



MEMORANDUM

To: Mikaela Renz-Whitmore, City of Albuquerque Planning Department
From: Colin Burgett
Date: June 4, 2013
Subject: Volcano Heights Sector Development Plan: Proposed Intersection Spacing

INTRODUCTION & PURPOSE

The purpose of this memorandum is to summarize the assessment of proposed intersection spacing options currently being considered to provide future access from Paseo del Norte and Unser Boulevard to future mixed-use development envisioned under the *Volcano Heights Sector Development Plan*.

PROPOSED INTERSECTION SPACING

Four options were identified by City staff for analysis, as shown on Figures 1 through 4:

- **Scheme A:** Spacing as recommended by the Volcano Heights Sector Development Plan (VHSDP)
- **Scheme B:** Spacing based on existing $\frac{1}{2}$ mile full access intersections with right-in/right-out intersections assumed at least every $\frac{1}{4}$ mile
- **Scheme C:** Compromise spacing based on negotiations with NMDOT, TCC ad hoc committee, and RAC members
- **Scheme D:** Final City Request based on the results of this requested additional analysis

STREET CLASSIFICATIONS

Paseo del Norte and Unser Boulevard are both identified as high-capacity **Principal Arterial** streets. As stated in the New Mexico Department of Transportation Access Management Manual.

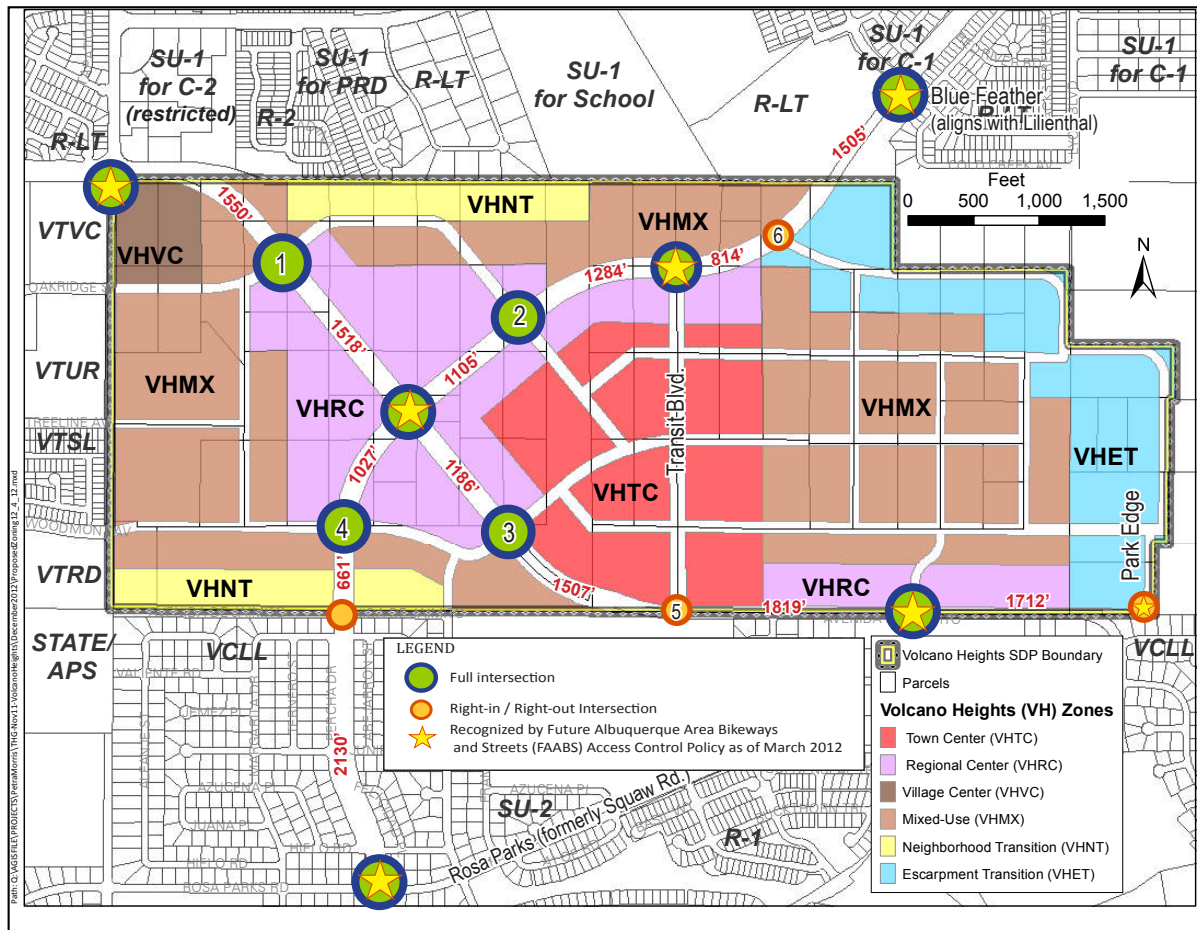
The State Access Management Manual provides the following functional definition of Principal Arterials located within urban areas:

State Access Management Manual Chapter 4

E. ACCESS CATEGORY: Urban Principal Arterial (UPA)

(1) Functional Description: The urban principal arterial system serves the major centers of activity of urbanized areas, the highest traffic volume corridors, the longest trip desires, and carries a high proportion of the total urban area travel on a minimum of mileage. The system is integrated both internally and between major rural connections. The principal arterial system carries most of the trips entering and leaving an urban area, as well as most of the through movements bypassing central city areas. In addition, significant intra-area travel, such as between central business districts and outlying residential areas, between major inner city communities, and between major suburban centers, is served by this class of highway. In urbanized areas, this system provides continuity for all rural arterials that intercept the urban boundary.

Scheme A: Volcano Heights Sector Development Plan



* 1/4 mile = 1320 feet
 1/3 mile = 1760 feet
 1/2 mile = 2640 feet

Map of Volcano Heights (VH) Zones

Intersection Types

- Full Intersection
- Right-in / Right-out Intersection
- Recognized in Future Albuquerque Area Bikeways and Streets (FAABS)

Street Types

- ST1 - TOWN CENTER
- ST2 - CONNECTOR STREET
- ST3 - NEIGHBORHOOD STREET
- ST4.1 - PARK EDGE (ONE SIDE)
- ST4.2 - PARK EDGE (TWO SIDES)
- ST5 - TRANSIT BOULEVARD
- ST6 - UNSER BLVD
- ST7 - PASEO DEL NORTE
- ST8 - UNIVERSE BLVD
- A STREETS
- B STREETS

Volcano Heights (VH) Zones

- Town Center (VHTC)
- Regional Center (VHRC)
- Village Center (VHVC)
- Mixed-Use (VHMX)
- Neighborhood Transition (VHNT)
- Escarpment Transition (VHET)

Map Details:

- Streets:** Universe Boulevard, Loop Road, Paseo del Norte, Unser Boulevard, Transit Boulevard, Avenita de Jaimito, Calle Plata, Kimrick Rd, Park Edge Road, Feather Avenue, Rosa Parks Road.
- Distances:** 1550 FEET, 1518 FEET, 980 FEET, 1390 FEET, 1500 FEET, 1499 FEET, 1500 FEET, 1712 FEET, 1095 FEET, 2140 FEET, 2301 FEET.
- Scale:** 0 500 1,000 1,500 Feet. NOTE: 1/4 mile 1320 feet.
- North Arrow:** N
- Surrounding Areas:** SU-1 for C-2 (limited), SU-1 for PRD, R-2, R-LT, SU-1 for School, SU-1 for C-1, VTVC, VTUR, VTSL, VTRD, STATE APS, VCIL, VCMX, VHTC, VHRC, VHVC, VHMX, VHET.

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Map of Volcano Heights (VH) Zones

Legend:

- INTERSECTION TYPES**
 - Full Intersection (Green circle)
 - Right-in / Right-out intersection (Orange circle)
 - Recognized in Future Albuquerque Area Bikeways and Streets (FAABS) (Star)
- Street Types**
 - A STREETS (Solid black line)
 - B STREETS (Dashed black line)
 - ST1 - TOWN CENTER (Red line)
 - ST2 - CONNECTOR STREET (Purple line)
 - ST3 - NEIGHBORHOOD STREET (Blue line)
 - ST4.1 - PARK EDGE (ONE SIDE) (Green line)
 - ST4.2 - PARK EDGE (TWO SIDES) (Light green line)
 - ST5 - TRANSIT BOULEVARD (Pink line)
 - ST6 - UNSER BLVD (Dark brown line)
 - ST7 - PASEO DEL NORTE (Black line)
 - ST8 - UNIVERSE BLVD (Dashed black line)
- Volcano Heights (VH) Zones**
 - Town Center (VHTC) (Red)
 - Regional Center (VHRC) (Purple)
 - Village Center (VHVC) (Brown)
 - Mixed-Use (VHMX) (Tan)
 - Neighborhood Transition (VHNT) (Yellow)
 - Escarpment Transition (VHET) (Light blue)
- Other Features**
 - Parcels (Thin black outline)
 - Volcano Heights SDP Boundary (Thick black outline)

Map Labels:

- Streets:** Paradise Blvd, Loop Road, Paseo del Norte, Unser Boulevard, Transit Boulevard, Kimmick Rd, Park Edge Road, Rosa Parks Road, Universe Boulevard, VCLL, VCMX, VTRD, VTUR, VTVC, VTSL, VHTC, VHRC, VHVC, VHMX, VHNT, VHET.
- Distances:** 1550 FEET, 1518 FEET, 1390 FEET, 1410 FEET, 1699 FEET, 1285 FEET, 2006 FEET, 1816 FEET, 1095 FEET, 1712 FEET, 2140 FEET, 1088 FEET.
- Scale:** 0, 500, 1,000, 1,500 Feet. NOTE: 1/4 mile = 1320 feet.
- Other:** SU-1 for C-2 (limited), SU-1 for PRD, R-LT, SU-1 for School, SU-1 for C-1, Blue Feather Avenue, Oakridge, Treeline, Woodmont, STATE APS, Rosa Parks Road.

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The map displays the Volcano Heights area with various zones and transportation features. The zones are color-coded: Town Center (VHTC) in red, Regional Center (VHRC) in purple, Village Center (VHVC) in brown, Mixed-Use (VHMX) in tan, Neighborhood Transition (VHNT) in yellow, and Escarpment Transition (VHET) in light blue. Transportation features include bikeways (yellow stars), streets (orange dots), and intersections (green circles). The map also shows the Volcano Heights SDP Boundary and the Volcano Heights (VH) Zones. A legend, scale bar, and north arrow are included.

LEGEND

- Full intersection
- Right-in / Right-out Intersection
- Recognized by Future Albuquerque Area Bikeways and Streets (FAABS) Access Control Policy as of March 2012

Volcano Heights SDP Boundary

Volcano Heights (VH) Zones

- Town Center (VHTC)
- Regional Center (VHRC)
- Village Center (VHVC)
- Mixed-Use (VHMX)
- Neighborhood Transition (VHNT)
- Escarpment Transition (VHET)
- Parcels

* 1/4 mile = 1320 feet
1/3 mile = 1760 feet
1/2 mile = 2640 feet

EVALUATION CRITERIA

This assessment will compare the four schemes based on the following criteria:

- Intersection Level of Service (LOS): the State Access Manual identified level of service D or better as acceptable.
- Average Travel Speed: Using Synchro analysis software, average travel speed was estimated under each of the four schemes, with a comparison provided.

TRAFFIC VOLUMES

Existing Volumes

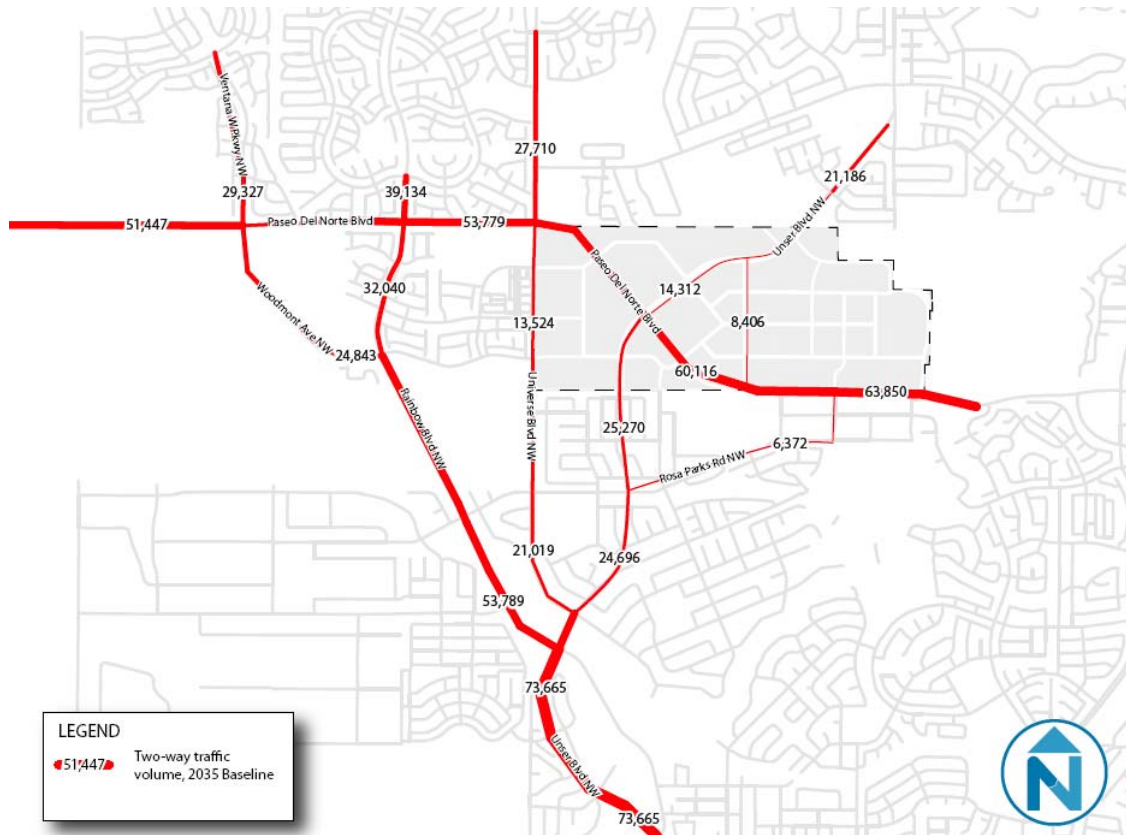
Based on May 2013 traffic count data:

- Paseo del Norte currently carries approximately 16,000 daily vehicles (west of Kimmick).
- Unser Boulevard currently carries approximately 11,000 daily vehicles (south of Paradise Drive and north of Paseo del Norte).

Regional Growth

MRCOG Year 2035 model predicts the following future growth:

- Paseo del Norte will carry 53,000 to 63,000 daily vehicles (approximately 5,000 during the PM Peak Hour)
- Unser Boulevard will carry 14,000 to 25,000 daily vehicles (approximately 2,500 during the PM Peak Hour).
- The variance in volumes between different segments partially reflects turning movements on/off intersecting arterials, as well as local trips patterns.
- Volcano Heights will attract a large portion of trips:
 - **Approximately 5,000 in & out to trips to/from Volcano Heights during the PM Peak Hour**
 - Based on this forecast: **Approximately 40 percent of vehicles approaching on Paseo del Norte and Unser will be trips beginning or ending at Volcano Heights.**
 - **Therefore: Travel-time goals may need to be balanced with site-access goals, in that Volcano Heights will serve as a key destination, or “regional center.” Inherent in the State Access Manual standards is the function of Principal Arterials: to provide access to and between major centers.**



Trips to/from Volcano Heights

Unlike the existing zoning, the land use strategy in the 2012 VHSDP allows mixed-use development, with residences and services within walking or biking distance of each other. This development is intended to serve new residents, nearby residents, as well as regional markets. VHSDP development assumptions for Year 2035 were based on the allowable land uses, as described in the VHSDP, and a market assessment of future demand for office and retail space in the area within the specified timeframe. Based on that assessment, City Planning staff provided the following forecast of Year 2035 land uses:

- 2 million square feet of commercial space including:
 - 1.2 million square feet of office space
 - 800,000 square feet of retail space (mix of regional-serving, local-serving and specialty retail uses)
- 4,769 residential dwelling units consisting of:
 - 4,114 multi-family dwellings
 - 364 single-family detached dwellings
 - 291 single-family attached (rowhouse, townhouse, or duplex) dwellings

Sector Plan Traffic Generation

The steps undertaken to provide a preliminary vehicle trip forecast for proposed Year 2035 land uses under the VHSDP are described below.

Step 1: ITE Baseline Trip Generation

The baseline forecast of trips that would be generated by the Year 2035 land uses within the VHSDP boundaries was derived using trip generation rates for the key land use types provided by the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 8th edition.

ITE trip generation rates are based on studies of suburban locations, typically “single-use” developments. Such developments typically are located in areas with minimal public transit service and minimal provisions for pedestrian and bicycle circulation. Land uses selected for observation also generally provide separate, free parking facilities for each land use, and nearly all trips to and from such sites are made via private motor vehicle.

ITE chose to collect data at single-use suburban sites precisely to provide a “baseline” forecast of traffic generation that should be adjusted based on local characteristics and site-specific factors, such as:

- Rates of transit ridership and service
- Provisions for pedestrian and bicycle circulation
- Density and mix of land uses, particularly relevant to mixed-use developments, as envisioned in the VHSDP, in which a portion of trips will occur internally, between the various land uses within the sector

Since the baseline trip generation rates for individual land uses are based on data collected at low density development with separated land uses and minimal transit, walking, or biking, ITE cautions that trip generation analysis using ITE rates as a “baseline” must take into account land use and transportation alternatives from the local context in order to be accurate.

The methodology for applying site-specific trip generation factors based on the proposed mix of land uses and proposed street network configuration is described in Steps 2, 3 and 4.

Step 2: Baseline Trip Adjustment to Avoid Double-counting of Internal Trips

Adjustment to account for internal trips to/from retail uses that would otherwise be double-counted, based on ITE internal trip capture data for retail uses (to/from office, residential and other retail uses) in mixed-use developments.

Step 3: Baseline Trip Adjustment to Account for Retail Pass-by Trips

A significant portion of retail trips are “pass-by” trips. Pass-by trip rates are often between 20 and 50 percent of retail trips, generally higher for smaller retail establishments.

This forecast applied a PM Peak Hour pass-by rate of 25 percent for PM Peak derived from ITE logarithm for Shopping Centers applied to the anticipated size of regional retail sites within VH (determined at the block level). Daily pass-by rate conservatively estimated at 15 percent.

Step 4: Bicycle & Walking Trips

The proposed development will have a relatively dense street network, a mix of land uses in close proximity, and street designs that incorporate facilities for bicycle, pedestrian and transit users. Residents and employees living and working in Volcano Heights will have some transportation choice - where different modes may be more convenient at different times, depending on the trip.

Since the ITE average trip generation rates are based on observations made at single-use sites, the ITE average rates will not accurately predict the level of trip generation that would result from the proposed mix of uses at Volcano Heights. Therefore, consistent with the ITE recommended practice, the ITE average rates were adjusted based on local conditions, including the proposed mix of land use types.

To estimate the effect of the proposed mix-use development pattern on trip generation, Nelson\Nygaard utilized the URBEMIS methodology. URBEMIS is a program developed for the California Air Resources Board to calculate vehicle trips and resulting emissions, resulting from new development.

- URBEMIS was developed to more accurately reflect the level of vehicle trip generation resulting from new development, by providing formulas based on specific site characteristics. URBEMIS calculates trip generation rates using the ITE average trip generation rates as a “base.”
- The URBEMIS methodology is designed to offer a useful comparison of the difference in trip generation that can be expected when locating high density development in mixed-use high-density areas with alternative transportation modes available and/or transportation demand management programs in place.

The URBEMIS method employs standard methodologies but provides the opportunity to adjust ITE average rates to quantify the impact of a development's location, physical characteristics and any demand management programs. In this way, it provides an opportunity to fairly evaluate developments that minimize their transportation impact, for example, through locating close to transit or providing high densities and a mix of uses.

Area Inputs

In addition to requiring the transportation modeler to input the basic land use components of the proposed project (i.e. the number of square feet of each land use), URBEMIS also factors in other area-specific characteristics to determine accurate trip rates. The number of trips generated by a development depends not only on the characteristics of the project itself, but also on the nature of the surrounding area. For example, neighborhood characteristics such as a good balance of housing and jobs, the presence of frequent transit service, and a highly-connected, walkable street network are strongly associated with lower vehicle trip rates. High-density housing added to an existing central city neighborhood, where many shops, services and transit lines already exist, will normally generate fewer trips than the same housing located close to a freeway interchange and surrounded by only low-density housing subdivisions. For this reason, URBEMIS requires data about the area within approximately a half-mile radius from the center of the project, or for the entire project area, whichever is larger. Figure 1-10 shows the key project area characteristics applicable to the URBEMIS methodology.

Area Characteristics Input to URBEMIS Model

Factors
Number of housing units within ½ mile radius
Number of jobs located within ½ mile radius
Local serving retail within ½ mile radius
Transit service
Intersection density within ½ mile radius*
Sidewalk completeness within ½ mile radius
Bike lane completeness within ½ mile radius

Note: * Calculated from proposed street network, based on the number line segment terminations, or each "valence". Intersections have a valence of 3 or higher - a valence of 3 is a "T" intersection, 4 is a four-way intersection, and so on.

It is important to note that the above characteristics do not incorporate any transportation demand management (TDM) measures, such as specific programs, incentives or strategies to reduce trip generation. Rather, they are based entirely on the mix and density of land uses, and the proposed design of the road network.

Step 5: Transit Trip Forecast

For planning purposes, a preliminary "back-of-the-envelope" estimate of potential transit ridership was incorporated into this forecast, which assumed a relatively modest level of transit ridership, 5% of home to work trips for both residential and non-residential land uses, plus daily "non-work" transit trips estimated at 50% of daily work trips by transit. Higher levels of transit ridership are ultimately feasible depending on the ultimate level of transit service and transit incentives.

Step 6: Vehicle Trip Forecast

The resulting vehicle trip forecast is shown on Figure 1-11 for Volcano Heights, while a comparative trip generation forecast based on Conceptual Plan land uses, based on the same methodology, is shown on Figure 1-12.

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City of Albuquerque Planning Department – August 7, 2012

Trip Generation Forecast: Volcano Heights Sector Development Plan (Year 2035)

Land Use	No. Units	Trip Generation Rate (see note 1)				Total Trips		
		Daily	AM Peak	PM Peak	Units	Daily	AM Peak	PM Peak
Residential								
Detached	364 (units)	9.57	0.77	1.02	/unit	3,483	280	504
Attached	291 (units)	5.81	0.44	0.52	/unit	1,691	128	151
Multifamily	4,114 (units)	6.65	0.51	0.62	/unit	27,360	2,098	2,551
Hotel	53,600 (ft ²)	8.92	0.64	0.74	/occupied room	797	57	66
Office	1,180,135 (ft ²)	11.01	1.55	1.49	/1,000 ft ²	12,993	1,829	1,758
Retail								
Regional Retail	326,700 (ft ²)	42.94	1.95	7.70	/1,000 ft ²	14,028	638	2,515
Specialty Retail	322,198 (ft ²)	44.32	6.84	5.02	/1,000 ft ²	14,280	2,204	1,617
Local Retail	170,600 (ft ²)	42.94	3.72	12.92	/1,000 ft ²	7,326	635	2,205
Internal Trip Adjustment (see note 2)		-19%	-15%	-20%		-15,679	-1,181	-2,218
Retail Pass-by Trips (see note 3)		-15%	-15%	-25%		-5,345	-522	-1,584
Base Trip Subtotal (VH Sector Development Plan)						60,935	6,168	7,565
Walk & Bicycle Trips (see note 4)		15%	14%	20%		9,070	836	1,550
Transit Trips (see note 5)		3%	5%	4%		2,000	300	300
Total Vehicle Trips Generated						49,865	5,032	5,715
Internal Vehicle Trips (see note 6)		13%	7%	11%		6,509	330	653
External Vehicle Trips (see note 7)		87%	93%	89%		43,356	4,702	5,062
Notes:								
(1) Base trip rates from ITE Trip Generation, 8th Edition. Peak hour trips rates shown for Regional Retail and Local Retail based on fitted curve logarithm applied at block level.								
(2) Adjustment to account for internal trips to/from retail uses that would otherwise be double-counted, based on ITE internal trip capture data for retail uses (to/from office, residential and other retail uses) in mixed-use developments.								
(3) Pass-by rate of 25 percent for PM Peak derived from ITE logarithm for Shopping Centers (while local and specialty retail uses often have higher pass-by rates). Daily pass-by rate conservatively estimated at 15 percent.								
(4) Mode shift for internal trips based on proposed density, mix of uses, block layout, bicycle and pedestrian facilities								
(5) Based on preliminary "back-of-the-envelope" estimate of potential transit ridership. Assumed 5% of home to work trips for both residential and non-residential land uses would occur via transit plus estimated "non-work" transit trips at 50% of								
(6) Total Vehicle Trips derived by subtracting walk & bicycle trips (see note 4) and transit trips (see note 5) from Base Trip Subtotal.								
(7) Derived from estimated internal trips (see note 2), subtracting internal walk & bicycle trips (see note 4) and internal transit trips (estimated at 5% of transit ridership).								
(8) Net vehicle trips derived by subtracting internal vehicle trips (see note 6) from total vehicle trips generated.								

INTERSECTION LEVEL OF SERVICE

Tables 1-1 and 1-2 provide a comparison of intersection level of service (LOS) at signalized intersections. As shown:

- **Failing LOS E would be anticipated under Year 2035 PM Peak Hour conditions at Paseo del Norte & Unser and at Paseo del Norte & Kimmick under Scheme B** (the “baseline” scenario with currently allowed full-access intersections and assumed right-in/right-out intersections at least ¼ mile apart).
- **Acceptable LOS D or C would be achieved at all under intersections under Schemes A, C and D**, due to greater dispersal of movements in & out of VH to multiple intersections. (As noted previously: 40 percent of trips on Paseo del Norte and Unser will be to/from VH land uses).

The LOS analysis was conducted using SYNCHRO 8 software, which evaluates delay taking into account upstream/downstream signal coordination. So for instance: the arrival pattern of traffic platoons (at specific points in each signal cycle) has an effect on average delay.

SIGNAL PROGRESSION & CORRIDOR TRAVEL TIMES

Appendix B provides signal phasing reports, showing the assumed signal phasing at each intersection with 120-second cycles.

- Shorter cycles, while desirable, would not likely be feasible given the size of the intersections, lengthy pedestrian crossing distances (and required crossing times), and conflicting movements (i.e., left-turn phases).

Tables 2-1 and 2-2 provide a comparison of average travel speeds on Paseo del Norte and Unser with the assumed signal progression plan. (Also see Appendix C, Arterial Level of Service reports).

As shown:

- Baseline average travel speed (under Scheme B) would be 25 mph on Unser, and 23 on Paseo del Norte, based on Year 2035 Peak Hour volumes.
- **The net change in travel speed, for “through trips”, under Schemes A, C and D would be approximately 3 mph on Unser, and 1 mph on Paseo del Norte.**
- Based on the predicted net change: the added travel time for through trips would be approximately 15 seconds on both Paseo del Norte (1.5 miles) and Unser (1 mile).
- However, net travel time for trips to/from Volcano Heights would be **reduced** significantly due to the provision of direct access to future employment, services and housing (serving up to 40 percent of trips on Paseo del Norte & Unser).

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City of Albuquerque Planning Department – June 4, 2012

Table 1-1 Level of Service Comparison: Schemes A, B, and C

Year 2035 Intersection Level of Service (LOS) PM Peak Hour	Scheme A: VHSDP		Scheme B: Policy		Scheme C: Compromise	
	LOS	Avg Delay (seconds)	LOS	Avg Delay (seconds)	LOS	Avg Delay (seconds)
<i>Paseo del Norte intersections</i>						
Universe	C	25	C	25	C	25
Loop Rd -- WEST (proposed –1500' west of Unser)	C	27			C	27
Unser	D	40	E	58	D	40
Avenida de Jeimito + Loop Rd East (proposed – 1186' to 1500' east of Unser)	C	34			C	34
Kimmick Rd	C	34	E	57	C	34
<i>Unser Blvd intersections</i>						
Loop Road – South Intersection (proposed 1000' to 1700' south of Paseo del Norte)	B	16			B	16
Paseo del Norte	D	40	E	58	D	40
Loop Road – North Intersection (proposed 1400' north of Unser)	B	16			B	16
Transit Blvd (2700' north of Paseo del Norte)	C	24	C	28	C	27
Note: Bold indicates failing level of service (LOS E or worse).						

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Table 1-2: Intersection Level of Service Comparison: Schemes A (Modified), B and D

Year 2035 Intersection Level of Service (LOS) PM Peak Hour	Scheme A Modified (with T-intersection at Transit Blvd)		Scheme B: Policy		Scheme D: Final City Request	
	LOS	Avg Delay (seconds)	LOS	Avg Delay (seconds)	LOS	Avg Delay (seconds)
<i>Paseo del Norte intersections</i>						
Universe	C	25	C	25	C	25
Loop Rd -- WEST (proposed –1500' west of Unser)	C	27			C	27
Unser	D	40	E	58	D	40
Avenida de Jeimito + Loop Rd East (proposed – 1186' to 1500' east of Unser)	C	31			C	34
Transit Blvd (with signalized T-intersection	B	11				
Kimmick Rd	C	31	E	57	C	34
<i>Unser Blvd intersections</i>						
Loop Road – South Intersection (proposed 1000' to 1700' south of Paseo del Norte)	B	16			B	16
Paseo del Norte	D	40	E	58	D	40
Loop Road – North Intersection (proposed 1400' north of Unser)	B	16			B	16
Transit Blvd (2700' north of Paseo del Norte)	C	24	C	28	C	27
Note: Bold indicates failing level of service (LOS E or worse).						

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Table 2-1: Travel Speed Comparison

Year 2035 Intersection Level of Service (LOS) PM Peak Hour	Scheme A: VHSDP		Scheme B: Policy		Scheme C: Compromise	
	LOS	Avg Delay (seconds)	LOS	Avg Delay (seconds)	LOS	Avg Delay (seconds)
<i>Paseo del Norte intersections</i>						
Universe	C	25	C	25	C	25
Loop Rd -- WEST (proposed –1500' west of Unser)	C	27			C	27
Unser	D	40	E	58	D	40
Avenida de Jeimito + Loop Rd East (proposed – 1186' to 1500' east of Unser)	C	34			C	34
Kimmick Rd	C	34	E	57	C	34
<i>Unser Blvd intersections</i>						
Loop Road – South Intersection (proposed 1000' to 1700' south of Paseo del Norte)	B	16			B	16
Paseo del Norte	D	40	E	58	D	40
Loop Road – North Intersection (proposed 1400' north of Unser)	B	16			B	16
Transit Blvd (2700' north of Paseo del Norte)	C	24	C	28	C	27
Note: Bold indicates failing level of service (LOS E or worse).						

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Table 2-2: Travel Speed Comparison (Schemes A Modified, B, and C)

Travel Speed Comparison Motor Vehicle Trips through Volcano Heights PM Peak Hour (Year 2035 Volumes)	Scheme A + 1T (add signal @ Paseo & Transit Blvd)	Scheme B: Policy	Scheme A + 2T (Signalized T-intersections on Paseo at Transit Blvd & Kimmick Rd)
Paseo del Norte			
Eastbound	25 mph	29 mph	25 mph
Westbound	19 mph	19 mph	20 mph
Overall	22 mph	23 mph	22 mph
Unser Blvd			
Northbound	23 mph	23 mph	23 mph
Southbound	21 mph	28 mph	21 mph
Overall	22 mph	25 mph	22 mph

Appendix A

Synchro Outputs: Travel Speed & Level of Service

Paseo del Norte

Direction	EB	WB	All
Average Speed (mph)	25	20	22
Total Travel Time (hr)	229	297	525
Distance Traveled (mi)	5629	6070	11699
Performance Index	124.5	188.1	312.6

Unser Blvd

Direction	EB	NB	SW	All
Average Speed (mph)	24	23	21	22
Total Travel Time (hr)	11	58	65	134
Distance Traveled (mi)	267	1301	1392	2959
Performance Index	6.6	37.2	43.1	87.0

HCM 2010 Signalized Intersection Summary
11: Universe & Paseo del Norte

Scheme A -- Year 2035 PM
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Volume (veh/h)	150	1832	54	100	2101	250	104	500	50	150	400	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
Arrive On Green	0.06	0.51	0.51	0.05	0.49	0.49	0.09	0.39	0.39	0.06	0.21	0.21
Sat Flow, veh/h	3442	5588	1583	3442	5588	1583	3442	3725	1583	3442	3725	1583
Grp Volume(v), veh/h	150	1832	54	100	2101	250	104	500	50	150	400	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Cycle Q Clear(g_c), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
V/C Ratio(X)	0.71	0.64	0.07	0.64	0.77	0.32	0.65	0.68	0.16	0.71	0.51	0.45
Avail Cap(c_a), veh/h	235	2847	807	235	2730	774	235	1347	572	235	1347	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	18.3	12.7	48.0	21.4	7.7	45.6	28.3	25.5	47.1	35.5	22.3
Incr Delay (d2), s/veh	8.3	0.5	0.0	2.8	1.4	0.7	4.4	1.1	0.2	8.3	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.2	10.6	0.6	1.3	14.0	2.4	1.3	4.4	0.8	2.2	4.5	2.6
Lane Grp Delay (d), s/veh	55.4	18.8	12.8	50.8	22.9	8.5	49.9	29.4	25.7	55.4	36.0	23.2
Lane Grp LOS	E	B	B	D	C	A	D	C	C	E	D	C
Approach Vol, veh/h	2036		2451			654			700			
Approach Delay, s/veh	21.4		22.5			32.4			37.4			
Approach LOS	C		C			C			D			
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	11.3	57.1		9.2	55.0		9.3	25.2		10.8	26.8	
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Max Green Setting (Gmax), s	7.0	50.0		7.0	50.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	6.4	26.5		4.9	33.5		5.0	13.4		6.4	11.7	
Green Ext Time (p_c), s	0.0	14.9		0.0	12.9		0.0	6.9		0.0	7.0	
Intersection Summary												
HCM 2010 Ctrl Delay	25.0											
HCM 2010 LOS	C											
Notes												

HCM 2010 Signalized Intersection Summary
12: Unser Blvd & Paseo del Norte

Scheme A -- Year 2035 PM
6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	1900	109	150	2411	100	150	905	200	150	792	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.05	0.32	0.32	0.09	0.64	0.64
Sat Flow, veh/h	3442	5588	1547	3442	5588	1549	3442	3725	1538	3442	3725	1538
Grp Volume(v), veh/h	100	1900	109	150	2411	100	150	905	200	150	792	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1547	1721	1863	1549	1721	1863	1538	1721	1863	1538
Q Serve(g_s), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Cycle Q Clear(g_c), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
V/C Ratio(X)	0.65	0.86	0.18	0.72	1.04	0.14	0.30	0.76	0.34	0.39	0.67	0.27
Avail Cap(c_a), veh/h	304	2222	615	304	2311	715	579	1218	599	468	1218	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.62	0.62	0.62	0.39	0.39	0.39	0.72	0.72	0.72	0.92	0.92	0.92
Uniform Delay (d), s/veh	53.2	31.1	22.1	52.2	33.2	17.6	25.1	34.8	25.1	25.7	16.9	13.1
Incr Delay (d2), s/veh	2.8	2.9	0.4	1.8	25.1	0.2	0.2	2.1	0.2	0.6	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	16.4	2.0	2.2	26.3	1.5	1.4	11.8	3.9	1.3	4.7	1.5
Lane Grp Delay (d), s/veh	55.9	34.0	22.5	54.0	58.3	17.8	25.3	36.9	25.4	26.3	18.1	13.3
Lane Grp LOS	E	C	C	D	F	B	C	D	C	C	B	B
Approach Vol, veh/h		2109			2661			1255			1092	
Approach Delay, s/veh		34.4			56.6			33.7			18.6	
Approach LOS		C			E			C			B	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	10.1	50.0		11.9	51.8		10.3	41.0		10.3	41.0	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s	10.0	45.0		10.0	45.0		8.0	37.0		8.0	37.0	
Max Q Clear Time (g_c+I1), s	5.2	37.1		6.8	48.8		5.3	26.8		5.3	17.3	
Green Ext Time (p_c), s	0.1	7.8		0.1	0.0		0.1	7.5		0.1	12.2	
Intersection Summary												
HCM 2010 Ctrl Delay			40.1									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
13: Kimmick Rd & Paseo del Norte

Scheme A -- Year 2035 PM
6/1/2013

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Volume (veh/h)	177	1968	100	200	2456	286	141	150	193	150	150	172		
Number	7	4	14	3	8	18	5	2	12	1	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98		
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	186.3	186.3	186.3	186.3		
Lanes	2	3	1	2	3	1	1	1	1	2	1	1		
Cap, veh/h	246	2501	702	270	2540	741	326	429	357	631	429	357		
Arrive On Green	0.07	0.45	0.45	0.08	0.45	0.45	0.05	0.23	0.23	0.05	0.23	0.23		
Sat Flow, veh/h	3442	5588	1567	3442	5588	1630	1774	1863	1552	3442	1863	1552		
Grp Volume(v), veh/h	177	1968	100	200	2456	286	141	150	193	150	150	172		
Grp Sat Flow(s),veh/h/ln	1721	1863	1567	1721	1863	1630	1774	1863	1552	1721	1863	1552		
Q Serve(g_s), s	5.2	30.8	3.9	5.8	43.8	11.9	5.0	6.9	11.2	3.4	6.9	9.8		
Cycle Q Clear(g_c), s	5.2	30.8	3.9	5.8	43.8	11.9	5.0	6.9	11.2	3.4	6.9	9.8		
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h	246	2501	702	270	2540	741	326	429	357	631	429	357		
V/C Ratio(X)	0.72	0.79	0.14	0.74	0.97	0.39	0.43	0.35	0.54	0.24	0.35	0.48		
Avail Cap(c_a), veh/h	403	2508	704	403	2540	741	326	672	560	631	672	560		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	46.6	24.1	16.7	46.2	27.2	18.5	30.5	33.0	34.7	28.1	33.0	34.2		
Incr Delay (d2), s/veh	3.9	2.6	0.4	4.0	11.7	1.5	0.9	0.5	1.3	0.2	0.5	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile Back of Q (50%), veh/ln	2.4	14.1	1.5	2.7	21.6	4.8	0.8	3.3	4.4	1.5	3.3	3.8		
Lane Grp Delay (d), s/veh	50.5	26.7	17.1	50.2	38.9	20.0	31.5	33.5	36.0	28.3	33.5	35.2		
Lane Grp LOS	D	C	B	D	D	C	C	C	D	C	C	D		
Approach Vol, veh/h	2245				2942				484		472			
Approach Delay, s/veh	28.2				37.8				33.9		32.5			
Approach LOS	C				D				C		C			
Timer														
Assigned Phs	7	4			3	8			5	2			1	6
Phs Duration (G+Y+Rc), s	12.3	50.9			13.0	51.6			10.0	28.6			10.0	28.6
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0			5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	12.0	46.0			12.0	46.0			5.0	37.0			5.0	37.0
Max Q Clear Time (g_c+I1), s	7.2	32.8			7.8	45.8			7.0	13.2			5.4	11.8
Green Ext Time (p_c), s	0.2	13.1			0.2	0.2			0.0	3.1			0.0	3.1
Intersection Summary														
HCM 2010 Ctrl Delay			33.6											
HCM 2010 LOS			C											
Notes														

HCM 2010 Signalized Intersection Summary
14: Transit Blvd & Unser Blvd

Scheme A -- Year 2035 PM
6/1/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑
Volume (veh/h)	999	100	182	810	175	309
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	2	2	1	1
Cap, veh/h	1693	708	252	2134	596	532
Arrive On Green	0.45	0.45	0.07	0.57	0.34	0.34
Sat Flow, veh/h	3725	1557	3442	3725	1774	1583
Grp Volume(v), veh/h	999	100	182	810	175	309
Grp Sat Flow(s),veh/h/ln	1863	1557	1721	1863	1774	1583
Q Serve(g_s), s	22.0	4.1	5.7	13.1	8.0	17.7
Cycle Q Clear(g_c), s	22.0	4.1	5.7	13.1	8.0	17.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1693	708	252	2134	596	532
V/C Ratio(X)	0.59	0.14	0.72	0.38	0.29	0.58
Avail Cap(c_a), veh/h	1693	708	563	2134	596	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	17.5	49.9	12.8	26.9	30.1
Incr Delay (d2), s/veh	1.5	0.4	3.9	0.1	1.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	10.2	1.6	2.6	5.4	3.8	7.5
Lane Grp Delay (d), s/veh	23.9	17.9	53.8	12.9	28.1	34.7
Lane Grp LOS	C	B	D	B	C	C
Approach Vol, veh/h	1099			992	484	
Approach Delay, s/veh	23.4			20.4	32.3	
Approach LOS	C			C	C	
Timer						
Assigned Phs	4		3	8		
Phs Duration (G+Y+Rc), s	55.0		13.0	68.0		
Change Period (Y+Rc), s	5.0		5.0	5.0		
Max Green Setting (Gmax), s	50.0		18.0	50.0		
Max Q Clear Time (g_c+I1), s	24.0		7.7	15.1		
Green Ext Time (p_c), s	14.2		0.4	16.5		
Intersection Summary						
HCM 2010 Ctrl Delay			23.9			
HCM 2010 LOS			C			
Notes						

HCM 2010 Signalized Intersection Summary
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme A -- Year 2035 PM

6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	114	100	246	133	100	137	131	1730	172	262	2200	250
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		0.98	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	193.7
Lanes	1	1	1	1	1	1	1	3	1	1	3	1
Cap, veh/h	312	490	407	289	490	407	169	2823	815	174	2837	826
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.10	0.51	0.51	0.20	1.00	1.00
Sat Flow, veh/h	1121	1863	1547	1017	1863	1547	1774	5588	1614	1774	5588	1627
Grp Volume(v), veh/h	114	100	246	133	100	137	131	1730	172	262	2200	250
Grp Sat Flow(s),veh/h/ln	1121	1863	1547	1017	1863	1547	1774	1863	1614	1774	1863	1627
Q Serve(g_s), s	9.9	4.7	15.6	13.1	4.7	8.0	8.1	24.9	6.6	11.0	0.0	0.0
Cycle Q Clear(g_c), s	14.6	4.7	15.6	17.8	4.7	8.0	8.1	24.9	6.6	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	490	407	289	490	407	169	2823	815	174	2837	826
V/C Ratio(X)	0.36	0.20	0.60	0.46	0.20	0.34	0.77	0.61	0.21	1.51	0.78	0.30
Avail Cap(c_a), veh/h	387	614	510	357	614	510	174	2837	819	174	2837	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.63	0.63	0.09	0.09	0.09
Uniform Delay (d), s/veh	37.9	32.2	36.2	39.1	32.2	33.4	49.6	19.9	15.4	45.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.2	1.4	1.1	0.2	0.5	12.4	0.2	0.1	231.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.9	2.2	6.1	3.5	2.2	3.1	4.2	11.0	2.5	15.5	0.1	0.0
Lane Grp Delay (d), s/veh	38.6	32.4	37.7	40.3	32.4	33.9	62.0	20.1	15.5	276.1	0.2	0.1
Lane Grp LOS	D	C	D	D	C	C	E	C	B	F	A	A
Approach Vol, veh/h		460			370			2033			2712	
Approach Delay, s/veh		36.8			35.8			22.5			26.8	
Approach LOS		D			D			C			C	
Timer												
Assigned Phs		2			6		7	4		3	8	
Phs Duration (G+Y+Rc), s		34.5			34.5		15.7	61.7		16.0	62.0	
Change Period (Y+Rc), s		5.0			5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s		37.0			37.0		11.0	57.0		11.0	57.0	
Max Q Clear Time (g_c+I1), s		17.6			19.8		10.1	26.9		13.0	2.0	
Green Ext Time (p_c), s		3.2			3.1		0.8	16.6		0.0	31.6	
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
102: Unser Blvd & Loop Rd N

Scheme A -- Year 2035 PM

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	100	150	150	100	150	131	850	125	100	791	63
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	261	403	343	261	403	343	458	2568	1091	411	2568	1091
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1125	1863	1583	1125	1863	1583	644	3725	1583	574	3725	1583
Grp Volume(v), veh/h	100	100	150	150	100	150	131	850	125	100	791	63
Grp Sat Flow(s),veh/h/ln	1125	1863	1583	1125	1863	1583	644	1863	1583	574	1863	1583
Q Serve(g_s), s	8.6	4.7	8.7	13.5	4.7	8.7	10.7	9.7	2.8	9.0	8.9	1.4
Cycle Q Clear(g_c), s	13.3	4.7	8.7	18.2	4.7	8.7	19.6	9.7	2.8	18.7	8.9	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	403	343	261	403	343	458	2568	1091	411	2568	1091
V/C Ratio(X)	0.38	0.25	0.44	0.57	0.25	0.44	0.29	0.33	0.11	0.24	0.31	0.06
Avail Cap(c_a), veh/h	411	651	553	411	651	553	458	2568	1091	411	2568	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	34.4	35.9	41.9	34.4	35.9	10.4	6.6	5.6	10.4	6.5	5.3
Incr Delay (d2), s/veh	0.9	0.3	0.9	2.0	0.3	0.9	0.8	0.2	0.1	1.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.5	2.3	3.5	4.0	2.3	3.5	1.6	3.7	0.9	1.3	3.4	0.5
Lane Grp Delay (d), s/veh	40.8	34.7	36.8	43.9	34.7	36.8	11.2	6.8	5.7	11.8	6.8	5.4
Lane Grp LOS	D	C	D	D	C	D	B	A	A	B	A	A
Approach Vol, veh/h		350			400			1106			954	
Approach Delay, s/veh		37.3			38.9			7.2			7.2	
Approach LOS		D			D			A			A	
Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		27.9			27.9			78.0			78.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		37.0			37.0			73.0			73.0	
Max Q Clear Time (g_c+I1), s		15.3			20.2			21.6			20.7	
Green Ext Time (p_c), s		2.9			2.7			19.0			19.1	
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
103: Avenita de Jaimito/Loop Rd East & Paseo del Norte

Scheme A -- Year 2035 PM

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	200	1800	250	262	2233	343	135	100	272	178	100	293
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	167.6	167.6	174.4	167.6	167.6	174.4	167.6	167.6	167.6	167.6	167.6	167.6
Lanes	2	3	1	2	3	1	1	1	1	1	1	1
Cap, veh/h	316	2386	694	314	2384	693	282	495	412	286	495	412
Arrive On Green	0.10	0.47	0.47	0.10	0.47	0.47	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	3097	5029	1463	3097	5029	1463	879	1676	1396	895	1676	1396
Grp Volume(v), veh/h	200	1800	250	262	2233	343	135	100	272	178	100	293
Grp Sat Flow(s),veh/h/ln	1549	1676	1463	1549	1676	1463	879	1676	1396	895	1676	1396
Q Serve(g_s), s	7.2	34.0	12.6	9.6	48.8	18.7	15.8	5.2	19.8	21.6	5.2	21.7
Cycle Q Clear(g_c), s	7.2	34.0	12.6	9.6	48.8	18.7	21.0	5.2	19.8	26.8	5.2	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	2386	694	314	2384	693	282	495	412	286	495	412
V/C Ratio(X)	0.63	0.75	0.36	0.83	0.94	0.49	0.48	0.20	0.66	0.62	0.20	0.71
Avail Cap(c_a), veh/h	347	2386	694	347	2384	693	303	534	445	307	534	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	25.0	19.3	51.2	28.9	21.0	38.5	30.7	35.8	40.7	30.7	36.5
Incr Delay (d2), s/veh	1.1	0.8	0.5	14.9	8.6	2.5	1.3	0.2	3.3	3.4	0.2	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.9	13.5	4.4	4.4	21.5	7.1	3.7	2.2	7.2	5.3	2.2	8.0
Lane Grp Delay (d), s/veh	51.1	25.7	19.8	66.1	37.5	23.5	39.8	30.9	39.1	44.2	30.9	41.3
Lane Grp LOS	D	C	B	E	D	C	D	C	D	D	C	D
Approach Vol, veh/h	2250				2838				507		571	
Approach Delay, s/veh	27.3				38.4				37.6		40.4	
Approach LOS	C				D				D		D	
Timer												
Assigned Phs	7	4	3		8			2			6	
Phs Duration (G+Y+Rc), s	16.8	60.1	16.8		60.0			39.2			39.2	
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0			5.0			5.0	
Max Green Setting (Gmax), s	13.0	55.0	13.0		55.0			37.0			37.0	
Max Q Clear Time (g_c+I1), s	9.2	36.0	11.6		50.8			23.0			28.8	
Green Ext Time (p_c), s	2.6	13.4	0.1		3.9			3.7			2.9	
Intersection Summary												
HCM 2010 Ctrl Delay			34.5									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
104: Unser Blvd & Loop Rd W/Avenida de Jaimito

Scheme A -- Year 2035 PM

6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	100	180	180	100	100	121	1105	202	50	800	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1178	1863	1583	1095	1863	1583	561	3725	1583	419	3725	1583
Grp Volume(v), veh/h	50	100	180	180	100	100	121	1105	202	50	800	200
Grp Sat Flow(s),veh/h/ln	1178	1863	1583	1095	1863	1583	561	1863	1583	419	1863	1583
Q Serve(g_s), s	3.0	3.6	8.1	13.1	3.6	4.3	15.1	18.1	6.3	8.3	11.8	6.2
Cycle Q Clear(g_c), s	6.5	3.6	8.1	16.7	3.6	4.3	26.8	18.1	6.3	26.4	11.8	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
V/C Ratio(X)	0.11	0.16	0.33	0.44	0.16	0.18	0.38	0.54	0.23	0.22	0.39	0.23
Avail Cap(c_a), veh/h	435	639	544	410	639	544	456	2984	1268	332	2984	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46	0.66	0.66	0.66
Uniform Delay (d), s/veh	24.2	21.9	23.4	27.7	21.9	22.1	19.9	13.7	11.0	22.1	12.2	11.0
Incr Delay (d2), s/veh	0.5	0.5	1.6	3.4	0.5	0.7	0.4	0.1	0.1	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	1.8	3.4	3.9	1.8	1.8	2.0	7.4	2.1	0.9	4.8	2.1
Lane Grp Delay (d), s/veh	24.7	22.4	25.0	31.1	22.4	22.9	20.2	13.8	11.1	22.4	12.3	11.1
Lane Grp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		330			380			1428			1050	
Approach Delay, s/veh		24.2			26.6			13.9			12.6	
Approach LOS		C			C			B			B	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		38.0			38.0			58.1			58.1	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		33.0			33.0			77.0			77.0	
Max Q Clear Time (g_c+I1), s		10.1			18.7			28.8			28.4	
Green Ext Time (p_c), s		2.8			2.5			24.3			24.4	
Intersection Summary												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								
Notes												

Paseo del Norte

Direction	EB	WB	All
Average Speed (mph)	29	19	23
Total Travel Time (hr)	190	332	522
Distance Traveled (mi)	5591	6155	11746
Performance Index	85.1	221.8	306.9

Unser Blvd

Direction	EB	NB	SW	All
Average Speed (mph)	18	24	28	25
Total Travel Time (hr)	11	57	65	133
Distance Traveled (mi)	204	1361	1798	3363
Performance Index	8.4	37.0	34.9	80.3

HCM 2010 Signalized Intersection Summary
11: Universe & Paseo del Norte

Scheme B -- Year 2035 PM
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	1832	54	100	2101	250	104	500	50	150	400	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
Arrive On Green	0.06	0.51	0.51	0.05	0.49	0.49	0.09	0.39	0.39	0.06	0.21	0.21
Sat Flow, veh/h	3442	5588	1583	3442	5588	1583	3442	3725	1583	3442	3725	1583
Grp Volume(v), veh/h	150	1832	54	100	2101	250	104	500	50	150	400	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Cycle Q Clear(g_c), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
V/C Ratio(X)	0.71	0.64	0.07	0.64	0.77	0.32	0.65	0.68	0.16	0.71	0.51	0.45
Avail Cap(c_a), veh/h	235	2847	807	235	2730	774	235	1347	572	235	1347	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	18.3	12.7	48.0	21.4	7.7	45.6	28.3	25.5	47.1	35.5	22.3
Incr Delay (d2), s/veh	8.3	0.5	0.0	4.2	2.2	1.1	4.4	1.1	0.2	8.3	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.2	10.6	0.6	1.4	14.2	2.5	1.3	4.4	0.8	2.2	4.5	2.6
Lane Grp Delay (d), s/veh	55.4	18.8	12.8	52.2	23.6	8.8	49.9	29.4	25.7	55.4	36.0	23.2
Lane Grp LOS	E	B	B	D	C	A	D	C	C	E	D	C
Approach Vol, veh/h		2036			2451			654			700	
Approach Delay, s/veh		21.4			23.3			32.4			37.4	
Approach LOS		C			C			C			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	11.3	57.1		9.2	55.0		9.3	25.2		10.8	26.8	
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Max Green Setting (Gmax), s	7.0	50.0		7.0	50.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	6.4	26.5		4.9	33.5		5.0	13.4		6.4	11.7	
Green Ext Time (p_c), s	0.0	14.9		0.0	12.9		0.0	6.9		0.0	7.0	
Intersection Summary												
HCM 2010 Ctrl Delay			25.3									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
12: Unser Blvd & Paseo del Norte

Scheme B -- Year 2035 PM

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEU	NEL	NET	NER	SWL	SWT
Lane Configurations	 	  		 	  			 	 		 	 
Volume (veh/h)	281	1725	109	412	2264	100	121	242	814	250	217	658
Number	7	4	14	3	8	18		5	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98		0.99		0.97	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3		186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1		2	2	1	2	2
Cap, veh/h	343	1901	524	439	2056	664		536	1123	665	440	1107
Arrive On Green	0.10	0.34	0.34	0.13	0.37	0.37		0.07	0.30	0.30	0.06	0.30
Sat Flow, veh/h	3442	5588	1541	3442	5588	1545		3442	3725	1536	3442	3725
Grp Volume(v), veh/h	281	1725	109	412	2264	100		242	814	250	217	658
Grp Sat Flow(s),veh/h/ln	1721	1863	1541	1721	1863	1545		1721	1863	1536	1721	1863
Q Serve(g_s), s	9.4	34.7	5.9	14.0	43.3	4.7		5.6	23.0	13.1	5.1	17.7
Cycle Q Clear(g_c), s	9.4	34.7	5.9	14.0	43.3	4.7		5.6	23.0	13.1	5.1	17.7
Prop In Lane	1.00		1.00	1.00		1.00		1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	343	1901	524	439	2056	664		536	1123	665	440	1107
V/C Ratio(X)	0.82	0.91	0.21	0.94	1.10	0.15		0.45	0.72	0.38	0.49	0.59
Avail Cap(c_a), veh/h	439	1901	524	439	2056	664		546	1172	685	465	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	37.0	27.6	50.8	37.2	20.5		27.1	36.7	22.9	28.6	35.3
Incr Delay (d2), s/veh	9.3	7.8	0.9	28.1	53.6	0.5		0.6	2.2	0.4	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	4.5	17.2	2.3	7.8	30.0	1.8		2.4	11.0	4.9	2.2	8.2
Lane Grp Delay (d), s/veh	61.1	44.9	28.5	78.9	90.8	21.0		27.7	38.9	23.2	29.5	36.0
Lane Grp LOS	E	D	C	E	F	C		C	D	C	C	D
Approach Vol, veh/h		2115			2776				1306			1025
Approach Delay, s/veh		46.2			86.5				33.8			32.9
Approach LOS		D			F				C			C
Timer												
Assigned Phs	7	4		3	8			5	2		1	6
Phs Duration (G+Y+Rc), s	16.7	45.0		20.0	48.3			12.7	40.5		12.1	39.9
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Max Green Setting (Gmax), s	15.0	40.0		15.0	40.0			8.0	37.0		8.0	37.0
Max Q Clear Time (g_c+I1), s	11.4	36.7		16.0	45.3			7.6	25.0		7.1	19.7
Green Ext Time (p_c), s	0.3	3.3		0.0	0.0			0.0	7.9		0.1	10.1
Intersection Summary												
HCM 2010 Ctrl Delay			57.6									
HCM 2010 LOS			E									
Notes												

Movement	SWR
Lane Configurations	
Volume (veh/h)	150
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	0.97
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	614
Arrive On Green	0.30
Sat Flow, veh/h	1535
Grp Volume(v), veh/h	150
Grp Sat Flow(s),veh/h/ln	1535
Q Serve(g_s), s	7.7
Cycle Q Clear(g_c), s	7.7
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	614
V/C Ratio(X)	0.24
Avail Cap(c_a), veh/h	641
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	23.7
Incr Delay (d2), s/veh	0.2
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	2.8
Lane Grp Delay (d), s/veh	23.9
Lane Grp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	
Assigned Phs	
Phs Duration (G+Y+Rc), s	
Change Period (Y+Rc), s	
Max Green Setting (Gmax), s	
Max Q Clear Time (g_c+l1), s	
Green Ext Time (p_c), s	
Intersection Summary	

HCM 2010 Signalized Intersection Summary
13: Kimmick Rd & Paseo del Norte

Scheme B -- Year 2035 PM
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	377	1640	100	200	2456	286	141	150	293	378	150	172
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	1	1	1	2	1	1
Cap, veh/h	307	2368	664	260	2292	668	379	484	405	697	484	405
Arrive On Green	0.09	0.42	0.42	0.08	0.41	0.41	0.06	0.26	0.26	0.06	0.26	0.26
Sat Flow, veh/h	3442	5588	1567	3442	5588	1629	1774	1863	1556	3442	1863	1556
Grp Volume(v), veh/h	377	1640	100	200	2456	286	141	150	293	378	150	172
Grp Sat Flow(s),veh/h/ln	1721	1863	1567	1721	1863	1629	1774	1863	1556	1721	1863	1556
Q Serve(g_s), s	10.0	26.9	4.4	6.4	46.0	14.1	6.6	7.3	19.3	7.0	7.3	10.3
Cycle Q Clear(g_c), s	10.0	26.9	4.4	6.4	46.0	14.1	6.6	7.3	19.3	7.0	7.3	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	2368	664	260	2292	668	379	484	405	697	484	405
V/C Ratio(X)	1.23	0.69	0.15	0.77	1.07	0.43	0.37	0.31	0.72	0.54	0.31	0.43
Avail Cap(c_a), veh/h	307	2368	664	307	2292	668	379	614	513	697	614	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	26.4	19.9	50.9	33.1	23.7	28.2	33.4	37.8	31.0	33.4	34.5
Incr Delay (d2), s/veh	128.2	1.7	0.5	9.6	41.4	2.0	0.6	0.4	3.7	0.9	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	9.8	12.4	1.7	3.1	29.6	5.9	3.0	3.5	7.8	1.4	3.5	4.0
Lane Grp Delay (d), s/veh	179.3	28.1	20.4	60.5	74.5	25.7	28.9	33.8	41.5	31.9	33.8	35.2
Lane Grp LOS	F	C	C	E	F	C	C	C	D	C	C	D
Approach Vol, veh/h		2117			2942			584			700	
Approach Delay, s/veh		54.6			68.8			36.5			33.1	
Approach LOS		D			E			D			C	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	15.0	52.5		13.5	51.0		12.0	34.2		12.0	34.2	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s	10.0	46.0		10.0	46.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	12.0	28.9		8.4	48.0		8.6	21.3		9.0	12.3	
Green Ext Time (p_c), s	0.0	16.8		0.1	0.0		0.0	3.1		0.0	3.5	
Intersection Summary												
HCM 2010 Ctrl Delay				57.1								
HCM 2010 LOS				E								
Notes												

HCM 2010 Signalized Intersection Summary
14: Transit Blvd & Unser Blvd

Scheme B -- Year 2035 PM

6/1/2013

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (veh/h)	131	899	50	182	810	275	459
Number		4	14	3	8	5	12
Initial Q (Qb), veh		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)			0.98	1.00		1.00	1.00
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln		186.3	186.3	186.3	186.3	186.3	186.3
Lanes		2	1	2	2	1	1
Cap, veh/h		1693	708	252	2134	596	532
Arrive On Green		0.45	0.45	0.07	0.57	0.34	0.34
Sat Flow, veh/h		3725	1557	3442	3725	1774	1583
Grp Volume(v), veh/h		899	50	182	810	275	459
Grp Sat Flow(s),veh/h/ln		1863	1557	1721	1863	1774	1583
Q Serve(g_s), s		19.1	2.0	5.7	13.1	13.4	29.8
Cycle Q Clear(g_c), s		19.1	2.0	5.7	13.1	13.4	29.8
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		1693	708	252	2134	596	532
V/C Ratio(X)		0.53	0.07	0.72	0.38	0.46	0.86
Avail Cap(c_a), veh/h		1693	708	563	2134	596	532
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		21.6	16.9	49.9	12.8	28.7	34.1
Incr Delay (d2), s/veh		1.2	0.2	3.9	0.1	2.6	16.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln		8.8	0.8	2.6	5.4	6.5	13.9
Lane Grp Delay (d), s/veh		22.8	17.1	53.8	12.9	31.2	50.8
Lane Grp LOS		C	B	D	B	C	D
Approach Vol, veh/h		949			992	734	
Approach Delay, s/veh		22.5			20.4	43.5	
Approach LOS		C			C	D	
Timer							
Assigned Phs		4		3	8		
Phs Duration (G+Y+Rc), s		55.0		13.0	68.0		
Change Period (Y+Rc), s		5.0		5.0	5.0		
Max Green Setting (Gmax), s		50.0		18.0	50.0		
Max Q Clear Time (g_c+l1), s		21.1		7.7	15.1		
Green Ext Time (p_c), s		13.8		0.4	15.0		
Intersection Summary							
HCM 2010 Ctrl Delay			27.5				
HCM 2010 LOS			C				
Notes							

Paseo del Norte

Direction	EB	WB	All
Average Speed (mph)	24	20	22
Total Travel Time (hr)	232	315	546
Distance Traveled (mi)	5668	6154	11821
Performance Index	127.6	205.2	332.8

Unser Blvd

Direction	EB	NB	SW	All
Average Speed (mph)	28	22	23	23
Total Travel Time (hr)	9	57	76	143
Distance Traveled (mi)	260	1284	1771	3314
Performance Index	5.0	36.5	46.3	87.9

HCM 2010 Signalized Intersection Summary
11: Universe & Paseo del Norte

Scheme C -- Year 2035 PM
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	1832	54	100	2101	250	104	500	50	150	400	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
Arrive On Green	0.06	0.51	0.51	0.05	0.49	0.49	0.09	0.39	0.39	0.06	0.21	0.21
Sat Flow, veh/h	3442	5588	1583	3442	5588	1583	3442	3725	1583	3442	3725	1583
Grp Volume(v), veh/h	150	1832	54	100	2101	250	104	500	50	150	400	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Cycle Q Clear(g_c), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
V/C Ratio(X)	0.71	0.64	0.07	0.64	0.77	0.32	0.65	0.68	0.16	0.71	0.51	0.45
Avail Cap(c_a), veh/h	235	2847	807	235	2730	774	235	1347	572	235	1347	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	18.3	12.7	48.0	21.4	7.7	45.6	28.3	25.5	47.1	35.5	22.3
Incr Delay (d2), s/veh	8.3	0.5	0.0	2.6	1.3	0.7	4.4	1.1	0.2	8.3	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.2	10.6	0.6	1.3	14.0	2.4	1.3	4.4	0.8	2.2	4.5	2.6
Lane Grp Delay (d), s/veh	55.4	18.8	12.8	50.6	22.8	8.4	49.9	29.4	25.7	55.4	36.0	23.2
Lane Grp LOS	E	B	B	D	C	A	D	C	C	E	D	C
Approach Vol, veh/h		2036			2451			654			700	
Approach Delay, s/veh		21.4			22.4			32.4			37.4	
Approach LOS		C			C			C			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	11.3	57.1		9.2	55.0		9.3	25.2		10.8	26.8	
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Max Green Setting (Gmax), s	7.0	50.0		7.0	50.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	6.4	26.5		4.9	33.5		5.0	13.4		6.4	11.7	
Green Ext Time (p_c), s	0.0	14.9		0.0	12.9		0.0	6.9		0.0	7.0	
Intersection Summary												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
12: Unser Blvd & Paseo del Norte

Scheme C -- Year 2035 PM

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	1900	109	150	2411	100	150	905	200	150	792	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.05	0.32	0.32	0.09	0.64	0.64
Sat Flow, veh/h	3442	5588	1547	3442	5588	1549	3442	3725	1538	3442	3725	1538
Grp Volume(v), veh/h	100	1900	109	150	2411	100	150	905	200	150	792	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1547	1721	1863	1549	1721	1863	1538	1721	1863	1538
Q Serve(g_s), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Cycle Q Clear(g_c), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
V/C Ratio(X)	0.65	0.86	0.18	0.72	1.04	0.14	0.30	0.76	0.34	0.39	0.67	0.27
Avail Cap(c_a), veh/h	304	2222	615	304	2311	715	579	1218	599	468	1218	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.61	0.61	0.61	0.09	0.09	0.09	0.72	0.72	0.72	0.92	0.92	0.92
Uniform Delay (d), s/veh	53.2	31.1	22.1	52.2	33.2	17.6	25.1	34.8	25.1	25.7	16.9	13.1
Incr Delay (d2), s/veh	2.7	2.8	0.4	0.4	21.1	0.0	0.2	2.1	0.2	0.6	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	16.4	2.0	2.1	25.5	1.5	1.4	11.8	3.9	1.3	4.7	1.5
Lane Grp Delay (d), s/veh	55.9	33.9	22.5	52.6	54.3	17.6	25.3	36.9	25.4	26.3	18.1	13.3
Lane Grp LOS	E	C	C	D	F	B	C	D	C	C	B	B
Approach Vol, veh/h		2109			2661			1255			1092	
Approach Delay, s/veh		34.4			52.8			33.7			18.6	
Approach LOS		C			D			C			B	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	10.1	50.0		11.9	51.8		10.3	41.0		10.3	41.0	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s	10.0	45.0		10.0	45.0		8.0	37.0		8.0	37.0	
Max Q Clear Time (g_c+I1), s	5.2	37.1		6.8	48.8		5.3	26.8		5.3	17.3	
Green Ext Time (p_c), s	0.1	7.8		0.1	0.0		0.1	7.5		0.1	12.2	
Intersection Summary												
HCM 2010 Ctrl Delay			38.7									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
13: Kimmick Rd & Paseo del Norte

Scheme C -- Year 2035 PM
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	177	1968	100	200	2456	286	141	150	193	150	150	172
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	1	1	1	2	1	1
Cap, veh/h	243	2469	692	266	2506	731	348	440	367	654	412	343
Arrive On Green	0.07	0.44	0.44	0.08	0.45	0.45	0.07	0.24	0.24	0.05	0.22	0.22
Sat Flow, veh/h	3442	5588	1567	3442	5588	1630	1774	1863	1553	3442	1863	1551
Grp Volume(v), veh/h	177	1968	100	200	2456	286	141	150	193	150	150	172
Grp Sat Flow(s),veh/h/ln	1721	1863	1567	1721	1863	1630	1774	1863	1553	1721	1863	1551
Q Serve(g_s), s	5.2	31.5	4.0	5.9	44.9	12.2	6.2	6.9	11.3	3.4	7.1	10.1
Cycle Q Clear(g_c), s	5.2	31.5	4.0	5.9	44.9	12.2	6.2	6.9	11.3	3.4	7.1	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	2469	692	266	2506	731	348	440	367	654	412	343
V/C Ratio(X)	0.73	0.80	0.14	0.75	0.98	0.39	0.40	0.34	0.53	0.23	0.36	0.50
Avail Cap(c_a), veh/h	331	2475	694	331	2506	731	348	664	553	706	664	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	25.0	17.3	47.0	28.2	19.2	27.8	33.0	34.6	28.8	34.3	35.4
Incr Delay (d2), s/veh	5.2	2.8	0.4	7.3	13.9	1.6	0.8	0.5	1.2	0.2	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.4	14.3	0.1	2.8	23.0	5.0	2.8	3.3	4.4	1.5	3.4	3.9
Lane Grp Delay (d), s/veh	52.5	27.8	17.7	54.3	42.1	20.7	28.5	33.4	35.8	29.0	34.8	36.6
Lane Grp LOS	D	C	B	D	D	C	C	C	D	C	C	D
Approach Vol, veh/h		2245			2942			484			472	
Approach Delay, s/veh		29.3			40.8			32.9			33.6	
Approach LOS		C			D			C			C	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	12.3	50.9		13.0	51.6		12.0	29.5		10.4	28.0	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s	10.0	46.0		10.0	46.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	7.2	33.5		7.9	46.9		8.2	13.3		5.4	12.1	
Green Ext Time (p_c), s	0.1	12.4		0.1	0.0		0.0	3.1		0.1	3.1	
Intersection Summary												
HCM 2010 Ctrl Delay			35.4									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
14: Transit Blvd & Unser Blvd

Scheme C -- Year 2035 PM
6/1/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑
Volume (veh/h)	899	125	182	810	175	459
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	2	2	1	1
Cap, veh/h	1693	708	252	2134	596	532
Arrive On Green	0.45	0.45	0.07	0.57	0.34	0.34
Sat Flow, veh/h	3725	1557	3442	3725	1774	1583
Grp Volume(v), veh/h	899	125	182	810	175	459
Grp Sat Flow(s),veh/h/ln	1863	1557	1721	1863	1774	1583
Q Serve(g_s), s	19.1	5.2	5.7	13.1	8.0	29.8
Cycle Q Clear(g_c), s	19.1	5.2	5.7	13.1	8.0	29.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1693	708	252	2134	596	532
V/C Ratio(X)	0.53	0.18	0.72	0.38	0.29	0.86
Avail Cap(c_a), veh/h	1693	708	563	2134	596	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	17.8	49.9	12.8	26.9	34.1
Incr Delay (d2), s/veh	1.2	0.5	3.9	0.1	1.2	16.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.8	2.1	2.6	5.4	3.8	13.9
Lane Grp Delay (d), s/veh	22.8	18.4	53.8	12.9	28.1	50.8
Lane Grp LOS	C	B	D	B	C	D
Approach Vol, veh/h	1024			992	634	
Approach Delay, s/veh	22.2			20.4	44.6	
Approach LOS	C			C	D	
Timer						
Assigned Phs	4		3	8		
Phs Duration (G+Y+Rc), s	55.0		13.0	68.0		
Change Period (Y+Rc), s	5.0		5.0	5.0		
Max Green Setting (Gmax), s	50.0		18.0	50.0		
Max Q Clear Time (g_c+I1), s	21.1		7.7	15.1		
Green Ext Time (p_c), s	14.2		0.4	15.5		
Intersection Summary						
HCM 2010 Ctrl Delay			26.9			
HCM 2010 LOS			C			
Notes						

HCM 2010 Signalized Intersection Summary
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme C -- Year 2035 PM

6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	114	100	246	133	100	137	131	1730	172	262	2200	250
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	193.7
Lanes	1	1	1	1	1	1	1	3	1	1	3	1
Cap, veh/h	262	401	341	244	401	341	159	3012	888	185	3091	911
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.54	0.54	0.21	1.00	1.00
Sat Flow, veh/h	1139	1863	1583	1031	1863	1583	1774	5588	1647	1774	5588	1647
Grp Volume(v), veh/h	114	100	246	133	100	137	131	1730	172	262	2200	250
Grp Sat Flow(s),veh/h/ln	1139	1863	1583	1031	1863	1583	1774	1863	1647	1774	1863	1647
Q Serve(g_s), s	9.8	4.7	15.3	13.0	4.7	7.9	7.7	21.9	5.7	11.0	0.0	0.0
Cycle Q Clear(g_c), s	14.5	4.7	15.3	17.7	4.7	7.9	7.7	21.9	5.7	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	401	341	244	401	341	159	3012	888	185	3091	911
V/C Ratio(X)	0.43	0.25	0.72	0.55	0.25	0.40	0.82	0.57	0.19	1.42	0.71	0.27
Avail Cap(c_a), veh/h	416	652	554	383	652	554	185	3012	888	185	3091	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.63	0.63	0.09	0.09	0.09
Uniform Delay (d), s/veh	40.4	34.4	38.6	41.8	34.4	35.7	47.3	16.3	12.5	41.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.3	2.9	1.9	0.3	0.8	15.0	0.5	0.3	191.8	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.9	2.3	6.2	3.6	2.3	3.2	4.1	9.3	2.2	14.1	0.0	0.0
Lane Grp Delay (d), s/veh	41.6	34.7	41.5	43.7	34.7	36.4	62.3	16.8	12.9	233.7	0.1	0.1
Lane Grp LOS	D	C	D	D	C	D	E	B	B	F	A	A
Approach Vol, veh/h		460			370			2033			2712	
Approach Delay, s/veh		40.0			38.6			19.4			22.7	
Approach LOS		D			D			B			C	
Timer												
Assigned Phs		2			6		7	4		3	8	
Phs Duration (G+Y+Rc), s		27.8			27.8		14.5	62.0		16.0	63.5	
Change Period (Y+Rc), s		5.0			5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s		37.0			37.0		11.0	57.0		11.0	57.0	
Max Q Clear Time (g_c+I1), s		17.3			19.7		9.7	23.9		13.0	2.0	
Green Ext Time (p_c), s		3.1			3.0		0.0	31.7		0.0	51.2	
Intersection Summary												
HCM 2010 Ctrl Delay			24.0									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
102: Unser Blvd & Loop Rd N

Scheme C -- Year 2035 PM

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	100	150	150	100	150	131	775	200	100	791	63
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	261	403	343	261	403	343	458	2568	1091	417	2568	1091
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1125	1863	1583	1125	1863	1583	644	3725	1583	574	3725	1583
Grp Volume(v), veh/h	100	100	150	150	100	150	131	775	200	100	791	63
Grp Sat Flow(s),veh/h/ln	1125	1863	1583	1125	1863	1583	644	1863	1583	574	1863	1583
Q Serve(g_s), s	8.6	4.7	8.7	13.5	4.7	8.7	10.7	8.6	4.8	8.8	8.9	1.4
Cycle Q Clear(g_c), s	13.3	4.7	8.7	18.2	4.7	8.7	19.6	8.6	4.8	17.4	8.9	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	403	343	261	403	343	458	2568	1091	417	2568	1091
V/C Ratio(X)	0.38	0.25	0.44	0.57	0.25	0.44	0.29	0.30	0.18	0.24	0.31	0.06
Avail Cap(c_a), veh/h	411	651	553	411	651	553	458	2568	1091	417	2568	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	34.4	35.9	41.9	34.4	35.9	10.4	6.5	5.9	9.9	6.5	5.3
Incr Delay (d2), s/veh	0.9	0.3	0.9	2.0	0.3	0.9	0.8	0.2	0.2	1.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.5	2.3	3.5	4.0	2.3	3.5	1.6	3.3	1.6	1.2	3.4	0.5
Lane Grp Delay (d), s/veh	40.8	34.7	36.8	43.9	34.7	36.8	11.2	6.6	6.1	11.2	6.8	5.4
Lane Grp LOS	D	C	D	D	C	D	B	A	A	B	A	A
Approach Vol, veh/h		350			400			1106			954	
Approach Delay, s/veh		37.3			38.9			7.1			7.2	
Approach LOS		D			D			A			A	
Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		27.9			27.9			78.0			78.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		37.0			37.0			73.0			73.0	
Max Q Clear Time (g_c+I1), s		15.3			20.2			21.6			19.4	
Green Ext Time (p_c), s		2.9			2.7			18.4			18.6	
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
103: Avenita de Jaimito/Transit Blvd & Paseo del Norte

Scheme C -- Year 2035 PM

6/1/2013

													
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations													
Volume (veh/h)	200	1800	250	262	2233	343	135	100	272	178	100	293	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow veh/h/ln	167.6	167.6	174.4	167.6	167.6	174.4	167.6	167.6	167.6	167.6	167.6	167.6	
Lanes	1	3	1	1	3	1	1	1	1	1	1	1	
Cap, veh/h	181	2412	711	181	2412	711	267	463	394	271	463	394	
Arrive On Green	0.11	0.48	0.48	0.11	0.48	0.48	0.28	0.28	0.28	0.28	0.28	0.28	
Sat Flow, veh/h	1597	5029	1482	1597	5029	1482	888	1676	1425	906	1676	1425	
Grp Volume(v), veh/h	200	1800	250	262	2233	343	135	100	272	178	100	293	
Grp Sat Flow(s),veh/h/ln	1597	1676	1482	1597	1676	1482	888	1676	1425	906	1676	1425	
Q Serve(g_s), s	13.0	33.3	12.1	13.0	47.7	18.0	15.8	5.3	19.6	21.6	5.3	21.5	
Cycle Q Clear(g_c), s	13.0	33.3	12.1	13.0	47.7	18.0	21.1	5.3	19.6	26.9	5.3	21.5	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	181	2412	711	181	2412	711	267	463	394	271	463	394	
V/C Ratio(X)	1.11	0.75	0.35	1.45	0.93	0.48	0.50	0.22	0.69	0.66	0.22	0.74	
Avail Cap(c_a), veh/h	181	2412	711	181	2412	711	309	541	460	313	541	460	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	50.8	24.2	18.7	50.8	27.9	20.2	40.0	31.9	37.1	42.3	31.9	37.8	
Incr Delay (d2), s/veh	70.7	0.7	0.5	229.7	7.6	2.3	1.5	0.2	3.6	4.0	0.2	5.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile Back of Q (50%), veh/ln	8.8	13.3	4.3	16.8	20.5	6.8	3.7	2.3	7.3	5.3	2.3	8.2	
Lane Grp Delay (d), s/veh	121.6	24.9	19.1	280.5	35.5	22.6	41.5	32.2	40.7	46.2	32.2	43.3	
Lane Grp LOS	F	C	B	F	D	C	D	C	D	D	C	D	
Approach Vol, veh/h	2250				2838				507				571
Approach Delay, s/veh	32.9				56.6				39.2				42.3
Approach LOS	C				E				D				D
Timer													
Assigned Phs	7	4			3	8			2			6	
Phs Duration (G+Y+Rc), s	18.0	60.0			18.0	60.0			36.7			36.7	
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0			5.0			5.0	
Max Green Setting (Gmax), s	13.0	55.0			13.0	55.0			37.0			37.0	
Max Q Clear Time (g_c+I1), s	15.0	35.3			15.0	49.7			23.1			28.9	
Green Ext Time (p_c), s	0.0	19.3			0.0	5.3			3.7			2.8	
Intersection Summary													
HCM 2010 Ctrl Delay			45.2										
HCM 2010 LOS			D										
Notes													

HCM 2010 Signalized Intersection Summary
104: Unser Blvd & Loop Rd W/Avenita de Jaimito

Scheme C -- Year 2035 PM

6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	100	180	180	100	100	121	1105	202	50	800	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1178	1863	1583	1095	1863	1583	561	3725	1583	419	3725	1583
Grp Volume(v), veh/h	50	100	180	180	100	100	121	1105	202	50	800	200
Grp Sat Flow(s),veh/h/ln	1178	1863	1583	1095	1863	1583	561	1863	1583	419	1863	1583
Q Serve(g_s), s	3.0	3.6	8.1	13.1	3.6	4.3	15.1	18.1	6.3	8.3	11.8	6.2
Cycle Q Clear(g_c), s	6.5	3.6	8.1	16.7	3.6	4.3	26.8	18.1	6.3	26.4	11.8	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
V/C Ratio(X)	0.11	0.16	0.33	0.44	0.16	0.18	0.38	0.54	0.23	0.22	0.39	0.23
Avail Cap(c_a), veh/h	435	639	544	410	639	544	456	2984	1268	332	2984	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46	0.66	0.66	0.66
Uniform Delay (d), s/veh	24.2	21.9	23.4	27.7	21.9	22.1	19.9	13.7	11.0	22.1	12.2	11.0
Incr Delay (d2), s/veh	0.5	0.5	1.6	3.4	0.5	0.7	0.4	0.1	0.1	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	1.8	3.4	3.9	1.8	1.8	2.0	7.4	2.1	0.9	4.8	2.1
Lane Grp Delay (d), s/veh	24.7	22.4	25.0	31.1	22.4	22.9	20.2	13.8	11.1	22.4	12.3	11.1
Lane Grp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		330			380			1428			1050	
Approach Delay, s/veh		24.2			26.6			13.9			12.6	
Approach LOS		C			C			B			B	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		38.0			38.0			58.1			58.1	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		33.0			33.0			77.0			77.0	
Max Q Clear Time (g_c+I1), s		10.1			18.7			28.8			28.4	
Green Ext Time (p_c), s		2.8			2.5			24.3			24.4	
Intersection Summary												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
11: Universe & Paseo del Norte

Scheme D
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	1832	54	100	2101	250	104	500	50	150	400	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
Arrive On Green	0.06	0.51	0.51	0.05	0.49	0.49	0.09	0.39	0.39	0.06	0.21	0.21
Sat Flow, veh/h	3442	5588	1583	3442	5588	1583	3442	3725	1583	3442	3725	1583
Grp Volume(v), veh/h	150	1832	54	100	2101	250	104	500	50	150	400	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Cycle Q Clear(g_c), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
V/C Ratio(X)	0.71	0.64	0.07	0.64	0.77	0.32	0.65	0.68	0.16	0.71	0.51	0.45
Avail Cap(c_a), veh/h	235	2847	807	235	2730	774	235	1347	572	235	1347	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	18.3	12.7	48.0	21.4	7.7	45.6	28.3	25.5	47.1	35.5	22.3
Incr Delay (d2), s/veh	8.3	0.5	0.0	2.8	1.4	0.7	4.4	1.1	0.2	8.3	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.2	10.6	0.6	1.3	14.0	2.4	1.3	4.4	0.8	2.2	4.5	2.6
Lane Grp Delay (d), s/veh	55.4	18.8	12.8	50.8	22.9	8.5	49.9	29.4	25.7	55.4	36.0	23.2
Lane Grp LOS	E	B	B	D	C	A	D	C	C	E	D	C
Approach Vol, veh/h	2036			2451			654			700		
Approach Delay, s/veh	21.4			22.5			32.4			37.4		
Approach LOS	C			C			C			D		
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	11.3	57.1		9.2	55.0		9.3	25.2		10.8	26.8	
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Max Green Setting (Gmax), s	7.0	50.0		7.0	50.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	6.4	26.5		4.9	33.5		5.0	13.4		6.4	11.7	
Green Ext Time (p_c), s	0.0	14.9		0.0	12.9		0.0	6.9		0.0	7.0	
Intersection Summary												
HCM 2010 Ctrl Delay	25.0											
HCM 2010 LOS	C											
Notes												

HCM 2010 Signalized Intersection Summary

12: Unser Blvd & Paseo del Norte

Scheme D
6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	1900	109	150	2411	100	150	905	200	150	792	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.05	0.32	0.32	0.09	0.64	0.64
Sat Flow, veh/h	3442	5588	1547	3442	5588	1549	3442	3725	1538	3442	3725	1538
Grp Volume(v), veh/h	100	1900	109	150	2411	100	150	905	200	150	792	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1547	1721	1863	1549	1721	1863	1538	1721	1863	1538
Q Serve(g_s), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Cycle Q Clear(g_c), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
V/C Ratio(X)	0.65	0.86	0.18	0.72	1.04	0.14	0.30	0.76	0.34	0.39	0.67	0.27
Avail Cap(c_a), veh/h	304	2222	615	304	2311	715	579	1218	599	468	1218	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.62	0.62	0.62	0.44	0.44	0.44	0.72	0.72	0.72	0.92	0.92	0.92
Uniform Delay (d), s/veh	53.2	31.1	22.1	52.2	33.2	17.6	25.1	34.8	25.1	25.7	16.9	13.1
Incr Delay (d2), s/veh	2.8	2.9	0.4	2.0	25.7	0.2	0.2	2.1	0.2	0.6	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	16.4	2.0	2.2	26.5	1.5	1.4	11.8	3.9	1.3	4.7	1.5
Lane Grp Delay (d), s/veh	55.9	34.0	22.5	54.2	58.9	17.8	25.3	36.9	25.4	26.3	18.1	13.3
Lane Grp LOS	E	C	C	D	F	B	C	D	C	C	B	B
Approach Vol, veh/h	2109				2661				1255			
Approach Delay, s/veh	34.4				57.1				33.7			
Approach LOS	C				E				C			
Timer												
Assigned Phs	7	4			3	8			5	2		
Phs Duration (G+Y+Rc), s	10.1	50.0			11.9	51.8			10.3	41.0		
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0			5.0	5.0		
Max Green Setting (Gmax), s	10.0	45.0			10.0	45.0			8.0	37.0		
Max Q Clear Time (g_c+I1), s	5.2	37.1			6.8	48.8			5.3	26.8		
Green Ext Time (p_c), s	0.1	7.8			0.1	0.0			0.1	7.5		
Intersection Summary												
HCM 2010 Ctrl Delay	40.3											
HCM 2010 LOS	D											
Notes												

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

14: Transit Blvd & Unser Blvd

Scheme D
6/1/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑
Volume (veh/h)	999	100	182	810	175	309
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	2	2	1	1
Cap, veh/h	1693	708	252	2134	596	532
Arrive On Green	0.45	0.45	0.07	0.57	0.34	0.34
Sat Flow, veh/h	3725	1557	3442	3725	1774	1583
Grp Volume(v), veh/h	999	100	182	810	175	309
Grp Sat Flow(s),veh/h/ln	1863	1557	1721	1863	1774	1583
Q Serve(g_s), s	22.0	4.1	5.7	13.1	8.0	17.7
Cycle Q Clear(g_c), s	22.0	4.1	5.7	13.1	8.0	17.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1693	708	252	2134	596	532
V/C Ratio(X)	0.59	0.14	0.72	0.38	0.29	0.58
Avail Cap(c_a), veh/h	1693	708	563	2134	596	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	17.5	49.9	12.8	26.9	30.1
Incr Delay (d2), s/veh	1.5	0.4	3.9	0.1	1.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	10.2	1.6	2.6	5.4	3.8	7.5
Lane Grp Delay (d), s/veh	23.9	17.9	53.8	12.9	28.1	34.7
Lane Grp LOS	C	B	D	B	C	C
Approach Vol, veh/h	1099			992	484	
Approach Delay, s/veh	23.4			20.4	32.3	
Approach LOS	C			C	C	
Timer						
Assigned Phs	4		3	8		
Phs Duration (G+Y+Rc), s	55.0		13.0	68.0		
Change Period (Y+Rc), s	5.0		5.0	5.0		
Max Green Setting (Gmax), s	50.0		18.0	50.0		
Max Q Clear Time (g_c+I1), s	24.0		7.7	15.1		
Green Ext Time (p_c), s	14.2		0.4	16.5		
Intersection Summary						
HCM 2010 Ctrl Delay			23.9			
HCM 2010 LOS			C			
Notes						

HCM 2010 Signalized Intersection Summary
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme D
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	114	100	246	133	100	137	131	1730	172	262	2200	250
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		0.98	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	193.7
Lanes	1	1	1	1	1	1	1	3	1	1	3	1
Cap, veh/h	312	490	407	289	490	407	169	2823	815	174	2837	826
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.10	0.51	0.51	0.20	1.00	1.00
Sat Flow, veh/h	1121	1863	1547	1017	1863	1547	1774	5588	1614	1774	5588	1627
Grp Volume(v), veh/h	114	100	246	133	100	137	131	1730	172	262	2200	250
Grp Sat Flow(s),veh/h/ln	1121	1863	1547	1017	1863	1547	1774	1863	1614	1774	1863	1627
Q Serve(g_s), s	9.9	4.7	15.6	13.1	4.7	8.0	8.1	24.9	6.6	11.0	0.0	0.0
Cycle Q Clear(g_c), s	14.6	4.7	15.6	17.8	4.7	8.0	8.1	24.9	6.6	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	490	407	289	490	407	169	2823	815	174	2837	826
V/C Ratio(X)	0.36	0.20	0.60	0.46	0.20	0.34	0.77	0.61	0.21	1.51	0.78	0.30
Avail Cap(c_a), veh/h	387	614	510	357	614	510	174	2837	819	174	2837	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.63	0.63	0.09	0.09	0.09
Uniform Delay (d), s/veh	37.9	32.2	36.2	39.1	32.2	33.4	49.6	19.9	15.4	45.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.2	1.4	1.1	0.2	0.5	12.4	0.2	0.1	231.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.9	2.2	6.1	3.5	2.2	3.1	4.2	11.0	2.5	15.5	0.1	0.0
Lane Grp Delay (d), s/veh	38.6	32.4	37.7	40.3	32.4	33.9	62.0	20.1	15.5	276.1	0.2	0.1
Lane Grp LOS	D	C	D	D	C	C	E	C	B	F	A	A
Approach Vol, veh/h		460			370			2033			2712	
Approach Delay, s/veh		36.8			35.8			22.5			26.8	
Approach LOS		D			D			C			C	
Timer												
Assigned Phs		2			6		7	4		3	8	
Phs Duration (G+Y+Rc), s		34.5			34.5		15.7	61.7		16.0	62.0	
Change Period (Y+Rc), s		5.0			5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s		37.0			37.0		11.0	57.0		11.0	57.0	
Max Q Clear Time (g_c+I1), s		17.6			19.8		10.1	26.9		13.0	2.0	
Green Ext Time (p_c), s		3.2			3.1		0.8	16.6		0.0	31.6	
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
102: Unser Blvd & Loop Rd N

Scheme D

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	100	150	150	100	150	131	850	125	100	791	63
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	261	403	343	261	403	343	458	2568	1091	411	2568	1091
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1125	1863	1583	1125	1863	1583	644	3725	1583	574	3725	1583
Grp Volume(v), veh/h	100	100	150	150	100	150	131	850	125	100	791	63
Grp Sat Flow(s),veh/h/ln	1125	1863	1583	1125	1863	1583	644	1863	1583	574	1863	1583
Q Serve(g_s), s	8.6	4.7	8.7	13.5	4.7	8.7	10.7	9.7	2.8	9.0	8.9	1.4
Cycle Q Clear(g_c), s	13.3	4.7	8.7	18.2	4.7	8.7	19.6	9.7	2.8	18.7	8.9	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	403	343	261	403	343	458	2568	1091	411	2568	1091
V/C Ratio(X)	0.38	0.25	0.44	0.57	0.25	0.44	0.29	0.33	0.11	0.24	0.31	0.06
Avail Cap(c_a), veh/h	411	651	553	411	651	553	458	2568	1091	411	2568	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	34.4	35.9	41.9	34.4	35.9	10.4	6.6	5.6	10.4	6.5	5.3
Incr Delay (d2), s/veh	0.9	0.3	0.9	2.0	0.3	0.9	0.8	0.2	0.1	1.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.5	2.3	3.5	4.0	2.3	3.5	1.6	3.7	0.9	1.3	3.4	0.5
Lane Grp Delay (d), s/veh	40.8	34.7	36.8	43.9	34.7	36.8	11.2	6.8	5.7	11.8	6.8	5.4
Lane Grp LOS	D	C	D	D	C	D	B	A	A	B	A	A
Approach Vol, veh/h		350			400			1106			954	
Approach Delay, s/veh		37.3			38.9			7.2			7.2	
Approach LOS		D			D			A			A	
Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		27.9			27.9			78.0			78.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		37.0			37.0			73.0			73.0	
Max Q Clear Time (g_c+I1), s		15.3			20.2			21.6			20.7	
Green Ext Time (p_c), s		2.9			2.7			19.0			19.1	
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
103: Avenita de Jaimito/Loop Rd East & Paseo del Norte

Scheme D
6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	1900	250	262	2233	343	135	100	272	78	100	293
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	167.6	167.6	174.4	167.6	167.6	174.4	167.6	167.6	167.6	167.6	167.6	167.6
Lanes	2	3	1	2	3	1	1	1	1	1	1	1
Cap, veh/h	316	2441	710	316	2441	710	270	470	391	274	470	391
Arrive On Green	0.10	0.49	0.49	0.10	0.49	0.49	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	3097	5029	1464	3097	5029	1464	878	1676	1395	895	1676	1395
Grp Volume(v), veh/h	100	1900	250	262	2233	343	135	100	272	78	100	293
Grp Sat Flow(s),veh/h/ln	1549	1676	1464	1549	1676	1464	878	1676	1395	895	1676	1395
Q Serve(g_s), s	3.4	35.4	12.0	9.4	46.6	17.8	15.8	5.2	19.8	8.3	5.2	21.7
Cycle Q Clear(g_c), s	3.4	35.4	12.0	9.4	46.6	17.8	20.9	5.2	19.8	13.5	5.2	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	2441	710	316	2441	710	270	470	391	274	470	391
V/C Ratio(X)	0.32	0.78	0.35	0.83	0.91	0.48	0.50	0.21	0.70	0.29	0.21	0.75
Avail Cap(c_a), veh/h	355	2441	710	355	2441	710	310	547	455	315	547	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	24.1	18.1	49.9	27.0	19.6	39.2	31.2	36.4	36.3	31.2	37.1
Incr Delay (d2), s/veh	0.2	0.9	0.5	4.6	2.2	0.7	1.4	0.2	3.8	0.6	0.2	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.3	14.3	4.3	3.9	18.9	6.3	3.6	2.2	7.2	1.9	2.2	8.1
Lane Grp Delay (d), s/veh	47.4	25.0	18.6	54.5	29.2	20.3	40.6	31.4	40.2	36.9	31.4	42.9
Lane Grp LOS	D	C	B	D	C	C	D	C	D	D	C	D
Approach Vol, veh/h		2250			2838			507			471	
Approach Delay, s/veh		25.3			30.5			38.6			39.5	
Approach LOS		C			C			D			D	
Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	16.5	60.0		16.5	60.0			36.8			36.8	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0			5.0			5.0	
Max Green Setting (Gmax), s	13.0	55.0		13.0	55.0			37.0			37.0	
Max Q Clear Time (g_c+I1), s	5.4	37.4		11.4	48.6			22.9			23.7	
Green Ext Time (p_c), s	6.4	12.9		0.1	5.8			3.5			3.4	
Intersection Summary												
HCM 2010 Ctrl Delay			29.9									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
104: Unser Blvd & Loop Rd W/Avenita de Jaimito

Scheme D
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	100	180	180	100	100	121	1105	202	50	800	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1178	1863	1583	1095	1863	1583	561	3725	1583	419	3725	1583
Grp Volume(v), veh/h	50	100	180	180	100	100	121	1105	202	50	800	200
Grp Sat Flow(s),veh/h/ln	1178	1863	1583	1095	1863	1583	561	1863	1583	419	1863	1583
Q Serve(g_s), s	3.0	3.6	8.1	13.1	3.6	4.3	15.1	18.1	6.3	8.3	11.8	6.2
Cycle Q Clear(g_c), s	6.5	3.6	8.1	16.7	3.6	4.3	26.8	18.1	6.3	26.4	11.8	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
V/C Ratio(X)	0.11	0.16	0.33	0.44	0.16	0.18	0.38	0.54	0.23	0.22	0.39	0.23
Avail Cap(c_a), veh/h	435	639	544	410	639	544	456	2984	1268	332	2984	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46	0.66	0.66	0.66
Uniform Delay (d), s/veh	24.2	21.9	23.4	27.7	21.9	22.1	19.9	13.7	11.0	22.1	12.2	11.0
Incr Delay (d2), s/veh	0.5	0.5	1.6	3.4	0.5	0.7	0.4	0.1	0.1	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	1.8	3.4	3.9	1.8	1.8	2.0	7.4	2.1	0.9	4.8	2.1
Lane Grp Delay (d), s/veh	24.7	22.4	25.0	31.1	22.4	22.9	20.2	13.8	11.1	22.4	12.3	11.1
Lane Grp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		330			380			1428			1050	
Approach Delay, s/veh		24.2			26.6			13.9			12.6	
Approach LOS		C			C			B			B	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		38.0			38.0			58.1			58.1	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		33.0			33.0			77.0			77.0	
Max Q Clear Time (g_c+I1), s		10.1			18.7			28.8			28.4	
Green Ext Time (p_c), s		2.8			2.5			24.3			24.4	
Intersection Summary												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
105: Paseo del Norte & Transit Blvd

Scheme D
6/1/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	277	1973	2626	264	383	212
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	3	1	2	1
Cap, veh/h	219	4197	3259	923	553	254
Arrive On Green	0.12	0.75	0.39	0.39	0.16	0.16
Sat Flow, veh/h	1774	5588	5588	1583	3442	1583
Grp Volume(v), veh/h	277	1973	2626	264	383	212
Grp Sat Flow(s),veh/h/ln	1774	1863	1863	1583	1721	1583
Q Serve(g_s), s	14.0	15.4	47.3	12.9	11.9	14.7
Cycle Q Clear(g_c), s	14.0	15.4	47.3	12.9	11.9	14.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	219	4197	3259	923	553	254
V/C Ratio(X)	1.26	0.47	0.81	0.29	0.69	0.83
Avail Cap(c_a), veh/h	219	4197	3259	923	760	350
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.62	0.62	1.00	1.00
Uniform Delay (d), s/veh	49.6	5.4	28.8	18.3	44.9	46.0
Incr Delay (d2), s/veh	138.6	0.2	1.4	0.5	1.6	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	14.7	5.6	23.0	5.4	5.4	0.8
Lane Grp Delay (d), s/veh	188.2	5.7	30.2	18.8	46.5	57.8
Lane Grp LOS	F	A	C	B	D	E
Approach Vol, veh/h		2250	2890		595	
Approach Delay, s/veh		28.1	29.1		50.5	
Approach LOS		C	C		D	
Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	19.0	90.0	71.0			
Change Period (Y+Rc), s	5.0	5.0	5.0			
Max Green Setting (Gmax), s	14.0	85.0	66.0			
Max Q Clear Time (g_c+I1), s	16.0	17.4	49.3			
Green Ext Time (p_c), s	0.0	65.3	16.6			
Intersection Summary						
HCM 2010 Ctrl Delay			31.0			
HCM 2010 LOS			C			
Notes						

Appendix B

Synchro Outputs: Signal Phasing

Timing Report, Sorted By Phase
11: Universe & Paseo del Norte

Scheme A -- Year 2035 PM

6/1/2013

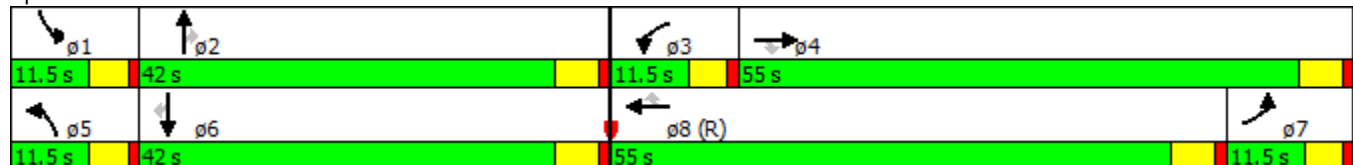


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max
Maximum Split (s)	11.5	42	11.5	55	11.5	42	11.5	55
Maximum Split (%)	9.6%	35.0%	9.6%	45.8%	9.6%	35.0%	9.6%	45.8%
Minimum Split (s)	9	42	9	35	9	42	9	35
Yellow Time (s)	3.5	4	3.5	4	3.5	4	3.5	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		23		30		23
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	6.5	18	60	71.5	6.5	18	115	60
End Time (s)	18	60	71.5	6.5	18	60	6.5	115
Yield/Force Off (s)	13.5	55	67	1.5	13.5	55	2	110
Yield/Force Off 170(s)	13.5	25	67	98.5	13.5	25	2	87
Local Start Time (s)	66.5	78	0	11.5	66.5	78	55	0
Local Yield (s)	73.5	115	7	61.5	73.5	115	62	50
Local Yield 170(s)	73.5	85	7	38.5	73.5	85	62	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 115
Offset: 60 (50%), Referenced to phase 8:WBT, Start of Green

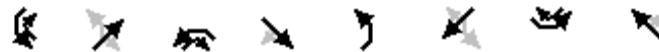
Splits and Phases: 11: Universe & Paseo del Norte



Timing Report, Sorted By Phase
12: Unser Blvd & Paseo del Norte

Scheme A -- Year 2035 PM

6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SWL	NETL	NWL	SET	NEL	SWTL	SEL	NWT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	Max	None	None	None	C-Max
Maximum Split (s)	13	42	15	50	13	42	15	50
Maximum Split (%)	10.8%	35.0%	12.5%	41.7%	10.8%	35.0%	12.5%	41.7%
Minimum Split (s)	9	42	9	41	9	42	9	41
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		29		30		29
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	50	63	105	0	50	63	105	0
End Time (s)	63	105	0	50	63	105	0	50
Yield/Force Off (s)	58	100	115	45	58	100	115	45
Yield/Force Off 170(s)	58	70	115	16	58	70	115	16
Local Start Time (s)	50	63	105	0	50	63	105	0
Local Yield (s)	58	100	115	45	58	100	115	45
Local Yield 170(s)	58	70	115	16	58	70	115	16

Intersection Summary

Cycle Length 120

Control Type Actuated-Coordinated

Natural Cycle 125

Offset: 0 (0%), Referenced to phase 8:NWT, Start of Green, Master Intersection

Splits and Phases: 12: Unser Blvd & Paseo del Norte

13 s	42 s	15 s	50 s
13 s	42 s	15 s	50 s

Timing Report, Sorted By Phase
13: Kimmick Rd & Paseo del Norte

Scheme A -- Year 2035 PM

6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBTL	WBL	EBT	NBL	SBTL	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes			Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	None	None	C-Max
Maximum Split (s)	10	42	17	51	10	42	17	51
Maximum Split (%)	8.3%	35.0%	14.2%	42.5%	8.3%	35.0%	14.2%	42.5%
Minimum Split (s)	9	42	9.5	23	9	42	9.5	23
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		11		30		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	111	1	43	60	111	1	43	60
End Time (s)	1	43	60	111	1	43	60	111
Yield/Force Off (s)	116	38	55	106	116	38	55	106
Yield/Force Off 170(s)	116	8	55	95	116	8	55	95
Local Start Time (s)	51	61	103	0	51	61	103	0
Local Yield (s)	56	98	115	46	56	98	115	46
Local Yield 170(s)	56	68	115	35	56	68	115	35

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 135
Offset: 60 (50%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Splits and Phases: 13: Kimmick Rd & Paseo del Norte

10 s	42 s	17 s	51 s
10 s	42 s	17 s	51 s

Timing Report, Sorted By Phase
14: Transit Blvd & Unser Blvd

Scheme A -- Year 2035 PM

6/1/2013

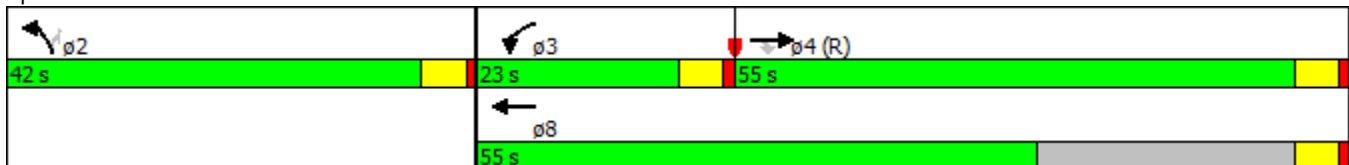


Phase Number	2	3	4	8
Movement	NBL	WBL	EBT	WBT
Lead/Lag		Lead	Lag	
Lead-Lag Optimize		Yes	Yes	
Recall Mode	Max	None	C-Max	None
Maximum Split (s)	42	23	55	55
Maximum Split (%)	35.0%	19.2%	45.8%	45.8%
Minimum Split (s)	37	9.5	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7		7	7
Flash Dont Walk (s)	25		11	11
Dual Entry	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	55	97	0	97
End Time (s)	97	0	55	55
Yield/Force Off (s)	92	115	50	50
Yield/Force Off 170(s)	67	115	39	39
Local Start Time (s)	55	97	0	97
Local Yield (s)	92	115	50	50
Local Yield 170(s)	67	115	39	39

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 4:EBT, Start of Green	

Splits and Phases: 14: Transit Blvd & Unser Blvd



Timing Report, Sorted By Phase
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme A -- Year 2035 PM

6/1/2013

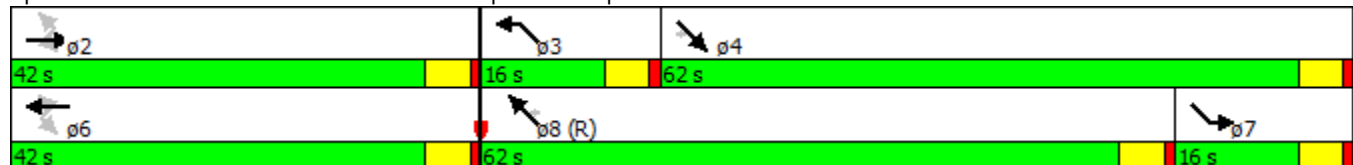


Phase Number	2	3	4	6	7	8
Movement	EBTL	NWL	SET	WBTL	SEL	NWT
Lead/Lag		Lead	Lag		Lag	Lead
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	None	None	Min	None	None	C-Max
Maximum Split (s)	42	16	62	42	16	62
Maximum Split (%)	35.0%	13.3%	51.7%	35.0%	13.3%	51.7%
Minimum Split (s)	27	9	27	42	9	42
Yellow Time (s)	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	15		15	30		30
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	98	20	36	98	82	20
End Time (s)	20	36	98	20	98	82
Yield/Force Off (s)	15	31	93	15	93	77
Yield/Force Off 170(s)	0	31	93	105	93	47
Local Start Time (s)	78	0	16	78	62	0
Local Yield (s)	115	11	73	115	73	57
Local Yield 170(s)	100	11	73	85	73	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 105
Offset: 20 (17%), Referenced to phase 8:NWT, Start of Green

Splits and Phases: 101: Paseo del Norte & Loop Rd W/Loop Rd N



Timing Report, Sorted By Phase
102: Unser Blvd & Loop Rd N

Scheme A -- Year 2035 PM

6/1/2013



Phase Number	2	4	6	8
Movement	NWTL	NETL	SETL	SWTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	42	78	42	78
Maximum Split (%)	35.0%	65.0%	35.0%	65.0%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	18	60	18	60
End Time (s)	60	18	60	18
Yield/Force Off (s)	55	13	55	13
Yield/Force Off 170(s)	44	2	44	2
Local Start Time (s)	78	0	78	0
Local Yield (s)	115	73	115	73
Local Yield 170(s)	104	62	104	62

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	50
Offset: 60 (50%), Referenced to phase 4:NETL and 8:SWTL, Start of Green	

Splits and Phases: 102: Unser Blvd & Loop Rd N



Timing Report, Sorted By Phase
103: Avenita de Jaimito/Loop Rd East & Paseo del Norte

Scheme A -- Year 2035 PM

6/1/2013

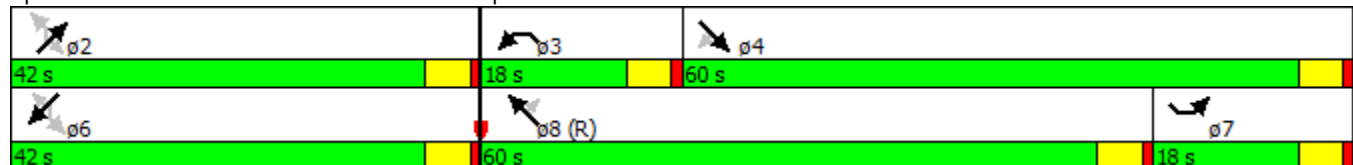


Phase Number	2	3	4	6	7	8
Movement	NETL	NWL	SET	SWTL	SEL	NWT
Lead/Lag		Lead	Lag		Lag	Lead
Lead-Lag Optimize		Yes	Yes			
Recall Mode	None	None	Max	None	None	C-Max
Maximum Split (s)	42	18	60	42	18	60
Maximum Split (%)	35.0%	15.0%	50.0%	35.0%	15.0%	50.0%
Minimum Split (s)	42	9	27	42	9	27
Yellow Time (s)	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	30		15	30		15
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	88	10	28	88	70	10
End Time (s)	10	28	88	10	88	70
Yield/Force Off (s)	5	23	83	5	83	65
Yield/Force Off 170(s)	95	23	68	95	83	50
Local Start Time (s)	78	0	18	78	60	0
Local Yield (s)	115	13	73	115	73	55
Local Yield 170(s)	85	13	58	85	73	40

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 110
Offset: 10 (8%), Referenced to phase 8:NWT, Start of Green

Splits and Phases: 103: Avenita de Jaimito/Loop Rd East & Paseo del Norte



Timing Report, Sorted By Phase
104: Unser Blvd & Loop Rd W/Avenida de Jaimito

Scheme A -- Year 2035 PM

6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	82	38	82	38
Maximum Split (%)	68.3%	31.7%	68.3%	31.7%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	38	0	38	0
End Time (s)	0	38	0	38
Yield/Force Off (s)	115	33	115	33
Yield/Force Off 170(s)	104	22	104	22
Local Start Time (s)	38	0	38	0
Local Yield (s)	115	33	115	33
Local Yield 170(s)	104	22	104	22

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 50
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Splits and Phases: 104: Unser Blvd & Loop Rd W/Avenida de Jaimito



Timing Report, Sorted By Phase
11: Universe & Paseo del Norte

Scheme B -- Year 2035 PM

6/1/2013

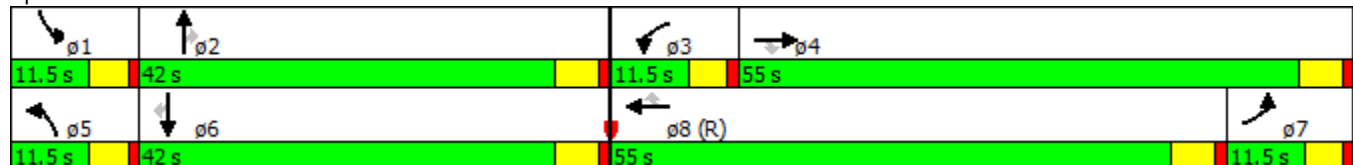


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max
Maximum Split (s)	11.5	42	11.5	55	11.5	42	11.5	55
Maximum Split (%)	9.6%	35.0%	9.6%	45.8%	9.6%	35.0%	9.6%	45.8%
Minimum Split (s)	9	42	9	35	9	42	9	35
Yellow Time (s)	3.5	4	3.5	4	3.5	4	3.5	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		23		30		23
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	6.5	18	60	71.5	6.5	18	115	60
End Time (s)	18	60	71.5	6.5	18	60	6.5	115
Yield/Force Off (s)	13.5	55	67	1.5	13.5	55	2	110
Yield/Force Off 170(s)	13.5	25	67	98.5	13.5	25	2	87
Local Start Time (s)	66.5	78	0	11.5	66.5	78	55	0
Local Yield (s)	73.5	115	7	61.5	73.5	115	62	50
Local Yield 170(s)	73.5	85	7	38.5	73.5	85	62	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 115
Offset: 60 (50%), Referenced to phase 8:WBT, Start of Green

Splits and Phases: 11: Universe & Paseo del Norte



Timing Report, Sorted By Phase
12: Unser Blvd & Paseo del Norte

Scheme B -- Year 2035 PM

6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SWL	NETL	NWL	SET	NEL	SWTL	SEL	NWT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	Max	None	None	None	C-Max
Maximum Split (s)	13	42	20	45	13	42	20	45
Maximum Split (%)	10.8%	35.0%	16.7%	37.5%	10.8%	35.0%	16.7%	37.5%
Minimum Split (s)	9	42	9	41	9	42	9	41
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		29		30		29
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	45	58	100	0	45	58	100	0
End Time (s)	58	100	0	45	58	100	0	45
Yield/Force Off (s)	53	95	115	40	53	95	115	40
Yield/Force Off 170(s)	53	65	115	11	53	65	115	11
Local Start Time (s)	45	58	100	0	45	58	100	0
Local Yield (s)	53	95	115	40	53	95	115	40
Local Yield 170(s)	53	65	115	11	53	65	115	11

Intersection Summary

Cycle Length 120

Control Type Actuated-Coordinated

Natural Cycle 135

Offset: 0 (0%), Referenced to phase 8:NWT, Start of Green, Master Intersection

Splits and Phases: 12: Unser Blvd & Paseo del Norte

13 s	42 s	20 s	45 s
13 s	42 s	20 s	45 s

Timing Report, Sorted By Phase
13: Kimmick Rd & Paseo del Norte

Scheme B -- Year 2035 PM

6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBTL	WBL	EBT	NBL	SBTL	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes			Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	None	None	C-Max
Maximum Split (s)	12	42	15	51	12	42	15	51
Maximum Split (%)	10.0%	35.0%	12.5%	42.5%	10.0%	35.0%	12.5%	42.5%
Minimum Split (s)	9	42	9.5	23	9	42	9.5	23
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		11		30		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	111	3	45	60	111	3	45	60
End Time (s)	3	45	60	111	3	45	60	111
Yield/Force Off (s)	118	40	55	106	118	40	55	106
Yield/Force Off 170(s)	118	10	55	95	118	10	55	95
Local Start Time (s)	51	63	105	0	51	63	105	0
Local Yield (s)	58	100	115	46	58	100	115	46
Local Yield 170(s)	58	70	115	35	58	70	115	35

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 145
Offset: 60 (50%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Splits and Phases: 13: Kimmick Rd & Paseo del Norte

12 s	42 s	15 s	51 s	12 s	42 s	15 s	51 s
12 s	42 s	15 s	51 s	12 s	42 s	15 s	51 s

Timing Report, Sorted By Phase
14: Transit Blvd & Unser Blvd

Scheme B -- Year 2035 PM

6/1/2013



Phase Number	2	3	4	7	8
Movement	NBL	WBL	EBT	EBU	WBT
Lead/Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize		Yes	Yes	Yes	Yes
Recall Mode	Max	None	C-Max	None	None
Maximum Split (s)	42	23	55	23	55
Maximum Split (%)	35.0%	19.2%	45.8%	19.2%	45.8%
Minimum Split (s)	37	9.5	23	9	23
Yellow Time (s)	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	7		7		7
Flash Dont Walk (s)	25		11		11
Dual Entry	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	55	97	0	97	0
End Time (s)	97	0	55	0	55
Yield/Force Off (s)	92	115	50	115	50
Yield/Force Off 170(s)	67	115	39	115	39
Local Start Time (s)	55	97	0	97	0
Local Yield (s)	92	115	50	115	50
Local Yield 170(s)	67	115	39	115	39

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 75
Offset: 0 (0%), Referenced to phase 4:EBT, Start of Green

Splits and Phases: 14: Transit Blvd & Unser Blvd

 ϕ2	 ϕ3	 ϕ4 (R)
42 s	23 s	55 s
	 ϕ7	 ϕ8
	23 s	55 s

Timing Report, Sorted By Phase
11: Universe & Paseo del Norte

Scheme C -- Year 2035 PM

6/1/2013

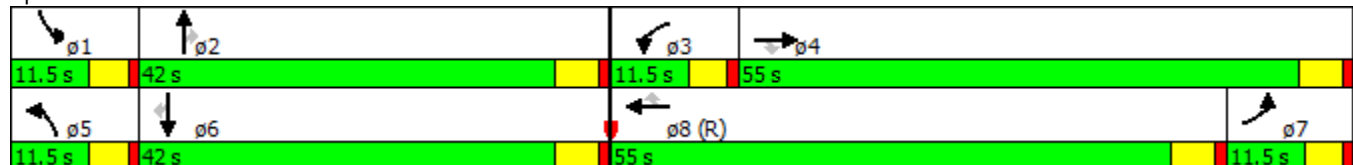


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max
Maximum Split (s)	11.5	42	11.5	55	11.5	42	11.5	55
Maximum Split (%)	9.6%	35.0%	9.6%	45.8%	9.6%	35.0%	9.6%	45.8%
Minimum Split (s)	9	42	9	35	9	42	9	35
Yellow Time (s)	3.5	4	3.5	4	3.5	4	3.5	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		23		30		23
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	6.5	18	60	71.5	6.5	18	115	60
End Time (s)	18	60	71.5	6.5	18	60	6.5	115
Yield/Force Off (s)	13.5	55	67	1.5	13.5	55	2	110
Yield/Force Off 170(s)	13.5	25	67	98.5	13.5	25	2	87
Local Start Time (s)	66.5	78	0	11.5	66.5	78	55	0
Local Yield (s)	73.5	115	7	61.5	73.5	115	62	50
Local Yield 170(s)	73.5	85	7	38.5	73.5	85	62	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 115
Offset: 60 (50%), Referenced to phase 8:WBT, Start of Green

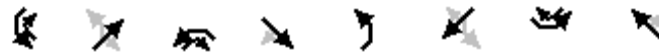
Splits and Phases: 11: Universe & Paseo del Norte



Timing Report, Sorted By Phase
12: Unser Blvd & Paseo del Norte

Scheme C -- Year 2035 PM

6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SWL	NETL	NWL	SET	NEL	SWTL	SEL	NWT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	Max	None	None	None	C-Max
Maximum Split (s)	13	42	15	50	13	42	15	50
Maximum Split (%)	10.8%	35.0%	12.5%	41.7%	10.8%	35.0%	12.5%	41.7%
Minimum Split (s)	9	42	9	41	9	42	9	41
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		29		30		29
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	50	63	105	0	50	63	105	0
End Time (s)	63	105	0	50	63	105	0	50
Yield/Force Off (s)	58	100	115	45	58	100	115	45
Yield/Force Off 170(s)	58	70	115	16	58	70	115	16
Local Start Time (s)	50	63	105	0	50	63	105	0
Local Yield (s)	58	100	115	45	58	100	115	45
Local Yield 170(s)	58	70	115	16	58	70	115	16

Intersection Summary

Cycle Length 120

Control Type Actuated-Coordinated

Natural Cycle 125

Offset: 0 (0%), Referenced to phase 8:NWT, Start of Green, Master Intersection

Splits and Phases: 12: Unser Blvd & Paseo del Norte

13 s	42 s	15 s	50 s
13 s	42 s	15 s	50 s

Timing Report, Sorted By Phase
13: Kimmick Rd & Paseo del Norte

Scheme C -- Year 2035 PM

6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBTL	WBL	EBT	NBL	SBTL	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes			Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	None	None	C-Max
Maximum Split (s)	12	42	15	51	12	42	15	51
Maximum Split (%)	10.0%	35.0%	12.5%	42.5%	10.0%	35.0%	12.5%	42.5%
Minimum Split (s)	9	42	9.5	23	9	42	9.5	23
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		11		30		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	111	3	45	60	111	3	45	60
End Time (s)	3	45	60	111	3	45	60	111
Yield/Force Off (s)	118	40	55	106	118	40	55	106
Yield/Force Off 170(s)	118	10	55	95	118	10	55	95
Local Start Time (s)	51	63	105	0	51	63	105	0
Local Yield (s)	58	100	115	46	58	100	115	46
Local Yield 170(s)	58	70	115	35	58	70	115	35

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 135
Offset: 60 (50%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Splits and Phases: 13: Kimmick Rd & Paseo del Norte

12 s	42 s	15 s	51 s
12 s	42 s	15 s	51 s

Timing Report, Sorted By Phase
14: Transit Blvd & Unser Blvd

Scheme C -- Year 2035 PM

6/1/2013

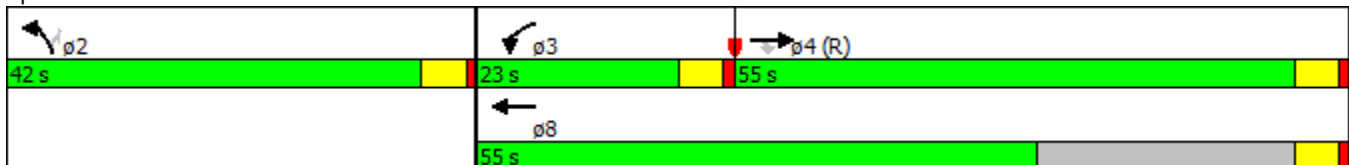


Phase Number	2	3	4	8
Movement	NBL	WBL	EBT	WBT
Lead/Lag		Lead	Lag	
Lead-Lag Optimize		Yes	Yes	
Recall Mode	Max	None	C-Max	None
Maximum Split (s)	42	23	55	55
Maximum Split (%)	35.0%	19.2%	45.8%	45.8%
Minimum Split (s)	37	9.5	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7		7	7
Flash Dont Walk (s)	25		11	11
Dual Entry	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	55	97	0	97
End Time (s)	97	0	55	55
Yield/Force Off (s)	92	115	50	50
Yield/Force Off 170(s)	67	115	39	39
Local Start Time (s)	55	97	0	97
Local Yield (s)	92	115	50	50
Local Yield 170(s)	67	115	39	39

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 4:EBT, Start of Green	

Splits and Phases: 14: Transit Blvd & Unser Blvd



Timing Report, Sorted By Phase
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme C -- Year 2035 PM

6/1/2013

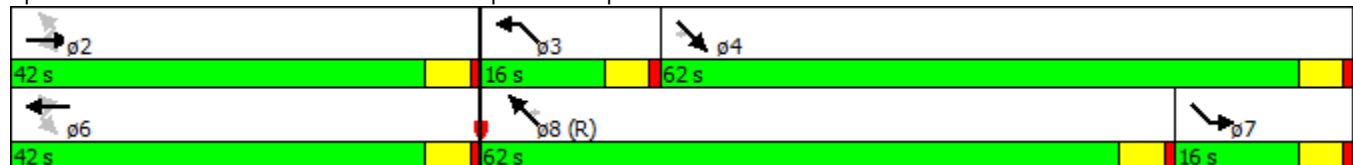


Phase Number	2	3	4	6	7	8
Movement	EBTL	NWL	SET	WBTL	SEL	NWT
Lead/Lag		Lead	Lag		Lag	Lead
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	None	None	Min	None	None	C-Max
Maximum Split (s)	42	16	62	42	16	62
Maximum Split (%)	35.0%	13.3%	51.7%	35.0%	13.3%	51.7%
Minimum Split (s)	27	9	27	42	9	42
Yellow Time (s)	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	15		15	30		30
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	98	20	36	98	82	20
End Time (s)	20	36	98	20	98	82
Yield/Force Off (s)	15	31	93	15	93	77
Yield/Force Off 170(s)	0	31	93	105	93	47
Local Start Time (s)	78	0	16	78	62	0
Local Yield (s)	115	11	73	115	73	57
Local Yield 170(s)	100	11	73	85	73	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 105
Offset: 20 (17%), Referenced to phase 8:NWT, Start of Green

Splits and Phases: 101: Paseo del Norte & Loop Rd W/Loop Rd N



Timing Report, Sorted By Phase
102: Unser Blvd & Loop Rd N

Scheme C -- Year 2035 PM

6/1/2013



Phase Number	2	4	6	8
Movement	NWTL	NETL	SETL	SWTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	42	78	42	78
Maximum Split (%)	35.0%	65.0%	35.0%	65.0%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	18	60	18	60
End Time (s)	60	18	60	18
Yield/Force Off (s)	55	13	55	13
Yield/Force Off 170(s)	44	2	44	2
Local Start Time (s)	78	0	78	0
Local Yield (s)	115	73	115	73
Local Yield 170(s)	104	62	104	62

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	50
Offset: 60 (50%), Referenced to phase 4:NETL and 8:SWTL, Start of Green	

Splits and Phases: 102: Unser Blvd & Loop Rd N



Timing Report, Sorted By Phase
103: Avenita de Jaimito/Transit Blvd & Paseo del Norte

Scheme C -- Year 2035 PM

6/1/2013

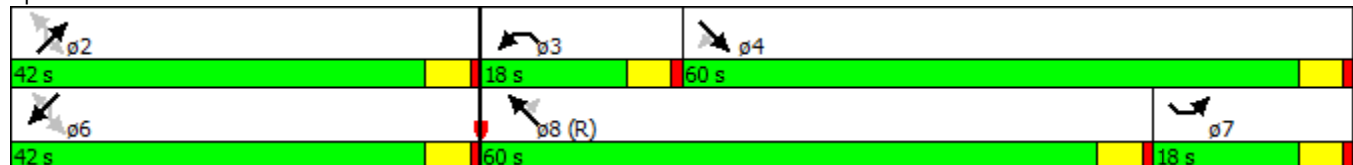


Phase Number	2	3	4	6	7	8
Movement	NETL	NWL	SET	SWTL	SEL	NWT
Lead/Lag		Lead	Lag		Lag	Lead
Lead-Lag Optimize		Yes	Yes			
Recall Mode	None	None	Max	None	None	C-Max
Maximum Split (s)	42	18	60	42	18	60
Maximum Split (%)	35.0%	15.0%	50.0%	35.0%	15.0%	50.0%
Minimum Split (s)	42	9	27	42	9	27
Yellow Time (s)	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	30		15	30		15
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	98	20	38	98	80	20
End Time (s)	20	38	98	20	98	80
Yield/Force Off (s)	15	33	93	15	93	75
Yield/Force Off 170(s)	105	33	78	105	93	60
Local Start Time (s)	78	0	18	78	60	0
Local Yield (s)	115	13	73	115	73	55
Local Yield 170(s)	85	13	58	85	73	40

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 110
Offset: 20 (17%), Referenced to phase 8:NWT, Start of Green

Splits and Phases: 103: Avenita de Jaimito/Transit Blvd & Paseo del Norte



Timing Report, Sorted By Phase
104: Unser Blvd & Loop Rd W/Avenida de Jaimito

Scheme C -- Year 2035 PM

6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	82	38	82	38
Maximum Split (%)	68.3%	31.7%	68.3%	31.7%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	38	0	38	0
End Time (s)	0	38	0	38
Yield/Force Off (s)	115	33	115	33
Yield/Force Off 170(s)	104	22	104	22
Local Start Time (s)	38	0	38	0
Local Yield (s)	115	33	115	33
Local Yield 170(s)	104	22	104	22

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 50
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Splits and Phases: 104: Unser Blvd & Loop Rd W/Avenida de Jaimito



Timing Report, Sorted By Phase

2: Universe

Scheme D
6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	C-Max	None	C-Max	None
Maximum Split (s)	59	61	59	61
Maximum Split (%)	49.2%	50.8%	49.2%	50.8%
Minimum Split (s)	20	20	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	5	5	5	5
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	0	59	0	59
End Time (s)	59	0	59	0
Yield/Force Off (s)	55	116	55	116
Yield/Force Off 170(s)	44	105	44	105
Local Start Time (s)	0	59	0	59
Local Yield (s)	55	116	55	116
Local Yield 170(s)	44	105	44	105

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 40
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 2: Universe

 ϕ2 (R)	 ϕ4
59 s	61 s
 ϕ6 (R)	 ϕ8
59 s	61 s

Timing Report, Sorted By Phase

3: Universe

Scheme D

6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	C-Max	None	C-Max	None
Maximum Split (s)	59	61	59	61
Maximum Split (%)	49.2%	50.8%	49.2%	50.8%
Minimum Split (s)	20	20	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	5	5	5	5
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	0	59	0	59
End Time (s)	59	0	59	0
Yield/Force Off (s)	55	116	55	116
Yield/Force Off 170(s)	44	105	44	105
Local Start Time (s)	0	59	0	59
Local Yield (s)	55	116	55	116
Local Yield 170(s)	44	105	44	105

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 40
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 3: Universe

 ρ2 (R)	 ρ4
59 s	61 s
 ρ6 (R)	 ρ8
59 s	61 s

Timing Report, Sorted By Phase

4: Universe & NE Connector/SW Local

Scheme D
6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	C-Max	None	C-Max	None
Maximum Split (s)	59	61	59	61
Maximum Split (%)	49.2%	50.8%	49.2%	50.8%
Minimum Split (s)	20	20	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	5	5	5	5
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	0	59	0	59
End Time (s)	59	0	59	0
Yield/Force Off (s)	55	116	55	116
Yield/Force Off 170(s)	44	105	44	105
Local Start Time (s)	0	59	0	59
Local Yield (s)	55	116	55	116
Local Yield 170(s)	44	105	44	105

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 40
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Splits and Phases: 4: Universe & NE Connector/SW Local

 p2 (R)	 p4
59 s	61 s
 p6 (R)	 p8
59 s	61 s

Timing Report, Sorted By Phase
11: Universe & Paseo del Norte

Scheme D

6/1/2013

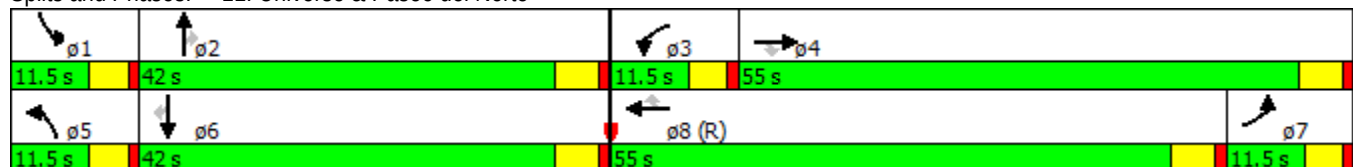


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max
Maximum Split (s)	11.5	42	11.5	55	11.5	42	11.5	55
Maximum Split (%)	9.6%	35.0%	9.6%	45.8%	9.6%	35.0%	9.6%	45.8%
Minimum Split (s)	9	42	9	35	9	42	9	35
Yellow Time (s)	3.5	4	3.5	4	3.5	4	3.5	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		23		30		23
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	6.5	18	60	71.5	6.5	18	115	60
End Time (s)	18	60	71.5	6.5	18	60	6.5	115
Yield/Force Off (s)	13.5	55	67	1.5	13.5	55	2	110
Yield/Force Off 170(s)	13.5	25	67	98.5	13.5	25	2	87
Local Start Time (s)	66.5	78	0	11.5	66.5	78	55	0
Local Yield (s)	73.5	115	7	61.5	73.5	115	62	50
Local Yield 170(s)	73.5	85	7	38.5	73.5	85	62	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 115
Offset: 60 (50%), Referenced to phase 8:WBT, Start of Green

Splits and Phases: 11: Universe & Paseo del Norte



Timing Report, Sorted By Phase
12: Unser Blvd & Paseo del Norte

Scheme D
6/1/2013



Phase Number	1	2	3	4	5	6	7	8
Movement	SWL	NETL	NWL	SET	NEL	SWTL	SEL	NWT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	Max	None	None	None	C-Max
Maximum Split (s)	13	42	15	50	13	42	15	50
Maximum Split (%)	10.8%	35.0%	12.5%	41.7%	10.8%	35.0%	12.5%	41.7%
Minimum Split (s)	9	42	9	41	9	42	9	41
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		30		29		30		29
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	50	63	105	0	50	63	105	0
End Time (s)	63	105	0	50	63	105	0	50
Yield/Force Off (s)	58	100	115	45	58	100	115	45
Yield/Force Off 170(s)	58	70	115	16	58	70	115	16
Local Start Time (s)	50	63	105	0	50	63	105	0
Local Yield (s)	58	100	115	45	58	100	115	45
Local Yield 170(s)	58	70	115	16	58	70	115	16

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 125
Offset: 0 (0%), Referenced to phase 8:NWT, Start of Green, Master Intersection

Splits and Phases: 12: Unser Blvd & Paseo del Norte

13 s	42 s	15 s	50 s
13 s	42 s	15 s	50 s

Timing Report, Sorted By Phase
13: Kimmick Rd & Paseo del Norte

Scheme D

6/1/2013

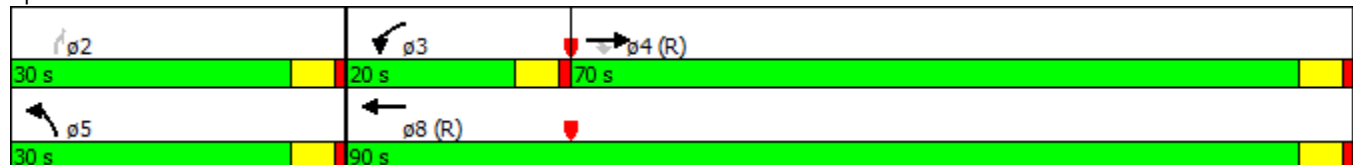


Phase Number	2	3	4	5	8
Movement	NBR	WBL	EBT	NBL	WBT
Lead/Lag		Lead	Lag		
Lead-Lag Optimize					
Recall Mode	None	None	C-Min	None	C-Max
Maximum Split (s)	30	20	70	30	90
Maximum Split (%)	25.0%	16.7%	58.3%	25.0%	75.0%
Minimum Split (s)	27	9.5	23	10	23
Yellow Time (s)	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	7		7		7
Flash Dont Walk (s)	15		11		11
Dual Entry	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	10	40	60	10	40
End Time (s)	40	60	10	40	10
Yield/Force Off (s)	35	55	5	35	5
Yield/Force Off 170(s)	20	55	114	35	114
Local Start Time (s)	70	100	0	70	100
Local Yield (s)	95	115	65	95	65
Local Yield 170(s)	80	115	54	95	54

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 80
Offset: 60 (50%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Splits and Phases: 13: Kimmick Rd & Paseo del Norte



Timing Report, Sorted By Phase
14: Transit Blvd & Unser Blvd

Scheme D
6/1/2013

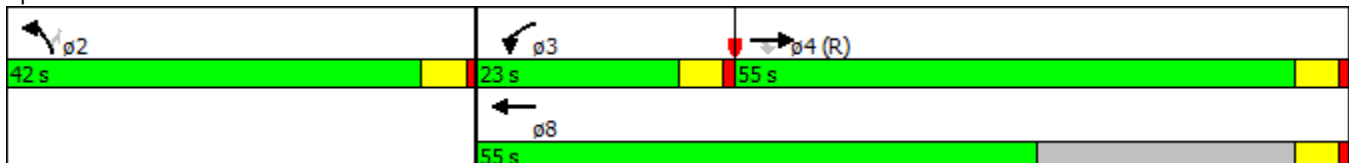


Phase Number	2	3	4	8
Movement	NBL	WBL	EBT	WBT
Lead/Lag		Lead	Lag	
Lead-Lag Optimize		Yes	Yes	
Recall Mode	Max	None	C-Max	None
Maximum Split (s)	42	23	55	55
Maximum Split (%)	35.0%	19.2%	45.8%	45.8%
Minimum Split (s)	37	9.5	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7		7	7
Flash Dont Walk (s)	25		11	11
Dual Entry	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	55	97	0	97
End Time (s)	97	0	55	55
Yield/Force Off (s)	92	115	50	50
Yield/Force Off 170(s)	67	115	39	39
Local Start Time (s)	55	97	0	97
Local Yield (s)	92	115	50	50
Local Yield 170(s)	67	115	39	39

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 4:EBT, Start of Green	

Splits and Phases: 14: Transit Blvd & Unser Blvd



Timing Report, Sorted By Phase
17: Transit Blvd & Local

Scheme D

6/1/2013

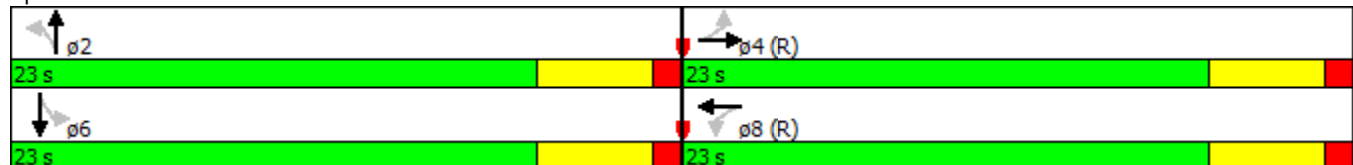


Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	23	23	23	23
Maximum Split (%)	50.0%	50.0%	50.0%	50.0%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	23	0	23	0
End Time (s)	0	23	0	23
Yield/Force Off (s)	41	18	41	18
Yield/Force Off 170(s)	30	7	30	7
Local Start Time (s)	23	0	23	0
Local Yield (s)	41	18	41	18
Local Yield 170(s)	30	7	30	7

Intersection Summary

Cycle Length	46
Control Type	Actuated-Coordinated
Natural Cycle	50
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	

Splits and Phases: 17: Transit Blvd & Local



Timing Report, Sorted By Phase
29: Unser Blvd & Rose Parks

Scheme D
6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	Max	None	Max
Maximum Split (s)	77	43	77	43
Maximum Split (%)	64.2%	35.8%	64.2%	35.8%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	0	77	0	77
End Time (s)	77	0	77	0
Yield/Force Off (s)	72	115	72	115
Yield/Force Off 170(s)	61	104	61	104
Local Start Time (s)	43	0	43	0
Local Yield (s)	115	38	115	38
Local Yield 170(s)	104	27	104	27

Intersection Summary

Cycle Length	120
Control Type	Actuated-Uncoordinated
Natural Cycle	55

Splits and Phases: 29: Unser Blvd & Rose Parks

 p2	 p4
77 s	43 s
 p6	 p8
77 s	43 s

Timing Report, Sorted By Phase

51: Paseo del Norte

Scheme D

6/1/2013

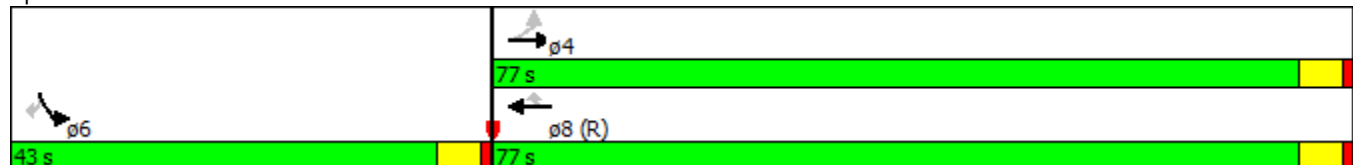


Phase Number	4	6	8
Movement	EBTL	SBL	WBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	None	None	C-Max
Maximum Split (s)	77	43	77
Maximum Split (%)	64.2%	35.8%	64.2%
Minimum Split (s)	23	23	23
Yellow Time (s)	4	4	4
All-Red Time (s)	1	1	1
Minimum Initial (s)	4	4	4
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	7	7	7
Flash Dont Walk (s)	11	11	11
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	0	77	0
End Time (s)	77	0	77
Yield/Force Off (s)	72	115	72
Yield/Force Off 170(s)	61	104	61
Local Start Time (s)	0	77	0
Local Yield (s)	72	115	72
Local Yield 170(s)	61	104	61

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 8:WBT, Start of Green	

Splits and Phases: 51: Paseo del Norte



Timing Report, Sorted By Phase
53: Loop Road East & Local & Loop Rd N

Scheme D
6/1/2013

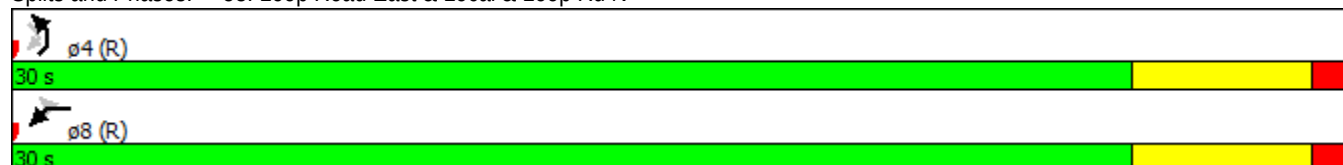


Phase Number	4	8
Movement	NEL	WBL
Lead/Lag		
Lead-Lag Optimize		
Recall Mode	C-Max	C-Max
Maximum Split (s)	30	30
Maximum Split (%)	100.0%	100.0%
Minimum Split (s)	23	23
Yellow Time (s)	4	4
All-Red Time (s)	1	1
Minimum Initial (s)	4	4
Vehicle Extension (s)	3	3
Minimum Gap (s)	3	3
Time Before Reduce (s)	0	0
Time To Reduce (s)	0	0
Walk Time (s)	7	7
Flash Dont Walk (s)	11	11
Dual Entry	Yes	Yes
Inhibit Max	Yes	Yes
Start Time (s)	0	0
End Time (s)	0	0
Yield/Force Off (s)	25	25
Yield/Force Off 170(s)	14	14
Local Start Time (s)	0	0
Local Yield (s)	25	25
Local Yield 170(s)	14	14

Intersection Summary

Cycle Length	30
Control Type	Actuated-Coordinated
Natural Cycle	40
Offset: 0 (0%), Referenced to phase 4:NEL and 8:WBL, Start of Green	

Splits and Phases: 53: Loop Road East & Local & Loop Rd N



Timing Report, Sorted By Phase
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme D

6/1/2013

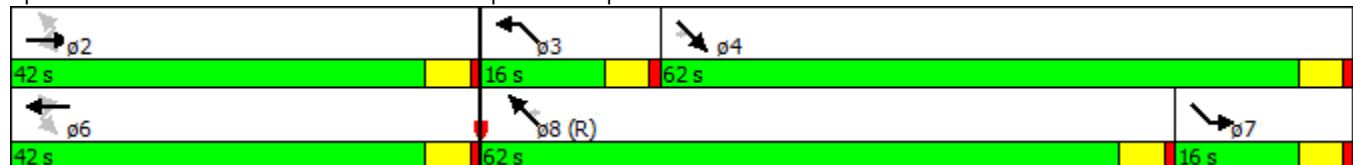


Phase Number	2	3	4	6	7	8
Movement	EBTL	NWL	SET	WBTL	SEL	NWT
Lead/Lag		Lead	Lag		Lag	Lead
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	None	None	Min	None	None	C-Max
Maximum Split (s)	42	16	62	42	16	62
Maximum Split (%)	35.0%	13.3%	51.7%	35.0%	13.3%	51.7%
Minimum Split (s)	27	9	27	42	9	42
Yellow Time (s)	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	15		15	30		30
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	98	20	36	98	82	20
End Time (s)	20	36	98	20	98	82
Yield/Force Off (s)	15	31	93	15	93	77
Yield/Force Off 170(s)	0	31	93	105	93	47
Local Start Time (s)	78	0	16	78	62	0
Local Yield (s)	115	11	73	115	73	57
Local Yield 170(s)	100	11	73	85	73	27

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 105
Offset: 20 (17%), Referenced to phase 8:NWT, Start of Green

Splits and Phases: 101: Paseo del Norte & Loop Rd W/Loop Rd N



Timing Report, Sorted By Phase
102: Unser Blvd & Loop Rd N

Scheme D

6/1/2013



Phase Number	2	4	6	8
Movement	NWTL	NETL	SETL	SWTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	42	78	42	78
Maximum Split (%)	35.0%	65.0%	35.0%	65.0%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	18	60	18	60
End Time (s)	60	18	60	18
Yield/Force Off (s)	55	13	55	13
Yield/Force Off 170(s)	44	2	44	2
Local Start Time (s)	78	0	78	0
Local Yield (s)	115	73	115	73
Local Yield 170(s)	104	62	104	62

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	50
Offset: 60 (50%), Referenced to phase 4:NETL and 8:SWTL, Start of Green	

Splits and Phases: 102: Unser Blvd & Loop Rd N



Timing Report, Sorted By Phase
103: Avenita de Jaimito/Loop Rd East & Paseo del Norte

Scheme D

6/1/2013

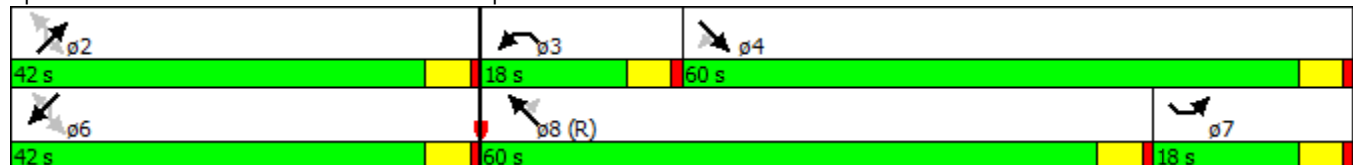


Phase Number	2	3	4	6	7	8
Movement	NETL	NWL	SET	SWTL	SEL	NWT
Lead/Lag		Lead	Lag		Lag	Lead
Lead-Lag Optimize		Yes	Yes			
Recall Mode	None	None	Max	None	None	C-Max
Maximum Split (s)	42	18	60	42	18	60
Maximum Split (%)	35.0%	15.0%	50.0%	35.0%	15.0%	50.0%
Minimum Split (s)	42	9	27	42	9	27
Yellow Time (s)	4	4	4	4	4	4
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	30		15	30		15
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	88	10	28	88	70	10
End Time (s)	10	28	88	10	88	70
Yield/Force Off (s)	5	23	83	5	83	65
Yield/Force Off 170(s)	95	23	68	95	83	50
Local Start Time (s)	78	0	18	78	60	0
Local Yield (s)	115	13	73	115	73	55
Local Yield 170(s)	85	13	58	85	73	40

Intersection Summary

Cycle Length 120
Control Type Actuated-Coordinated
Natural Cycle 110
Offset: 10 (8%), Referenced to phase 8:NWT, Start of Green

Splits and Phases: 103: Avenita de Jaimito/Loop Rd East & Paseo del Norte



Timing Report, Sorted By Phase
104: Unser Blvd & Loop Rd W/Avenida de Jaimito

Scheme D

6/1/2013



Phase Number	2	4	6	8
Movement	NBTL	EBTL	SBTL	WBTL
Lead/Lag				
Lead-Lag Optimize				
Recall Mode	None	C-Max	None	C-Max
Maximum Split (s)	82	38	82	38
Maximum Split (%)	68.3%	31.7%	68.3%	31.7%
Minimum Split (s)	23	23	23	23
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	7	7	7	7
Flash Dont Walk (s)	11	11	11	11
Dual Entry	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	38	0	38	0
End Time (s)	0	38	0	38
Yield/Force Off (s)	115	33	115	33
Yield/Force Off 170(s)	104	22	104	22
Local Start Time (s)	38	0	38	0
Local Yield (s)	115	33	115	33
Local Yield 170(s)	104	22	104	22

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	50
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	

Splits and Phases: 104: Unser Blvd & Loop Rd W/Avenida de Jaimito



Timing Report, Sorted By Phase
105: Paseo del Norte & Transit Blvd

Scheme D

6/1/2013

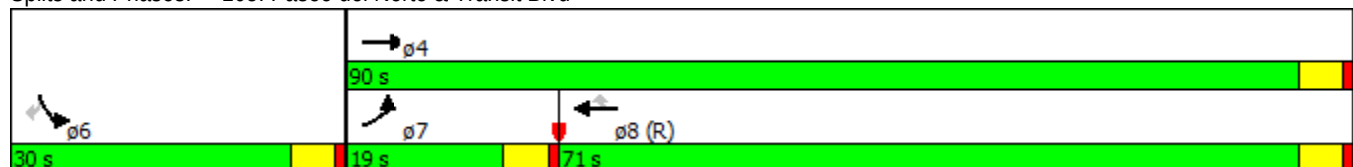


Phase Number	4	6	7	8
Movement	EBT	SBL	EBL	WBT
Lead/Lag			Lead	Lag
Lead-Lag Optimize			Yes	Yes
Recall Mode	Max	None	None	C-Max
Maximum Split (s)	90	30	19	71
Maximum Split (%)	75.0%	25.0%	15.8%	59.2%
Minimum Split (s)	23	27	9	27
Yellow Time (s)	4	4	4	4
All-Red Time (s)	1	1	1	1
Minimum Initial (s)	4	4	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		7		7
Flash Dont Walk (s)		15		15
Dual Entry	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	11	101	11	30
End Time (s)	101	11	30	101
Yield/Force Off (s)	96	6	25	96
Yield/Force Off 170(s)	96	111	25	81
Local Start Time (s)	101	71	101	0
Local Yield (s)	66	96	115	66
Local Yield 170(s)	66	81	115	51

Intersection Summary

Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	100
Offset: 30 (25%), Referenced to phase 8:WBT, Start of Green	

Splits and Phases: 105: Paseo del Norte & Transit Blvd



HCM 2010 Signalized Intersection Summary

11: Universe & Paseo del Norte

Scheme D
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	1832	54	100	2101	250	104	500	50	150	400	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
Arrive On Green	0.06	0.51	0.51	0.05	0.49	0.49	0.09	0.39	0.39	0.06	0.21	0.21
Sat Flow, veh/h	3442	5588	1583	3442	5588	1583	3442	3725	1583	3442	3725	1583
Grp Volume(v), veh/h	150	1832	54	100	2101	250	104	500	50	150	400	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1721	1863	1583	1721	1863	1583
Q Serve(g_s), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Cycle Q Clear(g_c), s	4.4	24.5	1.8	2.9	31.5	6.8	3.0	11.4	2.1	4.4	9.7	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	2847	807	157	2730	774	160	736	313	212	792	337
V/C Ratio(X)	0.71	0.64	0.07	0.64	0.77	0.32	0.65	0.68	0.16	0.71	0.51	0.45
Avail Cap(c_a), veh/h	235	2847	807	235	2730	774	235	1347	572	235	1347	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	18.3	12.7	48.0	21.4	7.7	45.6	28.3	25.5	47.1	35.5	22.3
Incr Delay (d2), s/veh	8.3	0.5	0.0	2.8	1.4	0.7	4.4	1.1	0.2	8.3	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.2	10.6	0.6	1.3	14.0	2.4	1.3	4.4	0.8	2.2	4.5	2.6
Lane Grp Delay (d), s/veh	55.4	18.8	12.8	50.8	22.9	8.5	49.9	29.4	25.7	55.4	36.0	23.2
Lane Grp LOS	E	B	B	D	C	A	D	C	C	E	D	C
Approach Vol, veh/h		2036			2451			654			700	
Approach Delay, s/veh		21.4			22.5			32.4			37.4	
Approach LOS		C			C			C			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	11.3	57.1		9.2	55.0		9.3	25.2		10.8	26.8	
Change Period (Y+Rc), s	5.0	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Max Green Setting (Gmax), s	7.0	50.0		7.0	50.0		7.0	37.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s	6.4	26.5		4.9	33.5		5.0	13.4		6.4	11.7	
Green Ext Time (p_c), s	0.0	14.9		0.0	12.9		0.0	6.9		0.0	7.0	
Intersection Summary												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
12: Unser Blvd & Paseo del Norte

Scheme D
6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	1900	109	150	2411	100	150	905	200	150	792	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.97	1.00		0.97
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.05	0.32	0.32	0.09	0.64	0.64
Sat Flow, veh/h	3442	5588	1547	3442	5588	1549	3442	3725	1538	3442	3725	1538
Grp Volume(v), veh/h	100	1900	109	150	2411	100	150	905	200	150	792	150
Grp Sat Flow(s),veh/h/ln	1721	1863	1547	1721	1863	1549	1721	1863	1538	1721	1863	1538
Q Serve(g_s), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Cycle Q Clear(g_c), s	3.2	35.1	5.2	4.8	46.8	4.2	3.3	24.8	10.5	3.3	15.3	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	2222	615	210	2311	715	498	1184	585	386	1183	560
V/C Ratio(X)	0.65	0.86	0.18	0.72	1.04	0.14	0.30	0.76	0.34	0.39	0.67	0.27
Avail Cap(c_a), veh/h	304	2222	615	304	2311	715	579	1218	599	468	1218	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.62	0.62	0.62	0.44	0.44	0.44	0.72	0.72	0.72	0.92	0.92	0.92
Uniform Delay (d), s/veh	53.2	31.1	22.1	52.2	33.2	17.6	25.1	34.8	25.1	25.7	16.9	13.1
Incr Delay (d2), s/veh	2.8	2.9	0.4	2.0	25.7	0.2	0.2	2.1	0.2	0.6	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	16.4	2.0	2.2	26.5	1.5	1.4	11.8	3.9	1.3	4.7	1.5
Lane Grp Delay (d), s/veh	55.9	34.0	22.5	54.2	58.9	17.8	25.3	36.9	25.4	26.3	18.1	13.3
Lane Grp LOS	E	C	C	D	F	B	C	D	C	C	B	B
Approach Vol, veh/h	2109				2661				1255			
Approach Delay, s/veh	34.4				57.1				33.7			
Approach LOS	C				E				C			
Timer												
Assigned Phs	7	4			3	8			5	2		
Phs Duration (G+Y+Rc), s	10.1	50.0			11.9	51.8			10.3	41.0		
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0			5.0	5.0		
Max Green Setting (Gmax), s	10.0	45.0			10.0	45.0			8.0	37.0		
Max Q Clear Time (g_c+I1), s	5.2	37.1			6.8	48.8			5.3	26.8		
Green Ext Time (p_c), s	0.1	7.8			0.1	0.0			0.1	7.5		
Intersection Summary												
HCM 2010 Ctrl Delay	40.3											
HCM 2010 LOS	D											
Notes												

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary
14: Transit Blvd & Unser Blvd

Scheme D
6/1/2013

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑
Volume (veh/h)	999	100	182	810	175	309
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	2	2	1	1
Cap, veh/h	1693	708	252	2134	596	532
Arrive On Green	0.45	0.45	0.07	0.57	0.34	0.34
Sat Flow, veh/h	3725	1557	3442	3725	1774	1583
Grp Volume(v), veh/h	999	100	182	810	175	309
Grp Sat Flow(s),veh/h/ln	1863	1557	1721	1863	1774	1583
Q Serve(g_s), s	22.0	4.1	5.7	13.1	8.0	17.7
Cycle Q Clear(g_c), s	22.0	4.1	5.7	13.1	8.0	17.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1693	708	252	2134	596	532
V/C Ratio(X)	0.59	0.14	0.72	0.38	0.29	0.58
Avail Cap(c_a), veh/h	1693	708	563	2134	596	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	17.5	49.9	12.8	26.9	30.1
Incr Delay (d2), s/veh	1.5	0.4	3.9	0.1	1.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	10.2	1.6	2.6	5.4	3.8	7.5
Lane Grp Delay (d), s/veh	23.9	17.9	53.8	12.9	28.1	34.7
Lane Grp LOS	C	B	D	B	C	C
Approach Vol, veh/h	1099			992	484	
Approach Delay, s/veh	23.4			20.4	32.3	
Approach LOS	C			C	C	
Timer						
Assigned Phs	4		3	8		
Phs Duration (G+Y+Rc), s	55.0		13.0	68.0		
Change Period (Y+Rc), s	5.0		5.0	5.0		
Max Green Setting (Gmax), s	50.0		18.0	50.0		
Max Q Clear Time (g_c+I1), s	24.0		7.7	15.1		
Green Ext Time (p_c), s	14.2		0.4	16.5		
Intersection Summary						
HCM 2010 Ctrl Delay			23.9			
HCM 2010 LOS			C			
Notes						

HCM 2010 Signalized Intersection Summary
101: Paseo del Norte & Loop Rd W/Loop Rd N

Scheme D
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	114	100	246	133	100	137	131	1730	172	262	2200	250
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		0.98	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	193.7	186.3	186.3	193.7
Lanes	1	1	1	1	1	1	1	3	1	1	3	1
Cap, veh/h	312	490	407	289	490	407	169	2823	815	174	2837	826
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.10	0.51	0.51	0.20	1.00	1.00
Sat Flow, veh/h	1121	1863	1547	1017	1863	1547	1774	5588	1614	1774	5588	1627
Grp Volume(v), veh/h	114	100	246	133	100	137	131	1730	172	262	2200	250
Grp Sat Flow(s),veh/h/ln	1121	1863	1547	1017	1863	1547	1774	1863	1614	1774	1863	1627
Q Serve(g_s), s	9.9	4.7	15.6	13.1	4.7	8.0	8.1	24.9	6.6	11.0	0.0	0.0
Cycle Q Clear(g_c), s	14.6	4.7	15.6	17.8	4.7	8.0	8.1	24.9	6.6	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	490	407	289	490	407	169	2823	815	174	2837	826
V/C Ratio(X)	0.36	0.20	0.60	0.46	0.20	0.34	0.77	0.61	0.21	1.51	0.78	0.30
Avail Cap(c_a), veh/h	387	614	510	357	614	510	174	2837	819	174	2837	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.63	0.63	0.09	0.09	0.09
Uniform Delay (d), s/veh	37.9	32.2	36.2	39.1	32.2	33.4	49.6	19.9	15.4	45.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.2	1.4	1.1	0.2	0.5	12.4	0.2	0.1	231.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.9	2.2	6.1	3.5	2.2	3.1	4.2	11.0	2.5	15.5	0.1	0.0
Lane Grp Delay (d), s/veh	38.6	32.4	37.7	40.3	32.4	33.9	62.0	20.1	15.5	276.1	0.2	0.1
Lane Grp LOS	D	C	D	D	C	C	E	C	B	F	A	A
Approach Vol, veh/h		460			370			2033			2712	
Approach Delay, s/veh		36.8			35.8			22.5			26.8	
Approach LOS		D			D			C			C	
Timer												
Assigned Phs		2			6		7	4		3	8	
Phs Duration (G+Y+Rc), s		34.5			34.5		15.7	61.7		16.0	62.0	
Change Period (Y+Rc), s		5.0			5.0		5.0	5.0		5.0	5.0	
Max Green Setting (Gmax), s		37.0			37.0		11.0	57.0		11.0	57.0	
Max Q Clear Time (g_c+I1), s		17.6			19.8		10.1	26.9		13.0	2.0	
Green Ext Time (p_c), s		3.2			3.1		0.8	16.6		0.0	31.6	
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									
Notes												

HCM 2010 Signalized Intersection Summary
102: Unser Blvd & Loop Rd N

Scheme D

6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	100	150	150	100	150	131	850	125	100	791	63
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	261	403	343	261	403	343	458	2568	1091	411	2568	1091
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	1125	1863	1583	1125	1863	1583	644	3725	1583	574	3725	1583
Grp Volume(v), veh/h	100	100	150	150	100	150	131	850	125	100	791	63
Grp Sat Flow(s),veh/h/ln	1125	1863	1583	1125	1863	1583	644	1863	1583	574	1863	1583
Q Serve(g_s), s	8.6	4.7	8.7	13.5	4.7	8.7	10.7	9.7	2.8	9.0	8.9	1.4
Cycle Q Clear(g_c), s	13.3	4.7	8.7	18.2	4.7	8.7	19.6	9.7	2.8	18.7	8.9	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	403	343	261	403	343	458	2568	1091	411	2568	1091
V/C Ratio(X)	0.38	0.25	0.44	0.57	0.25	0.44	0.29	0.33	0.11	0.24	0.31	0.06
Avail Cap(c_a), veh/h	411	651	553	411	651	553	458	2568	1091	411	2568	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	34.4	35.9	41.9	34.4	35.9	10.4	6.6	5.6	10.4	6.5	5.3
Incr Delay (d2), s/veh	0.9	0.3	0.9	2.0	0.3	0.9	0.8	0.2	0.1	1.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.5	2.3	3.5	4.0	2.3	3.5	1.6	3.7	0.9	1.3	3.4	0.5
Lane Grp Delay (d), s/veh	40.8	34.7	36.8	43.9	34.7	36.8	11.2	6.8	5.7	11.8	6.8	5.4
Lane Grp LOS	D	C	D	D	C	D	B	A	A	B	A	A
Approach Vol, veh/h		350			400			1106			954	
Approach Delay, s/veh		37.3			38.9			7.2			7.2	
Approach LOS		D			D			A			A	
Timer												
Assigned Phs		6			2			4			8	
Phs Duration (G+Y+Rc), s		27.9			27.9			78.0			78.0	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		37.0			37.0			73.0			73.0	
Max Q Clear Time (g_c+I1), s		15.3			20.2			21.6			20.7	
Green Ext Time (p_c), s		2.9			2.7			19.0			19.1	
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
103: Avenita de Jaimito/Loop Rd East & Paseo del Norte

Scheme D
6/1/2013

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	100	1900	250	262	2233	343	135	100	272	78	100	293
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	167.6	167.6	174.4	167.6	167.6	174.4	167.6	167.6	167.6	167.6	167.6	167.6
Lanes	2	3	1	2	3	1	1	1	1	1	1	1
Cap, veh/h	316	2441	710	316	2441	710	270	470	391	274	470	391
Arrive On Green	0.10	0.49	0.49	0.10	0.49	0.49	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	3097	5029	1464	3097	5029	1464	878	1676	1395	895	1676	1395
Grp Volume(v), veh/h	100	1900	250	262	2233	343	135	100	272	78	100	293
Grp Sat Flow(s),veh/h/ln	1549	1676	1464	1549	1676	1464	878	1676	1395	895	1676	1395
Q Serve(g_s), s	3.4	35.4	12.0	9.4	46.6	17.8	15.8	5.2	19.8	8.3	5.2	21.7
Cycle Q Clear(g_c), s	3.4	35.4	12.0	9.4	46.6	17.8	20.9	5.2	19.8	13.5	5.2	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	2441	710	316	2441	710	270	470	391	274	470	391
V/C Ratio(X)	0.32	0.78	0.35	0.83	0.91	0.48	0.50	0.21	0.70	0.29	0.21	0.75
Avail Cap(c_a), veh/h	355	2441	710	355	2441	710	310	547	455	315	547	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	24.1	18.1	49.9	27.0	19.6	39.2	31.2	36.4	36.3	31.2	37.1
Incr Delay (d2), s/veh	0.2	0.9	0.5	4.6	2.2	0.7	1.4	0.2	3.8	0.6	0.2	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.3	14.3	4.3	3.9	18.9	6.3	3.6	2.2	7.2	1.9	2.2	8.1
Lane Grp Delay (d), s/veh	47.4	25.0	18.6	54.5	29.2	20.3	40.6	31.4	40.2	36.9	31.4	42.9
Lane Grp LOS	D	C	B	D	C	C	D	C	D	D	C	D
Approach Vol, veh/h	2250				2838		507				471	
Approach Delay, s/veh	25.3				30.5		38.6				39.5	
Approach LOS	C				C		D				D	
Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	16.5	60.0		16.5	60.0			36.8			36.8	
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0			5.0			5.0	
Max Green Setting (Gmax), s	13.0	55.0		13.0	55.0			37.0			37.0	
Max Q Clear Time (g_c+I1), s	5.4	37.4		11.4	48.6			22.9			23.7	
Green Ext Time (p_c), s	6.4	12.9		0.1	5.8			3.5			3.4	
Intersection Summary												
HCM 2010 Ctrl Delay	29.9											
HCM 2010 LOS	C											
Notes												

HCM 2010 Signalized Intersection Summary
104: Unser Blvd & Loop Rd W/Avenita de Jaimito

Scheme D
6/1/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	100	180	180	100	100	121	1105	202	50	800	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Cap, veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1178	1863	1583	1095	1863	1583	561	3725	1583	419	3725	1583
Grp Volume(v), veh/h	50	100	180	180	100	100	121	1105	202	50	800	200
Grp Sat Flow(s),veh/h/ln	1178	1863	1583	1095	1863	1583	561	1863	1583	419	1863	1583
Q Serve(g_s), s	3.0	3.6	8.1	13.1	3.6	4.3	15.1	18.1	6.3	8.3	11.8	6.2
Cycle Q Clear(g_c), s	6.5	3.6	8.1	16.7	3.6	4.3	26.8	18.1	6.3	26.4	11.8	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	639	544	410	639	544	316	2059	875	228	2059	875
V/C Ratio(X)	0.11	0.16	0.33	0.44	0.16	0.18	0.38	0.54	0.23	0.22	0.39	0.23
Avail Cap(c_a), veh/h	435	639	544	410	639	544	456	2984	1268	332	2984	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46	0.66	0.66	0.66
Uniform Delay (d), s/veh	24.2	21.9	23.4	27.7	21.9	22.1	19.9	13.7	11.0	22.1	12.2	11.0
Incr Delay (d2), s/veh	0.5	0.5	1.6	3.4	0.5	0.7	0.4	0.1	0.1	0.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	1.8	3.4	3.9	1.8	1.8	2.0	7.4	2.1	0.9	4.8	2.1
Lane Grp Delay (d), s/veh	24.7	22.4	25.0	31.1	22.4	22.9	20.2	13.8	11.1	22.4	12.3	11.1
Lane Grp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		330			380			1428			1050	
Approach Delay, s/veh		24.2			26.6			13.9			12.6	
Approach LOS		C			C			B			B	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		38.0			38.0			58.1			58.1	
Change Period (Y+Rc), s		5.0			5.0			5.0			5.0	
Max Green Setting (Gmax), s		33.0			33.0			77.0			77.0	
Max Q Clear Time (g_c+I1), s		10.1			18.7			28.8			28.4	
Green Ext Time (p_c), s		2.8			2.5			24.3			24.4	
Intersection Summary												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
105: Paseo del Norte & Transit Blvd

Scheme D
6/1/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	277	1973	2626	264	383	212
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	3	1	2	1
Cap, veh/h	219	4197	3259	923	553	254
Arrive On Green	0.12	0.75	0.39	0.39	0.16	0.16
Sat Flow, veh/h	1774	5588	5588	1583	3442	1583
Grp Volume(v), veh/h	277	1973	2626	264	383	212
Grp Sat Flow(s),veh/h/ln	1774	1863	1863	1583	1721	1583
Q Serve(g_s), s	14.0	15.4	47.3	12.9	11.9	14.7
Cycle Q Clear(g_c), s	14.0	15.4	47.3	12.9	11.9	14.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	219	4197	3259	923	553	254
V/C Ratio(X)	1.26	0.47	0.81	0.29	0.69	0.83
Avail Cap(c_a), veh/h	219	4197	3259	923	760	350
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.62	0.62	1.00	1.00
Uniform Delay (d), s/veh	49.6	5.4	28.8	18.3	44.9	46.0
Incr Delay (d2), s/veh	138.6	0.2	1.4	0.5	1.6	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	14.7	5.6	23.0	5.4	5.4	0.8
Lane Grp Delay (d), s/veh	188.2	5.7	30.2	18.8	46.5	57.8
Lane Grp LOS	F	A	C	B	D	E
Approach Vol, veh/h		2250	2890		595	
Approach Delay, s/veh		28.1	29.1		50.5	
Approach LOS		C	C		D	
Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	19.0	90.0	71.0			
Change Period (Y+Rc), s	5.0	5.0	5.0			
Max Green Setting (Gmax), s	14.0	85.0	66.0			
Max Q Clear Time (g_c+I1), s	16.0	17.4	49.3			
Green Ext Time (p_c), s	0.0	65.3	16.6			
Intersection Summary						
HCM 2010 Ctrl Delay			31.0			
HCM 2010 LOS			C			
Notes						

Appendix C

Arterial Level of Service

Arterial Level of Service: NW Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Loop Rd East	II	45	50.4	30.2	80.6	0.63	28.1	B
Unser Blvd	II	45	24.4	136.7	161.1	0.22	5.0	F
Loop Rd N	II	45	27.8	5.7	33.5	0.28	30.1	B
Universe	II	45	29.0	13.5	42.5	0.29	24.8	C
Total	II		131.6	186.1	317.7	1.43	16.2	E

Arterial Level of Service: SE Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Universe	II	45	44.6	26.0	70.6	0.51	25.9	C
Loop Rd W	II	45	29.0	46.0	75.0	0.29	14.0	E
Unser Blvd	II	45	27.8	65.2	93.0	0.28	10.9	F
Avenida de Jaimito	II	45	24.4	11.6	36.0	0.22	22.4	C
Total	II		125.8	148.8	274.6	1.30	17.1	D

Arterial Level of Service: NB Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Avenida de Jaimito	II	45	44.6	28.6	73.2	0.51	24.9	C
Paseo del Norte	II	45	24.3	30.6	54.9	0.22	14.6	E
Loop Rd N	II	45	24.4	1.2	25.6	0.22	31.5	B
Total	II		93.3	60.4	153.7	0.95	22.3	C

Arterial Level of Service: SW Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Loop Rd N	II	44	25.2	5.1	30.3	0.24	28.8	B
Paseo del Norte	II	45	24.4	39.5	63.9	0.22	12.6	F
Loop Rd W	II	45	24.3	39.8	64.1	0.22	12.5	F
Total	II		73.9	84.4	158.3	0.69	15.7	E

Arterial Level of Service: EB Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Universe	II	45	44.6	26.0	70.6	0.51	25.9	C
Unser Blvd	II	45	45.8	53.8	99.6	0.57	20.7	D
Kimmick Rd	II	45	43.0	24.0	67.0	0.49	26.2	C
	II	45	59.2	0.8	60.0	0.74	44.5	A
Total	II		192.6	104.6	297.2	2.31	28.0	C

Arterial Level of Service: WB Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	11.0	2.9	13.9	0.10	26.2	C
Kimmick Rd	II	45	59.2	114.2	173.4	0.74	15.4	E
Unser Blvd	II	45	28.2	150.8	179.0	0.28	5.7	F
Universe	II	45	45.8	10.7	56.5	0.57	36.5	A
Total	II		144.2	278.6	422.8	1.70	14.5	E

Arterial Level of Service: EB Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Rose Parks	II	45	3.8	24.9	28.7	0.03	4.4	F
Paseo del Norte	II	45	31.9	49.8	81.7	0.32	14.2	E
Transit Blvd	II	43	39.8	15.2	55.0	0.44	28.6	B
Total	II		75.5	89.9	165.4	0.79	17.3	D

Arterial Level of Service: WB Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Transit Blvd	II	45	42.9	25.4	68.3	0.47	24.9	C
Paseo del Norte	II	45	39.8	40.6	80.4	0.44	19.6	D
Rose Parks	II	45	36.5	20.0	56.5	0.39	24.8	C
Total	II		119.2	86.0	205.2	1.30	22.8	C

Arterial Level of Service: NW Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Transit Blvd	II	45	43.8	44.6	88.4	0.50	20.3	D
Unser Blvd	II	45	28.5	144.4	172.9	0.27	5.7	F
Loop Rd N	II	45	27.8	5.4	33.2	0.28	30.4	B
Universe	II	45	29.0	13.4	42.4	0.29	24.8	C
Total	II		129.1	207.8	336.9	1.35	14.4	E

Arterial Level of Service: SE Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Universe	II	45	44.6	26.0	70.6	0.51	25.9	C
Loop Rd W	II	45	29.0	46.0	75.0	0.29	14.0	E
Unser Blvd	II	45	27.8	65.2	93.0	0.28	10.9	F
Avenida de Jaimito	II	45	28.5	14.9	43.4	0.27	22.8	C
Total	II		129.9	152.1	282.0	1.35	17.3	D

Arterial Level of Service: NE Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Avenida de Jaimito	II	45	36.5	28.6	65.1	0.39	21.5	D
Paseo del Norte	II	45	31.9	30.4	62.3	0.32	18.6	D
Loop Rd N	II	45	25.9	1.4	27.3	0.25	32.8	B
Total	II		94.3	60.4	154.7	0.96	22.3	C

Arterial Level of Service: SW Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Loop Rd N	II	44	26.4	5.3	31.7	0.25	28.8	B
Paseo del Norte	II	45	25.9	39.9	65.8	0.25	13.6	E
Loop Rd W	II	45	31.9	48.4	80.3	0.32	14.4	E
Total	II		84.2	93.6	177.8	0.82	16.7	E

Arterial Level of Service: EB Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Universe	II	45	44.6	26.0	70.6	0.51	25.9	C
Loop Rd W	II	45	29.0	46.0	75.0	0.29	14.0	E
Unser Blvd	II	45	27.8	65.2	93.0	0.28	10.9	F
Avenida de Jaimito	II	45	24.4	10.3	34.7	0.22	23.2	C
Transit Blvd	II	45	28.3	3.2	31.5	0.29	32.7	B
Kimmick Rd	II	45	33.0	11.5	44.5	0.34	27.8	C
	II	45	51.7	0.3	52.0	0.65	44.7	A
Total	II		238.8	162.5	401.3	2.58	23.1	C

Arterial Level of Service: WB Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
	II	45	11.0	2.9	13.9	0.10	26.2	C
Kimmick Rd	II	45	51.7	7.3	59.0	0.65	39.4	A
Transit Blvd	II	45	33.0	28.4	61.4	0.34	20.1	D
Loop Rd East	II	45	28.3	40.1	68.4	0.29	15.0	E
Unser Blvd	II	45	24.4	134.4	158.8	0.22	5.1	F
Loop Rd N	II	45	27.8	5.7	33.5	0.28	30.1	B
Universe	II	45	29.0	13.6	42.6	0.29	24.7	C
Total	II		205.2	232.4	437.6	2.17	17.9	D

Arterial Level of Service: NB Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Rose Parks	II	45	3.8	24.9	28.7	0.03	4.4	F
Avenida de Jaimito	II	45	44.6	28.6	73.2	0.51	24.9	C
Paseo del Norte	II	45	24.3	30.5	54.8	0.22	14.6	E
Loop Rd N	II	45	24.4	1.2	25.6	0.22	31.5	B
Transit Blvd	II	40	26.7	15.9	42.6	0.24	20.5	D
Total	II		123.8	101.1	224.9	1.23	19.7	D

Arterial Level of Service: SB Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Transit Blvd	II	45	10.3	12.6	22.9	0.09	14.9	E
Loop Rd N	II	44	25.2	5.1	30.3	0.24	28.8	B
Paseo del Norte	II	45	24.4	39.6	64.0	0.22	12.6	F
Loop Rd W	II	45	24.3	39.8	64.1	0.22	12.5	F
Rose Parks	II	45	44.6	20.0	64.6	0.51	28.3	B
Total	II		128.8	117.1	245.9	1.29	18.9	D

Arterial Level of Service: NW Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Transit Blvd	II	45	43.8	44.6	88.4	0.50	20.3	D
Unser Blvd	II	45	28.5	144.4	172.9	0.27	5.7	F
Loop Rd N	II	45	27.8	5.4	33.2	0.28	30.4	B
Universe	II	45	29.0	13.4	42.4	0.29	24.8	C
Total	II		129.1	207.8	336.9	1.35	14.4	E

Arterial Level of Service: SE Paseo del Norte

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Universe	II	45	44.6	26.0	70.6	0.51	25.9	C
Loop Rd W	II	45	29.0	46.0	75.0	0.29	14.0	E
Unser Blvd	II	45	27.8	65.2	93.0	0.28	10.9	F
Avenida de Jaimito	II	45	28.5	14.9	43.4	0.27	22.8	C
Total	II		129.9	152.1	282.0	1.35	17.3	D

Arterial Level of Service: NE Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Avenida de Jaimito	II	45	36.5	28.6	65.1	0.39	21.5	D
Paseo del Norte	II	45	31.9	30.4	62.3	0.32	18.6	D
Loop Rd N	II	45	25.9	1.4	27.3	0.25	32.8	B
Total	II		94.3	60.4	154.7	0.96	22.3	C

Arterial Level of Service: SW Unser Blvd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Loop Rd N	II	44	26.4	5.3	31.7	0.25	28.8	B
Paseo del Norte	II	45	25.9	39.9	65.8	0.25	13.6	E
Loop Rd W	II	45	31.9	48.4	80.3	0.32	14.4	E
Total	II		84.2	93.6	177.8	0.82	16.7	E

Appendix D

Turning Movements (Scheme A)

