine staden staden versicht der s
cM capacity (veh/h)	1375			ald fall of the fill of the fall of the fa	742	939	
Direction, Lane #	SE4	SE2	NW 1	NW 2	SW1		
Volume Total	30	30	130	65	0		
Volume Left	0	0	0	0	0	is principle convergence the religions	minor sharehard stranswell stranswells stranswell stran
Volume Right	0	0	and the second second second	0	0	Sie London	and the second s
cSH	1700	1700	1700	1700	1700	i pilonia arrinta ki ristama d	de mercanorem como como contro contro control de la lacidad de control de con
Volume to Capacity	0.02	0.02	0.08	0.04	0.00	Link .	<u> </u>
Queue Length 95th (ft)	0.0	0	0.0	0	0.0	yrpart, m	tana anamana and distribution in the first of manifest and the second of
Control Delay (s) Lane LOS	0.0	0.0	U.U	0.0	, U.U. A		
Approach Delay (s)	00	A gradient of the section of the sec	0.0	amentalisticka in orthonormet	anner per particular	S	a minutiva enerce termenente i deste misser a la cincia della men de manca manca de minutiva en con construir de manca de minutiva en construir de manca de
Approach LOS	0.0	y E. T.Ng. Jeanny and hartifolders a comment to a	0.0	and the second second	ν.υ		an anna airthean a duaine ann an an ann an ann an ann an ann an
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Intersection Summary		en Sales ale					
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Intersection Capacity Utilization	ì 	man a sandre aggressa de sandre a se ma	8.3%	ICU	J Level c	f Service	
Analysis Period (min)	··	a #14 ¹⁴ ,/2000119.18.7 ¹⁴ ,1147, ₂ 6.,21	15			Fee and the state of passing	The state of the s

	*	₹	×	~	Ĺ	×	
Movement	NWL	NWR	NET	NER	SWL	SWIT	
Lane Configurations	ሻ	7	^	7	ሻ	4 4	
Volume (vph)	45	60	395	85	110	430	pagagina and an analysis and a
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	ть ть это выправления обливания объектовый подости в пробрами в подости в подости в приняти в подости в подости
Lane Width	10	12	12	12	12	12	Selection of the select
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	ere er i har e stadt er stadt
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	The second secon
Fri	1.00	0.85	1.00	0.85	1.00	1.00	NHT TO SENSON TO BE OF THE OWN OF THE SENSON
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	grand and a series and the series are series and definition and the series and a
Satd. Flow (prot)	1652	1583	3195	1583	1770	3195	erian permenan haut (1920 menun 1920 menun 1922 menun 1922 permenan dipengan permenangan bermanan permenangan
Fit Permitted	0.95	1.00	1.00	1.00	0.26	1.00	
Satd. Flow (perm)	1652	1583	3195	1583	481	3195	th terrorises the property all the experimental and the control of
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	STATE OF THE PARTY
Adj. Flow (vph)	49	65	429	92	120	467	teritoria de la composição de la composição de la composição de la composição de composições de la composições La composição de la compo
RTOR Reduction (vph)	7 7 .0	27	0-	74			
Lane Group Flow (vph)	49	38	429	18	120	467	and all wheelessed with resident about a larger which are to a subject to be a subject to be a subject to the a
Heavy Vehicles (%)	2%	2%	13%	2%	2%	13%	
Turn Type		Perm		Perm	pm+pt		
Protected Phases	2		4		₹	8	
Permitted Phases	kasterilakkinali ait ta alittatementaka	2	ediament til e arment made	4	8	anten dari eta serra Addika sabar bar	otest die absort die trie wit trout de wie in indicht in indicht with an en annound als within a tribit a trie explanation del from d
Actuated Green, G (s)	57.7	57.7	19.7	19.7	34.3	34.3	
Effective Green, g (s)	57.7	57.7	19.7	19.7	34.3	34.3	ari samuun 1964 oli kaida salta sii kalkisis kandadkis salta kandadika kalkis sa sii kandadkiin kalkii ka kalkisiis ka kalkis ka kalkis ka
Actuated g/C Ratio	0.58	0.58	0.20	0.20	0.34	0.34	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	irin ka makki bindinikin. Sibi hiidi mitakirista aktirista mida ka
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	953	913	629	312	302	1096	
v/s Ratio Prot	c0.03		c0.13	VI W	0.04	c0.15	
v/s Ratio Perm	diade adelide a i à e i quillier d'en.	0.02	elimakeli a C kildbellana a	0.01	0.09	hetall ner josske tallen Heista tale	mendellis fastletid till tav in normalisti menga till samminismallet til så norm medlisti et en ståt til en må Till ståt til så ti
v/c Ratio	0.05	0.04	0.68	0.06	0.40	0.43	
Uniform Delay, d1	9.2	9.2	37.2	32.6	23.9	25.3	rande medi Select, di Silisate, media, inc. medila, e politica di metro di Selectifica nombre, inter e militat Periodi
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.1	3.1	0.1	0.9	0.3	an chann air Baid deimheile an da an da ann an da ann air dhead Baill ann ann ann an dhean ann ann an dhean an dhean ann an dhean ann an dhean an d
Delay (s)	9.3	9.2	40.3	32.7	24.8	25.5	
Level of Service	Α	Α	D	C	C	С	ustikki instiku salitatuu, malituu malituu siitee kiin kanna minu mani minituu on mani titik tehit läistä ten kantaan fant astitikki inti
Approach Delay (s)	9.3		39.0			25.4	
Approach LOS	Α	er en same and sales an administration	D	arragine nas and similar problem for	lake and law here or come your law means	С	rangan - mendelakkan dalam dan danan karen dalam rangan berandan serinan sengan berandan serina berandan dan d Terangan
Intersection Summary							
HCM Average Control Delay			29.7	L	ICM Lavel	of Service	C
HCM Volume to Capacity rati	À		0.24		IOIAI FEAGI	OI GELVICE	
Actuated Cycle Length (s)	U & L	Enne-worker was	100.0		Sum of lost	time /e\	12.0
Intersection Capacity Utilizati	On .	eron anamonistic and university	30.3%		CU Level c		Ä
Analysis Period (min)	VIII.		30.3% 15	N	ou revel (N OCIVICE.	
c Critical Lane Group	ema errene erreje erka errenerij en a ekkal.	CONTRACTOR OF CONTRACTOR CO.	10	formation and a regime of	arrana a de garana anti-	erana i fa igent arença serbi e i i te	
o Olinoai Laile Gloub		e sia ca Mile calle anguer de Marcan	the second secon	and a second	مريعه يردون شوماه دريوند دامور م	eligites and a second for electrologism in force	and a second

	4	×	*	Ţ	Ĺ	*						
Movement	SEL	SET	NWT	NWR 4	SWL	SWR					(Table	
Lane Configurations	ሻ	† †	ት ጐ		*	7		MAKEUR PROPERTY AND ARTHURSON OF THE		**************************************	PROMISELY IN MATERIAL VIOLENCE	NO VINISARIA
Volume (veh/h)	35	160	95	10	20	10	*** _ *********************************			er total di in di	· f.	
Sign Control	a per en , and a design distance	Free	Free	racamer er ekstrett liteliks itt at erte et	Stop	i en didisirdistron	garan sanggaran gi Pangal sanggaran garahaga ta yang sa	As an earlier commission of the commission of th	e and net a three Dark of anomalia, a consent to	A STATE OF THE STA	orarbiant enterior need.	and to an interpretate
Grade		0%	0%	aller a submortalismo,	0%	Children Selection and Size.	***************************************	entropped were street to week	and the second	Service Services Services	and the state of the second	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	Paragraphic State (Maria Carlos Carlo	the trapping of the contract of	Victoria Pagas - 1 de San	- Panar-man continues than	and any man translation	W. 1107 04
Hourly flow rate (vph)	38	174	103	11	22	711						
Pedestrians	,,, -,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,											
Lane Width (ft)		and a second second and an experience of	and the single and the		and a second control of			and the base of the same	The second secon	and in mountain	i is .	
Walking Speed (ft/s)	gane reported and	the for a service paper		and and other and in the same	.w	olig kiji artillagi ilgilaks, ditabbilansa, perdandan	and a signal and contracting the first states	- that has now rate of many	11 CO. COLOR 1 A 11 CO 1 - C 1 A 14 CO	فالموادر والمائد والموادرة والبياء معاناته والمشاد المعدر	e and things once undersales on the	* Tankson of
Percent Blockage	a Laka angana		t in the second	Land Land	S. Sansan Maria	لانسال حيشكات	en Production with the state	e same de la company	ر در			
Right turn flare (veh)	··· towage of the control of the con	ern er mmører hager megne gen i i er	eggeneral neggeneral (n	handele en antendrier it i	year a management	minin wi - 3mininteeminipanyiro	nena – melajan specia mendejiris sasej	sk damentare recepturalisetas et er eret	i and all the same and all the same	medical in the Company of the same	- Temporal Condition of the Condition of	economic registra
Median type	har dinorm	None	None		ala de la	and the second	di di	and the second	را الدار أحدث المعاسمة			
Median storage veh)					المعاونين والمتاكمة	and filming our	in many property and the second	rjina 1994 birinaan	Marie aleman in inter Sille	وويد والمعادمة منيا والمعادمة والمعادمة	Verlinderken eradisk en	
Upstream signal (ft)		614	ملتما لعسف	i - The miles			k ja sesti Luni anamili		4		ilimenenia amanii	44
pX, platoon unblocked	en arakaran	شخفها المتأملية أداث		an against an aireigheachain Sid	- CO CO-	entre announce.	and the second	·	-	The second second	infrant at some m	T - 77
vC, conflicting volume	114		! .	السيستيات	272	57	لأراه سيست شنة	tanta in a		and the second of the second o	San	2
vC1, stage 1 conf vol	المرابعة المنافعة المنابعة الم	المستقدة والمستوادة والمتالية			manged gengen	and bear of the money Since has	A selection of the sele				- Server Same	
vC2, stage 2 conf vol		S. Landra M. W.	نية ويخميه شديد الميد.		070	Minygari.	i ridilli.i		Burdintan		Million in 1	
vCu, unblocked vol	114 4.1	ine Standah Schalles	den ander er blede gesklichte.	a di maria di maria	272 6.8	57 6.9	manifest of the second	and the state of t	and a factor			ere en
tC, single (s)	4.1		فدأف وسأند مسامناة		0.8	0.9	a de la companya de La companya de la co		and Land	Marie Salah		
tC, 2 stage (s)	2.2		Service Control	ACON LEGY	3.5	3.3	Est Mal	674	of the state of th		and the second	Kirinia Kirinia
tF (s) p0 queue free %	97	and the second			ა.ე. 97	99		and a summer of a summer				
cM capacity (veh/h)	1473		77,0035		677	997	a 150 mily and a second a second and a second a second and a second and a second and a second and a second a	85% F. 10			50397	73.77.39
South The real \$ to the real of 1400 has approximately followed the other contractibilities	14/30				0//	331		Landellich übelder zu	e. s	a oso idala an idaa	All Contract of the second	
Direction, Lane #	SE ₁	SE(2)	SE 3	NW1	NW 2	SW1	SW 2					
Volume Total	38	87	· 87	69	45	22	117					
Volume Left	38	0	0	0	0	22	0	proper alls in terminolator yes	and the thirt had the things of the factors	والمراجعة والمستحددة والمراجعة والمراجعة	perior of the spinotes of perior	protices to co.
Volume Right	0	0	0	0.	11	0	11		in Maria da			
cSH	1473	1700	1700	1700	1700	677	997		والمستمولة والمسترورة والمراد	ertshlererefieren	the transfer of the second sections	er era gag
Volume to Capacity	0.03	0.05	0.05	0.04	0.03	0.03	0.01	Daniel III			و میلی در است. دامید و کیداد نه سست	
Queue Length 95th (ft)	2	0	0	0	0	2	1		alanda o Aireann e the	enipoleneous seg	and the state of t	
Control Delay (s)	7.5	0.0	0.0	0.0	0.0	10.5	8.7	المتأسسان		ka k	ti dalah kananan kananan	القصيدة
Lane LOS	A		tonice symptom to give		Parterior comment	В	Ą		o name antick decem-	and the second second second	dedinaries	
Approach Delay (s)	1:3	£.,	The state of the s	0.0	ann Shadhardh	9.9	ر دون معلومید و درای آن اینگران در است.		أحد أحداث	da	and the same of th	
Approach LOS						Α						
Intersection Summary									and the second			
Average Delay			1.7									
Intersection Capacity Utilization)	Annual or annual or a	18.6%	IC	U Level c	of Service	The state of the s	and the second	Α			KINGS
Analysis Period (min)	non market making	area / agra mangaranthan proper	15	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	moves were probable through	and the property of the section of t						
										·		- 1

HCM Unsignalized Intersection Capacity Analysis 7: Minnesota St & Site Access

11/26/2008

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Movement	SEL	SET	NWT	NWR	SWL	SWR	
Lane Configurations		^	∱ }			7	
Volume (veh/h)	Ō	195	105	0	0	ૺ૾ૼ૽૽ૼ ૽ ૽ૼૺ૽૽ૼ	
Sign Control		Free	Free	ngaranganan garabang halipana	Stop	anandersking between and	katanan san jarin methin mami memusik mendemuni melanda hit man dan samunan munit mentum kendida si kelik met
Grade	To the second se	0%	0%		0%	200	A STATE OF THE PARTY OF THE PAR
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	internetasion com tant moneutavanti alterna matita etapana pambia, shope tan no padra piri padra padra — zantzi pretizambavia ne coma del
Hourly flow rate (vph)	0	212	114	.0	0	0	
Pedestrians				Auto-			THE PROPERTY OF THE PROPERTY AND THE PROPERTY OF THE PROPERTY
Lane Width (ft)		Comment of the Commen					
Walking Speed (ft/s)				,,			
Percent Blockage							
Right turn flare (veh)							
Median type		None	None	7 . 10, 7			
Median storage veh)							
Upstream signal (ft)		310					
pX, platoon unblocked							
vC, conflicting volume	114	A			220	57	
vC1, stage 1 conf vol				una morrorana morrora		et all a Parameter and an	
vC2, stage 2 conf vol		in the second has	in the second				
vCu, unblocked vol	114		or remains.		220	57	
tC, single (s)	4.1				6.8	6.9	Last Maria de Lasta de la Carta de Las d
tC, 2 stage (s)	thready system. They was department		nagrapor no managementa meng	الوقيسود المدورة الما المواددة المدار	ang engagnagang merebagan a	دىدى — دردورد دارد سورد. د	
tF(s)	2.2				3.5	3.3	
p0 queue free %	100	ego (Sigle) and an alternative of a	efterspecial constitution of the second seco	artar-resona	100	100	and a second of the second of
cM capacity (veh/h)	1473				748	997	
Direction;Lane#	SE1	SE 2:	NW1	NW 2**	SW1.		
Volume Total	106	106	76	38	0		
Volume Left	0	0	0	0	0		
Volume Right	0	0	0		0		
cSH	1700	1700	1700	1700	1700		
Volume to Capacity	0.06	0.06	0.04	0.02	0.00		
Queue Length 95th (ft)	0	0	0	0	0	the property of the second	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0		
Lane LOS	Annessa, regione y mangement, es	nga nawa watan watan daya wa wa ya	****		Α	en mindergrame, a metropasty	
Approach Delay (s)	0.0	F18	0.0	ا تقریب نامید	0.0		
Approach LOS					Α		
intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization	n		8.7%	IC	U Level c	of Service	A designation of the second se
Analysis Period (min)			15				
,,	,						**

APPENDIX B 2030 BACKGROUND LEVEL OF SERVICE WORKSHEETS



HCM Signalized Intersection Capacity Analysis

1: Minnesota St & Elk Vale Rd

11/26/2008

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Movement	SEL.	SET	SER	NWL	NWT.	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	ሻ	† }		ሻ	^	7	*1	† †	7	J.	† }	
Volume (vph)	95	95	20	115	100	200	30	820	65	180	710	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	10. T. Sec.	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	3446		1652	3539	1583	1770	3195	1583	1770	3166	
Flt Permitted	0.95	1.00	V - E	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	3446		1652	3539	1583	1770	3195	1583	1770	3166	
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)	103	103	22	125	109	217	33	891	71	196	772	158
RTOR Reduction (vph)	0.	17.	0	0	0	167	0	0	46	0	. 18	0
Lane Group Flow (vph)	103	108	0	125	109	50	33	891	25	196	912	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	13%	2%	2%	13%	2%
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases		6	FRANCE :	5	2		7	4		3.	8	
Permitted Phases	kariori, merijita o zikari dekiloreja tilber met och list	National States are analysis of the States	a Pilipagin sylve er yagalang geraf yakan agumu er yakan ya	elica Chunch no bonder.	enelli "Ellementiae annichatorese la	2	Particular and the Control of the Co	grap (and the art of a section) the section of the	4	, Maragan P. J. office complex Testes, P. S. S. Spiller, et al. Phys.	a national colonial supplied place	the state of the state of
Actuated Green, G (s)	9.5	20.6		11.8	22.9	22.9	4.6	35.9	35.9	15.7	47.0	
Effective Green, g (s)	9.5	20.6	Carl major - And Marin Carlos	11.8	22.9	22.9	4.6	35.9	35.9	15.7	47.0	yaya cara mad
Actuated g/C Ratio	0.10	0.21		0.12	0.23	0.23	0.05	0.36	0.36	0.16	0.47	
Clearance Time (s)	4.0	4.0	ali dimendia da Paris	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	- 41/20m-1/20m 1/20m-1
Vehicle Extension (s)	3.0	3.0	79 7 -3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	157	710		195	810	363	81	1147	568	278	1488	
v/s Ratio Prot	0.06	c0.03	w. 3. 44	c0.08	0.03		0.02	c0.28	A Santanan Santah	c0.11	0.29	
v/s Ratio Perm	ang, ar at mentander padang ini	Ale a faire and the fairly are glasses (i.e. fairly are	nandi seritar: Tire a este a questire	ya Kandisin Manikania ka	CMCDa in a the Colory (City) by	0.03	of retribution like ritus afternoon and a	(Laborate Management of the Village Angles of	0.02	a partir (), de Magene est Province (), de la Sen Partir (istory The Prop. 425 43 at La Condeng and The Line	Company and the Case Company of the second of
v/c Ratio	0.66	0.15		0.64	0.13	0.14	0.41	0.78	0.04	0.71	0.61	
Uniform Delay, d1	43.7	32.5	Olive, Principal assessment and account of the control of the cont	42.1	30.7	30.7	46.4	28.5	20.9	40.0	19.7	ar A section and the section a
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.5	0.1	AND A SECURITY OF THE PARTY OF	7.0	0.3	0.8	3.3	3.4	0.0	7.9	0.8	
Delay (s)	53.2	32.6		49.1	31.0	31.5	49.7	31.9	20.9	47.8	20.5	
Level of Service	D	С		D	С	С	D	С	С	D	С	
Approach Delay (s)		41.9	100		36.2			31.7			25.2	
Approach LOS	ентрикатур, ст. доор - dfa 1981 группур (1914)	D	i di mani fina n'il materialisi i artinia	reference of an in the address of the address of the	D	uttava visita (italia var. Sir eta eta var. Si iliatza eta eta eta eta eta eta eta eta eta et	ner - Fan, hilyaniyyi - a hy Peti nyahiydawiyi	С	1700 000 110,190-401,0		С	Committee of the Commit
Intersection Summary,												
HCM Average Control Delay			30.7	Н	CM Level	of Service)		C			
HCM Volume to Capacity ra			0.59		harmer Hilliam and	,	2	Trace and articles and articles	personal personal landful year			
Actuated Cycle Length (s)	Makerini a referentare	and the second of the second of the	100.0	St	ım of lost	time (s)	error andres of a superior from a	harry frame and region is a management of	16.0	ra ya gunyawan, ka ngi gungun nijili S	Contract to the contract of	Caracter street
Intersection Capacity Utiliza	tion		55.7%			of Service		and the second	В	Arter Meridia	y	
Analysis Period (min)	urante juh : Vez protessor e trasject din	sociatele errouse falesticities.	15	n tear agus transitéer muitanaithe	nerionido de la rivira per erabati de la	ers or a resistance describes with	W.co. Problem beringert.	ann an The house of contribution	and total and total and	Plant File Confirm September	and the second	Anto proving a continue de printe a a
c Critical Lane Group	AND THE PERSON NAMED IN COLUMN	aran a marananana	** *		,		el nimetraliza	. 1.	Mark to made 1 April 100 at 10 April 10	Talahara Tanaharan Tanaharan	A T T S S S S S S S S S S S S S S S S S	

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Movement	SEL	SET	SER	NWL	NWT	YNWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	ሻ	† }		ሻ	†		ች	(Î		ሻ	(Î	
Volume (vph)	10	210	120	15	370	30	15	0	5	10	0	.30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	10	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	er yen yeng wegen yan tan er gentaer gehada dan	4.0	4.0	to and the state of the	4.0	4.0	managed managed
Lane Util. Factor	1.00	0.95	272 67 10 T 1002 2 100 410 100 100 100 100 100 100 100 100	1.00	0.95	and the second of the second o	1.00	1.00	and the second second	1.00	1.00	
Frt	1.00	0.95	1,101112	1.00	0.99		1.00	0.85	New 17 At Louisia and	1.00	0.85	Control of the Contro
Fit Protected	0.95	1.00	and the same of the same of the	0.95	1.00	No.	0.95	1.00	S. A. S.	0.95	1.00	
Satd. Flow (prot)	1652	3346		1652	3499	10 years 100 cm 100 cm	1652	1583	mount Parents.	1652	1583	and the second second
Fit Permitted	0.95	1.00	and d	0.95	1.00		0.70	1.00		0.98	1.00	
Satd. Flow (perm)	1652	3346	the sales of the beautiful or an	1652	3499	and the second of the second o	1220	1583	a militar propi sandini dan	1696	1583	ali di Karamany in 1990 bilang
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)	11	228	130	16	402	33	16	0	5	11	0	33
RTOR Reduction (vph)	0	28	0	0	2	0	0	5	.0	0	32	0
Lane Group Flow (vph)	11	330	0	16	433	0	16	0	0	11	1	0
Turn Type	Prot	一点 经金融 等	T. The Fr	Prot		Company of	pm+pt		والدين المراجعة	pm+pt	rendi	4. 19.
Protected Phases	1	6		5	2		7	4	o, personal and personal record	3	8.	parasin di piratelpandi
Permitted Phases	r i gy Salisa, anna anasana	grand and anger Tipolita (S	models charge sails				4	5. v 7777	77.79	. 8	- Cas 9	
Actuated Green, G (s)	1.6	89.6	er parts rate up a acces rate ?	3.2	91.2	, akutijaka, i som shi ni qiyan.	8.8	5.7	hand the state of the section of the section of	5.6	4.1	er eggan granklan av appendi
Effective Green, g (s)	1.6	89.6	All Aller	3.2	91.2	14334	8.8	5.7	A STATE OF S	5.6	4.1	
Actuated g/C Ratio	0.01	0.77		0.03	0.79	territorio de la companio del companio de la companio de la companio del companio de la companio della companio de la companio della companio	0.08	0.05		0.05	0.04	CONTRACTOR A COMPANY
Clearance Time (s)	4.0	4.0		4.0	4.0	MERA.	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	72-11-11	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	23	2584	ranggan, ng Masalanggan, ng	46	2751		104	78	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	81	. 56	
v/s Ratio Prot	0.01	0.10	Partition 1 source	c0.01	c0.12	and the same of th	c0.00	0.00	a de la companya (companya da Parista)	0.00	0.00	a sincerna and
v/s Ratio Perm			Control of the Till	Maria Visto			c0.01	Same and Allien		0.00		
v/c Ratio	0.48	0.13		0.35	0.16		0.15	0.00		0.14	0.02	
Uniform Delay, d1	56.8	3.3		55.4	3.0		50.0	52.4		52.9	54.0	
Progression Factor	1.00	1.00		1.00	1.00	and a supply product a supply of	1.00	1.00	Lague Co. Secreta 1 Lague Co. Partico	1.00	1.00	, 69.10-10-11-11-11-11-11-11-11-11-11-11-11-1
Incremental Delay, d2	14.8	0.1	en e	4.5	0.1		0.7	0.0	W. A.	0.8	0.2	
Delay (s)	71.6	3.4		59.9	3.1		50.7	52.5		53.7	54.2	
Level of Service	E	Α		E	Α		D	D		D	D.	
Approach Delay (s)		5.5			5.2			51.1			54.0	
Approach LOS	married and a	A	Arrena Amerika	n mark of and marketine	Α			D	dana di malanda.	and the same of th	Ď,	
Intersection Summary :												
HCM Average Control Delay	and the second second		8.8	HC	CM Level	of Servic	e i		A	and the second s	entered to the	term and all the second
HCM Volume to Capacity ratio			0.16	minger par, automic del		displaced and the second secon	graha a hare i hydrau i arab		a standardynatus dischae	aragement our constitute for the	-ter was t with our	and the colorest walk on the forth allows.
Actuated Cycle Length (s)			116.0		ım of lost			nes of a stropped	12.0	le al avand spileras avance masses	de edito societie	rates control
Intersection Capacity Utilization]	****** *** *** *** ***	26.6%	IC	U Level c	of Service	w	ranga, and warmen	Α	ant a 100 mm - a 100 mm	representation and the second	
Analysis Period (min)	no ar i'r i renata at		15	the second second second	e de la companie de l	e und return to great the contract to		en e	andreas Africant and		سند در در	
- Outstant Lama Oursen												

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Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations		† †	† ↑			<i>†</i>
Volume (veh/h)	0	340	415	.0	Ō.	
Sign Control	The state of the s	Free	Free	AND DESCRIPTION OF THE PERSON	Stop	. 1970 Ментерия Ментин (1989 г.) и у Поряди постоя постоя постоя постоя в достоя постоя постоя в достоя постоя пост
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	370	451	0.	0	0
Pedestrians	ara patrioni eriosi, anno con regiona co	Minimum reportation	e u regitation residents	and the control of th	- Andrew (A. D. Williams), and any	THE RESERVE OF THE PROPERTY OF
Lane Width (ft)	Control of the Control		ر از این			ta di manana di manana di manana di manana di manana manana di man
Walking Speed (ft/s)	magazanan ayan mener	nongeneralment output	n-nyes nimmes, assigning	sagene more a cupy year progressing	- 15. million orași naggini fin i bistorio.	and provided the standard provided the standard of the standar
Percent Blockage		راد المستحديث	ander) San Alahaman Alahaman	مسكدمك لك		ta kanana makana manana makana manana makana manana mahamban maham
Right turn flare (veh)	er sa menggaan agas kengalang asal ka	ne observence kommun	erri er jaro- meter gen ven	and word and the	elian mari delam merit i	Southerfield, were that the first characters to the first complete provided provided from the complete contribution of the complete
Median type	en la company	None	None		a salahan da a	and the second s
Median storage veh)	designed and analysis and an extension			and a second		erriem e va giger me va ta giger mengang gigeri mengancan pang mengang periodi na mengang pengang mengang pengang mengang pengang pengang mengang pengang peng
Upstream signal (ft)	الميايات	287	327	LLA	<i>ڡڟ</i> ؽؙڝ؞ؽٮڬ	
pX, platoon unblocked	0.99	andiek ladalam	ni de estidando	-droud-librato-dualis-	0.99	COMPANIENCE COMPANIENCE CONTRACTOR CONTRACTO
vC, conflicting volume	451		je i do je i d Do je i do je i		636	226
vC1, stage 1 conf vol		gringer:				
vC2, stage 2 conf vol	400	للشائدة المعتقلة لند		And Freder		400
vCu, unblocked vol	426 4.1	and the state of t	Tables and shi	Same Called Silver	613 6.8	198 6.9
tC, single (s)	4.1				0.8	a start til flat start som skrivet start sta Till start sta
tC, 2 stage (s) tF (s)	2.2	CENTRALITY		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	3.5	3.3
p0 queue free %	100		Articalist.		ം ა.ട 100	100
cM capacity (veh/h)	1119	ricalizin			420	802
182 A. T. L. Michael & The contribution of the	1145				and the same of th	77.002
Direction, Lane#	SE ₁	SE2	NW 1	NW 2	SW1	
Volume Total	185	185	301	150	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0.	0	0	and the control of th
cSH	1700	1700	1700	1700	1700	- A China to the confidence of
Volume to Capacity	0.11	0.11	0.18	0.09	0.00	
Queue Length 95th (ft)	0	. 0	. 0	0	0	angala - an motor - stallannian shakkilanian kalanian kalanian madalar - mana - a Latina populanan ka Karata shakilan shakilanian shakilanian ka Edus a kalania
Control Delay (s)	0.0	0:0	0.0	0.0	0.0	
Lane LOS		no Chambrida	~~~~	e tiga agasar tiran tigapagan tiragan Sala	A	in der state in the state of the
Approach Delay (s)	0.0		0.0	i wasanin	0.0	
Approach LOS					Α	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization	n	A Service recommends	14.8%	ĮC	U Level o	of Service A
Analysis Period (min)	mentana kanan dan cada bilanda	man or	15	anne men avaken e tali ke aktionasjir i	anne a mar de la la come de l'alterna de	Belief under middlighed and men and the second seco
					1	

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Movement	SEL	SET	SER	ENWE:	NWT	NWR	NEL	NET	NER	SWL		SWR
Lane Configurations	_	ተኈ	ny symmetriky yy cartelytsy	ৌ	↑ ↑				7		ተኈ	anna an an anna gar beeng
Volume (vph)	160	110,	35	100	115	225	20	715	130	225	790	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0	å maramanskinda	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	en e	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	ان الناسب
Frt	1.00	0.96	eronee en egel j	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	mm (Comment dell
Flt Protected	0.95	1.00	Name of the State	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	[أحد مات
Satd. Flow (prot)	1652	3412		1652	3539	1583	1770	3195	1583	1770	3175	فمدادات محددات
Flt Permitted	0.95	1.00	المتعدد عاد عدمه	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	3412	900 Jel 2006	1652	3539	1583	1770	3195	1583	1770	3175	# 1 N2 2
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)	174	120	38	109	125	245	22	777	141	245	859	114
RTOR Reduction (vph)	0_	30	Ō	0	0	199	0	<u>0</u>	95	0	10	Q
Lane Group Flow (vph)	174	128	0	109	125	46	22	777	46	245	963	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	13%	2%	2%	13%	2%
Turn Type	Prot	skeding dang hiliku Takan	noin ee seliktarie alika	Prot	- January St. Tand P.	Perm	Prot	entro la competición	Perm	Prot	reservenceses. Pr	Halanda oo la da ahaad
Protected Phases	.511.	6	and the second s	5	2	al allegation		4	a a A transited for	3	8	
Permitted Phases	geriesis i nga pinggana	nga signiga ggas m	graphica Mayorgan — yan kwanangi ma	asservition attention	· Proposition .	<u>2</u>	s en graggera	in administrative	4	e marin jetyma i n	granica <u>an nagarata</u>	e infrareinisteinist
Actuated Green, G (s)	14.4	21.8	af Lýzik. A	11.2	18.6	18.6	3.1	32.5	32.5	18.5	47.9	ili katil
Effective Green, g (s)	14.4	21.8	ong mg Jajjama	11.2	18.6	18.6	3.1	32.5	32.5	18.5	47.9	900005 10 0000080
Actuated g/C Ratio	0.14	0.22		0.11	0.19	0.19	0.03	0.32	0.32	0.18	0.48	
Clearance Time (s)	4.0	4.0	nandera sahijidi biradh	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	ood-seem steets
Vehicle Extension (s)	3.0	3.0	· The state of the	0.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	数字符
Lane Grp Cap (vph)	238	744	and the section of th	185	658	294	55	1038	514	327	1521	مستعد جاوآن ئې معادغوا
v/s Ratio Prot	c0.11	c0.04	ەسىنتىڭ ئىندىسات قىشتىكى ئىندىسات	ં0.07	0.04	ر ولا الآماد المادية مشكلة ما المعاملية المادية	0.01	c0.24	للبياء أدار	c0.14	0.30	اری افتصاریات سمیم از
v/s Ratio Perm		and control of the second	فسندوا والمناهات المناسات		in internal limited in	0.03			0.03			internal Section Mark Ed.
v/c Ratio_	0.73	0.17	ر ۱۳۰۰ میلادی اصطاعگانات انتاک	0.59	0.19	0.15	0.40	0.75	0.09	0.75	0.63	# 15 m
Uniform Delay, d1	40.9	31.8	nahali Azlan malbani	42.2	34.3	34.1	47.5	30.1	23.5	38.6	19.5	Aireinemellel
Progression Factor	1.00	1.00	r waaalaa aa	0.96	0.82	2.17	1.00	1.00	1.00	1.00	1.00	الشندي
Incremental Delay, d2	11.0	0.1	gran , american report	4.7	0.6	1.1	4.7	3.0	0.1	9.1	0.9	undu desentestis i
Delay (s)	51.9	31.9	en Standard and States	45.4	28.9	75.2	52.3	33.1	23.5	47.6	20.4	Frild
Level of Service	D	C	market or a second	D	C	E	D	C		D	C	
Approach Delay (s)	entrement description	42.4	تربيعي يسيدان والمترسي	د ودودود روسرد او مداعلت	56.3	and the state of t	The state of the s	32.1	استنساب سنعتكس	۱۳۶۶۳ الديم د مسلمس هذ	25.8	ه ۱۹۹۱ - همستند تحد فست م
Approach LOS		D			E			С			С	
Intersection:Summary												
HCM Average Control Delay	and all the control of the section and the sec	solves or the of totals	34.6	НС	CM Level	of Servic	e	and in games the law in	С	· · · · · · · · · · · · · · · · · · ·	Principles of conspectations	continues of the same
HCM Volume to Capacity ratio		and the same of th	0.61	duran ay an aydan ay kana caag.	ر مردن مالمسلام دورد المدد	. etter etteraalisesaansaalise	مسيوم ساميدمانا	en gemeen som sense som	. No rose	ara Salas	· walker securities	
Actuated Cycle Length (s)	angge and the grade of the second	18 4 NO. 18 18 18 18 18 18	100.0		ım of lost		M. M	en engely pages (Men)	16.0	rana nya a - na nya anna	a magana a se a compressor	
Intersection Capacity Utilization	n		57.8%	IC	U Level c	f Service	(pane) (former as a panel may as as a fig.	particular control of special field and second	В.	and the second second		
Analysis Period (min)			15	a deline - deserve have - too	galantan iyo ilasa sigalan gasa sasigaging	engrana a rationalmia a februari	en gran serient var annagegæger også	gradining degrades a constitution	Commence of the second	manner over pro- name of section		
c Critical Lane Group	visionale i which	referred on the	conte e conte catalitar co	andrew see an		er Samuella describente	a managaritan	engelangsabada (kanadoberno		n est access, a ser accessora	AMELIN AND MARKETON	

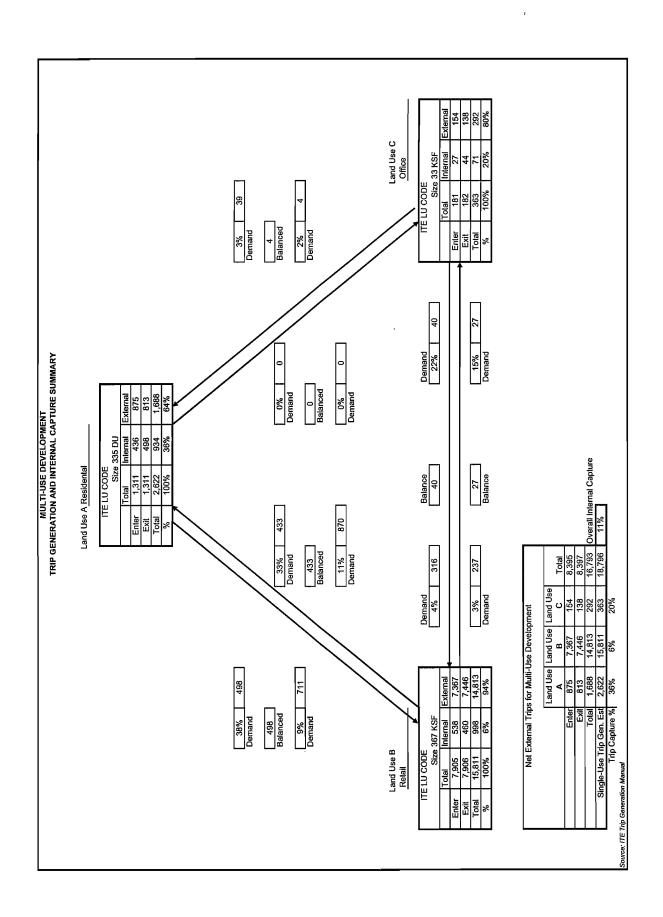
	4	×	Ì	F	×	₹	ን	×	~	Ĺ	K	*
Movement	SEL	SET	SER	NWE	ENWI	NWR	NEL	NET S	NER	SWL	SWT	SWR
Lane Configurations	ች	1		ሻ	↑ ↑		75	1		ነ ኘ	1 >	
Volume (vph)	30	415	20	10	315	20	110	0	15	29	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	10	12	12
Total Lost time (s)	4.0	4.0	Maringage (Leaf), explored language (Cons.) (in	4.0	4.0	ner and a manager of the spirit special second or	4.0	4.0	ner	4.0	4.0	air, handa Verransi e land a nd
Lane Util. Factor	1.00	0.95	of the Carry States	1.00	0.95	and the same of th	1.00	1.00	And San	1.00	1.00	
Frt	1.00	0.99	ACTORISM AND LABORS OF	1.00	0.99	See a colored and see and see a colored company	1.00	0.85	and appropriately and a	1.00	0.85	by a regard garden West of the College and
Flt Protected	0.95	1.00	en en modelle vertebeldelitet i	0.95	1.00	And the second	0.95	1.00	ent andreas	0.95	1.00	
Satd. Flow (prot)	1652	3515	many and the second and analysis of second	1652	3507	are a march and the area of a manufaction of	1652	1583		1652	1583	- Company of the Company of the Company
Flt Permitted	0.95	1.00	i de la comi	0.95	1.00	S. J. J. To a	0.44	1.00		0.75	1.00	
Satd. Flow (perm)	1652	3515	and the state of t	1652	3507	and the control of the second	761	1583	man a mol signing a fire confidence manual	1299	1583	and dispersion of the latest
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)	33	451	22	11	342	22	120	0	16	32	0	11
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0.\``	10	0
Lane Group Flow (vph)	33	471	0	11	361	0	120	4	0	32	1	0
TurnType	Prot)		Prot			pm+pt			Perm	r in Syst	4 · 19
Protected Phases	1	6	in a debt i little a disease	5	2	in en stad de la Maria sera malifal de como al minera.	7	4	and the summer such as the best like	e sildika situa philipidiki sikilika sa e	8	adadara Rambada di Bahalil A
Permitted Phases		7, T. BY			Action Selection		4			8	re Jij	757.740
Actuated Green, G (s)	5.2	64.0	i, di di di maliat na masan mani	1.5	60.3	e medicateriali i sociali Metrositi se con	22.5	22.5	kama seria araw Milyadia Pel	5.6	5.6	. Harititak, okail
Effective Green, g (s)	5.2	64.0		1.5	60.3	. A.F. 55.	22.5	22.5	VI S	5.6	5.6	
Actuated g/C Ratio	0.05	0.64	akan ka matan 1889 da katan da Arab	0.02	0.60	minist softmant, will find	0.22	0.22	a nitra (alli dallar marka falla falla fara	0.06	0.06	. Carabononia
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	TIME	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	agitti dan adan berdiki da iku dibudi	3.0	3.0	oka inabiji sijian nimesjikani	3.0	3.0	Barlando y de la prima de la competita de 1888.	3.0	3.0	of State of her station
Lane Grp Cap (vph)	86	2250		25	2115		286	356		73	89	47:47
v/s Ratio Prot	c0.02	c0.13	والمراجعة المراجعة ا	0.01	0.10	hetanissi van din Atanta (marke) 44.7	c0.05	0.00	أراب وأنث ومارك كمحدة	listi. Is i dinasarka tarkatan 196 mm	0.00	tilanderia jeta teriki sila sila isil
v/s Ratio Perm	energy to the contract of the				War Te		c0.04		And a second	0.02		S. Jack
v/c Ratio	0.38	0.21	na (Pr. Nadionales Santo) (Samura Pana Sa	0.44	0.17		0.42	0.01	Seura Pierre da estables de abron en co	0.44	0.01	4) Lin 100 (17), 2000 (17)
Uniform Delay, d1	45.9	7.5		48.8	8.8		32.5	30.1		45.7	44.6	71 J. W.
Progression Factor	1.20	0.70	ئىققاقات قاردات داھادات بىيدى	1.00	1.00	e statut kinggala hiji dalay sar ulawii	1.00	1.00	a cessos erectionados o obtérios de	1.00	1.00	turkert is alles with the till
Incremental Delay, d2	2.6	0.2	575. P	11.9	0.2		1.0	0.0	1. 2. 	4.2	0.0	25.73
Delay (s)	57.5	5.4	egitheliane, it billet i lettera - ge	60.7	9.0	ala per etallida (percendida da)	33.5	30.1	erit erine medicin transferites en	49.8	44.6	terriological de la companya de la c
Level of Service	E	Ā	ME HE	E	A		C	C	en y al	D	D	
Approach Delay (s)	ilizantika eta ristaa Merika a	8.8	a july publikarakkeli ku ulusir.	anga arawakalika Paramandakanana	10.5	t Sid Still (Sidelike) Co. Stewart State (Side	Discould) o Nederlos-oud	33.1	San	SS (MSS)	48.5	anne a rene notae di Sea Meri
Approach LOS	n angripasa nagranja Ngjara	A			В			C	gerama a registraria Se Villa (S. S. S	Account Conserved	D	
Intersection Summary					÷1.							
HCM Average Control Delay	e Se - Se	- M. M.	14.1	Н	CM Leve	of Service)	13.44	ъ В	· ~	" A VIN	, ,
HCM Volume to Capacity ratio	* 1960, 1960 Apr 2 8 2 100 PM.	eritrorion i the emi-	0.27	at managements - No. (militaria)	romant a romanuella	u, andikelleringani ulifeli	mak isi ile ina Salt-isika Sandibe	transfer Wilder or the British	rice coming telephonephineserphine	Andrei i artariari	and the second second	annotes annountiment
Actuated Cycle Length (s)	erante deposito a colonal galacturale	tatu digalogicania. Matematikaniani	100.0	S	um of los	t time (s)	energia de marco de care o parte de care o parte de care	no namenana anampere t	12.0	transcript in grant of a second arrange in	e pilar fille-allarena	
Intersection Capacity Utilization	n	er de lette der die bestellt til de er	38.2%	And the last of the property of	Agency of the control of the section of the section is	of Service	ekonye dan kalansaran dankeri n	era et la li pourrie repropera i l'illerie i l'Affe	Α	tea - universe motormat alle time ellette e title	agentaria de Permita	at the first of the order which
Analysis Period (min)	20,000 mg 1882 40,00 mm 600		15		Committee Committee and	and the section of	en én an a fassible.	The state of the s	er e	e epitore conservative estate and		
Analysis r criou (min)	to a construction with				er a madern to the desired to	and and restricted the same of the same	أصحر عيدس بالمثلي ف	ه والعدودو مسرور که ایریند و درسروا	entremental sense in the	eriotistica (nel 100 menterior	and a man	

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Movement	SEL	SET	NWT	NWR	SWL	SWR					
Lane Configurations		ተተ	↑ }			ř					
Volume (veh/h)	0	465	435	0,	. 0	0	Section of the second	the company was a second con-		omenija gamen menoja o Poj Oslovija	
Sign Control	a market to the design of the second	Free	Free	CONTRACTOR OF SERVICE STREET, CASE	Stop	y registration and property and a service of the se	and the state of t	, mark o Carara da Caraba William Brightani, afti	Committee and resident committee of the second	maketak tala mana a a a a ana ana a	at majorithologic one trinopological panels
Grade		0%	0%		0%			y children color	705	angaran aranggaray is ang ana angaran	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92					
Hourly flow rate (vph)	0	505	473	0	0	0			and the same of th		
Pedestrians	namentskopt i alt is finakte akte	-atrodesis in a restauting		ere threating or ethnorum special man	entranscription in the	an a communication of the second					
Lane Width (ft)	dhama an dan dan dan dan dan dan dan dan dan	La resulation de la company	Anny transferences		andr Small			The second		The second secon	
Walking Speed (ft/s)	nann gir i pa eistern na nafasa ga ga gaarin na ma	Actor of the Proposition of the Control of the	ngs of national Apple parties	entropy and specification . The	galona e esperanco casa	methyldigan gard on although pagent and shirts of the	if a feel on the state of the special control	ili s kapar is sashinanga sa hasalindang	producersky transport and control of Agriculture	برعو وريز د دوموادها کاودر را وطاعت سامي	mport y a page national a space of
Percent Blockage	بيده والمستراب المسترات				عوار الم ما مطالب ما ما ما ما ما ما			ja (ja ja j	and the second seco		
Right turn flare (veh)	ing stage from the control of the co	· Intervenieren	n - Taban - rond doddin n	endantar remandativitikan	ng in congressing in	era viki to tregezoo, emegting espekensz ser	popular coppe managem access political popular	enter oppgegagen an heriotypy - ent	noviet, over any orbitalism entry life	diamental anagay masaria and	dis weens and the same shippeds
Median type	. Lille Late State	None	None			ali Haminia			and the same of the same of		
Median storage veh)	konistinos menterininis	elen vertiranistanistanista	Street or Street or Street		and the contract of the contract of	anggapan masaga masaga	راديم المارية والمارية		Spiritual de region e - montañ eine		and the second s
Upstream signal (ft)		287	327		angagitanan			در در المعالم الم	gangler versig Landenid makan makan	Jane 1995 - C. Maria Maria Ma	
pX, platoon unblocked	0.97	- Charmes Seedend	ine Kaistela a mesanes	hillianes cade findi	0.97	0.97	Anten tarkfitzan	e on Brandonthiamaile	riduditumen Beestum sals		aliani, del harant'ar und
vC, conflicting volume	473	روسوانه از بوده محمد محمد افد سو	ji La asial aasia		726	236	د بلانیکنی	۱۳۰۶ ما در ۱۳۰۱ نیلسیکسی	ما الله الما الله الما الما الما الما ال	egy (Alaba). An and an established the second	المنتقب حنفاء
vC1, stage 1 conf vol		WATERSON TO				2. 294 DECT. 1877	- Translation			Sinterent modiunist	-
vC2, stage 2 conf vol	ato in tarakin silahat kanalah ing sa		tanan managaran		المسائد مدا	na kata mili inika				Main Mi	
vCu, unblocked vol	401 (4.1	and the same	enedamente	i Sandania dibenteria.	661 6.8	158 6.9		nt naskan nekka	manifikanindikasini tani	er er fær mæt	Si saniani and Sid
tC, single (s)	4.1		l ()		0.8	0.9	of Marine Manager and	2. 197 1971 		Alian El A	المقلد العقدا
tC, 2 stage (s)	2.2	78. 75. 75. 75. 75. 75. 75. 75. 75. 75. 75	Palantan maybarbarbar		3.5	3.3	- Kina Kina			8. 74 J. Francis	KKILITI I
tF (s) p0 queue free %	100		Laibe 1. N	- 1969 S - 198	ა.ე. 100	ა.ა 100			and the second		
cM capacity (veh/h)	1122	Marij	rangang aparamen Manahan	Adhibation	385	836	an de mallendillad.		CTORNACTOR		
Page 1 of 1 o		فأد سنست		d hada is be rebit.			a di Charlina a	udadidali ak	Light stad Construction		
Direction, Lane #	SE1	SE 2	NW-1	NW 2	SW 1						
Volume Total	253	253	315	158	0						
Volume Left	0	0	0	0	0	without his confirmation when the right had to depay the publication of	ography tanoning any plan			rests comments reference commen	to visit property and an analysis of
Volume Right	0	0	0	0	0	The second second		e Cimatallia			
cSH	1700	1700	1700	1700	1700	et in ent desprisere equation		e a mpangapan am megapangga	and a figure of the control of the c	- manifestation of the many of the second of	the contract of the contract o
Volume to Capacity	0.15	0.15	0.19	0.09	0.00			ddina G		kan di salam di salam kan di salam di salam	
Queue Length 95th (ft)	0	0	0	0	0		sin Bahan sala Bilak Salamo			a sentirion franchistoria	
Control Delay (s)	ું 0.0	0.0	0.0	- 0.0	0.0					الملك	أنسب المساور
Lane LOS	(Service de la compe	-indir-		inistlinkanis	Α	-1981-El-Allen Edminer	**************************************	Name and Associated Sections	manistria Annistriam		
Approach Delay (s)	0.0	a, dhamad	0.0		0.0		e de la company		en er		السيد
Approach LOS					Α						
Intersection Summary : ***				10 S							
Average Delay			0.0								
Intersection Capacity Utilization	on .	Charles of the Common of the C	16.2%	ICL	Level o	Service	e generalisation de la page La page de la company de la page	Ā	-Na-rijean reitsche entweren	##*** #*** ***** *****	
Analysis Period (min)	p dender mikrete meganisykseerime	e gertreue, entfluterenflute	15	rana saigy magasalta jiji masalihis	هر د ده های و و گه ساز د و هاه در ده های در و ده	t egypterakjus daga Vijardhanga kallys agas, ekseger pa	alien proposera e Mario e personalia o per compres o	ang mang at Caran, mananan tang magan at dan d	d Adaba () for com, so that come placeback as I so	Serger and Serger and Service of the	na a de como por porto de la como
in the second Common Section of the second recomposition						consistent or distribution and a			at propagate through Nov. 1 is progress.		7

APPENDIX C INTERNAL CAPTURE EXAMPLE CALCULATION





APPENDIX D 2011 TOTAL TRAFFIC LEVEL OF SERVICE WORKSHEETS



	*	₹	×	74	Ĺ	×					
Movement	NWL	NWR	NET	NER	SWL	SWT					
Lane Configurations	*	7	ተተ	7	`	ተተ	a de la companya de l	Nation of the Englishment and the State of t	PARTITION OF THE PARTITION OF T		CALL PROPERTY OF THE PARTY OF T
Volume (vph)	125	160	435	70	85		TINGER	and the second		Carried Control of the Control of th	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	antinelli ketti on teleli osala alah adal	الإسائلان أسائلانا المالكانسانا	dino lolle al	.F.(36051.F), .1265)	السيشانيا بالبارة
Lane Width	10	12	12	12	12	12		An See a			W. J.
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		athetene is is is in the	delikansantiko makala	on Ethiliah Pilitanaan	قىمىشىدا (ئالانىڭ
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95		734 J3			
Frt	1.00	0.85	1.00	0.85	1.00	1.00	andreas a de la composição	Marie I III de La	المائك المائد وورواطف	en dalah da dak	الكلفا المتساحة السميمو الشا
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00				rangaga. San sa da Cali	ar y
Satd. Flow (prot)	1652	1583	3195	1583	1770	3195	il liberario collingua additi limetalli pado,	4/44 Marie - 11 Aug	التهادي والمرادية المسادية	Danist illustration (California)	الد فيا كالكريدين بين بين المناسبة
Fit Permitted	0.95	1.00	1.00	1.00	0.23	1.00		7457 B.P		CHAZES	18.783
Satd. Flow (perm)	1652	1583	3195	1583	423	3195	-4,0250,000 4.,0250427-20204	delika dililija, di sadililikana	Million i Cindello de Colonda	San	فليزرز وتيعان لفياده وره
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	4-3475A				Park T
Adj. Flow (vph)	136	174	473	76	92	408		Alexander and Adams and		entre de la constitución de la c	
RTOR Reduction (vph)	0	68	0.	60		7		TENTEST			W. 1974
Lane Group Flow (vph)	136	106	473	16	92	408	akatalan dika alamba	and an about the second		882. d	
Heavy Vehicles (%)	2%	2%	13%	2%	2%	13%				Long Mark	
Turn Type	, _ , , , , , , , , , , , , , , ,	Perm		Perm	pm+pt		An an one at people	ingenie in Leither (Auf 7	C. A. M. C. L. W	ah i sha i ili oʻshicarini (197	Con the set that
Protected Phases	2		À 4			8					
Permitted Phases	hollania inadella	ئاڭىكىنىڭ ئاسى 2	all annual an all annual an	4	8	and adversarial and the state of the state o	se Literas kalendentinakkinik			Mala Mala Mala Mala sa Santa San	raadullu ed
Actuated Green, G (s)	65.6	65.6	22.1	22.1	34.4	34.4					
Effective Green, g (s)	65.6	65.6	22.1	22.1	34.4	34.4			omale e delene.	and Market March	anerios CS-A
Actuated g/C Ratio	0.61	0.61	0.20	0.20	0.32	0.32					
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	a ^t miletigs (Talkillatera), 16 a. No	Little Colorada Silve Little	hai albanalikahiliniö	Millian Thirthe Medicina	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0					
Lane Grp Cap (vph)	1003	962	654	324	238	1018	F. C. S. S. S. S. S. S. S. S. S.		Sec. 210 - 10 A. 2. 2 C. 2	13 853 . 1 435 63	.na ziminew
v/s Ratio Prot	c0.08	351474	c0.15		0.03	c0.13					PART.
v/s Ratio Perm	and the second	0.07	Sitte Total Residential	0.01	0.09	arita Tibbil TECANET	ta Balilla, suto calella balilla de l'	district in the Marie	State 1. 1 Labora Acti	didiali di dicabatan	And And State of Local State of State o
v/c Ratio	0.14		0:72	0.05	0.39	0.40					
Uniform Delay, d1	9.1	8.9	40.1	34.5	27.4	28.7	livileid telepedileid	Salahad Salah Salah Salah Salah	a eta da este de la composición de la c	Tally halles a transport blish	Maria Company
Progression Factor	1.00	1.00	1.00	1.00	1.00		ranga Penagharangga	HA France			
Incremental Delay, d2	0.3	0.2	4.0	0.1	1.0	0.3	inates sind in the amplitude to State	ine out de la	بمؤقد فاستدواك وبالداء والانتها	neu manifestatus II Tibana 1991.,	المنطقة في المارية المنطقة المارية المنطقة المارية المنطقة المنطقة المنطقة المنطقة المنطقة المنطقة المنطقة الم
Delay (s)	9.4	9.1	44.1	34.6	28.5	29.0			BUY LAW	A TELL	Zaza
Level of Service	Α	A	D	C	C	C	an usadisi dibu ba Saudhyo (Saudh	uddielu udarlikka 1964 bedien ausen	militar ministration of a	i Talulus este Sala de Latin de California	umana Tiberis (Bellatin, Phesid
Approach Delay (s)	9.2		42.7		Signal and State	28.9					
Approach LOS	Α	andrial and the decision of the second	D	in and the state the production of the state	haartasta saar mitalii s	C	ar dilli um ett ut vilm am en en devidenti.	eranakan eranakan da aran da a	Sale: a maint toto, to each	SETMENT SECURE - SECSOR	of a processing of the finishing of
								15 2.45 200 See			
Intersection Summary HCM Average Control Delay			30.0		CMI	of Service					
HCM Volume to Capacity ratio		and children and reportion	0.30		OIM FEAG	OI OCIVICE	erene en	er enementere enementere enementere enementere enementere enementere enementere enementere enementere enemente Companya en enementere enementere enementere enementere enementere enementere enementere enementere enementere	t deptember of the special property of the special party of the special	en e	
Actuated Cycle Length (s)			108.0	ئائىلىدى ئاڭ ئىلىسىد 1 9	um of lost	time (e)	ئۇنىلىنىنىنىنىنىنىنىنىنىنىنىڭ ئالىرىنىنىنىنىنىنىنىنىنىنىنىنىنىنىنىنىنىنى	12.0	rom rine Wall.	na aldina ananda ad	أتعشب بندريه
Intersection Capacity Utilizatio	n	er oger rapromiser	33.7%		U Level		mengan sarang menangka	راح مسمد میشنده مداند ۱۳۰۲	Career consistent as in	Construction of the second	J
Analysis Period (min)	III Viet no se second		15		,O F6,01 (Brame almedia	Anstra Sala I	devel	ر بطور وسماليوسعم.)
c Critical Lane Group	The extraners of the extra	menta yenendan makan h	, IJ	Charles and the	y have a second	ener - commence de tech	errors per error errors appear plant, a tombre section of		, man manage , see.	The state of the same of the s	
C Chilical Lane Gloup	the set gave, the second	*************	ugan ngga - Kanggaphanggaphan	and a second second	برده جرم ورده مدر الارمادة الدي			egyapa pada pada da maka ka maka ka maka		in actions are a	أسندسسا

	•	×	×	₹	Ĺ	*					
Movement	SEL	SET	NWT*	NWR	SWL	SWR				er ayı	
Lane Configurations	*	ተተ	ተ ጉ		ች	7	and a first state of the state	AND THE PROPERTY OF THE PROPER	COS AN ARRAY ACCESS AND A SERVICE OF	AND THE MENTAL AND AND RESIDENCE AND ADDRESS OF THE PERSON NAMED AND ADDRESS OF THE PERSON NAM	AN OR OTHER DESIGNATION OF THE PARTY OF THE
Volume (veh/h)	90	65	175	30	5	90			1. 306 s	State State S	
Sign Control	Contraction of Age of Contraction and Agents	Free	Free	H. Barat of Krissen and Assis Vine Brooks that	Stop	and the second second seconds.	Market 1 - Applies of the Section of the Control of	Mandal Art and State of a majorate property of Asian	androgen de en vivir de et a defensió de	in 2001 to 100 to 100 miles	a ay derlin waterweek May dikeri
Grade		0%	0%	and the property of	0%	and the second second	The state of the s	to the second se	en in anna transference de La transference de	200	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92					
Hourly flow rate (vph)	98	71	190	33	5	98			and the second second second second		
Pedestrians	ly majoringia maren ayanan maraniya aya	or comments of courts the court of the court	northean or otherwise	a sadnjedaniji dajnjing dopoja. Vilena l	and the same and same	rowa seegger in pere	and the state of t	PPROVINCES (PROMY SERVES SPRINGS)	na na na propositiva i na napolica propositiva, prima positi	managa salahanga salah	ges hence riveren system from the
Lane Width (ft)			en e	of the second							
Walking Speed (ft/s)	ngnyarayan saayaan	was	graneman recomp	free wastake stockardida	national Security Sec	gang to a manggap	ه خاصت بند بمداده شداد شداد دراه شارد دراه شارد در	ومنسقة والأواء هماكاله وهدر فريس	arinathani ammiket	والمستحد والمتاليقية	أأحاد لخنجنا بدائعتند
Percent Blockage		Landid da Landard	الماسك عشم		أعملك عما					Mark Lan	Hildeina Hildeina
Right turn flare (veh)	i zanatra ganatian	and the sections of the section of t	inches in the control of the control	ent interest	dia minimizata de la comunicación		kundalla mendakatika	দেশ বাসমূহা পাল্ডেন		was District and Street	০০জুলালন্ <u>ব্যক্তি</u>
Median type		None	None		Sala Zala al-araba					La de La Carte de la constante	
Median storage veh)		614	Kinamethank	أعلانكانك بشاعاته			t in his material and the		المعلىك فتكملك فالمستاسعة	15775 TO	8 TO 8 248
Upstream signal (ft)		014		ف اعالنا أ	أأمن المعادلة على المسترادة الم					III A. S	
pX, platoon unblocked vC, conflicting volume	223			- Gellemide-America	438	111		there is a second of the control of	Statement and an addition and	Secretary Secretary	
vC1, stage 1 conf vol	223			mandalah dadin	430	Z SEL	and Same Side	america adalbababa	The same of the same	للقائلة المعانت	
vC1, stage 1 conf vol						TREETES			ru psita	grantin	
vCu, unblocked vol	223	Carl Adelian Will	indiana, enti	Language Stranger &	438	111		Annahar Salah Landin	a a delicitado sa literações ad		The same of the same
tC, single (s)	4.1		andre de la composition della	Service part		6.9			1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
tC, 2 stage (s)		and the solution will		will to be to be the second		ta atauta da anti-	and the same of th	liller og til store for store for store for the store of	had it stars had been	Lastilla Aditi	Grand College State of the Stat
tF(s)	2.2				3.5	3.3	47475				
p0 queue free %	93		A melikati pelatan at Aratik	E direction and a second	99	89	i na da ma saka an Sadhardhadh di Calana da n	e and the analysis of the second of the seco	de alembra es como de alembra de alembro de a		h gelande gad pattern simaali kell filiopid
cM capacity (veh/h)	1343			The second second	508	920					
Direction, Lane/#	SE (1	SF2	SE3	NWA	NW2	SW.1	SW2				
Volume Total	98	35	35	127	96	5	98		Control of the second		
Volume Left	98	0	0	0	0	5	0	and a second state of the State of the second	olive til ombiddelin mobili e till		The State of the S
Volume Right		0	0	0	33	0	98		4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
csH	1343	1700	1700	1700	1700	508	920	in - Kairon Englishingari Buri Bullitika air Mari 2006.	Elektrose i firellega klaset (se sandras	all the outside and the second	Carlo State Carlo of annual annual State (mail field)
Volume to Capacity	0.07	0.02	0.02	0.07	0.06	0.01	0.11	47446			
Queue Length 95th (ft)	6	0	0	0	0	1	9				
Control Delay (s)	7.9	0.0	0.0	0.0	0.0	12.2	9.4		Burkan Halan		
Lane LOS	Α	freeze magistral en styre y artist mily over 1	taren kanggaran sapertan mengerapa	man of the last states and the last state of the last	nes : monerous com es problema problema	В	A	in managraphy and managraphy and a side of	repringsystematical expensions	na againmean a gun againt ta ga gun	uning common property in general s
Approach Delay (s)	4.6	-		0.0		9.5					
Approach LOS						Α					
Intersection Summary										fe (de	
Average Delay			3.5								
Intersection Capacity Utilizati	on .		24.1%	IC	U Level o	Service	ragingarita , repetuation properties	Anna Canada da A	A	the comments of the second	<u> </u>
Analysis Period (min)	and an artist of the control of the	managery and a state or a state o	15								
, and the same of						1	4				

	4	×	*	Ţ	Ĺ	*						
Movement	SEL	SET	NWT	NWR 1	SWL	SWR						n ogi
Lane Configurations		ተተ	† }			77						
Volume (veh/h)	0	155	255	10.	0	30	St. F.		an and a second	spine and employed as one		and the second
Sign Control		Free	Free	The second of the second	Stop		out promoter out a result		makes ment or two-en-	and the second street of the second street of		
Grade	ingles South States on the section of the sec	0%	0%	A STATE OF THE STA	0%							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	بالمناوات فيهمونه والمالاة والممومونين	management of the forest medical and of the total section of the forest medical section of the f	go an a gapaga menangang nan caleng	and the state of t	,,	and the second
Hourly flow rate (vph)	. 0	168	277	11	0	33	talah dari dari dari dari dari dari dari dari			i je je		1.6
Pedestrians	attentional Section - A Chinase of	minera a Sadar m	enne (emperiment	والمداو والمادة الرسان مراجع	order a manager of a real	nakantida sahika ada	# , 1841 - in Algertaine in Ing.	فستكرأ لافاته وهرف رفاشت	e ne november), kom nigosem	nin enderne mikindam – m		an Lateral Asia and Asia di
Lane Width (ft)	Bandhan wan in in in in	and the standard and a	ener interese in the sec	on white our many	الأشنساء أسستا	i	and the second s	en de la companya de La companya de la companya de	la la la de Harana Manadananan	in The Land	Listandon.	
Walking Speed (ft/s)						anga anganag		udi andidan kalandaran ila van	and the second of the first of the second of	miski karimilan mark	y - 7m	25
Percent Blockage Right turn flare (veh)	ie Alterated in securities	and the same of th	in de	المستحددة والمستحددة	ن تلك ـــــــــــــــــــــــــــــــــــ	State & State Stat	بغيب أسياكه	وهل المداد	عتك لقب	and address of the second		للتثاتني
Median type	insadalis di Assisten	None	None	THE RESERVE OF	in sulfin	gran ala	minki M		bahlakbanda ena			म् अत् प्राप्ता व
Median storage veh)	aliteta La mada en La se	INUITE .	INONE	هدأند دكسائد	romani bandhari	Talka tu kuma			ده رسمه دیم ماند کانت		en sangementan	<u> </u>
Upstream signal (ft)		310	· · · · · · · · · · · · · · · · · · ·	ر الأنوار الأنشانية الماسية	and the second s	4	1. W. T. F		THE RE	- T		Tell Sold
pX, platoon unblocked		and the second	we - comment that went	interpretation of the second	المحمل أبيا يبات	بمديم فأو بيماني	سأعقظ أسار والأسال الماسات الماسات	ور دومه أدر و وسال و ما تكسي الأو الدون و و	فسا تشد مسيده	Ik Desisaani	والمعارب الماسي	
vC, conflicting volume	288	Allegain - Chile Committee	in of the second se	ing the second s	367	144		Action and the	Section of the sectio	rozprojery najegornoj CEATOR	ya 'a'li Alfanoniosiili	
vC1, stage 1 conf vol	, aideland i gallan data est litteram	I Loca, iloto apolora, padribi	dia ny prografia nao isay nagalika k	والمتدافقية المري جونايت الدوية	gegeneral bereicht gestellt g	Samuel States and States	rea y arabandar jalameteksi ra	er erkisennerhalternerhelmer gude	enger Tallatenga desertamings _{ta} n	in the second	alena etalonika	dine i di dijar mandalagi
vC2, stage 2 conf vol					se session			7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			TYRE TWO	
vCu, unblocked vol	288	and the state of the state of	and the state of t	Province of the State of the St	367	144	AND THE PARTY OF T		p to a constant of the country of th			Partie of the Pa
tC, single (s)	4.1				6.8	6.9		The Late				
tC, 2 stage (s)	a, romaniemo a virganemonio	en en agrapasis protesynaportus rejuspatura	and property of the state of the second	graphe in the morphy of	- a-rive store, distributioned		aya ya tanin dagami ka alay a madili ka hili ay sahiba w	- Samuel and Alleger that had been any of the same	raphiga panjanoning posa in	ore after an interpretation of the	**************************************	n made in the standard broated
tF (s)	2.2			C.C.A.		3.3			radisələrədə i	۱۸۵۵ مهری در ۱۸۰۰ ۱ د در معطافتص		
p0 queue free %	100	michigan and re	ell age for a contraction	idd meritaerindic	100	96	- Standard Landeld					70000000000000000000000000000000000000
cM capacity (veh/h)	1271			for a foregoing	606	877	i Kaka				مون کا مطابق آگایایی مون کا مطابق آگایایی	ika liaki
Direction, Lane#	SE1.	SE2	NW1	NW 2	SW1							
Volume Total	84	84	185	103	33							
Volume Left	0	0	0	0	0	- open range energy general general	en who careign tyel worsering out to comply o	in Earl or reminerable for morning by an	en egen anggegga ar he egy ya see sayan s	to verify and the control of the con	ananta initia, an apananga ada	and the state of the state of
Volume Right	0	0	0	. 11	33			aldile bi				
cSH	1700	1700	1700	1700	877	interpretation of a character	ang pangang ang pangang pangan Pangang pangang pangan	manni illihandeta		and the state of the same of t		are almostill
Volume to Capacity	0.05	0.05	0.11		0.04	فللمنافئة سا		r (1977 - 1986) Arministra	المسائدة ألمسائد	Salaman Salaman	a de la companya de La companya de la co	
Queue Length 95th (ft)	0 0.0	0.0	0.0	0.0	3 9.3	-3.22		* K ² V.		and the second section of the second	. Is the	The second secon
Control Delay (s) Lane LOS); U.U .;	0.0	J.U.	9.3 A			د خد سد مدرد د خد	<u> </u>	Lanks Lake		التنافذات
Approach Delay (s)	0.0	147.5813	0.0		9.3							
Approach LOS			0.0	aansenna Promisiootiena (nasiliku	 A	and the		عاقات وبالمعام		1.1.2		التكسدداد
					e se se su est e se s			kasandara sa		a e para na como de la		a succession and the
Intersection Summary			0.0									
Average Delay	Suggestion Seemen From Nove 1.27-2.	manuscript annighted to live our a	0.6			(0:27	and company to solver, a contract of the	and make appropriate to the		alle a colorest constant		
Intersection Capacity Utilizati	ion		17.4% 15	ICL	J Level o	Servic	e	Propins producera suga produ	A	Santananan di santan di sa		
Analysis Period (min)	,							e e e e e e e e e e e e e e e e e e e				

HCM Signalized Intersection Capacity Analysis

1: Minnesota St & Elk Vale Rd

12/18/2008

	-	*	×	~	Ĺ	K	
Movement	NWE	NWR	NET	NER	SWL	SWT	
Lane Configurations	*	7	*	7	*	*	The state of the s
Volume (vph)	130	160	370	165	215	400	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	yang medindik disebut di kang mengantah di Kilik di pangan dikilik di pangan diki dian meng-bang mengan pandah dibag dikilik dinandidi.
Lane Width	10	12	12	12	12	12	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	anakananan Mankanbaki ba sama mahini kan Mangunta Alam pulandarian dibutakan dan mendibindu ne mendukan pemend Tan
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	And the second s
Fr	1.00	0.85	1.00	0.85	1.00	1.00	на пред верхнять дев в достовня в помер и постоя пред достовня досто
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	tati na mana na mana na katalan na mana
Satd. Flow (prot)	1652	1583	3195	1583	1770	3195	a a constitutiva and draw analysis and the stable bridge of a representative security of any stable of a security
Flt Permitted	0.95	1.00	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	1652	1583	3195	1583	507	3195	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	141	174	402	179	234	435	Ones des himbers de délibbre de volument de la virtue del
RTOR Reduction (vph)	0	82	0	145	. 0	0	
Lane Group Flow (vph)	141	92	402	34	234	435	ger gryttel i dillanden hele van Modellingskolde Einstelle spirit op en om i generalise en en Stadenskolden en betreet en en stadenskolden en en en stadenskolden en en en stadenskolden
Heavy Vehicles (%)	2%	2%	13%	2%	2%	13%	
Turn Type		Perm		Perm	pm+pt		
Protected Phases	2		4		3	8	
Permitted Phases	i ad dhasii Adan Dorshadadhaii	2	Promise "Toronto montelectrica	4	8	is man firm community, the are shiftened grown in	naturak Persikan dan 1918 samurah menistikan Persik Sant Mariah dan 1918 salih dan 1918 salih Madalik Menistrak dan
Actuated Green, G (s)	53.0	53.0	18.9	18.9	39.0	39.0	
Effective Green, g (s)	53.0	53.0	18.9	18.9	39.0	39.0	
Actuated g/C Ratio	0.53	0.53	0.19	0.19	0.39	0.39	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	rasklatur, kustikerto, dalikkustaturiskerta, saariistata kiinkustikertakertakeri istalistiini tuskii tuskiitaa Tari
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	876	839	604	299	401	1246	
v/s Ratio Prot	c0.09		c0.13		c0.09	0.14	
v/s Ratio Perm	الإيسان مثل والمسافرة والإنجازة والمتاسلة والمسافرة	0.06	ingangan (Tangan)	0.02	0.13	mandra al l'Alerta des i de Villa de Al aces	imikan ku-ku-alikikan katan dan bini kita kitan kata kini kitan kini kini (menunca kan kitan) Kanari dan menginan kina dan kantan dan kini kini kan kantan kantan kini kini kan kantan kantan kini kini kan kantan kantan kantan kantan kini kini kantan kanta
v/c Ratio	0.16	0.11	0.67	0.11	0.58	0.35	
Uniform Delay, d1	12.1	11.7	37.6	33.6	22.2	21.5	radio kijek (Pilinglich) a. In Vijek (mille kine (Palmerich) Ville (Phone (Indus, Ville), and medical Virte (Indus, more animals). In Classick (med
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.3	2.8	0.2	2.2	0.2	incial menghibughi dipingkan kemmungkin, dermananta dipingangan Madaath, mantantan dan dentahan lai dan melikan menunantah dan
Delay (s)	12.5	12.0	40.4	33.8	24.4	21.7	
Level of Service	В	В	D	C	C	C	inaka aku kadin inahidin musu Zahain jina inakan di dilapat masani katadi bilan di malikishi salika usti sa mama masani bad
Approach Delay (s)	12.2		38.4	18.14	in	22.6	
Approach LOS	В	ge freguetikke generatur e generalken den statel	D	de des destrolònicos de la companyo	Belghinist i niver construere	С	ka kanaka madaka kanaka ka kanaka mada mada kanaka kanaka matenda kanaka ka kanaka mana maten manusa musa kana Kanaka kanaka matenda matenda kanaka kanaka mada kanaka matenda kanaka matenda manusa matenda matenda kanaka k
Intersection Summary							
HCM Average Control Delay			26.4	Н	CM Leve	l of Servic	ce C
HCM Volume to Capacity ratio		and the same of th	0.35	fator on automorphism		PROBLET IN A TOP DOOR TOWN TO THE	
Actuated Cycle Length (s)	and the same	Care to the stable of the same	100.0	Su	m of los	t time (s)	12.0
Intersection Capacity Utilizatio	n	*	39.3%			of Service	A
Analysis Period (min)	ann i anthon an Enthanni,	unterpor d'ambret sit démokra	15	damen apalentina arrama arrait a ambel	The hours and a strain	Marie de l'arter de de de la Marie de la Compa	etan daeretti etaak periorealik ir. aran makter – era ir. Abbarren probasarshiperimekteriset ar eran era eran e
c Critical Lane Group	THE TO STREET, THE ST. PROPERTY.	and process of appropriate	per again company or	And a second			Comment of the contract of the

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		*		· ·	*	-				
Movement	SEL	SET	NWT	NWR	SWL	SWR				
Lane Configurations	75	ተተ	↑ ↑		ሻ	7				
Volume (veh/h)	185	195	130	15	20	110	and the second second	territoria de la compania de la comp	Company of the second	200
Sign Control	Poder 2 Total species and	Free	Free	Congression of the state of the	Stop	ACCESS OF THE SEC.	a Marie - Marie Andrews (Marie Marie	ne with introduce against addition in an observation in the Text	han see a liike issaatii yhdistää ymmäläisi kaistentyydekkissa kirja on	n service, no see problems
Grade	r - ggerag mayre mag ng 1855 - a - 185	0%	0%	La Carlo Constitution of the same of the s	0%	The state of the s	And and Market Marie	to the second se		the state of the same of the state of the st
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Hourly flow rate (vph)	201	212	141	16	22	120		والمنطق ويولونه المائية والمنطقة المائية والمنطقة		
Pedestrians	n Marinara I Makana		par whater it is take to be a second	or Charles have to pro-	Principal Princi	er continues has a real	rational to take the Consideration of Their	Militard IV. Militar is married and in ordinary control of the second	area normalia, es. Amber - en l'arrente, enc	i continue curt neurope desprende
Lane Width (ft)	ilm in the			di dia la				a had been a property	ent matter in it will be	
Walking Speed (ft/s)	ngg or nin ord minet	i yaa boogaan aasaaniin	a ranges and	بيدودهما ودماد مريد	galanta iga alam magaan dan di	many arrangers	and marriaged — that has a consideration than the	e entropy types accepted again against a passion	ng garanatang pagabahan gabar mang	A WALLAND OF LANDS MAD
Percent Blockage	i Samura and Albertan	i Salaha ^{da} dan kamanan sana	and the second second	Yankaman da kata		16. Lateralies as			Linda and San	ارائی از ایک از این افغان ساید دکتا اسان سعید
Right turn flare (veh)	an i nisas strumentas sastes na	eletika enekkilasi es	아기 작건없다는 아직은 작동주는 나 것	attener are entropy	eraktelije, begede	Berthell marine	d tiliada mudanaddah	ann sean and delicates which was a fallenn of the	en i Muderillamen remediche in den den den de	: Nilkan samin sinda se Chellish
Median type	and the commencer	None	None			ا الله المالات المستحددات المساما	a in 1922 in the co		and the second s	
Median storage veh)	s the state of the		California en canal se concentrationes			and the state of t	anning of a literature of the state of the s	and the second s		
Upstream signal (ft)		614		ale minimum		Alexandria	A market all and a market and a	and the second second	de a la transferida a suit rea con serie.	
pX, platoon unblocked		isti an material	and interest and an executation of	والمأساء ومداء والمعطالة أسرمه	658	79	and a second of the second of	akan an anan Bakan karakan menengan di Ambakan kepadah	خانة؟ تاريخ أوامدال ، والمُحْمَّات ، ماسيد (درواه بسياة)	underhan ensperiations
vC, conflicting volume	158		ama dha an abha		608			landari la Madella Made	wind this is had in	
vC1, stage 1 conf vol	785 - V2167 T	inthone man		r en en en en en		W 7.77	- 775-77		v. 17743977757	VINET L'AGA
vC2, stage 2 conf vol vCu, unblocked vol	158	andre Lander	Limbon Library		658	79	Marie Sand Statement, attended	The same to the State of the State of		
tC, single (s)	4.1	delikin - mendenti r		A second from the second	6.8	6.9	Service Stanford	marketin distribute in edition	the second control design to the control of the con	
tC, 2 stage (s)	M. Theresi	Carlendan	till side had to the	and his should	0.0	0.3	landa etimes land en sallinistanaan	the section of the section of the section of		er A de la 188
tF(s)	2.2		Salamer D		3.5	3.3	"Laste" (f. n. medi - gr.)" m. mili. visibilikin inchellistrabili			45 5 J 5 J 5 J
p0 queue free %	86		halletille. ETAL	And the second second	94	88	d lesto tales "Lleadestiere delle			late balanta
cM capacity (veh/h)	1420	72.50	A CONTRACTOR	A STATE	341	966		CAREE TAR		W.E. E.
Co. 12 1911 Co. 12	ich kalandian Bertana				en este alicentes, desse dell'esceroles	hardet on the stable of the			ata sana nasarahir nasa diban kabahili diban nasa.	
Direction, Lane #	多り日本の	NSE+2號	SE3	*NVVI)	NW 2	SALES AND A STATE OF THE SALES	SW 24			
Volume Total	201	106	106	94	63	22	120	ralici chendella		and a more day
Volume Left	201 0	0	0 0	0	0 16	22 7 - 0	0 120	and the second section of the second section of the second second second second second second second second se	and resident and the second and second	And the same of th
Volume Right cSH	1420	1700	1700	1700	1700	341	966	all and the second of the seco		A Substitution of the
Volume to Capacity	0.14	0.06	0.06	0.06	0.04	0.06	0.12	alimateria de la familia de de la familia	and the second of the second s	A STATE OF THE PARTY OF THE PAR
Queue Length 95th (ft)	12	0.00	0.00	0.00	0.04	5	11	alais o la cil de de mare, a mare que estre a carden	kan million makabi mendebihan	I will be to be the
Control Delay (s)	8.0	0.0	0.0	0.0	0.0	16.3	9.3	er and a regulation to a resource of the regular		J 17 18 19
Lane LOS	Ā	idelaria		. Democratic selling	an honor trained literary	C	a	, ya kalentura e kalenda kilonia kilonia kalenda e manise ana	atamaka misina kandi bin Amusia serjetah	الثالثين ويرشي أربو الك
Approach Delay (s)	3.9			0.0	and the second seco	10.3	ار روز در ایران در ایران از ایران از در ایران ایرا در ایران	til som med kritiskrimmer skilletinden en er e Stammer med kritiskrimmer skilletinden en er er		
Approach LOS	and a marrie of the Landine	and medicinal	a anna a mara at dha an an a Lat a bh	······································	and the second s	B	agust t Valence en abhair thaire ann an an ann agus	radas (russus) por unidendatum está NASA de Plate concestados	ور المصحوبية والمراجبين أسرو والمالية	alignation operation in materialistic and
	Complete tricks		Maria Maria da Maria	Na Carlo Barrer					Carani Sasatonini	
Intersection Summary **	建筑建筑					W. 200				
Average Delay		ner - eren og "renemen ermengæne	4.3			Carda-	and the second s	A"	eg our rater our square extreme	and the same of the same of
Intersection Capacity Utilizatio	<u>n</u>		27.7% 15		U Level of	Service	and the second s		en esta en somme una oras continue	
Analysis Period (min)	·	on and the consequence of the	15			1917 1778,1864;1	a management management	en promotion promoter make the	in program . By an arrest rise rise in gramme to constant year	
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	4	×	×	₹	Ĺ	*	
Movement	SEL	SET	NWT	NWR	SWL*	SWR	
Lane Configurations	- 17 DOM	^	ተኈ			7	
Volume (veh/h)	0	380	235	5.	0.	55	4
Sign Control	may at a granular a firm.	Free	Free	and the second s	Stop		The second section of the section
Grade			0%		0%		and the second s
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	413	255	5	0	60	The second secon
Pedestrians	and the state of the common figure, as	nag skupper og at lightered by te	un makaja puma majah limi	, managaran manan manga	filmonogyg ogal golofilm gallyng ga da nadwon	p. novembergagagan in	rakan - ii rakan - in rakan - iikhammanan ii kankan ii kha - ii kan ii kan ahaa ka k
Lane Width (ft)	No. of the second		ale sendine	and the second s	in the second		al a dilance an and a section and section decreases we make a section above a section of section and section a
Walking Speed (ft/s)	ay jar marka kapan mark	case where the second	and the state of t	يمروه المحدر معوضه	engologic amondad i est	ogo www.	es van een het van periffermaar vin han san een fan aan een fan en de fan de
Percent Blockage	tillig Kalandan erastaat	erial description of the second secon	الأرافيات بالمساحد الم	and the second section of the second	لله المنظمة المعافلة		Anna an
Right turn flare (veh)	an emany are je emanene	e angeres e proprie de avec	erente fathering of the second			integrated to	makan — Andrewski Samer and Samer and mention of the same and the same
Median type	and the second	None	None				and the control of th
Median storage veh)	ininahuminen inke le		hideotechik Security	rentraggierney	n nikelita Colonian N	and on word ?	An und Verdermand bereinen. I dieses en dem einem seinen Kolomolden sehren und des einem dem dem dem dem dem die dem dem dem dem dem dem dem dem dem de
Upstream signal (ft)	magazar amatarang	310		distribution of the same	way an ampayangan		Besterhilder with high to be a first the contract of the second state of the second st
pX, platoon unblocked		er, sprijessom ventpyt	Antonia de Carinta.	Sala Balania	7 AGE 5	420	and the same of the first of the second seco
vC, conflicting volume	261				465	130	2 than 1
vC1, stage 1 conf vol	e volkelindikasi sendan sahala	and the constraint of the state of	بالمالية والمالية		-		
vC2, stage 2 conf vol vCu, unblocked vol	261			Cont. E. Saria. E.	465	130	College State State State State State College State College State College State Stat
tC, single (s)	4.1	in the state of the first of	1000	erichen belieb	6.8	6.9	and the control of th
tC, 2 stage (s)	tulTok."h	sa Limenta de hia	and the second	للمسالة لمتأكل القالة			
1-72×30000 100000000000000000000000000000000	2.2	FIRETA		granging and the second	3.5	3.3	THE WORLD STATES AND SHOW THE WAS A SHOWN TO SHOW THE SHOW THE WAS A SHOWN THE WAY TO SHOW THE WAY THE
p0 queue free %	100	a	laidi Lalkalii	braid, sillid	100	93	201 C. S. State Commission of William State Commission of
cM capacity (veh/h)	1301				526	895	and the state of t
100 C 3 (Mark Andre - 1) September 1 (Mark Andre - Mark -		ka darakatikika Wasania					la da alla landamente dia dikila dia kanana manda da mid kanananda and dakada kanaha bilandikat undar diki bindamid Manga kalandi kananangan manga kananan makamanan da manga kananan kananan kananan da manga kananan kananan kan
Direction Lane#	SE1	SE-2	ENW1	NW2	SW1		The Control of Control
Volume Total	207	207	170	91	60		
Volume Left	0	0	0	0 5	0		The property of the anticipation of the second seco
Volume Right	0	4700	0	Secretary and Additional Con-	60		and a second and the
cSH	1700	1700 0.12	1700 0.10	1700 0.05	895 0.07	myretin men	- string some institution in more than a constitute that income a common to a singular transfer along institute and the disciplinate of the constitution of the consti
Volume to Capacity	0.12	milion and in the	are chant, inches Number	Material rate of the same	an india o com a anciderar alle comme		Land had the second had been been been been a second as a second as the second as a second
Queue Length 95th (ft)	0.0	0.0	0 0.0	0.0	5 9.3		adicidate proposition of the contract of the c
Control Delay (s) Lane LOS	0.0	0.0		0,0	9.3 A	Same Him.	and the control of th
Approach Delay (s)	0.0	anner immedian i habita	0.0		9.3	The same of the same	And the second of the second o
Approach LOS		amendanian ellen e sinde	handense er seelskebilen de	in Harris (das ar efficie) — për papër nërorëning (jengën për	A	enary defining a former serving	anne ann an taine an taine ann an taine
Intersection Summary							
Average Delay			0.8				
Intersection Capacity Utilization	1	eray in grant for a make, to gave to jugate	16.7%	IC	U Level of	Service	e A
Analysis Period (min)	die del est de la del marca es		15	grape haggaine. The militarement	inghang ginar nga byla fi na pyrinia na dan bir	ngi njimo je i majang jibino, j	one and the second seco
A Secretary of the second of t		***************************************	TAINE Assessed Security Property An		e an ampleon common		The street of th

APPENDIX E 2030 TOTAL TRAFFIC LEVEL OF SERVICE WORKSHEETS



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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	ሻ	ተኈ		ሻሻ	ተ ተ	7	ሻ	ተተ	7	1,1	† }	
Volume (vph)	95	125	20	175	130	300	30	795	135	275	690	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0	The task towns the conflict this	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	gir og det er Det sterre det er	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	0.98	and a spirit and the second	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	in accommon por security
Fit Protected	0.95	1.00	ar El	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	3465	and the second second	3204	3539	1583	1770	3195	1583	3433	3165	h san property hands
Fit Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	3465		3204	3539	1583	1770	3195	1583	3433	3165	
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)	103	136	22	190	141	326	33	864	147	299	750	158
RTOR Reduction (vph)	0	.13	0.	0.	0	217	0	0	95	0	18	0
Lane Group Flow (vph)	103	145	0	190	141	109	33	864	52	299	890	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	13%	2%	2%	13%	2%
Turn Type	Prot	rinter - national posts may	report of the options of the	Prot	ner sik a fisik pinak an sik anagerapa	Perm	Prot	had displaced waterbook product	Perm	Prot	tation the out of a comment	
Protected Phases	Service Confederation	6		5	2		7	4	his made and makes	3	8	
Permitted Phases	gurantaggeografie et hjef i denge fitzerjaken.		i la ser i agranam agran, menero,	erett. Alanieras valanta	0.00 to 1.00 to	2	TO THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY ADDRESS OF THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY AND ADDRESS OF THE PROPERTY	1111/21 m² c 2/11 mm 111/mm 11	4	handaka' kulfa keta si silindikad	26 H 1-57-07-1 Marie 1811-1-57-1-198-6	
Actuated Green, G (s)	9.5	25.1		10.3	25.9	25.9	4.5	35.2	35.2	13.4	44.1	
Effective Green, g (s)	9.5	25.1	entro em remerciato provincia de la	10.3	25.9	25.9	4.5	35.2	35.2	13.4	44.1	THE THE PERSON NAMED IN
Actuated g/C Ratio	0.10	0.25		0.10	0.26	0.26	0.04	0.35	0.35	0.13	0.44	
Clearance Time (s)	4.0	4.0	materies - Pagnetiment for	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	unur Kareposésséki
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	157	870	TO FREE FET AL DED COMMON	330	917	410	80	1125	557	460	1396	
v/s Ratio Prot	c0.06	0.04		0.06	0.04	deal aveates a	0.02	c0.27		c0.09	0.28	
v/s Ratio Perm		optiviste incommission	TOTAL TENNES TOTAL	San Jahren		c0.07	/ TOWN THE TOTAL THE TOTAL TO SEE THE		0.03		and the same application of the same desired in the same desired i	enantanenan
v/c Ratio	0.66	0:17	The state of the s	0.58	0.15	0.27	0.41	0.77	0.09	0.65	0.64	
Uniform Delay, d1	43.7	29.3	page to the control of the control o	42.8	28.6	29.5	46.5	28.8	21.7	41.1	21.7	ineparety/addeds
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.5	0.1	יינויי - פונדונטט נפאיניי	2.4	0.4	1.6	3.4	3.2	0.1	3.3	1.0	التعاملة بإباء المسافة
Delay (s)	53.2	29.4		45.2	28.9	31.1	49.9	32.0	21.8	44.4	22.7	Since Mil
Level of Service	one de la company de la co	С	tana saaraa	D	С	С	D	C	C	D	C	F-65-21-12-27-29
Approach Delay (s)	erina territoria de la companya de l	38.8		The state of	34.7			31.1			28.1	
Approach LOS		D			C						С	
Intersection Summary									r des	us saud	i ji ai	
HCM Average Control De		tongs allow a floor a floor consignations.	31.3	HC	CM Level	of Servic	е	and the same of the same	C	en un alea et pageas	n and necessary the state of the second	
HCM Volume to Capacity			0.56		harring against an	د کید سیمانید		vince in the same is	en e e e e e e e e e e e e e e e e e e	and an arranged by		أنشستند
Actuated Cycle Length (s)		an anna an	100.0		m of lost		w		12.0		de articon considerati	andreament of a spending
Intersection Capacity Utili.	zation	ng yangara padan sakasanta	55.8%	IC	U Level o	of Service	and the second states and the second	ma-12 v-2.4-71-14	В		n makedon error condu	أأأ
Analysis Period (min)	and page to governor govern		15						e a may a manager			
c Critical Lane Group	described and the later being of			enterna no en en en enercia case		en com conform	car or princip conce			and an arrangement	ATTREE HEATTHEAT TOUR	

	'	×	7	*	×	*	ን	×	~	4	×	*
Movement	SEL	// SET	SER	<u>NWL</u>		NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	*	ተ ኈ		ሻ	† }		*	4		ሻ	£	
Volume (vph)	70	245	220	15	420	40	75	20	5	10	20	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	12	12	10	12	12	10	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	and the second
Lane Util. Factor	1.00	0.95		1.00	0.95	(1	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.97		1.00	0.88	AND THE SHAPE IS A VARIOUS SHAPE.
Flt Protected	0.95	1.00		0.95	1.00	TOTAL STATE	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	3288		1652	3494	A Committee of the second seco	1652	1811	more and manufactured to a	1652	1640	and offered and the state of th
Flt Permitted	0.95	1.00		0.95	1.00	Control of the Contro	0.36	1.00	E Sacration	0.74	1.00	
Satd. Flow (perm)	1652	3288	and find the same of the same	1652	3494	gov ple-sucht as a foreign a to	630	1811	Confessional Confession Confession	1286	1640	
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)	76	266	239	16	457	43	82	22	5	11	22	87
RTOR Reduction (vph)	0	81	0	0	4	0	0	4	0.3		79	0
Lane Group Flow (vph)	76	424	0	16	496	0	82	23	0	11	30	0
Turn Type	Prof	Marin de la	學的學家	Prot	orn The Carl	AND WAR	pm+pt		tre Alle	pm+pt		MRC38
Protected Phases	6000 s. (600 b. 1560). 1	6	Alterial Stan	5	2	M. Verber Shi	7	4	موالدنا C دمستطافات	3	8	SOMEONAMIA
Permitted Phases							4		7777	8		
Actuated Green, G (s)	9.4	76.7	diterior de la trada de la como d	3.2	70.5	all lateral managements	24.1	18.6	The said and the wilder	11.9	10.4	And Andread
Effective Green, g (s)	9.4	76.7		3.2	70.5		24.1	18.6		11.9	10.4	
Actuated g/C Ratio	0.08	0.66		0.03	0.61	Maria de Ario	0.21	0.16		0.10	0.09	Charatha
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	Delata i Sandida	3.0	3.0	and the second second	3.0	3.0	1071.00.1.5 2519
Lane Grp Cap (vph)	134	2174		46	2124	等(等45)	216	290	设备的	137	147	
v/s Ratio Prot	c0.05	0.13	area koreeci	0.01	c0.14		c0.03	0.01		0.00	0.02	Min Ath
v/s Ratio Perm							c0.05			0.01	MINTE	TERRET.
v/c Ratio	0.57	0.20	and the same while	0.35	0.23		0.38	0.08		0.08	0.20	
Uniform Delay, d1	51.3	7.6		55.4	10.4		38.5	41.4	g rugag	47.0	49.0	
Progression Factor	1.00	1.00		1.00	1.00	kiludiseli	1.00	1.00	name.	1.00	1.00	
Incremental Delay, d2	5.4	0.2		4.5	0.3	TEN		0.1		0.3	0.7	
Delay (s)	56.8	7.8		59.9	10.7		39.6	41.5	IML KALA	47.3	49.6	
Level of Service	J. V. E.	T A		TY.E.			- D	-71.0 		T'Ď	70.0	
Approach Delay (s)		14.2		State State Committee Control	12.2	BLUSELLA		40.1	rate de Caracia, de see	22 - 22 - 23 - 23 E	49.4	MAINTAIN
Approach LOS	en e	NA B			В.	WWW.			A CONTRACTOR OF THE SECOND	The Section		Jaka
E all To a relation of the second						Allanthana	ele Claimandh					
Intersection Summary			10.0	LI	CM Lavel	of Consid			B			64 Y Y
HCM Average Control Del			18.8	obenium entere	JIVI Level	of Servic	e	de ante an armanant des	. D .	and the state of the state of	and the second second second	
HCM Volume to Capacity		5-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7	0.29		Californiano for Extension from a series		ny tata kaominina mangkanyo		100	and the same of the same of the same	des ann farance	
Actuated Cycle Length (s)		Andrew Colored	116.0		ım of lost		none to an end-other distance in the	and the position wind a dec	12.0		transfer of transfer offers	لندسسسي
Intersection Capacity Utiliz	zatiou	rationalists accordingly	38.0%		U Level o	of Service		**************************************	<u>, A</u>		4 44 224 4 4 4 5 2 2 2 2 2 2 2 2 2 2 2 2	and the same of the same
Analysis Period (min)			15	de Paragraphy programmer programmer programmer and the	ter until face to describe about about	elantificación de minima de mi	hand the second hand the second section of the second	and a substitute and a metrories	in the second second contents.	tue and are a consider.	, has protected on the tree	
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 9: Minnesota St & Site Access

12/3/2008

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Movement	SEL:	SET	NWT	NWR	SWL	SWR	
Lane Configurations		ተተ	^ }	iones single	Mary Mary Strong	7	The second secon
Volume (veh/h)	0	535	560	15	0	45	5 FA Walle a Car Strate
Sign Control	and the same of the same of the same of	Free	Free	permitte section of codes a total of total co	Stop	AND THE CONTRACT OF	on menonaharika sauhtanah pendudah ruman didama meringah ang mista bilah serindak serindak mendidak mendidak d Tanggaran
Grade	in the first the same of	0%	0%		0%	di in indicate in territoria esta di indicate in territoria es	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	582	609	16	0	49	
Pedestrians	eta tearitikalan termenyejiy	ha pha anni an a dhealthan	green, or our owner, may	and the control of the control	manghap new a highpania banggangan me	و سر چمچسم و	in the state of th
Lane Width (ft)	, in		ئى الى الى الى الى الى الى الى الى الى ال			ka sejekat anamana	the second control of
Walking Speed (ft/s)		فأهلب فمائنان ويورف ويافوه	تعتيث يعجنانه	and the second second	والمالة المالية المالية	الأرمية المساء	maganing miningga gap processing night night and gap and and an anomal and an anomal and an animal and animal animal animal animal animal and animal
Percent Blockage	نلته ومأساقت		La caratal				
Right turn flare (veh)	Total constituta	CONTRACTOR OF THE PROPERTY OF	in the second	e de la constitución	Section of the sectio	necimentalistics the	etit in julijaksen menterut senter sent sanstanter och nitter och nitter och stör i och nitter och senter och s Etter julijaksen och senter och senter senter och sen
Median type	4). Kanamadalasan Kilota	None	None	z XXX daga	bulless Liber	لتناقف عمد	
Median storage veh)		287	327			green and	Control of the second of the s
Upstream signal (ft) pX, platoon unblocked	0.95	207	321	Maria Maria	0.95	0.95	
vC, conflicting volume	625		ar-ported	S#757777	908	312	
vC1, stage 1 conf vol	020				300	JIZ	
vC2, stage 2 conf vol	2. 10. 52-40.60		i Ta rew			76.7	
vCu, unblocked vol	493	an eline the en en eline			758	163	
tC, single (s)	4.1	The state of the s	refrancourante de la company Santa de la company	week in the	6.8	6.9	
tC, 2 stage (s)		lik dilikat debis	tile lott LAG	aria inaliani		lati yi. Mc	tik di tahun dan di didakan di 1867 bilan di disebahan dan di didakan di di didakan di didakan di didakan di d Tahun di didakan di di
tE(s)	2.2				3.5	3.3	
p0 queue free %	100		i Blille insperie (Alexe)	Military workship of	100	94	
cM capacity (veh/h)	1011		WARRENCHUR VOAS SUR SWE		327	808	
Direction, Lane #	SE 1	SE2	ENTINE SE	NIWO	QW/4		
Volume Total	291	291	406	219	49		
Volume Left	0	25 0	400	0	0		
Volume Right	0	V. 0	0	16	49	3.3.4.4	
cSH	1700	1700	1700	1700	808		ta kan kan dida mataka kan sa miningan mataka mataka mataka kan mataka kan mataka kan di sa mataka mataka mata Tangan mataka matak
Volume to Capacity	0.17	0.17	0.24	0.13			
Queue Length 95th (ft)	0	0	0	0	5	et i	or a station because the state of the state
Control Delay (s)	0.0	0.0	0.0	0.0	9.7		
Lane LOS	Arment Ar ellek ellende Assarille	ilian a Latinia serrajura.	. 1. 21 (148) (21. 15 m) (1 m) (27.65)	1900 Marija Tarahardik (Marya Karibanik M	A	Jan Sakita an	and annual trade of the state o
Approach Delay (s)	0.0		0.0		9.7		
Approach LOS					Α		entert free mateix of the section (section). Make the section (section) and section (section) and section (section).
Intersection Summary							
Average Delay	- Annual State of the State of	THE PARTY OF THE P	0.4		A CONTRACTOR OF THE PARTY OF TH		The state of the s
Intersection Capacity Utilization)	and the second of the second	26.0%	ICI	J Level of	Servic	Ce
Analysis Period (min)	and the second of the second of the second	er annaktiva spirovana a vyračka v jež velica.	15	ha indicesor en esperado el promo contro	anna mana na katikatikana didiba	بحث الته وتحد	mente militare principale de la contratación de la contratación que a que manera en entre ent
the state of the s							

HCM Signalized Intersection Capacity Analysis 1: Minnesota St & Elk Vale Rd

12/3/2008

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Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET.	NER	SWL	SWT	SWR
Lane Configurations	75	∱ }		<u> </u>	ተተ	Ŧ	ሻ	^		ليزايز	↑ }	
Volume (vph)	160	205	35	320	205	525	20	630	340	540	690	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	. 12	12	10	12	-12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0	ng panamanana ay an mining	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	YIMI
Frt	1.00	0.98	religiones de la companio de la	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Fit Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	الاعتمالا
Satd. Flow (prot)	1652	3462	Antikatustina karatikal	3204	3539	1583	1770	3195	1583	3433	3172	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95		
Satd. Flow (perm)	1652	3462	3 Selec - A	3204	3539	1583	1770_	3195	1583	3433	3172	ST C TANK N
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)	174	223	38	348	223	571	22	685	370	587	750	114
RTOR Reduction (vph)	0	14	0	0	0	293	0	0	269	0	11	0
Lane Group Flow (vph)	174	247	0	348	223	278	22	685	101	587	853	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	13%_	2%	2%	13%	2%
Turn Type	Prot	paggina, e metalogia parater	and the second section of the second	Prot	n ing the part of the second o	Perm	Prot	والمروري موالما مدادهم	Perm	Prot	enternetation venter	eri aug mendikansa
Protected Phases	1.5	6		5.	2.	Maria	and the second	4		3	8	
Permitted Phases	en our eneman	. NState Astronomy	enterate di virole.	neg ize tingi tingi kanan	Alleria and services	2		**************************************	4 		grading ordered forms to be a com-	me received
Actuated Green, G (s)	13.3	21.7		15.2	23.6	23.6	2.0	27.4	27.4	19.7	45.1	
Effective Green, g (s)	13.3	21.7		15.2	23.6	23.6	2.0	27.4	27.4	19.7	45.1	
Actuated g/C Ratio	0.13	0.22		0.15	0.24	0.24	0.02	0.27	0.27	0.20	0.45	
Clearance Time (s)	4.0	4.0	reervere:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	MISESTINSES
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	92727
Lane Grp Cap (vph)	220	751	The state of the s	487	835	374	35	875	434	676	1431	
v/s Ratio Prot	0.11	0.07		c0.11	0.06		0.01	c0.21		c0.17	0.27	
v/s Ratio Perm		*****************	YTTO OFFICER	a ration	**************************************	c0.18	2000	A 70	0.06		0.00	Sacrification and
v/c Ratio	0.79	0.33	a rate and rate and	0.71	0.27	0.74	0.63	0.78	0.23	0.87	0.60	Mariad
Uniform Delay, d1	42.0 1.00	33.0 1.00	right to the t	40.3 0.90	31.1	35.4 0.81	48.6 1.00	33.6 1.00	28.2	38.9 1.00	20.6 1.00	
Progression Factor	The war would have been been being the said	a chalenali o shiring shiring		And the second state of the second	0.80	Shirt Service har market and the	30.3	in a will have there is	1.00 0.3	11.4	0.7	Na 1133
Incremental Delay, d2 Delay (s)	17.4 59.4	0.3 33.3		4.2 40.5	0.7 25.6	10.6 39.3	30.3 79.0	4.6 38.2	28.4	50.3	21.3	ZESTE
Level of Service	E	C	Sala Sala	40.5 D	20.0 C	ာ ၁၅.၁ D	19.0 E	00.2 D	20.4 C	D	21.3 C	
Approach Delay (s)		43.7			37.0			35.7			33.0	
Approach LOS		D		the test to be and the	D D			D		And Comme		أتنكأة سيكسته
	SENTENDER 1991年11日13				Autoridobro Colore							
Intersection Summary			05.0	1.10		(0)	in the second					
HCM Volume to Consoling		and the state of the state of the state of	35.9 0.76	H	JIVI Level	of Servic	e	the street-styles - Specialist	D	iamen -	n, 11 mayorana arangagan	أحابك انسلس
HCM Volume to Capacity rat	10	and the second	and the second s		no of look		Contractor of the particular of		12.0	- Charles Chicago	andron make	
Actuated Cycle Length (s)	ion	for water of the constraint	100.0		ım of lost	of Service	and a second and as	a time and consequently with the	12.0 C	· · · · · · · · · · · · · · · · · · ·	transfer of more	213011000000000000000000000000000000000
Intersection Capacity Utilizat	ION		68.8%		U Level (o Service	laterius vir rijami, ritminiga			Van 1984, eldare return	to protect as to part	·
Analysis Period (min) c Critical Lane Group		- Charles and the second	15		street maybe may		Market St. Market St. St. St. St.		er reserve	an extension of the place of the control of the con		i
c Gritical Larie Group		1			Printe on terral sect	and the second s	Notes and the same of the same of the					أتشاسم

Fit Protected 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0		\y	×	1	-	×	7	ን	*	~	· (K	*
Volume (vph)	Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER#	SWL	SWT	SWR
Ideal Flow (yphpi) 1900	Lane Configurations	Ť	†		ሻ	ት ጐ		ሻ			ሻ	f)	
Lane Wildth 10 12 12 10 12 12 10 12 12 10 12 12 10 12 12 10 12 12 10 12 12 10 12 12 10 12 12 10 10 12 12 10 10 12 12 10 10 10 10 100 10	Volume (vph)		530		10					15			150
Total Lost time (s)	Ideal Flow (vphpl)	1900						1900					
Lane Util. Factor 1.00 0.95 1.00 0.95 1.00 1.00 1.00 1.00 1.00 Frt 1.00 0.94 1.00 0.99 1.00 0.98 1.00 0.91 Frt 1.00 0.94 1.00 0.99 1.00 0.98 1.00 0.95 1.00 Satd. Flow (prot) 1652 3335 1652 3511 1652 1824 1652 1695 Fit Permitted 0.95 1.00 0.95 1.00 0.68 1.00 Satd. Flow (perm) 1652 3335 1652 3511 346 1824 1188 1695 Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Lane Width	10	. 12	12	10	12	12	10	12	12			12
Frt 1.00 0.94 1.00 0.99 1.00 0.98 1.00 0.91 FIF Protected 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	Total Lost time (s)												
Fit Protected 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.68 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0	Lane Util. Factor												73
Satd. Flow (prot)	Frt												
Fit Permitted 0.95 1.00 0.95 1.00 0.20 1.00 0.68 1.00 Satd. Flow (perm) 1652 3335 1652 3511 346 1824 1188 1695 Peak-hour factor, PHF 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Fit Protected	0.95	1.00		0.95	1.00		0.95	Manuscriptor of the secretary of the	a salah sala		an a little of the second	
Satd. Flow (perm) 1652 3335 1652 3511 346 1824 1188 1695 Peak-hour factor, PHF 0.92	Satd. Flow (prot)												
Peak-hour factor, PHF 0.92 0.82 0.82	Flt Permitted	0.95	1.00		0.95	1.00	. ناگلانک	0.20	Constitution of the second second second		0.68	particular of the same of the contra	Lwai
Adj. Flow (vph)	Satd. Flow (perm)	1652	3335		1652	3511		346	1824		1188	1695	
Adj. Flow (vph)	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
Lane Group Flow (vph)	Adj. Flow (vph)	245	576	359	11	473	27	353	98	16	33	109	163
Turn Type	RTOR Reduction (vph)	0	89	0	0	. 4	0	0	6	0	0	55	0
Protected Phases 1 6 5 2 7 4 8 Permitted Phases 4 8 Actuated Green, G (s) 18.5 44.0 0.8 26.3 43.2 43.2 16.1 16.1 Effective Green, g (s) 18.5 44.0 0.8 26.3 43.2 43.2 16.1 16.1 Actuated g/C Ratio 0.18 0.44 0.01 0.26 0.43 0.43 0.16 0.16 Clearance Time (s) 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	Lane Group Flow (vph)	245	846	0	11	496	0	353	108	0	33	217	0
Protected Phases 1 6 5 2 7 4 8 Permitted Phases 4 8 Actuated Green, G (s) 18.5 44.0 0.8 26.3 43.2 43.2 16.1 16.1 Effective Green, g (s) 18.5 44.0 0.8 26.3 43.2 43.2 16.1 16.1 Actuated g/C Ratio 0.18 0.44 0.01 0.26 0.43 0.43 0.16 0.16 Clearance Time (s) 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	Turn Type	Prot	00-79	PHATE NA	Prot	放業等情		pm+pt	w Zelegije		Perm		数學的
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vC1, stage 1 conf vol	WITTER					en e	
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tC, 2 stage (s)			and the state of t		0.0	0.0	and the second s
tF(s)	2.2				3.5	3.3	
p0 queue free %	100				100	78	
cM capacity (veh/h)	770				157	743	
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cSH	1700	1700	1700	1700	743		
Volume to Capacity	0.35	0.35	0.38	0.20	0.22		
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Control Delay (s)	0.0	0.0	0.0	0.0	11.2		
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