

**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**

Appendix A Traffic Volume Counts
October 8, 2021

Appendix A **TRAFFIC VOLUME COUNTS & VMT**

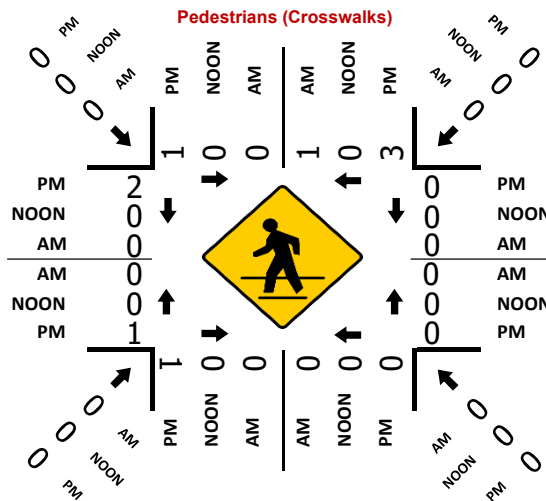
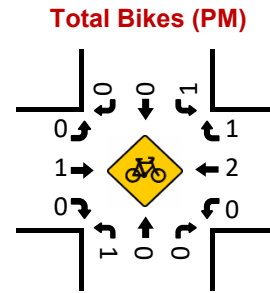
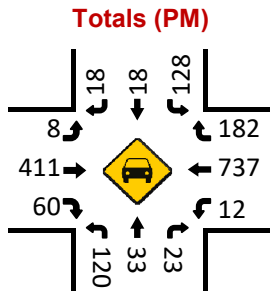
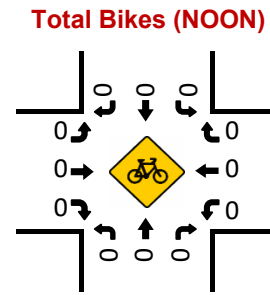
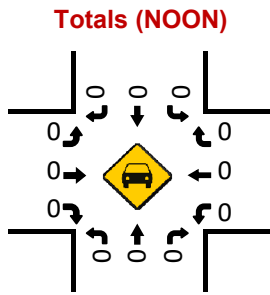
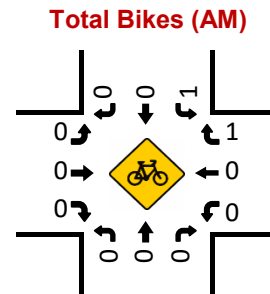
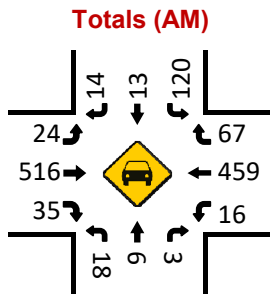
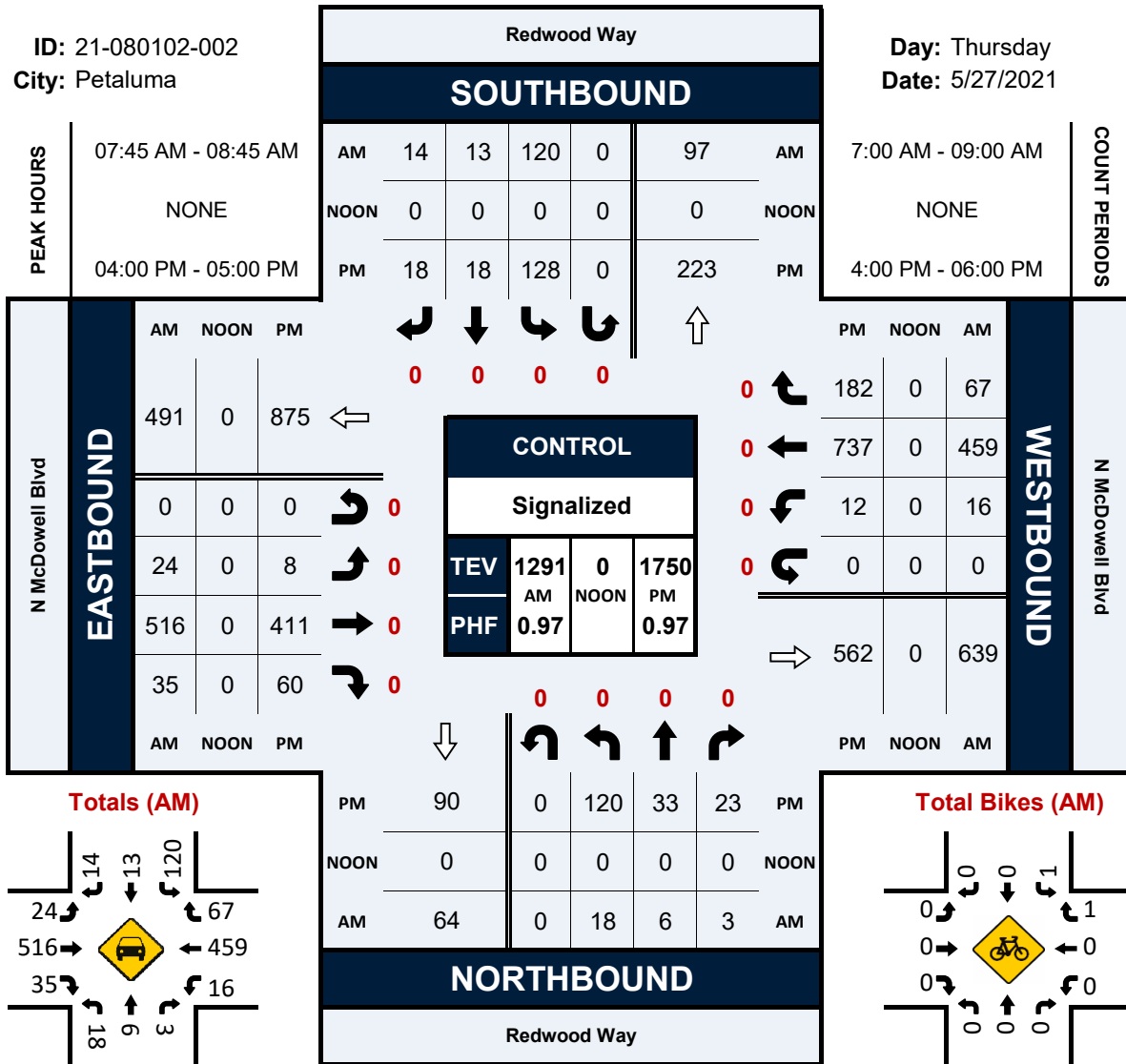
Appendix for Transportation Impact Study
for the Proposed Home Depot @ 261 N
McDowell Blvd, Petaluma, CA, Draft
Report, dated October 8, 2021

Redwood Way & N McDowell Blvd

Peak Hour Turning Movement Count

ID: 21-080102-002
City: Petaluma

Day: Thursday
Date: 5/27/2021

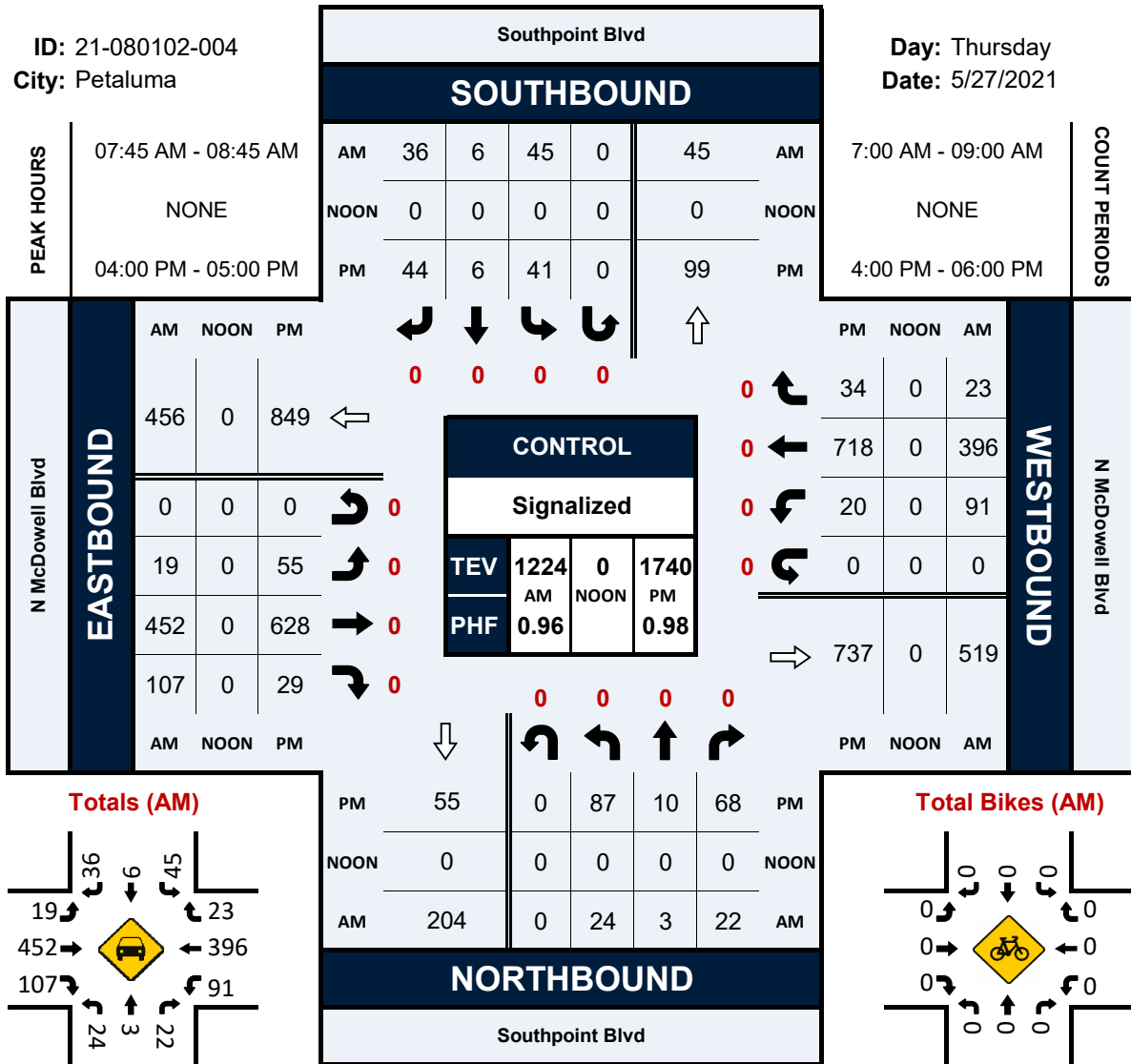


Southpoint Blvd & N McDowell Blvd

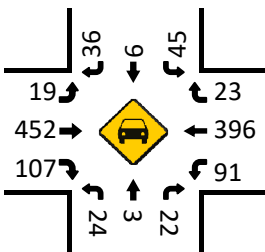
Peak Hour Turning Movement Count

ID: 21-080102-004
City: Petaluma

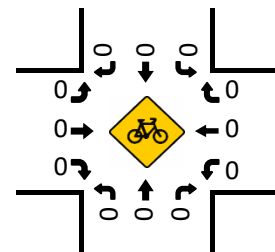
Day: Thursday
Date: 5/27/2021



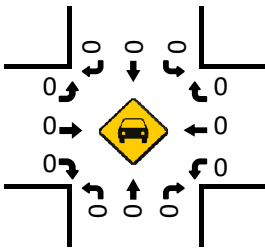
Totals (AM)



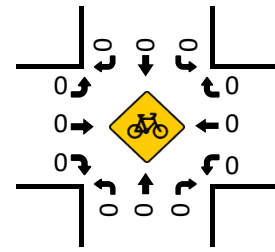
Total Bikes (AM)



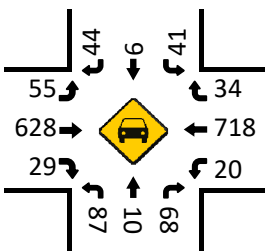
Totals (NOON)



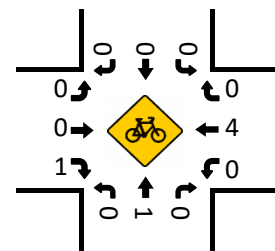
Total Bikes (NOON)



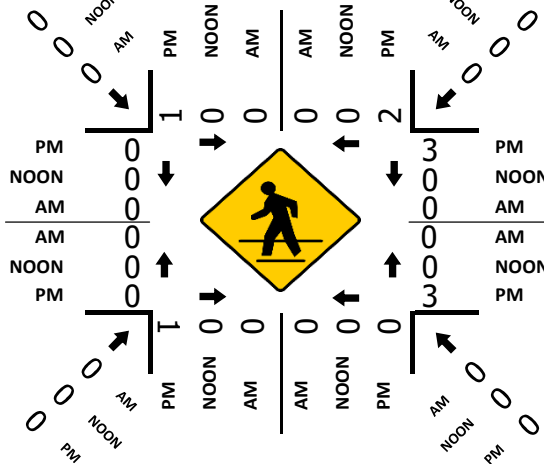
Totals (PM)



Total Bikes (PM)



Pedestrians (Crosswalks)

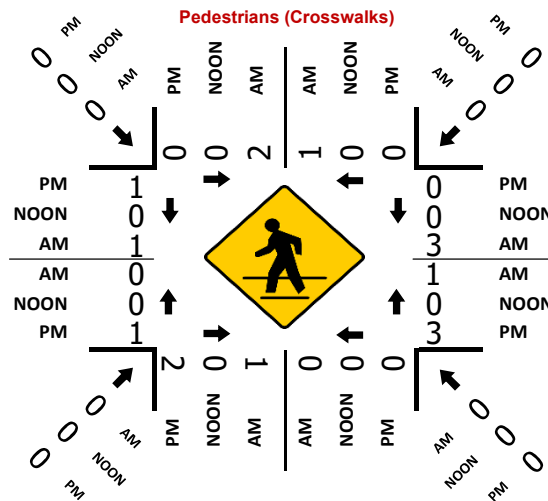
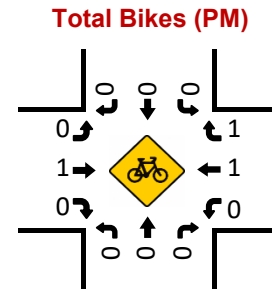
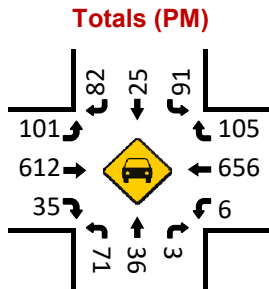
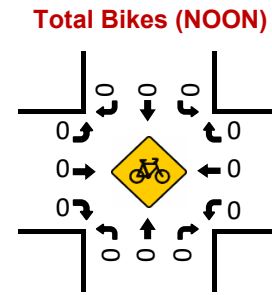
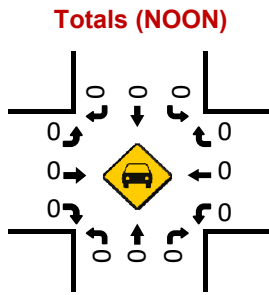
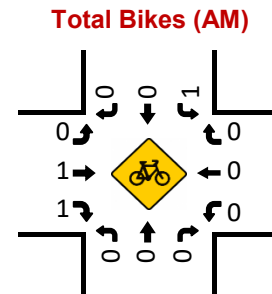
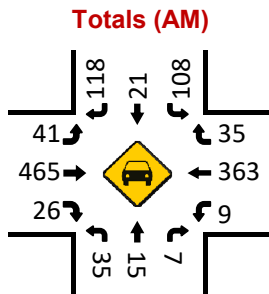
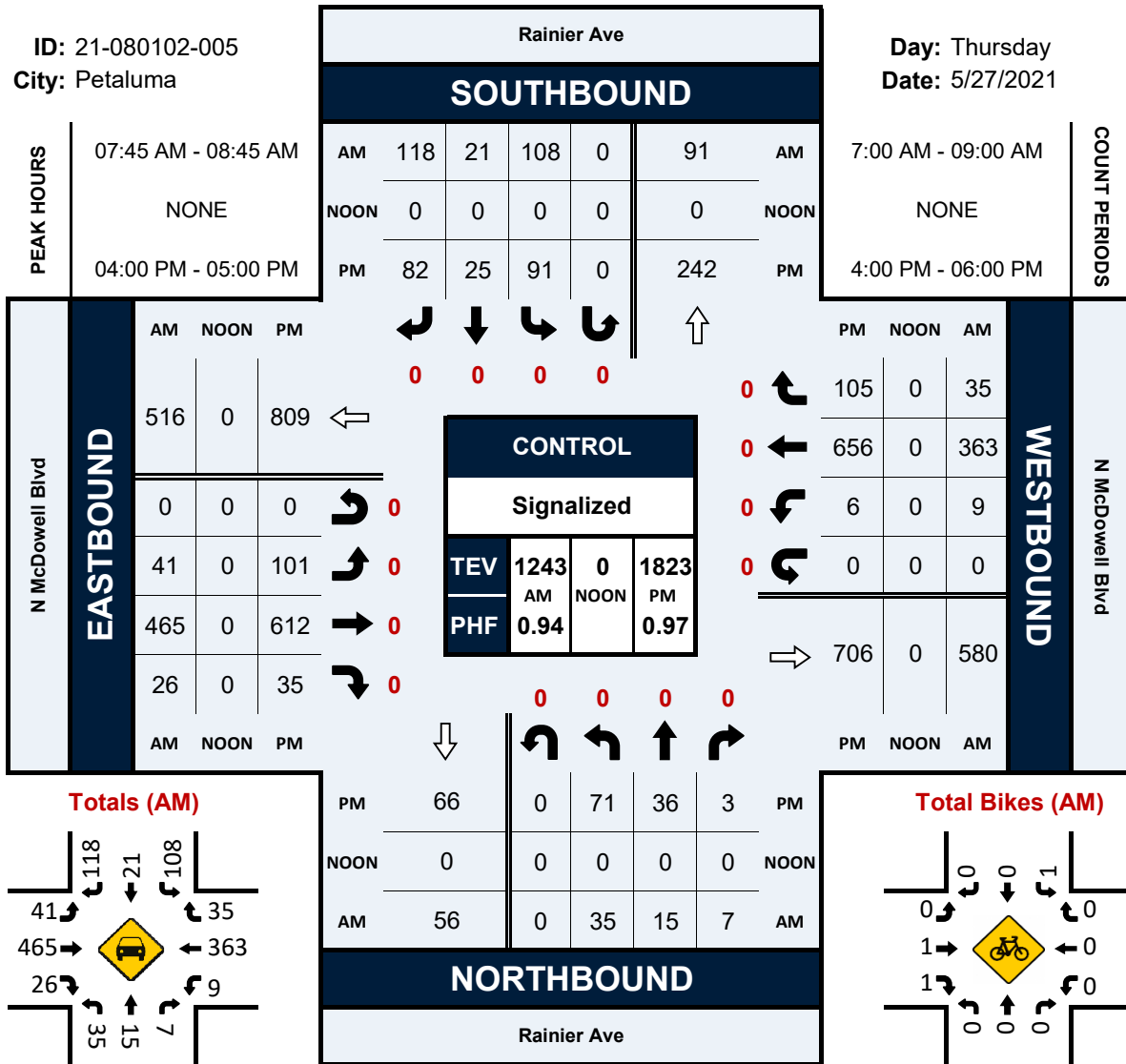


Rainier Ave & N McDowell Blvd

Peak Hour Turning Movement Count

ID: 21-080102-005
City: Petaluma

Day: Thursday
Date: 5/27/2021

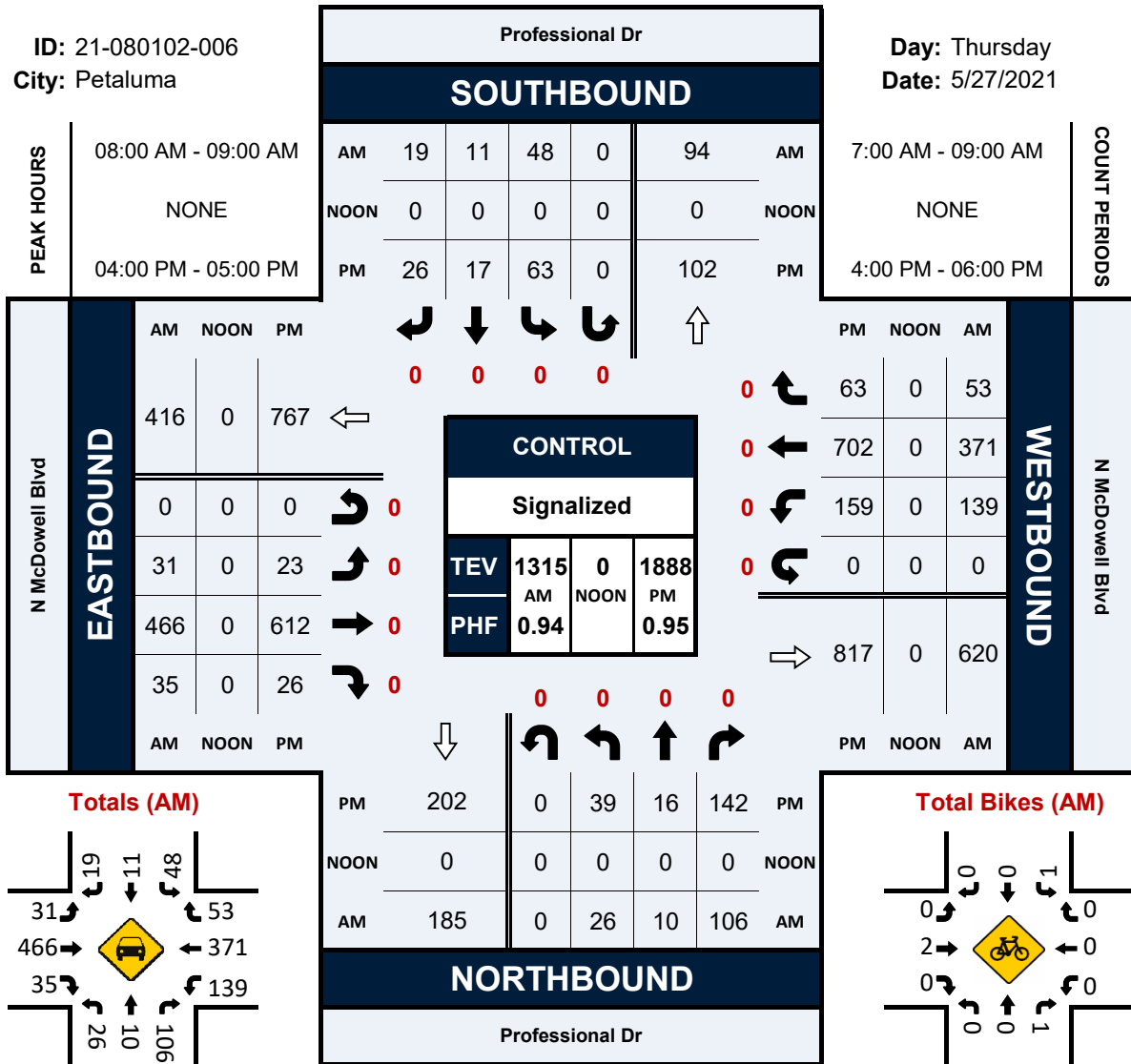


Professional Dr & N McDowell Blvd

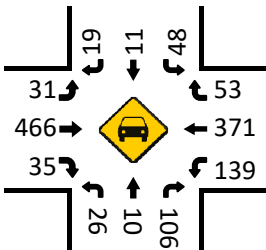
Peak Hour Turning Movement Count

ID: 21-080102-006
City: Petaluma

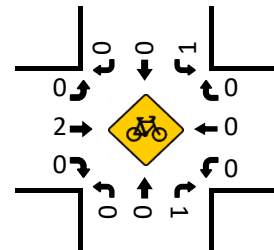
Day: Thursday
Date: 5/27/2021



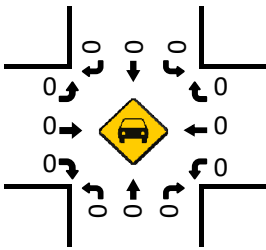
Totals (AM)



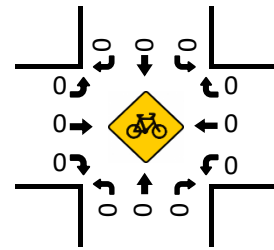
Total Bikes (AM)



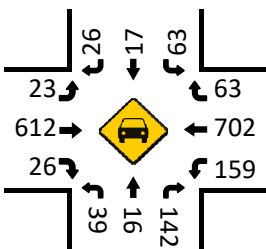
Totals (NOON)



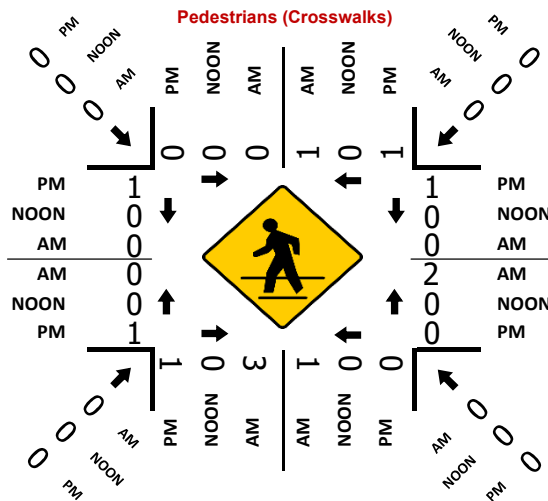
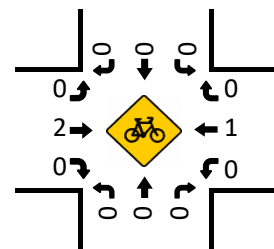
Total Bikes (NOON)



Totals (PM)



Total Bikes (PM)

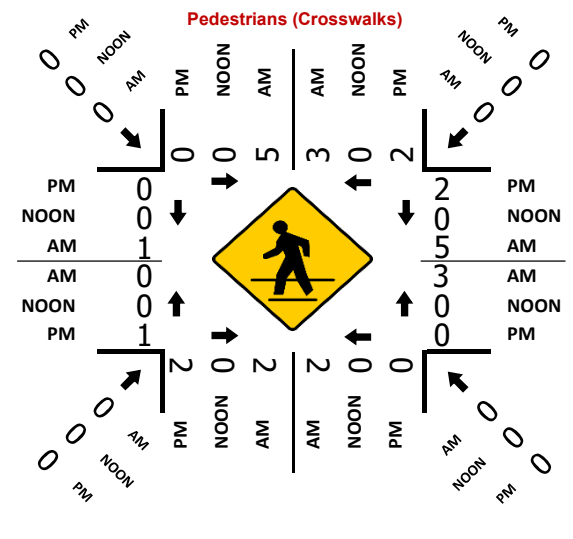
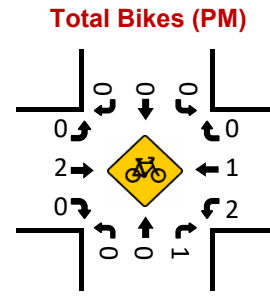
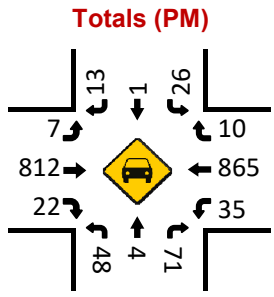
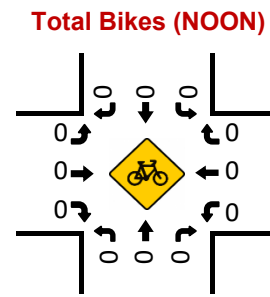
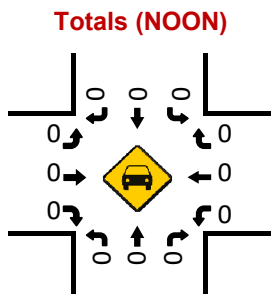
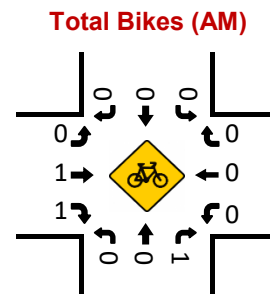
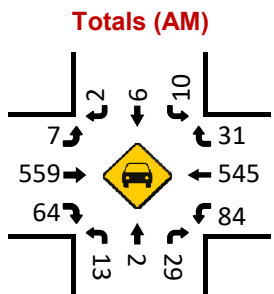
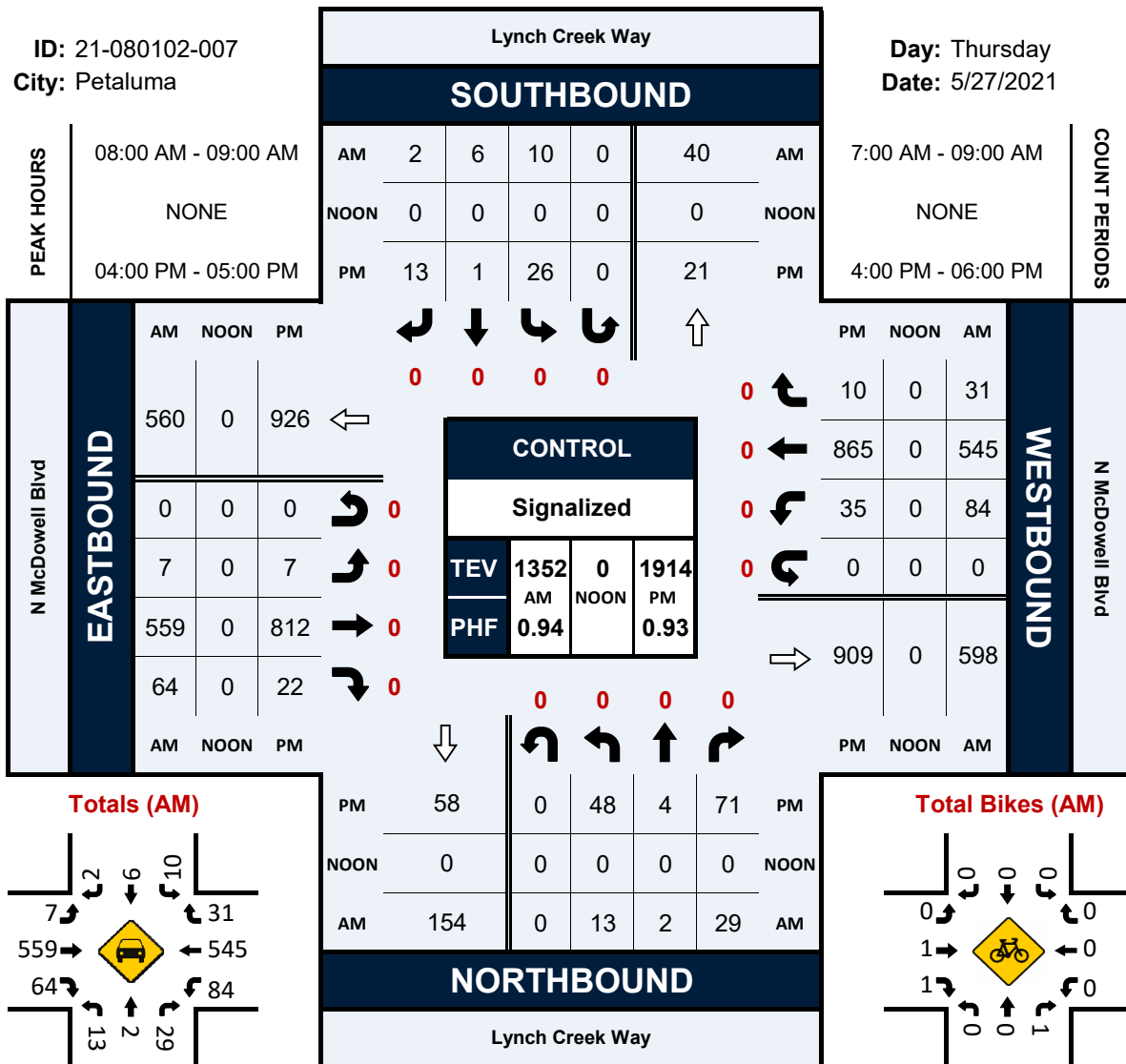


Lynch Creek Way & N McDowell Blvd

Peak Hour Turning Movement Count

ID: 21-080102-007
City: Petaluma

Day: Thursday
Date: 5/27/2021

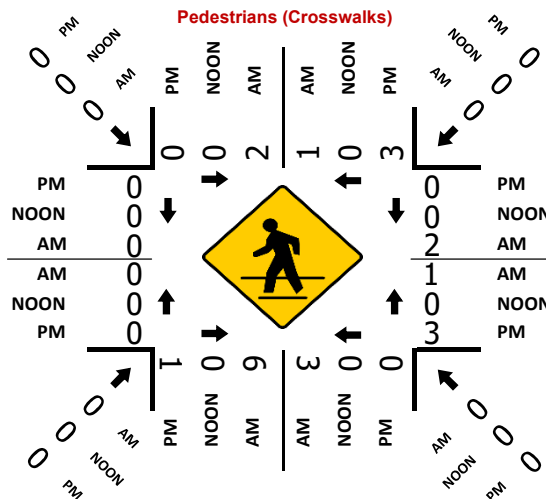
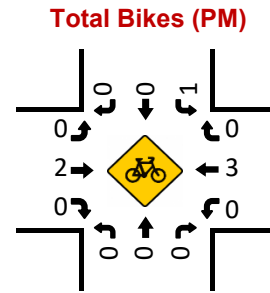
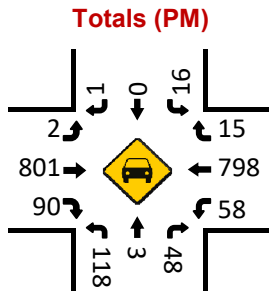
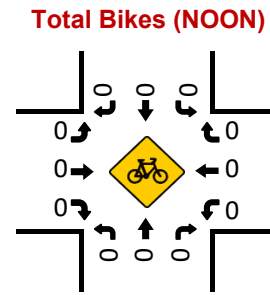
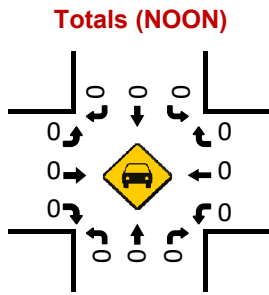
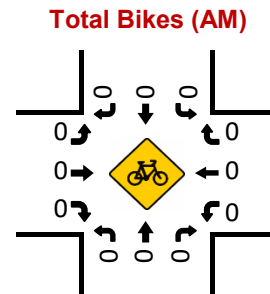
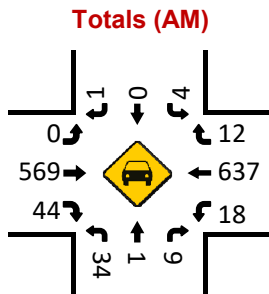
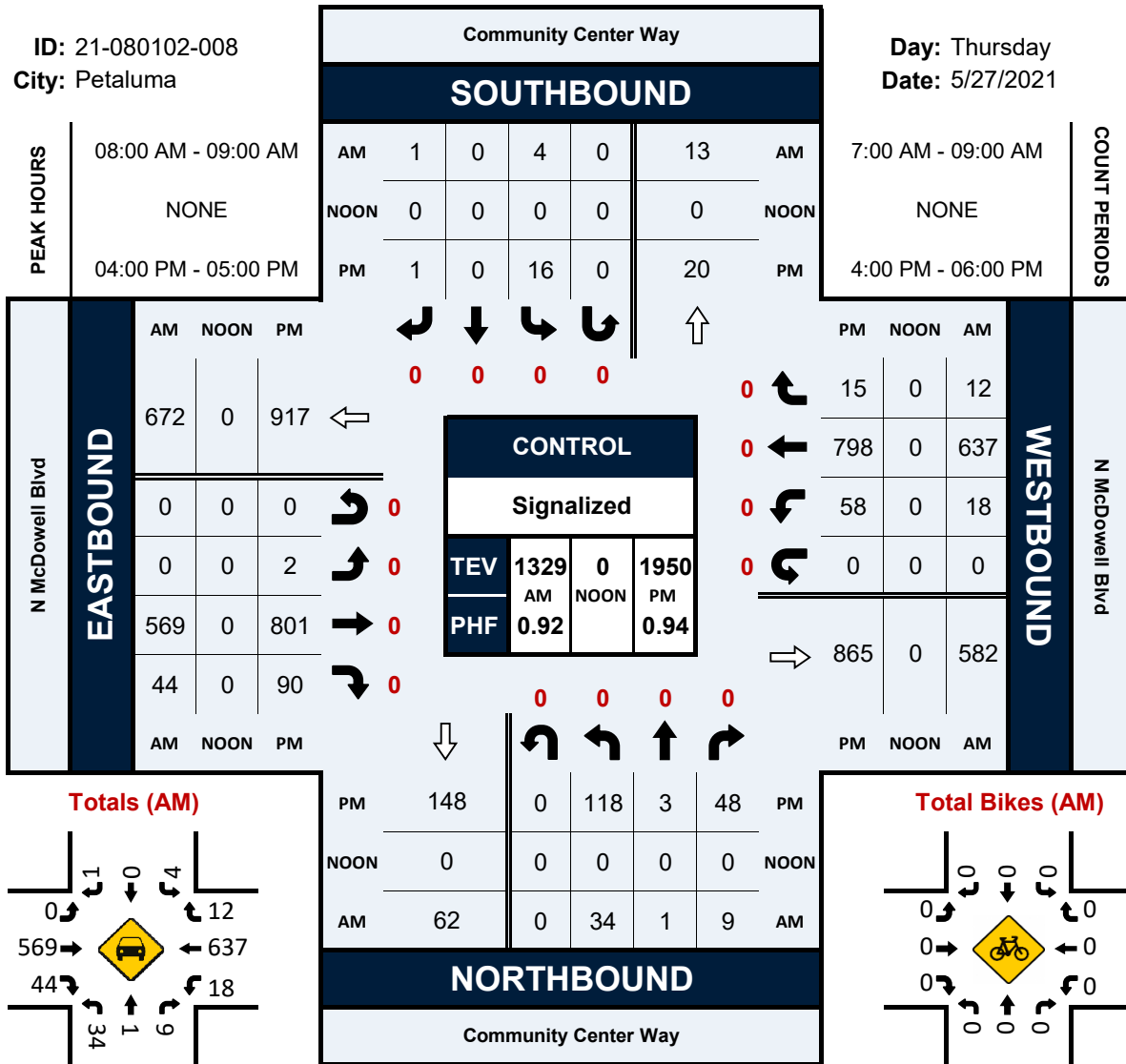


Community Center Way & N McDowell Blvd

Peak Hour Turning Movement Count

ID: 21-080102-008
City: Petaluma

Day: Thursday
Date: 5/27/2021

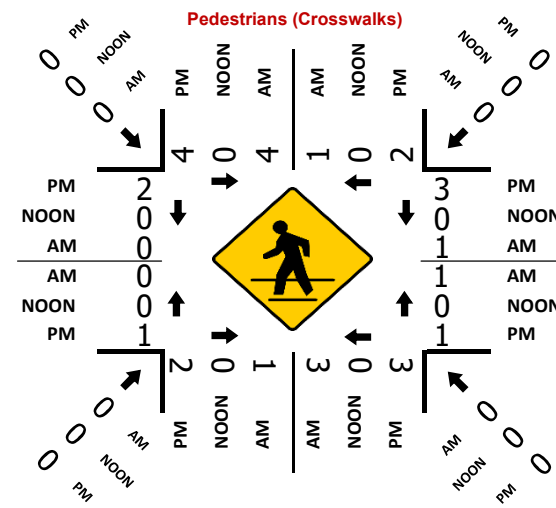
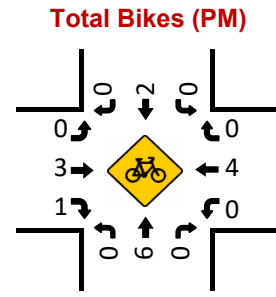
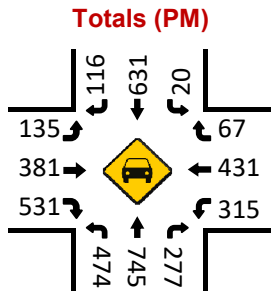
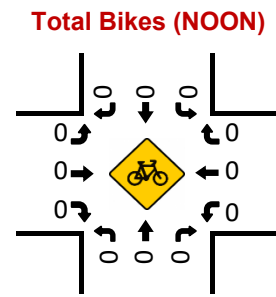
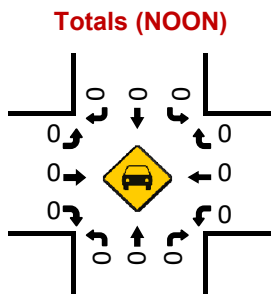
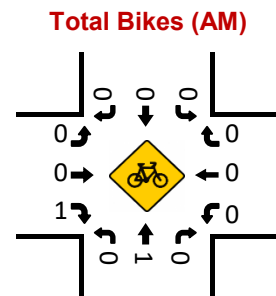
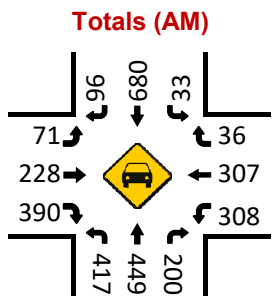
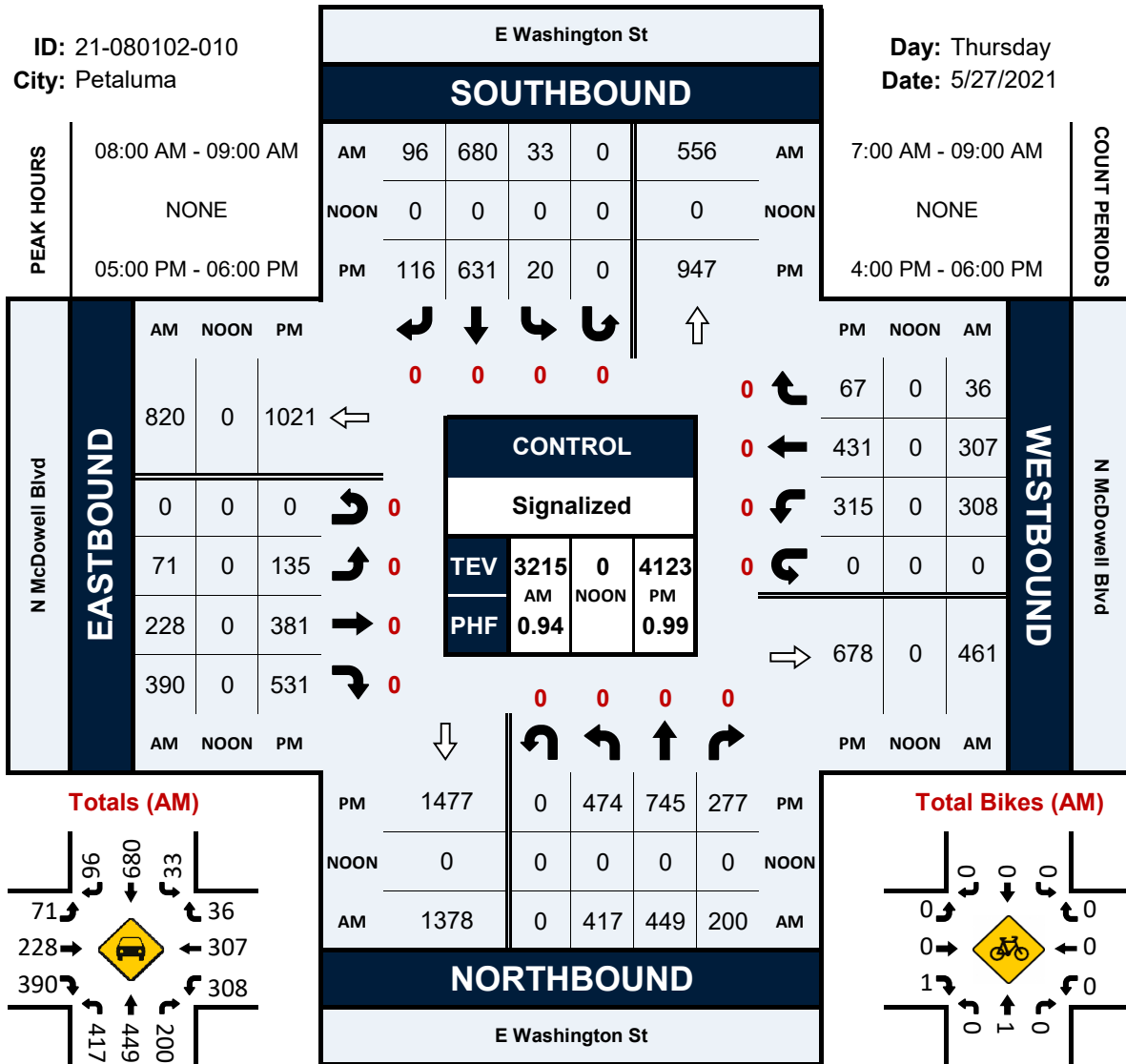


E Washington St & N McDowell Blvd

Peak Hour Turning Movement Count

ID: 21-080102-010
City: Petaluma

Day: Thursday
Date: 5/27/2021

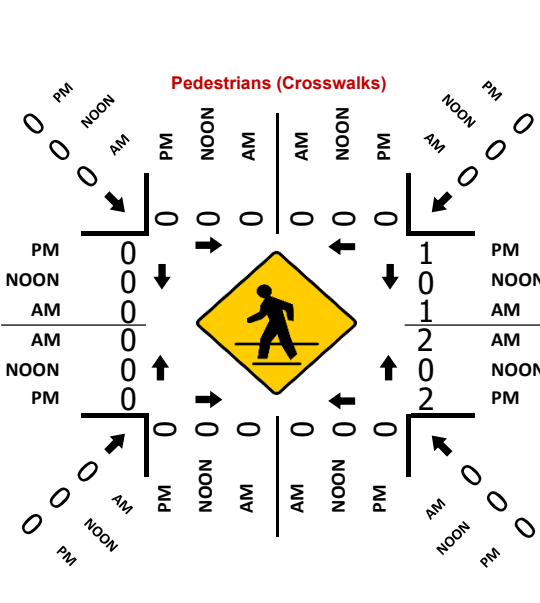
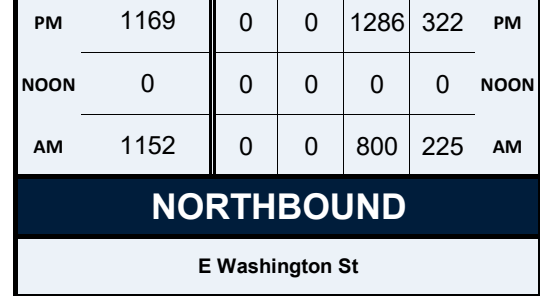
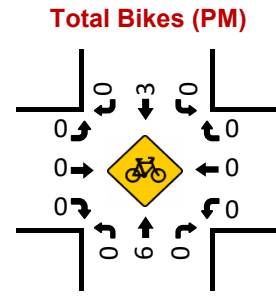
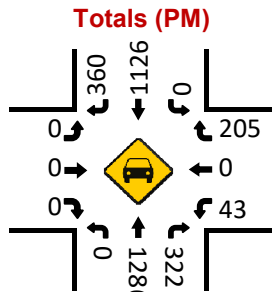
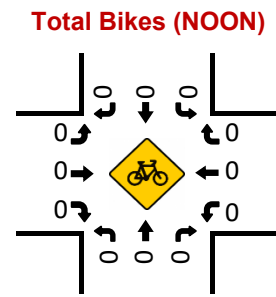
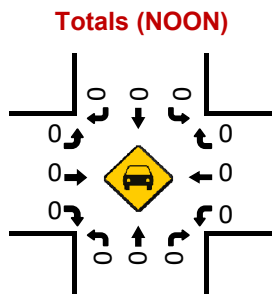
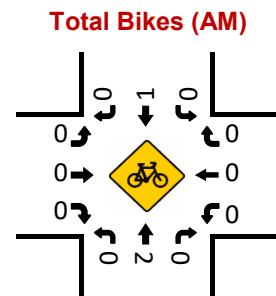
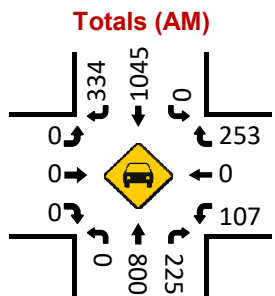
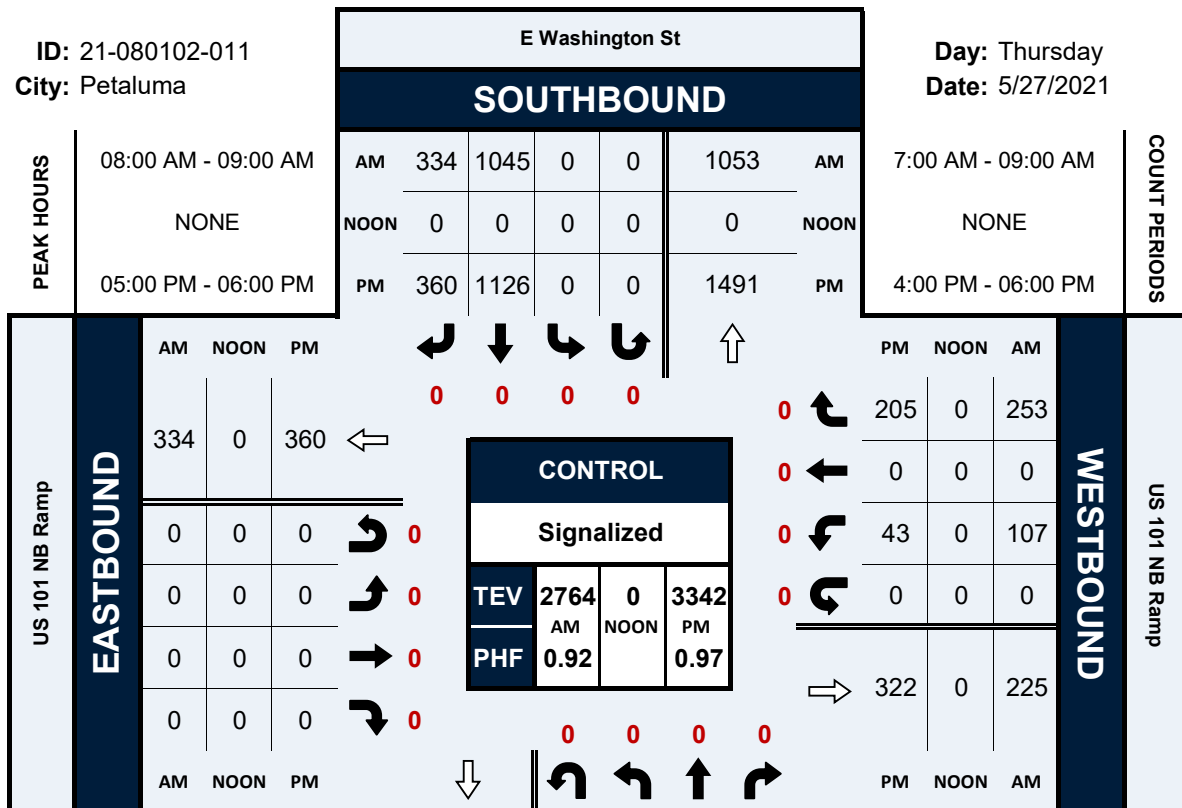


E Washington St & US 101 NB Ramp

Peak Hour Turning Movement Count

ID: 21-080102-011
City: Petaluma

Day: Thursday
Date: 5/27/2021



E Washington St & US 101 SB Ramp

Peak Hour Turning Movement Count

ID: 21-080102-012
City: Petaluma

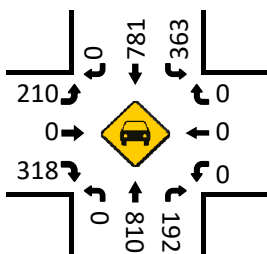
Day: Thursday
Date: 5/27/2021

PEAK HOURS	E Washington St						COUNT PERIODS	
	SOUTHBOUND							
	08:00 AM - 09:00 AM	AM	0	781	363	0		1020
NONE	NOON	0	0	0	0	0	NOON	NONE
04:45 PM - 05:45 PM	PM	0	902	240	0	1652	PM	4:00 PM - 06:00 PM

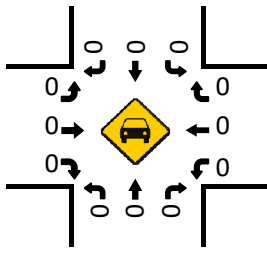
US 101 SB Ramp	EASTBOUND	AM			←	0	NOON			↻	0	↻	0	PM			↻	0	↻	0	
		0	0	0			0	0	0					0	0	0					
		210	0	323			↻	0	↻					0	↻	0					0
		0	0	1			↻	0	↻					0	↻	0					0
318	0	329	↻	0	↻	0	↻	0	0												
		AM	NOON	PM			AM	NOON	PM				AM	NOON	PM						
		PM	1231	0	0	1329	138	PM					PM	NOON	AM						
		NOON	0	0	0	0	0	NOON					NOON								
		AM	1099	0	0	810	192	AM					AM								

CONTROL					
Signalized					
TEV	2674	0	3262		
	AM	NOON	PM		
PHF	0.90		0.95		

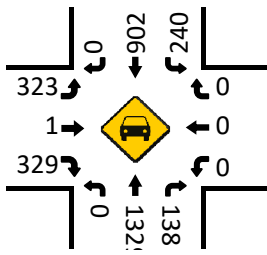
Totals (AM)



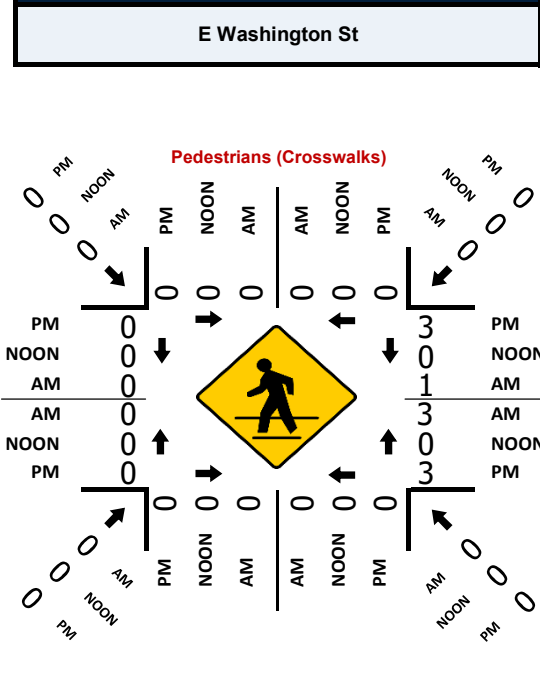
Totals (NOON)



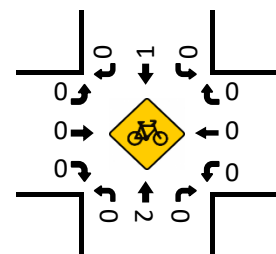
Totals (PM)



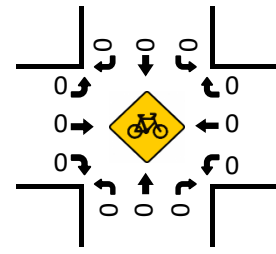
NORTHBOUND



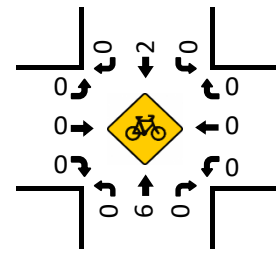
Total Bikes (AM)



Total Bikes (NOON)



Total Bikes (PM)



Traffic Study for Proposed Home Depot @ 261 N McDowell Blvd, Petaluma, CA
Adjustments of Existing 2021 Counts to Pre-C19 Conditions

AM Peak																		
INTID	Intersection	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Comments
11	E Washington St & US 101 NB Ramp	0	1018	0	0	0	1406	0	0	0	0	0	0	129	0	230	0	from North River Apartments TIA, 2017
12	E Washington St & US 101 SB Ramp	0	1145	154	0	380	933	0	0	247	0	388	0	0	0	0	0	from North River Apartments TIA, 2017

PM Peak																		
INTID	Intersection	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Comments
11	E Washington St & US 101 NB Ramp	0	1260	0	0	0	1493	0	0	0	0	0	0	143	0	375	0	from North River Apartments TIA, 2017
12	E Washington St & US 101 SB Ramp	0	1310	117	0	253	1083	0	0	303	0	345	0	0	0	0	0	from North River Apartments TIA, 2017

Projected 2014 to 2019 Counts by 0.5% Growth Per Year

AM Peak																		
INTID	Intersection	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Comments
11	E Washington St & US 101 NB Ramp	0	1044	0	0	0	1442	0	0	0	0	0	0	133	0	236	0	from North River Apartments TIA, 2017
12	E Washington St & US 101 SB Ramp	0	1174	158	0	390	957	0	0	254	0	398	0	0	0	0	0	from North River Apartments TIA, 2017

PM Peak																		
INTID	Intersection	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Comments
11	E Washington St & US 101 NB Ramp	0	1292	0	0	0	1531	0	0	0	0	0	0	147	0	385	0	from North River Apartments TIA, 2017
12	E Washington St & US 101 SB Ramp	0	1344	120	0	260	1111	0	0	311	0	354	0	0	0	0	0	from North River Apartments TIA, 2017

Percentage Difference (2021 and Projected 2019)

AM Peak																		
INTID	Intersection	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Comments
11	E Washington St & US 101 NB Ramp	0%	-23%	0%	0%	0%	-28%	0%	0%	0%	0%	0%	0%	-20%	0%	7%	0%	from North River Apartments TIA, 2017
12	E Washington St & US 101 SB Ramp	0%	-31%	22%	0%	-7%	-18%	0%	0%	-17%	0%	-20%	0%	0%	0%	0%	0%	from North River Apartments TIA, 2017

PM Peak																		
INTID	Intersection	NBL	NBT	NBR	NBU	SBL	SBT	SBR	SBU	EBL	EBT	EBR	EBU	WBL	WBT	WBR	WBU	Comments
11	E Washington St & US 101 NB Ramp	0%	0%	0%	0%	0%	-26%	0%	0%	0%	0%	0%	0%	-71%	0%	-47%	0%	from North River Apartments TIA, 2017
12	E Washington St & US 101 SB Ramp	0%	-1%	15%	0%	-8%	-19%	0%	0%	4%	0%	-7%	0%	0%	0%	0%	0%	from North River Apartments TIA, 2017

Overall Traffic Reduction from 2019 to 2021

Int #11	-16%	-36%
Int # 12	-12%	-3%
Total Average	-14%	-19%



Petaluma Home Depot SCTA Modeling

SB743 VMT Analysis

October 8, 2021

The purpose of this tech memo is to summarize the assumptions, methodology, and result of SB743 VMT Analysis conducted for the proposed Petaluma Home Depot.

SB743 VMT Guidelines

The change in total VMT should be used to assess the transportation impacts for retail development projects according to the City of Petaluma's SB743 VMT Guidelines. The net zero metric is the threshold for retail use.

Trip Generation in SCTM

The Sonoma County Transportation Authority model (SCTA) uses square footage of retail space (SHOP_SQFT) as input for trip generation for retail land use. As regards trip generation, the model does not distinguish between different types of retail stores, such as, Home Depot and K-Mart.

Consequently, for a conversion project to replace K-Mart with Home Depot, the model would not show any change in trip generation since the total retail square footage of the site remains relatively unchanged. Therefore, based on typical modeling exercise the model trip generation results will be the same before and after the conversion. In other words, the total number of Home Shopping trips to the project TAZ will be identical from the model after the conversion.

Project VMT Analysis

However, to estimate the potential trips from the proposed project, the estimated Project trip was coded into the traffic analysis zone (TAZ) of the model.

The SCTA model was used to generate VMT estimate due to the proposed project. The Base Model (2040) daily VMT estimates without the proposed project were approximately 16,615,188. With the project, the daily VMT model estimates were approximately 16,635,107. Therefore, the estimated project daily VMT was approximately 19,920.

Potential Reduction in VMT Analysis

There are four existing nearby Home Depot units (Rohnert Park [#641], San Rafael [#657], Santa Rosa [#1379], and Napa [#6652]). An out-flow trip analysis for those four existing sites was done to understand how many existing Home Depot shopping trips are there for those units. The identification of TAZs for existing Home Depot units are shown in Appendix.

To account for the change in trip length of Home Depot shopping trips with the planned Home Depot unit, the following approach was used to estimate the changes in VMT after the conversion.

- Calculate average trip length from Petaluma TAZs to existing Home Depot units
- Calculate average trip length from Petaluma TAZs to planned unit
- Estimate average distance from model gateways to Napa and San Rafael units

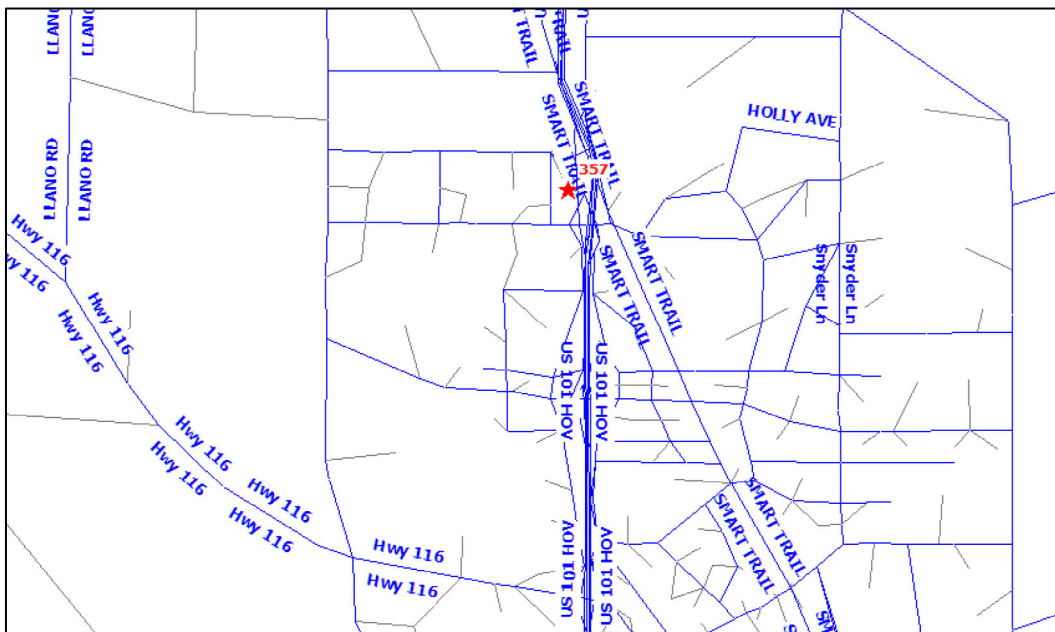
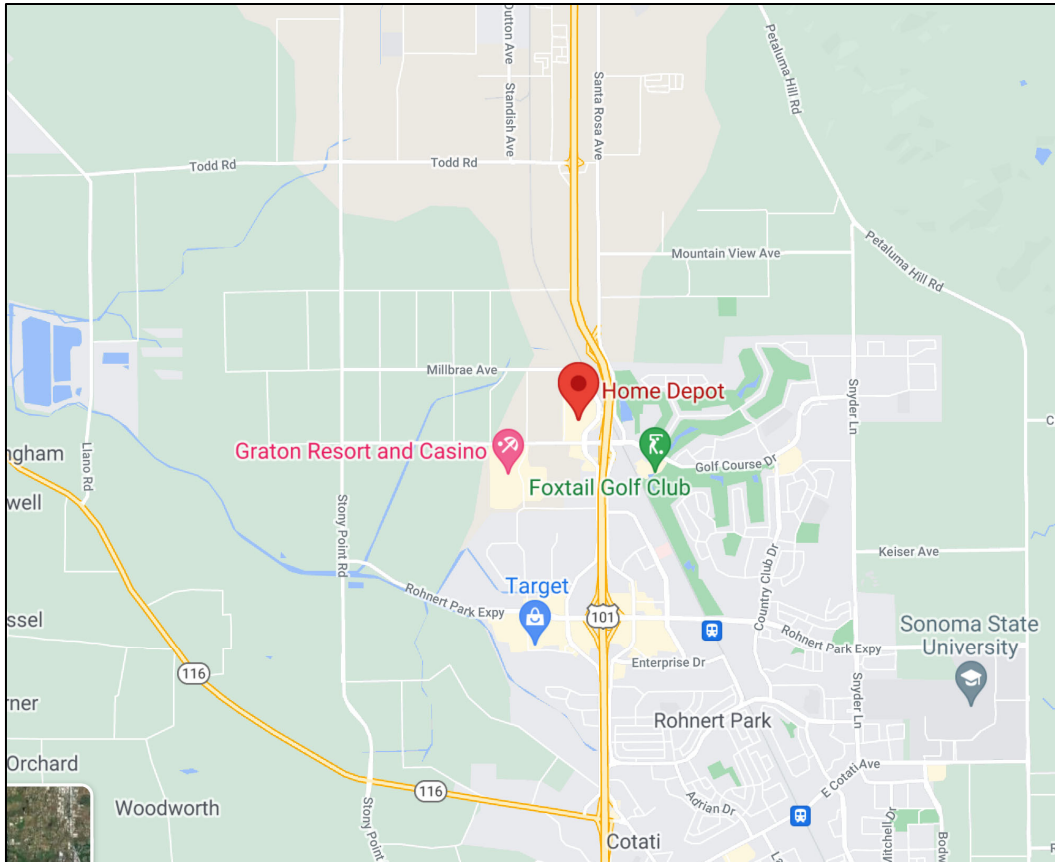
- Calculate distance savings of existing Home Depot shopping trips
- Estimate VMT savings using the # of daily trips from the out-flow trip analysis

The results of the analysis are summarized as follows:

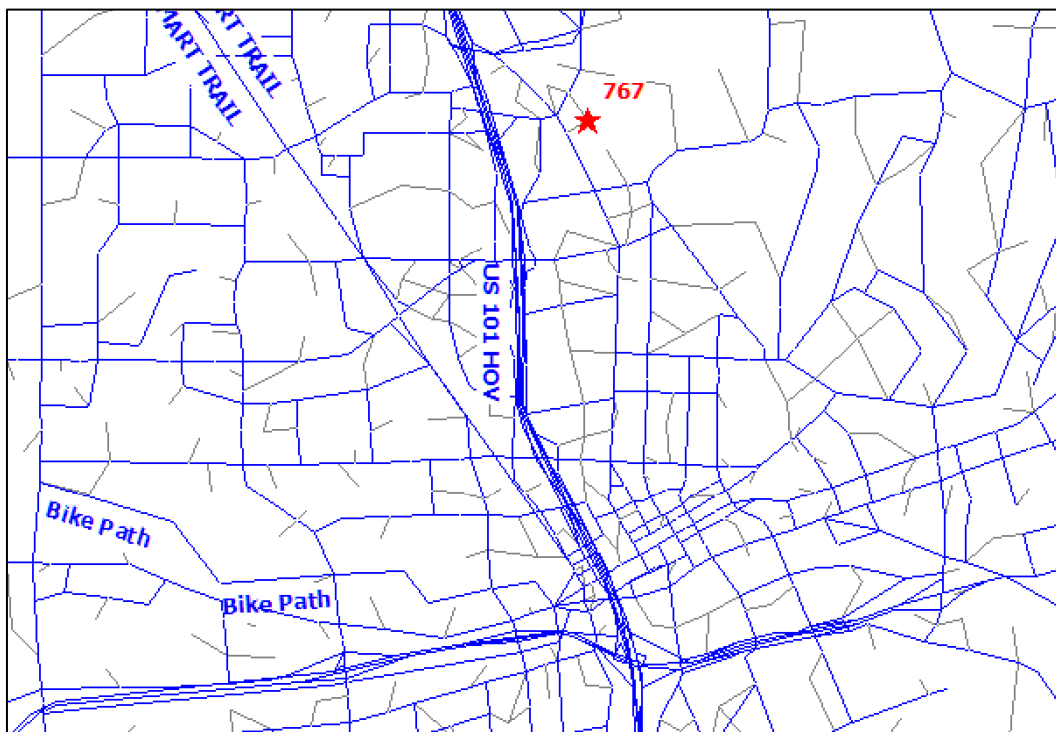
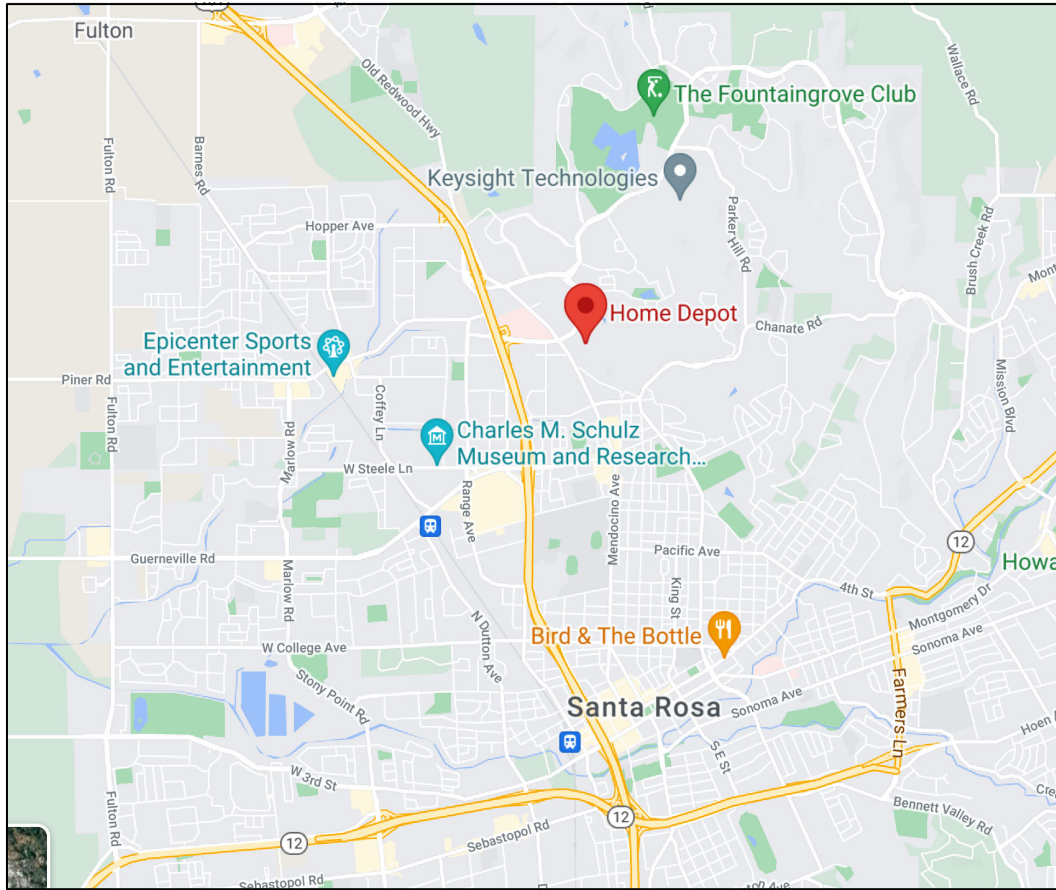
	Avg Distance from Petalume TAZs	Distance Saving	Annual Out Flow Trips	Daily Out Flow Trips	Daily VMT Savings
Project TAZ	2.5				
Home Depot - Rohnert Park	19.1	16.6	121,483	333	5,535
Home Depot - San Rafael	11.9	9.4	22,228	61	573
Home Depot - Santa Rosa	41.7	39.2	16,005	44	1,721
Home Depot - Napa	47.9	45.4	3,167	9	394
TOTAL			162,883	446	8,223

Appendix

Rohnert Park Home Depot: Z 357

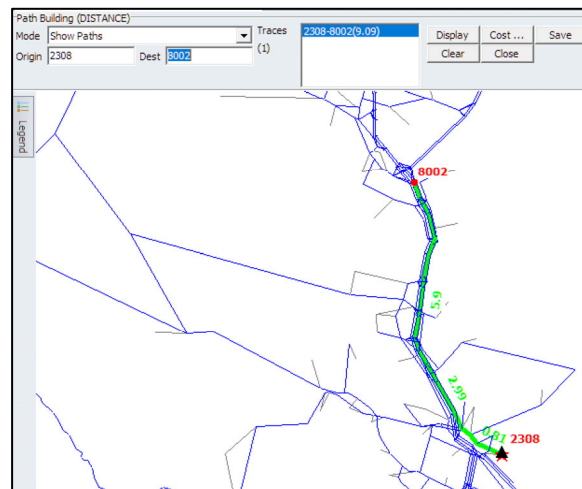
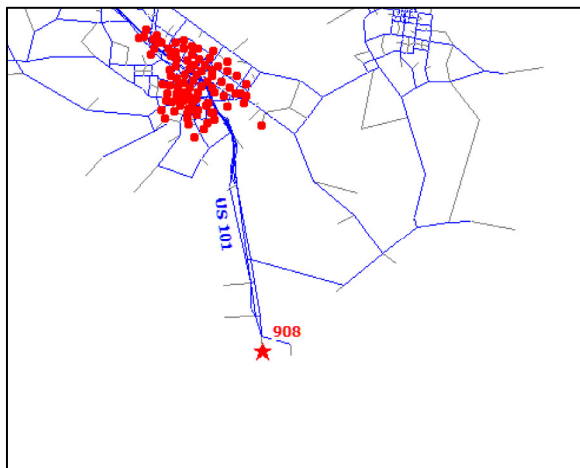
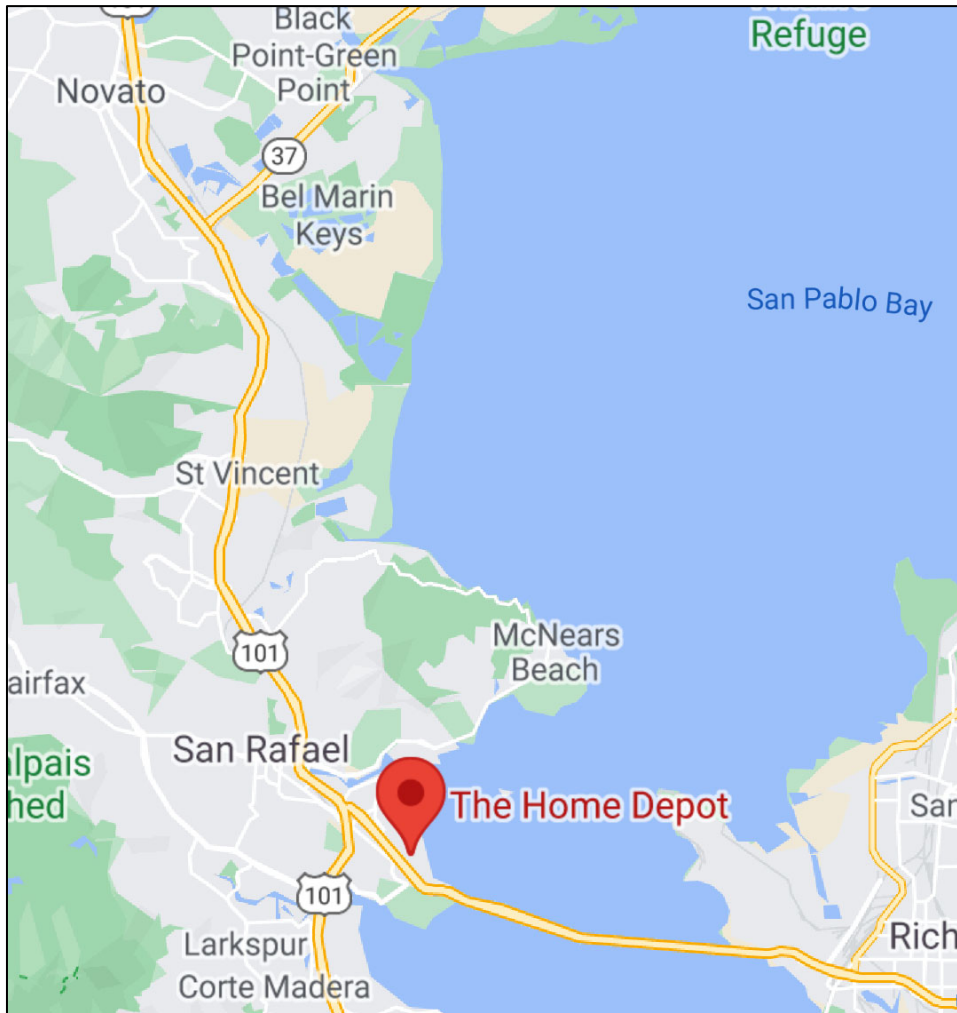


Santa Rosa Home Depot: Z 767



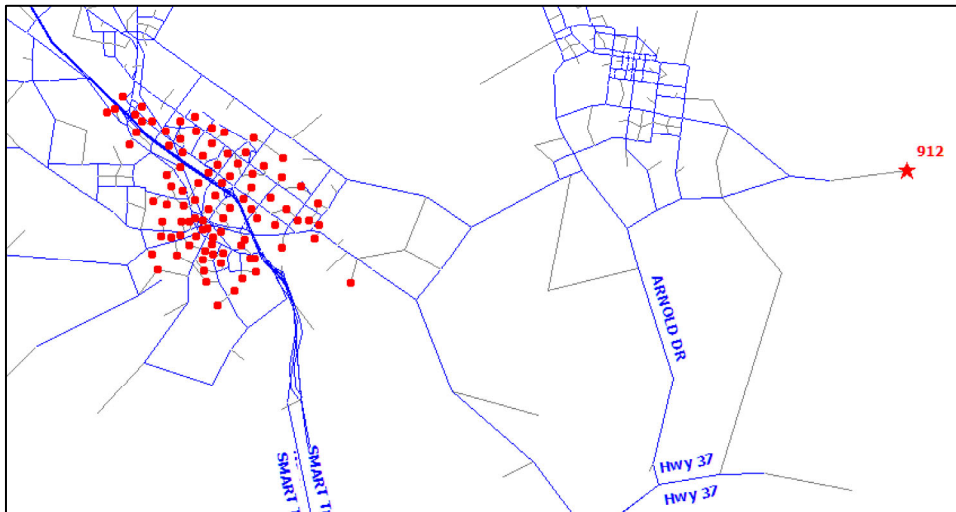
San Rafael Home Depot: via Gateway Z 908

Distance from Z908 to San Rafael Home Depot = 9.09 miles



Napa Home Depot: via Gateway Z 912

Distance from Z912 to Napa Home Depot = 15.57 miles



MEMORANDUM

TO: CLAY BRASHER, JEFF HARDMAN
CC: JIM MCCARTHY
FROM: ED BORDEN
SUBJECT: Petaluma, CA Out-Flow Trips Methodology (#115-788)
DATE: FEBRUARY 18, 2021

Background

Intalytics was retained by The Home Depot to quantify and display the count of trips made by Petaluma residents to the nearby Home Depot units (Rohnert Park [#641], San Rafael [#657], Santa Rosa [#1379], and Napa [#6652]). The goal is show current out-flow trips to other communities for Home Depot purchases.

Methodology

Intalytics answered this question by using observed Home Depot data from 2019 and 2020 from the four previously mentioned units. Leveraging known sales by ZIP Code by store, average transaction amount by store, and actual monthly customer counts.

Reviewing the sales distribution of each surrounding Home Depot store, Intalytics determined the aggregate annual sales that are coming from the customers residing in the two Petaluma ZIP Codes (94954 and 94952). Intalytics then leveraged the average transaction amount for each surrounding store to determine the number of individual customer transactions represented by these sales, this was then applied the annual customer count from each unit.

Findings

The four Home Depot stores surrounding Petaluma generate an estimated 162,900 customer trips per year (or over 3,100 customer trips per week) from Petaluma in 2020. The results are detailed below and visually displayed on the attached maps:

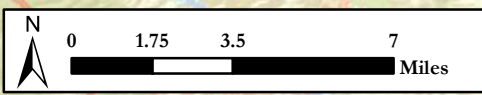
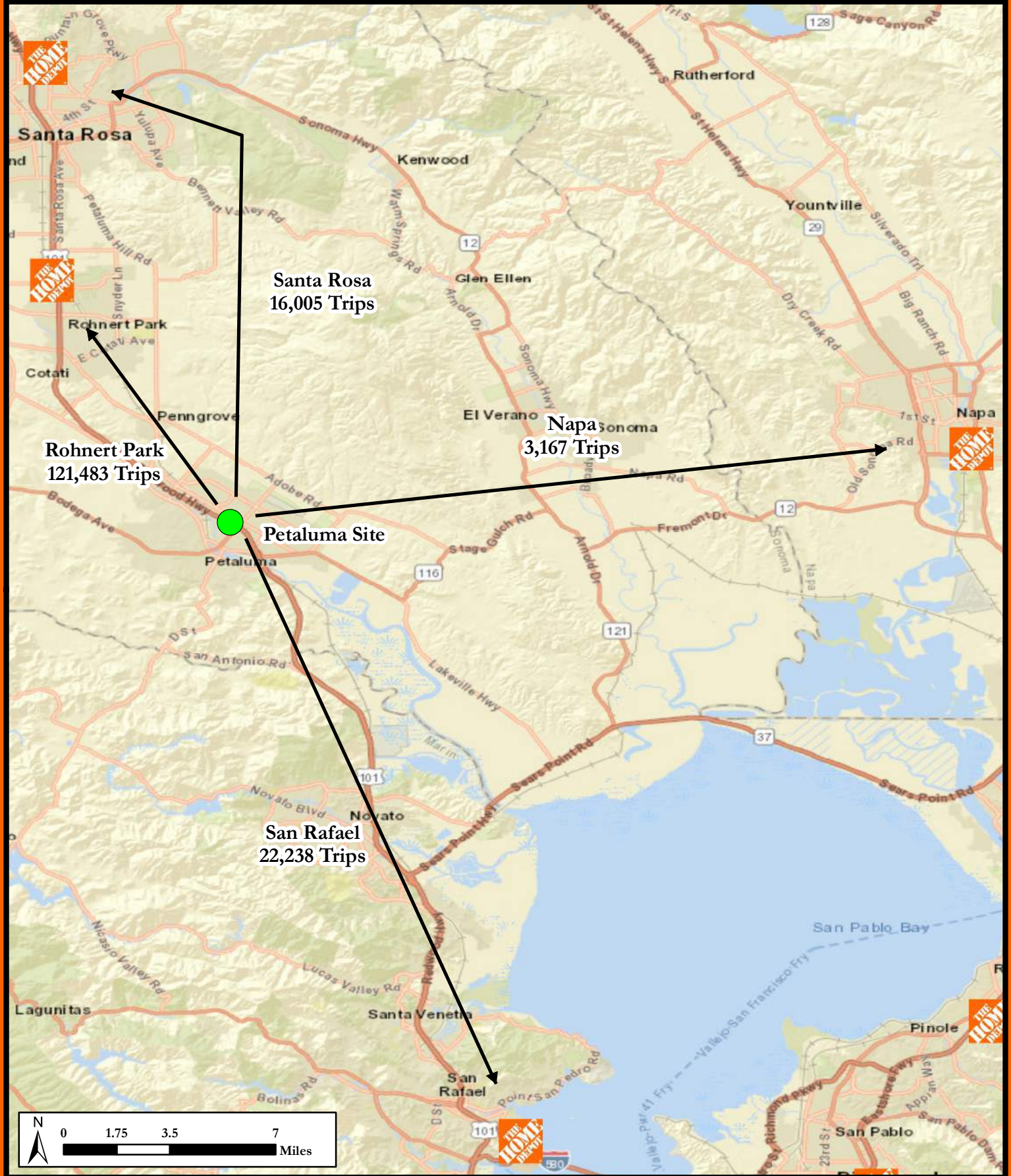
Home Depot Store	2020 Petaluma Out-Flow Trips
Rohnert Park (#641)	121,483
San Rafael (#657)	22,228
Santa Rosa (#1379)	16,005
Napa (#6652)	3,167
<i>TOTAL</i>	<i>162,883</i>

Overall, Intalytics believes that these totals are likely understated, as the customer count data leveraged by Intalytics does not include customer visits to the surrounding Home Depot stores when no purchase was made.



Home Depot Trips from Petaluma Calendar 2020

February 2021
115-788



**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**


























Appendix B Intersection LOS Analysis: Existing Conditions LOS Calculation Sheets
October 8, 2021

**Appendix B INTERSECTION LOS ANALYSIS: EXISTING CONDITIONS
LOS CALCULATION SHEETS**

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	100	477	534	132	594	11	433	33	78	8	22	25
Future Volume (vph)	100	477	534	132	594	11	433	33	78	8	22	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1550	1770	3528		1633	1648	1538	1719	1810	1518
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1550	1770	3528		1633	1648	1538	1719	1810	1518
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	110	524	587	147	660	12	503	38	91	9	26	29
RTOR Reduction (vph)	0	0	410	0	1	0	0	0	66	0	0	26
Lane Group Flow (vph)	110	524	177	147	671	0	272	269	25	9	26	3
Confl. Peds. (#/hr)			1				1					1
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	9.0	21.4	21.4	7.9	20.3		19.4	19.4	19.4	6.6	6.6	6.6
Effective Green, g (s)	9.0	22.5	22.5	7.9	21.4		20.8	20.8	20.8	7.3	7.3	7.3
Actuated g/C Ratio	0.12	0.30	0.30	0.11	0.29		0.28	0.28	0.28	0.10	0.10	0.10
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	213	1068	468	187	1013		455	460	429	168	177	148
v/s Ratio Prot	0.06	0.15		c0.08	c0.19		c0.17	0.16		0.01	c0.01	
v/s Ratio Perm			0.11						0.02			0.00
v/c Ratio	0.52	0.49	0.38	0.79	0.66		0.60	0.58	0.06	0.05	0.15	0.02
Uniform Delay, d1	30.7	21.3	20.5	32.5	23.4		23.2	23.1	19.7	30.5	30.8	30.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.4	0.5	19.2	1.6		2.1	1.9	0.1	0.1	0.4	0.1
Delay (s)	32.8	21.7	21.0	51.7	25.0		25.3	25.0	19.7	30.6	31.1	30.4
Level of Service	C	C	C	D	C		C	C	B	C	C	C
Approach Delay (s)		22.4			29.8			24.4			30.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			74.5				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			57.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

09/29/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	21	7	3	137	15	16	18	523	76	27	588	40	
Future Volume (vph)	21	7	3	137	15	16	18	523	76	27	588	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00	
Frb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.92		1.00	0.98		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	1783		1770	1719		1719	3363		1719	3438	1538	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1770	1783		1770	1719		1719	3363		1719	3438	1538	
Peak-hour factor, PHF	0.68	0.68	0.68	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84	
Adj. Flow (vph)	31	10	4	152	17	18	19	562	82	32	700	48	
RTOR Reduction (vph)	0	4	0	0	15	0	0	11	0	0	0	39	
Lane Group Flow (vph)	31	10	0	152	20	0	19	633	0	32	700	9	
Confl. Peds. (#/hr)									1				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases												6	
Actuated Green, G (s)	1.4	1.0		9.6	9.2		0.6	21.0		1.4	21.8	9.2	
Effective Green, g (s)	1.4	1.7		9.6	9.9		0.6	22.4		1.4	23.2	9.9	
Actuated g/C Ratio	0.03	0.03		0.19	0.19		0.01	0.44		0.03	0.45	0.19	
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	48	59		332	333		20	1474		47	1560	297	
v/s Ratio Prot	0.02	c0.01		c0.09	0.01		0.01	0.19		c0.02	c0.20		
v/s Ratio Perm												0.01	
v/c Ratio	0.65	0.17		0.46	0.06		0.95	0.43		0.68	0.45	0.03	
Uniform Delay, d1	24.6	24.0		18.4	16.8		25.2	9.9		24.6	9.6	16.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	26.1	1.4		1.0	0.1		175.6	0.2		33.6	0.2	0.0	
Delay (s)	50.7	25.4		19.4	16.9		200.8	10.1		58.3	9.8	16.8	
Level of Service	D	C		B	B		F	B		E	A	B	
Approach Delay (s)		42.8			19.0			15.6			12.2		
Approach LOS		D			B			B			B		
Intersection Summary													
HCM 2000 Control Delay			15.1		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.46										
Actuated Cycle Length (s)			51.1		Sum of lost time (s)						16.0		
Intersection Capacity Utilization			43.4%		ICU Level of Service						A		
Analysis Period (min)			15										

c Critical Lane Group





















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	194	229	52	243	285	180	328	22	101	360	57
Future Volume (veh/h)	152	194	229	52	243	285	180	328	22	101	360	57
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1863	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	169	216	254	58	273	320	188	342	23	115	409	65
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.96	0.96	0.96	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	154	581	487	93	517	440	232	893	60	145	663	105
Arrive On Green	0.09	0.31	0.31	0.05	0.28	0.28	0.13	0.27	0.25	0.08	0.22	0.20
Sat Flow, veh/h	1774	1863	1561	1774	1863	1583	1723	3270	219	1723	2976	470
Grp Volume(v), veh/h	169	216	254	58	273	320	188	179	186	115	235	239
Grp Sat Flow(s),veh/h/ln	1774	1863	1561	1774	1863	1583	1723	1719	1770	1723	1719	1727
Q Serve(g_s), s	5.0	5.2	7.7	1.8	7.1	10.5	6.1	4.9	4.9	3.8	7.1	7.2
Cycle Q Clear(g_c), s	5.0	5.2	7.7	1.8	7.1	10.5	6.1	4.9	4.9	3.8	7.1	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.27
Lane Grp Cap(c), veh/h	154	581	487	93	517	440	232	469	483	145	383	385
V/C Ratio(X)	1.10	0.37	0.52	0.62	0.53	0.73	0.81	0.38	0.38	0.79	0.61	0.62
Avail Cap(c_a), veh/h	154	958	803	216	1023	869	270	819	843	150	699	702
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	26.3	15.4	16.3	26.7	17.6	18.8	24.2	17.0	17.1	25.9	20.1	20.4
Incr Delay (d2), s/veh	100.6	0.4	0.9	6.6	0.8	2.3	14.9	0.5	0.5	23.9	1.6	1.6
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 BackOfQ(50%),veh/ln	6.7	2.7	3.4	1.1	3.8	4.9	3.8	2.4	2.5	2.8	3.5	3.6
LnGrp Delay(d),s/veh	126.9	15.8	17.1	33.3	18.4	21.1	39.1	17.5	17.6	49.7	21.7	22.0
LnGrp LOS	F	B	B	C	B	C	D	B	B	D	C	C
Approach Vol, veh/h		639			651			553			589	
Approach Delay, s/veh		45.7			21.1			24.9			27.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	22.0	11.7	16.8	9.0	20.0	8.9	19.7				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	7.0	* 29	9.0	22.0	5.0	* 31	5.0	26.0				
Max Q Clear Time (g_c+I1), s	3.8	9.7	8.1	9.2	7.0	12.5	5.8	6.9				
Green Ext Time (p_c), s	0.0	2.0	0.0	2.1	0.0	2.6	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			29.9									
HCM 2010 LOS			C									
Notes												






















HCM 2010 Signalized Intersection Summary
 4: N McDowell Blvd & Southpoint Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	3	25	51	7	41	104	451	26	22	515	122
Future Volume (veh/h)	27	3	25	51	7	41	104	451	26	22	515	122
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	55	6	51	63	9	51	116	501	29	23	548	130
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.49	0.49	0.49	0.81	0.81	0.81	0.90	0.90	0.90	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	451	37	314	454	53	300	165	1385	80	49	973	230
Arrive On Green	0.22	0.22	0.20	0.22	0.22	0.20	0.10	0.42	0.38	0.03	0.35	0.31
Sat Flow, veh/h	1337	169	1439	1341	243	1377	1723	3304	191	1723	2761	653
Grp Volume(v), veh/h	55	0	57	63	0	60	116	260	270	23	340	338
Grp Sat Flow(s),veh/h/ln	1337	0	1609	1341	0	1620	1723	1719	1776	1723	1719	1694
Q Serve(g_s), s	1.3	0.0	1.0	1.4	0.0	1.1	2.3	3.7	3.8	0.5	5.7	5.9
Cycle Q Clear(g_c), s	2.3	0.0	1.0	2.5	0.0	1.1	2.3	3.7	3.8	0.5	5.7	5.9
Prop In Lane	1.00		0.89	1.00		0.85	1.00		0.11	1.00		0.39
Lane Grp Cap(c), veh/h	451	0	351	454	0	353	165	721	744	49	606	597
V/C Ratio(X)	0.12	0.00	0.16	0.14	0.00	0.17	0.71	0.36	0.36	0.47	0.56	0.57
Avail Cap(c_a), veh/h	1373	0	1460	1378	0	1470	336	1216	1256	240	1120	1104
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	11.6	12.4	0.0	11.6	15.8	7.1	7.2	17.2	9.4	9.6
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	0.2	5.4	0.3	0.3	6.8	0.8	0.8
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 BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.5	0.0	0.5	1.3	1.8	1.9	0.3	2.8	2.8
LnGrp Delay(d),s/veh	12.5	0.0	11.8	12.5	0.0	11.8	21.2	7.4	7.5	23.9	10.2	10.5
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		112			123			646			701	
Approach Delay, s/veh		12.1			12.2			9.9			10.8	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	7.4	16.7		11.8	5.0	19.1				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	7.0	22.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		4.3	4.3	7.9		4.5	2.5	5.8				
Green Ext Time (p_c), s		0.5	0.1	3.4		0.5	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			10.6									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	17	8	123	24	135	10	414	40	47	530	30
Future Volume (veh/h)	40	17	8	123	24	135	10	414	40	47	530	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	51	22	10	131	26	144	11	470	45	52	582	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	94	245	112	167	60	335	25	889	85	92	1056	60
Arrive On Green	0.05	0.20	0.19	0.09	0.24	0.23	0.01	0.28	0.25	0.05	0.32	0.29
Sat Flow, veh/h	1774	1209	550	1774	247	1370	1723	3171	303	1723	3303	187
Grp Volume(v), veh/h	51	0	32	131	0	170	11	254	261	52	302	313
Grp Sat Flow(s),veh/h/ln	1774	0	1759	1774	0	1617	1723	1719	1755	1723	1719	1771
Q Serve(g_s), s	1.2	0.0	0.6	3.1	0.0	3.9	0.3	5.4	5.5	1.3	6.3	6.3
Cycle Q Clear(g_c), s	1.2	0.0	0.6	3.1	0.0	3.9	0.3	5.4	5.5	1.3	6.3	6.3
Prop In Lane	1.00		0.31	1.00		0.85	1.00		0.17	1.00		0.11
Lane Grp Cap(c), veh/h	94	0	357	167	0	395	25	482	492	92	550	566
V/C Ratio(X)	0.54	0.00	0.09	0.78	0.00	0.43	0.45	0.53	0.53	0.56	0.55	0.55
Avail Cap(c_a), veh/h	274	0	1119	225	0	984	218	1205	1230	218	1205	1241
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	14.1	19.2	0.0	14.1	21.2	13.2	13.3	20.0	12.2	12.3
Incr Delay (d2), s/veh	4.8	0.0	0.1	12.1	0.0	0.7	12.1	0.9	0.9	5.3	0.9	0.8
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 BackOfQ(50%),veh/ln	0.7	0.0	0.3	2.1	0.0	1.8	0.2	2.7	2.7	0.7	3.1	3.2
LnGrp Delay(d),s/veh	24.8	0.0	14.2	31.3	0.0	14.8	33.3	14.1	14.2	25.3	13.0	13.1
LnGrp LOS	C		B	C		B	C	B	B	C	B	B
Approach Vol, veh/h		83			301			526			667	
Approach Delay, s/veh		20.7			22.0			14.5			14.0	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	12.8	4.6	17.9	6.3	14.6	6.3	16.2				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	6.7	25.8	5.5	29.0				
Max Q Clear Time (g_c+I1), s	5.1	2.6	2.3	8.3	3.2	5.9	3.3	7.5				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.4	0.0	0.9	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								























HCM 2010 Signalized Intersection Summary
 6: N McDowell Blvd & Professional Dr

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	11	121	55	13	22	158	423	60	35	531	40
Future Volume (veh/h)	30	11	121	55	13	22	158	423	60	35	531	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1900	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	39	14	159	68	16	27	170	455	65	43	648	49
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.76	0.76	0.76	0.81	0.81	0.81	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	74	326	276	109	121	205	215	1194	170	78	1084	471
Arrive On Green	0.04	0.18	0.18	0.06	0.19	0.18	0.12	0.39	0.37	0.05	0.32	0.32
Sat Flow, veh/h	1774	1863	1578	1774	624	1053	1723	3023	430	1723	3438	1494
Grp Volume(v), veh/h	39	14	159	68	0	43	170	258	262	43	648	49
Grp Sat Flow(s),veh/h/ln	1774	1863	1578	1774	0	1677	1723	1719	1733	1723	1719	1494
Q Serve(g_s), s	1.1	0.3	4.6	1.8	0.0	1.1	4.7	5.3	5.4	1.2	7.9	1.1
Cycle Q Clear(g_c), s	1.1	0.3	4.6	1.8	0.0	1.1	4.7	5.3	5.4	1.2	7.9	1.1
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	74	326	276	109	0	326	215	679	684	78	1084	471
V/C Ratio(X)	0.52	0.04	0.58	0.62	0.00	0.13	0.79	0.38	0.38	0.55	0.60	0.10
Avail Cap(c_a), veh/h	179	1190	1008	215	0	1106	314	1057	1066	209	1905	828
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	17.0	18.7	22.6	0.0	16.6	21.0	10.6	10.8	23.1	14.3	12.0
Incr Delay (d2), s/veh	5.6	0.1	1.9	5.7	0.0	0.2	8.2	0.4	0.4	6.0	0.5	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 BackOfQ(50%),veh/ln	0.6	0.2	2.1	1.1	0.0	0.5	2.7	2.6	2.6	0.7	3.8	0.5
LnGrp Delay(d),s/veh	28.8	17.0	20.6	28.4	0.0	16.8	29.2	11.0	11.2	29.1	14.8	12.1
LnGrp LOS	C	B	C	C		B	C	B	B	C	B	B
Approach Vol, veh/h		212			111			690			740	
Approach Delay, s/veh		21.9			23.9			15.5			15.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	12.7	10.2	19.6	6.1	13.6	6.2	23.5				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	6.0	31.0	9.0	26.0	5.0	32.0	6.0	29.0				
Max Q Clear Time (g_c+I1), s	3.8	6.6	6.7	9.9	3.1	3.1	3.2	7.4				
Green Ext Time (p_c), s	0.0	0.6	0.1	3.9	0.0	0.2	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			16.8									
HCM 2010 LOS			B									






















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	33	11	7	2	96	621	35	8	637	73
Future Volume (veh/h)	15	2	33	11	7	2	96	621	35	8	637	73
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	25	3	54	15	9	3	102	661	37	9	700	80
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.75	0.75	0.75	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	455	16	288	410	258	86	151	1619	718	21	1225	140
Arrive On Green	0.19	0.19	0.18	0.19	0.19	0.18	0.09	0.47	0.47	0.01	0.40	0.36
Sat Flow, veh/h	1393	83	1496	1327	1337	446	1723	3438	1525	1723	3101	354
Grp Volume(v), veh/h	25	0	57	15	0	12	102	661	37	9	388	392
Grp Sat Flow(s),veh/h/ln	1393	0	1579	1327	0	1783	1723	1719	1525	1723	1719	1736
Q Serve(g_s), s	0.5	0.0	1.1	0.4	0.0	0.2	2.1	4.7	0.5	0.2	6.5	6.6
Cycle Q Clear(g_c), s	0.8	0.0	1.1	1.5	0.0	0.2	2.1	4.7	0.5	0.2	6.5	6.6
Prop In Lane	1.00		0.95	1.00		0.25	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	455	0	304	410	0	343	151	1619	718	21	679	686
V/C Ratio(X)	0.05	0.00	0.19	0.04	0.00	0.03	0.67	0.41	0.05	0.44	0.57	0.57
Avail Cap(c_a), veh/h	1378	0	1350	1288	0	1524	326	2455	1089	233	1134	1145
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	12.7	13.1	0.0	12.2	16.4	6.4	5.3	18.1	8.7	8.9
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.0	0.0	5.1	0.2	0.0	13.9	0.8	0.8
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 BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.1	0.0	0.1	1.2	2.2	0.2	0.2	3.2	3.2
LnGrp Delay(d),s/veh	12.5	0.0	13.0	13.2	0.0	12.2	21.5	6.6	5.3	32.1	9.5	9.6
LnGrp LOS	B		B	B		B	C	A	A	C	A	A
Approach Vol, veh/h		82			27			800			789	
Approach Delay, s/veh		12.9			12.8			8.4			9.8	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.1	7.2	18.6		11.1	4.4	21.4				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		31.0	7.0	23.0		31.0	5.0	25.0				
Max Q Clear Time (g_c+I1), s		3.1	4.1	8.6		3.5	2.2	6.7				
Green Ext Time (p_c), s		0.4	0.1	4.0		0.1	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									






















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1	10	5	0	1	21	726	14	0	649	50
Future Volume (veh/h)	39	1	10	5	0	1	21	726	14	0	649	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	64	2	16	8	0	2	22	756	15	0	773	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.63	0.63	0.63	0.96	0.96	0.96	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	292	17	133	277	0	149	442	2504	50	4	1228	95
Arrive On Green	0.09	0.09	0.08	0.09	0.00	0.08	0.26	0.73	0.69	0.00	0.38	0.35
Sat Flow, veh/h	1409	178	1421	1377	0	1583	1723	3448	68	1723	3230	251
Grp Volume(v), veh/h	64	0	18	8	0	2	22	377	394	0	411	422
Grp Sat Flow(s),veh/h/ln	1409	0	1599	1377	0	1583	1723	1719	1797	1723	1719	1761
Q Serve(g_s), s	1.9	0.0	0.5	0.2	0.0	0.1	0.4	3.4	3.4	0.0	8.7	8.7
Cycle Q Clear(g_c), s	2.0	0.0	0.5	0.7	0.0	0.1	0.4	3.4	3.4	0.0	8.7	8.7
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.04	1.00		0.14
Lane Grp Cap(c), veh/h	292	0	150	277	0	149	442	1249	1305	4	653	669
V/C Ratio(X)	0.22	0.00	0.12	0.03	0.00	0.01	0.05	0.30	0.30	0.00	0.63	0.63
Avail Cap(c_a), veh/h	952	0	898	921	0	890	829	1249	1305	984	1028	1053
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	0.0	18.7	18.8	0.0	18.6	12.5	2.1	2.1	0.0	11.2	11.3
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.0	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 BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.1	0.0	0.0	0.2	1.6	1.7	0.0	4.2	4.4
LnGrp Delay(d),s/veh	19.6	0.0	19.1	18.8	0.0	18.6	12.5	2.3	2.3	0.0	12.2	12.3
LnGrp LOS	B		B	B		B	B	A	A		B	B
Approach Vol, veh/h		82			10			793			833	
Approach Delay, s/veh		19.4			18.8			2.6			12.3	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.2	15.4	20.9		8.2	0.0	36.3				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		24.4	20.0	25.2		24.4	24.0	21.2				
Max Q Clear Time (g_c+I1), s		4.0	2.4	10.7		2.7	0.0	5.4				
Green Ext Time (p_c), s		0.2	0.0	4.3		0.0	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			8.2									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	15	27	52	31	29	34	673	23	15	633	18
Future Volume (veh/h)	60	15	27	52	31	29	34	673	23	15	633	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		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	1863	1863	1900	1863	1863	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	77	19	35	55	33	31	36	716	24	16	666	19
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	318	90	165	325	136	128	435	1143	38	435	1149	33
Arrive On Green	0.15	0.15	0.14	0.15	0.15	0.14	0.25	0.33	0.30	0.25	0.33	0.30
Sat Flow, veh/h	1332	585	1078	1337	885	831	1740	3427	115	1740	3446	98
Grp Volume(v), veh/h	77	0	54	55	0	64	36	363	377	16	335	350
Grp Sat Flow(s),veh/h/ln	1332	0	1663	1337	0	1716	1740	1736	1806	1740	1736	1809
Q Serve(g_s), s	2.5	0.0	1.3	1.7	0.0	1.5	0.7	8.0	8.0	0.3	7.3	7.3
Cycle Q Clear(g_c), s	4.0	0.0	1.3	3.0	0.0	1.5	0.7	8.0	8.0	0.3	7.3	7.3
Prop In Lane	1.00		0.65	1.00		0.48	1.00		0.06	1.00		0.05
Lane Grp Cap(c), veh/h	318	0	255	325	0	263	435	579	602	435	579	603
V/C Ratio(X)	0.24	0.00	0.21	0.17	0.00	0.24	0.08	0.63	0.63	0.04	0.58	0.58
Avail Cap(c_a), veh/h	891	0	970	899	0	1001	893	951	990	435	579	603
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	17.1	18.2	0.0	17.1	13.1	12.8	12.8	12.9	12.6	12.6
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.2	0.0	0.5	0.1	1.1	1.1	0.0	1.4	1.4
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 BackOfQ(50%),veh/ln	0.9	0.0	0.6	0.6	0.0	0.7	0.4	4.0	4.2	0.2	3.7	3.8
LnGrp Delay(d),s/veh	19.1	0.0	17.5	18.5	0.0	17.6	13.2	13.9	13.9	13.0	14.0	14.0
LnGrp LOS	B		B	B		B	B	B	B	B	B	B
Approach Vol, veh/h		131			119			776			701	
Approach Delay, s/veh		18.4			18.0			13.9			14.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.0	15.4	19.2		11.0	15.4	19.2				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.0	22.0	11.6		26.0	10.0	23.6				
Max Q Clear Time (g_c+I1), s		6.0	2.7	9.3		5.0	2.3	10.0				
Green Ext Time (p_c), s		0.5	0.0	0.9		0.5	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			14.5									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	512	228	38	775	109	351	350	41	81	260	445
Future Volume (veh/h)	475	512	228	38	775	109	351	350	41	81	260	445
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1863	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	534	575	256	41	842	118	382	380	45	91	292	500
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	425	916	407	61	1051	470	312	1092	129	115	1121	669
Arrive On Green	0.12	0.39	0.37	0.03	0.30	0.30	0.09	0.35	0.33	0.07	0.32	0.31
Sat Flow, veh/h	3442	2373	1055	1774	3539	1583	3375	3128	368	1740	3471	1547
Grp Volume(v), veh/h	534	428	403	41	842	118	382	210	215	91	292	500
Grp Sat Flow(s),veh/h/ln	1721	1770	1659	1774	1770	1583	1688	1736	1760	1740	1736	1547
Q Serve(g_s), s	12.0	19.1	19.3	2.2	21.4	5.5	9.0	8.7	8.9	5.0	6.1	26.4
Cycle Q Clear(g_c), s	12.0	19.1	19.3	2.2	21.4	5.5	9.0	8.7	8.9	5.0	6.1	26.4
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	425	683	640	61	1051	470	312	606	615	115	1121	669
V/C Ratio(X)	1.26	0.63	0.63	0.67	0.80	0.25	1.22	0.35	0.35	0.79	0.26	0.75
Avail Cap(c_a), veh/h	425	739	692	109	1259	563	312	614	622	143	1192	700
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	42.6	24.2	24.5	46.4	31.6	26.0	44.1	23.4	23.6	44.8	24.4	23.2
Incr Delay (d2), s/veh	134.0	1.5	1.6	12.0	3.2	0.3	125.7	0.3	0.3	20.9	0.1	4.2
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 BackOfQ(50%),veh/ln	13.6	9.6	9.1	1.3	10.9	2.4	9.6	4.2	4.4	3.1	2.9	11.9
LnGrp Delay(d),s/veh	176.6	25.7	26.2	58.5	34.8	26.3	169.9	23.8	23.9	65.6	24.5	27.5
LnGrp LOS	F	C	C	E	C	C	F	C	C	E	C	C
Approach Vol, veh/h		1365			1001			807			883	
Approach Delay, s/veh		84.9			34.7			93.0			30.4	
Approach LOS		F			C			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	41.5	13.0	35.4	16.0	32.9	10.4	38.0				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	6.0	39.5	9.0	32.0	12.0	33.5	8.0	33.0				
Max Q Clear Time (g_c+I1), s	4.2	21.3	11.0	28.4	14.0	23.4	7.0	10.9				
Green Ext Time (p_c), s	0.0	5.1	0.0	1.3	0.0	4.3	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				62.3								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd

09/29/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	912	257	0	1571	122	288		
Future Volume (veh/h)	912	257	0	1571	122	288		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1036	0	0	1689	144	339		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.88	0.88	0.93	0.93	0.85	0.85		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2213	990	0	2213	738	597		
Arrive On Green	0.63	0.00	0.00	0.63	0.21	0.21		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1036	0	0	1689	144	339		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	7.7	0.0	0.0	17.1	1.7	5.4		
Cycle Q Clear(g_c), s	7.7	0.0	0.0	17.1	1.7	5.4		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2213	990	0	2213	738	597		
V/C Ratio(X)	0.47	0.00	0.00	0.76	0.20	0.57		
Avail Cap(c_a), veh/h	2576	1152	0	2576	738	598		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.0	0.0	0.0	6.7	16.1	17.5		
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.2	0.1	1.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	8.3	0.8	2.2		
LnGrp Delay(d),s/veh	5.1	0.0	0.0	7.9	16.2	18.8		
LnGrp LOS	A			A	B	B		
Approach Vol, veh/h	1036			1689	483			
Approach Delay, s/veh	5.1			7.9	18.0			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		35.2				35.2		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		35.2				35.2		10.0
Max Q Clear Time (g_c+I1), s		9.7				19.1		7.4
Green Ext Time (p_c), s		8.1				11.0		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			8.5					
HCM 2010 LOS			A					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/29/2021


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	923	219	414	890	0	0	0	0	239	0	363
Future Volume (vph)	0	923	219	414	890	0	0	0	0	239	0	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95						0.95	0.95
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						0.96	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		3539	1557	3433	3539						1643	1504
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		3539	1557	3433	3539						1643	1504
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1073	255	476	1023	0	0	0	0	260	0	395
RTOR Reduction (vph)	0	0	157	0	0	0	0	0	0	0	86	100
Lane Group Flow (vph)	0	1073	98	476	1023	0	0	0	0	0	257	212
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2			1						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		21.2	21.2	10.7	35.9						12.5	12.5
Effective Green, g (s)		22.3	22.3	10.7	37.0						13.2	13.2
Actuated g/C Ratio		0.38	0.38	0.18	0.64						0.23	0.23
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1356	596	631	2249						372	341
v/s Ratio Prot		c0.30		c0.14	0.29						c0.16	
v/s Ratio Perm			0.06									0.14
v/c Ratio		0.79	0.16	0.75	0.45						0.69	0.62
Uniform Delay, d1		15.9	11.8	22.5	5.4						20.6	20.3
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		3.2	0.1	5.1	0.1						5.5	3.5
Delay (s)		19.1	11.9	27.6	5.6						26.1	23.8
Level of Service		B	B	C	A						C	C
Approach Delay (s)		17.8			12.6			0.0			25.0	
Approach LOS		B			B			A			C	
Intersection Summary												
HCM 2000 Control Delay			16.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			58.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.0%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

09/29/2021
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	696	439	115	546	10	733	27	205	10	37	95
Future Volume (vph)	68	696	439	115	546	10	733	27	205	10	37	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1542	1770	3528		1681	1691	1559	1770	1863	1561
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1542	1770	3528		1681	1691	1559	1770	1863	1561
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96	0.83	0.83	0.83
Adj. Flow (vph)	73	748	472	134	635	12	764	28	214	12	45	114
RTOR Reduction (vph)	0	0	334	0	1	0	0	0	150	0	0	100
Lane Group Flow (vph)	73	748	138	134	646	0	397	395	64	12	45	14
Confl. Peds. (#/hr)			3			1			2			2
Confl. Bikes (#/hr)			1						2			
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	5.4	27.1	27.1	7.2	28.9		27.7	27.7	27.7	11.5	11.5	11.5
Effective Green, g (s)	5.4	27.1	27.1	7.2	28.9		27.7	27.7	27.7	11.5	11.5	11.5
Actuated g/C Ratio	0.06	0.29	0.29	0.08	0.31		0.30	0.30	0.30	0.12	0.12	0.12
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	103	1034	450	137	1099		502	505	465	219	231	193
v/s Ratio Prot	0.04	c0.21		c0.08	0.18		c0.24	0.23		0.01	c0.02	
v/s Ratio Perm			0.09						0.04			0.01
v/c Ratio	0.71	0.72	0.31	0.98	0.59		0.79	0.78	0.14	0.05	0.19	0.07
Uniform Delay, d1	42.9	29.4	25.5	42.7	26.9		29.8	29.7	23.8	35.8	36.4	35.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.9	2.5	0.4	69.4	0.8		8.3	7.7	0.1	0.1	0.4	0.2
Delay (s)	62.8	32.0	25.9	112.1	27.7		38.1	37.5	23.9	35.9	36.9	36.1
Level of Service	E	C	C	F	C		D	D	C	D	D	D
Approach Delay (s)		31.5			42.2			34.8			36.3	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			35.3			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			92.7			Sum of lost time (s)			19.2			
Intersection Capacity Utilization			65.7%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

























09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	143	39	27	152	21	21	14	877	217	10	489	71
Future Volume (vph)	143	39	27	152	21	21	14	877	217	10	489	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.93		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1749		1770	1711		1770	3416		1770	3539	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1749		1770	1711		1770	3416		1770	3539	1546
Peak-hour factor, PHF	0.82	0.82	0.82	0.80	0.80	0.80	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	174	48	33	190	26	26	15	923	228	11	526	76
RTOR Reduction (vph)	0	29	0	0	22	0	0	19	0	0	0	65
Lane Group Flow (vph)	174	52	0	190	30	0	15	1132	0	11	526	11
Confl. Peds. (#/hr)							3			3		1
Confl. Bikes (#/hr)										2		1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	10.6	8.2		13.1	10.7		0.7	31.5		0.7	31.5	10.7
Effective Green, g (s)	10.6	8.2		13.1	10.7		0.7	31.5		0.7	31.5	10.7
Actuated g/C Ratio	0.15	0.11		0.18	0.15		0.01	0.44		0.01	0.44	0.15
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	262	200		323	255		17	1502		17	1556	231
v/s Ratio Prot	0.10	c0.03		c0.11	0.02		c0.01	c0.33		0.01	0.15	
v/s Ratio Perm												0.01
v/c Ratio	0.66	0.26		0.59	0.12		0.88	0.75		0.65	0.34	0.05
Uniform Delay, d1	28.8	28.9		26.8	26.4		35.4	16.8		35.3	13.2	26.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.2	0.7		2.7	0.2		159.7	2.2		62.0	0.1	0.1
Delay (s)	35.0	29.6		29.5	26.6		195.1	19.0		97.3	13.3	26.2
Level of Service	D	C		C	C		F	B		F	B	C
Approach Delay (s)		33.3			28.9			21.3			16.4	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			71.6				Sum of lost time (s)			18.1		
Intersection Capacity Utilization			55.7%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	282	270	23	238	293	221	732	49	250	555	164
Future Volume (veh/h)	145	282	270	23	238	293	221	732	49	250	555	164
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	303	290	23	243	299	233	771	52	272	603	178
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	559	474	45	439	372	272	931	63	295	778	229
Arrive On Green	0.09	0.30	0.30	0.03	0.24	0.24	0.15	0.28	0.28	0.17	0.29	0.29
Sat Flow, veh/h	1774	1863	1582	1774	1863	1580	1774	3359	226	1774	2683	790
Grp Volume(v), veh/h	156	303	290	23	243	299	233	406	417	272	397	384
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1863	1580	1774	1770	1816	1774	1770	1703
Q Serve(g_s), s	6.9	10.6	12.3	1.0	9.0	14.0	10.0	16.8	16.8	11.8	16.1	16.1
Cycle Q Clear(g_c), s	6.9	10.6	12.3	1.0	9.0	14.0	10.0	16.8	16.8	11.8	16.1	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.46
Lane Grp Cap(c), veh/h	159	559	474	45	439	372	272	491	503	295	513	494
V/C Ratio(X)	0.98	0.54	0.61	0.52	0.55	0.80	0.86	0.83	0.83	0.92	0.77	0.78
Avail Cap(c_a), veh/h	159	784	666	113	736	624	295	588	604	295	588	566
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	35.5	22.9	23.5	37.6	26.3	28.2	32.2	26.5	26.5	32.1	25.4	25.4
Incr Delay (d2), s/veh	65.9	0.8	1.3	8.9	1.1	4.1	20.1	8.2	8.0	32.8	5.6	5.9
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 BackOfQ(50%),veh/ln	6.2	5.6	5.5	0.6	4.7	6.5	6.4	9.4	9.6	8.4	8.6	8.4
LnGrp Delay(d),s/veh	101.4	23.7	24.7	46.6	27.4	32.3	52.3	34.7	34.6	64.9	31.0	31.4
LnGrp LOS	F	C	C	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		749			565			1056			1053	
Approach Delay, s/veh		40.3			30.7			38.5			39.9	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	28.1	16.0	28.1	11.0	23.1	17.0	27.1				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	5.0	* 33	13.0	26.0	7.0	* 31	13.0	26.0				
Max Q Clear Time (g_c+I1), s	3.0	14.3	12.0	18.1	8.9	16.0	13.8	18.8				
Green Ext Time (p_c), s	0.0	2.7	0.1	2.9	0.0	2.2	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			38.0									
HCM 2010 LOS			D									
Notes												






















HCM 2010 Signalized Intersection Summary
4: N McDowell Blvd & Southpoint Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	12	81	49	7	52	24	854	40	65	747	35
Future Volume (veh/h)	104	12	81	49	7	52	24	854	40	65	747	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.97	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	14	98	58	8	62	25	890	42	68	786	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.84	0.84	0.84	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	42	293	367	39	302	54	1313	62	117	1437	68
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.38	0.38	0.07	0.42	0.42
Sat Flow, veh/h	1325	198	1385	1268	184	1427	1774	3436	162	1774	3442	162
Grp Volume(v), veh/h	125	0	112	58	0	70	25	458	474	68	404	419
Grp Sat Flow(s),veh/h/ln	1325	0	1583	1268	0	1611	1774	1770	1829	1774	1770	1834
Q Serve(g_s), s	3.5	0.0	2.5	1.7	0.0	1.5	0.6	8.9	8.9	1.5	7.1	7.1
Cycle Q Clear(g_c), s	5.0	0.0	2.5	4.1	0.0	1.5	0.6	8.9	8.9	1.5	7.1	7.1
Prop In Lane	1.00		0.88	1.00		0.89	1.00		0.09	1.00		0.09
Lane Grp Cap(c), veh/h	408	0	335	367	0	341	54	676	699	117	739	766
V/C Ratio(X)	0.31	0.00	0.33	0.16	0.00	0.21	0.47	0.68	0.68	0.58	0.55	0.55
Avail Cap(c_a), veh/h	1159	0	1232	1086	0	1254	216	1033	1068	216	1033	1071
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	13.7	15.5	0.0	13.4	19.6	10.6	10.6	18.7	9.0	9.0
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.2	0.0	0.3	6.2	1.2	1.2	4.6	0.6	0.6
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 BackOfQ(50%),veh/ln	1.3	0.0	1.1	0.6	0.0	0.7	0.4	4.6	4.7	0.9	3.5	3.6
LnGrp Delay(d),s/veh	15.8	0.0	14.3	15.7	0.0	13.6	25.8	11.8	11.8	23.2	9.7	9.7
LnGrp LOS	B		B	B		B	C	B	B	C	A	A
Approach Vol, veh/h		237			128			957			891	
Approach Delay, s/veh		15.1			14.6			12.1			10.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.3	5.2	22.6		13.3	6.7	21.1				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	5.0	24.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		7.0	2.6	9.1		6.1	3.5	10.9				
Green Ext Time (p_c), s		1.1	0.0	4.3		0.6	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			12.0									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	43	4	108	30	98	7	781	125	120	728	42
Future Volume (veh/h)	84	43	4	108	30	98	7	781	125	120	728	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	101	52	5	116	32	105	8	840	134	130	791	46
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	251	24	148	61	201	18	1108	177	165	1513	88
Arrive On Green	0.07	0.15	0.15	0.08	0.16	0.16	0.01	0.36	0.36	0.09	0.45	0.45
Sat Flow, veh/h	1774	1672	161	1774	381	1251	1774	3052	487	1774	3395	197
Grp Volume(v), veh/h	101	0	57	116	0	137	8	487	487	130	412	425
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	0	1633	1774	1770	1770	1774	1770	1822
Q Serve(g_s), s	3.2	0.0	1.6	3.7	0.0	4.5	0.3	14.0	14.0	4.2	9.8	9.8
Cycle Q Clear(g_c), s	3.2	0.0	1.6	3.7	0.0	4.5	0.3	14.0	14.0	4.2	9.8	9.8
Prop In Lane	1.00		0.09	1.00		0.77	1.00		0.28	1.00		0.11
Lane Grp Cap(c), veh/h	129	0	275	148	0	262	18	642	642	165	789	812
V/C Ratio(X)	0.78	0.00	0.21	0.78	0.00	0.52	0.43	0.76	0.76	0.79	0.52	0.52
Avail Cap(c_a), veh/h	181	0	853	168	0	749	168	885	885	168	885	912
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	21.6	26.1	0.0	22.3	28.5	16.2	16.2	25.7	11.6	11.6
Incr Delay (d2), s/veh	13.5	0.0	0.4	19.0	0.0	1.6	15.1	2.5	2.5	21.2	0.5	0.5
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 BackOfQ(50%),veh/ln	2.1	0.0	0.8	2.6	0.0	2.1	0.2	7.2	7.2	3.0	4.8	5.0
LnGrp Delay(d),s/veh	39.9	0.0	22.0	45.0	0.0	23.9	43.6	18.8	18.8	46.9	12.2	12.1
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		158			253			982			967	
Approach Delay, s/veh		33.5			33.6			19.0			16.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	13.3	4.6	31.2	8.2	13.9	9.4	26.4				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	5.9	26.6	5.5	29.0				
Max Q Clear Time (g_c+I1), s	5.7	3.6	2.3	11.8	5.2	6.5	6.2	16.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	4.6	0.0	0.7	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			20.6									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	19	169	75	20	31	189	835	75	27	728	31
Future Volume (veh/h)	46	19	169	75	20	31	189	835	75	27	728	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.98	1.00		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	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	52	22	192	85	23	35	199	879	79	29	774	33
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	317	269	116	124	188	246	1354	122	57	1085	474
Arrive On Green	0.05	0.17	0.17	0.07	0.19	0.19	0.14	0.41	0.41	0.03	0.31	0.31
Sat Flow, veh/h	1774	1863	1581	1774	665	1012	1774	3278	295	1774	3539	1545
Grp Volume(v), veh/h	52	22	192	85	0	58	199	475	483	29	774	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	0	1678	1774	1770	1803	1774	1770	1545
Q Serve(g_s), s	1.6	0.6	6.5	2.7	0.0	1.6	6.1	12.1	12.1	0.9	10.9	0.9
Cycle Q Clear(g_c), s	1.6	0.6	6.5	2.7	0.0	1.6	6.1	12.1	12.1	0.9	10.9	0.9
Prop In Lane	1.00		1.00	1.00		0.60	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	88	317	269	116	0	312	246	731	745	57	1085	474
V/C Ratio(X)	0.59	0.07	0.71	0.73	0.00	0.19	0.81	0.65	0.65	0.51	0.71	0.07
Avail Cap(c_a), veh/h	157	991	841	220	0	952	283	941	959	157	1631	712
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	19.7	22.1	25.9	0.0	19.4	23.6	13.3	13.3	26.8	17.4	13.9
Incr Delay (d2), s/veh	6.3	0.1	3.5	8.7	0.0	0.3	14.2	1.0	1.0	6.7	0.9	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 BackOfQ(50%),veh/ln	0.9	0.3	3.1	1.6	0.0	0.8	4.0	6.0	6.1	0.6	5.4	0.4
LnGrp Delay(d),s/veh	32.5	19.7	25.6	34.6	0.0	19.6	37.8	14.3	14.3	33.6	18.2	13.9
LnGrp LOS	C	B	C	C		B	D	B	B	C	B	B
Approach Vol, veh/h		266			143			1157			836	
Approach Delay, s/veh		26.5			28.5			18.3			18.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	14.2	11.8	22.7	6.8	15.1	5.8	28.7				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	7.0	30.0	9.0	26.0	5.0	32.0	5.0	30.0				
Max Q Clear Time (g_c+I1), s	4.7	8.5	8.1	12.9	3.6	3.6	2.9	14.1				
Green Ext Time (p_c), s	0.0	0.7	0.0	4.2	0.0	0.3	0.0	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									






















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	5	84	31	1	15	42	1029	12	8	966	26
Future Volume (veh/h)	57	5	84	31	1	15	42	1029	12	8	966	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	5	88	40	1	19	45	1106	13	9	1039	28
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.77	0.77	0.77	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	16	281	350	15	282	87	1638	716	21	1498	40
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.46	0.46	0.01	0.43	0.43
Sat Flow, veh/h	1383	86	1506	1295	80	1512	1774	3539	1547	1774	3518	95
Grp Volume(v), veh/h	59	0	93	40	0	20	45	1106	13	9	523	544
Grp Sat Flow(s),veh/h/ln	1383	0	1591	1295	0	1591	1774	1770	1547	1774	1770	1843
Q Serve(g_s), s	1.5	0.0	2.1	1.1	0.0	0.4	1.0	10.1	0.2	0.2	9.9	9.9
Cycle Q Clear(g_c), s	1.9	0.0	2.1	3.2	0.0	0.4	1.0	10.1	0.2	0.2	9.9	9.9
Prop In Lane	1.00		0.95	1.00		0.95	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	418	0	297	350	0	296	87	1638	716	21	753	785
V/C Ratio(X)	0.14	0.00	0.31	0.11	0.00	0.07	0.52	0.68	0.02	0.43	0.69	0.69
Avail Cap(c_a), veh/h	1178	0	1172	1062	0	1172	215	2195	959	215	1097	1143
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	14.5	15.9	0.0	13.8	19.2	8.7	6.0	20.3	9.7	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.1	0.0	0.1	4.8	0.5	0.0	13.1	1.2	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 BackOfQ(50%),veh/ln	0.6	0.0	1.0	0.4	0.0	0.2	0.6	4.9	0.1	0.2	5.0	5.2
LnGrp Delay(d),s/veh	14.8	0.0	15.1	16.0	0.0	13.9	23.9	9.2	6.0	33.4	10.8	10.8
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		152			60			1164			1076	
Approach Delay, s/veh		15.0			15.3			9.7			11.0	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.3	6.0	23.0		12.3	4.5	24.5				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	5.0	25.6		30.4	5.0	25.6				
Max Q Clear Time (g_c+I1), s		4.1	3.0	11.9		5.2	2.2	12.1				
Green Ext Time (p_c), s		0.7	0.0	5.5		0.2	0.0	6.2				
Intersection Summary												
HCM 2010 Ctrl Delay			10.7									
HCM 2010 LOS			B									





















HCM 2010 Signalized Intersection Summary
8: N McDowell Blvd & Community Center Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	4	57	19	0	1	69	950	18	2	953	107
Future Volume (veh/h)	140	4	57	19	0	1	69	950	18	2	953	107
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.97	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	4	62	36	0	2	76	1044	20	2	1047	118
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.53	0.53	0.53	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	15	229	283	0	243	316	1397	27	316	1258	142
Arrive On Green	0.15	0.15	0.15	0.15	0.00	0.15	0.18	0.39	0.39	0.18	0.39	0.39
Sat Flow, veh/h	1409	96	1493	1324	0	1583	1774	3550	68	1774	3199	360
Grp Volume(v), veh/h	152	0	66	36	0	2	76	520	544	2	579	586
Grp Sat Flow(s),veh/h/ln	1409	0	1589	1324	0	1583	1774	1770	1849	1774	1770	1789
Q Serve(g_s), s	5.7	0.0	2.1	1.4	0.0	0.1	2.1	14.2	14.2	0.1	16.5	16.6
Cycle Q Clear(g_c), s	5.8	0.0	2.1	3.4	0.0	0.1	2.1	14.2	14.2	0.1	16.5	16.6
Prop In Lane	1.00		0.94	1.00		1.00	1.00		0.04	1.00		0.20
Lane Grp Cap(c), veh/h	343	0	244	283	0	243	316	696	727	316	696	704
V/C Ratio(X)	0.44	0.00	0.27	0.13	0.00	0.01	0.24	0.75	0.75	0.01	0.83	0.83
Avail Cap(c_a), veh/h	755	0	708	670	0	706	633	696	727	759	776	785
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	21.0	22.5	0.0	20.1	19.8	14.6	14.6	18.9	15.3	15.3
Incr Delay (d2), s/veh	0.9	0.0	0.6	0.2	0.0	0.0	0.4	4.5	4.3	0.0	7.0	7.0
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 BackOfQ(50%),veh/ln	2.3	0.0	0.9	0.5	0.0	0.0	1.0	7.7	8.0	0.0	9.4	9.5
LnGrp Delay(d),s/veh	23.5	0.0	21.5	22.7	0.0	20.1	20.2	19.1	18.9	19.0	22.4	22.4
LnGrp LOS	C		C	C		C	C	B	B	B	C	C
Approach Vol, veh/h		218			38			1140			1167	
Approach Delay, s/veh		22.9			22.5			19.1			22.4	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.2	15.4	27.5		13.2	15.4	27.5				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		7.8	4.1	18.6		5.4	2.1	16.2				
Green Ext Time (p_c), s		0.7	0.1	3.5		0.1	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	56	84	46	31	30	60	854	29	55	973	43
Future Volume (veh/h)	109	56	84	46	31	30	60	854	29	55	973	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	114	58	88	49	33	32	73	1041	35	62	1093	48
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	114	173	234	149	145	297	1407	47	297	1391	61
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.40	0.40	0.17	0.40	0.40
Sat Flow, veh/h	1331	665	1009	1230	870	844	1774	3491	117	1774	3450	151
Grp Volume(v), veh/h	114	0	146	49	0	65	73	528	548	62	561	580
Grp Sat Flow(s),veh/h/ln	1331	0	1674	1230	0	1714	1774	1770	1838	1774	1770	1831
Q Serve(g_s), s	4.8	0.0	4.7	2.2	0.0	2.0	2.1	15.1	15.1	1.8	16.5	16.5
Cycle Q Clear(g_c), s	6.8	0.0	4.7	7.0	0.0	2.0	2.1	15.1	15.1	1.8	16.5	16.5
Prop In Lane	1.00		0.60	1.00		0.49	1.00		0.06	1.00		0.08
Lane Grp Cap(c), veh/h	305	0	287	234	0	294	297	713	741	297	713	738
V/C Ratio(X)	0.37	0.00	0.51	0.21	0.00	0.22	0.25	0.74	0.74	0.21	0.79	0.79
Avail Cap(c_a), veh/h	648	0	718	551	0	735	654	1156	1201	297	800	828
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	22.5	25.6	0.0	21.3	21.6	15.1	15.2	21.4	15.6	15.6
Incr Delay (d2), s/veh	0.8	0.0	1.4	0.4	0.0	0.4	0.4	1.5	1.5	0.3	4.7	4.5
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 BackOfQ(50%),veh/ln	1.8	0.0	2.3	0.8	0.0	1.0	1.1	7.6	7.9	0.9	8.9	9.2
LnGrp Delay(d),s/veh	25.0	0.0	23.8	26.1	0.0	21.7	22.0	16.7	16.6	21.8	20.2	20.1
LnGrp LOS	C		C	C		C	C	B	B	C	C	C
Approach Vol, veh/h		260			114			1149			1203	
Approach Delay, s/veh		24.3			23.6			17.0			20.3	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.8	15.4	29.5		14.8	15.4	29.5				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.6	22.0	27.0		25.6	10.0	39.0				
Max Q Clear Time (g_c+I1), s		8.8	4.1	18.5		9.0	3.8	17.1				
Green Ext Time (p_c), s		1.1	0.1	4.4		0.4	0.0	6.9				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	564	887	330	24	751	138	375	513	80	161	453	632
Future Volume (veh/h)	564	887	330	24	751	138	375	513	80	161	453	632
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	606	954	355	26	808	148	412	564	88	171	482	672
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	588	1041	384	44	947	412	371	880	137	191	1018	717
Arrive On Green	0.17	0.41	0.41	0.02	0.27	0.27	0.11	0.29	0.29	0.11	0.29	0.29
Sat Flow, veh/h	3442	2518	929	1774	3539	1539	3442	3060	476	1774	3539	1553
Grp Volume(v), veh/h	606	668	641	26	808	148	412	325	327	171	482	672
Grp Sat Flow(s),veh/h/ln	1721	1770	1677	1774	1770	1539	1721	1770	1767	1774	1770	1553
Q Serve(g_s), s	19.0	39.6	40.4	1.6	24.1	8.7	12.0	17.9	18.0	10.6	12.5	32.0
Cycle Q Clear(g_c), s	19.0	39.6	40.4	1.6	24.1	8.7	12.0	17.9	18.0	10.6	12.5	32.0
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	588	732	693	44	947	412	371	509	508	191	1018	717
V/C Ratio(X)	1.03	0.91	0.92	0.59	0.85	0.36	1.11	0.64	0.64	0.89	0.47	0.94
Avail Cap(c_a), veh/h	588	755	716	80	1065	463	371	509	508	191	1018	717
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	46.1	30.7	31.0	53.7	38.7	33.0	49.6	34.6	34.6	49.0	32.7	28.7
Incr Delay (d2), s/veh	45.4	15.2	17.5	12.0	6.3	0.5	79.9	2.7	2.8	37.2	0.3	19.9
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 BackOfQ(50%),veh/ln	12.7	22.4	22.1	0.9	12.6	3.7	9.8	9.1	9.2	7.2	6.1	23.4
LnGrp Delay(d),s/veh	91.5	46.0	48.4	65.7	44.9	33.5	129.5	37.3	37.4	86.2	33.0	48.6
LnGrp LOS	F	D	D	E	D	C	F	D	D	F	C	D
Approach Vol, veh/h		1915			982			1064			1325	
Approach Delay, s/veh		61.2			43.8			73.0			47.8	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	51.1	16.0	37.4	23.0	34.9	16.0	37.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	5.0	47.5	12.0	32.0	19.0	33.5	12.0	32.0				
Max Q Clear Time (g_c+I1), s	3.6	42.4	14.0	34.0	21.0	26.1	12.6	20.0				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	3.4	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			57.0									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd













09/29/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1530	436	0	1758	51	244		
Future Volume (veh/h)	1530	436	0	1758	51	244		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1628	0	0	1831	75	359		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.94	0.94	0.96	0.96	0.68	0.68		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2270	1015	0	2270	623	504		
Arrive On Green	0.64	0.00	0.00	0.64	0.18	0.18		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1628	0	0	1831	75	359		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	16.9	0.0	0.0	21.2	1.0	6.7		
Cycle Q Clear(g_c), s	16.9	0.0	0.0	21.2	1.0	6.7		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2270	1015	0	2270	623	504		
V/C Ratio(X)	0.72	0.00	0.00	0.81	0.12	0.71		
Avail Cap(c_a), veh/h	2560	1145	0	2560	643	520		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	6.6	0.0	0.0	7.4	18.9	21.2		
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.8	0.1	4.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.2	0.0	0.0	10.5	0.5	2.8		
LnGrp Delay(d),s/veh	7.4	0.0	0.0	9.1	19.0	25.6		
LnGrp LOS	A			A	B	C		
Approach Vol, veh/h	1628			1831	434			
Approach Delay, s/veh	7.4			9.1	24.5			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		40.5				40.5		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		39.9				39.9		10.3
Max Q Clear Time (g_c+I1), s		18.9				23.2		8.7
Green Ext Time (p_c), s		12.8				12.2		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			10.1					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	1582	164	286	1073	0	0	0	0	384	1	392
Future Volume (vph)	0	1582	164	286	1073	0	0	0	0	384	1	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Lane Util. Factor		0.95	1.00	0.97	0.95						1.00	1.00
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1546	3433	3539						1774	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		3539	1546	3433	3539						1774	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1665	173	308	1154	0	0	0	0	400	1	408
RTOR Reduction (vph)	0	0	86	0	0	0	0	0	0	0	0	76
Lane Group Flow (vph)	0	1665	87	308	1154	0	0	0	0	0	401	332
Confl. Peds. (#/hr)			6									
Confl. Bikes (#/hr)			9			2						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		44.9	44.9	9.0	57.9						22.0	22.0
Effective Green, g (s)		44.9	44.9	9.0	57.9						22.0	22.0
Actuated g/C Ratio		0.50	0.50	0.10	0.65						0.25	0.25
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1771	773	344	2284						435	388
v/s Ratio Prot		c0.47		c0.09	0.33						c0.23	
v/s Ratio Perm			0.06									0.21
v/c Ratio		0.94	0.11	0.90	0.51						0.92	0.86
Uniform Delay, d1		21.1	11.9	39.9	8.4						33.0	32.3
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		10.4	0.1	24.3	0.2						24.9	16.6
Delay (s)		31.5	11.9	64.2	8.5						57.9	48.9
Level of Service		C	B	E	A						E	D
Approach Delay (s)		29.7			20.3			0.0			53.4	
Approach LOS		C			C			A			D	
Intersection Summary												
HCM 2000 Control Delay			31.0		HCM 2000 Level of Service					C		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			89.7		Sum of lost time (s)					13.8		
Intersection Capacity Utilization			84.7%		ICU Level of Service					E		
Analysis Period (min)			15									

c Critical Lane Group

**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**
























Appendix C Intersection LOS Analysis: Existing plus project Conditions LOS Calculation Sheets
October 8, 2021

**Appendix C INTERSECTION LOS ANALYSIS: EXISTING PLUS PROJECT
CONDITIONS LOS CALCULATION SHEETS**

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	477	560	136	594	11	452	34	81	8	23	25
Future Volume (vph)	100	477	560	136	594	11	452	34	81	8	23	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1550	1770	3528		1633	1648	1538	1719	1810	1518
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1550	1770	3528		1633	1648	1538	1719	1810	1518
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	110	524	615	151	660	12	526	40	94	9	27	29
RTOR Reduction (vph)	0	0	429	0	1	0	0	0	67	0	0	26
Lane Group Flow (vph)	110	524	186	151	671	0	284	282	27	9	27	3
Confl. Peds. (#/hr)			1				1					1
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	9.0	21.7	21.7	7.8	20.5		20.1	20.1	20.1	6.6	6.6	6.6
Effective Green, g (s)	9.0	22.8	22.8	7.8	21.6		21.5	21.5	21.5	7.3	7.3	7.3
Actuated g/C Ratio	0.12	0.30	0.30	0.10	0.29		0.29	0.29	0.29	0.10	0.10	0.10
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	211	1070	468	183	1010		465	469	438	166	175	146
v/s Ratio Prot	0.06	0.15		c0.09	c0.19		c0.17	0.17		0.01	c0.01	
v/s Ratio Perm			0.12						0.02			0.00
v/c Ratio	0.52	0.49	0.40	0.83	0.66		0.61	0.60	0.06	0.05	0.15	0.02
Uniform Delay, d1	31.2	21.5	20.9	33.1	23.7		23.3	23.3	19.6	30.9	31.2	30.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	0.4	0.6	25.1	1.7		2.4	2.2	0.1	0.1	0.4	0.1
Delay (s)	33.5	21.9	21.4	58.2	25.4		25.7	25.4	19.7	31.1	31.6	30.9
Level of Service	C	C	C	E	C		C	C	B	C	C	C
Approach Delay (s)		22.7			31.4			24.7			31.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			75.4				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			59.5%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

10/04/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	21	7	3	137	15	16	18	546	76	27	619	40	
Future Volume (vph)	21	7	3	137	15	16	18	546	76	27	619	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.92		1.00	0.98		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	1783		1770	1719		1719	3366		1719	3438	1538	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1770	1783		1770	1719		1719	3366		1719	3438	1538	
Peak-hour factor, PHF	0.68	0.68	0.68	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84	
Adj. Flow (vph)	31	10	4	152	17	18	19	587	82	32	737	48	
RTOR Reduction (vph)	0	4	0	0	15	0	0	11	0	0	0	39	
Lane Group Flow (vph)	31	10	0	152	20	0	19	658	0	32	737	9	
Confl. Peds. (#/hr)									1				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases												6	
Actuated Green, G (s)	1.4	1.0		9.6	9.2		0.6	21.5		1.4	22.3	9.2	
Effective Green, g (s)	1.4	1.7		9.6	9.9		0.6	22.9		1.4	23.7	9.9	
Actuated g/C Ratio	0.03	0.03		0.19	0.19		0.01	0.44		0.03	0.46	0.19	
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	48	58		329	329		19	1493		46	1579	295	
v/s Ratio Prot	0.02	c0.01		c0.09	0.01		0.01	0.20		c0.02	c0.21		
v/s Ratio Perm												0.01	
v/c Ratio	0.65	0.17		0.46	0.06		1.00	0.44		0.70	0.47	0.03	
Uniform Delay, d1	24.9	24.3		18.7	17.1		25.5	9.9		24.9	9.6	17.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	26.1	1.4		1.0	0.1		206.5	0.2		36.9	0.2	0.0	
Delay (s)	50.9	25.7		19.7	17.1		232.0	10.1		61.8	9.8	17.0	
Level of Service	D	C		B	B		F	B		E	A	B	
Approach Delay (s)		43.1			19.2			16.3			12.3		
Approach LOS		D			B			B			B		
Intersection Summary													
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.47										
Actuated Cycle Length (s)			51.6		Sum of lost time (s)						16.0		
Intersection Capacity Utilization			43.4%		ICU Level of Service						A		
Analysis Period (min)			15										

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	194	231	53	243	285	181	351	23	101	391	57
Future Volume (veh/h)	152	194	231	53	243	285	181	351	23	101	391	57
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1863	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	169	216	257	60	273	320	189	366	24	115	444	65
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.96	0.96	0.96	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	151	574	481	94	514	437	232	925	60	145	698	102
Arrive On Green	0.09	0.31	0.31	0.05	0.28	0.28	0.13	0.28	0.26	0.08	0.23	0.21
Sat Flow, veh/h	1774	1863	1561	1774	1863	1583	1723	3276	214	1723	3013	439
Grp Volume(v), veh/h	169	216	257	60	273	320	189	191	199	115	252	257
Grp Sat Flow(s),veh/h/ln	1774	1863	1561	1774	1863	1583	1723	1719	1771	1723	1719	1732
Q Serve(g_s), s	5.0	5.3	8.0	1.9	7.3	10.8	6.3	5.3	5.3	3.8	7.8	7.9
Cycle Q Clear(g_c), s	5.0	5.3	8.0	1.9	7.3	10.8	6.3	5.3	5.3	3.8	7.8	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.25
Lane Grp Cap(c), veh/h	151	574	481	94	514	437	232	485	500	145	398	401
V/C Ratio(X)	1.12	0.38	0.53	0.64	0.53	0.73	0.81	0.39	0.40	0.79	0.63	0.64
Avail Cap(c_a), veh/h	151	939	786	211	1002	852	264	802	826	147	685	690
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	26.9	15.9	16.8	27.3	18.0	19.3	24.7	17.0	17.1	26.4	20.3	20.5
Incr Delay (d2), s/veh	108.8	0.4	0.9	6.9	0.9	2.4	15.8	0.5	0.5	24.7	1.7	1.7
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 BackOfQ(50%),veh/ln	7.0	2.8	3.5	1.1	3.8	5.0	4.0	2.6	2.7	2.8	3.8	3.9
LnGrp Delay(d),s/veh	135.7	16.3	17.8	34.2	18.9	21.7	40.5	17.5	17.6	51.1	22.0	22.2
LnGrp LOS	F	B	B	C	B	C	D	B	B	D	C	C
Approach Vol, veh/h		642			653			579			624	
Approach Delay, s/veh		48.3			21.7			25.1			27.4	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	22.1	11.9	17.6	9.0	20.2	9.0	20.6				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	7.0	* 29	9.0	22.0	5.0	* 31	5.0	26.0				
Max Q Clear Time (g_c+I1), s	3.9	10.0	8.3	9.9	7.0	12.8	5.8	7.3				
Green Ext Time (p_c), s	0.0	2.1	0.0	2.2	0.0	2.6	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			30.7									
HCM 2010 LOS			C									
Notes												






















HCM 2010 Signalized Intersection Summary
 4: N McDowell Blvd & Southpoint Blvd

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	3	25	51	7	41	104	476	26	22	548	122
Future Volume (veh/h)	27	3	25	51	7	41	104	476	26	22	548	122
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	55	6	51	63	9	51	116	529	29	23	583	130
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.49	0.49	0.49	0.81	0.81	0.81	0.90	0.90	0.90	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	444	36	310	447	52	297	163	1417	78	49	1010	225
Arrive On Green	0.22	0.22	0.20	0.22	0.22	0.20	0.09	0.43	0.39	0.03	0.36	0.32
Sat Flow, veh/h	1337	169	1439	1341	243	1377	1723	3315	181	1723	2797	622
Grp Volume(v), veh/h	55	0	57	63	0	60	116	274	284	23	358	355
Grp Sat Flow(s),veh/h/ln	1337	0	1609	1341	0	1620	1723	1719	1778	1723	1719	1700
Q Serve(g_s), s	1.3	0.0	1.1	1.5	0.0	1.1	2.4	4.0	4.0	0.5	6.1	6.2
Cycle Q Clear(g_c), s	2.4	0.0	1.1	2.5	0.0	1.1	2.4	4.0	4.0	0.5	6.1	6.2
Prop In Lane	1.00		0.89	1.00		0.85	1.00		0.10	1.00		0.37
Lane Grp Cap(c), veh/h	444	0	346	447	0	349	163	735	760	49	621	614
V/C Ratio(X)	0.12	0.00	0.16	0.14	0.00	0.17	0.71	0.37	0.37	0.47	0.58	0.58
Avail Cap(c_a), veh/h	1351	0	1437	1356	0	1447	330	1196	1237	236	1102	1090
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	11.9	12.7	0.0	11.9	16.0	7.1	7.2	17.5	9.4	9.6
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	0.2	5.6	0.3	0.3	6.8	0.8	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 BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.6	0.0	0.5	1.4	1.9	2.0	0.3	3.0	3.0
LnGrp Delay(d),s/veh	12.8	0.0	12.1	12.8	0.0	12.1	21.6	7.4	7.5	24.2	10.3	10.5
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		112			123			674			736	
Approach Delay, s/veh		12.4			12.5			9.9			10.8	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	7.5	17.2		11.9	5.0	19.6				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	7.0	22.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		4.4	4.4	8.2		4.5	2.5	6.0				
Green Ext Time (p_c), s		0.5	0.1	3.5		0.5	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			10.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 5: N McDowell Blvd & Rainier Ave

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	17	8	127	24	135	10	439	43	47	563	30
Future Volume (veh/h)	40	17	8	127	24	135	10	439	43	47	563	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	51	22	10	135	26	144	11	499	49	52	619	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	93	241	110	172	60	334	25	915	90	92	1089	58
Arrive On Green	0.05	0.20	0.19	0.10	0.24	0.23	0.01	0.29	0.26	0.05	0.33	0.30
Sat Flow, veh/h	1774	1209	550	1774	247	1370	1723	3163	310	1723	3316	177
Grp Volume(v), veh/h	51	0	32	135	0	170	11	270	278	52	321	331
Grp Sat Flow(s),veh/h/ln	1774	0	1759	1774	0	1617	1723	1719	1754	1723	1719	1773
Q Serve(g_s), s	1.2	0.0	0.7	3.3	0.0	4.0	0.3	5.9	5.9	1.3	6.8	6.9
Cycle Q Clear(g_c), s	1.2	0.0	0.7	3.3	0.0	4.0	0.3	5.9	5.9	1.3	6.8	6.9
Prop In Lane	1.00		0.31	1.00		0.85	1.00		0.18	1.00		0.10
Lane Grp Cap(c), veh/h	93	0	351	172	0	394	25	497	507	92	564	582
V/C Ratio(X)	0.55	0.00	0.09	0.78	0.00	0.43	0.45	0.54	0.55	0.57	0.57	0.57
Avail Cap(c_a), veh/h	268	0	1095	220	0	963	214	1179	1203	214	1179	1216
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	14.5	19.6	0.0	14.4	21.7	13.3	13.4	20.5	12.3	12.4
Incr Delay (d2), s/veh	4.9	0.0	0.1	13.2	0.0	0.7	12.2	0.9	0.9	5.4	0.9	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 BackOfQ(50%),veh/ln	0.7	0.0	0.3	2.2	0.0	1.8	0.2	2.9	3.0	0.8	3.3	3.5
LnGrp Delay(d),s/veh	25.4	0.0	14.7	32.8	0.0	15.1	33.8	14.2	14.3	25.8	13.2	13.2
LnGrp LOS	C		B	C		B	C	B	B	C	B	B
Approach Vol, veh/h		83			305			559			704	
Approach Delay, s/veh		21.2			22.9			14.7			14.2	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	12.8	4.6	18.6	6.3	14.8	6.4	16.8				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	6.7	25.8	5.5	29.0				
Max Q Clear Time (g_c+I1), s	5.3	2.7	2.3	8.9	3.2	6.0	3.3	7.9				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.6	0.0	0.9	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			16.3									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
 6: N McDowell Blvd & Professional Dr

10/04/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	11	121	55	13	22	158	451	60	35	568	40
Future Volume (veh/h)	30	11	121	55	13	22	158	451	60	35	568	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1900	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	39	14	159	68	16	27	170	485	65	43	693	49
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.76	0.76	0.76	0.81	0.81	0.81	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	74	320	271	108	119	201	215	1239	165	77	1123	488
Arrive On Green	0.04	0.17	0.17	0.06	0.19	0.18	0.12	0.41	0.38	0.04	0.33	0.33
Sat Flow, veh/h	1774	1863	1578	1774	624	1053	1723	3049	407	1723	3438	1495
Grp Volume(v), veh/h	39	14	159	68	0	43	170	273	277	43	693	49
Grp Sat Flow(s),veh/h/ln	1774	1863	1578	1774	0	1677	1723	1719	1737	1723	1719	1495
Q Serve(g_s), s	1.1	0.3	4.7	1.9	0.0	1.1	4.8	5.7	5.8	1.2	8.6	1.2
Cycle Q Clear(g_c), s	1.1	0.3	4.7	1.9	0.0	1.1	4.8	5.7	5.8	1.2	8.6	1.2
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	74	320	271	108	0	320	215	698	706	77	1123	488
V/C Ratio(X)	0.53	0.04	0.59	0.63	0.00	0.13	0.79	0.39	0.39	0.56	0.62	0.10
Avail Cap(c_a), veh/h	175	1164	986	211	0	1081	307	1034	1044	205	1863	810
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	17.5	19.3	23.2	0.0	17.1	21.5	10.6	10.7	23.7	14.4	11.9
Incr Delay (d2), s/veh	5.7	0.1	2.0	5.9	0.0	0.2	8.8	0.4	0.4	6.1	0.6	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 BackOfQ(50%),veh/ln	0.6	0.2	2.2	1.1	0.0	0.5	2.8	2.7	2.8	0.7	4.1	0.5
LnGrp Delay(d),s/veh	29.4	17.5	21.3	29.1	0.0	17.3	30.3	10.9	11.1	29.8	14.9	11.9
LnGrp LOS	C	B	C	C		B	C	B	B	C	B	B
Approach Vol, veh/h		212			111			720			785	
Approach Delay, s/veh		22.6			24.6			15.6			15.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	12.7	10.3	20.5	6.1	13.6	6.3	24.5				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	6.0	31.0	9.0	26.0	5.0	32.0	6.0	29.0				
Max Q Clear Time (g_c+I1), s	3.9	6.7	6.8	10.6	3.1	3.1	3.2	7.8				
Green Ext Time (p_c), s	0.0	0.6	0.1	4.1	0.0	0.2	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			16.9									
HCM 2010 LOS			B									






















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	33	11	7	2	96	649	35	8	674	73
Future Volume (veh/h)	15	2	33	11	7	2	96	649	35	8	674	73
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	25	3	54	15	9	3	102	690	37	9	741	80
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.75	0.75	0.75	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	449	16	286	403	255	85	150	1646	730	21	1260	136
Arrive On Green	0.19	0.19	0.17	0.19	0.19	0.17	0.09	0.48	0.48	0.01	0.40	0.37
Sat Flow, veh/h	1393	83	1496	1327	1337	446	1723	3438	1525	1723	3122	337
Grp Volume(v), veh/h	25	0	57	15	0	12	102	690	37	9	408	413
Grp Sat Flow(s),veh/h/ln	1393	0	1579	1327	0	1783	1723	1719	1525	1723	1719	1739
Q Serve(g_s), s	0.6	0.0	1.2	0.4	0.0	0.2	2.2	4.9	0.5	0.2	7.0	7.0
Cycle Q Clear(g_c), s	0.8	0.0	1.2	1.5	0.0	0.2	2.2	4.9	0.5	0.2	7.0	7.0
Prop In Lane	1.00		0.95	1.00		0.25	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	449	0	301	403	0	340	150	1646	730	21	694	702
V/C Ratio(X)	0.06	0.00	0.19	0.04	0.00	0.04	0.68	0.42	0.05	0.44	0.59	0.59
Avail Cap(c_a), veh/h	1351	0	1323	1262	0	1494	320	2407	1068	229	1112	1126
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	13.0	13.5	0.0	12.5	16.7	6.4	5.2	18.5	8.8	8.9
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.0	5.3	0.2	0.0	14.0	0.8	0.8
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 BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.1	0.0	0.1	1.2	2.3	0.2	0.2	3.4	3.5
LnGrp Delay(d),s/veh	12.8	0.0	13.4	13.5	0.0	12.5	22.0	6.6	5.3	32.5	9.6	9.7
LnGrp LOS	B		B	B		B	C	A	A	C	A	A
Approach Vol, veh/h		82			27			829			830	
Approach Delay, s/veh		13.2			13.1			8.4			9.9	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.2	7.3	19.2		11.2	4.4	22.1				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		31.0	7.0	23.0		31.0	5.0	25.0				
Max Q Clear Time (g_c+I1), s		3.2	4.2	9.0		3.5	2.2	6.9				
Green Ext Time (p_c), s		0.4	0.1	4.2		0.1	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									






















HCM 2010 Signalized Intersection Summary
8: N McDowell Blvd & Community Center Wy

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1	10	5	0	1	21	754	14	0	686	50
Future Volume (veh/h)	39	1	10	5	0	1	21	754	14	0	686	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	64	2	16	8	0	2	22	785	15	0	817	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.63	0.63	0.63	0.96	0.96	0.96	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	289	17	132	273	0	148	435	2518	48	4	1261	93
Arrive On Green	0.09	0.09	0.08	0.09	0.00	0.08	0.25	0.73	0.70	0.00	0.39	0.36
Sat Flow, veh/h	1409	178	1421	1377	0	1583	1723	3451	66	1723	3245	238
Grp Volume(v), veh/h	64	0	18	8	0	2	22	391	409	0	433	444
Grp Sat Flow(s),veh/h/ln	1409	0	1598	1377	0	1583	1723	1719	1798	1723	1719	1764
Q Serve(g_s), s	2.0	0.0	0.5	0.2	0.0	0.1	0.4	3.6	3.6	0.0	9.3	9.3
Cycle Q Clear(g_c), s	2.0	0.0	0.5	0.7	0.0	0.1	0.4	3.6	3.6	0.0	9.3	9.3
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.04	1.00		0.14
Lane Grp Cap(c), veh/h	289	0	149	273	0	148	435	1254	1312	4	668	686
V/C Ratio(X)	0.22	0.00	0.12	0.03	0.00	0.01	0.05	0.31	0.31	0.00	0.65	0.65
Avail Cap(c_a), veh/h	957	0	906	925	0	897	817	1254	1312	969	990	1015
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	19.0	19.1	0.0	18.9	12.8	2.1	2.1	0.0	11.3	11.4
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.1	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 BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.1	0.0	0.0	0.2	1.7	1.8	0.0	4.5	4.7
LnGrp Delay(d),s/veh	19.9	0.0	19.4	19.2	0.0	18.9	12.8	2.3	2.3	0.0	12.3	12.4
LnGrp LOS	B		B	B		B	B	A	A		B	B
Approach Vol, veh/h		82			10			822			877	
Approach Delay, s/veh		19.8			19.1			2.6			12.4	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.2	15.4	21.6		8.2	0.0	37.0				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		4.0	2.4	11.3		2.7	0.0	5.6				
Green Ext Time (p_c), s		0.2	0.0	4.4		0.0	0.0	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			8.2									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	15	65	52	31	29	85	673	23	15	633	55
Future Volume (veh/h)	88	15	65	52	31	29	85	673	23	15	633	55
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	113	19	83	55	33	31	90	716	24	16	666	58
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	355	56	245	317	164	154	414	1118	37	414	1054	92
Arrive On Green	0.19	0.19	0.17	0.19	0.19	0.17	0.24	0.33	0.30	0.24	0.33	0.30
Sat Flow, veh/h	1332	302	1319	1282	885	831	1740	3427	115	1740	3230	281
Grp Volume(v), veh/h	113	0	102	55	0	64	90	363	377	16	358	366
Grp Sat Flow(s),veh/h/ln	1332	0	1621	1282	0	1716	1740	1736	1806	1740	1736	1776
Q Serve(g_s), s	3.8	0.0	2.6	1.9	0.0	1.5	2.0	8.5	8.5	0.3	8.4	8.4
Cycle Q Clear(g_c), s	5.3	0.0	2.6	4.5	0.0	1.5	2.0	8.5	8.5	0.3	8.4	8.4
Prop In Lane	1.00		0.81	1.00		0.48	1.00		0.06	1.00		0.16
Lane Grp Cap(c), veh/h	355	0	301	317	0	318	414	566	589	414	566	580
V/C Ratio(X)	0.32	0.00	0.34	0.17	0.00	0.20	0.22	0.64	0.64	0.04	0.63	0.63
Avail Cap(c_a), veh/h	847	0	900	791	0	952	849	905	942	414	566	580
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	17.2	18.9	0.0	16.6	14.7	13.7	13.8	14.1	13.7	13.8
Incr Delay (d2), s/veh	0.5	0.0	0.7	0.3	0.0	0.3	0.3	1.2	1.2	0.0	2.3	2.2
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 BackOfQ(50%),veh/ln	1.4	0.0	1.2	0.7	0.0	0.7	1.0	4.2	4.4	0.2	4.3	4.4
LnGrp Delay(d),s/veh	19.3	0.0	17.9	19.2	0.0	17.0	14.9	15.0	15.0	14.1	16.0	16.0
LnGrp LOS	B		B	B		B	B	B	B	B	B	B
Approach Vol, veh/h		215			119			830			740	
Approach Delay, s/veh		18.6			18.0			15.0			16.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	15.4	19.6		12.9	15.4	19.6				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.0	22.0	11.6		26.0	10.0	23.6				
Max Q Clear Time (g_c+I1), s		7.3	4.0	10.4		6.5	2.3	10.5				
Green Ext Time (p_c), s		0.9	0.2	0.5		0.4	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.9									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	505	512	228	38	775	116	351	364	41	86	271	467
Future Volume (veh/h)	505	512	228	38	775	116	351	364	41	86	271	467
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1863	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	567	575	256	41	842	126	382	396	45	97	304	525
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	418	908	403	61	1045	467	307	1105	125	122	1148	678
Arrive On Green	0.12	0.38	0.37	0.03	0.30	0.30	0.09	0.35	0.34	0.07	0.33	0.32
Sat Flow, veh/h	3442	2373	1055	1774	3539	1583	3375	3143	355	1740	3471	1547
Grp Volume(v), veh/h	567	428	403	41	842	126	382	218	223	97	304	525
Grp Sat Flow(s),veh/h/ln	1721	1770	1659	1774	1770	1583	1688	1736	1762	1740	1736	1547
Q Serve(g_s), s	12.0	19.5	19.7	2.3	21.8	6.0	9.0	9.2	9.3	5.4	6.4	28.6
Cycle Q Clear(g_c), s	12.0	19.5	19.7	2.3	21.8	6.0	9.0	9.2	9.3	5.4	6.4	28.6
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	418	677	634	61	1045	467	307	610	619	122	1148	678
V/C Ratio(X)	1.36	0.63	0.63	0.68	0.81	0.27	1.24	0.36	0.36	0.79	0.26	0.77
Avail Cap(c_a), veh/h	418	727	681	108	1239	554	307	610	619	158	1173	689
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	43.4	24.9	25.2	47.2	32.2	26.7	44.9	23.8	23.9	45.3	24.3	23.7
Incr Delay (d2), s/veh	175.8	1.6	1.7	12.4	3.4	0.3	133.9	0.4	0.4	18.6	0.1	5.4
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 BackOfQ(50%),veh/ln	15.8	9.8	9.3	1.3	11.1	2.7	9.9	4.5	4.6	3.2	3.1	13.2
LnGrp Delay(d),s/veh	219.2	26.5	27.0	59.6	35.7	27.0	178.8	24.1	24.3	63.9	24.4	29.1
LnGrp LOS	F	C	C	E	D	C	F	C	C	E	C	C
Approach Vol, veh/h		1398			1009			823			926	
Approach Delay, s/veh		104.8			35.5			96.0			31.2	
Approach LOS		F			D			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	41.8	13.0	36.7	16.0	33.2	10.9	38.7				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	6.0	39.5	9.0	32.0	12.0	33.5	9.0	32.0				
Max Q Clear Time (g_c+I1), s	4.3	21.7	11.0	30.6	14.0	23.8	7.4	11.3				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.6	0.0	4.2	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				69.8								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd

10/04/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	933	257	0	1593	122	297		
Future Volume (veh/h)	933	257	0	1593	122	297		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1060	0	0	1713	144	349		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.88	0.88	0.93	0.93	0.85	0.85		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2223	994	0	2223	732	593		
Arrive On Green	0.63	0.00	0.00	0.63	0.21	0.21		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1060	0	0	1713	144	349		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	8.0	0.0	0.0	17.5	1.7	5.7		
Cycle Q Clear(g_c), s	8.0	0.0	0.0	17.5	1.7	5.7		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2223	994	0	2223	732	593		
V/C Ratio(X)	0.48	0.00	0.00	0.77	0.20	0.59		
Avail Cap(c_a), veh/h	2557	1144	0	2557	733	593		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.0	0.0	0.0	6.7	16.2	17.8		
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.3	0.1	1.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	8.7	0.8	2.3		
LnGrp Delay(d),s/veh	5.1	0.0	0.0	8.0	16.4	19.3		
LnGrp LOS	A			A	B	B		
Approach Vol, veh/h	1060			1713	493			
Approach Delay, s/veh	5.1			8.0	18.5			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		35.6				35.6		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		35.2				35.2		10.0
Max Q Clear Time (g_c+I1), s		10.0				19.5		7.7
Green Ext Time (p_c), s		8.3				10.9		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			8.7					
HCM 2010 LOS			A					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

10/04/2021


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	944	219	421	906	0	0	0	0	239	0	363
Future Volume (vph)	0	944	219	421	906	0	0	0	0	239	0	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95						0.95	0.95
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						0.96	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		3539	1557	3433	3539						1643	1504
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		3539	1557	3433	3539						1643	1504
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1098	255	484	1041	0	0	0	0	260	0	395
RTOR Reduction (vph)	0	0	156	0	0	0	0	0	0	0	86	99
Lane Group Flow (vph)	0	1098	99	484	1041	0	0	0	0	0	257	213
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2			1						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		21.6	21.6	10.7	36.3						12.3	12.3
Effective Green, g (s)		22.7	22.7	10.7	37.4						13.0	13.0
Actuated g/C Ratio		0.39	0.39	0.18	0.64						0.22	0.22
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1375	605	628	2266						365	334
v/s Ratio Prot		c0.31		c0.14	0.29						c0.16	
v/s Ratio Perm			0.06									0.14
v/c Ratio		0.80	0.16	0.77	0.46						0.70	0.64
Uniform Delay, d1		15.8	11.7	22.7	5.3						20.9	20.6
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		3.3	0.1	5.8	0.1						6.0	4.0
Delay (s)		19.2	11.8	28.5	5.5						27.0	24.5
Level of Service		B	B	C	A						C	C
Approach Delay (s)		17.8			12.8			0.0			25.8	
Approach LOS		B			B			A			C	
Intersection Summary												
HCM 2000 Control Delay			17.1		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			58.4		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			63.4%		ICU Level of Service				B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

10/04/2021
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	696	471	121	546	10	767	28	211	10	38	95
Future Volume (vph)	68	696	471	121	546	10	767	28	211	10	38	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1541	1770	3528		1681	1691	1559	1770	1863	1561
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1541	1770	3528		1681	1691	1559	1770	1863	1561
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96	0.83	0.83	0.83
Adj. Flow (vph)	73	748	506	141	635	12	799	29	220	12	46	114
RTOR Reduction (vph)	0	0	359	0	1	0	0	0	152	0	0	100
Lane Group Flow (vph)	73	748	147	141	646	0	415	413	68	12	46	14
Confl. Peds. (#/hr)			3			1			2			2
Confl. Bikes (#/hr)			1						2			
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	5.4	27.5	27.5	7.1	29.2		29.3	29.3	29.3	11.6	11.6	11.6
Effective Green, g (s)	5.4	27.5	27.5	7.1	29.2		29.3	29.3	29.3	11.6	11.6	11.6
Actuated g/C Ratio	0.06	0.29	0.29	0.07	0.31		0.31	0.31	0.31	0.12	0.12	0.12
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	100	1027	447	132	1087		520	523	482	216	228	191
v/s Ratio Prot	0.04	c0.21		c0.08	0.18		c0.25	0.24		0.01	c0.02	
v/s Ratio Perm			0.10						0.04			0.01
v/c Ratio	0.73	0.73	0.33	1.07	0.59		0.80	0.79	0.14	0.06	0.20	0.07
Uniform Delay, d1	43.9	30.2	26.4	43.8	27.7		30.0	29.9	23.6	36.7	37.4	36.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.2	2.6	0.4	97.7	0.9		8.3	7.8	0.1	0.1	0.4	0.2
Delay (s)	67.1	32.9	26.8	141.5	28.6		38.3	37.7	23.7	36.8	37.8	37.0
Level of Service	E	C	C	F	C		D	D	C	D	D	D
Approach Delay (s)		32.4			48.8			35.0			37.2	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			37.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			94.7				Sum of lost time (s)			19.2		
Intersection Capacity Utilization			67.0%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

























10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	143	39	27	152	21	21	14	918	217	10	528	71
Future Volume (vph)	143	39	27	152	21	21	14	918	217	10	528	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.93		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1749		1770	1711		1770	3420		1770	3539	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1749		1770	1711		1770	3420		1770	3539	1546
Peak-hour factor, PHF	0.82	0.82	0.82	0.80	0.80	0.80	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	174	48	33	190	26	26	15	966	228	11	568	76
RTOR Reduction (vph)	0	29	0	0	22	0	0	18	0	0	0	65
Lane Group Flow (vph)	174	52	0	190	30	0	15	1176	0	11	568	11
Confl. Peds. (#/hr)							3			3		1
Confl. Bikes (#/hr)										2		1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	10.4	8.3		13.0	10.9		0.7	33.0		0.7	33.0	10.9
Effective Green, g (s)	10.4	8.3		13.0	10.9		0.7	33.0		0.7	33.0	10.9
Actuated g/C Ratio	0.14	0.11		0.18	0.15		0.01	0.45		0.01	0.45	0.15
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	251	198		314	255		16	1543		16	1597	230
v/s Ratio Prot	c0.10	c0.03		0.11	c0.02		c0.01	c0.34		0.01	0.16	
v/s Ratio Perm												0.01
v/c Ratio	0.69	0.26		0.61	0.12		0.94	0.76		0.69	0.36	0.05
Uniform Delay, d1	29.8	29.6		27.7	26.9		36.2	16.8		36.1	13.1	26.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.0	0.7		3.3	0.2		191.7	2.3		80.1	0.1	0.1
Delay (s)	37.9	30.3		31.0	27.1		227.9	19.1		116.2	13.2	26.7
Level of Service	D	C		C	C		F	B		F	B	C
Approach Delay (s)		35.5			30.1			21.6			16.5	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			73.1				Sum of lost time (s)			18.1		
Intersection Capacity Utilization			56.8%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	282	272	24	238	293	223	773	50	250	594	164
Future Volume (veh/h)	145	282	272	24	238	293	223	773	50	250	594	164
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	303	292	24	243	299	235	814	53	272	646	178
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	553	470	46	437	371	273	962	63	290	806	222
Arrive On Green	0.09	0.30	0.30	0.03	0.23	0.23	0.15	0.29	0.29	0.16	0.30	0.30
Sat Flow, veh/h	1774	1863	1582	1774	1863	1580	1774	3368	219	1774	2729	751
Grp Volume(v), veh/h	156	303	292	24	243	299	235	428	439	272	419	405
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1863	1580	1774	1770	1817	1774	1770	1711
Q Serve(g_s), s	7.0	10.8	12.6	1.1	9.1	14.2	10.3	18.1	18.1	12.0	17.3	17.4
Cycle Q Clear(g_c), s	7.0	10.8	12.6	1.1	9.1	14.2	10.3	18.1	18.1	12.0	17.3	17.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.44
Lane Grp Cap(c), veh/h	156	553	470	46	437	371	273	505	519	290	522	505
V/C Ratio(X)	1.00	0.55	0.62	0.52	0.56	0.81	0.86	0.85	0.85	0.94	0.80	0.80
Avail Cap(c_a), veh/h	156	772	655	112	725	615	290	579	595	290	579	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	36.2	23.4	24.1	38.2	26.7	28.7	32.7	26.7	26.7	32.8	25.8	25.9
Incr Delay (d2), s/veh	71.2	0.8	1.4	8.9	1.1	4.2	21.1	10.1	9.9	36.3	7.3	7.6
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 BackOfQ(50%),veh/ln	6.5	5.7	5.7	0.6	4.8	6.6	6.6	10.2	10.5	8.8	9.5	9.3
LnGrp Delay(d),s/veh	107.4	24.3	25.4	47.1	27.9	32.9	53.9	36.8	36.6	69.1	33.1	33.4
LnGrp LOS	F	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		751			566			1102			1096	
Approach Delay, s/veh		42.0			31.3			40.4			42.2	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	28.3	16.2	28.8	11.0	23.3	17.0	28.1				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	5.0	* 33	13.0	26.0	7.0	* 31	13.0	26.0				
Max Q Clear Time (g_c+I1), s	3.1	14.6	12.3	19.4	9.0	16.2	14.0	20.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	2.7	0.0	2.2	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			39.8									
HCM 2010 LOS			D									
Notes												





















HCM 2010 Signalized Intersection Summary
4: N McDowell Blvd & Southpoint Blvd

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	12	81	49	7	52	24	898	40	65	790	35
Future Volume (veh/h)	104	12	81	49	7	52	24	898	40	65	790	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.97	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	14	98	58	8	62	25	935	42	68	832	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.84	0.84	0.84	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	41	290	361	39	299	53	1350	61	116	1473	66
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.39	0.39	0.07	0.43	0.43
Sat Flow, veh/h	1325	198	1385	1268	184	1427	1774	3445	155	1774	3452	153
Grp Volume(v), veh/h	125	0	112	58	0	70	25	480	497	68	427	442
Grp Sat Flow(s),veh/h/ln	1325	0	1583	1268	0	1611	1774	1770	1830	1774	1770	1835
Q Serve(g_s), s	3.6	0.0	2.5	1.7	0.0	1.5	0.6	9.5	9.5	1.6	7.6	7.6
Cycle Q Clear(g_c), s	5.1	0.0	2.5	4.2	0.0	1.5	0.6	9.5	9.5	1.6	7.6	7.6
Prop In Lane	1.00		0.88	1.00		0.89	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	401	0	331	361	0	337	53	693	717	116	755	784
V/C Ratio(X)	0.31	0.00	0.34	0.16	0.00	0.21	0.47	0.69	0.69	0.59	0.56	0.56
Avail Cap(c_a), veh/h	1134	0	1207	1062	0	1228	211	1012	1047	211	1012	1050
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	14.1	15.9	0.0	13.7	20.0	10.7	10.7	19.1	9.1	9.1
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.2	0.0	0.3	6.2	1.3	1.2	4.7	0.7	0.6
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 BackOfQ(50%),veh/ln	1.4	0.0	1.1	0.6	0.0	0.7	0.4	4.8	4.9	0.9	3.8	3.9
LnGrp Delay(d),s/veh	16.3	0.0	14.7	16.1	0.0	14.0	26.3	11.9	11.9	23.7	9.7	9.7
LnGrp LOS	B		B	B		B	C	B	B	C	A	A
Approach Vol, veh/h		237			128			1002			937	
Approach Delay, s/veh		15.5			15.0			12.2			10.8	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.4	5.3	23.3		13.4	6.7	21.8				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	5.0	24.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		7.1	2.6	9.6		6.2	3.6	11.5				
Green Ext Time (p_c), s		1.1	0.0	4.5		0.6	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			12.1									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	43	4	112	30	98	7	825	130	120	771	42
Future Volume (veh/h)	84	43	4	112	30	98	7	825	130	120	771	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	101	52	5	120	32	105	8	887	140	130	838	46
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	245	24	153	61	200	18	1142	180	164	1551	85
Arrive On Green	0.07	0.15	0.15	0.09	0.16	0.16	0.01	0.37	0.37	0.09	0.46	0.46
Sat Flow, veh/h	1774	1672	161	1774	381	1251	1774	3057	483	1774	3407	187
Grp Volume(v), veh/h	101	0	57	120	0	137	8	513	514	130	435	449
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	0	1633	1774	1770	1770	1774	1770	1825
Q Serve(g_s), s	3.3	0.0	1.6	4.0	0.0	4.6	0.3	15.3	15.3	4.3	10.6	10.6
Cycle Q Clear(g_c), s	3.3	0.0	1.6	4.0	0.0	4.6	0.3	15.3	15.3	4.3	10.6	10.6
Prop In Lane	1.00		0.09	1.00		0.77	1.00		0.27	1.00		0.10
Lane Grp Cap(c), veh/h	129	0	268	153	0	261	18	661	661	164	806	831
V/C Ratio(X)	0.78	0.00	0.21	0.79	0.00	0.53	0.43	0.78	0.78	0.79	0.54	0.54
Avail Cap(c_a), veh/h	175	0	829	164	0	728	164	860	861	164	860	887
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	22.4	26.7	0.0	23.0	29.3	16.5	16.5	26.5	11.7	11.7
Incr Delay (d2), s/veh	14.5	0.0	0.4	20.6	0.0	1.6	15.2	3.4	3.4	23.1	0.6	0.6
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 BackOfQ(50%),veh/ln	2.1	0.0	0.9	2.8	0.0	2.2	0.2	8.0	8.0	3.1	5.2	5.4
LnGrp Delay(d),s/veh	41.7	0.0	22.8	47.4	0.0	24.6	44.5	19.9	19.9	49.6	12.3	12.3
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		158			257			1035			1014	
Approach Delay, s/veh		34.9			35.2			20.0			17.1	
Approach LOS		C			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	13.3	4.6	32.6	8.3	14.1	9.5	27.7				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	5.9	26.6	5.5	29.0				
Max Q Clear Time (g_c+I1), s	6.0	3.6	2.3	12.6	5.3	6.6	6.3	17.3				
Green Ext Time (p_c), s	0.0	0.2	0.0	4.8	0.0	0.7	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	19	169	75	20	31	189	884	75	27	775	31
Future Volume (veh/h)	46	19	169	75	20	31	189	884	75	27	775	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.98	1.00		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	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	52	22	192	85	23	35	199	931	79	29	824	33
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	315	267	114	123	187	245	1397	119	57	1125	491
Arrive On Green	0.05	0.17	0.17	0.06	0.18	0.18	0.14	0.42	0.42	0.03	0.32	0.32
Sat Flow, veh/h	1774	1863	1581	1774	665	1012	1774	3296	280	1774	3539	1546
Grp Volume(v), veh/h	52	22	192	85	0	58	199	500	510	29	824	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	0	1678	1774	1770	1806	1774	1770	1546
Q Serve(g_s), s	1.7	0.6	6.7	2.7	0.0	1.7	6.3	13.1	13.1	0.9	12.0	0.9
Cycle Q Clear(g_c), s	1.7	0.6	6.7	2.7	0.0	1.7	6.3	13.1	13.1	0.9	12.0	0.9
Prop In Lane	1.00		1.00	1.00		0.60	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	87	315	267	114	0	310	245	750	766	57	1125	491
V/C Ratio(X)	0.60	0.07	0.72	0.75	0.00	0.19	0.81	0.67	0.67	0.51	0.73	0.07
Avail Cap(c_a), veh/h	153	964	818	214	0	926	275	916	935	153	1587	693
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	20.2	22.8	26.7	0.0	20.0	24.2	13.4	13.4	27.6	17.6	13.8
Incr Delay (d2), s/veh	6.5	0.1	3.6	9.2	0.0	0.3	15.2	1.4	1.3	6.8	1.1	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 BackOfQ(50%),veh/ln	1.0	0.3	3.2	1.6	0.0	0.8	4.1	6.7	6.8	0.6	6.0	0.4
LnGrp Delay(d),s/veh	33.5	20.3	26.4	35.9	0.0	20.3	39.4	14.8	14.7	34.4	18.6	13.8
LnGrp LOS	C	C	C	D		C	D	B	B	C	B	B
Approach Vol, veh/h		266			143			1209			886	
Approach Delay, s/veh		27.3			29.5			18.8			19.0	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	14.4	12.0	23.8	6.8	15.3	5.9	30.0				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	7.0	30.0	9.0	26.0	5.0	32.0	5.0	30.0				
Max Q Clear Time (g_c+I1), s	4.7	8.7	8.3	14.0	3.7	3.7	2.9	15.1				
Green Ext Time (p_c), s	0.0	0.7	0.0	4.3	0.0	0.3	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			20.4									
HCM 2010 LOS			C									





















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	5	84	31	1	15	42	1078	12	8	1013	26
Future Volume (veh/h)	57	5	84	31	1	15	42	1078	12	8	1013	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	5	88	40	1	19	45	1159	13	9	1089	28
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.77	0.77	0.77	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	16	276	343	15	277	86	1673	731	21	1536	39
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	0.47	0.47	0.01	0.44	0.44
Sat Flow, veh/h	1383	86	1506	1295	80	1512	1774	3539	1547	1774	3523	91
Grp Volume(v), veh/h	59	0	93	40	0	20	45	1159	13	9	547	570
Grp Sat Flow(s),veh/h/ln	1383	0	1591	1295	0	1591	1774	1770	1547	1774	1770	1844
Q Serve(g_s), s	1.6	0.0	2.1	1.2	0.0	0.4	1.0	10.8	0.2	0.2	10.6	10.6
Cycle Q Clear(g_c), s	2.0	0.0	2.1	3.3	0.0	0.4	1.0	10.8	0.2	0.2	10.6	10.6
Prop In Lane	1.00		0.95	1.00		0.95	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	410	0	292	343	0	292	86	1673	731	21	772	804
V/C Ratio(X)	0.14	0.00	0.32	0.12	0.00	0.07	0.52	0.69	0.02	0.43	0.71	0.71
Avail Cap(c_a), veh/h	1153	0	1147	1038	0	1147	210	2148	939	210	1074	1119
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	14.9	16.4	0.0	14.2	19.6	8.7	5.9	20.7	9.7	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.2	0.0	0.1	4.8	0.7	0.0	13.1	1.3	1.2
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 BackOfQ(50%),veh/ln	0.6	0.0	1.0	0.4	0.0	0.2	0.6	5.3	0.1	0.2	5.3	5.7
LnGrp Delay(d),s/veh	15.2	0.0	15.6	16.5	0.0	14.3	24.4	9.4	5.9	33.8	11.0	11.0
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		152			60			1217			1126	
Approach Delay, s/veh		15.4			15.8			9.9			11.2	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.3	6.0	23.8		12.3	4.5	25.3				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	5.0	25.6		30.4	5.0	25.6				
Max Q Clear Time (g_c+I1), s		4.1	3.0	12.6		5.3	2.2	12.8				
Green Ext Time (p_c), s		0.7	0.0	5.6		0.2	0.0	6.3				
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									





















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	4	57	19	0	1	69	999	18	2	1000	107
Future Volume (veh/h)	140	4	57	19	0	1	69	999	18	2	1000	107
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.97	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	4	62	36	0	2	76	1098	20	2	1099	118
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.53	0.53	0.53	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	15	229	281	0	243	312	1423	26	312	1288	138
Arrive On Green	0.15	0.15	0.15	0.15	0.00	0.15	0.18	0.40	0.40	0.18	0.40	0.40
Sat Flow, veh/h	1409	96	1493	1324	0	1583	1774	3554	65	1774	3217	345
Grp Volume(v), veh/h	152	0	66	36	0	2	76	547	571	2	604	613
Grp Sat Flow(s),veh/h/ln	1409	0	1589	1324	0	1583	1774	1770	1849	1774	1770	1792
Q Serve(g_s), s	5.8	0.0	2.1	1.4	0.0	0.1	2.1	15.2	15.3	0.1	17.7	17.7
Cycle Q Clear(g_c), s	5.9	0.0	2.1	3.5	0.0	0.1	2.1	15.2	15.3	0.1	17.7	17.7
Prop In Lane	1.00		0.94	1.00		1.00	1.00		0.04	1.00		0.19
Lane Grp Cap(c), veh/h	341	0	243	281	0	243	312	708	740	312	708	717
V/C Ratio(X)	0.45	0.00	0.27	0.13	0.00	0.01	0.24	0.77	0.77	0.01	0.85	0.85
Avail Cap(c_a), veh/h	744	0	698	660	0	696	624	708	740	748	765	775
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	21.3	22.8	0.0	20.4	20.2	14.8	14.8	19.3	15.5	15.5
Incr Delay (d2), s/veh	0.9	0.0	0.6	0.2	0.0	0.0	0.4	5.2	5.0	0.0	8.7	8.7
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 BackOfQ(50%),veh/ln	2.4	0.0	1.0	0.5	0.0	0.0	1.0	8.5	8.8	0.0	10.3	10.4
LnGrp Delay(d),s/veh	23.8	0.0	21.9	23.0	0.0	20.4	20.6	20.0	19.8	19.4	24.2	24.3
LnGrp LOS	C		C	C		C	C	C	B	B	C	C
Approach Vol, veh/h		218			38			1194			1219	
Approach Delay, s/veh		23.2			22.9			20.0			24.2	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.3	15.4	28.2		13.3	15.4	28.2				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		7.9	4.1	19.7		5.5	2.1	17.3				
Green Ext Time (p_c), s		0.7	0.1	3.0		0.1	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			22.2									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	56	152	46	31	30	125	854	29	55	973	90
Future Volume (veh/h)	158	56	152	46	31	30	125	854	29	55	973	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	165	58	158	49	33	32	152	1041	35	62	1093	101
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	92	251	216	182	177	277	1374	46	277	1287	119
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.16	0.39	0.39	0.16	0.39	0.39
Sat Flow, veh/h	1331	441	1200	1156	870	844	1774	3491	117	1774	3268	302
Grp Volume(v), veh/h	165	0	216	49	0	65	152	528	548	62	591	603
Grp Sat Flow(s),veh/h/ln	1331	0	1641	1156	0	1714	1774	1770	1838	1774	1770	1800
Q Serve(g_s), s	7.4	0.0	7.7	2.6	0.0	2.0	5.1	16.5	16.5	2.0	19.5	19.5
Cycle Q Clear(g_c), s	9.4	0.0	7.7	10.2	0.0	2.0	5.1	16.5	16.5	2.0	19.5	19.5
Prop In Lane	1.00		0.73	1.00		0.49	1.00		0.06	1.00		0.17
Lane Grp Cap(c), veh/h	350	0	344	216	0	359	277	697	724	277	697	709
V/C Ratio(X)	0.47	0.00	0.63	0.23	0.00	0.18	0.55	0.76	0.76	0.22	0.85	0.85
Avail Cap(c_a), veh/h	612	0	666	444	0	696	610	1067	1109	277	735	748
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	23.0	27.7	0.0	20.8	24.9	16.8	16.8	23.6	17.7	17.7
Incr Delay (d2), s/veh	1.0	0.0	1.9	0.5	0.0	0.2	1.7	1.7	1.7	0.4	8.9	8.9
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 BackOfQ(50%),veh/ln	2.8	0.0	3.7	0.8	0.0	1.0	2.6	8.4	8.7	1.0	11.1	11.3
LnGrp Delay(d),s/veh	25.7	0.0	24.9	28.2	0.0	21.0	26.6	18.5	18.4	24.0	26.6	26.6
LnGrp LOS	C		C	C		C	C	B	B	C	C	C
Approach Vol, veh/h		381			114			1228			1256	
Approach Delay, s/veh		25.2			24.1			19.5			26.4	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.0	15.4	30.6		18.0	15.4	30.6				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.0	22.0	26.6		26.0	10.0	38.6				
Max Q Clear Time (g_c+I1), s		11.4	7.1	21.5		12.2	4.0	18.5				
Green Ext Time (p_c), s		1.7	0.3	3.1		0.4	0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

10/08/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	602	887	330	24	751	147	375	531	80	170	472	672
Future Volume (veh/h)	602	887	330	24	751	147	375	531	80	170	472	672
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	647	954	355	26	808	158	412	584	88	181	502	715
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	588	1041	384	44	948	412	371	912	137	175	1018	717
Arrive On Green	0.17	0.41	0.41	0.02	0.27	0.27	0.11	0.30	0.30	0.10	0.29	0.29
Sat Flow, veh/h	3442	2518	929	1774	3539	1539	3442	3077	462	1774	3539	1553
Grp Volume(v), veh/h	647	668	641	26	808	158	412	335	337	181	502	715
Grp Sat Flow(s),veh/h/ln	1721	1770	1677	1774	1770	1539	1721	1770	1770	1774	1770	1553
Q Serve(g_s), s	19.0	39.6	40.4	1.6	24.1	9.3	12.0	18.3	18.4	11.0	13.1	32.0
Cycle Q Clear(g_c), s	19.0	39.6	40.4	1.6	24.1	9.3	12.0	18.3	18.4	11.0	13.1	32.0
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	588	732	694	44	948	412	371	525	525	175	1018	717
V/C Ratio(X)	1.10	0.91	0.92	0.59	0.85	0.38	1.11	0.64	0.64	1.03	0.49	1.00
Avail Cap(c_a), veh/h	588	755	716	80	1065	463	371	525	525	175	1018	717
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	46.1	30.7	31.0	53.7	38.7	33.3	49.6	34.0	34.0	50.1	32.9	30.2
Incr Delay (d2), s/veh	67.9	15.2	17.4	12.0	6.2	0.6	80.0	2.6	2.7	76.7	0.4	33.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	22.4	22.1	0.9	12.6	4.0	9.8	9.3	9.4	9.1	6.5	28.3
LnGrp Delay(d),s/veh	114.1	46.0	48.4	65.7	44.9	33.8	129.6	36.6	36.7	127.1	33.3	63.2
LnGrp LOS	F	D	D	E	D	C	F	D	D	F	C	E
Approach Vol, veh/h		1956			992			1084			1398	
Approach Delay, s/veh		69.3			43.7			72.0			60.7	
Approach LOS		E			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	51.1	16.0	37.4	23.0	34.9	15.0	38.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	5.0	47.5	12.0	32.0	19.0	33.5	11.0	33.0				
Max Q Clear Time (g_c+I1), s	3.6	42.4	14.0	34.0	21.0	26.1	13.0	20.4				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	3.4	0.0	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			62.9									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd













10/08/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1557	436	0	1798	51	255		
Future Volume (veh/h)	1557	436	0	1798	51	255		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1656	0	0	1873	75	375		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.94	0.94	0.96	0.96	0.68	0.68		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2285	1022	0	2285	616	499		
Arrive On Green	0.65	0.00	0.00	0.65	0.18	0.18		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1656	0	0	1873	75	375		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	17.4	0.0	0.0	22.2	1.0	7.1		
Cycle Q Clear(g_c), s	17.4	0.0	0.0	22.2	1.0	7.1		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2285	1022	0	2285	616	499		
V/C Ratio(X)	0.72	0.00	0.00	0.82	0.12	0.75		
Avail Cap(c_a), veh/h	2529	1132	0	2529	635	514		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	6.6	0.0	0.0	7.5	19.2	21.7		
Incr Delay (d2), s/veh	0.9	0.0	0.0	2.1	0.1	6.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.0	11.1	0.5	3.1		
LnGrp Delay(d),s/veh	7.5	0.0	0.0	9.5	19.3	27.7		
LnGrp LOS	A			A	B	C		
Approach Vol, veh/h	1656			1873	450			
Approach Delay, s/veh	7.5			9.5	26.3			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		41.1				41.1		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		39.9				39.9		10.3
Max Q Clear Time (g_c+I1), s		19.4				24.2		9.1
Green Ext Time (p_c), s		12.8				11.8		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			10.6					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑						↖	↗
Traffic Volume (vph)	0	1609	164	298	1101	0	0	0	0	384	1	392
Future Volume (vph)	0	1609	164	298	1101	0	0	0	0	384	1	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Lane Util. Factor		0.95	1.00	0.97	0.95						1.00	1.00
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1546	3433	3539						1774	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		3539	1546	3433	3539						1774	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1694	173	320	1184	0	0	0	0	400	1	408
RTOR Reduction (vph)	0	0	85	0	0	0	0	0	0	0	0	75
Lane Group Flow (vph)	0	1694	88	320	1184	0	0	0	0	0	401	333
Confl. Peds. (#/hr)			6									
Confl. Bikes (#/hr)			9			2						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8	9.0	58.8						21.4	21.4
Effective Green, g (s)		45.8	45.8	9.0	58.8						21.4	21.4
Actuated g/C Ratio		0.51	0.51	0.10	0.65						0.24	0.24
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1800	786	343	2312						421	376
v/s Ratio Prot		c0.48		c0.09	0.33						c0.23	
v/s Ratio Perm			0.06									0.21
v/c Ratio		0.94	0.11	0.93	0.51						0.95	0.88
Uniform Delay, d1		20.8	11.5	40.2	8.1						33.8	33.1
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		10.4	0.1	31.6	0.2						31.7	21.1
Delay (s)		31.2	11.6	71.8	8.3						65.5	54.2
Level of Service		C	B	E	A						E	D
Approach Delay (s)		29.4			21.8			0.0			59.8	
Approach LOS		C			C			A			E	
Intersection Summary												
HCM 2000 Control Delay			32.6			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			83.6%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**

Appendix D Intersection LOS Analysis: Existing plus Pipeline projects Conditions LOS Calculation Sheets
October 8, 2021

**Appendix D INTERSECTION LOS ANALYSIS: EXISTING PLUS PIPELINE
PROJECTS CONDITIONS LOS CALCULATION SHEETS**

City Of Petaluma – Planning Division
Pending Projects Summary (May 8, 2021)

Map #	Type	Project Location	Status	Description	Units/SQFT	Comment/Questions
Commercial Projects						
4	Commercial Project: Wasatch Storage Facility SPAR PLSR-19-0017	85 Corona Road	In Plan Check	Webpage Online: New construction of a two-story storage facility containing 686 storage units, 900 square feet of office and retail space, and retaining the 14,774 square foot building location on eastern portion of the parcel	90,540	Is a Traffic Impact Study (TIS) available? Would like to use the results if available.
5	Project: 1395 N. McDowell Boulevard SPAR PLSR-18-0002	1395 N. McDowell Blvd.	In Plan Check	New 6,378 square foot 4-unit commercial building on a vacant building pad established by the Redwood Technology Center PUD.	6,378 sf	TIS available?
7	Project: McDonald's Remodel PLSR-17-0030	259 N. McDowell Blvd.	Under Construction	Webpage Online: Demolish and reconstruct the existing McDonald's Restaurant. Net increase of 14 sf.	4,456 sf	Only net increase of 14 sf. Any trip increases should be negligible.
8	Project: Washington Square Façade Remodel PLSR-17-0023	373 S. McDowell Blvd.	All Planning Approvals	Façade remodel for a portion of the Washington Square Shopping Center.	50 ksf of the 200 ksf shopping ctr	If it is Façade remodel, is there any increases in square footage?
12	Project: Home 2 Suites PLSR-18-0025	1205 Redwood Way	In Plan Check	New construction of a 85,802 sf hotel on a vacant pad established by the Redwood Technology Center PUD. The hotel will contain 140 guestrooms.	85,802 sf	TIS available?
Mixed Use Projects						
22	Mixed Use Project: Deer Creek Village - 09-SPC-0092	N. McDowell Blvd. btwn Lynch Creek and Rainier Ave.	Under Construction	345,000 sq/ft commercial center and associated site improvements	345,000 sq/ft	TIS available?
Residential Projects						
27	Project: Creekwood TPM & SPAR	270 & 280 Casa Grande Road	In Planning Process	Webpage Online: SB-330 project constructing 42 dwelling units on a 5.2 acre site. Thwo existing 2 parcels would be arranged into 4 parcels. 32 dwellings would be detached and 10 would be attached within 5 buildings	42 dwelling units	TIS available?
29	PLMA-21-0001	240 & 250 Casa Grande	In Plan Check	Webpage Online: The project proposes 35 singlefamily residential units; 30 market rate and 5 affordable on the 4.5 acre site. The project also includes establishment of a PUD and will require a subdivision map.	35 residential units	TIS available?
32	Project: Deer Creek Residential PLMA-18-0005	0 N McDowell	All Planning Approvals	Webpage Online: New construction of a 129-unit residential development within five three-story buildings on 4.71 acres. The project will provide up to 194 off-street parking spaces.	129 residential units	TIS available?
37	Project: Brody Ranch Subdivision PLMA-15-0007	360 Corona Road	Under Construction	Webpage Online: Development of 199 units consisting of 59 detached single family residences, one duplex and 138 condominiums	199 dwelling units	TIS available?
47	Project: Meridian at Corona Station PLSR-20-0018	890 N. McDowell Blvd.	In Planning Process	Webpage Online: 131 affordable housing units and 33 supportive housing units pursuant to AB 2162. Targeted as rentals for families earning between 20% and 60% AML. Will also include a small retail coffee shop on ground floor and tenant amenities.	113 affordable housing units, 33 supportive housing units	TIS available?

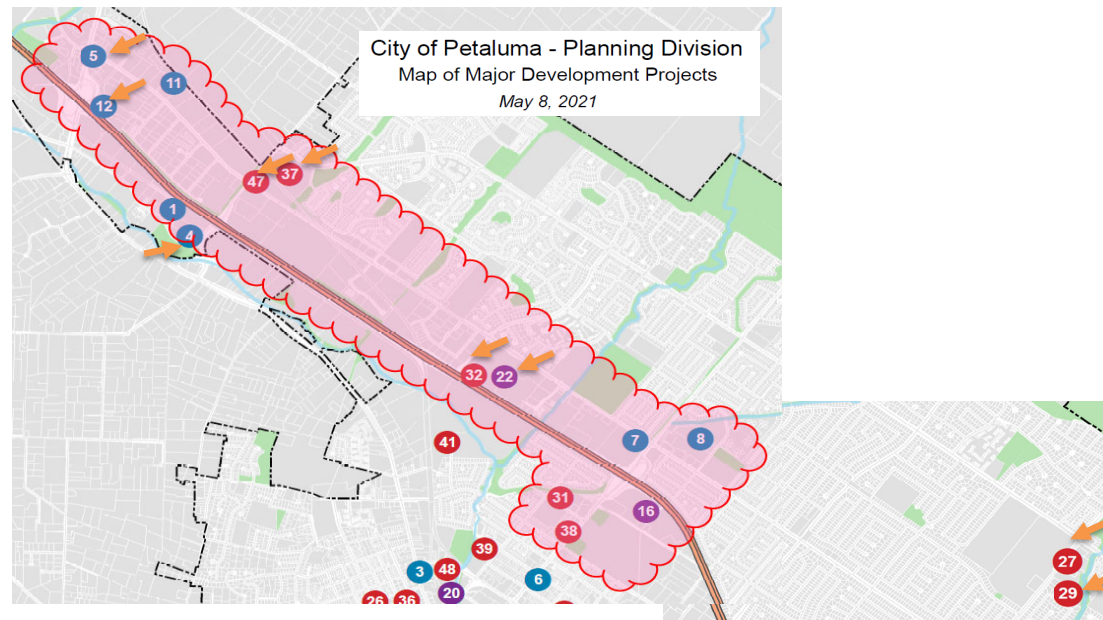
City of Petaluma

1-Sep-21

Home Depot TIA Trip Generation - Pipeline Projects

Map #	Land Use	ITE Code	Size		A.M. Peak				P.M. Peak				Notes
					Rate	In	Out	Total	Rate	In	Out	Total	
<i>Commercial</i>													
4	Wasatch Storage Facility (85 Corona Rd)	ITE 151	90.5	ksf	0.10	5	4	9	0.17	7	8	15	W-Trans, May 28, 2020
5	1395 N. McDowell Boulevard SPAR PLSR-18-0002	ITE 820	6.4	ksf	0.94	4	2	6	3.81	12	13	25	
12	Home 2 Suites (140 rm hotel) 1205 Redwood Way	ITE 311	140	rm		22	20	42		23	25	48	Traffic Works, September 28, 2018
<i>Mixed Use Projects</i>													
22	Deer Creek Village (McDowell b/w Lynch Crk & Rainier Ave.)	Updated 2011 EIR				192	168	360		370	372	742	Mott Macdonald, 9/26/2018 Memo
<i>Residential Projects</i>													
27	Creekwood (270 & 280 Casa Grande Road)	ITE 210	32	DU	0.74	6	18	24	0.99	20	12	32	
		ITE 220	10	DU	0.46	1	4	5	0.56	4	2	6	
	Subtotal					7	22	29		24	14	38	
29	Casa Grande (36 SF, 4 MF) 240 & 250 Casa Grande	ITE 210	40	DU	0.74	8	23	30	0.99	25	15	40	W-Trans, June 9, 2020
32	Deer Creek Residential (3-story) 0 N McDowell	ITE 221	129	DU	0.36	12	35	47	0.44	35	22	57	
37	Brody Ranch (59 SF, 138 Condos) 360 Corona Road	ITE 210	59	DU	0.74	11	33	44	0.99	37	22	59	
		ITE 221	138	DU	0.36	13	37	50	0.44	37	24	61	
	Subtotal					24	70	94		74	46	120	
47	Meridian at Corona Station (rentals) 890 N. McDowell Blvd.	ITE 221	146	DU	0.36	14	39	53	0.44	40	25	65	

Grand Total	288	383	671	610	540	1,150
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Pipeline Commercial Projects Trip Distributions



Location	%
US 101 North	19%
US 101 South	10%
McDowell Blvd - North	23%
McDowell Blvd - South	16%
E Washington St - East	8%
E Washington St - West	24%
Total	100%

Note:



Primary Distribution %



Secondary Distributions %

Pipeline Residential Projects Trip Distributions



Location	%
US 101 North	11%
US 101 South	17%
McDowell Blvd - North	23%
McDowell Blvd - South	16%
E Washington St - East	8%
E Washington St - West	25%
Total	100%

Note:




























Primary Distribution %



HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	100	478	603	147	595	11	519	37	99	8	25	25
Future Volume (vph)	100	478	603	147	595	11	519	37	99	8	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1549	1770	3528		1633	1648	1538	1719	1810	1518
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1549	1770	3528		1633	1648	1538	1719	1810	1518
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	110	525	663	163	661	12	603	43	115	9	29	29
RTOR Reduction (vph)	0	0	465	0	1	0	0	0	80	0	0	26
Lane Group Flow (vph)	110	525	198	163	672	0	326	320	35	9	29	3
Confl. Peds. (#/hr)			1				1					1
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.9	22.2	22.2	7.8	21.1		22.3	22.3	22.3	6.7	6.7	6.7
Effective Green, g (s)	8.9	23.3	23.3	7.8	22.2		23.7	23.7	23.7	7.4	7.4	7.4
Actuated g/C Ratio	0.11	0.30	0.30	0.10	0.28		0.30	0.30	0.30	0.09	0.09	0.09
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	201	1054	461	176	1001		494	499	466	162	171	143
v/s Ratio Prot	0.06	0.15		c0.09	c0.19		c0.20	0.19		0.01	c0.02	
v/s Ratio Perm			0.13						0.02			0.00
v/c Ratio	0.55	0.50	0.43	0.93	0.67		0.66	0.64	0.07	0.06	0.17	0.02
Uniform Delay, d1	32.7	22.6	22.1	34.9	24.8		23.7	23.6	19.4	32.2	32.6	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.4	0.6	46.6	1.8		3.2	2.8	0.1	0.1	0.5	0.1
Delay (s)	35.8	23.0	22.7	81.5	26.6		26.9	26.4	19.5	32.4	33.0	32.2
Level of Service	D	C	C	F	C		C	C	B	C	C	C
Approach Delay (s)		23.9			37.3			25.6			32.6	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			28.3				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			78.2				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			62.8%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

09/29/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	21	7	3	137	15	16	18	633	76	27	675	40	
Future Volume (vph)	21	7	3	137	15	16	18	633	76	27	675	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.92		1.00	0.98		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	1783		1770	1719		1719	3375		1719	3438	1538	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1770	1783		1770	1719		1719	3375		1719	3438	1538	
Peak-hour factor, PHF	0.68	0.68	0.68	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84	
Adj. Flow (vph)	31	10	4	152	17	18	19	681	82	32	804	48	
RTOR Reduction (vph)	0	4	0	0	15	0	0	9	0	0	0	39	
Lane Group Flow (vph)	31	10	0	152	20	0	19	754	0	32	804	9	
Confl. Peds. (#/hr)									1				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases												6	
Actuated Green, G (s)	1.4	1.0		9.6	9.2		0.6	22.9		1.4	23.7	9.2	
Effective Green, g (s)	1.4	1.7		9.6	9.9		0.6	24.3		1.4	25.1	9.9	
Actuated g/C Ratio	0.03	0.03		0.18	0.19		0.01	0.46		0.03	0.47	0.19	
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	46	57		320	321		19	1547		45	1628	287	
v/s Ratio Prot	0.02	c0.01		c0.09	0.01		0.01	0.22		c0.02	c0.23		
v/s Ratio Perm												0.01	
v/c Ratio	0.67	0.18		0.47	0.06		1.00	0.49		0.71	0.49	0.03	
Uniform Delay, d1	25.6	25.0		19.4	17.7		26.2	10.0		25.6	9.6	17.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	32.6	1.5		1.1	0.1		206.5	0.2		41.4	0.2	0.0	
Delay (s)	58.1	26.5		20.6	17.8		232.7	10.3		67.0	9.8	17.7	
Level of Service	E	C		C	B		F	B		E	A	B	
Approach Delay (s)		48.3			20.0			15.7			12.3		
Approach LOS		D			C			B			B		
Intersection Summary													
HCM 2000 Control Delay			15.3		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.49										
Actuated Cycle Length (s)			53.0		Sum of lost time (s)						16.0		
Intersection Capacity Utilization			43.4%		ICU Level of Service						A		
Analysis Period (min)			15										

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd





















09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	195	265	106	245	301	198	411	42	107	436	62
Future Volume (veh/h)	163	195	265	106	245	301	198	411	42	107	436	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1863	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	181	217	294	119	275	338	206	428	44	122	495	70
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.96	0.96	0.96	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	151	533	447	152	535	455	176	851	87	147	766	108
Arrive On Green	0.09	0.29	0.29	0.09	0.29	0.29	0.10	0.27	0.25	0.09	0.25	0.23
Sat Flow, veh/h	1774	1863	1560	1774	1863	1583	1723	3149	322	1723	3027	426
Grp Volume(v), veh/h	181	217	294	119	275	338	206	233	239	122	280	285
Grp Sat Flow(s),veh/h/ln	1774	1863	1560	1774	1863	1583	1723	1719	1752	1723	1719	1734
Q Serve(g_s), s	5.0	5.5	9.7	3.9	7.3	11.4	6.0	6.7	6.8	4.1	8.5	8.6
Cycle Q Clear(g_c), s	5.0	5.5	9.7	3.9	7.3	11.4	6.0	6.7	6.8	4.1	8.5	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.25
Lane Grp Cap(c), veh/h	151	533	447	152	535	455	176	464	473	147	435	439
V/C Ratio(X)	1.20	0.41	0.66	0.78	0.51	0.74	1.17	0.50	0.51	0.83	0.64	0.65
Avail Cap(c_a), veh/h	151	939	787	211	1002	852	176	802	817	147	773	780
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	26.9	16.9	18.4	26.3	17.5	19.0	26.4	18.1	18.2	26.4	19.6	19.8
Incr Delay (d2), s/veh	136.3	0.5	1.7	11.8	0.8	2.4	120.9	0.8	0.8	31.5	1.6	1.6
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 BackOfQ(50%),veh/ln	8.1	2.9	4.4	2.4	3.8	5.3	8.7	3.3	3.4	3.2	4.2	4.3
LnGrp Delay(d),s/veh	163.2	17.4	20.1	38.1	18.3	21.4	147.3	18.9	19.1	57.9	21.2	21.4
LnGrp LOS	F	B	C	D	B	C	F	B	B	E	C	C
Approach Vol, veh/h		692			732			678			687	
Approach Delay, s/veh		56.7			22.9			58.0			27.8	
Approach LOS		E			C			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	20.8	10.0	18.9	9.0	20.9	9.0	19.9				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	7.0	* 29	6.0	25.0	5.0	* 31	5.0	26.0				
Max Q Clear Time (g_c+I1), s	5.9	11.7	8.0	10.6	7.0	13.4	6.1	8.8				
Green Ext Time (p_c), s	0.0	2.1	0.0	2.7	0.0	2.7	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			41.0									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary






















4: N McDowell Blvd & Southpoint Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	3	25	56	7	43	104	571	33	26	676	122
Future Volume (veh/h)	27	3	25	56	7	43	104	571	33	26	676	122
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	55	6	51	69	9	53	116	634	37	28	719	130
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.49	0.49	0.49	0.81	0.81	0.81	0.90	0.90	0.90	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	418	35	297	422	48	286	158	1490	87	58	1144	207
Arrive On Green	0.21	0.21	0.19	0.21	0.21	0.19	0.09	0.45	0.42	0.03	0.39	0.36
Sat Flow, veh/h	1335	169	1439	1341	235	1384	1723	3302	193	1723	2910	526
Grp Volume(v), veh/h	55	0	57	69	0	62	116	330	341	28	425	424
Grp Sat Flow(s),veh/h/ln	1335	0	1609	1341	0	1619	1723	1719	1776	1723	1719	1717
Q Serve(g_s), s	1.4	0.0	1.1	1.7	0.0	1.2	2.5	5.1	5.1	0.6	7.7	7.8
Cycle Q Clear(g_c), s	2.6	0.0	1.1	2.9	0.0	1.2	2.5	5.1	5.1	0.6	7.7	7.8
Prop In Lane	1.00		0.89	1.00		0.85	1.00		0.11	1.00		0.31
Lane Grp Cap(c), veh/h	418	0	332	422	0	334	158	776	801	58	676	675
V/C Ratio(X)	0.13	0.00	0.17	0.16	0.00	0.19	0.73	0.43	0.43	0.48	0.63	0.63
Avail Cap(c_a), veh/h	1262	0	1349	1270	0	1358	310	1123	1160	222	1035	1034
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	12.9	13.9	0.0	12.9	17.2	7.2	7.3	18.4	9.5	9.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	0.0	0.3	6.4	0.4	0.4	6.1	1.0	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 BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.7	0.0	0.6	1.5	2.5	2.6	0.4	3.8	3.9
LnGrp Delay(d),s/veh	14.0	0.0	13.2	14.1	0.0	13.2	23.6	7.6	7.7	24.6	10.5	10.7
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		112			131			787			877	
Approach Delay, s/veh		13.6			13.7			10.0			11.0	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.0	7.6	19.3		12.0	5.3	21.5				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	7.0	22.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		4.6	4.5	9.8		4.9	2.6	7.1				
Green Ext Time (p_c), s		0.5	0.1	4.1		0.5	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	17	8	124	24	146	10	598	42	61	749	30
Future Volume (veh/h)	40	17	8	124	24	146	10	598	42	61	749	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	51	22	10	132	26	155	11	680	48	67	823	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	90	222	101	168	53	315	24	1092	77	105	1286	52
Arrive On Green	0.05	0.18	0.17	0.09	0.23	0.22	0.01	0.34	0.31	0.06	0.38	0.35
Sat Flow, veh/h	1774	1209	549	1774	232	1383	1723	3257	230	1723	3366	135
Grp Volume(v), veh/h	51	0	32	132	0	181	11	359	369	67	420	436
Grp Sat Flow(s),veh/h/ln	1774	0	1758	1774	0	1615	1723	1719	1768	1723	1719	1782
Q Serve(g_s), s	1.4	0.0	0.7	3.6	0.0	4.8	0.3	8.6	8.7	1.9	9.8	9.9
Cycle Q Clear(g_c), s	1.4	0.0	0.7	3.6	0.0	4.8	0.3	8.6	8.7	1.9	9.8	9.9
Prop In Lane	1.00		0.31	1.00		0.86	1.00		0.13	1.00		0.08
Lane Grp Cap(c), veh/h	90	0	323	168	0	367	24	576	593	105	657	681
V/C Ratio(X)	0.56	0.00	0.10	0.79	0.00	0.49	0.45	0.62	0.62	0.64	0.64	0.64
Avail Cap(c_a), veh/h	242	0	987	198	0	867	193	1062	1093	193	1062	1101
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	16.8	21.8	0.0	16.8	24.1	13.7	13.8	22.6	12.4	12.5
Incr Delay (d2), s/veh	5.4	0.0	0.1	16.0	0.0	1.0	12.4	1.1	1.1	6.3	1.0	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 BackOfQ(50%),veh/ln	0.8	0.0	0.4	2.5	0.0	2.2	0.2	4.3	4.4	1.1	4.7	4.9
LnGrp Delay(d),s/veh	28.2	0.0	16.9	37.8	0.0	17.8	36.4	14.8	14.9	28.8	13.5	13.5
LnGrp LOS	C		B	D		B	D	B	B	C	B	B
Approach Vol, veh/h		83			313			739			923	
Approach Delay, s/veh		23.8			26.2			15.2			14.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	13.0	4.7	22.8	6.5	15.2	7.0	20.5				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	6.7	25.8	5.5	29.0				
Max Q Clear Time (g_c+I1), s	5.6	2.7	2.3	11.9	3.4	6.8	3.9	10.7				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.8	0.0	0.9	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	11	121	55	13	22	158	608	60	35	750	40
Future Volume (veh/h)	30	11	121	55	13	22	158	608	60	35	750	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1900	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	39	14	159	68	16	27	170	654	65	43	915	49
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.76	0.76	0.76	0.81	0.81	0.81	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	72	292	247	103	109	184	213	1439	143	75	1291	562
Arrive On Green	0.04	0.16	0.16	0.06	0.17	0.16	0.12	0.46	0.43	0.04	0.38	0.38
Sat Flow, veh/h	1774	1863	1577	1774	624	1053	1723	3159	314	1723	3438	1496
Grp Volume(v), veh/h	39	14	159	68	0	43	170	356	363	43	915	49
Grp Sat Flow(s),veh/h/ln	1774	1863	1577	1774	0	1677	1723	1719	1754	1723	1719	1496
Q Serve(g_s), s	1.2	0.4	5.3	2.1	0.0	1.2	5.4	7.9	8.0	1.4	12.7	1.2
Cycle Q Clear(g_c), s	1.2	0.4	5.3	2.1	0.0	1.2	5.4	7.9	8.0	1.4	12.7	1.2
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	72	292	247	103	0	293	213	783	799	75	1291	562
V/C Ratio(X)	0.54	0.05	0.64	0.66	0.00	0.15	0.80	0.45	0.45	0.57	0.71	0.09
Avail Cap(c_a), veh/h	158	1051	890	190	0	977	277	933	952	185	1683	732
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	20.0	22.1	25.8	0.0	19.7	23.9	10.5	10.6	26.3	14.9	11.3
Incr Delay (d2), s/veh	6.2	0.1	2.8	6.9	0.0	0.2	11.7	0.4	0.4	6.7	1.0	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 BackOfQ(50%),veh/ln	0.7	0.2	2.5	1.2	0.0	0.6	3.2	3.8	3.9	0.8	6.1	0.5
LnGrp Delay(d),s/veh	32.5	20.1	24.9	32.7	0.0	20.0	35.6	10.9	11.0	33.0	15.8	11.3
LnGrp LOS	C	C	C	C		B	D	B	B	C	B	B
Approach Vol, veh/h		212			111			889			1007	
Approach Delay, s/veh		26.0			27.8			15.6			16.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	12.8	10.9	25.0	6.3	13.8	6.4	29.5				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	6.0	31.0	9.0	26.0	5.0	32.0	6.0	29.0				
Max Q Clear Time (g_c+I1), s	4.1	7.3	7.4	14.7	3.2	3.2	3.4	10.0				
Green Ext Time (p_c), s	0.0	0.6	0.1	4.7	0.0	0.2	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	33	11	7	2	96	806	35	8	856	73
Future Volume (veh/h)	15	2	33	11	7	2	96	806	35	8	856	73
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	25	3	54	15	9	3	102	857	37	9	941	80
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.75	0.75	0.75	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	419	15	272	373	244	81	143	1781	791	20	1429	122
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.08	0.52	0.52	0.01	0.45	0.41
Sat Flow, veh/h	1393	83	1494	1326	1337	446	1723	3438	1526	1723	3200	272
Grp Volume(v), veh/h	25	0	57	15	0	12	102	857	37	9	505	516
Grp Sat Flow(s),veh/h/ln	1393	0	1577	1326	0	1783	1723	1719	1526	1723	1719	1753
Q Serve(g_s), s	0.6	0.0	1.3	0.4	0.0	0.2	2.4	6.7	0.5	0.2	9.6	9.6
Cycle Q Clear(g_c), s	0.9	0.0	1.3	1.7	0.0	0.2	2.4	6.7	0.5	0.2	9.6	9.6
Prop In Lane	1.00		0.95	1.00		0.25	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	419	0	287	373	0	325	143	1781	791	20	768	783
V/C Ratio(X)	0.06	0.00	0.20	0.04	0.00	0.04	0.71	0.48	0.05	0.44	0.66	0.66
Avail Cap(c_a), veh/h	1201	0	1173	1118	0	1326	248	2228	989	207	1073	1094
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	14.7	15.2	0.0	14.1	18.6	6.4	5.0	20.4	9.0	9.1
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.0	6.4	0.2	0.0	14.1	1.0	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 BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.2	0.0	0.1	1.4	3.1	0.2	0.2	4.7	4.8
LnGrp Delay(d),s/veh	14.4	0.0	15.0	15.2	0.0	14.1	25.0	6.7	5.0	34.6	10.0	10.1
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		82			27			996			1030	
Approach Delay, s/veh		14.9			14.7			8.5			10.3	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.6	7.5	22.6		11.6	4.5	25.6				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	6.0	24.6		30.4	5.0	25.6				
Max Q Clear Time (g_c+I1), s		3.3	4.4	11.6		3.7	2.2	8.7				
Green Ext Time (p_c), s		0.4	0.0	5.1		0.1	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			9.7									
HCM 2010 LOS			A									





















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1	10	5	0	1	21	911	14	0	868	50
Future Volume (veh/h)	39	1	10	5	0	1	21	911	14	0	868	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	64	2	16	8	0	2	22	949	15	0	1033	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.63	0.63	0.63	0.96	0.96	0.96	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	272	16	127	256	0	142	401	2588	41	4	1427	83
Arrive On Green	0.09	0.09	0.08	0.09	0.00	0.08	0.23	0.75	0.72	0.00	0.43	0.40
Sat Flow, veh/h	1409	177	1420	1376	0	1583	1723	3464	55	1723	3301	192
Grp Volume(v), veh/h	64	0	18	8	0	2	22	471	493	0	538	555
Grp Sat Flow(s),veh/h/ln	1409	0	1597	1376	0	1583	1723	1719	1800	1723	1719	1773
Q Serve(g_s), s	2.1	0.0	0.5	0.3	0.0	0.1	0.5	4.7	4.7	0.0	12.7	12.7
Cycle Q Clear(g_c), s	2.2	0.0	0.5	0.8	0.0	0.1	0.5	4.7	4.7	0.0	12.7	12.7
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	272	0	143	256	0	142	401	1284	1344	4	743	767
V/C Ratio(X)	0.24	0.00	0.13	0.03	0.00	0.01	0.05	0.37	0.37	0.00	0.72	0.72
Avail Cap(c_a), veh/h	871	0	822	841	0	815	753	1284	1344	894	927	956
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	20.8	20.9	0.0	20.6	14.6	2.2	2.2	0.0	11.5	11.5
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.0	0.0	0.0	0.1	0.2	0.2	0.0	2.1	2.1
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 BackOfQ(50%),veh/ln	0.9	0.0	0.2	0.1	0.0	0.0	0.2	2.2	2.3	0.0	6.4	6.6
LnGrp Delay(d),s/veh	21.7	0.0	21.2	20.9	0.0	20.6	14.6	2.3	2.3	0.0	13.6	13.6
LnGrp LOS	C		C	C		C	B	A	A		B	B
Approach Vol, veh/h		82			10			986			1093	
Approach Delay, s/veh		21.6			20.9			2.6			13.6	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.4	15.4	25.2		8.4	0.0	40.6				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		24.6	20.0	25.0		24.6	24.0	21.0				
Max Q Clear Time (g_c+I1), s		4.2	2.5	14.7		2.8	0.0	6.7				
Green Ext Time (p_c), s		0.2	0.0	4.8		0.0	0.0	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	15	27	52	31	29	34	858	23	15	852	18
Future Volume (veh/h)	60	15	27	52	31	29	34	858	23	15	852	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		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	1863	1863	1900	1863	1863	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	77	19	35	55	33	31	36	913	24	16	897	19
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	297	87	161	303	132	124	392	1342	35	392	1350	29
Arrive On Green	0.15	0.15	0.14	0.15	0.15	0.14	0.23	0.39	0.36	0.23	0.39	0.36
Sat Flow, veh/h	1332	585	1078	1337	885	831	1740	3455	91	1740	3476	74
Grp Volume(v), veh/h	77	0	54	55	0	64	36	459	478	16	448	468
Grp Sat Flow(s),veh/h/ln	1332	0	1663	1337	0	1716	1740	1736	1810	1740	1736	1814
Q Serve(g_s), s	2.7	0.0	1.5	1.9	0.0	1.7	0.8	11.1	11.1	0.4	10.8	10.8
Cycle Q Clear(g_c), s	4.4	0.0	1.5	3.4	0.0	1.7	0.8	11.1	11.1	0.4	10.8	10.8
Prop In Lane	1.00		0.65	1.00		0.48	1.00		0.05	1.00		0.04
Lane Grp Cap(c), veh/h	297	0	248	303	0	256	392	674	703	392	674	705
V/C Ratio(X)	0.26	0.00	0.22	0.18	0.00	0.25	0.09	0.68	0.68	0.04	0.66	0.66
Avail Cap(c_a), veh/h	799	0	875	807	0	902	805	1029	1074	392	674	705
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	19.1	20.4	0.0	19.2	15.5	12.9	12.9	15.3	12.7	12.8
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.3	0.0	0.5	0.1	1.2	1.2	0.0	2.5	2.4
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 BackOfQ(50%),veh/ln	1.0	0.0	0.7	0.7	0.0	0.8	0.4	5.5	5.7	0.2	5.6	5.8
LnGrp Delay(d),s/veh	21.4	0.0	19.5	20.7	0.0	19.7	15.6	14.1	14.1	15.4	15.2	15.1
LnGrp LOS	C		B	C		B	B	B	B	B	B	B
Approach Vol, veh/h		131			119			973			932	
Approach Delay, s/veh		20.7			20.1			14.1			15.2	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.5	15.4	23.7		11.5	15.4	23.7				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.0	22.0	16.6		26.0	10.0	28.6				
Max Q Clear Time (g_c+I1), s		6.4	2.8	12.8		5.4	2.4	13.1				
Green Ext Time (p_c), s		0.5	0.0	1.9		0.4	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			15.3									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	580	518	228	45	794	146	351	394	43	113	314	578
Future Volume (veh/h)	580	518	228	45	794	146	351	394	43	113	314	578
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1863	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	652	582	256	49	863	159	382	428	47	127	353	649
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	612	1018	447	63	1007	451	330	968	106	153	1032	717
Arrive On Green	0.18	0.43	0.42	0.04	0.28	0.28	0.10	0.31	0.29	0.09	0.30	0.28
Sat Flow, veh/h	3442	2383	1047	1774	3539	1583	3375	3155	345	1740	3471	1546
Grp Volume(v), veh/h	652	432	406	49	863	159	382	234	241	127	353	649
Grp Sat Flow(s),veh/h/ln	1721	1770	1661	1774	1770	1583	1688	1736	1764	1740	1736	1546
Q Serve(g_s), s	20.0	20.8	21.0	3.1	25.9	9.0	11.0	12.2	12.3	8.1	8.9	32.0
Cycle Q Clear(g_c), s	20.0	20.8	21.0	3.1	25.9	9.0	11.0	12.2	12.3	8.1	8.9	32.0
Prop In Lane	1.00		0.63	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	612	756	709	63	1007	451	330	533	541	153	1032	717
V/C Ratio(X)	1.06	0.57	0.57	0.78	0.86	0.35	1.16	0.44	0.44	0.83	0.34	0.91
Avail Cap(c_a), veh/h	612	756	709	126	1090	487	330	533	541	170	1032	717
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	46.2	24.4	24.7	53.8	38.0	32.0	50.7	31.2	31.4	50.4	30.9	27.9
Incr Delay (d2), s/veh	54.8	1.0	1.1	18.3	6.5	0.5	99.0	0.6	0.6	25.6	0.2	15.1
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 BackOfQ(50%),veh/ln	14.1	10.3	9.9	1.8	13.6	4.0	9.6	5.9	6.1	5.0	4.3	21.5
LnGrp Delay(d),s/veh	100.9	25.4	25.8	72.0	44.6	32.4	149.6	31.8	31.9	76.0	31.1	43.1
LnGrp LOS	F	C	C	E	D	C	F	C	C	E	C	D
Approach Vol, veh/h		1490			1071			857			1129	
Approach Delay, s/veh		58.6			44.0			84.4			43.0	
Approach LOS		E			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	52.0	15.0	37.4	24.0	36.0	13.9	38.5				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	8.0	45.5	11.0	32.0	20.0	33.5	11.0	32.0				
Max Q Clear Time (g_c+I1), s	5.1	23.0	13.0	34.0	22.0	27.9	10.1	14.3				
Green Ext Time (p_c), s	0.0	5.5	0.0	0.0	0.0	2.9	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				56.2								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd













09/29/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	983	257	0	1723	122	328		
Future Volume (veh/h)	983	257	0	1723	122	328		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1117	0	0	1853	144	386		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.88	0.88	0.93	0.93	0.85	0.85		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2337	1045	0	2337	669	542		
Arrive On Green	0.66	0.00	0.00	0.66	0.19	0.19		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1117	0	0	1853	144	386		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	8.6	0.0	0.0	20.5	1.9	7.1		
Cycle Q Clear(g_c), s	8.6	0.0	0.0	20.5	1.9	7.1		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2337	1045	0	2337	669	542		
V/C Ratio(X)	0.48	0.00	0.00	0.79	0.22	0.71		
Avail Cap(c_a), veh/h	2637	1180	0	2637	688	557		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	4.6	0.0	0.0	6.7	18.6	20.7		
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.5	0.2	4.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.0	10.3	0.9	3.0		
LnGrp Delay(d),s/veh	4.8	0.0	0.0	8.2	18.8	24.9		
LnGrp LOS	A			A	B	C		
Approach Vol, veh/h	1117			1853	530			
Approach Delay, s/veh	4.8			8.2	23.2			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		40.3				40.3		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		39.9				39.9		10.3
Max Q Clear Time (g_c+I1), s		10.6				22.5		9.1
Green Ext Time (p_c), s		9.3				12.7		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			9.4					
HCM 2010 LOS			A					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/29/2021
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	994	219	471	985	0	0	0	0	239	0	363
Future Volume (vph)	0	994	219	471	985	0	0	0	0	239	0	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95						0.95	0.95
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						0.96	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		3539	1558	3433	3539						1643	1504
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		3539	1558	3433	3539						1643	1504
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1156	255	541	1132	0	0	0	0	260	0	395
RTOR Reduction (vph)	0	0	150	0	0	0	0	0	0	0	97	97
Lane Group Flow (vph)	0	1156	105	541	1132	0	0	0	0	0	246	215
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2			1						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		21.3	21.3	9.0	34.3						10.2	10.2
Effective Green, g (s)		22.4	22.4	9.0	35.4						10.9	10.9
Actuated g/C Ratio		0.41	0.41	0.17	0.65						0.20	0.20
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1459	642	569	2307						329	301
v/s Ratio Prot		c0.33		c0.16	0.32						c0.15	
v/s Ratio Perm			0.07									0.14
v/c Ratio		0.79	0.16	0.95	0.49						0.75	0.72
Uniform Delay, d1		13.9	10.0	22.4	4.8						20.4	20.3
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		3.0	0.1	25.9	0.2						9.0	7.8
Delay (s)		17.0	10.2	48.3	5.0						29.4	28.1
Level of Service		B	B	D	A						C	C
Approach Delay (s)		15.7			19.0			0.0			28.8	
Approach LOS		B			B			A			C	
Intersection Summary												
HCM 2000 Control Delay			19.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			54.3			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			71.6%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N






















09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	698	581	148	548	10	861	32	233	10	43	95
Future Volume (vph)	68	698	581	148	548	10	861	32	233	10	43	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1541	1770	3528		1681	1691	1559	1770	1863	1561
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1541	1770	3528		1681	1691	1559	1770	1863	1561
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96	0.83	0.83	0.83
Adj. Flow (vph)	73	751	625	172	637	12	897	33	243	12	52	114
RTOR Reduction (vph)	0	0	448	0	1	0	0	0	163	0	0	100
Lane Group Flow (vph)	73	751	177	172	648	0	466	464	80	12	52	14
Confl. Peds. (#/hr)			3			1			2			2
Confl. Bikes (#/hr)			1						2			
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	5.5	27.9	27.9	7.1	29.5		32.5	32.5	32.5	11.7	11.7	11.7
Effective Green, g (s)	5.5	27.9	27.9	7.1	29.5		32.5	32.5	32.5	11.7	11.7	11.7
Actuated g/C Ratio	0.06	0.28	0.28	0.07	0.30		0.33	0.33	0.33	0.12	0.12	0.12
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	98	1003	436	127	1057		555	558	514	210	221	185
v/s Ratio Prot	0.04	c0.21		c0.10	0.18		c0.28	0.27		0.01	c0.03	
v/s Ratio Perm			0.11						0.05			0.01
v/c Ratio	0.74	0.75	0.41	1.35	0.61		0.84	0.83	0.16	0.06	0.24	0.07
Uniform Delay, d1	45.8	32.1	28.5	45.7	29.5		30.5	30.4	23.3	38.5	39.3	38.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.1	3.1	0.6	202.2	1.1		10.8	10.2	0.1	0.1	0.6	0.2
Delay (s)	71.8	35.2	29.2	247.8	30.6		41.3	40.6	23.4	38.6	39.8	38.7
Level of Service	E	D	C	F	C		D	D	C	D	D	D
Approach Delay (s)		34.4			76.1			37.3			39.0	
Approach LOS		C			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			45.0	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			98.4	Sum of lost time (s)				19.2				
Intersection Capacity Utilization			71.2%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

























09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	39	27	152	21	21	14	1038	217	10	669	71
Future Volume (vph)	143	39	27	152	21	21	14	1038	217	10	669	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.93		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1749		1770	1711		1770	3432		1770	3539	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1749		1770	1711		1770	3432		1770	3539	1546
Peak-hour factor, PHF	0.82	0.82	0.82	0.80	0.80	0.80	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	174	48	33	190	26	26	15	1093	228	11	719	76
RTOR Reduction (vph)	0	29	0	0	22	0	0	15	0	0	0	63
Lane Group Flow (vph)	174	52	0	190	30	0	15	1306	0	11	719	13
Confl. Peds. (#/hr)							3			3		1
Confl. Bikes (#/hr)										2		1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	8.3	8.0		12.6	12.3		0.7	34.0		0.7	34.0	12.3
Effective Green, g (s)	8.3	8.0		12.6	12.3		0.7	34.0		0.7	34.0	12.3
Actuated g/C Ratio	0.11	0.11		0.17	0.17		0.01	0.46		0.01	0.46	0.17
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	200	190		303	286		16	1589		16	1639	259
v/s Ratio Prot	c0.10	c0.03		c0.11	0.02		c0.01	c0.38		0.01	0.20	
v/s Ratio Perm												0.01
v/c Ratio	0.87	0.27		0.63	0.11		0.94	0.82		0.69	0.44	0.05
Uniform Delay, d1	32.0	30.0		28.2	25.9		36.3	17.1		36.2	13.3	25.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	30.7	0.8		4.0	0.2		191.7	3.6		80.1	0.2	0.1
Delay (s)	62.7	30.8		32.2	26.1		228.0	20.6		116.3	13.5	25.7
Level of Service	E	C		C	C		F	C		F	B	C
Approach Delay (s)		52.6			30.9			23.0			16.0	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			24.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			73.4				Sum of lost time (s)			18.1		
Intersection Capacity Utilization			60.1%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	284	303	62	239	304	263	873	108	267	705	176
Future Volume (veh/h)	154	284	303	62	239	304	263	873	108	267	705	176
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	166	305	326	63	244	310	277	919	114	290	766	191
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	494	419	81	376	595	309	1002	124	310	886	221
Arrive On Green	0.11	0.27	0.27	0.05	0.20	0.20	0.17	0.32	0.32	0.17	0.32	0.32
Sat Flow, veh/h	1774	1863	1582	1774	1863	1579	1774	3159	392	1774	2795	697
Grp Volume(v), veh/h	166	305	326	63	244	310	277	515	518	290	485	472
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1863	1579	1774	1770	1782	1774	1770	1722
Q Serve(g_s), s	8.4	13.2	17.5	3.2	11.0	14.0	14.0	25.7	25.7	14.8	23.6	23.6
Cycle Q Clear(g_c), s	8.4	13.2	17.5	3.2	11.0	14.0	14.0	25.7	25.7	14.8	23.6	23.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		0.40
Lane Grp Cap(c), veh/h	194	494	419	81	376	595	309	561	565	310	561	546
V/C Ratio(X)	0.86	0.62	0.78	0.78	0.65	0.52	0.90	0.92	0.92	0.94	0.86	0.86
Avail Cap(c_a), veh/h	194	648	550	174	628	809	310	579	583	310	579	564
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	40.1	29.6	31.2	43.3	33.6	22.2	37.0	30.2	30.2	37.3	29.4	29.4
Incr Delay (d2), s/veh	29.7	1.3	5.1	14.5	1.9	0.7	26.5	19.4	19.3	34.8	12.6	12.9
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 BackOfQ(50%),veh/ln	5.7	7.0	8.2	1.9	5.9	6.2	9.1	15.6	15.7	10.2	13.4	13.1
LnGrp Delay(d),s/veh	69.9	30.9	36.3	57.8	35.5	22.9	63.6	49.5	49.4	72.1	42.1	42.4
LnGrp LOS	E	C	D	E	D	C	E	D	D	E	D	D
Approach Vol, veh/h		797			617			1310			1247	
Approach Delay, s/veh		41.2			31.4			52.5			49.2	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	29.0	20.0	34.5	14.0	23.2	20.0	34.5				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	9.0	* 32	16.0	30.0	10.0	* 31	16.0	30.0				
Max Q Clear Time (g_c+I1), s	5.2	19.5	16.0	25.6	10.4	16.0	16.8	27.7				
Green Ext Time (p_c), s	0.0	2.5	0.0	2.2	0.0	2.2	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			45.9									
HCM 2010 LOS			D									
Notes												





















HCM 2010 Signalized Intersection Summary
4: N McDowell Blvd & Southpoint Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	12	81	60	7	57	24	1092	49	68	965	35
Future Volume (veh/h)	104	12	81	60	7	57	24	1092	49	68	965	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.97	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	14	98	71	8	68	25	1138	51	72	1016	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.84	0.84	0.84	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	41	284	332	35	295	52	1521	68	114	1658	60
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.44	0.44	0.06	0.48	0.48
Sat Flow, veh/h	1318	198	1385	1268	169	1439	1774	3446	154	1774	3483	127
Grp Volume(v), veh/h	125	0	112	71	0	76	25	584	605	72	516	537
Grp Sat Flow(s),veh/h/ln	1318	0	1582	1268	0	1609	1774	1770	1831	1774	1770	1840
Q Serve(g_s), s	4.2	0.0	2.9	2.5	0.0	1.9	0.7	13.3	13.3	1.9	10.4	10.4
Cycle Q Clear(g_c), s	6.1	0.0	2.9	5.4	0.0	1.9	0.7	13.3	13.3	1.9	10.4	10.4
Prop In Lane	1.00		0.88	1.00		0.89	1.00		0.08	1.00		0.07
Lane Grp Cap(c), veh/h	367	0	325	332	0	330	52	781	808	114	842	876
V/C Ratio(X)	0.34	0.00	0.34	0.21	0.00	0.23	0.48	0.75	0.75	0.63	0.61	0.61
Avail Cap(c_a), veh/h	998	0	1082	939	0	1100	183	1020	1055	183	1020	1061
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	16.4	18.7	0.0	16.0	23.1	11.3	11.3	22.1	9.4	9.4
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.3	0.0	0.4	6.6	2.2	2.2	5.7	0.8	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 BackOfQ(50%),veh/ln	1.6	0.0	1.3	0.9	0.0	0.9	0.4	6.8	7.0	1.1	5.2	5.4
LnGrp Delay(d),s/veh	19.1	0.0	17.1	19.1	0.0	16.4	29.7	13.5	13.4	27.8	10.1	10.1
LnGrp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		237			147			1214			1125	
Approach Delay, s/veh		18.2			17.7			13.8			11.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.5	5.4	28.4		14.5	7.1	26.8				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		33.1	5.0	27.9		33.1	5.0	27.9				
Max Q Clear Time (g_c+I1), s		8.1	2.7	12.4		7.4	3.9	15.3				
Green Ext Time (p_c), s		1.1	0.0	5.8		0.7	0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay			13.3									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	43	4	110	30	120	7	1142	126	140	1061	42
Future Volume (veh/h)	84	43	4	110	30	120	7	1142	126	140	1061	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	101	52	5	118	32	129	8	1228	135	152	1153	46
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	220	21	149	46	185	18	1392	153	188	1835	73
Arrive On Green	0.07	0.13	0.13	0.08	0.14	0.14	0.01	0.43	0.43	0.11	0.53	0.53
Sat Flow, veh/h	1774	1671	161	1774	322	1300	1774	3213	352	1774	3466	138
Grp Volume(v), veh/h	101	0	57	118	0	161	8	675	688	152	588	611
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	0	1623	1774	1770	1795	1774	1770	1835
Q Serve(g_s), s	4.1	0.0	2.1	4.8	0.0	6.9	0.3	25.7	25.9	6.2	17.2	17.3
Cycle Q Clear(g_c), s	4.1	0.0	2.1	4.8	0.0	6.9	0.3	25.7	25.9	6.2	17.2	17.3
Prop In Lane	1.00		0.09	1.00		0.80	1.00		0.20	1.00		0.08
Lane Grp Cap(c), veh/h	130	0	241	149	0	231	18	767	778	188	937	971
V/C Ratio(X)	0.78	0.00	0.24	0.79	0.00	0.70	0.44	0.88	0.88	0.81	0.63	0.63
Avail Cap(c_a), veh/h	205	0	690	164	0	574	133	816	828	207	937	971
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	28.6	33.0	0.0	30.0	36.2	19.1	19.1	32.1	12.2	12.2
Incr Delay (d2), s/veh	9.6	0.0	0.5	20.8	0.0	3.8	15.8	10.5	10.8	19.0	1.3	1.3
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 BackOfQ(50%),veh/ln	2.4	0.0	1.1	3.2	0.0	3.3	0.2	14.6	15.2	4.0	8.7	9.0
LnGrp Delay(d),s/veh	43.1	0.0	29.1	53.9	0.0	33.8	52.0	29.5	30.0	51.1	13.5	13.5
LnGrp LOS	D		C	D		C	D	C	C	D	B	B
Approach Vol, veh/h		158			279			1371			1351	
Approach Delay, s/veh		38.1			42.3			29.9			17.8	
Approach LOS		D			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	14.3	4.8	44.3	9.4	15.1	11.8	37.3				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	6.8	27.7	5.5	37.0	8.5	26.0	8.6	33.9				
Max Q Clear Time (g_c+I1), s	6.8	4.1	2.3	19.3	6.1	8.9	8.2	27.9				
Green Ext Time (p_c), s	0.0	0.2	0.0	7.3	0.0	0.8	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			26.2									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	19	169	75	20	31	189	1197	75	27	1063	31
Future Volume (veh/h)	46	19	169	75	20	31	189	1197	75	27	1063	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.98	1.00		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	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	52	22	192	85	23	35	199	1260	79	29	1131	33
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	307	260	109	119	182	218	1576	99	56	1328	580
Arrive On Green	0.05	0.16	0.16	0.06	0.18	0.18	0.12	0.47	0.47	0.03	0.38	0.38
Sat Flow, veh/h	1774	1863	1580	1774	665	1012	1774	3378	211	1774	3539	1546
Grp Volume(v), veh/h	52	22	192	85	0	58	199	659	680	29	1131	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1580	1774	0	1677	1774	1770	1820	1774	1770	1546
Q Serve(g_s), s	1.9	0.7	7.5	3.1	0.0	1.9	7.2	20.6	20.8	1.1	19.1	0.9
Cycle Q Clear(g_c), s	1.9	0.7	7.5	3.1	0.0	1.9	7.2	20.6	20.8	1.1	19.1	0.9
Prop In Lane	1.00		1.00	1.00		0.60	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	83	307	260	109	0	301	218	826	849	56	1328	580
V/C Ratio(X)	0.63	0.07	0.74	0.78	0.00	0.19	0.91	0.80	0.80	0.52	0.85	0.06
Avail Cap(c_a), veh/h	136	868	737	190	0	833	218	826	849	136	1443	631
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	23.0	25.9	30.2	0.0	22.8	28.3	14.8	14.8	31.1	18.7	13.0
Incr Delay (d2), s/veh	7.5	0.1	4.1	11.3	0.0	0.3	38.4	5.5	5.5	7.4	4.8	0.0
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 BackOfQ(50%),veh/ln	1.1	0.3	3.6	1.9	0.0	0.9	5.9	11.2	11.5	0.6	10.2	0.4
LnGrp Delay(d),s/veh	38.1	23.1	30.0	41.4	0.0	23.1	66.7	20.3	20.3	38.5	23.5	13.0
LnGrp LOS	D	C	C	D		C	E	C	C	D	C	B
Approach Vol, veh/h		266			143			1538			1193	
Approach Delay, s/veh		31.0			34.0			26.3			23.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	15.3	12.0	29.9	7.1	16.3	6.0	35.8				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	7.0	30.4	8.0	26.6	5.0	32.4	5.0	29.6				
Max Q Clear Time (g_c+I1), s	5.1	9.5	9.2	21.1	3.9	3.9	3.1	22.8				
Green Ext Time (p_c), s	0.0	0.7	0.0	3.3	0.0	0.3	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			26.0									
HCM 2010 LOS			C									






















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	5	84	31	1	15	42	1391	12	8	1301	26
Future Volume (veh/h)	57	5	84	31	1	15	42	1391	12	8	1301	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	5	88	40	1	19	45	1496	13	9	1399	28
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.77	0.77	0.77	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	13	231	267	12	232	81	2019	883	21	1903	38
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.57	0.57	0.01	0.54	0.54
Sat Flow, veh/h	1382	85	1505	1294	80	1511	1774	3539	1548	1774	3547	71
Grp Volume(v), veh/h	59	0	93	40	0	20	45	1496	13	9	697	730
Grp Sat Flow(s),veh/h/ln	1382	0	1590	1294	0	1590	1774	1770	1548	1774	1770	1848
Q Serve(g_s), s	2.0	0.0	2.8	1.5	0.0	0.6	1.3	16.7	0.2	0.3	16.0	16.0
Cycle Q Clear(g_c), s	2.6	0.0	2.8	4.3	0.0	0.6	1.3	16.7	0.2	0.3	16.0	16.0
Prop In Lane	1.00		0.95	1.00		0.95	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	333	0	244	267	0	244	81	2019	883	21	949	992
V/C Ratio(X)	0.18	0.00	0.38	0.15	0.00	0.08	0.56	0.74	0.01	0.43	0.73	0.74
Avail Cap(c_a), veh/h	914	0	912	810	0	912	167	2711	1186	167	1355	1416
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	20.2	22.1	0.0	19.2	24.8	8.5	4.9	26.0	9.4	9.4
Incr Delay (d2), s/veh	0.3	0.0	1.0	0.3	0.0	0.1	5.8	0.8	0.0	13.6	1.2	1.2
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 BackOfQ(50%),veh/ln	0.8	0.0	1.3	0.6	0.0	0.3	0.8	8.1	0.1	0.2	7.9	8.2
LnGrp Delay(d),s/veh	20.6	0.0	21.1	22.4	0.0	19.4	30.6	9.2	4.9	39.6	10.6	10.6
LnGrp LOS	C		C	C		B	C	A	A	D	B	B
Approach Vol, veh/h		152			60			1554			1436	
Approach Delay, s/veh		20.9			21.4			9.8			10.8	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.7	6.4	33.8		12.7	4.6	35.6				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	5.0	40.6		30.4	5.0	40.6				
Max Q Clear Time (g_c+I1), s		4.8	3.3	18.0		6.3	2.3	18.7				
Green Ext Time (p_c), s		0.7	0.0	10.3		0.2	0.0	11.6				
Intersection Summary												
HCM 2010 Ctrl Delay			11.0									
HCM 2010 LOS			B									






















HCM 2010 Signalized Intersection Summary
8: N McDowell Blvd & Community Center Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	4	57	19	0	1	69	1312	18	2	1288	107
Future Volume (veh/h)	140	4	57	19	0	1	69	1312	18	2	1288	107
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.97	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	4	62	36	0	2	76	1442	20	2	1415	118
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.53	0.53	0.53	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	14	216	239	0	229	238	1836	25	238	1698	141
Arrive On Green	0.14	0.14	0.14	0.14	0.00	0.14	0.13	0.51	0.51	0.13	0.51	0.51
Sat Flow, veh/h	1409	96	1492	1323	0	1583	1774	3573	50	1774	3303	274
Grp Volume(v), veh/h	152	0	66	36	0	2	76	714	748	2	755	778
Grp Sat Flow(s),veh/h/ln	1409	0	1588	1323	0	1583	1774	1770	1853	1774	1770	1807
Q Serve(g_s), s	7.7	0.0	2.8	1.9	0.0	0.1	2.9	24.5	24.5	0.1	26.9	27.4
Cycle Q Clear(g_c), s	7.8	0.0	2.8	4.6	0.0	0.1	2.9	24.5	24.5	0.1	26.9	27.4
Prop In Lane	1.00		0.94	1.00		1.00	1.00		0.03	1.00		0.15
Lane Grp Cap(c), veh/h	299	0	230	239	0	229	238	910	952	238	910	929
V/C Ratio(X)	0.51	0.00	0.29	0.15	0.00	0.01	0.32	0.78	0.79	0.01	0.83	0.84
Avail Cap(c_a), veh/h	568	0	533	492	0	532	481	965	1010	572	1055	1078
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	28.4	30.5	0.0	27.3	29.1	14.7	14.8	27.9	15.3	15.4
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.3	0.0	0.0	0.8	4.1	4.0	0.0	5.0	5.3
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 BackOfQ(50%),veh/ln	3.1	0.0	1.3	0.7	0.0	0.0	1.5	12.7	13.5	0.0	14.3	14.8
LnGrp Delay(d),s/veh	31.9	0.0	29.1	30.8	0.0	27.3	29.9	18.8	18.7	27.9	20.3	20.7
LnGrp LOS	C		C	C		C	C	B	B	C	C	C
Approach Vol, veh/h		218			38			1538			1535	
Approach Delay, s/veh		31.1			30.6			19.3			20.5	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.4	15.4	43.7		15.4	15.4	43.7				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.2	44.4		25.0	24.0	40.6				
Max Q Clear Time (g_c+I1), s		9.8	4.9	29.4		6.6	2.1	26.5				
Green Ext Time (p_c), s		0.7	0.1	8.9		0.1	0.0	8.0				
Intersection Summary												
HCM 2010 Ctrl Delay			20.8									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	56	84	46	31	30	60	1216	29	55	1308	43
Future Volume (veh/h)	109	56	84	46	31	30	60	1216	29	55	1308	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	114	58	88	49	33	32	73	1483	35	62	1470	48
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	106	162	192	139	135	231	2130	50	85	1777	58
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.13	0.60	0.60	0.05	0.51	0.51
Sat Flow, veh/h	1331	665	1009	1230	870	844	1774	3532	83	1774	3495	114
Grp Volume(v), veh/h	114	0	146	49	0	65	73	742	776	62	743	775
Grp Sat Flow(s),veh/h/ln	1331	0	1674	1230	0	1714	1774	1770	1846	1774	1770	1839
Q Serve(g_s), s	6.3	0.0	6.2	2.9	0.0	2.5	2.9	22.0	22.1	2.6	27.3	27.4
Cycle Q Clear(g_c), s	8.8	0.0	6.2	9.1	0.0	2.5	2.9	22.0	22.1	2.6	27.3	27.4
Prop In Lane	1.00		0.60	1.00		0.49	1.00		0.05	1.00		0.06
Lane Grp Cap(c), veh/h	263	0	268	192	0	274	231	1067	1113	85	900	935
V/C Ratio(X)	0.43	0.00	0.54	0.26	0.00	0.24	0.32	0.70	0.70	0.73	0.83	0.83
Avail Cap(c_a), veh/h	498	0	563	409	0	577	514	1390	1450	220	1076	1118
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	29.6	33.8	0.0	28.1	30.2	10.4	10.4	36.0	16.0	16.0
Incr Delay (d2), s/veh	1.1	0.0	1.7	0.7	0.0	0.4	0.8	1.0	1.0	11.4	4.6	4.6
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 BackOfQ(50%),veh/ln	2.4	0.0	3.0	1.0	0.0	1.2	1.4	10.8	11.3	1.6	14.4	15.0
LnGrp Delay(d),s/veh	33.1	0.0	31.3	34.5	0.0	28.5	31.0	11.4	11.4	47.4	20.6	20.6
LnGrp LOS	C		C	C		C	C	B	B	D	C	C
Approach Vol, veh/h		260			114			1591			1580	
Approach Delay, s/veh		32.1			31.1			12.3			21.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.9	15.4	44.4		16.9	8.2	51.6				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	4.5	5.4				
Max Green Setting (Gmax), s		25.8	22.2	46.6		25.8	9.5	60.2				
Max Q Clear Time (g_c+I1), s		10.8	4.9	29.4		11.1	4.6	24.1				
Green Ext Time (p_c), s		1.1	0.1	9.5		0.4	0.0	13.7				
Intersection Summary												
HCM 2010 Ctrl Delay			18.5									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	781	908	330	29	763	193	375	603	88	219	535	828
Future Volume (veh/h)	781	908	330	29	763	193	375	603	88	219	535	828
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	840	976	355	31	820	208	412	663	97	233	569	881
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	884	1200	432	45	855	371	435	734	107	224	842	775
Arrive On Green	0.26	0.47	0.47	0.03	0.24	0.24	0.13	0.24	0.24	0.13	0.24	0.24
Sat Flow, veh/h	3442	2536	914	1774	3539	1537	3442	3089	451	1774	3539	1550
Grp Volume(v), veh/h	840	678	653	31	820	208	412	379	381	233	569	881
Grp Sat Flow(s),veh/h/ln	1721	1770	1681	1774	1770	1537	1721	1770	1771	1774	1770	1550
Q Serve(g_s), s	32.3	44.1	45.0	2.3	30.8	16.0	16.0	28.0	28.1	17.0	19.7	32.0
Cycle Q Clear(g_c), s	32.3	44.1	45.0	2.3	30.8	16.0	16.0	28.0	28.1	17.0	19.7	32.0
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	884	837	795	45	855	371	435	421	421	224	842	775
V/C Ratio(X)	0.95	0.81	0.82	0.69	0.96	0.56	0.95	0.90	0.90	1.04	0.68	1.14
Avail Cap(c_a), veh/h	895	837	795	66	855	371	435	421	421	224	842	775
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	49.1	30.3	30.6	65.0	50.4	44.8	58.4	49.8	49.8	58.8	46.6	34.2
Incr Delay (d2), s/veh	18.9	6.0	6.9	16.8	21.5	1.9	30.2	22.1	22.5	70.9	2.2	76.7
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 BackOfQ(50%),veh/ln	17.6	22.9	22.4	1.4	17.6	7.0	9.4	16.3	16.4	12.7	9.9	45.2
LnGrp Delay(d),s/veh	68.1	36.3	37.4	81.8	71.8	46.7	88.5	71.9	72.3	129.7	48.8	110.9
LnGrp LOS	E	D	D	F	E	D	F	E	E	F	D	F
Approach Vol, veh/h		2171			1059			1172			1683	
Approach Delay, s/veh		48.9			67.2			77.9			92.5	
Approach LOS		D			E			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	68.8	21.0	37.4	38.6	37.6	21.0	37.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	5.0	62.5	17.0	32.0	35.0	32.5	17.0	32.0				
Max Q Clear Time (g_c+I1), s	4.3	47.0	18.0	34.0	34.3	32.8	19.0	30.1				
Green Ext Time (p_c), s	0.0	8.1	0.0	0.0	0.3	0.0	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				69.7								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd

09/29/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1680	436	0	1966	51	332		
Future Volume (veh/h)	1680	436	0	1966	51	332		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1787	0	0	2048	75	488		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.94	0.94	0.96	0.96	0.68	0.68		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2306	1032	0	2306	668	541		
Arrive On Green	0.65	0.00	0.00	0.65	0.19	0.19		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1787	0	0	2048	75	488		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	22.5	0.0	0.0	30.4	1.1	10.9		
Cycle Q Clear(g_c), s	22.5	0.0	0.0	30.4	1.1	10.9		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2306	1032	0	2306	668	541		
V/C Ratio(X)	0.78	0.00	0.00	0.89	0.11	0.90		
Avail Cap(c_a), veh/h	2394	1071	0	2394	668	541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	7.8	0.0	0.0	9.1	21.1	25.0		
Incr Delay (d2), s/veh	1.6	0.0	0.0	4.4	0.1	18.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.2	0.0	0.0	15.9	0.5	5.5		
LnGrp Delay(d),s/veh	9.4	0.0	0.0	13.5	21.1	43.4		
LnGrp LOS	A			B	C	D		
Approach Vol, veh/h	1787			2048	563			
Approach Delay, s/veh	9.4			13.5	40.5			
Approach LOS	A			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		46.4				46.4		17.0
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		42.9				42.9		12.3
Max Q Clear Time (g_c+I1), s		24.5				32.4		12.9
Green Ext Time (p_c), s		12.8				9.0		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			15.3					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/29/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	1732	164	362	1206	0	0	0	0	384	1	392
Future Volume (vph)	0	1732	164	362	1206	0	0	0	0	384	1	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Lane Util. Factor		0.95	1.00	0.97	0.95						1.00	1.00
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1544	3433	3539						1774	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		3539	1544	3433	3539						1774	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1823	173	389	1297	0	0	0	0	400	1	408
RTOR Reduction (vph)	0	0	71	0	0	0	0	0	0	0	0	66
Lane Group Flow (vph)	0	1823	102	389	1297	0	0	0	0	0	401	342
Confl. Peds. (#/hr)			6									
Confl. Bikes (#/hr)			9			2						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		52.7	52.7	11.0	67.7						22.5	22.5
Effective Green, g (s)		52.7	52.7	11.0	67.7						22.5	22.5
Actuated g/C Ratio		0.53	0.53	0.11	0.68						0.22	0.22
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1865	813	377	2395						399	356
v/s Ratio Prot		c0.52		c0.11	0.37						c0.23	
v/s Ratio Perm			0.07									0.22
v/c Ratio		0.98	0.12	1.03	0.54						1.01	0.96
Uniform Delay, d1		23.1	12.0	44.5	8.2						38.8	38.3
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		15.7	0.1	54.8	0.3						46.3	37.3
Delay (s)		38.7	12.0	99.3	8.5						85.1	75.6
Level of Service		D	B	F	A						F	E
Approach Delay (s)		36.4			29.4			0.0			80.3	
Approach LOS		D			C			A			F	
Intersection Summary												
HCM 2000 Control Delay			41.7		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				13.8			
Intersection Capacity Utilization			91.0%		ICU Level of Service				F			
Analysis Period (min)			15									

c Critical Lane Group

**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**
























Appendix E Intersection Analysis: Existing plus Pipeline projects plus proposed project Conditions LOS Calculation Sheets
October 8, 2021

**Appendix E INTERSECTION ANALYSIS: EXISTING PLUS PIPELINE
PROJECTS PLUS PROPOSED PROJECT CONDITIONS LOS
CALCULATION SHEETS**

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	478	629	151	595	11	538	37	102	8	26	25
Future Volume (vph)	100	478	629	151	595	11	538	37	102	8	26	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1549	1770	3528		1633	1647	1538	1719	1810	1518
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1549	1770	3528		1633	1647	1538	1719	1810	1518
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	110	525	691	168	661	12	626	43	119	9	30	29
RTOR Reduction (vph)	0	0	486	0	1	0	0	0	82	0	0	26
Lane Group Flow (vph)	110	525	205	168	672	0	338	331	37	9	30	3
Confl. Peds. (#/hr)			1				1					1
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	8.9	22.3	22.3	7.8	21.2		22.8	22.8	22.8	6.7	6.7	6.7
Effective Green, g (s)	8.9	23.4	23.4	7.8	22.3		24.2	24.2	24.2	7.4	7.4	7.4
Actuated g/C Ratio	0.11	0.30	0.30	0.10	0.28		0.31	0.31	0.31	0.09	0.09	0.09
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	199	1050	459	175	998		501	505	472	161	169	142
v/s Ratio Prot	0.06	0.15		c0.09	c0.19		c0.21	0.20		0.01	c0.02	
v/s Ratio Perm			0.13						0.02			0.00
v/c Ratio	0.55	0.50	0.45	0.96	0.67		0.67	0.66	0.08	0.06	0.18	0.02
Uniform Delay, d1	33.1	22.9	22.5	35.3	25.0		23.9	23.7	19.4	32.5	32.9	32.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.4	0.7	55.6	1.8		3.6	3.1	0.1	0.1	0.5	0.1
Delay (s)	36.4	23.2	23.2	90.9	26.8		27.4	26.7	19.4	32.7	33.4	32.5
Level of Service	D	C	C	F	C		C	C	B	C	C	C
Approach Delay (s)		24.3			39.6			25.9			32.9	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			29.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			78.8				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			64.6%				ICU Level of Service		C			
Analysis Period (min)			15									
c	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

09/29/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	21	7	3	137	15	16	18	657	76	27	705	40	
Future Volume (vph)	21	7	3	137	15	16	18	657	76	27	705	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.92		1.00	0.98		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	1783		1770	1719		1719	3377		1719	3438	1538	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1770	1783		1770	1719		1719	3377		1719	3438	1538	
Peak-hour factor, PHF	0.68	0.68	0.68	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84	
Adj. Flow (vph)	31	10	4	152	17	18	19	706	82	32	839	48	
RTOR Reduction (vph)	0	4	0	0	15	0	0	9	0	0	0	39	
Lane Group Flow (vph)	31	10	0	152	20	0	19	779	0	32	839	9	
Confl. Peds. (#/hr)									1				
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom	
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases												6	
Actuated Green, G (s)	1.4	1.0		9.5	9.1		0.6	23.7		1.4	24.5	9.1	
Effective Green, g (s)	1.4	1.7		9.5	9.8		0.6	25.1		1.4	25.9	9.8	
Actuated g/C Ratio	0.03	0.03		0.18	0.18		0.01	0.47		0.03	0.48	0.18	
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	46	56		313	313		19	1578		44	1658	280	
v/s Ratio Prot	0.02	c0.01		c0.09	0.01		0.01	0.23		c0.02	c0.24		
v/s Ratio Perm												0.01	
v/c Ratio	0.67	0.18		0.49	0.06		1.00	0.49		0.73	0.51	0.03	
Uniform Delay, d1	25.9	25.3		19.9	18.2		26.6	9.9		26.0	9.5	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	32.6	1.6		1.2	0.1		206.5	0.2		45.3	0.2	0.0	
Delay (s)	58.5	26.9		21.1	18.2		233.0	10.1		71.2	9.8	18.1	
Level of Service	E	C		C	B		F	B		E	A	B	
Approach Delay (s)		48.7			20.6			15.4			12.3		
Approach LOS		D			C			B			B		
Intersection Summary													
HCM 2000 Control Delay			15.2		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.50										
Actuated Cycle Length (s)			53.7		Sum of lost time (s)						16.0		
Intersection Capacity Utilization			43.4%		ICU Level of Service						A		
Analysis Period (min)			15										

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd






















09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	195	266	107	245	301	200	434	43	107	466	62
Future Volume (veh/h)	163	195	266	107	245	301	200	434	43	107	466	62
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1863	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	181	217	296	120	275	338	208	452	45	122	530	70
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.96	0.96	0.96	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	149	527	441	153	532	452	173	881	87	144	801	105
Arrive On Green	0.08	0.28	0.28	0.09	0.29	0.29	0.10	0.28	0.26	0.08	0.26	0.24
Sat Flow, veh/h	1774	1863	1560	1774	1863	1583	1723	3159	313	1723	3055	402
Grp Volume(v), veh/h	181	217	296	120	275	338	208	245	252	122	297	303
Grp Sat Flow(s),veh/h/ln	1774	1863	1560	1774	1863	1583	1723	1719	1754	1723	1719	1739
Q Serve(g_s), s	5.0	5.6	10.0	4.0	7.4	11.6	6.0	7.2	7.2	4.2	9.2	9.3
Cycle Q Clear(g_c), s	5.0	5.6	10.0	4.0	7.4	11.6	6.0	7.2	7.2	4.2	9.2	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.23
Lane Grp Cap(c), veh/h	149	527	441	153	532	452	173	479	489	144	451	456
V/C Ratio(X)	1.22	0.41	0.67	0.78	0.52	0.75	1.20	0.51	0.52	0.85	0.66	0.66
Avail Cap(c_a), veh/h	149	923	773	208	986	838	173	789	805	144	760	769
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	27.4	17.4	18.9	26.7	17.9	19.4	26.9	18.1	18.2	27.0	19.7	19.8
Incr Delay (d2), s/veh	144.4	0.5	1.8	12.5	0.8	2.5	132.9	0.8	0.8	34.6	1.7	1.7
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 BackOfQ(50%),veh/ln	8.4	3.0	4.5	2.5	3.9	5.4	9.2	3.5	3.6	3.4	4.6	4.7
LnGrp Delay(d),s/veh	171.7	17.9	20.7	39.3	18.7	21.9	159.7	19.0	19.1	61.5	21.3	21.5
LnGrp LOS	F	B	C	D	B	C	F	B	B	E	C	C
Approach Vol, veh/h		694			733			705			722	
Approach Delay, s/veh		59.2			23.5			60.5			28.2	
Approach LOS		E			C			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	20.9	10.0	19.7	9.0	21.1	9.0	20.7				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	7.0	* 29	6.0	25.0	5.0	* 31	5.0	26.0				
Max Q Clear Time (g_c+I1), s	6.0	12.0	8.0	11.3	7.0	13.6	6.2	9.2				
Green Ext Time (p_c), s	0.0	2.1	0.0	2.9	0.0	2.7	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			42.5									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary






















4: N McDowell Blvd & Southpoint Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	3	25	56	7	43	104	596	33	26	709	122
Future Volume (veh/h)	27	3	25	56	7	43	104	596	33	26	709	122
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	55	6	51	69	9	53	116	662	37	28	754	130
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.49	0.49	0.49	0.81	0.81	0.81	0.90	0.90	0.90	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	412	35	293	416	48	282	157	1518	85	58	1176	203
Arrive On Green	0.20	0.20	0.19	0.20	0.20	0.19	0.09	0.46	0.42	0.03	0.40	0.37
Sat Flow, veh/h	1335	169	1439	1341	235	1384	1723	3311	185	1723	2934	506
Grp Volume(v), veh/h	55	0	57	69	0	62	116	343	356	28	442	442
Grp Sat Flow(s),veh/h/ln	1335	0	1609	1341	0	1619	1723	1719	1777	1723	1719	1720
Q Serve(g_s), s	1.4	0.0	1.2	1.8	0.0	1.3	2.6	5.3	5.4	0.6	8.2	8.2
Cycle Q Clear(g_c), s	2.7	0.0	1.2	2.9	0.0	1.3	2.6	5.3	5.4	0.6	8.2	8.2
Prop In Lane	1.00		0.89	1.00		0.85	1.00		0.10	1.00		0.29
Lane Grp Cap(c), veh/h	412	0	328	416	0	330	157	788	815	58	689	689
V/C Ratio(X)	0.13	0.00	0.17	0.17	0.00	0.19	0.74	0.44	0.44	0.49	0.64	0.64
Avail Cap(c_a), veh/h	1243	0	1329	1251	0	1338	306	1107	1144	218	1020	1020
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	13.2	14.2	0.0	13.2	17.5	7.2	7.3	18.7	9.5	9.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	0.0	0.3	6.6	0.4	0.4	6.2	1.0	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 BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.7	0.0	0.6	1.5	2.6	2.7	0.4	4.0	4.0
LnGrp Delay(d),s/veh	14.3	0.0	13.4	14.4	0.0	13.5	24.1	7.6	7.7	24.9	10.5	10.7
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		112			131			815			912	
Approach Delay, s/veh		13.8			14.0			10.0			11.1	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.0	7.6	19.8		12.0	5.3	22.1				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	7.0	22.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		4.7	4.6	10.2		4.9	2.6	7.4				
Green Ext Time (p_c), s		0.5	0.1	4.2		0.5	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay			11.0									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	17	8	127	24	146	10	623	44	61	782	30
Future Volume (veh/h)	40	17	8	127	24	146	10	623	44	61	782	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	51	22	10	135	26	155	11	708	50	67	859	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	90	219	99	172	53	314	24	1115	79	104	1311	50
Arrive On Green	0.05	0.18	0.17	0.10	0.23	0.22	0.01	0.34	0.31	0.06	0.39	0.36
Sat Flow, veh/h	1774	1209	549	1774	232	1383	1723	3257	230	1723	3373	130
Grp Volume(v), veh/h	51	0	32	135	0	181	11	373	385	67	438	454
Grp Sat Flow(s),veh/h/ln	1774	0	1758	1774	0	1615	1723	1719	1768	1723	1719	1783
Q Serve(g_s), s	1.4	0.0	0.8	3.7	0.0	4.9	0.3	9.1	9.2	1.9	10.5	10.5
Cycle Q Clear(g_c), s	1.4	0.0	0.8	3.7	0.0	4.9	0.3	9.1	9.2	1.9	10.5	10.5
Prop In Lane	1.00		0.31	1.00		0.86	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	90	0	318	172	0	367	24	589	605	104	668	693
V/C Ratio(X)	0.57	0.00	0.10	0.79	0.00	0.49	0.45	0.63	0.64	0.64	0.66	0.66
Avail Cap(c_a), veh/h	237	0	968	195	0	851	189	1043	1073	189	1043	1082
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	17.2	22.1	0.0	17.1	24.5	13.8	13.9	23.0	12.6	12.6
Incr Delay (d2), s/veh	5.5	0.0	0.1	17.0	0.0	1.0	12.4	1.1	1.1	6.4	1.1	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 BackOfQ(50%),veh/ln	0.8	0.0	0.4	2.6	0.0	2.3	0.2	4.4	4.6	1.1	5.1	5.3
LnGrp Delay(d),s/veh	28.7	0.0	17.3	39.1	0.0	18.1	36.9	15.0	15.0	29.4	13.7	13.7
LnGrp LOS	C		B	D		B	D	B	B	C	B	B
Approach Vol, veh/h		83			316			769			959	
Approach Delay, s/veh		24.3			27.1			15.3			14.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	13.1	4.7	23.5	6.5	15.4	7.0	21.2				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	6.7	25.8	5.5	29.0				
Max Q Clear Time (g_c+I1), s	5.7	2.8	2.3	12.5	3.4	6.9	3.9	11.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.9	0.0	0.9	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay				17.2								
HCM 2010 LOS				B								























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	11	121	55	13	22	158	636	60	35	787	40
Future Volume (veh/h)	30	11	121	55	13	22	158	636	60	35	787	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1900	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	39	14	159	68	16	27	170	684	65	43	960	49
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.76	0.76	0.76	0.81	0.81	0.81	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	72	287	243	103	107	181	212	1472	140	75	1320	575
Arrive On Green	0.04	0.15	0.15	0.06	0.17	0.16	0.12	0.46	0.44	0.04	0.38	0.38
Sat Flow, veh/h	1774	1863	1577	1774	624	1053	1723	3174	301	1723	3438	1497
Grp Volume(v), veh/h	39	14	159	68	0	43	170	370	379	43	960	49
Grp Sat Flow(s),veh/h/ln	1774	1863	1577	1774	0	1677	1723	1719	1756	1723	1719	1497
Q Serve(g_s), s	1.2	0.4	5.4	2.1	0.0	1.3	5.5	8.4	8.5	1.4	13.6	1.2
Cycle Q Clear(g_c), s	1.2	0.4	5.4	2.1	0.0	1.3	5.5	8.4	8.5	1.4	13.6	1.2
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	72	287	243	103	0	288	212	798	815	75	1320	575
V/C Ratio(X)	0.54	0.05	0.65	0.66	0.00	0.15	0.80	0.46	0.46	0.58	0.73	0.09
Avail Cap(c_a), veh/h	156	1032	874	187	0	959	272	916	936	181	1652	719
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	20.5	22.7	26.3	0.0	20.2	24.3	10.4	10.5	26.8	15.0	11.2
Incr Delay (d2), s/veh	6.3	0.1	3.0	7.1	0.0	0.2	12.3	0.4	0.4	6.8	1.2	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 BackOfQ(50%),veh/ln	0.7	0.2	2.6	1.2	0.0	0.6	3.3	4.0	4.1	0.8	6.6	0.5
LnGrp Delay(d),s/veh	33.1	20.6	25.6	33.4	0.0	20.5	36.6	10.9	11.0	33.6	16.2	11.2
LnGrp LOS	C	C	C	C		C	D	B	B	C	B	B
Approach Vol, veh/h		212			111			919			1052	
Approach Delay, s/veh		26.7			28.4			15.7			16.7	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	12.8	11.0	25.9	6.3	13.8	6.5	30.5				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	6.0	31.0	9.0	26.0	5.0	32.0	6.0	29.0				
Max Q Clear Time (g_c+I1), s	4.1	7.4	7.5	15.6	3.2	3.3	3.4	10.5				
Green Ext Time (p_c), s	0.0	0.6	0.1	4.7	0.0	0.2	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									





















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	33	11	7	2	96	834	35	8	893	73
Future Volume (veh/h)	15	2	33	11	7	2	96	834	35	8	893	73
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	25	3	54	15	9	3	102	887	37	9	981	80
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.75	0.75	0.75	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	416	15	271	370	242	81	143	1794	796	20	1448	118
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.08	0.52	0.52	0.01	0.45	0.42
Sat Flow, veh/h	1393	83	1494	1326	1337	446	1723	3438	1526	1723	3212	262
Grp Volume(v), veh/h	25	0	57	15	0	12	102	887	37	9	525	536
Grp Sat Flow(s),veh/h/ln	1393	0	1577	1326	0	1783	1723	1719	1526	1723	1719	1755
Q Serve(g_s), s	0.6	0.0	1.3	0.4	0.0	0.2	2.4	7.0	0.5	0.2	10.2	10.2
Cycle Q Clear(g_c), s	0.9	0.0	1.3	1.7	0.0	0.2	2.4	7.0	0.5	0.2	10.2	10.2
Prop In Lane	1.00		0.95	1.00		0.25	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	416	0	286	370	0	323	143	1794	796	20	775	791
V/C Ratio(X)	0.06	0.00	0.20	0.04	0.00	0.04	0.72	0.49	0.05	0.44	0.68	0.68
Avail Cap(c_a), veh/h	1255	0	1236	1169	0	1398	205	2042	907	205	1021	1042
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	14.9	15.4	0.0	14.3	18.8	6.5	4.9	20.7	9.1	9.2
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.0	6.5	0.2	0.0	14.2	1.2	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 BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.2	0.0	0.1	1.4	3.3	0.2	0.2	4.9	5.2
LnGrp Delay(d),s/veh	14.6	0.0	15.2	15.4	0.0	14.3	25.3	6.7	5.0	34.8	10.3	10.4
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		82			27			1026			1070	
Approach Delay, s/veh		15.0			14.9			8.5			10.5	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.6	7.5	23.0		11.6	4.5	26.0				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.4	5.0	23.6		32.4	5.0	23.6				
Max Q Clear Time (g_c+I1), s		3.3	4.4	12.2		3.7	2.2	9.0				
Green Ext Time (p_c), s		0.4	0.0	5.0		0.1	0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									





















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1	10	5	0	1	21	939	14	0	905	50
Future Volume (veh/h)	39	1	10	5	0	1	21	939	14	0	905	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		1.00	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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	64	2	16	8	0	2	22	978	15	0	1077	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.63	0.63	0.63	0.96	0.96	0.96	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	269	16	126	254	0	141	397	2597	40	3	1451	81
Arrive On Green	0.09	0.09	0.08	0.09	0.00	0.08	0.23	0.75	0.72	0.00	0.44	0.41
Sat Flow, veh/h	1409	177	1420	1376	0	1583	1723	3466	53	1723	3309	184
Grp Volume(v), veh/h	64	0	18	8	0	2	22	485	508	0	559	578
Grp Sat Flow(s),veh/h/ln	1409	0	1597	1376	0	1583	1723	1719	1800	1723	1719	1775
Q Serve(g_s), s	2.1	0.0	0.5	0.3	0.0	0.1	0.5	4.9	4.9	0.0	13.4	13.4
Cycle Q Clear(g_c), s	2.2	0.0	0.5	0.8	0.0	0.1	0.5	4.9	4.9	0.0	13.4	13.4
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	269	0	142	254	0	141	397	1288	1349	3	754	778
V/C Ratio(X)	0.24	0.00	0.13	0.03	0.00	0.01	0.06	0.38	0.38	0.00	0.74	0.74
Avail Cap(c_a), veh/h	872	0	826	842	0	818	745	1288	1349	884	903	932
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	21.0	21.1	0.0	20.8	14.9	2.2	2.2	0.0	11.6	11.6
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.0	0.0	0.0	0.1	0.2	0.2	0.0	2.7	2.6
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 BackOfQ(50%),veh/ln	0.9	0.0	0.2	0.1	0.0	0.0	0.2	2.4	2.5	0.0	6.8	7.0
LnGrp Delay(d),s/veh	22.0	0.0	21.4	21.2	0.0	20.9	14.9	2.3	2.3	0.0	14.3	14.3
LnGrp LOS	C		C	C		C	B	A	A		B	B
Approach Vol, veh/h		82			10			1015			1137	
Approach Delay, s/veh		21.9			21.1			2.6			14.3	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.4	15.4	25.7		8.4	0.0	41.1				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		4.2	2.5	15.4		2.8	0.0	6.9				
Green Ext Time (p_c), s		0.2	0.0	4.6		0.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			9.3									
HCM 2010 LOS			A									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	15	65	52	31	29	85	858	23	15	852	55
Future Volume (veh/h)	88	15	65	52	31	29	85	858	23	15	852	55
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	113	19	83	55	33	31	90	913	24	16	897	58
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	332	54	237	294	159	149	373	1315	35	373	1260	81
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.21	0.38	0.35	0.21	0.38	0.35
Sat Flow, veh/h	1332	302	1319	1282	885	831	1740	3455	91	1740	3310	214
Grp Volume(v), veh/h	113	0	102	55	0	64	90	459	478	16	470	485
Grp Sat Flow(s),veh/h/ln	1332	0	1621	1282	0	1716	1740	1736	1810	1740	1736	1788
Q Serve(g_s), s	4.2	0.0	3.0	2.1	0.0	1.7	2.3	11.8	11.8	0.4	12.2	12.3
Cycle Q Clear(g_c), s	5.9	0.0	3.0	5.0	0.0	1.7	2.3	11.8	11.8	0.4	12.2	12.3
Prop In Lane	1.00		0.81	1.00		0.48	1.00		0.05	1.00		0.12
Lane Grp Cap(c), veh/h	332	0	291	294	0	308	373	661	689	373	661	681
V/C Ratio(X)	0.34	0.00	0.35	0.19	0.00	0.21	0.24	0.69	0.69	0.04	0.71	0.71
Avail Cap(c_a), veh/h	759	0	810	705	0	858	765	979	1021	373	661	681
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	19.3	21.3	0.0	18.7	17.3	13.9	13.9	16.6	14.0	14.1
Incr Delay (d2), s/veh	0.6	0.0	0.7	0.3	0.0	0.3	0.3	1.3	1.3	0.0	3.6	3.5
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 BackOfQ(50%),veh/ln	1.6	0.0	1.4	0.8	0.0	0.8	1.1	5.8	6.1	0.2	6.4	6.6
LnGrp Delay(d),s/veh	21.7	0.0	20.1	21.6	0.0	19.1	17.6	15.2	15.2	16.6	17.6	17.6
LnGrp LOS	C		C	C		B	B	B	B	B	B	B
Approach Vol, veh/h		215			119			1027			971	
Approach Delay, s/veh		20.9			20.3			15.4			17.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.5	15.4	24.3		13.5	15.4	24.3				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.0	22.0	16.6		26.0	10.0	28.6				
Max Q Clear Time (g_c+I1), s		7.9	4.3	14.3		7.0	2.4	13.8				
Green Ext Time (p_c), s		0.9	0.2	1.3		0.4	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	609	518	228	45	794	153	351	408	43	118	325	601
Future Volume (veh/h)	609	518	228	45	794	153	351	408	43	118	325	601
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1863	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	684	582	256	49	863	166	382	443	47	133	365	675
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	446	932	410	66	1058	473	269	1054	111	139	1155	694
Arrive On Green	0.13	0.39	0.38	0.04	0.30	0.30	0.08	0.33	0.32	0.08	0.33	0.32
Sat Flow, veh/h	3442	2383	1047	1774	3539	1583	3375	3167	335	1740	3471	1547
Grp Volume(v), veh/h	684	432	406	49	863	166	382	242	248	133	365	675
Grp Sat Flow(s),veh/h/ln	1721	1770	1660	1774	1770	1583	1688	1736	1766	1740	1736	1547
Q Serve(g_s), s	13.0	19.7	19.9	2.7	22.7	8.2	8.0	10.8	11.0	7.6	7.9	32.0
Cycle Q Clear(g_c), s	13.0	19.7	19.9	2.7	22.7	8.2	8.0	10.8	11.0	7.6	7.9	32.0
Prop In Lane	1.00		0.63	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	446	692	650	66	1058	473	269	577	587	139	1155	694
V/C Ratio(X)	1.54	0.62	0.63	0.74	0.82	0.35	1.42	0.42	0.42	0.96	0.32	0.97
Avail Cap(c_a), veh/h	446	716	671	124	1220	546	269	577	587	139	1155	694
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	43.7	24.6	24.9	47.9	32.6	27.6	46.2	26.0	26.1	46.0	25.0	27.1
Incr Delay (d2), s/veh	251.8	1.6	1.7	15.2	3.9	0.4	209.6	0.5	0.5	63.9	0.2	27.3
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 BackOfQ(50%),veh/ln	21.7	9.9	9.4	1.6	11.6	3.7	11.5	5.3	5.4	6.1	3.8	23.5
LnGrp Delay(d),s/veh	295.6	26.2	26.7	63.1	36.5	28.0	255.8	26.5	26.6	109.9	25.1	54.5
LnGrp LOS	F	C	C	E	D	C	F	C	C	F	C	D
Approach Vol, veh/h		1522			1078			872			1173	
Approach Delay, s/veh		147.4			36.4			127.0			51.6	
Approach LOS		F			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	43.3	12.0	37.4	17.0	34.0	12.0	37.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	7.0	39.5	8.0	32.0	13.0	33.5	8.0	32.0				
Max Q Clear Time (g_c+I1), s	4.7	21.9	10.0	34.0	15.0	24.7	9.6	13.0				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.0	4.1	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay				93.6								
HCM 2010 LOS				F								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd













09/29/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1004	257	0	1746	122	337		
Future Volume (veh/h)	1004	257	0	1746	122	337		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1141	0	0	1877	144	396		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.88	0.88	0.93	0.93	0.85	0.85		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2186	978	0	2186	753	610		
Arrive On Green	0.62	0.00	0.00	0.62	0.22	0.22		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1141	0	0	1877	144	396		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	8.9	0.0	0.0	21.1	1.7	6.3		
Cycle Q Clear(g_c), s	8.9	0.0	0.0	21.1	1.7	6.3		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2186	978	0	2186	753	610		
V/C Ratio(X)	0.52	0.00	0.00	0.86	0.19	0.65		
Avail Cap(c_a), veh/h	2267	1014	0	2267	753	610		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.3	0.0	0.0	7.6	15.6	17.4		
Incr Delay (d2), s/veh	0.2	0.0	0.0	3.5	0.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	11.0	0.8	2.6		
LnGrp Delay(d),s/veh	5.5	0.0	0.0	11.1	15.7	19.8		
LnGrp LOS	A			B	B	B		
Approach Vol, veh/h	1141			1877	540			
Approach Delay, s/veh	5.5			11.1	18.7			
Approach LOS	A			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		34.2				34.2		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		30.2				30.2		10.0
Max Q Clear Time (g_c+I1), s		10.9				23.1		8.3
Green Ext Time (p_c), s		8.1				6.0		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			10.4					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/29/2021
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↗↘	↑↑						↖	↗
Traffic Volume (vph)	0	1015	219	478	1000	0	0	0	0	239	0	363
Future Volume (vph)	0	1015	219	478	1000	0	0	0	0	239	0	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95						0.95	0.95
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						0.96	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (prot)		3539	1558	3433	3539						1643	1504
Flt Permitted		1.00	1.00	0.95	1.00						0.96	1.00
Satd. Flow (perm)		3539	1558	3433	3539						1643	1504
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1180	255	549	1149	0	0	0	0	260	0	395
RTOR Reduction (vph)	0	0	150	0	0	0	0	0	0	0	97	97
Lane Group Flow (vph)	0	1180	105	549	1149	0	0	0	0	0	246	215
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2			1						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		21.4	21.4	9.0	34.4						10.2	10.2
Effective Green, g (s)		22.5	22.5	9.0	35.5						10.9	10.9
Actuated g/C Ratio		0.41	0.41	0.17	0.65						0.20	0.20
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1463	644	567	2309						329	301
v/s Ratio Prot		c0.33		c0.16	0.32						c0.15	
v/s Ratio Perm			0.07									0.14
v/c Ratio		0.81	0.16	0.97	0.50						0.75	0.72
Uniform Delay, d1		14.0	10.0	22.6	4.9						20.5	20.3
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		3.4	0.1	29.5	0.2						9.0	7.8
Delay (s)		17.4	10.2	52.1	5.0						29.4	28.1
Level of Service		B	B	D	A						C	C
Approach Delay (s)		16.1			20.2			0.0			28.8	
Approach LOS		B			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			20.2		HCM 2000 Level of Service					C		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			54.4		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			72.3%		ICU Level of Service				C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

09/29/2021























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	698	613	153	548	10	895	33	239	10	44	95
Future Volume (vph)	68	698	613	153	548	10	895	33	239	10	44	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1541	1770	3528		1681	1691	1559	1770	1863	1561
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1541	1770	3528		1681	1691	1559	1770	1863	1561
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96	0.83	0.83	0.83
Adj. Flow (vph)	73	751	659	178	637	12	932	34	249	12	53	114
RTOR Reduction (vph)	0	0	473	0	1	0	0	0	165	0	0	101
Lane Group Flow (vph)	73	751	186	178	648	0	485	481	84	12	53	13
Confl. Peds. (#/hr)			3			1			2			2
Confl. Bikes (#/hr)			1						2			
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	5.5	27.9	27.9	7.0	29.4		33.2	33.2	33.2	11.7	11.7	11.7
Effective Green, g (s)	5.5	27.9	27.9	7.0	29.4		33.2	33.2	33.2	11.7	11.7	11.7
Actuated g/C Ratio	0.06	0.28	0.28	0.07	0.30		0.34	0.34	0.34	0.12	0.12	0.12
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	98	997	434	125	1047		563	567	522	209	220	184
v/s Ratio Prot	0.04	c0.21		c0.10	0.18		c0.29	0.28		0.01	c0.03	
v/s Ratio Perm			0.12						0.05			0.01
v/c Ratio	0.74	0.75	0.43	1.42	0.62		0.86	0.85	0.16	0.06	0.24	0.07
Uniform Delay, d1	46.1	32.4	29.0	46.0	30.0		30.8	30.6	23.1	38.8	39.6	38.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.1	3.3	0.7	230.8	1.1		12.8	11.3	0.1	0.1	0.6	0.2
Delay (s)	72.1	35.7	29.7	276.8	31.1		43.5	41.9	23.3	38.9	40.2	39.0
Level of Service	E	D	C	F	C		D	D	C	D	D	D
Approach Delay (s)		34.8			84.0			38.7			39.3	
Approach LOS		C			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			47.3				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			99.0				Sum of lost time (s)			19.2		
Intersection Capacity Utilization			72.5%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way























09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	39	27	152	21	21	14	1079	217	10	708	71
Future Volume (vph)	143	39	27	152	21	21	14	1079	217	10	708	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.93		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1749		1770	1711		1770	3435		1770	3539	1546
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1749		1770	1711		1770	3435		1770	3539	1546
Peak-hour factor, PHF	0.82	0.82	0.82	0.80	0.80	0.80	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	174	48	33	190	26	26	15	1136	228	11	761	76
RTOR Reduction (vph)	0	29	0	0	21	0	0	14	0	0	0	63
Lane Group Flow (vph)	174	52	0	190	31	0	15	1350	0	11	761	13
Confl. Peds. (#/hr)							3			3		1
Confl. Bikes (#/hr)									2			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	7.4	7.9		12.5	13.0		0.7	34.0		0.7	34.0	13.0
Effective Green, g (s)	7.4	7.9		12.5	13.0		0.7	34.0		0.7	34.0	13.0
Actuated g/C Ratio	0.10	0.11		0.17	0.18		0.01	0.46		0.01	0.46	0.18
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4		4.0	5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	178	188		302	303		16	1595		16	1643	274
v/s Ratio Prot	c0.10	c0.03		c0.11	0.02		c0.01	c0.39		0.01	0.22	
v/s Ratio Perm												0.01
v/c Ratio	0.98	0.27		0.63	0.10		0.94	0.85		0.69	0.46	0.05
Uniform Delay, d1	32.8	30.0		28.2	25.2		36.2	17.3		36.1	13.4	25.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	60.2	0.8		4.1	0.1		191.7	4.3		80.1	0.2	0.1
Delay (s)	93.0	30.8		32.3	25.4		227.9	21.6		116.2	13.6	25.0
Level of Service	F	C		C	C		F	C		F	B	C
Approach Delay (s)		73.3			30.8			23.9			15.9	
Approach LOS		E			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			26.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			73.2				Sum of lost time (s)			18.1		
Intersection Capacity Utilization			61.3%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd





















09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	284	305	63	239	304	266	914	109	267	744	176
Future Volume (veh/h)	154	284	305	63	239	304	266	914	109	267	744	176
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	166	305	328	64	244	310	280	962	115	290	809	191
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	491	417	83	376	593	307	1020	122	307	909	215
Arrive On Green	0.11	0.26	0.26	0.05	0.20	0.20	0.17	0.32	0.32	0.17	0.32	0.32
Sat Flow, veh/h	1774	1863	1582	1774	1863	1579	1774	3175	379	1774	2829	668
Grp Volume(v), veh/h	166	305	328	64	244	310	280	536	541	290	506	494
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1863	1579	1774	1770	1784	1774	1770	1728
Q Serve(g_s), s	8.5	13.3	17.8	3.3	11.1	14.1	14.3	27.3	27.3	14.9	25.1	25.1
Cycle Q Clear(g_c), s	8.5	13.3	17.8	3.3	11.1	14.1	14.3	27.3	27.3	14.9	25.1	25.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.39
Lane Grp Cap(c), veh/h	192	491	417	83	376	593	307	568	573	307	568	555
V/C Ratio(X)	0.87	0.62	0.79	0.78	0.65	0.52	0.91	0.94	0.94	0.94	0.89	0.89
Avail Cap(c_a), veh/h	192	645	547	173	625	804	307	572	577	307	572	559
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	40.6	30.0	31.6	43.6	33.9	22.5	37.5	30.6	30.6	37.8	29.8	29.8
Incr Delay (d2), s/veh	31.3	1.3	5.6	14.3	1.9	0.7	29.9	24.3	24.3	36.8	15.9	16.2
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 BackOfQ(50%),veh/ln	5.8	7.0	8.4	1.9	5.9	6.2	9.5	17.1	17.2	10.5	14.7	14.4
LnGrp Delay(d),s/veh	71.9	31.3	37.2	57.9	35.8	23.2	67.4	54.9	54.8	74.6	45.7	46.0
LnGrp LOS	E	C	D	E	D	C	E	D	D	E	D	D
Approach Vol, veh/h		799			618			1357			1290	
Approach Delay, s/veh		42.2			31.8			57.4			52.3	
Approach LOS		D			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	29.1	20.0	35.1	14.0	23.4	20.0	35.1				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	9.0	* 32	16.0	29.9	10.0	* 31	16.0	29.9				
Max Q Clear Time (g_c+I1), s	5.3	19.8	16.3	27.1	10.5	16.1	16.9	29.3				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.6	0.0	2.2	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			48.9									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary





















4: N McDowell Blvd & Southpoint Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	12	81	60	7	57	24	1137	49	68	1008	35
Future Volume (veh/h)	104	12	81	60	7	57	24	1137	49	68	1008	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.97	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	14	98	71	8	68	25	1184	51	72	1061	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.84	0.84	0.84	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	41	285	336	35	297	52	1501	65	115	1638	57
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.43	0.43	0.06	0.47	0.47
Sat Flow, veh/h	1318	198	1385	1268	169	1439	1774	3453	149	1774	3489	122
Grp Volume(v), veh/h	125	0	112	71	0	76	25	606	629	72	538	560
Grp Sat Flow(s),veh/h/ln	1318	0	1582	1268	0	1609	1774	1770	1832	1774	1770	1841
Q Serve(g_s), s	4.1	0.0	2.9	2.4	0.0	1.9	0.7	14.0	14.0	1.9	11.0	11.0
Cycle Q Clear(g_c), s	6.0	0.0	2.9	5.3	0.0	1.9	0.7	14.0	14.0	1.9	11.0	11.0
Prop In Lane	1.00		0.88	1.00		0.89	1.00		0.08	1.00		0.07
Lane Grp Cap(c), veh/h	371	0	326	336	0	332	52	769	796	115	831	865
V/C Ratio(X)	0.34	0.00	0.34	0.21	0.00	0.23	0.48	0.79	0.79	0.63	0.65	0.65
Avail Cap(c_a), veh/h	988	0	1066	929	0	1084	187	894	925	187	894	930
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	16.1	18.4	0.0	15.7	22.7	11.6	11.6	21.7	9.6	9.6
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.3	0.0	0.3	6.6	4.1	4.0	5.6	1.5	1.4
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 BackOfQ(50%),veh/ln	1.5	0.0	1.3	0.9	0.0	0.9	0.4	7.6	7.9	1.1	5.6	5.8
LnGrp Delay(d),s/veh	18.7	0.0	16.7	18.7	0.0	16.1	29.2	15.7	15.6	27.2	11.1	11.0
LnGrp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		237			147			1260			1170	
Approach Delay, s/veh		17.8			17.3			15.9			12.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.4	5.4	27.7		14.4	7.1	26.0				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	5.0	24.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		8.0	2.7	13.0		7.3	3.9	16.0				
Green Ext Time (p_c), s		1.1	0.0	5.0		0.7	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			14.5									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	43	4	114	30	120	7	1186	131	140	1104	42
Future Volume (veh/h)	84	43	4	114	30	120	7	1186	131	140	1104	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	101	52	5	123	32	129	8	1275	141	152	1200	46
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	229	22	146	47	191	18	1376	152	146	1738	67
Arrive On Green	0.07	0.14	0.14	0.08	0.15	0.15	0.01	0.43	0.43	0.08	0.50	0.50
Sat Flow, veh/h	1774	1672	161	1774	323	1300	1774	3211	354	1774	3472	133
Grp Volume(v), veh/h	101	0	57	123	0	161	8	700	716	152	611	635
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	0	1623	1774	1770	1795	1774	1770	1836
Q Serve(g_s), s	3.7	0.0	1.8	4.6	0.0	6.3	0.3	25.0	25.3	5.5	17.6	17.6
Cycle Q Clear(g_c), s	3.7	0.0	1.8	4.6	0.0	6.3	0.3	25.0	25.3	5.5	17.6	17.6
Prop In Lane	1.00		0.09	1.00		0.80	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	129	0	251	146	0	238	18	758	769	146	886	919
V/C Ratio(X)	0.78	0.00	0.23	0.84	0.00	0.68	0.44	0.92	0.93	1.04	0.69	0.69
Avail Cap(c_a), veh/h	157	0	741	146	0	647	146	769	780	146	886	919
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	25.7	30.2	0.0	27.0	32.8	18.0	18.1	30.6	12.7	12.7
Incr Delay (d2), s/veh	18.6	0.0	0.5	33.5	0.0	3.3	15.5	16.6	17.5	85.5	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.0	3.6	0.0	3.0	0.2	15.6	16.1	6.1	9.1	9.4
LnGrp Delay(d),s/veh	49.1	0.0	26.1	63.7	0.0	30.3	48.4	34.6	35.6	116.4	15.0	14.9
LnGrp LOS	D		C	E		C	D	C	D	F	B	B
Approach Vol, veh/h		158			284			1424			1398	
Approach Delay, s/veh		40.8			44.8			35.2			26.0	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	13.7	4.7	38.8	8.9	14.4	9.5	34.0				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	5.9	26.6	5.5	29.0				
Max Q Clear Time (g_c+I1), s	6.6	3.8	2.3	19.6	5.7	8.3	7.5	27.3				
Green Ext Time (p_c), s	0.0	0.2	0.0	5.1	0.0	0.8	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			32.4									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	19	169	75	20	31	189	1246	75	27	1110	31
Future Volume (veh/h)	46	19	169	75	20	31	189	1246	75	27	1110	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.98	1.00		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	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	52	22	192	85	23	35	199	1312	79	29	1181	33
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	308	261	109	119	182	192	1569	94	56	1367	597
Arrive On Green	0.05	0.17	0.17	0.06	0.18	0.18	0.11	0.46	0.46	0.03	0.39	0.39
Sat Flow, veh/h	1774	1863	1580	1774	665	1012	1774	3388	204	1774	3539	1547
Grp Volume(v), veh/h	52	22	192	85	0	58	199	684	707	29	1181	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1580	1774	0	1677	1774	1770	1821	1774	1770	1547
Q Serve(g_s), s	1.9	0.6	7.5	3.0	0.0	1.9	7.0	21.8	22.0	1.0	19.8	0.9
Cycle Q Clear(g_c), s	1.9	0.6	7.5	3.0	0.0	1.9	7.0	21.8	22.0	1.0	19.8	0.9
Prop In Lane	1.00		1.00	1.00		0.60	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	83	308	261	109	0	301	192	820	844	56	1367	597
V/C Ratio(X)	0.62	0.07	0.74	0.78	0.00	0.19	1.03	0.83	0.84	0.52	0.86	0.06
Avail Cap(c_a), veh/h	137	906	769	192	0	868	192	820	844	137	1458	637
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	22.8	25.6	29.9	0.0	22.5	28.8	15.2	15.2	30.8	18.3	12.4
Incr Delay (d2), s/veh	7.4	0.1	4.0	11.3	0.0	0.3	74.2	7.5	7.5	7.3	5.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.3	3.5	1.8	0.0	0.9	7.3	12.1	12.7	0.6	10.7	0.4
LnGrp Delay(d),s/veh	37.6	22.9	29.6	41.1	0.0	22.8	103.1	22.6	22.7	38.1	23.7	12.5
LnGrp LOS	D	C	C	D		C	F	C	C	D	C	B
Approach Vol, veh/h		266			143			1590			1243	
Approach Delay, s/veh		30.6			33.7			32.7			23.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	15.3	11.0	30.3	7.0	16.2	6.0	35.3				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	7.0	31.4	7.0	26.6	5.0	33.4	5.0	28.6				
Max Q Clear Time (g_c+I1), s	5.0	9.5	9.0	21.8	3.9	3.9	3.0	24.0				
Green Ext Time (p_c), s	0.0	0.7	0.0	3.1	0.0	0.3	0.0	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			29.1									
HCM 2010 LOS			C									





















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	5	84	31	1	15	42	1440	12	8	1348	26
Future Volume (veh/h)	57	5	84	31	1	15	42	1440	12	8	1348	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	5	88	40	1	19	45	1548	13	9	1449	28
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.77	0.77	0.77	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	14	252	301	13	253	84	1866	816	21	1746	34
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.05	0.53	0.53	0.01	0.49	0.49
Sat Flow, veh/h	1383	86	1505	1294	80	1511	1774	3539	1548	1774	3550	69
Grp Volume(v), veh/h	59	0	93	40	0	20	45	1548	13	9	722	755
Grp Sat Flow(s),veh/h/ln	1383	0	1591	1294	0	1591	1774	1770	1548	1774	1770	1849
Q Serve(g_s), s	1.8	0.0	2.5	1.3	0.0	0.5	1.2	17.5	0.2	0.2	16.7	16.7
Cycle Q Clear(g_c), s	2.3	0.0	2.5	3.8	0.0	0.5	1.2	17.5	0.2	0.2	16.7	16.7
Prop In Lane	1.00		0.95	1.00		0.95	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	368	0	266	301	0	266	84	1866	816	21	871	910
V/C Ratio(X)	0.16	0.00	0.35	0.13	0.00	0.08	0.54	0.83	0.02	0.43	0.83	0.83
Avail Cap(c_a), veh/h	1018	0	1015	910	0	1015	186	1901	831	186	951	993
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	17.6	19.2	0.0	16.7	22.2	9.5	5.4	23.4	10.4	10.4
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.2	0.0	0.1	5.3	3.2	0.0	13.4	5.8	5.6
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 BackOfQ(50%),veh/ln	0.7	0.0	1.1	0.5	0.0	0.2	0.7	9.2	0.1	0.2	9.4	9.8
LnGrp Delay(d),s/veh	17.9	0.0	18.3	19.4	0.0	16.9	27.5	12.7	5.4	36.8	16.2	16.0
LnGrp LOS	B		B	B		B	C	B	A	D	B	B
Approach Vol, veh/h		152			60			1606			1486	
Approach Delay, s/veh		18.2			18.6			13.0			16.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.6	6.2	28.8		12.6	4.6	30.5				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	5.0	25.6		30.4	5.0	25.6				
Max Q Clear Time (g_c+I1), s		4.5	3.2	18.7		5.8	2.2	19.5				
Green Ext Time (p_c), s		0.7	0.0	4.7		0.2	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay			14.8									
HCM 2010 LOS			B									






















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	4	57	19	0	1	69	1361	18	2	1335	107
Future Volume (veh/h)	140	4	57	19	0	1	69	1361	18	2	1335	107
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	4	62	36	0	2	76	1496	20	2	1467	118
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.53	0.53	0.53	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	14	215	236	0	228	232	1871	25	232	1734	139
Arrive On Green	0.14	0.14	0.14	0.14	0.00	0.14	0.13	0.52	0.52	0.13	0.52	0.52
Sat Flow, veh/h	1409	96	1492	1323	0	1583	1774	3575	48	1774	3314	265
Grp Volume(v), veh/h	152	0	66	36	0	2	76	740	776	2	779	806
Grp Sat Flow(s),veh/h/ln	1409	0	1588	1323	0	1583	1774	1770	1853	1774	1770	1809
Q Serve(g_s), s	7.9	0.0	2.8	1.9	0.0	0.1	3.0	26.2	26.2	0.1	28.6	29.2
Cycle Q Clear(g_c), s	8.0	0.0	2.8	4.7	0.0	0.1	3.0	26.2	26.2	0.1	28.6	29.2
Prop In Lane	1.00		0.94	1.00		1.00	1.00		0.03	1.00		0.15
Lane Grp Cap(c), veh/h	296	0	229	236	0	228	232	926	970	232	926	947
V/C Ratio(X)	0.51	0.00	0.29	0.15	0.00	0.01	0.33	0.80	0.80	0.01	0.84	0.85
Avail Cap(c_a), veh/h	543	0	508	468	0	506	467	955	1000	558	1045	1069
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	29.2	31.3	0.0	28.0	30.1	14.9	14.9	28.9	15.5	15.6
Incr Delay (d2), s/veh	1.4	0.0	0.7	0.3	0.0	0.0	0.8	4.7	4.6	0.0	5.7	6.1
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 BackOfQ(50%),veh/ln	3.2	0.0	1.3	0.7	0.0	0.0	1.5	13.8	14.4	0.0	15.3	15.9
LnGrp Delay(d),s/veh	32.8	0.0	29.9	31.6	0.0	28.0	30.9	19.7	19.5	28.9	21.2	21.8
LnGrp LOS	C		C	C		C	C	B	B	C	C	C
Approach Vol, veh/h		218			38			1592			1587	
Approach Delay, s/veh		31.9			31.4			20.1			21.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	15.4	45.4		15.6	15.4	45.4				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		24.4	20.1	45.1		24.4	24.0	41.2				
Max Q Clear Time (g_c+I1), s		10.0	5.0	31.2		6.7	2.1	28.2				
Green Ext Time (p_c), s		0.7	0.1	8.7		0.1	0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	56	152	46	31	30	125	1216	29	55	1308	90
Future Volume (veh/h)	158	56	152	46	31	30	125	1216	29	55	1308	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	165	58	158	49	33	32	152	1483	35	62	1470	101
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	85	232	165	168	163	204	1816	43	204	1725	118
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.12	0.51	0.51	0.12	0.51	0.51
Sat Flow, veh/h	1331	440	1200	1156	870	844	1774	3532	83	1774	3356	229
Grp Volume(v), veh/h	165	0	216	49	0	65	152	742	776	62	772	799
Grp Sat Flow(s),veh/h/ln	1331	0	1640	1156	0	1714	1774	1770	1846	1774	1770	1816
Q Serve(g_s), s	10.3	0.0	10.6	3.6	0.0	2.8	7.2	30.5	30.6	2.8	32.6	33.2
Cycle Q Clear(g_c), s	13.1	0.0	10.6	14.2	0.0	2.8	7.2	30.5	30.6	2.8	32.6	33.2
Prop In Lane	1.00		0.73	1.00		0.49	1.00		0.05	1.00		0.13
Lane Grp Cap(c), veh/h	298	0	317	165	0	332	204	910	949	204	910	933
V/C Ratio(X)	0.55	0.00	0.68	0.30	0.00	0.20	0.74	0.82	0.82	0.30	0.85	0.86
Avail Cap(c_a), veh/h	436	0	487	285	0	509	454	1196	1248	206	950	974
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	32.5	39.1	0.0	29.4	37.2	17.7	17.7	35.2	18.2	18.3
Incr Delay (d2), s/veh	1.6	0.0	2.6	1.0	0.0	0.3	5.3	3.4	3.3	0.8	7.1	7.4
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 BackOfQ(50%),veh/ln	3.9	0.0	5.0	1.2	0.0	1.3	3.8	15.5	16.4	1.4	17.7	18.4
LnGrp Delay(d),s/veh	36.4	0.0	35.1	40.1	0.0	29.6	42.5	21.1	21.0	36.0	25.3	25.7
LnGrp LOS	D		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h		381			114			1670			1633	
Approach Delay, s/veh		35.7			34.1			23.0			25.9	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.4	15.4	50.0		21.4	15.4	50.0				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.8	22.2	46.6		25.8	10.1	58.7				
Max Q Clear Time (g_c+I1), s		15.1	9.2	35.2		16.2	4.8	32.6				
Green Ext Time (p_c), s		1.4	0.3	7.5		0.3	0.0	12.0				
Intersection Summary												
HCM 2010 Ctrl Delay			25.9									
HCM 2010 LOS			C									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	820	908	330	29	763	202	375	621	88	228	553	868
Future Volume (veh/h)	820	908	330	29	763	202	375	621	88	228	553	868
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	882	976	355	31	820	217	412	682	97	243	588	923
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	616	1070	385	49	957	416	308	889	126	175	1045	742
Arrive On Green	0.18	0.42	0.42	0.03	0.27	0.27	0.09	0.29	0.29	0.10	0.30	0.30
Sat Flow, veh/h	3442	2536	914	1774	3539	1539	3442	3103	441	1774	3539	1553
Grp Volume(v), veh/h	882	678	653	31	820	217	412	389	390	243	588	923
Grp Sat Flow(s),veh/h/ln	1721	1770	1680	1774	1770	1539	1721	1770	1774	1774	1770	1553
Q Serve(g_s), s	20.0	40.1	41.0	1.9	24.6	13.4	10.0	22.4	22.5	11.0	15.7	33.0
Cycle Q Clear(g_c), s	20.0	40.1	41.0	1.9	24.6	13.4	10.0	22.4	22.5	11.0	15.7	33.0
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	616	746	709	49	957	416	308	507	508	175	1045	742
V/C Ratio(X)	1.43	0.91	0.92	0.63	0.86	0.52	1.34	0.77	0.77	1.39	0.56	1.24
Avail Cap(c_a), veh/h	616	768	729	79	1061	461	308	507	508	175	1045	742
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	45.9	30.3	30.5	53.8	38.7	34.6	50.9	36.4	36.5	50.4	33.3	29.5
Incr Delay (d2), s/veh	203.4	14.5	16.8	12.6	6.6	1.0	172.2	6.9	7.0	207.1	0.7	120.9
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 BackOfQ(50%),veh/ln	26.8	22.6	22.3	1.1	12.8	5.8	12.1	11.9	12.0	15.4	7.8	47.7
LnGrp Delay(d),s/veh	249.3	44.8	47.3	66.4	45.3	35.6	223.1	43.4	43.5	257.5	33.9	150.3
LnGrp LOS	F	D	D	E	D	D	F	D	D	F	C	F
Approach Vol, veh/h		2213			1068			1191			1754	
Approach Delay, s/veh		127.0			43.9			105.6			126.2	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	52.2	14.0	38.4	24.0	35.3	15.0	37.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	5.0	48.5	10.0	33.0	20.0	33.5	11.0	32.0				
Max Q Clear Time (g_c+I1), s	3.9	43.0	12.0	35.0	22.0	26.6	13.0	24.5				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	0.0	3.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			108.4									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd













09/29/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1707	436	0	2006	51	343		
Future Volume (veh/h)	1707	436	0	2006	51	343		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1816	0	0	2090	75	504		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.94	0.94	0.96	0.96	0.68	0.68		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2280	1020	0	2280	656	531		
Arrive On Green	0.64	0.00	0.00	0.64	0.19	0.19		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1816	0	0	2090	75	504		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	22.2	0.0	0.0	30.4	1.1	10.6		
Cycle Q Clear(g_c), s	22.2	0.0	0.0	30.4	1.1	10.6		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2280	1020	0	2280	656	531		
V/C Ratio(X)	0.80	0.00	0.00	0.92	0.11	0.95		
Avail Cap(c_a), veh/h	2321	1038	0	2321	656	531		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	7.7	0.0	0.0	9.2	19.9	23.7		
Incr Delay (d2), s/veh	2.0	0.0	0.0	6.3	0.1	26.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.2	0.0	0.0	16.5	0.5	6.0		
LnGrp Delay(d),s/veh	9.7	0.0	0.0	15.4	19.9	50.6		
LnGrp LOS	A			B	B	D		
Approach Vol, veh/h	1816			2090	579			
Approach Delay, s/veh	9.7			15.4	46.6			
Approach LOS	A			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		43.3				43.3		16.0
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		38.9				38.9		11.3
Max Q Clear Time (g_c+I1), s		24.2				32.4		12.6
Green Ext Time (p_c), s		10.9				5.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			17.1					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/29/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↗↗	↑↑						↖	↖
Traffic Volume (vph)	0	1759	164	373	1234	0	0	0	0	384	1	392
Future Volume (vph)	0	1759	164	373	1234	0	0	0	0	384	1	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Lane Util. Factor		0.95	1.00	0.97	0.95						1.00	1.00
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1546	3433	3539						1774	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		3539	1546	3433	3539						1774	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1852	173	401	1327	0	0	0	0	400	1	408
RTOR Reduction (vph)	0	0	78	0	0	0	0	0	0	0	0	60
Lane Group Flow (vph)	0	1852	95	401	1327	0	0	0	0	0	401	348
Confl. Peds. (#/hr)			6									
Confl. Bikes (#/hr)			9			2						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		45.9	45.9	10.0	59.9						20.3	20.3
Effective Green, g (s)		45.9	45.9	10.0	59.9						20.3	20.3
Actuated g/C Ratio		0.51	0.51	0.11	0.67						0.23	0.23
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1804	788	381	2355						400	357
v/s Ratio Prot		c0.52		c0.12	0.37						c0.23	
v/s Ratio Perm			0.06									0.22
v/c Ratio		1.03	0.12	1.05	0.56						1.00	0.98
Uniform Delay, d1		22.1	11.5	40.0	8.1						34.9	34.6
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		28.3	0.1	60.6	0.3						45.6	40.8
Delay (s)		50.3	11.6	100.6	8.4						80.5	75.4
Level of Service		D	B	F	A						F	E
Approach Delay (s)		47.0			29.8			0.0			77.9	
Approach LOS		D			C			A			E	
Intersection Summary												
HCM 2000 Control Delay			46.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			92.1%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**


























Appendix F Intersection Analysis: 2040 cumulative no project Conditions LOS Calculation Sheets
October 8, 2021

**Appendix F INTERSECTION ANALYSIS: 2040 CUMULATIVE NO
PROJECT CONDITIONS LOS CALCULATION SHEETS**

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	441	479	778	4	389	5	408	52	3	5	34	678
Future Volume (vph)	441	479	778	4	389	5	408	52	3	5	34	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1548	1770	3531		1633	1654	1538	1719	1810	1517
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1548	1770	3531		1633	1654	1538	1719	1810	1517
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	485	526	855	4	432	6	474	60	3	6	40	788
RTOR Reduction (vph)	0	0	506	0	1	0	0	0	2	0	0	284
Lane Group Flow (vph)	485	526	349	4	437	0	256	278	1	6	40	504
Confl. Peds. (#/hr)			1				1					1
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	31.2	55.0	55.0	0.9	24.7		26.8	26.8	26.8	35.5	35.5	35.5
Effective Green, g (s)	31.2	56.1	56.1	0.9	25.8		28.2	28.2	28.2	36.2	36.2	36.2
Actuated g/C Ratio	0.23	0.41	0.41	0.01	0.19		0.21	0.21	0.21	0.26	0.26	0.26
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	401	1444	632	11	663		335	339	315	452	476	399
v/s Ratio Prot	c0.27	0.15		0.00	c0.12		0.16	c0.17		0.00	0.02	
v/s Ratio Perm			0.23						0.00			c0.33
v/c Ratio	1.21	0.36	0.55	0.36	0.66		0.76	0.82	0.00	0.01	0.08	1.26
Uniform Delay, d1	53.1	28.3	31.1	68.0	51.7		51.5	52.2	43.4	37.4	38.1	50.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	115.4	0.2	1.0	19.3	2.4		9.9	14.6	0.0	0.0	0.1	137.6
Delay (s)	168.5	28.4	32.1	87.2	54.1		61.4	66.8	43.4	37.4	38.2	188.2
Level of Service	F	C	C	F	D		E	E	D	D	D	F
Approach Delay (s)		66.5			54.4			64.1			179.9	
Approach LOS		E			D			E			F	
Intersection Summary												
HCM 2000 Control Delay			90.4				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			137.4				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			76.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

10/03/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	↖
Traffic Volume (vph)	111	24	69	326	78	0	106	352	140	0	559	257
Future Volume (vph)	111	24	69	326	78	0	106	352	140	0	559	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95			0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.89		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770	1655		1770	1863		1719	3271			3438	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1770	1655		1770	1863		1719	3271			3438	1538
Peak-hour factor, PHF	0.68	0.68	0.68	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84
Adj. Flow (vph)	163	35	101	362	87	0	114	378	151	0	665	306
RTOR Reduction (vph)	0	91	0	0	0	0	0	41	0	0	0	217
Lane Group Flow (vph)	163	45	0	362	87	0	114	488	0	0	665	89
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	9.5	6.7		22.8	20.0		5.9	27.8			17.9	20.0
Effective Green, g (s)	9.5	7.4		22.8	20.7		5.9	29.2			19.3	20.7
Actuated g/C Ratio	0.13	0.10		0.32	0.29		0.08	0.41			0.27	0.29
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4			5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	235	171		565	540		142	1337			929	445
v/s Ratio Prot	0.09	0.03		c0.20	0.05		c0.07	0.15			c0.19	
v/s Ratio Perm												c0.06
v/c Ratio	0.69	0.27		0.64	0.16		0.80	0.37			0.72	0.20
Uniform Delay, d1	29.6	29.5		20.8	18.9		32.2	14.7			23.6	19.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.6	0.8		2.5	0.1		26.9	0.2			2.6	0.2
Delay (s)	38.1	30.3		23.3	19.0		59.1	14.8			26.2	19.3
Level of Service	D	C		C	B		E	B			C	B
Approach Delay (s)		34.6			22.5			22.7			24.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.7				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			71.4				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			56.1%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	241	176	66	413	300	208	308	41	210	448	87
Future Volume (veh/h)	177	241	176	66	413	300	208	308	41	210	448	87
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1863	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	197	268	196	74	464	337	217	321	43	239	509	99
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.96	0.96	0.96	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	181	663	555	95	573	723	255	753	100	241	687	133
Arrive On Green	0.10	0.36	0.36	0.05	0.31	0.31	0.15	0.25	0.23	0.14	0.24	0.22
Sat Flow, veh/h	1774	1863	1561	1774	1863	1583	1723	3051	405	1723	2874	556
Grp Volume(v), veh/h	197	268	196	74	464	337	217	180	184	239	304	304
Grp Sat Flow(s),veh/h/ln	1774	1863	1561	1774	1863	1583	1723	1719	1737	1723	1719	1711
Q Serve(g_s), s	8.0	8.5	7.3	3.2	18.0	11.5	9.6	6.9	7.1	10.9	12.8	13.0
Cycle Q Clear(g_c), s	8.0	8.5	7.3	3.2	18.0	11.5	9.6	6.9	7.1	10.9	12.8	13.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		0.33
Lane Grp Cap(c), veh/h	181	663	555	95	573	723	255	424	429	241	411	409
V/C Ratio(X)	1.09	0.40	0.35	0.78	0.81	0.47	0.85	0.42	0.43	0.99	0.74	0.74
Avail Cap(c_a), veh/h	181	749	628	203	773	893	285	599	606	241	556	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	35.3	19.1	18.7	36.7	25.1	14.7	32.6	24.9	25.1	33.7	27.6	27.9
Incr Delay (d2), s/veh	93.3	0.4	0.4	12.5	4.7	0.5	19.5	0.7	0.7	55.2	3.5	3.7
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 BackOfQ(50%),veh/ln	8.5	4.5	3.2	1.9	10.0	5.1	6.0	3.3	3.5	8.8	6.5	6.5
LnGrp Delay(d),s/veh	128.6	19.4	19.0	49.2	29.8	15.2	52.2	25.6	25.8	88.9	31.1	31.6
LnGrp LOS	F	B	B	D	C	B	D	C	C	F	C	C
Approach Vol, veh/h		661			875			581			847	
Approach Delay, s/veh		51.9			25.8			35.6			47.6	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	32.0	15.6	22.8	12.0	28.2	15.0	23.4				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	9.0	* 31	13.0	24.0	8.0	* 32	11.0	26.0				
Max Q Clear Time (g_c+I1), s	5.2	10.5	11.6	15.0	10.0	20.0	12.9	9.1				
Green Ext Time (p_c), s	0.0	2.2	0.1	2.4	0.0	3.4	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			39.8									
HCM 2010 LOS			D									
Notes												






















HCM 2010 Signalized Intersection Summary
4: N McDowell Blvd & Southpoint Blvd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	4	81	84	9	2	181	434	39	2	428	238
Future Volume (veh/h)	115	4	81	84	9	2	181	434	39	2	428	238
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	235	8	165	104	11	2	201	482	43	2	455	253
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.49	0.49	0.49	0.81	0.81	0.81	0.90	0.90	0.90	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	511	19	389	360	393	71	253	1509	134	5	703	388
Arrive On Green	0.26	0.26	0.24	0.26	0.26	0.24	0.15	0.47	0.44	0.00	0.33	0.30
Sat Flow, veh/h	1395	74	1521	1207	1535	279	1723	3194	284	1723	2139	1181
Grp Volume(v), veh/h	235	0	173	104	0	13	201	259	266	2	365	343
Grp Sat Flow(s),veh/h/ln	1395	0	1594	1207	0	1814	1723	1719	1759	1723	1719	1601
Q Serve(g_s), s	6.8	0.0	4.1	3.5	0.0	0.2	5.0	4.2	4.2	0.1	8.1	8.3
Cycle Q Clear(g_c), s	7.0	0.0	4.1	7.6	0.0	0.2	5.0	4.2	4.2	0.1	8.1	8.3
Prop In Lane	1.00		0.95	1.00		0.15	1.00		0.16	1.00		0.74
Lane Grp Cap(c), veh/h	511	0	408	360	0	464	253	812	831	5	565	526
V/C Ratio(X)	0.46	0.00	0.42	0.29	0.00	0.03	0.80	0.32	0.32	0.42	0.65	0.65
Avail Cap(c_a), veh/h	1173	0	1164	932	0	1324	347	978	1001	193	824	768
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	14.1	17.1	0.0	12.5	18.4	7.3	7.4	22.2	12.8	13.3
Incr Delay (d2), s/veh	0.6	0.0	0.7	0.4	0.0	0.0	8.6	0.2	0.2	50.5	1.2	1.4
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 BackOfQ(50%),veh/ln	2.7	0.0	1.9	1.2	0.0	0.1	2.9	2.0	2.1	0.1	3.9	3.9
LnGrp Delay(d),s/veh	15.7	0.0	14.8	17.5	0.0	12.5	27.0	7.5	7.6	72.7	14.0	14.7
LnGrp LOS	B		B	B		B	C	A	A	E	B	B
Approach Vol, veh/h		408			117			726			710	
Approach Delay, s/veh		15.3			16.9			13.0			14.5	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.4	10.5	18.7		15.4	4.1	25.1				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	9.0	20.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		9.0	7.0	10.3		9.6	2.1	6.2				
Green Ext Time (p_c), s		1.8	0.1	3.0		0.4	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									
























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	17	8	184	0	68	10	522	66	19	553	30
Future Volume (veh/h)	40	17	8	184	0	68	10	522	66	19	553	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	51	22	10	196	0	72	11	593	75	21	608	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	92	215	98	213	0	388	25	1005	127	44	1121	61
Arrive On Green	0.05	0.18	0.16	0.12	0.00	0.23	0.01	0.33	0.30	0.03	0.34	0.31
Sat Flow, veh/h	1774	1209	549	1774	0	1580	1723	3071	388	1723	3312	180
Grp Volume(v), veh/h	51	0	32	196	0	72	11	331	337	21	315	326
Grp Sat Flow(s),veh/h/ln	1774	0	1758	1774	0	1580	1723	1719	1740	1723	1719	1773
Q Serve(g_s), s	1.3	0.0	0.7	5.0	0.0	1.7	0.3	7.4	7.4	0.6	6.8	6.8
Cycle Q Clear(g_c), s	1.3	0.0	0.7	5.0	0.0	1.7	0.3	7.4	7.4	0.6	6.8	6.8
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.22	1.00		0.10
Lane Grp Cap(c), veh/h	92	0	312	213	0	388	25	563	569	44	582	600
V/C Ratio(X)	0.55	0.00	0.10	0.92	0.00	0.19	0.45	0.59	0.59	0.48	0.54	0.54
Avail Cap(c_a), veh/h	260	0	1060	213	0	911	207	1142	1155	207	1142	1177
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	15.9	19.9	0.0	13.9	22.4	12.8	13.0	22.0	12.3	12.3
Incr Delay (d2), s/veh	5.0	0.0	0.1	40.1	0.0	0.2	12.2	1.0	1.0	7.8	0.8	0.8
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 BackOfQ(50%),veh/ln	0.8	0.0	0.4	4.8	0.0	0.8	0.2	3.6	3.6	0.4	3.3	3.4
LnGrp Delay(d),s/veh	26.2	0.0	16.0	60.0	0.0	14.1	34.6	13.8	14.0	29.8	13.0	13.1
LnGrp LOS	C		B	E		B	C	B	B	C	B	B
Approach Vol, veh/h		83			268			679			662	
Approach Delay, s/veh		22.3			47.7			14.2			13.6	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	12.1	4.7	19.5	6.4	15.2	5.2	19.0				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	6.7	25.8	5.5	29.0				
Max Q Clear Time (g_c+I1), s	7.0	2.7	2.3	8.8	3.3	3.7	2.6	9.4				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.6	0.0	0.3	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay			19.7									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

10/03/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	121	5	151	81	9	46	229	422	71	50	443	144	
Future Volume (veh/h)	121	5	151	81	9	46	229	422	71	50	443	144	
Number	5	2	12	1	6	16	3	8	18	7	4	14	
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		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	1863	1863	1863	1863	1863	1900	1810	1810	1900	1810	1810	1810	
Adj Flow Rate, veh/h	159	7	199	100	11	57	246	454	76	61	540	176	
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1	
Peak Hour Factor	0.76	0.76	0.76	0.81	0.81	0.81	0.93	0.93	0.93	0.82	0.82	0.82	
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5	
Cap, veh/h	202	371	314	130	42	216	300	1149	191	94	928	403	
Arrive On Green	0.11	0.20	0.20	0.07	0.16	0.15	0.17	0.39	0.36	0.05	0.27	0.27	
Sat Flow, veh/h	1774	1863	1579	1774	262	1360	1723	2950	491	1723	3438	1492	
Grp Volume(v), veh/h	159	7	199	100	0	68	246	263	267	61	540	176	
Grp Sat Flow(s),veh/h/ln	1774	1863	1579	1774	0	1623	1723	1719	1722	1723	1719	1492	
Q Serve(g_s), s	4.9	0.2	6.5	3.1	0.0	2.1	7.8	6.2	6.4	2.0	7.7	5.5	
Cycle Q Clear(g_c), s	4.9	0.2	6.5	3.1	0.0	2.1	7.8	6.2	6.4	2.0	7.7	5.5	
Prop In Lane	1.00		1.00	1.00		0.84	1.00		0.29	1.00		1.00	
Lane Grp Cap(c), veh/h	202	371	314	130	0	258	300	669	670	94	928	403	
V/C Ratio(X)	0.79	0.02	0.63	0.77	0.00	0.26	0.82	0.39	0.40	0.65	0.58	0.44	
Avail Cap(c_a), veh/h	283	1010	856	377	0	966	428	987	989	275	1669	724	
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	24.3	18.2	20.7	25.7	0.0	21.1	22.5	12.4	12.6	26.1	17.8	17.1	
Incr Delay (d2), s/veh	9.4	0.0	2.1	9.1	0.0	0.5	8.3	0.4	0.4	7.3	0.6	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 BackOfQ(50%),veh/ln	2.9	0.1	3.0	1.9	0.0	1.0	4.4	3.0	3.1	1.1	3.7	2.3	
LnGrp Delay(d),s/veh	33.7	18.2	22.8	34.7	0.0	21.6	30.8	12.8	13.0	33.5	18.4	17.8	
LnGrp LOS	C	B	C	C		C	C	B	B	C	B	B	
Approach Vol, veh/h		365			168			776			777		
Approach Delay, s/veh		27.5			29.4			18.6			19.5		
Approach LOS		C			C			B			B		
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	8.1	15.2	13.8	19.2	10.4	13.0	7.1	26.0					
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4					
Max Green Setting (Gmax), s	12.0	30.0	14.0	26.0	9.0	33.0	9.0	31.0					
Max Q Clear Time (g_c+I1), s	5.1	8.5	9.8	9.7	6.9	4.1	4.0	8.4					
Green Ext Time (p_c), s	0.1	0.7	0.3	3.7	0.1	0.4	0.0	3.0					
Intersection Summary													
HCM 2010 Ctrl Delay			21.3										
HCM 2010 LOS			C										





















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	33	11	7	2	96	818	35	8	675	100
Future Volume (veh/h)	15	2	33	11	7	2	96	818	35	8	675	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	25	3	54	15	9	3	102	870	37	9	742	110
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.75	0.75	0.75	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	444	16	283	398	253	84	149	1671	741	21	1232	182
Arrive On Green	0.19	0.19	0.17	0.19	0.19	0.17	0.09	0.49	0.49	0.01	0.41	0.38
Sat Flow, veh/h	1393	83	1495	1326	1337	446	1723	3438	1525	1723	2993	443
Grp Volume(v), veh/h	25	0	57	15	0	12	102	870	37	9	426	426
Grp Sat Flow(s),veh/h/ln	1393	0	1578	1326	0	1783	1723	1719	1525	1723	1719	1717
Q Serve(g_s), s	0.6	0.0	1.2	0.4	0.0	0.2	2.2	6.7	0.5	0.2	7.4	7.5
Cycle Q Clear(g_c), s	0.8	0.0	1.2	1.6	0.0	0.2	2.2	6.7	0.5	0.2	7.4	7.5
Prop In Lane	1.00		0.95	1.00		0.25	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	444	0	299	398	0	338	149	1671	741	21	707	707
V/C Ratio(X)	0.06	0.00	0.19	0.04	0.00	0.04	0.69	0.52	0.05	0.44	0.60	0.60
Avail Cap(c_a), veh/h	1327	0	1300	1239	0	1468	314	2366	1050	225	1093	1092
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	13.3	13.7	0.0	12.8	17.0	6.8	5.2	18.8	8.8	9.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.0	5.5	0.3	0.0	14.0	0.8	0.8
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 BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.1	0.0	0.1	1.3	3.2	0.2	0.2	3.6	3.6
LnGrp Delay(d),s/veh	13.1	0.0	13.6	13.8	0.0	12.8	22.5	7.0	5.2	32.8	9.7	9.8
LnGrp LOS	B		B	B		B	C	A	A	C	A	A
Approach Vol, veh/h		82			27			1009			861	
Approach Delay, s/veh		13.5			13.3			8.5			10.0	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	7.3	19.8		11.3	4.5	22.6				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		31.0	7.0	23.0		31.0	5.0	25.0				
Max Q Clear Time (g_c+I1), s		3.2	4.2	9.5		3.6	2.2	8.7				
Green Ext Time (p_c), s		0.4	0.1	4.3		0.1	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									





















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1	132	5	0	1	174	818	14	0	675	50
Future Volume (veh/h)	37	1	132	5	0	1	174	818	14	0	675	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	61	2	216	8	0	2	181	852	15	0	804	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.63	0.63	0.63	0.96	0.96	0.96	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	422	3	321	224	0	325	366	2231	39	3	1161	87
Arrive On Green	0.21	0.21	0.19	0.21	0.00	0.19	0.21	0.65	0.62	0.00	0.36	0.33
Sat Flow, veh/h	1409	14	1564	1156	0	1583	1723	3457	61	1723	3240	242
Grp Volume(v), veh/h	61	0	218	8	0	2	181	424	443	0	426	438
Grp Sat Flow(s),veh/h/ln	1409	0	1578	1156	0	1583	1723	1719	1799	1723	1719	1763
Q Serve(g_s), s	1.9	0.0	6.9	0.3	0.0	0.1	5.0	6.2	6.2	0.0	11.4	11.4
Cycle Q Clear(g_c), s	2.0	0.0	6.9	7.2	0.0	0.1	5.0	6.2	6.2	0.0	11.4	11.4
Prop In Lane	1.00		0.99	1.00		1.00	1.00		0.03	1.00		0.14
Lane Grp Cap(c), veh/h	422	0	324	224	0	325	366	1110	1161	3	616	632
V/C Ratio(X)	0.14	0.00	0.67	0.04	0.00	0.01	0.49	0.38	0.38	0.00	0.69	0.69
Avail Cap(c_a), veh/h	795	0	742	529	0	744	688	1110	1161	816	846	868
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	19.9	23.0	0.0	17.2	18.6	4.5	4.5	0.0	14.7	14.8
Incr Delay (d2), s/veh	0.2	0.0	2.4	0.1	0.0	0.0	1.0	0.2	0.2	0.0	1.4	1.4
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 BackOfQ(50%),veh/ln	0.8	0.0	3.2	0.1	0.0	0.0	2.5	3.0	3.2	0.0	5.6	5.7
LnGrp Delay(d),s/veh	17.9	0.0	22.4	23.1	0.0	17.2	19.6	4.7	4.7	0.0	16.1	16.2
LnGrp LOS	B		C	C		B	B	A	A		B	B
Approach Vol, veh/h		279			10			1048			864	
Approach Delay, s/veh		21.4			21.9			7.3			16.2	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.0	15.4	23.2		15.0	0.0	38.6				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		24.6	20.0	25.0		24.6	24.0	21.0				
Max Q Clear Time (g_c+I1), s		8.9	7.0	13.4		9.2	0.0	8.2				
Green Ext Time (p_c), s		1.4	0.4	4.0		0.0	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			12.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1	171	74	3	18	282	696	23	8	490	177
Future Volume (veh/h)	39	1	171	74	3	18	282	696	23	8	490	177
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	50	1	219	79	3	19	300	740	24	8	516	186
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	452	2	381	268	53	339	408	1143	37	360	764	274
Arrive On Green	0.24	0.24	0.23	0.24	0.24	0.23	0.23	0.33	0.31	0.21	0.31	0.28
Sat Flow, veh/h	1384	7	1570	1154	220	1396	1740	3431	111	1740	2501	897
Grp Volume(v), veh/h	50	0	220	79	0	22	300	374	390	8	357	345
Grp Sat Flow(s),veh/h/ln	1384	0	1578	1154	0	1616	1740	1736	1807	1740	1736	1663
Q Serve(g_s), s	1.6	0.0	6.8	3.6	0.0	0.6	8.8	10.1	10.1	0.2	9.9	10.1
Cycle Q Clear(g_c), s	2.2	0.0	6.8	10.4	0.0	0.6	8.8	10.1	10.1	0.2	9.9	10.1
Prop In Lane	1.00		1.00	1.00		0.86	1.00		0.06	1.00		0.54
Lane Grp Cap(c), veh/h	452	0	383	268	0	392	408	578	602	360	530	508
V/C Ratio(X)	0.11	0.00	0.57	0.29	0.00	0.06	0.74	0.65	0.65	0.02	0.67	0.68
Avail Cap(c_a), veh/h	771	0	746	534	0	765	820	1274	1326	360	815	781
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	18.7	23.0	0.0	16.2	19.5	15.6	15.7	17.4	16.8	17.1
Incr Delay (d2), s/veh	0.1	0.0	1.4	0.6	0.0	0.1	2.6	1.2	1.2	0.0	1.5	1.6
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 BackOfQ(50%),veh/ln	0.6	0.0	3.1	1.2	0.0	0.3	4.5	5.0	5.2	0.1	5.0	4.9
LnGrp Delay(d),s/veh	17.0	0.0	20.0	23.6	0.0	16.3	22.1	16.9	16.9	17.5	18.3	18.7
LnGrp LOS	B		C	C		B	C	B	B	B	B	B
Approach Vol, veh/h		270			101			1064			710	
Approach Delay, s/veh		19.5			22.0			18.3			18.5	
Approach LOS		B			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.4	16.9	20.9		17.4	15.4	22.4				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.5	24.6	24.5		25.5	10.0	39.1				
Max Q Clear Time (g_c+I1), s		8.8	10.8	12.1		12.4	2.2	12.1				
Green Ext Time (p_c), s		1.4	0.7	3.3		0.3	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

10/03/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	829	432	282	115	797	120	452	277	56	55	275	541
Future Volume (veh/h)	829	432	282	115	797	120	452	277	56	55	275	541
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	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	1863	1863	1900	1863	1863	1863	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	931	485	317	125	866	130	491	301	61	62	309	608
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	902	881	574	148	893	400	489	951	190	79	800	748
Arrive On Green	0.26	0.43	0.42	0.08	0.25	0.25	0.14	0.33	0.32	0.05	0.23	0.22
Sat Flow, veh/h	3442	2044	1331	1774	3539	1583	3375	2882	576	1740	3471	1544
Grp Volume(v), veh/h	931	420	382	125	866	130	491	180	182	62	309	608
Grp Sat Flow(s),veh/h/ln	1721	1770	1606	1774	1770	1583	1688	1736	1722	1740	1736	1544
Q Serve(g_s), s	38.0	25.7	26.0	10.1	35.1	9.7	21.0	11.2	11.5	5.1	10.9	32.0
Cycle Q Clear(g_c), s	38.0	25.7	26.0	10.1	35.1	9.7	21.0	11.2	11.5	5.1	10.9	32.0
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	902	762	692	148	893	400	489	573	568	79	800	748
V/C Ratio(X)	1.03	0.55	0.55	0.84	0.97	0.33	1.00	0.31	0.32	0.79	0.39	0.81
Avail Cap(c_a), veh/h	902	762	692	220	893	400	489	573	568	120	800	748
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	53.5	30.8	31.2	65.5	53.6	44.1	62.0	36.3	36.6	68.5	47.1	32.0
Incr Delay (d2), s/veh	38.5	0.8	1.0	16.9	22.8	0.5	41.8	0.3	0.3	17.5	0.3	6.8
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 BackOfQ(50%),veh/ln	22.9	12.7	11.7	5.6	20.0	4.3	12.6	5.4	5.5	2.8	5.3	22.0
LnGrp Delay(d),s/veh	92.0	31.6	32.2	82.4	76.5	44.6	103.8	36.6	36.9	86.0	47.4	38.8
LnGrp LOS	F	C	C	F	E	D	F	D	D	F	D	D
Approach Vol, veh/h		1733			1121			853			979	
Approach Delay, s/veh		64.2			73.5			75.4			44.5	
Approach LOS		E			E			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	66.5	25.0	37.4	42.0	40.6	10.6	51.8				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	18.0	55.5	21.0	32.0	38.0	35.5	10.0	43.0				
Max Q Clear Time (g_c+I1), s	12.1	28.0	23.0	34.0	40.0	37.1	7.1	13.5				
Green Ext Time (p_c), s	0.1	5.6	0.0	0.0	0.0	0.0	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			64.3									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd

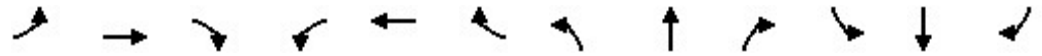
10/03/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↓	↑↑		
Traffic Volume (veh/h)	1185	604	0	937	223	607		
Future Volume (veh/h)	1185	604	0	937	223	607		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1347	0	0	1008	262	714		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.88	0.88	0.93	0.93	0.85	0.85		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	1838	822	0	1838	1047	848		
Arrive On Green	0.52	0.00	0.00	0.52	0.30	0.30		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1347	0	0	1008	262	714		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	13.4	0.0	0.0	8.7	2.6	10.9		
Cycle Q Clear(g_c), s	13.4	0.0	0.0	8.7	2.6	10.9		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1838	822	0	1838	1047	848		
V/C Ratio(X)	0.73	0.00	0.00	0.55	0.25	0.84		
Avail Cap(c_a), veh/h	2187	978	0	2187	1063	861		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.5	0.0	0.0	7.3	11.9	14.7		
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.3	0.1	7.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	4.3	1.3	5.0		
LnGrp Delay(d),s/veh	9.5	0.0	0.0	7.6	12.0	22.3		
LnGrp LOS	A			A	B	C		
Approach Vol, veh/h	1347			1008	976			
Approach Delay, s/veh	9.5			7.6	19.5			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		27.5				27.5		17.8
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		26.9				26.9		13.3
Max Q Clear Time (g_c+I1), s		15.4				10.7		12.9
Green Ext Time (p_c), s		7.0				6.4		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			11.9					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

10/03/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	1096	149	289	1121	0	0	0	0	306	0	1029
Future Volume (vph)	0	1096	149	289	1121	0	0	0	0	306	0	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95						0.95	0.95
Frb, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						0.94	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.97	1.00
Satd. Flow (prot)		3539	1555	3433	3539						1613	1504
Flt Permitted		1.00	1.00	0.95	1.00						0.97	1.00
Satd. Flow (perm)		3539	1555	3433	3539						1613	1504
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1274	173	332	1289	0	0	0	0	333	0	1118
RTOR Reduction (vph)	0	0	110	0	0	0	0	0	0	0	49	49
Lane Group Flow (vph)	0	1274	63	332	1289	0	0	0	0	0	519	834
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2			1						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		27.9	27.9	6.0	37.9						32.3	32.3
Effective Green, g (s)		29.0	29.0	6.0	39.0						33.0	33.0
Actuated g/C Ratio		0.36	0.36	0.08	0.49						0.41	0.41
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1282	563	257	1725						665	620
v/s Ratio Prot		c0.36		c0.10	0.36						0.32	
v/s Ratio Perm			0.04									c0.55
v/c Ratio		0.99	0.11	1.29	0.75						0.78	1.35
Uniform Delay, d1		25.4	16.9	37.0	16.5						20.4	23.5
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		23.5	0.1	157.2	1.8						5.9	166.1
Delay (s)		48.9	17.0	194.2	18.3						26.3	189.6
Level of Service		D	B	F	B						C	F
Approach Delay (s)		45.1			54.4			0.0			125.7	
Approach LOS		D			D			A			F	
Intersection Summary												
HCM 2000 Control Delay			74.3			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.19									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			86.1%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

09/30/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	662	578	639	0	576	6	859	71	0	0	101	568
Future Volume (vph)	662	578	639	0	576	6	859	71	0	0	101	568
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1	4.0		5.1		4.0	5.4			4.7	4.0
Lane Util. Factor	1.00	0.95	1.00		0.95		0.95	0.95			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98		1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85		1.00		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00		0.95	0.96			1.00	1.00
Satd. Flow (prot)	1770	3539	1551		3533		1681	1698			1863	1576
Flt Permitted	0.95	1.00	1.00		1.00		0.95	0.45			1.00	1.00
Satd. Flow (perm)	1770	3539	1551		3533		1681	789			1863	1576
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96	0.83	0.83	0.83
Adj. Flow (vph)	712	622	687	0	670	7	895	74	0	0	122	684
RTOR Reduction (vph)	0	0	134	0	1	0	0	0	0	0	0	40
Lane Group Flow (vph)	712	622	553	0	676	0	483	486	0	0	122	644
Confl. Peds. (#/hr)			3			1			2			2
Confl. Bikes (#/hr)			1						2			
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Actuated Green, G (s)	44.0	77.2	108.2		29.2		31.0	55.0			20.7	64.7
Effective Green, g (s)	44.0	77.2	108.2		29.2		31.0	55.0			20.7	64.7
Actuated g/C Ratio	0.31	0.54	0.76		0.20		0.22	0.39			0.15	0.45
Clearance Time (s)	4.0	5.1	4.0		5.1		4.0	5.4			4.7	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	545	1914	1176		722		365	501			270	714
v/s Ratio Prot	c0.40	0.18	0.10		c0.19		c0.29	0.21			0.07	0.28
v/s Ratio Perm			0.25					c0.16				0.13
v/c Ratio	1.31	0.32	0.47		0.94		1.32	0.97			0.45	0.90
Uniform Delay, d1	49.3	18.2	6.5		55.8		55.8	43.0			55.8	36.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	150.8	0.1	0.3		19.4		163.4	32.5			1.2	14.6
Delay (s)	200.1	18.3	6.8		75.3		219.3	75.5			57.0	50.7
Level of Service	F	B	A		E		F	E			E	D
Approach Delay (s)		78.5			75.3			147.2			51.7	
Approach LOS		E			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			88.0									F
HCM 2000 Volume to Capacity ratio			1.19									
Actuated Cycle Length (s)			142.7							18.5		
Intersection Capacity Utilization			97.3%									F
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

09/30/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→		↰	→		↰	↑	↰	↰	↑↑	↰
Traffic Volume (vph)	321	77	164	250	68	0	136	609	284	0	491	250
Future Volume (vph)	321	77	164	250	68	0	136	609	284	0	491	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.7		4.0	4.7		4.0	5.4			5.4	4.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95			0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.90		1.00	1.00		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770	1673		1770	1863		1770	3341			3539	1547
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1770	1673		1770	1863		1770	3341			3539	1547
Peak-hour factor, PHF	0.82	0.82	0.82	0.80	0.80	0.80	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	391	94	200	312	85	0	143	641	299	0	528	269
RTOR Reduction (vph)	0	90	0	0	0	0	0	48	0	0	0	213
Lane Group Flow (vph)	391	204	0	313	85	0	143	892	0	0	528	56
Confl. Peds. (#/hr)						3			3			1
Confl. Bikes (#/hr)									2			1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	18.4	16.5		17.9	16.0		8.2	28.4			16.2	16.0
Effective Green, g (s)	18.4	16.5		17.9	16.0		8.2	28.4			16.2	16.0
Actuated g/C Ratio	0.24	0.21		0.23	0.21		0.11	0.37			0.21	0.21
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4			5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	423	358		412	387		188	1233			745	321
v/s Ratio Prot	c0.22	c0.12		0.18	0.05		0.08	c0.27			0.15	
v/s Ratio Perm												0.04
v/c Ratio	0.92	0.57		0.76	0.22		0.76	0.72			0.71	0.17
Uniform Delay, d1	28.6	27.0		27.5	25.3		33.4	20.9			28.2	25.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	25.8	2.1		7.9	0.3		16.5	2.1			3.1	0.3
Delay (s)	54.4	29.1		35.4	25.6		49.9	23.0			31.3	25.3
Level of Service	D	C		D	C		D	C			C	C
Approach Delay (s)		43.5			33.3			26.6			29.2	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.1				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			76.9				Sum of lost time (s)			18.1		
Intersection Capacity Utilization			73.3%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group





















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	398	312	53	363	259	311	498	69	323	488	156
Future Volume (veh/h)	179	398	312	53	363	259	311	498	69	323	488	156
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	192	428	335	54	370	264	327	524	73	351	530	170
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	596	506	72	448	709	361	724	100	369	622	199
Arrive On Green	0.12	0.32	0.32	0.04	0.24	0.24	0.20	0.23	0.23	0.21	0.24	0.24
Sat Flow, veh/h	1774	1863	1582	1774	1863	1580	1774	3111	432	1774	2625	838
Grp Volume(v), veh/h	192	428	335	54	370	264	327	297	300	351	356	344
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1863	1580	1774	1770	1773	1774	1770	1693
Q Serve(g_s), s	9.7	18.5	16.7	2.7	17.2	10.1	16.4	14.1	14.3	17.8	17.6	17.7
Cycle Q Clear(g_c), s	9.7	18.5	16.7	2.7	17.2	10.1	16.4	14.1	14.3	17.8	17.6	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.49
Lane Grp Cap(c), veh/h	214	596	506	72	448	709	361	412	412	369	420	401
V/C Ratio(X)	0.90	0.72	0.66	0.75	0.83	0.37	0.90	0.72	0.73	0.95	0.85	0.86
Avail Cap(c_a), veh/h	214	753	639	97	631	864	389	504	505	369	485	464
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	39.6	27.4	26.8	43.3	32.9	16.7	35.5	32.3	32.3	35.7	33.3	33.3
Incr Delay (d2), s/veh	35.3	2.4	1.7	18.9	6.2	0.3	23.1	3.9	4.1	34.1	12.1	13.1
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 BackOfQ(50%),veh/ln	6.8	9.9	7.5	1.7	9.6	4.4	10.3	7.4	7.5	12.2	10.0	9.8
LnGrp Delay(d),s/veh	74.9	29.8	28.5	62.2	39.1	17.0	58.6	36.2	36.4	69.8	45.3	46.5
LnGrp LOS	E	C	C	E	D	B	E	D	D	E	D	D
Approach Vol, veh/h		955			688			924			1051	
Approach Delay, s/veh		38.4			32.4			44.2			53.9	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	33.9	22.6	27.0	15.0	26.7	23.0	26.6				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	5.0	* 37	20.0	25.0	11.0	* 31	19.0	26.0				
Max Q Clear Time (g_c+I1), s	4.7	20.5	18.4	19.7	11.7	19.2	19.8	16.3				
Green Ext Time (p_c), s	0.0	3.6	0.2	1.9	0.0	2.6	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			43.2									
HCM 2010 LOS			D									
Notes												























HCM 2010 Signalized Intersection Summary
4: N McDowell Blvd & Southpoint Blvd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	10	200	63	8	2	164	602	90	3	625	210
Future Volume (veh/h)	253	10	200	63	8	2	164	602	90	3	625	210
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.97	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	305	12	241	75	10	2	171	627	94	3	658	221
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.84	0.84	0.84	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	543	22	444	315	449	90	215	1349	202	7	836	281
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.12	0.44	0.44	0.00	0.32	0.32
Sat Flow, veh/h	1397	74	1492	1118	1508	302	1774	3076	460	1774	2603	874
Grp Volume(v), veh/h	305	0	253	75	0	12	171	360	361	3	447	432
Grp Sat Flow(s),veh/h/ln	1397	0	1566	1118	0	1810	1774	1770	1767	1774	1770	1707
Q Serve(g_s), s	10.7	0.0	7.3	3.2	0.0	0.3	5.1	7.7	7.8	0.1	12.4	12.4
Cycle Q Clear(g_c), s	10.9	0.0	7.3	10.5	0.0	0.3	5.1	7.7	7.8	0.1	12.4	12.4
Prop In Lane	1.00		0.95	1.00		0.17	1.00		0.26	1.00		0.51
Lane Grp Cap(c), veh/h	543	0	466	315	0	539	215	776	775	7	569	549
V/C Ratio(X)	0.56	0.00	0.54	0.24	0.00	0.02	0.79	0.46	0.47	0.42	0.79	0.79
Avail Cap(c_a), veh/h	955	0	929	645	0	1073	263	787	786	164	689	664
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	15.9	20.3	0.0	13.4	23.0	10.7	10.7	26.8	16.6	16.6
Incr Delay (d2), s/veh	0.9	0.0	1.0	0.4	0.0	0.0	12.8	0.4	0.4	33.8	5.0	5.2
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 BackOfQ(50%),veh/ln	4.2	0.0	3.3	1.0	0.0	0.1	3.2	3.8	3.8	0.1	6.8	6.5
LnGrp Delay(d),s/veh	18.2	0.0	16.9	20.7	0.0	13.4	35.8	11.1	11.1	60.6	21.6	21.8
LnGrp LOS	B		B	C		B	D	B	B	E	C	C
Approach Vol, veh/h		558			87			892			882	
Approach Delay, s/veh		17.6			19.7			15.8			21.8	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.7	10.5	22.7		20.7	4.2	29.1				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	8.0	21.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		12.9	7.1	14.4		12.5	2.1	9.8				
Green Ext Time (p_c), s		2.6	0.0	2.9		0.3	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	116	0	43	0	772	165	62	765	0
Future Volume (veh/h)	0	0	0	116	0	43	0	772	165	62	765	0
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	125	0	46	0	830	177	67	832	0
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	4	0	162	0	280	4	1227	262	115	2066	0
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.18	0.00	0.42	0.42	0.06	0.58	0.00
Sat Flow, veh/h	1774	1863	0	1774	0	1575	1774	2896	618	1774	3632	0
Grp Volume(v), veh/h	0	0	0	125	0	46	0	507	500	67	832	0
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	0	1575	1774	1770	1745	1774	1770	0
Q Serve(g_s), s	0.0	0.0	0.0	2.9	0.0	1.0	0.0	9.7	9.7	1.5	5.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.9	0.0	1.0	0.0	9.7	9.7	1.5	5.4	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.35	1.00		0.00
Lane Grp Cap(c), veh/h	4	4	0	162	0	280	4	749	739	115	2066	0
V/C Ratio(X)	0.00	0.00	0.00	0.77	0.00	0.16	0.00	0.68	0.68	0.58	0.40	0.00
Avail Cap(c_a), veh/h	233	1201	0	233	0	1016	233	1226	1208	233	2451	0
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)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	18.6	0.0	14.6	0.0	9.8	9.8	19.0	4.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	9.3	0.0	0.3	0.0	1.1	1.1	4.7	0.1	0.0
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 BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.8	0.0	0.5	0.0	4.9	4.8	0.9	2.6	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	27.9	0.0	14.9	0.0	10.8	10.8	23.7	4.9	0.0
LnGrp LOS				C		B		B	B	C	A	
Approach Vol, veh/h		0			171			1007			899	
Approach Delay, s/veh		0.0			24.4			10.8			6.3	
Approach LOS					C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	4.2	0.0	29.8	0.0	12.0	6.7	23.1				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	5.5	27.0	5.5	29.0				
Max Q Clear Time (g_c+I1), s	4.9	0.0	0.0	7.4	0.0	3.0	3.5	11.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.6	0.0	0.2	0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay				10.0								
HCM 2010 LOS				A								























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	13	261	85	11	64	250	542	97	65	539	277
Future Volume (veh/h)	274	13	261	85	11	64	250	542	97	65	539	277
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.98	1.00		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	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	311	15	297	97	12	73	263	571	102	69	573	295
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	471	679	126	27	164	313	1134	202	91	900	393
Arrive On Green	0.20	0.25	0.25	0.07	0.12	0.12	0.18	0.38	0.38	0.05	0.25	0.25
Sat Flow, veh/h	1774	1863	1581	1774	227	1379	1774	2991	533	1774	3539	1544
Grp Volume(v), veh/h	311	15	297	97	0	85	263	337	336	69	573	295
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	0	1606	1774	1770	1754	1774	1770	1544
Q Serve(g_s), s	12.4	0.4	9.7	3.9	0.0	3.6	10.5	10.7	10.8	2.8	10.6	12.9
Cycle Q Clear(g_c), s	12.4	0.4	9.7	3.9	0.0	3.6	10.5	10.7	10.8	2.8	10.6	12.9
Prop In Lane	1.00		1.00	1.00		0.86	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	363	471	679	126	0	191	313	671	665	91	900	393
V/C Ratio(X)	0.86	0.03	0.44	0.77	0.00	0.44	0.84	0.50	0.51	0.76	0.64	0.75
Avail Cap(c_a), veh/h	557	1067	1185	315	0	701	508	893	885	242	1255	548
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	20.6	14.7	33.5	0.0	30.0	29.2	17.5	17.5	34.3	24.3	25.2
Incr Delay (d2), s/veh	8.1	0.0	0.4	9.4	0.0	1.6	6.8	0.6	0.6	11.9	0.8	3.7
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 BackOfQ(50%),veh/ln	6.9	0.2	4.3	2.3	0.0	1.7	5.7	5.4	5.3	1.7	5.3	5.9
LnGrp Delay(d),s/veh	36.2	20.7	15.2	42.9	0.0	31.6	36.0	18.0	18.1	46.2	25.1	28.9
LnGrp LOS	D	C	B	D		C	D	B	B	D	C	C
Approach Vol, veh/h		623			182			936			937	
Approach Delay, s/veh		25.8			37.6			23.1			27.8	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	23.1	16.9	24.0	19.0	13.3	7.8	33.2				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	13.0	42.0	21.0	26.0	23.0	32.0	10.0	37.0				
Max Q Clear Time (g_c+I1), s	5.9	11.7	12.5	14.9	14.4	5.6	4.8	12.8				
Green Ext Time (p_c), s	0.1	1.2	0.5	3.6	0.6	0.5	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									






















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	5	130	31	1	15	72	962	12	8	1015	26
Future Volume (veh/h)	57	5	130	31	1	15	72	962	12	8	1015	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	5	135	40	1	19	77	1034	13	9	1091	28
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.77	0.77	0.77	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	10	281	294	15	278	123	1721	752	21	1511	39
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.49	0.49	0.01	0.43	0.43
Sat Flow, veh/h	1383	57	1530	1241	80	1512	1774	3539	1547	1774	3523	90
Grp Volume(v), veh/h	59	0	140	40	0	20	77	1034	13	9	548	571
Grp Sat Flow(s),veh/h/ln	1383	0	1587	1241	0	1591	1774	1770	1547	1774	1770	1844
Q Serve(g_s), s	1.6	0.0	3.5	1.3	0.0	0.5	1.9	9.3	0.2	0.2	11.3	11.3
Cycle Q Clear(g_c), s	2.1	0.0	3.5	4.8	0.0	0.5	1.9	9.3	0.2	0.2	11.3	11.3
Prop In Lane	1.00		0.96	1.00		0.95	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	403	0	291	294	0	292	123	1721	752	21	759	791
V/C Ratio(X)	0.15	0.00	0.48	0.14	0.00	0.07	0.63	0.60	0.02	0.43	0.72	0.72
Avail Cap(c_a), veh/h	1105	0	1097	923	0	1100	202	2060	901	202	1030	1073
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	16.1	18.2	0.0	14.8	19.9	8.2	5.9	21.6	10.4	10.4
Incr Delay (d2), s/veh	0.2	0.0	1.2	0.2	0.0	0.1	5.1	0.3	0.0	13.2	1.6	1.6
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 BackOfQ(50%),veh/ln	0.6	0.0	1.6	0.5	0.0	0.2	1.1	4.5	0.1	0.2	5.8	6.1
LnGrp Delay(d),s/veh	15.9	0.0	17.3	18.4	0.0	14.9	25.1	8.5	5.9	34.8	12.0	12.0
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		199			60			1124			1128	
Approach Delay, s/veh		16.9			17.3			9.6			12.2	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.7	7.0	24.3		12.7	4.5	26.8				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	5.0	25.6		30.4	5.0	25.6				
Max Q Clear Time (g_c+I1), s		5.5	3.9	13.3		6.8	2.2	11.3				
Green Ext Time (p_c), s		1.0	0.0	5.5		0.2	0.0	6.0				
Intersection Summary												
HCM 2010 Ctrl Delay			11.5									
HCM 2010 LOS			B									






















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	2	285	19	0	1	267	962	18	2	1015	107
Future Volume (veh/h)	103	2	285	19	0	1	267	962	18	2	1015	107
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	112	2	310	36	0	2	293	1057	20	2	1115	118
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.53	0.53	0.53	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	2	380	160	0	383	345	1420	27	250	1117	118
Arrive On Green	0.24	0.24	0.24	0.24	0.00	0.24	0.19	0.40	0.40	0.14	0.35	0.35
Sat Flow, veh/h	1409	10	1569	1062	0	1583	1774	3551	67	1774	3222	340
Grp Volume(v), veh/h	112	0	312	36	0	2	293	527	550	2	612	621
Grp Sat Flow(s),veh/h/ln	1409	0	1579	1062	0	1583	1774	1770	1849	1774	1770	1793
Q Serve(g_s), s	4.7	0.0	13.2	2.4	0.0	0.1	11.3	18.0	18.1	0.1	24.5	24.6
Cycle Q Clear(g_c), s	4.7	0.0	13.2	15.6	0.0	0.1	11.3	18.0	18.1	0.1	24.5	24.6
Prop In Lane	1.00		0.99	1.00		1.00	1.00		0.04	1.00		0.19
Lane Grp Cap(c), veh/h	441	0	382	160	0	383	345	708	739	250	613	621
V/C Ratio(X)	0.25	0.00	0.82	0.22	0.00	0.01	0.85	0.74	0.74	0.01	1.00	1.00
Avail Cap(c_a), veh/h	596	0	556	277	0	558	500	708	739	600	613	621
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	25.4	32.8	0.0	20.4	27.6	18.2	18.2	26.2	23.2	23.2
Incr Delay (d2), s/veh	0.3	0.0	6.1	0.7	0.0	0.0	9.2	4.3	4.1	0.0	35.6	36.1
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 BackOfQ(50%),veh/ln	1.8	0.0	6.4	0.7	0.0	0.0	6.4	9.6	10.0	0.0	18.0	18.3
LnGrp Delay(d),s/veh	22.5	0.0	31.5	33.5	0.0	20.4	36.8	22.5	22.3	26.2	58.8	59.3
LnGrp LOS	C		C	C		C	D	C	C	C	E	E
Approach Vol, veh/h		424			38			1370			1235	
Approach Delay, s/veh		29.1			32.8			25.4			59.0	
Approach LOS		C			C			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.8	19.2	30.0		21.8	15.4	33.8				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		15.2	13.3	26.6		17.6	2.1	20.1				
Green Ext Time (p_c), s		1.7	0.5	0.0		0.0	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			39.5									
HCM 2010 LOS			D									























HCM 2010 Signalized Intersection Summary
9: N McDowell Blvd & Madison St

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	2	297	36	3	13	233	738	63	22	797	196
Future Volume (veh/h)	107	2	297	36	3	13	233	738	63	22	797	196
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.98	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	111	2	309	38	3	14	284	900	77	25	896	220
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	2	353	70	11	53	327	1405	120	182	968	237
Arrive On Green	0.23	0.23	0.23	0.04	0.04	0.04	0.18	0.43	0.43	0.10	0.35	0.35
Sat Flow, veh/h	1774	10	1564	1774	287	1339	1774	3292	282	1774	2802	687
Grp Volume(v), veh/h	111	0	311	38	0	17	284	484	493	25	565	551
Grp Sat Flow(s),veh/h/ln	1774	0	1574	1774	0	1626	1774	1770	1805	1774	1770	1720
Q Serve(g_s), s	5.0	0.0	18.6	2.0	0.0	1.0	15.2	21.0	21.0	1.3	30.0	30.0
Cycle Q Clear(g_c), s	5.0	0.0	18.6	2.0	0.0	1.0	15.2	21.0	21.0	1.3	30.0	30.0
Prop In Lane	1.00		0.99	1.00		0.82	1.00		0.16	1.00		0.40
Lane Grp Cap(c), veh/h	400	0	355	70	0	65	327	755	770	182	611	594
V/C Ratio(X)	0.28	0.00	0.88	0.54	0.00	0.26	0.87	0.64	0.64	0.14	0.93	0.93
Avail Cap(c_a), veh/h	488	0	433	437	0	401	721	1166	1189	182	628	611
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	36.4	45.9	0.0	45.4	38.6	22.0	22.0	39.8	30.7	30.7
Incr Delay (d2), s/veh	0.4	0.0	15.6	6.3	0.0	2.1	7.1	0.9	0.9	0.3	19.5	20.2
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 BackOfQ(50%),veh/ln	2.5	0.0	9.6	1.1	0.0	0.5	8.1	10.4	10.6	0.6	17.9	17.5
LnGrp Delay(d),s/veh	31.5	0.0	52.0	52.2	0.0	47.5	45.7	22.9	22.9	40.1	50.2	50.9
LnGrp LOS	C		D	D		D	D	C	C	D	D	D
Approach Vol, veh/h		422			55			1261			1141	
Approach Delay, s/veh		46.6			50.8			28.1			50.3	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.6	23.3	39.1		8.5	15.4	47.0				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.8	39.6	34.6		24.0	10.0	64.2				
Max Q Clear Time (g_c+I1), s		20.6	17.2	32.0		4.0	3.3	23.0				
Green Ext Time (p_c), s		1.3	0.8	1.6		0.1	0.0	7.1				
Intersection Summary												
HCM 2010 Ctrl Delay			40.0									
HCM 2010 LOS			D									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	899	738	324	87	557	92	426	310	74	134	463	819
Future Volume (veh/h)	899	738	324	87	557	92	426	310	74	134	463	819
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	967	794	348	94	599	99	468	341	81	143	493	871
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1018	1031	451	116	715	310	473	778	182	167	818	827
Arrive On Green	0.30	0.43	0.43	0.07	0.20	0.20	0.14	0.27	0.27	0.09	0.23	0.23
Sat Flow, veh/h	3442	2383	1042	1774	3539	1534	3442	2834	664	1774	3539	1550
Grp Volume(v), veh/h	967	589	553	94	599	99	468	211	211	143	493	871
Grp Sat Flow(s),veh/h/ln	1721	1770	1655	1774	1770	1534	1721	1770	1728	1774	1770	1550
Q Serve(g_s), s	38.1	39.2	39.4	7.2	22.5	7.6	18.8	13.6	14.0	11.0	17.2	32.0
Cycle Q Clear(g_c), s	38.1	39.2	39.4	7.2	22.5	7.6	18.8	13.6	14.0	11.0	17.2	32.0
Prop In Lane	1.00		0.63	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	1018	766	716	116	715	310	473	486	475	167	818	827
V/C Ratio(X)	0.95	0.77	0.77	0.81	0.84	0.32	0.99	0.43	0.44	0.86	0.60	1.05
Avail Cap(c_a), veh/h	1045	825	771	141	857	371	473	486	475	192	818	827
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	47.7	33.4	33.4	63.9	53.1	47.1	59.6	41.3	41.5	61.8	47.5	32.9
Incr Delay (d2), s/veh	16.9	4.2	4.5	24.9	6.3	0.6	38.8	0.6	0.7	27.3	1.2	46.3
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 BackOfQ(50%),veh/ln	20.5	20.0	18.9	4.4	11.6	3.3	11.5	6.7	6.8	6.7	8.6	42.0
LnGrp Delay(d),s/veh	64.6	37.6	38.0	88.8	59.4	47.7	98.4	42.0	42.1	89.1	48.8	79.2
LnGrp LOS	E	D	D	F	E	D	F	D	D	F	D	F
Approach Vol, veh/h		2109			792			890			1507	
Approach Delay, s/veh		50.1			61.4			71.7			70.2	
Approach LOS		D			E			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	65.0	23.0	37.4	44.9	33.0	17.0	43.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	11.0	64.5	19.0	32.0	42.0	33.5	15.0	36.0				
Max Q Clear Time (g_c+I1), s	9.2	41.4	20.8	34.0	40.1	24.5	13.0	16.0				
Green Ext Time (p_c), s	0.0	8.3	0.0	0.0	0.9	2.8	0.1	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay				61.1								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd













10/03/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1273	529	0	1160	191	801		
Future Volume (veh/h)	1273	529	0	1160	191	801		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1354	0	0	1208	281	1178		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.94	0.94	0.96	0.96	0.68	0.68		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	1516	678	0	1516	1509	1222		
Arrive On Green	0.43	0.00	0.00	0.43	0.44	0.44		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1354	0	0	1208	281	1178		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	26.1	0.0	0.0	21.8	3.7	30.3		
Cycle Q Clear(g_c), s	26.1	0.0	0.0	21.8	3.7	30.3		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1516	678	0	1516	1509	1222		
V/C Ratio(X)	0.89	0.00	0.00	0.80	0.19	0.96		
Avail Cap(c_a), veh/h	1582	708	0	1582	1510	1223		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.5	0.0	0.0	18.3	12.6	20.1		
Incr Delay (d2), s/veh	6.7	0.0	0.0	2.8	0.1	17.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	14.0	0.0	0.0	11.2	1.7	14.5		
LnGrp Delay(d),s/veh	26.2	0.0	0.0	21.1	12.7	37.8		
LnGrp LOS	C			C	B	D		
Approach Vol, veh/h	1354			1208	1459			
Approach Delay, s/veh	26.2			21.1	33.0			
Approach LOS	C			C	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		36.6				36.6		37.0
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		32.9				32.9		32.3
Max Q Clear Time (g_c+I1), s		28.1				23.8		32.3
Green Ext Time (p_c), s		3.5				5.3		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			27.1					
HCM 2010 LOS			C					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

09/30/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖↗	↑↑						↖	↗
Traffic Volume (vph)	0	1608	521	410	1054	0	0	0	0	298	0	816
Future Volume (vph)	0	1608	521	410	1054	0	0	0	0	298	0	816
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Lane Util. Factor		0.95	1.00	0.97	0.95						1.00	1.00
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1544	3433	3539						1770	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		3539	1544	3433	3539						1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1693	548	441	1133	0	0	0	0	310	0	850
RTOR Reduction (vph)	0	0	271	0	0	0	0	0	0	0	0	48
Lane Group Flow (vph)	0	1693	278	441	1133	0	0	0	0	0	310	802
Confl. Peds. (#/hr)			6									
Confl. Bikes (#/hr)			9			2						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		35.9	35.9	9.0	48.9						31.3	31.3
Effective Green, g (s)		35.9	35.9	9.0	48.9						31.3	31.3
Actuated g/C Ratio		0.40	0.40	0.10	0.54						0.35	0.35
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1411	615	343	1922						615	550
v/s Ratio Prot		c0.48		c0.13	0.32						0.18	
v/s Ratio Perm			0.18									c0.51
v/c Ratio		1.20	0.45	1.29	0.59						0.50	1.46
Uniform Delay, d1		27.1	19.8	40.5	13.8						23.2	29.4
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		97.0	0.5	149.0	0.5						0.7	215.9
Delay (s)		124.1	20.4	189.5	14.3						23.9	245.3
Level of Service		F	C	F	B						C	F
Approach Delay (s)		98.7			63.4			0.0			186.1	
Approach LOS		F			E			A			F	
Intersection Summary												
HCM 2000 Control Delay			107.9			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			87.8%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

**TRANSPORTATION IMPACT STUDY FOR THE PROPOSED HOME DEPOT @ 261 N MCDOWELL BLVD,
PETALUMA, CA**


























Appendix G Intersection Analysis: 2040 cumulative plus project Conditions LOS Calculation Sheets
October 8, 2021

**Appendix G INTERSECTION ANALYSIS: 2040 CUMULATIVE PLUS
PROJECT CONDITIONS LOS CALCULATION SHEETS**

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	441	479	804	8	389	5	427	53	6	5	35	678
Future Volume (vph)	441	479	804	8	389	5	427	53	6	5	35	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1548	1770	3531		1633	1654	1538	1719	1810	1517
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1548	1770	3531		1633	1654	1538	1719	1810	1517
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	485	526	884	9	432	6	497	62	7	6	41	788
RTOR Reduction (vph)	0	0	532	0	1	0	0	0	6	0	0	273
Lane Group Flow (vph)	485	526	352	9	437	0	268	291	1	6	41	515
Confl. Peds. (#/hr)			1				1					1
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	30.2	54.0	54.0	0.9	24.7		27.6	27.6	27.6	36.5	36.5	36.5
Effective Green, g (s)	30.2	55.1	55.1	0.9	25.8		29.0	29.0	29.0	37.2	37.2	37.2
Actuated g/C Ratio	0.22	0.40	0.40	0.01	0.19		0.21	0.21	0.21	0.27	0.27	0.27
Clearance Time (s)	4.0	5.1	5.1	4.0	5.1		5.4	5.4	5.4	4.7	4.7	4.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	386	1410	617	11	659		342	347	322	462	487	408
v/s Ratio Prot	c0.27	0.15		0.01	c0.12		0.16	c0.18		0.00	0.02	
v/s Ratio Perm			0.23						0.00			c0.34
v/c Ratio	1.26	0.37	0.57	0.82	0.66		0.78	0.84	0.00	0.01	0.08	1.26
Uniform Delay, d1	54.0	29.3	32.4	68.6	52.2		51.6	52.4	43.2	37.0	37.8	50.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	135.0	0.2	1.3	167.9	2.5		11.2	16.1	0.0	0.0	0.1	136.8
Delay (s)	189.0	29.5	33.6	236.5	54.7		62.8	68.4	43.2	37.0	37.8	187.3
Level of Service	F	C	C	F	D		E	E	D	D	D	F
Approach Delay (s)		72.2			58.4			65.4			178.9	
Approach LOS		E			E			E			F	
Intersection Summary												
HCM 2000 Control Delay			93.3				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			138.2				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			76.5%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

10/03/2021



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	↖
Traffic Volume (vph)	111	24	69	326	78	0	106	375	140	0	590	257
Future Volume (vph)	111	24	69	326	78	0	106	375	140	0	590	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95			0.95	1.00
Frb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.89		1.00	1.00		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770	1655		1770	1863		1719	3278			3438	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1770	1655		1770	1863		1719	3278			3438	1538
Peak-hour factor, PHF	0.68	0.68	0.68	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84
Adj. Flow (vph)	163	35	101	362	87	0	114	403	151	0	702	306
RTOR Reduction (vph)	0	90	0	0	0	0	0	36	0	0	0	220
Lane Group Flow (vph)	163	46	0	362	87	0	114	518	0	0	702	86
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	9.2	7.0		22.1	19.9		7.1	29.7			18.6	19.9
Effective Green, g (s)	9.2	7.7		22.1	20.6		7.1	31.1			20.0	20.6
Actuated g/C Ratio	0.13	0.11		0.30	0.28		0.10	0.43			0.27	0.28
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4			5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	223	174		536	526		167	1398			943	434
v/s Ratio Prot	0.09	0.03		c0.20	0.05		c0.07	0.16			c0.20	
v/s Ratio Perm												c0.06
v/c Ratio	0.73	0.26		0.68	0.17		0.68	0.37			0.74	0.20
Uniform Delay, d1	30.7	30.0		22.3	19.7		31.8	14.2			24.1	19.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	11.6	0.8		3.4	0.1		10.9	0.2			3.2	0.2
Delay (s)	42.3	30.8		25.6	19.8		42.8	14.4			27.3	20.1
Level of Service	D	C		C	B		D	B			C	C
Approach Delay (s)		37.1			24.5			19.2			25.1	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.9				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			72.9				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			56.9%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	241	178	67	413	300	209	331	42	210	479	87
Future Volume (veh/h)	177	241	178	67	413	300	209	331	42	210	479	87
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1863	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	197	268	198	75	464	337	218	345	44	239	544	99
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.96	0.96	0.96	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	177	654	548	97	570	716	255	790	100	237	717	130
Arrive On Green	0.10	0.35	0.35	0.05	0.31	0.31	0.15	0.26	0.24	0.14	0.25	0.23
Sat Flow, veh/h	1774	1863	1561	1774	1863	1583	1723	3070	389	1723	2908	527
Grp Volume(v), veh/h	197	268	198	75	464	337	218	192	197	239	321	322
Grp Sat Flow(s),veh/h/ln	1774	1863	1561	1774	1863	1583	1723	1719	1740	1723	1719	1716
Q Serve(g_s), s	8.0	8.7	7.6	3.3	18.4	11.9	9.9	7.5	7.6	11.0	13.9	14.0
Cycle Q Clear(g_c), s	8.0	8.7	7.6	3.3	18.4	11.9	9.9	7.5	7.6	11.0	13.9	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		0.31
Lane Grp Cap(c), veh/h	177	654	548	97	570	716	255	442	448	237	424	423
V/C Ratio(X)	1.11	0.41	0.36	0.78	0.81	0.47	0.85	0.43	0.44	1.01	0.76	0.76
Avail Cap(c_a), veh/h	177	735	616	199	758	875	280	588	595	237	545	544
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	36.1	19.7	19.3	37.4	25.7	15.3	33.3	24.9	25.1	34.6	28.0	28.2
Incr Delay (d2), s/veh	100.9	0.4	0.4	12.3	5.1	0.5	20.6	0.7	0.7	61.1	4.5	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	4.5	3.3	2.0	10.2	5.2	6.2	3.6	3.8	9.2	7.1	7.2
LnGrp Delay(d),s/veh	137.0	20.1	19.7	49.7	30.8	15.8	53.9	25.6	25.8	95.8	32.5	32.9
LnGrp LOS	F	C	B	D	C	B	D	C	C	F	C	C
Approach Vol, veh/h		663			876			607			882	
Approach Delay, s/veh		54.7			26.6			35.8			49.8	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	32.1	15.9	23.7	12.0	28.5	15.0	24.6				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	9.0	* 31	13.0	24.0	8.0	* 32	11.0	26.0				
Max Q Clear Time (g_c+I1), s	5.3	10.7	11.9	16.0	10.0	20.4	13.0	9.6				
Green Ext Time (p_c), s	0.0	2.2	0.1	2.3	0.0	3.3	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			41.4									
HCM 2010 LOS			D									
Notes												






















HCM 2010 Signalized Intersection Summary
 4: N McDowell Blvd & Southpoint Blvd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	4	81	84	9	2	181	459	39	2	461	238
Future Volume (veh/h)	115	4	81	84	9	2	181	459	39	2	461	238
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	235	8	165	104	11	2	201	510	43	2	490	253
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.49	0.49	0.49	0.81	0.81	0.81	0.90	0.90	0.90	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	506	19	387	355	390	71	252	1538	129	5	738	379
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.15	0.48	0.45	0.00	0.34	0.30
Sat Flow, veh/h	1395	74	1521	1207	1535	279	1723	3211	270	1723	2199	1130
Grp Volume(v), veh/h	235	0	173	104	0	13	201	272	281	2	383	360
Grp Sat Flow(s),veh/h/ln	1395	0	1594	1207	0	1814	1723	1719	1762	1723	1719	1610
Q Serve(g_s), s	6.9	0.0	4.2	3.6	0.0	0.2	5.1	4.5	4.5	0.1	8.7	8.8
Cycle Q Clear(g_c), s	7.2	0.0	4.2	7.8	0.0	0.2	5.1	4.5	4.5	0.1	8.7	8.8
Prop In Lane	1.00		0.95	1.00		0.15	1.00		0.15	1.00		0.70
Lane Grp Cap(c), veh/h	506	0	406	355	0	461	252	824	844	5	577	540
V/C Ratio(X)	0.46	0.00	0.43	0.29	0.00	0.03	0.80	0.33	0.33	0.42	0.66	0.67
Avail Cap(c_a), veh/h	1150	0	1142	912	0	1299	341	960	984	189	808	757
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	14.4	17.5	0.0	12.8	18.8	7.3	7.4	22.7	12.9	13.4
Incr Delay (d2), s/veh	0.7	0.0	0.7	0.5	0.0	0.0	9.1	0.2	0.2	50.5	1.3	1.4
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 BackOfQ(50%),veh/ln	2.7	0.0	1.9	1.2	0.0	0.1	3.0	2.2	2.2	0.1	4.2	4.1
LnGrp Delay(d),s/veh	16.1	0.0	15.2	17.9	0.0	12.8	27.9	7.6	7.6	73.2	14.2	14.8
LnGrp LOS	B		B	B		B	C	A	A	E	B	B
Approach Vol, veh/h		408			117			754			745	
Approach Delay, s/veh		15.7			17.3			13.0			14.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	10.7	19.3		15.6	4.1	25.8				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	9.0	20.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		9.2	7.1	10.8		9.8	2.1	6.5				
Green Ext Time (p_c), s		1.8	0.1	3.0		0.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	17	8	188	0	68	10	547	69	19	586	30
Future Volume (veh/h)	40	17	8	188	0	68	10	547	69	19	586	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	51	22	10	200	0	72	11	622	78	21	644	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.94	0.94	0.94	0.88	0.88	0.88	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	92	212	97	210	0	383	25	1033	129	44	1154	59
Arrive On Green	0.05	0.18	0.16	0.12	0.00	0.23	0.01	0.34	0.31	0.03	0.35	0.32
Sat Flow, veh/h	1774	1209	549	1774	0	1580	1723	3074	385	1723	3324	170
Grp Volume(v), veh/h	51	0	32	200	0	72	11	347	353	21	333	344
Grp Sat Flow(s),veh/h/ln	1774	0	1758	1774	0	1580	1723	1719	1740	1723	1719	1775
Q Serve(g_s), s	1.3	0.0	0.7	5.2	0.0	1.7	0.3	7.8	7.9	0.6	7.3	7.3
Cycle Q Clear(g_c), s	1.3	0.0	0.7	5.2	0.0	1.7	0.3	7.8	7.9	0.6	7.3	7.3
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.22	1.00		0.10
Lane Grp Cap(c), veh/h	92	0	309	210	0	383	25	577	585	44	597	616
V/C Ratio(X)	0.55	0.00	0.10	0.95	0.00	0.19	0.45	0.60	0.60	0.48	0.56	0.56
Avail Cap(c_a), veh/h	256	0	1044	210	0	898	204	1125	1139	204	1125	1161
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	16.2	20.4	0.0	14.2	22.7	12.8	13.0	22.3	12.3	12.3
Incr Delay (d2), s/veh	5.1	0.0	0.1	48.6	0.0	0.2	12.3	1.0	1.0	7.8	0.8	0.8
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 BackOfQ(50%),veh/ln	0.8	0.0	0.4	5.3	0.0	0.8	0.2	3.8	3.9	0.4	3.6	3.7
LnGrp Delay(d),s/veh	26.6	0.0	16.3	68.9	0.0	14.5	35.0	13.9	14.0	30.1	13.1	13.1
LnGrp LOS	C		B	E		B	C	B	B	C	B	B
Approach Vol, veh/h		83			272			711			698	
Approach Delay, s/veh		22.6			54.5			14.3			13.6	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	12.2	4.7	20.1	6.4	15.3	5.2	19.6				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	6.7	25.8	5.5	29.0				
Max Q Clear Time (g_c+I1), s	7.2	2.7	2.3	9.3	3.3	3.7	2.6	9.9				
Green Ext Time (p_c), s	0.0	0.1	0.0	3.8	0.0	0.3	0.0	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay			20.6									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
 6: N McDowell Blvd & Professional Dr

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	5	151	81	9	46	229	450	71	50	480	144
Future Volume (veh/h)	121	5	151	81	9	46	229	450	71	50	480	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1863	1863	1863	1900	1810	1810	1900	1810	1810	1810
Adj Flow Rate, veh/h	159	7	199	100	11	57	246	484	76	61	585	176
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.76	0.76	0.76	0.81	0.81	0.81	0.93	0.93	0.93	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	199	385	326	129	44	227	225	1091	171	96	1001	435
Arrive On Green	0.11	0.21	0.21	0.07	0.17	0.16	0.13	0.37	0.34	0.06	0.29	0.29
Sat Flow, veh/h	1774	1863	1579	1774	262	1360	1723	2980	466	1723	3438	1493
Grp Volume(v), veh/h	159	7	199	100	0	68	246	278	282	61	585	176
Grp Sat Flow(s),veh/h/ln	1774	1863	1579	1774	0	1623	1723	1719	1727	1723	1719	1493
Q Serve(g_s), s	4.7	0.2	6.1	3.0	0.0	2.0	7.0	6.5	6.7	1.9	7.8	5.1
Cycle Q Clear(g_c), s	4.7	0.2	6.1	3.0	0.0	2.0	7.0	6.5	6.7	1.9	7.8	5.1
Prop In Lane	1.00		1.00	1.00		0.84	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	199	385	326	129	0	271	225	629	632	96	1001	435
V/C Ratio(X)	0.80	0.02	0.61	0.78	0.00	0.25	1.09	0.44	0.45	0.64	0.58	0.40
Avail Cap(c_a), veh/h	199	1100	932	265	0	1019	225	848	852	258	1761	765
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	16.9	19.3	24.4	0.0	19.6	23.3	12.8	13.0	24.7	16.2	15.2
Incr Delay (d2), s/veh	20.2	0.0	1.9	9.6	0.0	0.5	86.4	0.5	0.5	6.8	0.5	0.6
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 BackOfQ(50%),veh/ln	3.4	0.1	2.8	1.8	0.0	0.9	8.7	3.2	3.2	1.1	3.7	2.1
LnGrp Delay(d),s/veh	43.3	16.9	21.1	34.0	0.0	20.1	109.6	13.3	13.5	31.5	16.7	15.8
LnGrp LOS	D	B	C	C		C	F	B	B	C	B	B
Approach Vol, veh/h		365			168			806			822	
Approach Delay, s/veh		30.7			28.3			42.8			17.7	
Approach LOS		C			C			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	15.0	11.0	19.6	10.0	12.9	7.0	23.6				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	8.0	31.0	7.0	26.0	6.0	33.0	8.0	25.0				
Max Q Clear Time (g_c+I1), s	5.0	8.1	9.0	9.8	6.7	4.0	3.9	8.7				
Green Ext Time (p_c), s	0.1	0.7	0.0	3.9	0.0	0.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			30.1									
HCM 2010 LOS			C									





















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	33	11	7	2	96	846	35	8	712	100
Future Volume (veh/h)	15	2	33	11	7	2	96	846	35	8	712	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.99	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	1863	1863	1900	1863	1863	1900	1810	1810	1810	1810	1810	1900
Adj Flow Rate, veh/h	25	3	54	15	9	3	102	900	37	9	782	110
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.75	0.75	0.75	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	438	16	281	392	251	84	148	1696	753	21	1265	178
Arrive On Green	0.19	0.19	0.17	0.19	0.19	0.17	0.09	0.49	0.49	0.01	0.42	0.38
Sat Flow, veh/h	1393	83	1495	1326	1337	446	1723	3438	1526	1723	3016	424
Grp Volume(v), veh/h	25	0	57	15	0	12	102	900	37	9	446	446
Grp Sat Flow(s),veh/h/ln	1393	0	1578	1326	0	1783	1723	1719	1526	1723	1719	1721
Q Serve(g_s), s	0.6	0.0	1.2	0.4	0.0	0.2	2.2	7.0	0.5	0.2	7.9	8.0
Cycle Q Clear(g_c), s	0.8	0.0	1.2	1.6	0.0	0.2	2.2	7.0	0.5	0.2	7.9	8.0
Prop In Lane	1.00		0.95	1.00		0.25	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	438	0	296	392	0	335	148	1696	753	21	721	722
V/C Ratio(X)	0.06	0.00	0.19	0.04	0.00	0.04	0.69	0.53	0.05	0.44	0.62	0.62
Avail Cap(c_a), veh/h	1303	0	1276	1216	0	1442	309	2323	1031	220	1073	1075
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	0.0	13.6	14.0	0.0	13.0	17.4	6.8	5.1	19.2	8.9	9.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	0.0	5.7	0.3	0.0	14.0	0.9	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 BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.1	0.0	0.1	1.3	3.3	0.2	0.2	3.9	3.9
LnGrp Delay(d),s/veh	13.4	0.0	13.9	14.1	0.0	13.1	23.0	7.1	5.2	33.2	9.8	9.9
LnGrp LOS	B		B	B		B	C	A	A	C	A	A
Approach Vol, veh/h		82			27			1039			901	
Approach Delay, s/veh		13.8			13.6			8.6			10.1	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	7.3	20.4		11.3	4.5	23.3				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		31.0	7.0	23.0		31.0	5.0	25.0				
Max Q Clear Time (g_c+I1), s		3.2	4.2	10.0		3.6	2.2	9.0				
Green Ext Time (p_c), s		0.4	0.0	4.4		0.1	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									






















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1	132	5	0	1	174	846	14	0	712	50
Future Volume (veh/h)	37	1	132	5	0	1	174	846	14	0	712	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1900	1810	1810	1900	1810	1810	1900
Adj Flow Rate, veh/h	61	2	216	8	0	2	181	881	15	0	848	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.61	0.61	0.61	0.63	0.63	0.63	0.96	0.96	0.96	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	5	5	5	5	5	5
Cap, veh/h	419	3	320	221	0	324	360	2244	38	3	1191	84
Arrive On Green	0.20	0.20	0.19	0.20	0.00	0.19	0.21	0.65	0.62	0.00	0.37	0.34
Sat Flow, veh/h	1409	14	1564	1156	0	1583	1723	3459	59	1723	3254	230
Grp Volume(v), veh/h	61	0	218	8	0	2	181	438	458	0	448	460
Grp Sat Flow(s),veh/h/ln	1409	0	1578	1156	0	1583	1723	1719	1799	1723	1719	1765
Q Serve(g_s), s	2.0	0.0	7.0	0.4	0.0	0.1	5.1	6.5	6.6	0.0	12.2	12.2
Cycle Q Clear(g_c), s	2.0	0.0	7.0	7.3	0.0	0.1	5.1	6.5	6.6	0.0	12.2	12.2
Prop In Lane	1.00		0.99	1.00		1.00	1.00		0.03	1.00		0.13
Lane Grp Cap(c), veh/h	419	0	323	221	0	324	360	1115	1167	3	629	646
V/C Ratio(X)	0.15	0.00	0.68	0.04	0.00	0.01	0.50	0.39	0.39	0.00	0.71	0.71
Avail Cap(c_a), veh/h	792	0	741	527	0	744	677	1115	1167	803	820	842
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	20.3	23.4	0.0	17.5	19.0	4.5	4.5	0.0	14.8	14.9
Incr Delay (d2), s/veh	0.2	0.0	2.5	0.1	0.0	0.0	1.1	0.2	0.2	0.0	2.0	2.0
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 BackOfQ(50%),veh/ln	0.8	0.0	3.3	0.1	0.0	0.0	2.5	3.1	3.3	0.0	6.1	6.2
LnGrp Delay(d),s/veh	18.2	0.0	22.8	23.5	0.0	17.5	20.1	4.7	4.7	0.0	16.8	16.9
LnGrp LOS	B		C	C		B	C	A	A		B	B
Approach Vol, veh/h		279			10			1077			908	
Approach Delay, s/veh		21.8			22.3			7.3			16.8	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.2	15.4	24.0		15.2	0.0	39.4				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		9.0	7.1	14.2		9.3	0.0	8.6				
Green Ext Time (p_c), s		1.4	0.4	4.0		0.0	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	1	209	74	3	18	333	696	23	8	490	214
Future Volume (veh/h)	67	1	209	74	3	18	333	696	23	8	490	214
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		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	1863	1863	1900	1863	1863	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	86	1	268	79	3	19	354	740	24	8	516	225
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	476	2	422	248	59	374	448	1189	39	326	651	283
Arrive On Green	0.27	0.27	0.26	0.27	0.27	0.26	0.26	0.35	0.32	0.19	0.28	0.25
Sat Flow, veh/h	1384	6	1572	1104	220	1396	1740	3431	111	1740	2353	1022
Grp Volume(v), veh/h	86	0	269	79	0	22	354	374	390	8	380	361
Grp Sat Flow(s),veh/h/ln	1384	0	1578	1104	0	1616	1740	1736	1807	1740	1736	1639
Q Serve(g_s), s	3.0	0.0	9.2	4.1	0.0	0.6	11.5	10.9	10.9	0.2	12.3	12.5
Cycle Q Clear(g_c), s	3.6	0.0	9.2	13.3	0.0	0.6	11.5	10.9	10.9	0.2	12.3	12.5
Prop In Lane	1.00		1.00	1.00		0.86	1.00		0.06	1.00		0.62
Lane Grp Cap(c), veh/h	476	0	423	248	0	434	448	602	626	326	480	454
V/C Ratio(X)	0.18	0.00	0.64	0.32	0.00	0.05	0.79	0.62	0.62	0.02	0.79	0.80
Avail Cap(c_a), veh/h	706	0	686	431	0	702	676	863	898	326	514	486
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	19.9	25.5	0.0	16.7	21.0	16.5	16.6	20.1	20.3	20.8
Incr Delay (d2), s/veh	0.2	0.0	1.6	0.7	0.0	0.0	3.7	1.1	1.0	0.0	7.7	8.4
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 BackOfQ(50%),veh/ln	1.2	0.0	4.2	1.3	0.0	0.3	6.0	5.4	5.6	0.1	6.9	6.7
LnGrp Delay(d),s/veh	18.0	0.0	21.5	26.3	0.0	16.7	24.7	17.6	17.6	20.2	28.1	29.3
LnGrp LOS	B		C	C		B	C	B	B	C	C	C
Approach Vol, veh/h		355			101			1118			749	
Approach Delay, s/veh		20.6			24.2			19.9			28.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.3	19.6	20.8		20.3	15.4	25.1				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.8	22.2	16.6		25.8	10.0	28.8				
Max Q Clear Time (g_c+I1), s		11.2	13.5	14.5		15.3	2.2	12.9				
Green Ext Time (p_c), s		1.8	0.7	0.9		0.2	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	859	432	282	115	797	127	452	291	56	60	286	563
Future Volume (veh/h)	859	432	282	115	797	127	452	291	56	60	286	563
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		1.00	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	1863	1863	1900	1863	1863	1863	1827	1827	1900	1827	1827	1827
Adj Flow Rate, veh/h	965	485	317	125	866	138	491	316	61	67	321	633
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	4	4	4	4	4	4
Cap, veh/h	926	881	574	148	869	389	489	949	181	85	800	759
Arrive On Green	0.27	0.43	0.42	0.08	0.25	0.25	0.14	0.33	0.32	0.05	0.23	0.22
Sat Flow, veh/h	3442	2044	1331	1774	3539	1583	3375	2907	554	1740	3471	1544
Grp Volume(v), veh/h	965	420	382	125	866	138	491	187	190	67	321	633
Grp Sat Flow(s),veh/h/ln	1721	1770	1606	1774	1770	1583	1688	1736	1726	1740	1736	1544
Q Serve(g_s), s	39.0	25.7	26.0	10.1	35.4	10.4	21.0	11.8	12.1	5.5	11.4	32.0
Cycle Q Clear(g_c), s	39.0	25.7	26.0	10.1	35.4	10.4	21.0	11.8	12.1	5.5	11.4	32.0
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	926	762	692	148	869	389	489	567	564	85	800	759
V/C Ratio(X)	1.04	0.55	0.55	0.84	1.00	0.35	1.00	0.33	0.34	0.79	0.40	0.83
Avail Cap(c_a), veh/h	926	762	692	220	869	389	489	567	564	144	800	759
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	53.0	30.8	31.2	65.5	54.6	45.2	62.0	36.9	37.1	68.2	47.3	32.0
Incr Delay (d2), s/veh	41.2	0.8	1.0	16.9	29.6	0.5	41.8	0.3	0.4	15.0	0.3	8.0
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 BackOfQ(50%),veh/ln	23.8	12.7	11.7	5.6	20.9	4.6	12.6	5.7	5.8	3.0	5.5	23.5
LnGrp Delay(d),s/veh	94.2	31.6	32.2	82.4	84.3	45.8	103.8	37.2	37.5	83.3	47.6	40.0
LnGrp LOS	F	C	C	F	F	D	F	D	D	F	D	D
Approach Vol, veh/h		1767			1129			868			1021	
Approach Delay, s/veh		65.9			79.4			74.9			45.2	
Approach LOS		E			E			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.1	66.5	25.0	37.4	43.0	39.6	11.1	51.3				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	18.0	55.5	21.0	32.0	39.0	34.5	12.0	41.0				
Max Q Clear Time (g_c+I1), s	12.1	28.0	23.0	34.0	41.0	37.4	7.5	14.1				
Green Ext Time (p_c), s	0.1	5.6	0.0	0.0	0.0	0.0	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				66.3								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd

10/03/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↑	↑↑		
Traffic Volume (veh/h)	1206	604	0	959	223	616		
Future Volume (veh/h)	1206	604	0	959	223	616		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1370	0	0	1031	262	725		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.88	0.88	0.93	0.93	0.85	0.85		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	1844	825	0	1844	1048	848		
Arrive On Green	0.52	0.00	0.00	0.52	0.30	0.30		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1370	0	0	1031	262	725		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	13.9	0.0	0.0	9.0	2.6	11.2		
Cycle Q Clear(g_c), s	13.9	0.0	0.0	9.0	2.6	11.2		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1844	825	0	1844	1048	848		
V/C Ratio(X)	0.74	0.00	0.00	0.56	0.25	0.85		
Avail Cap(c_a), veh/h	2161	967	0	2161	1051	851		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.6	0.0	0.0	7.4	12.0	15.0		
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.3	0.1	8.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.0	0.0	0.0	4.4	1.3	5.2		
LnGrp Delay(d),s/veh	9.8	0.0	0.0	7.7	12.1	23.5		
LnGrp LOS	A			A	B	C		
Approach Vol, veh/h	1370			1031	987			
Approach Delay, s/veh	9.8			7.7	20.5			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		27.9				27.9		18.0
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		26.9				26.9		13.3
Max Q Clear Time (g_c+I1), s		15.9				11.0		13.2
Green Ext Time (p_c), s		6.9				6.5		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

10/03/2021




























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	1117	149	296	1137	0	0	0	0	306	0	1029
Future Volume (vph)	0	1117	149	296	1137	0	0	0	0	306	0	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95						0.95	0.95
Frbp, ped/bikes		1.00	0.98	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						0.94	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.97	1.00
Satd. Flow (prot)		3539	1555	3433	3539						1613	1504
Flt Permitted		1.00	1.00	0.95	1.00						0.97	1.00
Satd. Flow (perm)		3539	1555	3433	3539						1613	1504
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1299	173	340	1307	0	0	0	0	333	0	1118
RTOR Reduction (vph)	0	0	110	0	0	0	0	0	0	0	49	49
Lane Group Flow (vph)	0	1299	63	340	1307	0	0	0	0	0	519	834
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2			1						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		27.9	27.9	6.0	37.9						32.3	32.3
Effective Green, g (s)		29.0	29.0	6.0	39.0						33.0	33.0
Actuated g/C Ratio		0.36	0.36	0.08	0.49						0.41	0.41
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1282	563	257	1725						665	620
v/s Ratio Prot		c0.37		c0.10	0.37						0.32	
v/s Ratio Perm			0.04									c0.55
v/c Ratio		1.01	0.11	1.32	0.76						0.78	1.35
Uniform Delay, d1		25.5	16.9	37.0	16.7						20.4	23.5
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		28.5	0.1	169.9	2.0						5.9	166.1
Delay (s)		54.0	17.0	206.9	18.6						26.3	189.6
Level of Service		D	B	F	B						C	F
Approach Delay (s)		49.6			57.5			0.0			125.7	
Approach LOS		D			E			A			F	
Intersection Summary												
HCM 2000 Control Delay			76.6			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.20									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			86.7%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

1: N McDowell Blvd & Old Redwood Hwy N

10/03/2021
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	662	578	671	6	576	6	893	72	6	0	102	568
Future Volume (vph)	662	578	671	6	576	6	893	72	6	0	102	568
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1	4.0	4.0	5.1		4.0	5.4	5.4		4.7	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	1.00
Satd. Flow (prot)	1770	3539	1552	1770	3533		1681	1697	1558		1863	1576
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.44	1.00		1.00	1.00
Satd. Flow (perm)	1770	3539	1552	1770	3533		1681	771	1558		1863	1576
Peak-hour factor, PHF	0.93	0.93	0.93	0.86	0.86	0.86	0.96	0.96	0.96	0.83	0.83	0.83
Adj. Flow (vph)	712	622	722	7	670	7	930	75	6	0	123	684
RTOR Reduction (vph)	0	0	139	0	1	0	0	0	4	0	0	41
Lane Group Flow (vph)	712	622	583	7	676	0	502	503	2	0	123	643
Confl. Peds. (#/hr)			3			1			2			2
Confl. Bikes (#/hr)			1						2			
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Actuated Green, G (s)	43.0	74.5	106.5	1.0	32.5		32.0	56.0	56.0		20.7	63.7
Effective Green, g (s)	43.0	74.5	106.5	1.0	32.5		32.0	56.0	56.0		20.7	63.7
Actuated g/C Ratio	0.29	0.51	0.73	0.01	0.22		0.22	0.38	0.38		0.14	0.44
Clearance Time (s)	4.0	5.1	4.0	4.0	5.1		4.0	5.4	5.4		4.7	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	521	1805	1132	12	786		368	498	597		264	687
v/s Ratio Prot	c0.40	0.18	0.11	0.00	c0.19		c0.30	0.22			0.07	0.28
v/s Ratio Perm			0.26					c0.17	0.00			0.13
v/c Ratio	1.37	0.34	0.52	0.58	0.86		1.36	1.01	0.00		0.47	0.94
Uniform Delay, d1	51.5	21.2	8.6	72.3	54.6		57.0	45.0	27.8		57.6	39.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	177.0	0.1	0.4	56.2	9.5		180.5	42.9	0.0		1.3	20.0
Delay (s)	228.5	21.4	9.0	128.5	64.1		237.5	87.9	27.8		58.9	59.2
Level of Service	F	C	A	F	E		F	F	C		E	E
Approach Delay (s)		88.7			64.7			161.8			59.2	
Approach LOS		F			E			F			E	
Intersection Summary												
HCM 2000 Control Delay			96.1			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.20									
Actuated Cycle Length (s)			146.0			Sum of lost time (s)		18.5				
Intersection Capacity Utilization			98.3%			ICU Level of Service		F				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N McDowell Blvd & Redwood Way

























10/03/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	321	77	164	250	68	0	136	650	284	0	530	250
Future Volume (vph)	321	77	164	250	68	0	136	650	284	0	530	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.7		4.0	4.7		4.0	5.4			5.4	4.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95			0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.90		1.00	1.00		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770	1673		1770	1863		1770	3350			3539	1547
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	1770	1673		1770	1863		1770	3350			3539	1547
Peak-hour factor, PHF	0.82	0.82	0.82	0.80	0.80	0.80	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	391	94	200	312	85	0	143	684	299	0	570	269
RTOR Reduction (vph)	0	91	0	0	0	0	0	42	0	0	0	211
Lane Group Flow (vph)	391	203	0	313	85	0	143	941	0	0	570	58
Confl. Peds. (#/hr)							3			3		1
Confl. Bikes (#/hr)										2		1
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	custom
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												6
Actuated Green, G (s)	17.3	16.1		18.0	16.8		8.2	29.3			17.1	16.8
Effective Green, g (s)	17.3	16.1		18.0	16.8		8.2	29.3			17.1	16.8
Actuated g/C Ratio	0.22	0.21		0.23	0.22		0.11	0.38			0.22	0.22
Clearance Time (s)	4.0	4.7		4.0	4.7		4.0	5.4			5.4	4.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	395	347		411	403		187	1266			780	335
v/s Ratio Prot	c0.22	c0.12		0.18	0.05		0.08	c0.28			0.16	
v/s Ratio Perm												0.04
v/c Ratio	0.99	0.58		0.76	0.21		0.76	0.74			0.73	0.17
Uniform Delay, d1	30.0	27.7		27.7	24.9		33.7	20.8			28.1	24.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	42.1	2.5		8.1	0.3		16.8	2.4			3.5	0.2
Delay (s)	72.1	30.2		35.9	25.2		50.6	23.2			31.6	25.0
Level of Service	E	C		D	C		D	C			C	C
Approach Delay (s)		54.1			33.6			26.7			29.5	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			34.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			77.5				Sum of lost time (s)			18.1		
Intersection Capacity Utilization			74.4%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group






















HCM 2010 Signalized Intersection Summary
 3: N McDowell Blvd & Corona Rd

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	282	272	24	238	293	223	773	50	250	594	164
Future Volume (veh/h)	145	282	272	24	238	293	223	773	50	250	594	164
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	303	292	24	243	299	235	814	53	272	646	178
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	553	470	46	437	371	273	962	63	290	806	222
Arrive On Green	0.09	0.30	0.30	0.03	0.23	0.23	0.15	0.29	0.29	0.16	0.30	0.30
Sat Flow, veh/h	1774	1863	1582	1774	1863	1580	1774	3368	219	1774	2729	751
Grp Volume(v), veh/h	156	303	292	24	243	299	235	428	439	272	419	405
Grp Sat Flow(s),veh/h/ln	1774	1863	1582	1774	1863	1580	1774	1770	1817	1774	1770	1711
Q Serve(g_s), s	7.0	10.8	12.6	1.1	9.1	14.2	10.3	18.1	18.1	12.0	17.3	17.4
Cycle Q Clear(g_c), s	7.0	10.8	12.6	1.1	9.1	14.2	10.3	18.1	18.1	12.0	17.3	17.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.44
Lane Grp Cap(c), veh/h	156	553	470	46	437	371	273	505	519	290	522	505
V/C Ratio(X)	1.00	0.55	0.62	0.52	0.56	0.81	0.86	0.85	0.85	0.94	0.80	0.80
Avail Cap(c_a), veh/h	156	772	655	112	725	615	290	579	595	290	579	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	36.2	23.4	24.1	38.2	26.7	28.7	32.7	26.7	26.7	32.8	25.8	25.9
Incr Delay (d2), s/veh	71.2	0.8	1.4	8.9	1.1	4.2	21.1	10.1	9.9	36.3	7.3	7.6
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 BackOfQ(50%),veh/ln	6.5	5.7	5.7	0.6	4.8	6.6	6.6	10.2	10.5	8.8	9.5	9.3
LnGrp Delay(d),s/veh	107.4	24.3	25.4	47.1	27.9	32.9	53.9	36.8	36.6	69.1	33.1	33.4
LnGrp LOS	F	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		751			566			1102			1096	
Approach Delay, s/veh		42.0			31.3			40.4			42.2	
Approach LOS		D			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	28.3	16.2	28.8	11.0	23.3	17.0	28.1				
Change Period (Y+Rc), s	4.0	* 4.7	4.0	5.4	4.0	* 4.7	4.0	5.4				
Max Green Setting (Gmax), s	5.0	* 33	13.0	26.0	7.0	* 31	13.0	26.0				
Max Q Clear Time (g_c+I1), s	3.1	14.6	12.3	19.4	9.0	16.2	14.0	20.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	2.7	0.0	2.2	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			39.8									
HCM 2010 LOS			D									
Notes												





















HCM 2010 Signalized Intersection Summary
4: N McDowell Blvd & Southpoint Blvd

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	12	81	49	7	52	24	898	40	65	790	35
Future Volume (veh/h)	104	12	81	49	7	52	24	898	40	65	790	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	0.99		1.00	1.00		0.97	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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	125	14	98	58	8	62	25	935	42	68	832	37
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.84	0.84	0.84	0.96	0.96	0.96	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	41	290	361	39	299	53	1350	61	116	1473	66
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.39	0.39	0.07	0.43	0.43
Sat Flow, veh/h	1325	198	1385	1268	184	1427	1774	3445	155	1774	3452	153
Grp Volume(v), veh/h	125	0	112	58	0	70	25	480	497	68	427	442
Grp Sat Flow(s),veh/h/ln	1325	0	1583	1268	0	1611	1774	1770	1830	1774	1770	1835
Q Serve(g_s), s	3.6	0.0	2.5	1.7	0.0	1.5	0.6	9.5	9.5	1.6	7.6	7.6
Cycle Q Clear(g_c), s	5.1	0.0	2.5	4.2	0.0	1.5	0.6	9.5	9.5	1.6	7.6	7.6
Prop In Lane	1.00		0.88	1.00		0.89	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	401	0	331	361	0	337	53	693	717	116	755	784
V/C Ratio(X)	0.31	0.00	0.34	0.16	0.00	0.21	0.47	0.69	0.69	0.59	0.56	0.56
Avail Cap(c_a), veh/h	1134	0	1207	1062	0	1228	211	1012	1047	211	1012	1050
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	14.1	15.9	0.0	13.7	20.0	10.7	10.7	19.1	9.1	9.1
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.2	0.0	0.3	6.2	1.3	1.2	4.7	0.7	0.6
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 BackOfQ(50%),veh/ln	1.4	0.0	1.1	0.6	0.0	0.7	0.4	4.8	4.9	0.9	3.8	3.9
LnGrp Delay(d),s/veh	16.3	0.0	14.7	16.1	0.0	14.0	26.3	11.9	11.9	23.7	9.7	9.7
LnGrp LOS	B		B	B		B	C	B	B	C	A	A
Approach Vol, veh/h		237			128			1002			937	
Approach Delay, s/veh		15.5			15.0			12.2			10.8	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.4	5.3	23.3		13.4	6.7	21.8				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		32.0	5.0	24.0		32.0	5.0	24.0				
Max Q Clear Time (g_c+I1), s		7.1	2.6	9.6		6.2	3.6	11.5				
Green Ext Time (p_c), s		1.1	0.0	4.5		0.6	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			12.1									
HCM 2010 LOS			B									























HCM 2010 Signalized Intersection Summary
5: N McDowell Blvd & Rainier Ave

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	43	4	112	30	98	7	825	130	120	771	42
Future Volume (veh/h)	84	43	4	112	30	98	7	825	130	120	771	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
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	1.00		0.99	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	101	52	5	120	32	105	8	887	140	130	838	46
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	245	24	153	61	200	18	1142	180	164	1551	85
Arrive On Green	0.07	0.15	0.15	0.09	0.16	0.16	0.01	0.37	0.37	0.09	0.46	0.46
Sat Flow, veh/h	1774	1672	161	1774	381	1251	1774	3057	483	1774	3407	187
Grp Volume(v), veh/h	101	0	57	120	0	137	8	513	514	130	435	449
Grp Sat Flow(s),veh/h/ln	1774	0	1832	1774	0	1633	1774	1770	1770	1774	1770	1825
Q Serve(g_s), s	3.3	0.0	1.6	4.0	0.0	4.6	0.3	15.3	15.3	4.3	10.6	10.6
Cycle Q Clear(g_c), s	3.3	0.0	1.6	4.0	0.0	4.6	0.3	15.3	15.3	4.3	10.6	10.6
Prop In Lane	1.00		0.09	1.00		0.77	1.00		0.27	1.00		0.10
Lane Grp Cap(c), veh/h	129	0	268	153	0	261	18	661	661	164	806	831
V/C Ratio(X)	0.78	0.00	0.21	0.79	0.00	0.53	0.43	0.78	0.78	0.79	0.54	0.54
Avail Cap(c_a), veh/h	175	0	829	164	0	728	164	860	861	164	860	887
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	22.4	26.7	0.0	23.0	29.3	16.5	16.5	26.5	11.7	11.7
Incr Delay (d2), s/veh	14.5	0.0	0.4	20.6	0.0	1.6	15.2	3.4	3.4	23.1	0.6	0.6
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 BackOfQ(50%),veh/ln	2.1	0.0	0.9	2.8	0.0	2.2	0.2	8.0	8.0	3.1	5.2	5.4
LnGrp Delay(d),s/veh	41.7	0.0	22.8	47.4	0.0	24.6	44.5	19.9	19.9	49.6	12.3	12.3
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		158			257			1035			1014	
Approach Delay, s/veh		34.9			35.2			20.0			17.1	
Approach LOS		C			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	13.3	4.6	32.6	8.3	14.1	9.5	27.7				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	5.5	27.0	5.5	29.0	5.9	26.6	5.5	29.0				
Max Q Clear Time (g_c+I1), s	6.0	3.6	2.3	12.6	5.3	6.6	6.3	17.3				
Green Ext Time (p_c), s	0.0	0.2	0.0	4.8	0.0	0.7	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
6: N McDowell Blvd & Professional Dr

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	19	169	75	20	31	189	884	75	27	775	31
Future Volume (veh/h)	46	19	169	75	20	31	189	884	75	27	775	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.98	1.00		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	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	52	22	192	85	23	35	199	931	79	29	824	33
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	315	267	114	123	187	245	1397	119	57	1125	491
Arrive On Green	0.05	0.17	0.17	0.06	0.18	0.18	0.14	0.42	0.42	0.03	0.32	0.32
Sat Flow, veh/h	1774	1863	1581	1774	665	1012	1774	3296	280	1774	3539	1546
Grp Volume(v), veh/h	52	22	192	85	0	58	199	500	510	29	824	33
Grp Sat Flow(s),veh/h/ln	1774	1863	1581	1774	0	1678	1774	1770	1806	1774	1770	1546
Q Serve(g_s), s	1.7	0.6	6.7	2.7	0.0	1.7	6.3	13.1	13.1	0.9	12.0	0.9
Cycle Q Clear(g_c), s	1.7	0.6	6.7	2.7	0.0	1.7	6.3	13.1	13.1	0.9	12.0	0.9
Prop In Lane	1.00		1.00	1.00		0.60	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	87	315	267	114	0	310	245	750	766	57	1125	491
V/C Ratio(X)	0.60	0.07	0.72	0.75	0.00	0.19	0.81	0.67	0.67	0.51	0.73	0.07
Avail Cap(c_a), veh/h	153	964	818	214	0	926	275	916	935	153	1587	693
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	20.2	22.8	26.7	0.0	20.0	24.2	13.4	13.4	27.6	17.6	13.8
Incr Delay (d2), s/veh	6.5	0.1	3.6	9.2	0.0	0.3	15.2	1.4	1.3	6.8	1.1	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 BackOfQ(50%),veh/ln	1.0	0.3	3.2	1.6	0.0	0.8	4.1	6.7	6.8	0.6	6.0	0.4
LnGrp Delay(d),s/veh	33.5	20.3	26.4	35.9	0.0	20.3	39.4	14.8	14.7	34.4	18.6	13.8
LnGrp LOS	C	C	C	D		C	D	B	B	C	B	B
Approach Vol, veh/h		266			143			1209			886	
Approach Delay, s/veh		27.3			29.5			18.8			19.0	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	14.4	12.0	23.8	6.8	15.3	5.9	30.0				
Change Period (Y+Rc), s	4.0	4.6	4.0	5.4	4.0	4.6	4.0	5.4				
Max Green Setting (Gmax), s	7.0	30.0	9.0	26.0	5.0	32.0	5.0	30.0				
Max Q Clear Time (g_c+I1), s	4.7	8.7	8.3	14.0	3.7	3.7	2.9	15.1				
Green Ext Time (p_c), s	0.0	0.7	0.0	4.3	0.0	0.3	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			20.4									
HCM 2010 LOS			C									





















HCM 2010 Signalized Intersection Summary
 7: N McDowell Blvd & Lynch Creek Wy/lynch Creek Wy

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	5	84	31	1	15	42	1078	12	8	1013	26
Future Volume (veh/h)	57	5	84	31	1	15	42	1078	12	8	1013	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.98	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	59	5	88	40	1	19	45	1159	13	9	1089	28
Adj No. of Lanes	1	1	0	1	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.77	0.77	0.77	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	16	276	343	15	277	86	1673	731	21	1536	39
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	0.47	0.47	0.01	0.44	0.44
Sat Flow, veh/h	1383	86	1506	1295	80	1512	1774	3539	1547	1774	3523	91
Grp Volume(v), veh/h	59	0	93	40	0	20	45	1159	13	9	547	570
Grp Sat Flow(s),veh/h/ln	1383	0	1591	1295	0	1591	1774	1770	1547	1774	1770	1844
Q Serve(g_s), s	1.6	0.0	2.1	1.2	0.0	0.4	1.0	10.8	0.2	0.2	10.6	10.6
Cycle Q Clear(g_c), s	2.0	0.0	2.1	3.3	0.0	0.4	1.0	10.8	0.2	0.2	10.6	10.6
Prop In Lane	1.00		0.95	1.00		0.95	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	410	0	292	343	0	292	86	1673	731	21	772	804
V/C Ratio(X)	0.14	0.00	0.32	0.12	0.00	0.07	0.52	0.69	0.02	0.43	0.71	0.71
Avail Cap(c_a), veh/h	1153	0	1147	1038	0	1147	210	2148	939	210	1074	1119
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	14.9	16.4	0.0	14.2	19.6	8.7	5.9	20.7	9.7	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.2	0.0	0.1	4.8	0.7	0.0	13.1	1.3	1.2
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 BackOfQ(50%),veh/ln	0.6	0.0	1.0	0.4	0.0	0.2	0.6	5.3	0.1	0.2	5.3	5.7
LnGrp Delay(d),s/veh	15.2	0.0	15.6	16.5	0.0	14.3	24.4	9.4	5.9	33.8	11.0	11.0
LnGrp LOS	B		B	B		B	C	A	A	C	B	B
Approach Vol, veh/h		152			60			1217			1126	
Approach Delay, s/veh		15.4			15.8			9.9			11.2	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.3	6.0	23.8		12.3	4.5	25.3				
Change Period (Y+Rc), s		4.6	4.0	5.4		4.6	4.0	5.4				
Max Green Setting (Gmax), s		30.4	5.0	25.6		30.4	5.0	25.6				
Max Q Clear Time (g_c+I1), s		4.1	3.0	12.6		5.3	2.2	12.8				
Green Ext Time (p_c), s		0.7	0.0	5.6		0.2	0.0	6.3				
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									





















HCM 2010 Signalized Intersection Summary
 8: N McDowell Blvd & Community Center Wy

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	4	57	19	0	1	69	999	18	2	1000	107
Future Volume (veh/h)	140	4	57	19	0	1	69	999	18	2	1000	107
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		0.97	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	4	62	36	0	2	76	1098	20	2	1099	118
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.53	0.53	0.53	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	15	229	281	0	243	312	1423	26	312	1288	138
Arrive On Green	0.15	0.15	0.15	0.15	0.00	0.15	0.18	0.40	0.40	0.18	0.40	0.40
Sat Flow, veh/h	1409	96	1493	1324	0	1583	1774	3554	65	1774	3217	345
Grp Volume(v), veh/h	152	0	66	36	0	2	76	547	571	2	604	613
Grp Sat Flow(s),veh/h/ln	1409	0	1589	1324	0	1583	1774	1770	1849	1774	1770	1792
Q Serve(g_s), s	5.8	0.0	2.1	1.4	0.0	0.1	2.1	15.2	15.3	0.1	17.7	17.7
Cycle Q Clear(g_c), s	5.9	0.0	2.1	3.5	0.0	0.1	2.1	15.2	15.3	0.1	17.7	17.7
Prop In Lane	1.00		0.94	1.00		1.00	1.00		0.04	1.00		0.19
Lane Grp Cap(c), veh/h	341	0	243	281	0	243	312	708	740	312	708	717
V/C Ratio(X)	0.45	0.00	0.27	0.13	0.00	0.01	0.24	0.77	0.77	0.01	0.85	0.85
Avail Cap(c_a), veh/h	744	0	698	660	0	696	624	708	740	748	765	775
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	21.3	22.8	0.0	20.4	20.2	14.8	14.8	19.3	15.5	15.5
Incr Delay (d2), s/veh	0.9	0.0	0.6	0.2	0.0	0.0	0.4	5.2	5.0	0.0	8.7	8.7
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 BackOfQ(50%),veh/ln	2.4	0.0	1.0	0.5	0.0	0.0	1.0	8.5	8.8	0.0	10.3	10.4
LnGrp Delay(d),s/veh	23.8	0.0	21.9	23.0	0.0	20.4	20.6	20.0	19.8	19.4	24.2	24.3
LnGrp LOS	C		C	C		C	C	C	B	B	C	C
Approach Vol, veh/h		218			38			1194			1219	
Approach Delay, s/veh		23.2			22.9			20.0			24.2	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.3	15.4	28.2		13.3	15.4	28.2				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		25.0	20.0	24.6		25.0	24.0	20.6				
Max Q Clear Time (g_c+I1), s		7.9	4.1	19.7		5.5	2.1	17.3				
Green Ext Time (p_c), s		0.7	0.1	3.0		0.1	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			22.2									
HCM 2010 LOS			C									























HCM 2010 Signalized Intersection Summary
 9: N McDowell Blvd & Madison St

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	56	152	46	31	30	125	854	29	55	973	90
Future Volume (veh/h)	158	56	152	46	31	30	125	854	29	55	973	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		1.00	1.00		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	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	165	58	158	49	33	32	152	1041	35	62	1093	101
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	92	251	216	182	177	277	1374	46	277	1287	119
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.16	0.39	0.39	0.16	0.39	0.39
Sat Flow, veh/h	1331	441	1200	1156	870	844	1774	3491	117	1774	3268	302
Grp Volume(v), veh/h	165	0	216	49	0	65	152	528	548	62	591	603
Grp Sat Flow(s),veh/h/ln	1331	0	1641	1156	0	1714	1774	1770	1838	1774	1770	1800
Q Serve(g_s), s	7.4	0.0	7.7	2.6	0.0	2.0	5.1	16.5	16.5	2.0	19.5	19.5
Cycle Q Clear(g_c), s	9.4	0.0	7.7	10.2	0.0	2.0	5.1	16.5	16.5	2.0	19.5	19.5
Prop In Lane	1.00		0.73	1.00		0.49	1.00		0.06	1.00		0.17
Lane Grp Cap(c), veh/h	350	0	344	216	0	359	277	697	724	277	697	709
V/C Ratio(X)	0.47	0.00	0.63	0.23	0.00	0.18	0.55	0.76	0.76	0.22	0.85	0.85
Avail Cap(c_a), veh/h	612	0	666	444	0	696	610	1067	1109	277	735	748
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	23.0	27.7	0.0	20.8	24.9	16.8	16.8	23.6	17.7	17.7
Incr Delay (d2), s/veh	1.0	0.0	1.9	0.5	0.0	0.2	1.7	1.7	1.7	0.4	8.9	8.9
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 BackOfQ(50%),veh/ln	2.8	0.0	3.7	0.8	0.0	1.0	2.6	8.4	8.7	1.0	11.1	11.3
LnGrp Delay(d),s/veh	25.7	0.0	24.9	28.2	0.0	21.0	26.6	18.5	18.4	24.0	26.6	26.6
LnGrp LOS	C		C	C		C	C	B	B	C	C	C
Approach Vol, veh/h		381			114			1228			1256	
Approach Delay, s/veh		25.2			24.1			19.5			26.4	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.0	15.4	30.6		18.0	15.4	30.6				
Change Period (Y+Rc), s		4.6	5.4	5.4		4.6	5.4	5.4				
Max Green Setting (Gmax), s		26.0	22.0	26.6		26.0	10.0	38.6				
Max Q Clear Time (g_c+I1), s		11.4	7.1	21.5		12.2	4.0	18.5				
Green Ext Time (p_c), s		1.7	0.3	3.1		0.4	0.0	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									







HCM 2010 Signalized Intersection Summary
 10: N McDowell Blvd & Washington Blvd

10/04/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	602	887	330	24	751	147	375	531	80	170	472	672
Future Volume (veh/h)	602	887	330	24	751	147	375	531	80	170	472	672
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.97	1.00		0.98	1.00		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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	647	954	355	26	808	158	412	584	88	181	502	715
Adj No. of Lanes	2	2	0	1	2	1	2	2	0	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.91	0.91	0.91	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	588	1041	384	44	948	412	371	912	137	175	1018	717
Arrive On Green	0.17	0.41	0.41	0.02	0.27	0.27	0.11	0.30	0.30	0.10	0.29	0.29
Sat Flow, veh/h	3442	2518	929	1774	3539	1539	3442	3077	462	1774	3539	1553
Grp Volume(v), veh/h	647	668	641	26	808	158	412	335	337	181	502	715
Grp Sat Flow(s),veh/h/ln	1721	1770	1677	1774	1770	1539	1721	1770	1770	1774	1770	1553
Q Serve(g_s), s	19.0	39.6	40.4	1.6	24.1	9.3	12.0	18.3	18.4	11.0	13.1	32.0
Cycle Q Clear(g_c), s	19.0	39.6	40.4	1.6	24.1	9.3	12.0	18.3	18.4	11.0	13.1	32.0
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	588	732	694	44	948	412	371	525	525	175	1018	717
V/C Ratio(X)	1.10	0.91	0.92	0.59	0.85	0.38	1.11	0.64	0.64	1.03	0.49	1.00
Avail Cap(c_a), veh/h	588	755	716	80	1065	463	371	525	525	175	1018	717
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	46.1	30.7	31.0	53.7	38.7	33.3	49.6	34.0	34.0	50.1	32.9	30.2
Incr Delay (d2), s/veh	67.9	15.2	17.4	12.0	6.2	0.6	80.0	2.6	2.7	76.7	0.4	33.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	22.4	22.1	0.9	12.6	4.0	9.8	9.3	9.4	9.1	6.5	28.3
LnGrp Delay(d),s/veh	114.1	46.0	48.4	65.7	44.9	33.8	129.6	36.6	36.7	127.1	33.3	63.2
LnGrp LOS	F	D	D	E	D	C	F	D	D	F	C	E
Approach Vol, veh/h		1956			992			1084			1398	
Approach Delay, s/veh		69.3			43.7			72.0			60.7	
Approach LOS		E			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	51.1	16.0	37.4	23.0	34.9	15.0	38.4				
Change Period (Y+Rc), s	4.0	5.1	4.0	5.4	4.0	5.1	4.0	5.4				
Max Green Setting (Gmax), s	5.0	47.5	12.0	32.0	19.0	33.5	11.0	33.0				
Max Q Clear Time (g_c+I1), s	3.6	42.4	14.0	34.0	21.0	26.1	13.0	20.4				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	3.4	0.0	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				62.9								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary
 11: US 101 NB Ramps & Washington Blvd

10/04/2021

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑		↑↑	↑↓	↑↑		
Traffic Volume (veh/h)	1557	436	0	1798	51	255		
Future Volume (veh/h)	1557	436	0	1798	51	255		
Number	2	12	1	6	3	18		
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	1863	1863	0	1863	1863	1863		
Adj Flow Rate, veh/h	1656	0	0	1873	75	375		
Adj No. of Lanes	2	1	0	2	2	2		
Peak Hour Factor	0.94	0.94	0.96	0.96	0.68	0.68		
Percent Heavy Veh, %	2	2	0	2	2	2		
Cap, veh/h	2285	1022	0	2285	616	499		
Arrive On Green	0.65	0.00	0.00	0.65	0.18	0.18		
Sat Flow, veh/h	3632	1583	0	3725	3442	2787		
Grp Volume(v), veh/h	1656	0	0	1873	75	375		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1770	1721	1393		
Q Serve(g_s), s	17.4	0.0	0.0	22.2	1.0	7.1		
Cycle Q Clear(g_c), s	17.4	0.0	0.0	22.2	1.0	7.1		
Prop In Lane		1.00	0.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2285	1022	0	2285	616	499		
V/C Ratio(X)	0.72	0.00	0.00	0.82	0.12	0.75		
Avail Cap(c_a), veh/h	2529	1132	0	2529	635	514		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	6.6	0.0	0.0	7.5	19.2	21.7		
Incr Delay (d2), s/veh	0.9	0.0	0.0	2.1	0.1	6.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.0	11.1	0.5	3.1		
LnGrp Delay(d),s/veh	7.5	0.0	0.0	9.5	19.3	27.7		
LnGrp LOS	A			A	B	C		
Approach Vol, veh/h	1656			1873	450			
Approach Delay, s/veh	7.5			9.5	26.3			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		41.1				41.1		14.7
Change Period (Y+Rc), s		5.1				5.1		4.7
Max Green Setting (Gmax), s		39.9				39.9		10.3
Max Q Clear Time (g_c+I1), s		19.4				24.2		9.1
Green Ext Time (p_c), s		12.8				11.8		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			10.6					
HCM 2010 LOS			B					

HCM Signalized Intersection Capacity Analysis

12: Washington Blvd & US 101 SB Ramps

10/03/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑						↑	↑
Traffic Volume (vph)	0	1635	521	422	1082	0	0	0	0	298	0	816
Future Volume (vph)	0	1635	521	422	1082	0	0	0	0	298	0	816
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Lane Util. Factor		0.95	1.00	0.97	0.95						1.00	1.00
Frbp, ped/bikes		1.00	0.97	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3539	1536	3433	3539						1770	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		3539	1536	3433	3539						1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.93	0.93	0.93	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	0	1721	548	454	1163	0	0	0	0	310	0	850
RTOR Reduction (vph)	0	0	160	0	0	0	0	0	0	0	0	39
Lane Group Flow (vph)	0	1721	388	454	1163	0	0	0	0	0	310	811
Confl. Peds. (#/hr)			6									
Confl. Bikes (#/hr)			9			2						
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		61.9	61.9	16.0	81.9						58.3	58.3
Effective Green, g (s)		61.9	61.9	16.0	81.9						58.3	58.3
Actuated g/C Ratio		0.41	0.41	0.11	0.55						0.39	0.39
Clearance Time (s)		5.1	5.1	4.0	5.1						4.7	4.7
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1460	633	366	1932						687	615
v/s Ratio Prot		c0.49		c0.13	0.33						0.18	
v/s Ratio Perm			0.25									c0.51
v/c Ratio		1.18	0.61	1.24	0.60						0.45	1.32
Uniform Delay, d1		44.0	34.6	67.0	23.0						34.0	45.9
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		87.9	1.8	129.4	0.5						0.5	155.0
Delay (s)		131.9	36.4	196.4	23.6						34.5	200.8
Level of Service		F	D	F	C						C	F
Approach Delay (s)		108.9			72.1			0.0			156.4	
Approach LOS		F			E			A			F	
Intersection Summary												
HCM 2000 Control Delay			108.0			HCM 2000 Level of Service					F	
HCM 2000 Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				13.8		
Intersection Capacity Utilization			88.6%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group