

OK15-0069\_1\_ProjSite

**LEGEND**



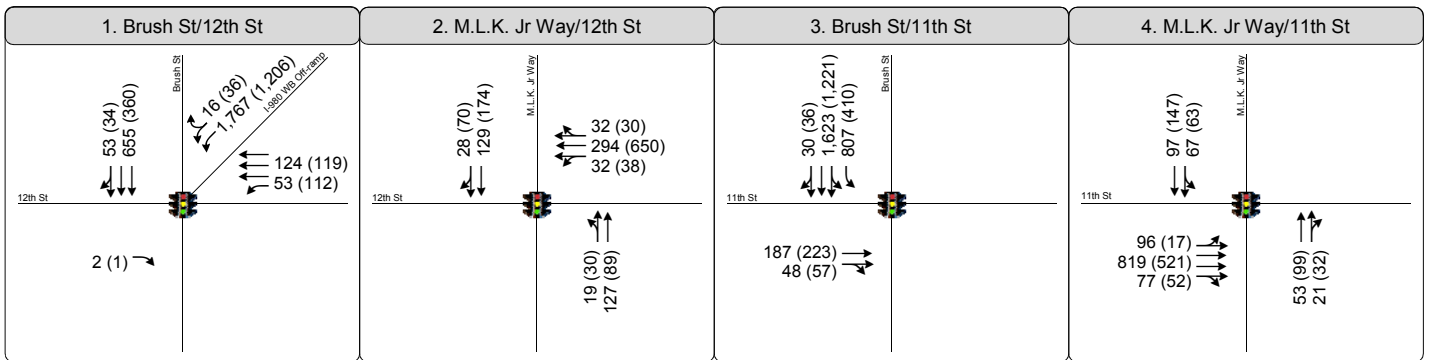
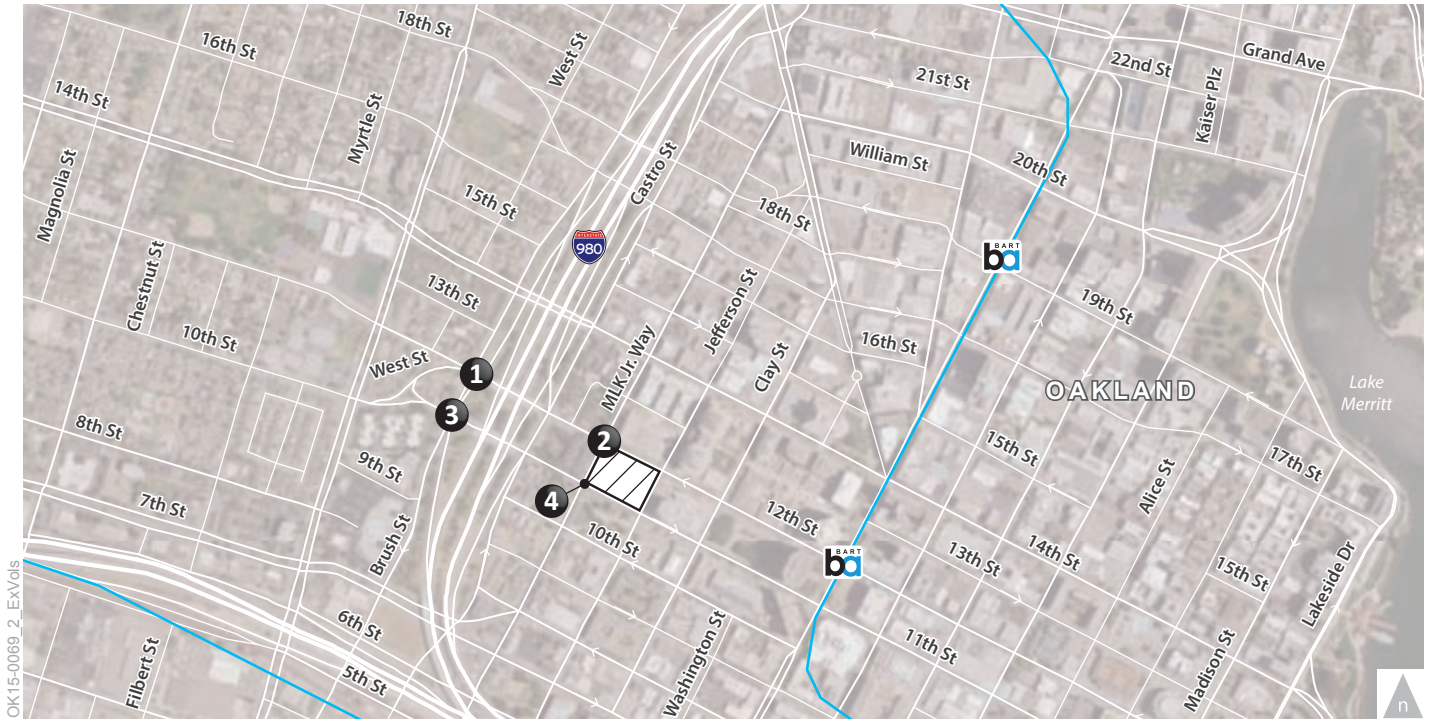
Project Site



Figure 1

**Project Site Location**





**LEGEND**

XX (YY) AM (PM) Peak Hour Traffic Volumes      Signalized Intersection

Project Site      Study Intersection



Figure 2  
Existing  
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control









OK15-0069\_4A\_4B\_AM\_PM

**LEGEND**



Project Site

**Project Trip Assignment**

Greater than 50

25 to 50

10 to 25



Intersection Operating at LOS E or Better under Current or Future Conditions



Intersection Operating at LOS F under Current and/or Future Conditions



Figure 4A

AM Peak Hour Project Trip Assignment





OK15-0069\_4A\_4B\_AM\_PM

**LEGEND**



Project Site

**Project Trip Assignment**

- Greater than 50
- 25 to 50
- 10 to 25



Intersection Operating at LOS E or Better under Current or Future Conditions



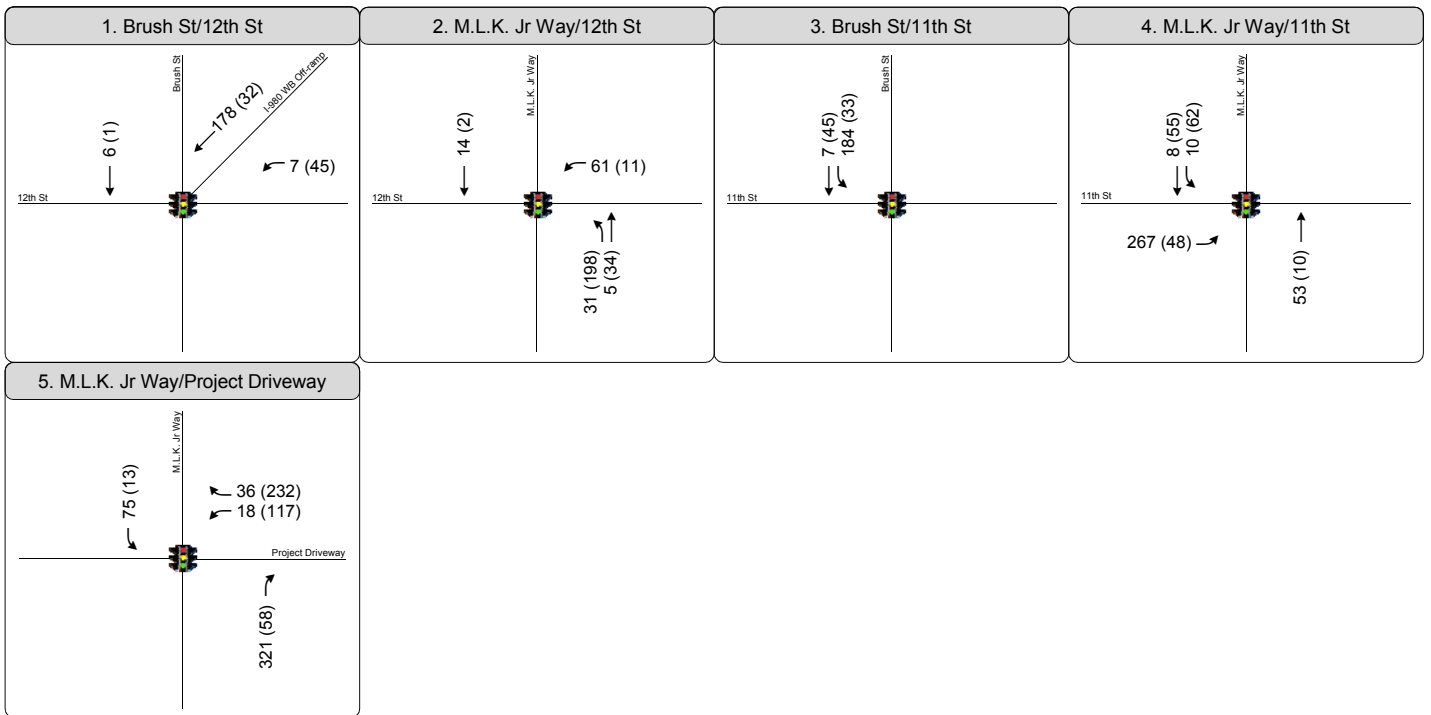
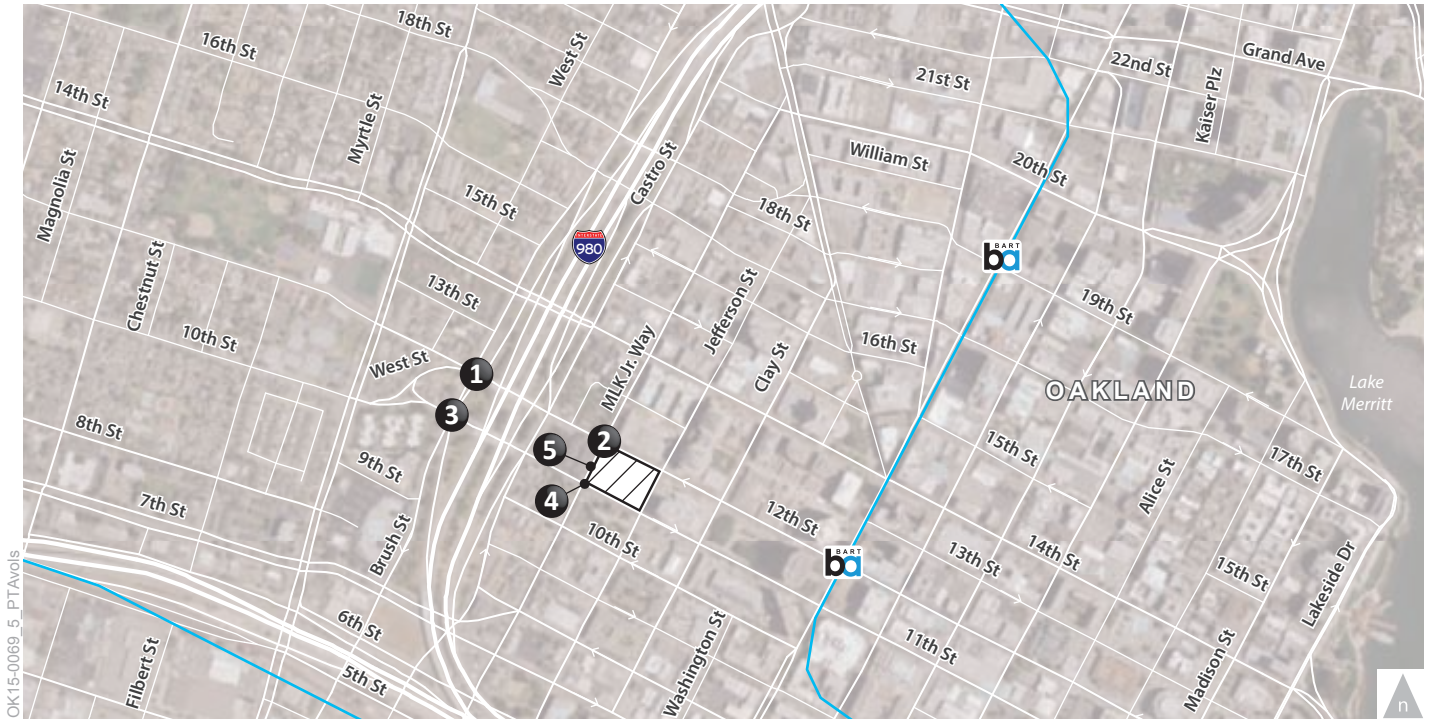
Intersection Operating at LOS F under Current and/or Future Conditions



Figure 4B

**PM Peak Hour Project Trip Assignment**





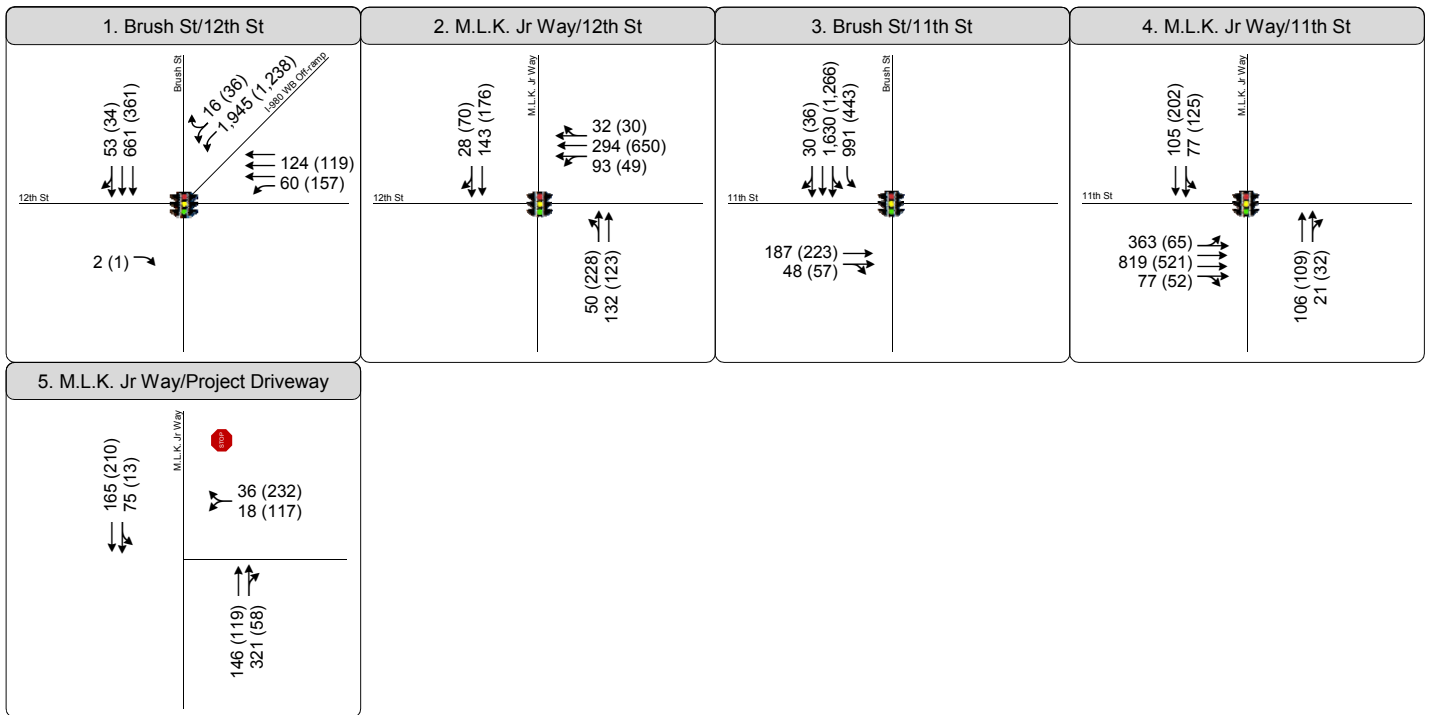
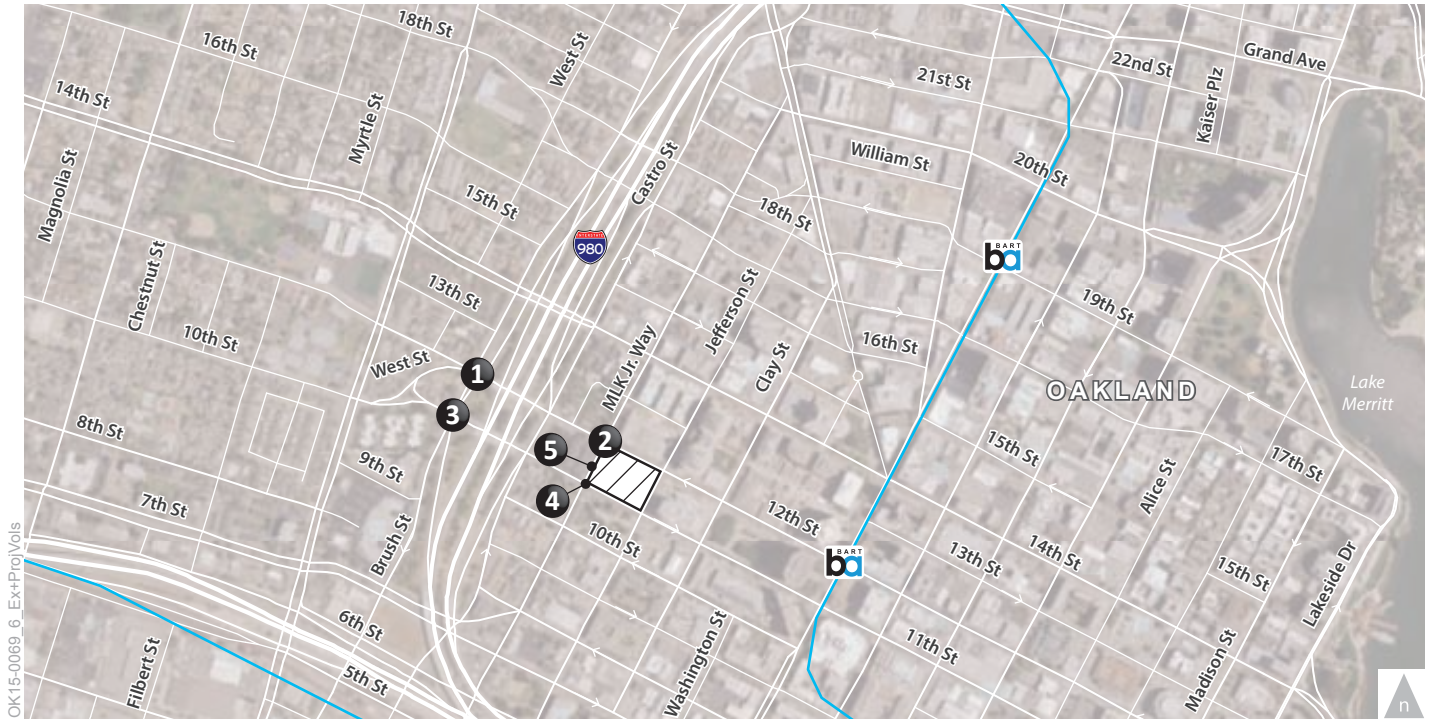
**LEGEND**

XX (YY) AM (PM) Peak Hour Traffic Volumes Signalized Intersection

Project Site Study Intersection



Figure 5



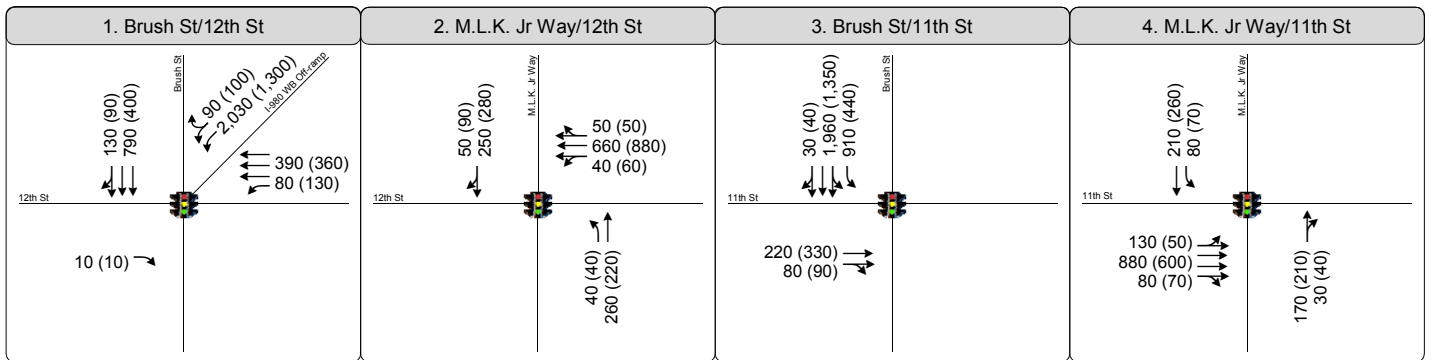
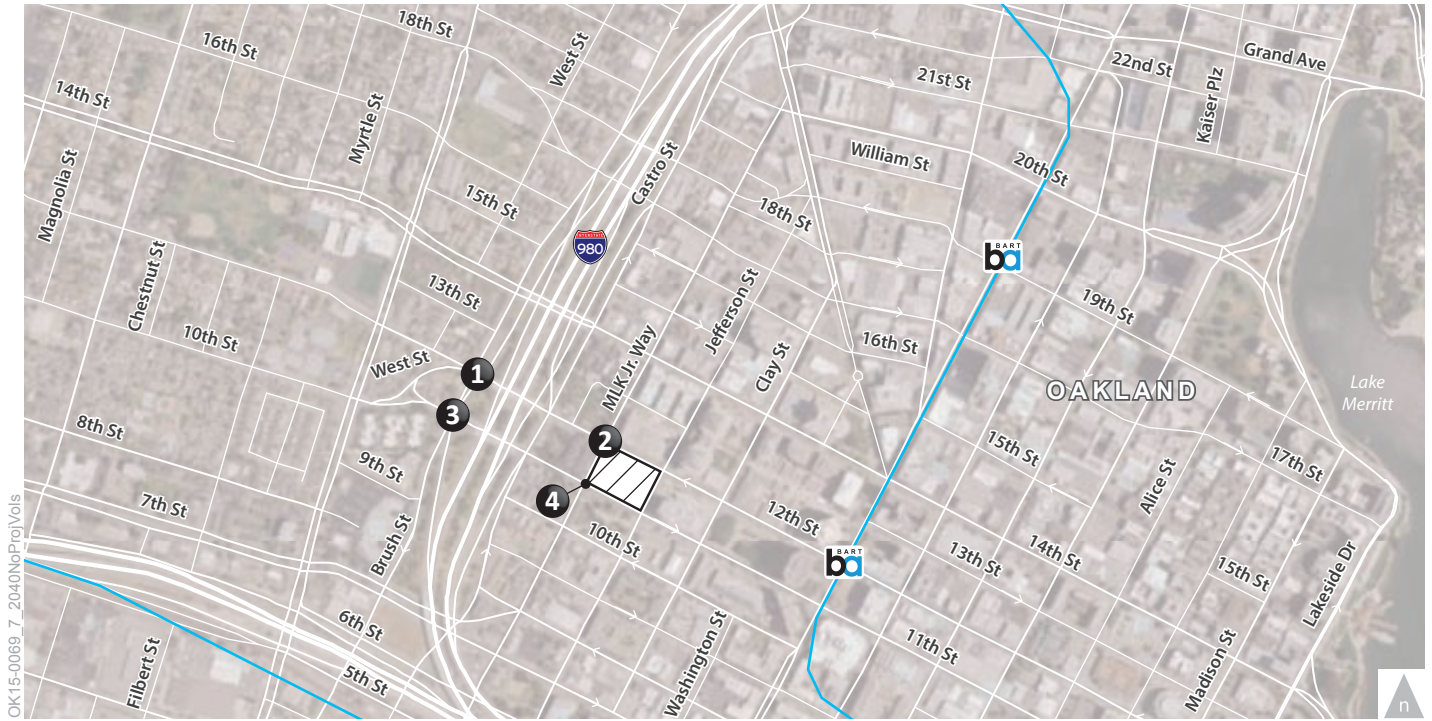
**LEGEND**

- XX (YY) AM (PM) Peak Hour Traffic Volumes
- Signalized Intersection
- Stop Sign
- Project Site
- Study Intersection



Figure 6  
Existing Plus Project  
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control





**LEGEND**

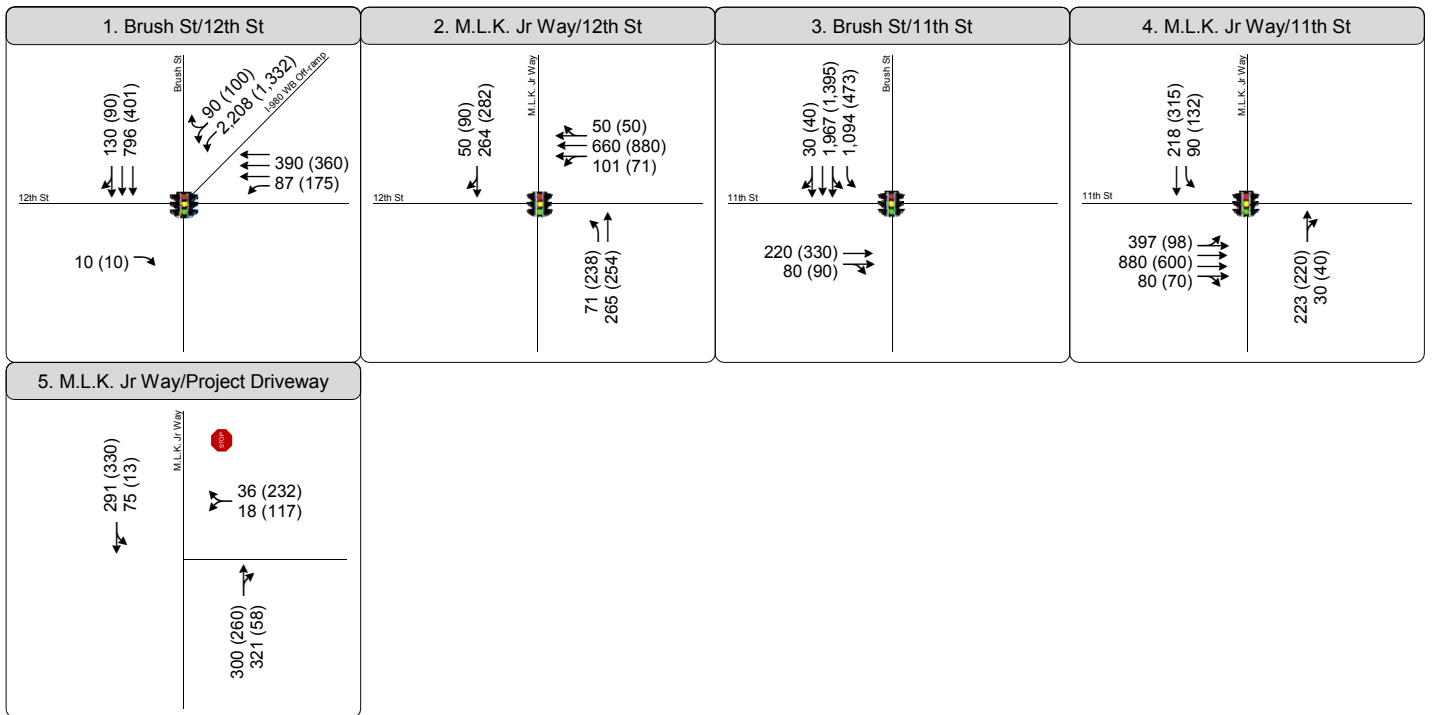
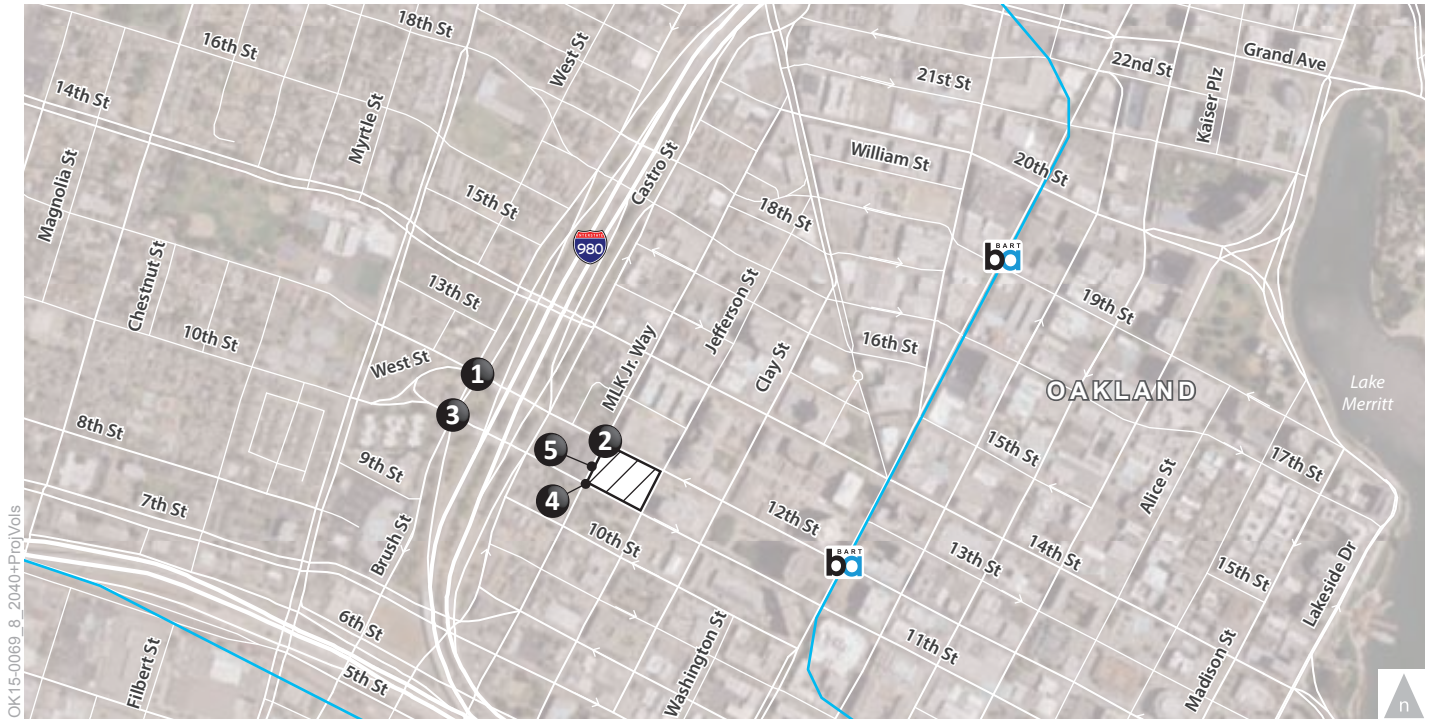
XX (YY) AM (PM) Peak Hour Traffic Volumes      Signalized Intersection

Project Site      Study Intersection



Figure 7  
2040 No Project  
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control





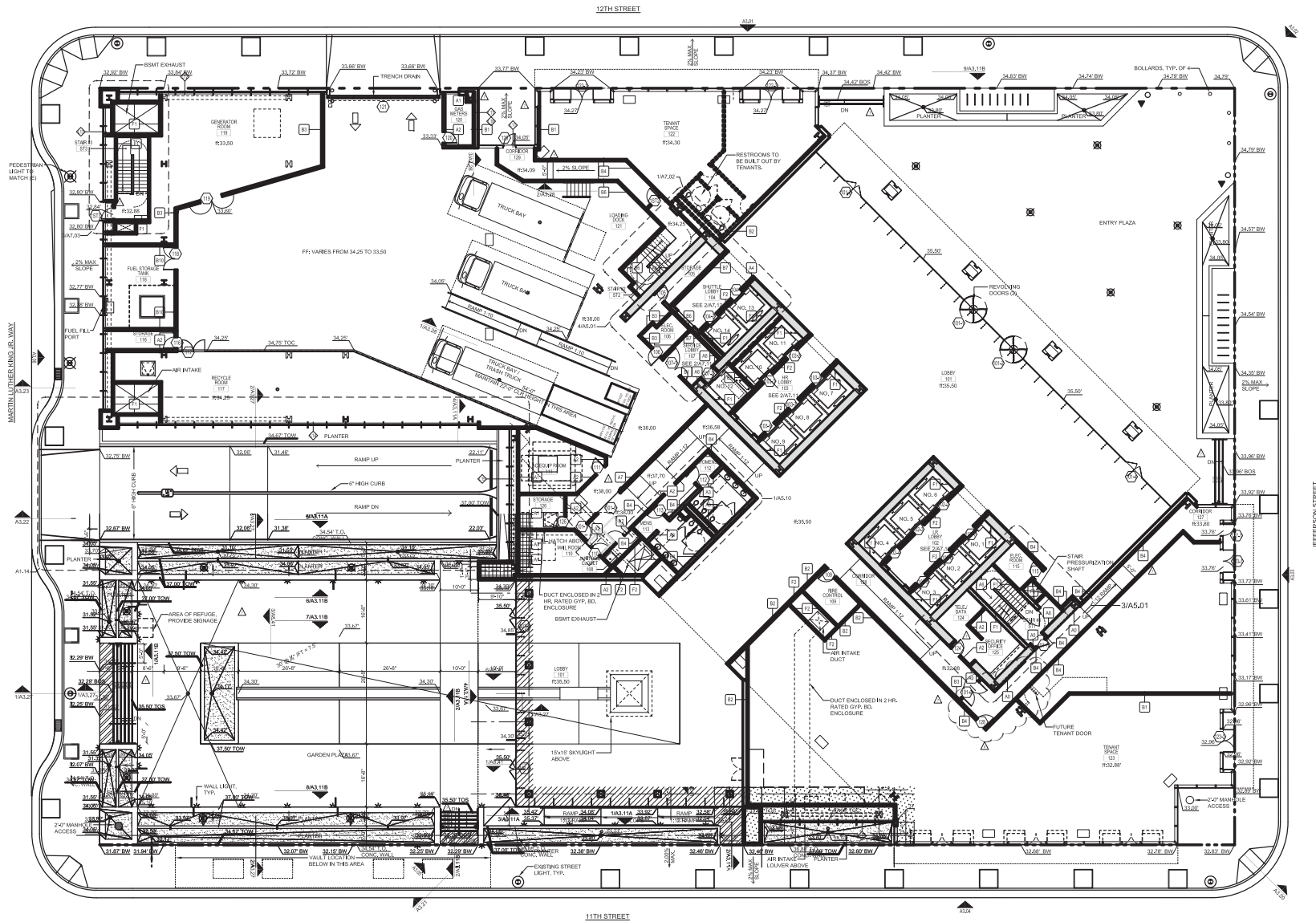
**LEGEND**

- XX (YY) AM (PM) Peak Hour Traffic Volumes
- Signalized Intersection
- Stop Sign
- Project Site
- Study Intersection



Figure 8  
2040 Plus Project  
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control





Site Plan Source: Korth Sunseri Hagey Architects



Figure 9

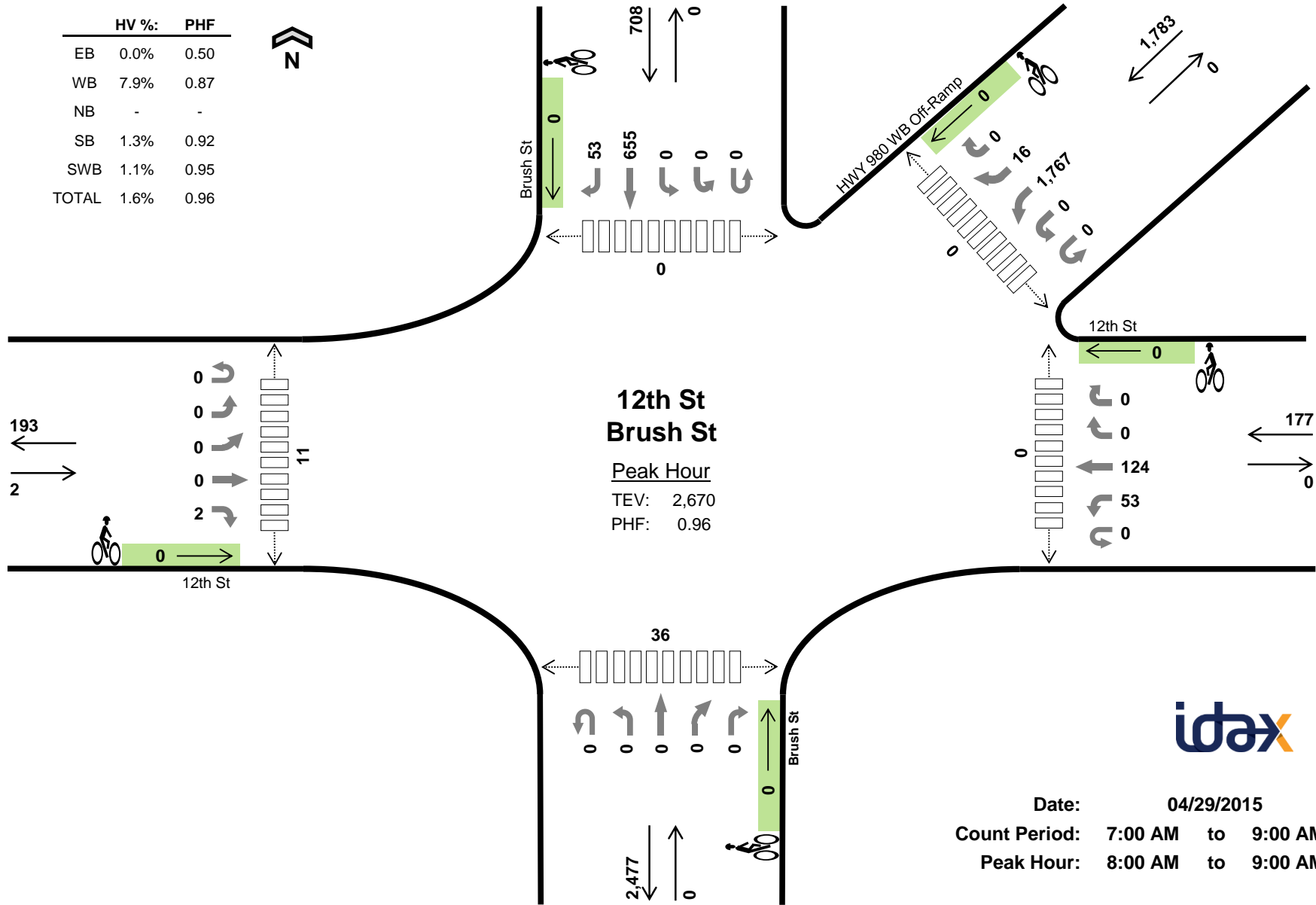
Ground Level Site Plan



**Appendix A**  
Intersection Count Data



	HV %:	PHF
EB	0.0%	0.50
WB	7.9%	0.87
NB	-	-
SB	1.3%	0.92
SWB	1.1%	0.95
TOTAL	1.6%	0.96



Date: 04/29/2015  
 Count Period: 7:00 AM to 9:00 AM  
 Peak Hour: 8:00 AM to 9:00 AM



Six-Hour Count Summaries

Interval Start	12th St					12th St					Brush St					Brush St					HWY 980 WB Off-Ramp					15-min Total	Rolling One Hour	
	Eastbound					Westbound					Northbound					Southbound					Southwestbound							
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR			
7:00 AM	0	0	0	0	1	0	9	15	0	0	0	0	0	0	0	0	0	0	61	5	0	0	450	2	0	543	0	
7:15 AM	0	0	0	0	1	0	7	22	0	0	0	0	0	0	0	0	0	0	84	4	0	0	467	3	0	588	0	
7:30 AM	0	0	0	0	0	0	10	17	0	0	0	0	0	0	0	0	0	0	110	11	0	0	456	5	0	609	0	
7:45 AM	0	0	0	0	0	0	14	23	0	0	0	0	0	0	0	0	0	0	125	12	0	0	431	3	0	608	2,348	
8:00 AM	0	0	0	0	0	0	9	35	0	0	0	0	0	0	0	0	0	0	173	16	0	0	456	4	0	693	2,498	
8:15 AM	0	0	0	0	0	0	17	34	0	0	0	0	0	0	0	0	0	0	135	16	0	0	469	0	0	671	2,581	
8:30 AM	0	0	0	0	1	0	16	32	0	0	0	0	0	0	0	0	0	0	165	11	0	0	419	4	0	648	2,620	
8:45 AM	0	0	0	0	1	0	11	23	0	0	0	0	0	0	0	0	0	0	182	10	0	0	423	8	0	658	2,670	
Count Total	0	0	0	0	4	0	93	201	0	0	0	0	0	0	0	0	0	0	1,035	85	0	0	3,571	29	0	5,018	0	
Peak Hour	All	0	0	0	0	2	0	53	124	0	0	0	0	0	0	0	0	0	655	53	0	0	1,767	16	0	2,670	0	
	HV	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	9	0	0	0	20	0	0	43	0
	HV%	-	-	-	-	0%	-	4%	10%	-	-	-	-	-	-	-	-	-	-	1%	0%	-	-	1%	0%	-	2%	0

Note: Six-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
7:00 AM	0	3	0	1	13	17	0	0	0	0	0	0	0	4	0	3	0	7
7:15 AM	0	3	0	1	3	7	0	0	0	0	0	0	4	0	6	0	10	
7:30 AM	0	1	0	2	4	7	0	0	0	0	0	0	4	0	8	0	12	
7:45 AM	0	4	0	2	6	12	0	1	0	0	1	0	5	0	14	1	20	
8:00 AM	0	3	0	2	5	10	0	0	0	0	0	0	0	0	6	0	6	
8:15 AM	0	4	0	2	4	10	0	0	0	0	0	0	2	0	12	0	14	
8:30 AM	0	2	0	0	7	9	0	0	0	0	0	0	4	0	7	0	11	
8:45 AM	0	5	0	5	4	14	0	0	0	0	0	0	5	0	11	0	16	
Count Total	0	25	0	15	46	86	0	1	0	0	1	0	28	0	67	1	96	
Peak Hr	0	14	0	9	20	43	0	0	0	0	0	0	11	0	36	0	47	

Six-Hour Count Summaries - Heavy Vehicles

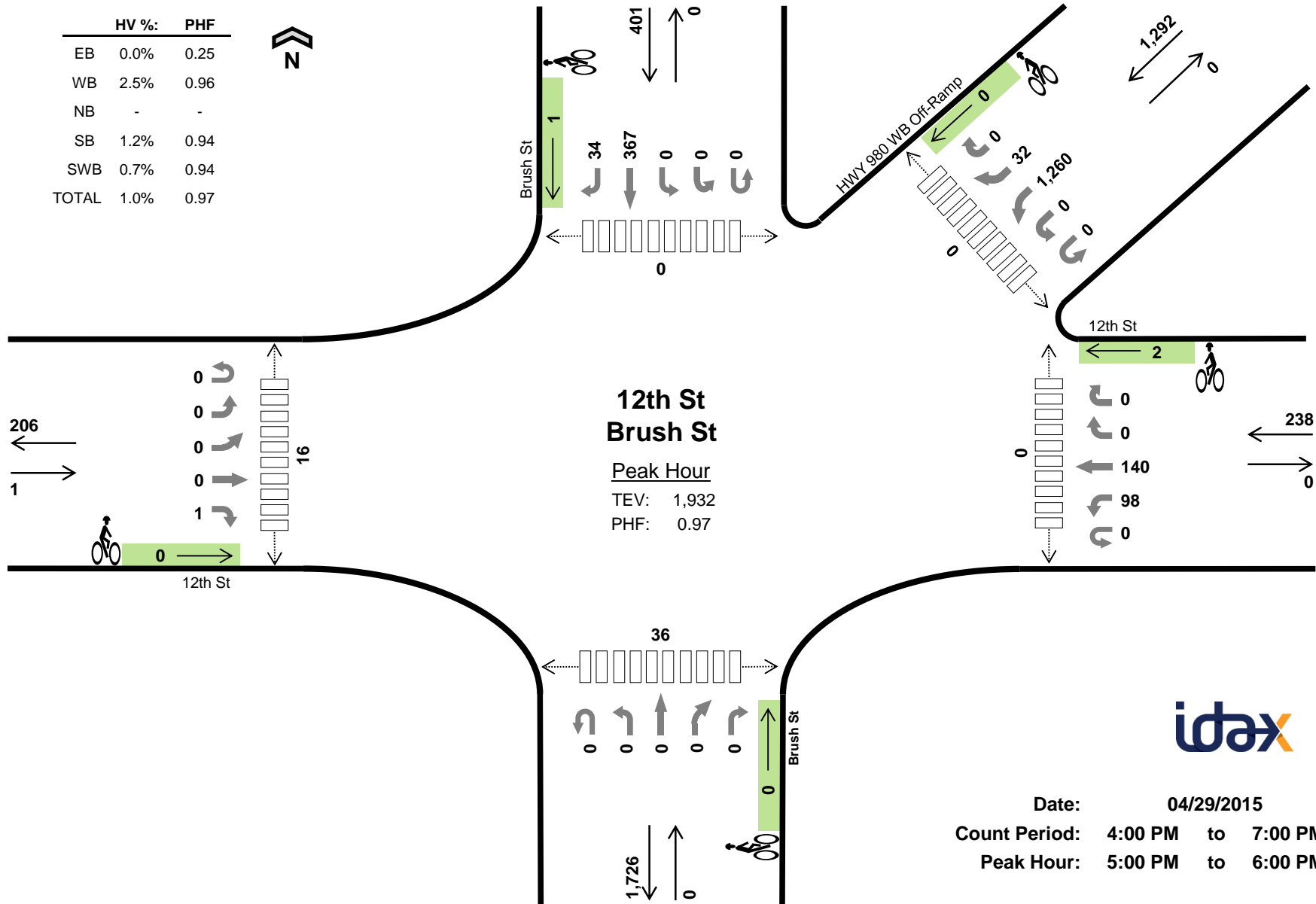
Interval Start	12th St Eastbound					12th St Westbound					Brush St Northbound					Brush St Southbound					HWY 980 WB Off-Ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	13	0	0	17	0
7:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	7	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	1	0	7	0
7:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	0	12	43
8:00 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	10	36
8:15 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	10	39
8:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	9	41
8:45 AM	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	14	43
Count Total	0	0	0	0	0	0	2	23	0	0	0	0	0	0	0	0	0	0	15	0	0	0	45	1	0	86	0
Peak Hour	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	9	0	0	0	20	0	0	43	0

Six-Hour Count Summaries - Bikes

Interval Start	12th St Eastbound					12th St Westbound					Brush St Northbound					Brush St Southbound					HWY 980 WB Off-Ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



	HV %:	PHF
EB	0.0%	0.25
WB	2.5%	0.96
NB	-	-
SB	1.2%	0.94
SWB	0.7%	0.94
TOTAL	1.0%	0.97



Date: 04/29/2015  
 Count Period: 4:00 PM to 7:00 PM  
 Peak Hour: 5:00 PM to 6:00 PM

Six-Hour Count Summaries

Interval Start	12th St					12th St					Brush St					Brush St					HWY 980 WB Off-Ramp					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	17	28	0	0	0	0	0	0	0	0	0	0	64	6	0	0	271	8	0	394	0
4:15 PM	0	0	0	0	0	0	25	31	0	0	0	0	0	0	0	0	0	0	82	5	0	0	264	4	0	411	0
4:30 PM	0	0	0	0	0	0	18	35	0	0	0	0	0	0	0	0	0	0	66	6	0	0	255	10	0	390	0
4:45 PM	0	0	0	0	1	0	31	19	0	0	0	0	0	0	0	0	0	0	76	5	0	0	279	15	0	426	1,621
5:00 PM	0	0	0	0	0	0	22	35	0	0	0	0	0	0	0	0	0	0	100	7	0	0	273	10	0	447	1,674
5:15 PM	0	0	0	0	0	0	32	30	0	0	0	0	0	0	0	0	0	0	93	13	0	0	324	5	0	497	1,760
5:30 PM	0	0	0	0	0	0	27	35	0	0	0	0	0	0	0	0	0	0	91	9	0	0	330	6	0	498	1,868
5:45 PM	0	0	0	0	1	0	17	40	0	0	0	0	0	0	0	0	0	0	83	5	0	0	333	11	0	490	1,932
Count Total	0	0	0	0	4	0	246	374	0	0	0	0	0	0	0	0	0	0	899	96	0	0	3,196	114	0	4,929	0
Peak Hour	All	0	0	0	0	1	0	98	140	0	0	0	0	0	0	0	0	0	367	34	0	0	1,260	32	0	1,932	0
	HV	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	5	0	0	0	9	0	0	20	0
	HV%	-	-	-	-	0%	-	0%	4%	-	-	-	-	-	-	-	-	-	1%	0%	-	-	1%	0%	-	1%	0

Note: Six-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
4:00 PM	0	1	0	1	7	9	0	3	0	0	0	3	0	6	0	9	0	15
4:15 PM	0	4	0	2	8	14	0	2	0	0	0	2	1	2	0	5	0	8
4:30 PM	0	1	0	1	1	3	0	3	0	1	0	4	0	2	0	4	0	6
4:45 PM	0	3	0	3	3	9	0	0	0	1	0	1	0	3	0	7	0	10
5:00 PM	0	1	0	2	5	8	0	0	0	0	0	0	0	5	0	13	0	18
5:15 PM	0	2	0	1	1	4	0	1	0	0	0	1	0	3	0	12	0	15
5:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	4	0	5	0	9
5:45 PM	0	3	0	2	2	7	0	1	0	1	0	2	0	4	0	6	0	10
Count Total	0	21	0	16	42	79	0	14	0	3	0	17	1	37	0	85	0	123
Peak Hr	0	6	0	5	9	20	0	2	0	1	0	3	0	16	0	36	0	52



Six-Hour Count Summaries - Heavy Vehicles

Interval Start	12th St Eastbound					12th St Westbound					Brush St Northbound					Brush St Southbound					HWY 980 WB Off-Ramp Southwestbound					15-min Total	Rolling One Hour	
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR			
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	9	0
4:15 PM	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	8	0	0	14	0	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	
4:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	9	35	
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	8	34	
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	4	24	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	22		
5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	7	20	
Count Total	0	0	0	0	0	0	2	19	0	0	0	0	0	0	0	0	0	0	16	0	0	0	42	0	0	79	0	
Peak Hour	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	5	0	0	0	9	0	0	20	0	

Six-Hour Count Summaries - Bikes

Interval Start	12th St Eastbound					12th St Westbound					Brush St Northbound					Brush St Southbound					HWY 980 WB Off-Ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	10
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3
Count Total	0	0	0	0	0	0	1	13	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	17	0
Peak Hour	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0

# ALL TRAFFIC DATA

City of Oakland  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7820-001 M.L.K. Jr. Way-12th Street.ppd

Date : 10/20/2015

## Unshifted Count = All Vehicles

START TIME	M.L.K. Jr. Way Southbound					12th Street Westbound					M.L.K. Jr. Way Northbound					12th Street Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	7	3	0	10	3	35	2	0	40	2	18	0	1	21	0	0	0	0	0	71	1
07:15	0	14	5	0	19	5	56	11	0	72	1	21	0	0	22	0	0	0	0	0	113	0
07:30	0	22	3	0	25	6	55	17	0	78	3	18	0	0	21	0	0	0	0	0	124	0
07:45	0	21	2	0	23	9	61	14	0	84	4	20	0	1	25	0	0	0	0	0	132	1
<b>Total</b>	0	64	13	0	77	23	207	44	0	274	10	77	0	2	89	0	0	0	0	0	440	2
08:00	0	30	7	0	37	8	70	5	0	83	5	27	0	0	32	0	0	0	0	0	152	0
08:15	0	34	10	0	44	4	92	6	0	102	1	37	0	1	39	0	0	0	0	0	185	1
08:30	0	28	4	0	32	11	76	10	0	97	3	27	0	0	30	0	0	0	0	0	159	0
08:45	0	37	7	0	44	9	56	11	0	76	9	36	0	0	45	0	0	0	0	0	165	0
<b>Total</b>	0	129	28	0	157	32	294	32	0	358	18	127	0	1	146	0	0	0	0	0	661	1
16:00	0	32	7	0	39	8	160	9	0	177	11	18	0	0	29	0	0	0	0	0	245	0
16:15	0	37	15	1	53	9	125	7	0	141	4	16	0	0	20	0	0	0	0	0	214	1
16:30	0	33	22	0	55	7	157	14	0	178	3	14	0	0	17	0	0	0	0	0	250	0
16:45	0	40	11	0	51	12	155	6	0	173	5	22	0	0	27	0	0	0	0	0	251	0
<b>Total</b>	0	142	55	1	198	36	597	36	0	669	23	70	0	0	93	0	0	0	0	0	960	1
17:00	0	54	22	0	76	11	177	13	0	201	10	23	0	0	33	0	0	0	0	0	310	0
17:15	0	40	19	0	59	8	181	4	0	193	8	25	0	0	33	0	0	0	0	0	285	0
17:30	0	39	18	1	58	7	137	7	0	151	7	19	0	0	26	0	0	0	0	0	235	1
17:45	0	31	25	0	56	6	156	12	0	174	6	15	0	0	21	0	0	0	0	0	251	0
<b>Total</b>	0	164	84	1	249	32	651	36	0	719	31	82	0	0	113	0	0	0	0	0	1081	1
<b>Grand Total</b>	0	499	180	2	681	123	1749	148	0	2020	82	356	0	3	441	0	0	0	0	0	3142	5
<b>Apprch %</b>	0.0%	73.3%	26.4%	0.3%		6.1%	86.6%	7.3%	0.0%		18.6%	80.7%	0.0%	0.7%		0.0%	0.0%	0.0%	0.0%			
<b>Total %</b>	0.0%	15.9%	5.7%	0.1%	21.7%	3.9%	55.7%	4.7%	0.0%	64.3%	2.6%	11.3%	0.0%	0.1%	14.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	





# ALL TRAFFIC DATA

City of Oakland  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7820-001 M.L.K. Jr. Way-12th Street.ppd

Date : 10/20/2015

## Bank 1 Count = Peds & Bikes

START TIME	M.L.K. Jr. Way Southbound					12th Street Westbound					M.L.K. Jr. Way Northbound					12th Street Eastbound					Total	Ped Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
07:00	0	0	0	3	0	0	0	0	2	0	0	1	0	11	1	0	1	0	2	1	2	18
07:15	0	0	0	1	0	0	0	0	3	0	0	1	0	8	1	0	0	0	2	0	1	14
07:30	0	1	0	4	1	0	0	1	4	1	0	3	0	7	3	0	1	0	2	1	6	17
07:45	0	5	0	3	5	0	1	0	5	1	0	0	0	9	0	0	1	0	2	1	7	19
Total	0	6	0	11	6	0	1	1	14	2	0	5	0	35	5	0	3	0	8	3	16	68
08:00	0	5	0	4	5	0	0	1	4	1	0	0	0	14	0	0	0	0	6	0	6	28
08:15	0	2	0	8	2	0	0	0	7	0	0	4	0	11	4	0	0	0	7	0	6	33
08:30	0	0	0	5	0	1	0	0	5	1	0	2	0	8	2	0	1	0	5	1	4	23
08:45	0	5	0	6	5	0	0	0	5	0	0	0	0	6	0	0	0	0	5	0	5	22
Total	0	12	0	23	12	1	0	1	21	2	0	6	0	39	6	0	1	0	23	1	21	106
16:00	0	2	0	5	2	0	1	1	5	2	0	0	1	7	1	0	0	0	9	0	5	26
16:15	0	1	0	13	1	0	0	0	5	0	0	2	0	15	2	0	0	1	14	1	4	47
16:30	0	3	0	1	3	0	2	0	1	2	0	5	0	8	5	0	0	0	5	0	10	15
16:45	1	1	0	2	2	0	1	0	2	1	0	4	0	15	4	0	0	0	4	0	7	23
Total	1	7	0	21	8	0	4	1	13	5	0	11	1	45	12	0	0	1	32	1	26	111
17:00	0	2	0	6	2	0	1	0	1	1	0	3	0	12	3	0	1	0	7	1	7	26
17:15	0	2	0	5	2	0	2	0	2	2	0	2	0	13	2	1	0	0	3	1	7	23
17:30	0	1	0	3	1	0	0	1	8	1	0	2	1	11	3	0	0	0	8	0	5	30
17:45	0	4	2	3	6	0	2	2	1	4	0	4	0	8	4	0	1	0	9	1	15	21
Total	0	9	2	17	11	0	5	3	12	8	0	11	1	44	12	1	2	0	27	3	34	100
Grand Total	1	34	2	72	37	1	10	6	60	17	0	33	2	163	35	1	6	1	90	8	97	385
Apprch %	2.7%	91.9%	5.4%			5.9%	58.8%	35.3%	5.4%		0.0%	94.3%	5.7%			12.5%	75.0%	12.5%				
Total %	1.0%	35.1%	2.1%		38.1%	1.0%	10.3%	6.2%		17.5%	0.0%	34.0%	2.1%		36.1%	1.0%	6.2%	1.0%		8.2%	100.0%	

# ALL TRAFFIC DATA

City of Oakland  
 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7820-001 M.L.K. Jr. Way-12th Street.ppd

Date : 10/20/2015

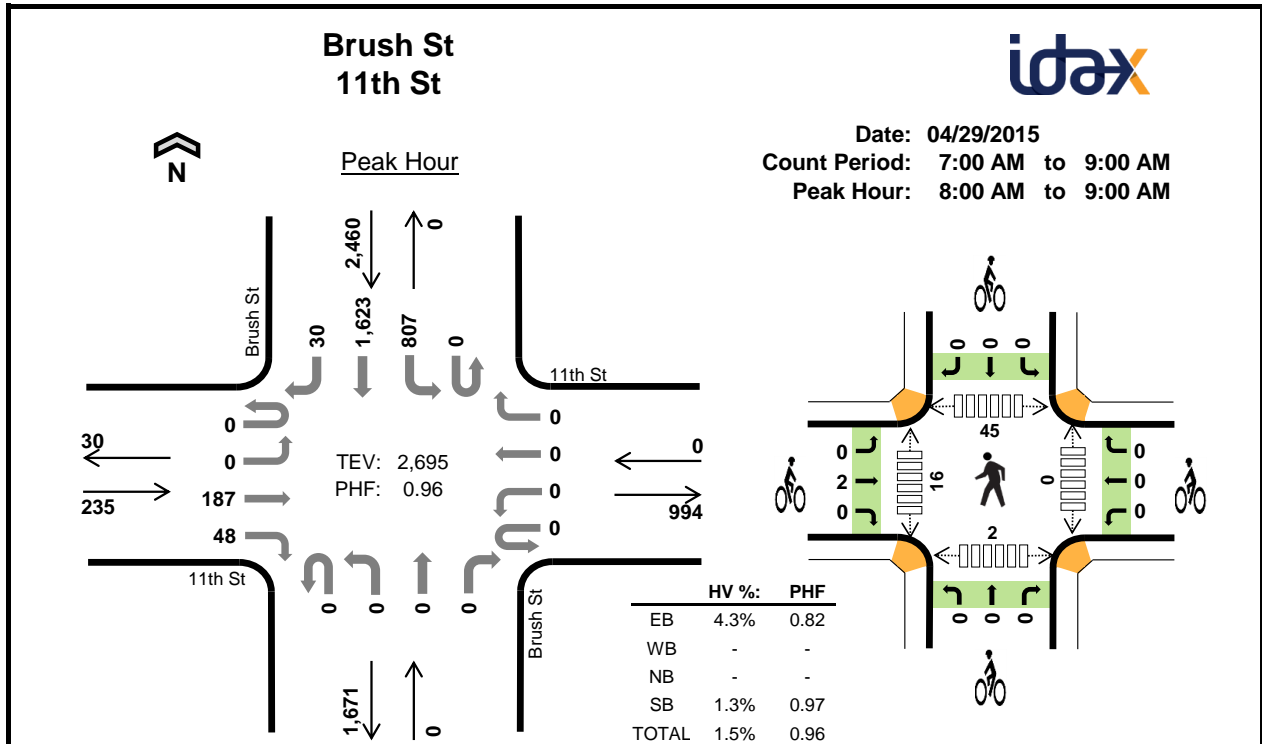
## Bank 1 Count = Peds & Bikes

AM PEAK HOUR	M.L.K. Jr. Way Southbound					12th Street Westbound					M.L.K. Jr. Way Northbound					12th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	5	0	4	5	0	0	1	4	1	0	0	0	14	0	0	0	0	6	0	6
08:15	0	2	0	8	2	0	0	0	7	0	0	4	0	11	4	0	0	0	7	0	6
08:30	0	0	0	5	0	1	0	0	5	1	0	2	0	8	2	0	1	0	5	1	4
08:45	0	5	0	6	5	0	0	0	5	0	0	0	0	6	0	0	0	0	5	0	5
Total Volume	0	12	0	23	12	1	0	1	21	2	0	6	0	39	6	0	1	0	23	1	21
% App Total	0.0%	100.0%	0.0%			50.0%	0.0%	50.0%	0.0%		0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.600	.000		.600	.250	.000	.250		.500	.000	.375	.000		.375	.000	.250	.000		.250	.875

PM PEAK HOUR	M.L.K. Jr. Way Southbound					12th Street Westbound					M.L.K. Jr. Way Northbound					12th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	3	0	1	3	0	2	0	1	2	0	5	0	8	5	0	0	0	5	0	10
16:45	1	1	0	2	2	0	1	0	2	1	0	4	0	15	4	0	0	0	4	0	7
17:00	0	2	0	6	2	0	1	0	1	1	0	3	0	12	3	0	1	0	7	1	7
17:15	0	2	0	5	2	0	2	0	2	2	0	2	0	13	2	1	0	0	3	1	7
Total Volume	1	8	0	14	9	0	6	0	6	6	0	14	0	48	14	1	1	0	19	2	31
% App Total	11.1%	88.9%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			50.0%	50.0%	0.0%			
PHF	.250	.667	.000		.750	.000	.750	.000		.750	.000	.700	.000		.700	.250	.250	.000		.500	.775

**Southbound Peds = North Leg (traveling EB or WB)**  
**Westbound Peds = East Leg (traveling NB or SB)**  
**Northbound Peds = South Leg (traveling EB or WB)**  
**Eastbound Peds = West Leg (traveling NB or SB)**





**Two-Hour Count Summaries**

Interval Start	11th St Eastbound				11th St Westbound				Brush St Northbound				Brush St Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	20	5	0	0	0	0	0	0	0	0	0	122	391	3	541	0	
7:15 AM	0	0	32	9	0	0	0	0	0	0	0	0	0	136	400	4	581	0	
7:30 AM	0	0	42	8	0	0	0	0	0	0	0	0	0	147	420	7	624	0	
7:45 AM	0	0	62	15	0	0	0	0	0	0	0	0	0	153	401	5	636	2,382	
<b>8:00 AM</b>	<b>0</b>	<b>0</b>	<b>61</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>192</b>	<b>433</b>	<b>7</b>	<b>704</b>	2,545	
8:15 AM	0	0	52	8	0	0	0	0	0	0	0	0	0	206	413	8	687	2,651	
8:30 AM	0	0	36	15	0	0	0	0	0	0	0	0	0	194	384	11	640	2,667	
8:45 AM	0	0	38	14	0	0	0	0	0	0	0	0	0	215	393	4	664	2,695	
Count Total	0	0	343	85	0	0	0	0	0	0	0	0	0	1,365	3,235	49	5,077	0	
Peak Hour	All	0	0	187	48	0	0	0	0	0	0	0	0	0	807	1,623	30	2,695	0
	HV	0	0	9	1	0	0	0	0	0	0	0	0	0	4	27	0	41	0
	HV%	-	-	5%	2%	-	-	-	-	-	-	-	-	-	0%	2%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

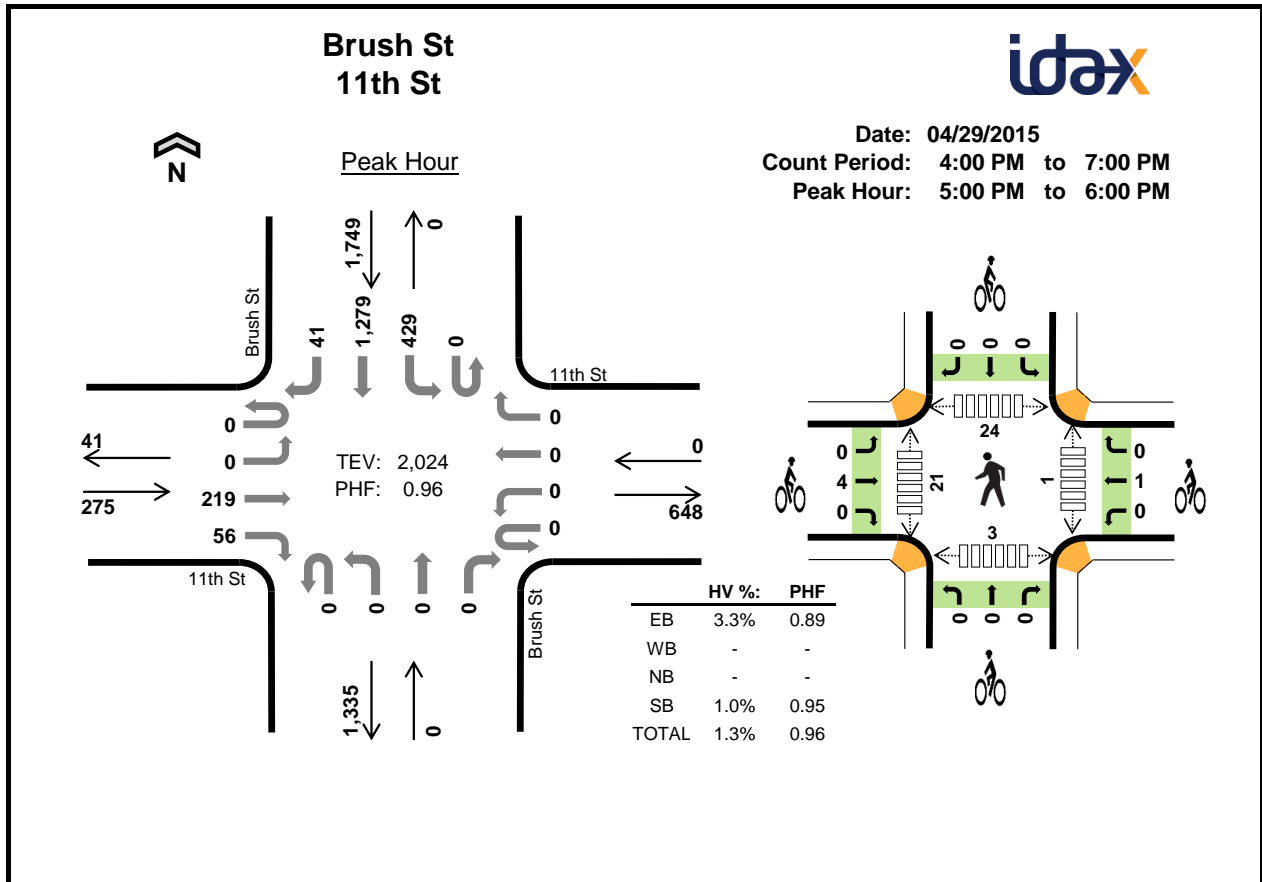
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	0	0	13	15	0	0	0	0	0	0	4	4	0	8
7:15 AM	3	0	0	3	6	0	0	0	0	0	0	1	9	0	10
7:30 AM	3	0	0	6	9	0	0	0	0	0	0	6	9	0	15
7:45 AM	3	0	0	9	12	2	0	0	0	2	0	4	5	0	9
<b>8:00 AM</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>11</b>	<b>0</b>	<b>15</b>
8:15 AM	3	0	0	6	9	0	0	0	0	0	0	6	13	0	19
8:30 AM	2	0	0	8	10	0	0	0	0	0	0	1	12	2	15
8:45 AM	1	0	0	11	12	2	0	0	0	2	0	5	9	0	14
Count Total	21	0	0	62	83	4	0	0	0	4	0	31	72	2	105
Peak Hour	10	0	0	31	41	2	0	0	0	2	0	16	45	2	63

<b>Two-Hour Count Summaries - Heavy Vehicles</b>																		
Interval Start	11th St				11th St				Brush St				Brush St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	12	0	15	0
7:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	6	0
7:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	1	5	0	9	0
7:45 AM	0	0	2	1	0	0	0	0	0	0	0	0	0	2	7	0	12	42
<b>8:00 AM</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>10</b>	37
8:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	1	5	0	9	40
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	6	0	10	41
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	10	0	12	41
Count Total	0	0	19	2	0	0	0	0	0	0	0	0	0	8	54	0	83	0
Peak Hour	0	0	9	1	0	0	0	0	0	0	0	0	0	4	27	0	41	0

<b>Two-Hour Count Summaries - Bikes</b>														
Interval Start	11th St			11th St			Brush St			Brush St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	2
<b>8:00 AM</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	2
Count Total	0	4	0	0	0	0	0	0	0	0	0	0	4	0
Peak Hour	0	2	0	0	0	0	0	0	0	0	0	0	2	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



**Three-Hour Count Summaries**

Interval Start	11th St Eastbound				11th St Westbound				Brush St Northbound				Brush St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM	0	0	60	17	0	0	0	0	0	0	0	0	0	101	289	9	476	0
5:15 PM	0	0	53	12	0	0	0	0	0	0	0	0	0	116	336	8	525	0
5:30 PM	0	0	52	11	0	0	0	0	0	0	0	0	0	96	342	12	513	0
5:45 PM	0	0	54	16	0	0	0	0	0	0	0	0	0	116	312	12	510	2,024
Peak Hour	All	0	0	219	56	0	0	0	0	0	0	0	0	429	1,279	41	2,024	0
	HV	0	0	6	3	0	0	0	0	0	0	0	0	1	16	0	26	0
	HV%	-	-	3%	5%	-	-	-	-	-	-	-	-	0%	1%	0%	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	1	0	0	8	9	2	0	0	0	2	0	6	2	1	9
5:15 PM	3	0	0	3	6	1	0	0	0	1	0	5	12	1	18
5:30 PM	3	0	0	2	5	0	0	0	0	0	1	5	6	0	12
5:45 PM	2	0	0	4	6	1	1	0	0	2	0	5	4	1	10
Peak Hour	9	0	0	17	26	4	1	0	0	5	1	21	24	3	49



Three-Hour Count Summaries																		
Interval Start	11th St Eastbound				11th St Westbound				Brush St Northbound				Brush St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	0	54	12	0	0	0	0	0	0	0	0	0	97	241		
4:15 PM	0	0	60	13	0	0	0	0	0	0	0	0	0	76	264	13	426	0
4:30 PM	0	0	47	21	0	0	0	0	0	0	0	0	0	72	243	8	391	0
4:45 PM	0	0	58	17	0	0	0	0	0	0	0	0	0	97	254	7	433	1,671
5:00 PM	0	0	60	17	0	0	0	0	0	0	0	0	0	101	289	9	476	1,726
5:15 PM	0	0	53	12	0	0	0	0	0	0	0	0	0	116	336	8	525	1,825
5:30 PM	0	0	52	11	0	0	0	0	0	0	0	0	0	96	342	12	513	1,947
5:45 PM	0	0	54	16	0	0	0	0	0	0	0	0	0	116	312	12	510	2,024
6:00 PM	0	0	60	14	0	0	0	0	0	0	0	0	0	75	259	3	411	1,959
6:15 PM	0	0	42	15	0	0	0	0	0	0	0	0	0	96	233	3	389	1,823
6:30 PM	0	0	39	3	0	0	0	0	0	0	0	0	0	77	207	7	333	1,643
6:45 PM	0	0	30	15	0	0	0	0	0	0	0	0	0	75	181	4	305	1,438
Count Total	0	0	609	166	0	0	0	0	0	0	0	0	0	1,094	3,161	103	5,133	0
Peak Hour	All	0	0	219	56	0	0	0	0	0	0	0	0	429	1,279	41	2,024	0
	HV	0	0	6	3	0	0	0	0	0	0	0	0	1	16	0	26	0
	HV%	-	-	3%	5%	-	-	-	-	-	-	-	-	0%	1%	0%	1%	0

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	0	6	9	0	0	0	0	0	0	5	3	0	8
4:15 PM	5	0	0	13	18	0	0	0	0	0	0	3	1	0	4
4:30 PM	2	0	0	1	3	0	0	0	1	1	0	3	4	0	7
4:45 PM	2	0	0	4	6	0	0	1	0	1	0	5	7	1	13
5:00 PM	1	0	0	8	9	2	0	0	0	2	0	6	2	1	9
5:15 PM	3	0	0	3	6	1	0	0	0	1	0	5	12	1	18
5:30 PM	3	0	0	2	5	0	0	0	0	0	1	5	6	0	12
5:45 PM	2	0	0	4	6	1	1	0	0	2	0	5	4	1	10
6:00 PM	2	0	0	2	4	0	0	0	0	0	0	1	3	0	4
6:15 PM	3	0	0	6	9	0	0	0	0	0	0	3	2	0	5
6:30 PM	2	0	0	8	10	0	0	0	0	0	0	1	2	0	3
6:45 PM	1	0	0	3	4	0	0	0	0	0	0	3	4	0	7
Count Total	29	0	0	60	89	4	1	1	1	7	1	45	50	4	100
Peak Hour	9	0	0	17	26	4	1	0	0	5	1	21	24	3	49

Three-Hour Count Summaries - Heavy Vehicles																		
Interval Start	11th St				11th St				Brush St				Brush St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	6	0	9	0
4:15 PM	0	0	4	1	0	0	0	0	0	0	0	0	0	5	7	1	18	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0
4:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	0	6	36
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8	0	9	36
5:15 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	1	2	0	6	24
5:30 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	2	0	5	26
5:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	0	6	26
6:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	4	21
6:15 PM	0	0	2	1	0	0	0	0	0	0	0	0	0	1	5	0	9	24
6:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7	1	10	29
6:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	4	27
Count Total	0	0	22	7	0	0	0	0	0	0	0	0	0	9	49	2	89	0
Peak Hour	0	0	6	3	0	0	0	0	0	0	0	0	0	1	16	0	26	0
Three-Hour Count Summaries - Bikes																		
Interval Start	11th St			11th St			Brush St			Brush St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	5
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	4	0	0	0	1	0	0	0	0	1	0	0	1	0	0	7	0
Peak Hour	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

# ALL TRAFFIC DATA

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 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7820-002 M.L.K. Jr. Way-11th Street.ppd

Date : 10/20/2015

## Unshifted Count = All Vehicles

START TIME	M.L.K. Jr. Way Southbound					11th Street Westbound					M.L.K. Jr. Way Northbound					11th Street Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	4	6	0	0	10	0	0	0	0	0	0	7	4	0	11	11	124	12	0	147	168	0
07:15	5	15	0	0	20	0	0	0	0	0	0	6	2	0	8	17	142	6	0	165	193	0
07:30	10	16	0	0	26	0	0	0	0	0	0	5	6	0	11	18	144	8	0	170	207	0
07:45	10	23	0	0	33	0	0	0	0	0	0	8	2	0	10	15	199	14	0	228	271	0
Total	29	60	0	0	89	0	0	0	0	0	0	26	14	0	40	61	609	40	0	710	839	0
08:00	14	21	0	0	35	0	0	0	0	0	0	11	9	0	20	26	189	7	0	222	277	0
08:15	19	22	0	0	41	0	0	0	0	0	0	7	4	0	11	27	210	20	0	257	309	0
08:30	20	24	0	0	44	0	0	0	0	0	0	11	3	0	14	21	233	23	0	277	335	0
08:45	14	30	0	0	44	0	0	0	0	0	0	24	5	0	29	22	187	27	0	236	309	0
Total	67	97	0	0	164	0	0	0	0	0	0	53	21	0	74	96	819	77	0	992	1230	0
16:00	15	28	0	0	43	0	0	0	0	0	0	22	10	0	32	4	103	9	0	116	191	0
16:15	7	36	0	0	43	0	0	0	0	0	0	13	5	0	18	3	105	18	0	126	187	0
16:30	16	27	0	0	43	0	0	0	0	0	0	20	5	0	25	1	100	14	0	115	183	0
16:45	13	35	0	0	48	0	0	0	0	0	0	21	4	0	25	5	106	12	0	123	196	0
Total	51	126	0	0	177	0	0	0	0	0	0	76	24	0	100	13	414	53	0	480	757	0
17:00	17	46	0	0	63	0	0	0	0	0	0	30	9	0	39	5	117	12	0	134	236	0
17:15	15	32	0	0	47	0	0	0	0	0	0	31	11	0	42	4	153	10	0	167	256	0
17:30	18	34	0	0	52	0	0	0	0	0	0	17	8	0	25	3	145	18	0	166	243	0
17:45	12	21	0	0	33	0	0	0	0	0	0	21	6	0	27	2	101	16	0	119	179	0
Total	62	133	0	0	195	0	0	0	0	0	0	99	34	0	133	14	516	56	0	586	914	0
Grand Total	209	416	0	0	625	0	0	0	0	0	0	254	93	0	347	184	2358	226	0	2768	3740	0
Apprch %	33.4%	66.6%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	73.2%	26.8%	0.0%		6.6%	85.2%	8.2%	0.0%			
Total %	5.6%	11.1%	0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.8%	2.5%	0.0%	9.3%	4.9%	63.0%	6.0%	0.0%	74.0%	100.0%	



# ALL TRAFFIC DATA

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 All Vehicles on Unshifted  
 Peds & Bikes on Bank 1  
 Nothing on Bank 2

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7820-002 M.L.K. Jr. Way-11th Street.ppd

Date : 10/20/2015

## Unshifted Count = All Vehicles

AM PEAK HOUR	M.L.K. Jr. Way Southbound					11th Street Westbound					M.L.K. Jr. Way Northbound					11th Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	14	21	0	0	35	0	0	0	0	0	0	11	9	0	20	26	189	7	0	222	277
08:15	19	22	0	0	41	0	0	0	0	0	0	7	4	0	11	27	210	20	0	257	309
08:30	20	24	0	0	44	0	0	0	0	0	0	11	3	0	14	21	233	23	0	277	335
08:45	14	30	0	0	44	0	0	0	0	0	0	24	5	0	29	22	187	27	0	236	309
Total Volume	67	97	0	0	164	0	0	0	0	0	0	53	21	0	74	96	819	77	0	992	1230
% App Total	40.9%	59.1%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	71.6%	28.4%	0.0%		9.7%	82.6%	7.8%	0.0%		
PHF	.838	.808	.000	.000	.932	.000	.000	.000	.000	.000	.000	.552	.583	.000	.638	.889	.879	.713	.000	.895	.918

PM PEAK HOUR	M.L.K. Jr. Way Southbound					11th Street Westbound					M.L.K. Jr. Way Northbound					11th Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	13	35	0	0	48	0	0	0	0	0	0	21	4	0	25	5	106	12	0	123	196
17:00	17	46	0	0	63	0	0	0	0	0	0	30	9	0	39	5	117	12	0	134	236
17:15	15	32	0	0	47	0	0	0	0	0	0	31	11	0	42	4	153	10	0	167	256
17:30	18	34	0	0	52	0	0	0	0	0	0	17	8	0	25	3	145	18	0	166	243
Total Volume	63	147	0	0	210	0	0	0	0	0	0	99	32	0	131	17	521	52	0	590	931
% App Total	30.0%	70.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	75.6%	24.4%	0.0%		2.9%	88.3%	8.8%	0.0%		
PHF	.875	.799	.000	.000	.833	.000	.000	.000	.000	.000	.000	.798	.727	.000	.780	.850	.851	.722	.000	.883	.909

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File Name : 15-7820-002 M.L.K. Jr. Way-11th Street.ppd

Date : 10/20/2015

## Bank 1 Count = Peds & Bikes

START TIME	M.L.K. Jr. Way Southbound					11th Street Westbound					M.L.K. Jr. Way Northbound					11th Street Eastbound					Total	Ped Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
07:00	0	0	0	3	0	0	0	0	1	0	0	1	0	1	1	0	1	0	1	1	2	6
07:15	0	0	0	11	0	0	0	1	4	1	0	1	1	2	2	0	2	0	5	2	5	22
07:30	0	1	0	9	1	0	0	0	5	0	0	2	0	5	2	0	1	0	5	1	4	24
07:45	0	5	0	9	5	0	0	0	6	0	0	0	0	7	0	0	1	0	4	1	6	26
Total	0	6	0	32	6	0	0	1	16	1	0	4	1	15	5	0	5	0	15	5	17	78
08:00	2	3	0	9	5	0	0	0	4	0	0	0	0	2	0	0	2	0	0	2	7	15
08:15	1	0	0	11	1	0	1	1	6	2	0	2	0	5	2	1	3	0	5	4	9	27
08:30	0	2	0	8	2	0	0	0	5	0	0	2	0	4	2	0	1	0	2	1	5	19
08:45	0	5	0	10	5	0	1	0	5	1	0	0	0	5	0	0	0	0	9	0	6	29
Total	3	10	0	38	13	0	2	1	20	3	0	4	0	16	4	1	6	0	16	7	27	90
16:00	0	2	0	1	2	0	0	0	3	0	0	0	0	3	0	0	1	0	4	1	3	11
16:15	1	1	0	6	2	1	1	0	4	2	0	2	2	6	4	0	0	2	7	2	10	23
16:30	0	2	1	4	3	0	0	0	3	0	0	6	0	2	6	1	2	1	4	4	13	13
16:45	0	1	0	2	1	1	0	0	3	1	0	3	0	3	3	0	0	0	4	0	5	12
Total	1	6	1	13	8	2	1	0	13	3	0	11	2	14	13	1	3	3	19	7	31	59
17:00	0	2	0	4	2	0	1	0	7	1	0	3	0	2	3	0	2	0	5	2	8	18
17:15	0	1	0	5	1	0	2	0	4	2	0	2	0	2	2	0	0	0	5	0	5	16
17:30	1	1	0	6	2	0	0	0	4	0	0	3	3	4	6	0	0	1	4	1	9	18
17:45	0	4	0	3	4	0	0	0	2	0	1	5	1	4	7	0	1	0	3	1	12	12
Total	1	8	0	18	9	0	3	0	17	3	1	13	4	12	18	0	3	1	17	4	34	64
Grand Total	5	30	1	101	36	2	6	2	66	10	1	32	7	57	40	2	17	4	67	23	109	291
Apprch %	13.9%	83.3%	2.8%			20.0%	60.0%	20.0%	2.8%		2.5%	80.0%	17.5%			8.7%	73.9%	17.4%				
Total %	4.6%	27.5%	0.9%		33.0%	1.8%	5.5%	1.8%		9.2%	0.9%	29.4%	6.4%		36.7%	1.8%	15.6%	3.7%		21.1%	100.0%	

# ALL TRAFFIC DATA

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 Peds & Bikes on Bank 1  
 Nothing on Bank 2

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File Name : 15-7820-002 M.L.K. Jr. Way-11th Street.ppd

Date : 10/20/2015

## Bank 1 Count = Peds & Bikes

AM PEAK HOUR	M.L.K. Jr. Way Southbound					11th Street Westbound					M.L.K. Jr. Way Northbound					11th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	2	3	0	9	5	0	0	0	4	0	0	0	0	2	0	0	2	0	0	2	7
08:15	1	0	0	11	1	0	1	1	6	2	0	2	0	5	2	1	3	0	5	4	9
08:30	0	2	0	8	2	0	0	0	5	0	0	2	0	4	2	0	1	0	2	1	5
08:45	0	5	0	10	5	0	1	0	5	1	0	0	0	5	0	0	0	0	9	0	6
Total Volume	3	10	0	38	13	0	2	1	20	3	0	4	0	16	4	1	6	0	16	7	27
% App Total	23.1%	76.9%	0.0%			0.0%	66.7%	33.3%			0.0%	100.0%	0.0%			14.3%	85.7%	0.0%			
PHF	.375	.500	.000		.650	.000	.500	.250		.375	.000	.500	.000		.500	.250	.500	.000		.438	.750

PM PEAK HOUR	M.L.K. Jr. Way Southbound					11th Street Westbound					M.L.K. Jr. Way Northbound					11th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	1	0	2	1	1	0	0	3	1	0	3	0	3	3	0	0	0	4	0	5
17:00	0	2	0	4	2	0	1	0	7	1	0	3	0	2	3	0	2	0	5	2	8
17:15	0	1	0	5	1	0	2	0	4	2	0	2	0	2	2	0	0	0	5	0	5
17:30	1	1	0	6	2	0	0	0	4	0	0	3	3	4	6	0	0	1	4	1	9
Total Volume	1	5	0	17	6	1	3	0	18	4	0	11	3	11	14	0	2	1	18	3	27
% App Total	16.7%	83.3%	0.0%			25.0%	75.0%	0.0%			0.0%	78.6%	21.4%			0.0%	66.7%	33.3%			
PHF	.250	.625	.000		.750	.250	.375	.000		.500	.000	.917	.250		.583	.000	.250	.250		.375	.750














**Southbound Peds = North Leg (traveling EB or WB)**  
**Westbound Peds = East Leg (traveling NB or SB)**  
**Northbound Peds = South Leg (traveling EB or WB)**  
**Eastbound Peds = West Leg (traveling NB or SB)**

**Appendix B**  
Intersection LOS Calculation Sheets


















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	2	53	124	655	53	1767	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	0.94	1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.99		1.00	
Flt Protected	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1389	1504	4322	4369		3125	
Flt Permitted	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1389	1504	4322	4369		3125	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	53	124	655	53	1767	16
RTOR Reduction (vph)	2	45	0	8	0	0	0
Lane Group Flow (vph)	0	8	124	700	0	1783	0
Confl. Peds. (#/hr)	36				11		
Heavy Vehicles (%)	0%	8%	8%	1%	1%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	16.4	16.4	16.4	17.5		65.6	
Effective Green, g (s)	16.4	16.4	16.4	17.5		65.6	
Actuated g/C Ratio	0.14	0.14	0.14	0.15		0.57	
Clearance Time (s)	6.0	6.0	6.0	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	198	214	616	664		1782	
v/s Ratio Prot			c0.03	c0.16		c0.57	
v/s Ratio Perm	0.00	0.01					
v/c Ratio	0.00	0.04	0.20	1.05		1.00	
Uniform Delay, d1	42.3	42.5	43.5	48.8		24.7	
Progression Factor	1.00	1.56	0.50	1.00		1.00	
Incremental Delay, d2	0.0	0.1	0.2	50.3		21.5	
Delay (s)	42.3	66.5	21.9	99.0		46.2	
Level of Service	D	E	C	F		D	
Approach Delay (s)			35.2	99.0		46.2	
Approach LOS			D	F		D	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			59.4		HCM 2000 Level of Service		E
HCM 2000 Volume to Capacity ratio			0.88				
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		15.5
Intersection Capacity Utilization			88.4%		ICU Level of Service		E
Analysis Period (min)			15				
c Critical Lane Group							













## HCM 2010 Signalized Intersection Summary

### 2: M.L.K. Jr Way & 12th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	32	294	32	19	127	0	0	129	28
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1810	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				32	294	32	19	127	0	0	129	28
Adj No. of Lanes				0	3	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	1.00
Percent Heavy Veh, %				0	5	0	0	0	0	0	0	0
Cap, veh/h				239	2332	256	157	935	0	0	883	186
Arrive On Green				0.55	0.55	0.55	0.30	0.30	0.00	0.00	0.30	0.30
Sat Flow, veh/h				435	4241	466	276	3202	0	0	3040	619
Grp Volume(v), veh/h				131	109	117	79	67	0	0	77	80
Grp Sat Flow(s),veh/h/ln				1788	1647	1708	1749	1643	0	0	1805	1758
Q Serve(g_s), s				2.1	1.9	2.0	0.0	1.8	0.0	0.0	1.9	2.0
Cycle Q Clear(g_c), s				2.1	1.9	2.0	1.8	1.8	0.0	0.0	1.9	2.0
Prop In Lane				0.24		0.27	0.24		0.00	0.00		0.35
Lane Grp Cap(c), veh/h				983	906	939	599	493	0	0	542	527
V/C Ratio(X)				0.13	0.12	0.12	0.13	0.14	0.00	0.00	0.14	0.15
Avail Cap(c_a), veh/h				983	906	939	599	493	0	0	542	527
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				6.6	6.5	6.5	15.3	15.3	0.0	0.0	15.4	15.4
Incr Delay (d2), s/veh				0.3	0.3	0.3	0.5	0.6	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				1.1	0.9	1.0	1.0	0.9	0.0	0.0	1.0	1.0
LnGrp Delay(d),s/veh				6.8	6.8	6.8	15.8	15.9	0.0	0.0	15.9	16.0
LnGrp LOS				A	A	A	B	B			B	B
Approach Vol, veh/h					358			146			157	
Approach Delay, s/veh					6.8			15.8			16.0	
Approach LOS					A			B			B	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		4.0		4.1		3.8						
Green Ext Time (p_c), s		1.5		0.0		1.5						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.0								
HCM 2010 LOS				B								
















# HCM Signalized Intersection Capacity Analysis

## 3: Brush St & 11th St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑								↓	↑↑↑		
Volume (vph)	0	187	48	0	0	0	0	0	0	807	1623	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5								5.0	5.0		
Lane Util. Factor		0.95								0.86	0.86		
Frbp, ped/bikes		1.00								1.00	1.00		
Flpb, ped/bikes		1.00								1.00	1.00		
Frt		0.97								1.00	1.00		
Flt Protected		1.00								0.95	0.99		
Satd. Flow (prot)		3353								1537	4812		
Flt Permitted		1.00								0.95	0.99		
Satd. Flow (perm)		3353								1537	4812		
Peak-hour factor, PHF	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. Flow (vph)	0	187	48	0	0	0	0	0	0	807	1623	30	
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	55	11	0	
Lane Group Flow (vph)	0	213	0	0	0	0	0	0	0	542	1852	0	
Confl. Peds. (#/hr)	45		2									16	
Confl. Bikes (#/hr)			2										
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	0%	0%	0%	1%	1%	1%	
Turn Type		NA								Perm	NA		
Protected Phases		4									6		
Permitted Phases										6			
Actuated Green, G (s)		19.0								86.5	86.5		
Effective Green, g (s)		19.0								86.5	86.5		
Actuated g/C Ratio		0.17								0.75	0.75		
Clearance Time (s)		4.5								5.0	5.0		
Vehicle Extension (s)		3.0								3.0	3.0		
Lane Grp Cap (vph)		553								1156	3619		
v/s Ratio Prot		c0.06											
v/s Ratio Perm										0.35	0.38		
v/c Ratio		0.39								0.47	0.51		
Uniform Delay, d1		42.8								5.5	5.7		
Progression Factor		1.00								0.05	0.09		
Incremental Delay, d2		0.4								0.3	0.1		
Delay (s)		43.2								0.6	0.7		
Level of Service		D								A	A		
Approach Delay (s)		43.2			0.0			0.0			0.6		
Approach LOS		D			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			4.4		HCM 2000 Level of Service						A		
HCM 2000 Volume to Capacity ratio			0.49										
Actuated Cycle Length (s)			115.0		Sum of lost time (s)						9.5		
Intersection Capacity Utilization			51.9%		ICU Level of Service						A		
Analysis Period (min)			15										

c Critical Lane Group














HCM 2010 Signalized Intersection Summary  
 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	96	819	77	0	0	0	0	53	21	67	97	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	96	819	77				0	53	21	67	97	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	1	0				0	0	0	0	0	0
Cap, veh/h	351	3224	306				0	723	268	391	583	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.28	0.28	0.00
Sat Flow, veh/h	620	5689	540				0	2648	945	1009	2145	0
Grp Volume(v), veh/h	287	454	251				0	36	38	90	74	0
Grp Sat Flow(s),veh/h/ln	1850	1618	1763				0	1805	1692	1425	1643	0
Q Serve(g_s), s	4.8	4.2	4.3				0.0	0.9	1.0	2.0	2.0	0.0
Cycle Q Clear(g_c), s	4.8	4.2	4.3				0.0	0.9	1.0	3.0	2.0	0.0
Prop In Lane	0.34		0.31				0.00		0.56	0.75		0.00
Lane Grp Cap(c), veh/h	1048	1834	999				0	511	479	509	465	0
V/C Ratio(X)	0.27	0.25	0.25				0.00	0.07	0.08	0.18	0.16	0.00
Avail Cap(c_a), veh/h	1048	1834	999				0	511	479	509	465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.7	6.6	6.6				0.0	15.7	15.8	16.5	16.1	0.0
Incr Delay (d2), s/veh	0.6	0.3	0.6				0.0	0.3	0.3	0.8	0.7	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
%ile BackOfQ(50%),veh/ln	2.6	2.0	2.3				0.0	0.5	0.5	1.2	1.0	0.0
LnGrp Delay(d),s/veh	7.3	6.9	7.2				0.0	16.0	16.1	17.2	16.9	0.0
LnGrp LOS	A	A	A					B	B	B	B	
Approach Vol, veh/h		992						74			164	
Approach Delay, s/veh		7.1						16.0			17.1	
Approach LOS		A						B			B	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		3.0		6.8		5.0						
Green Ext Time (p_c), s		1.1		0.0		1.0						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									


















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	1	112	119	360	34	1206	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.99		1.00	
Flt Protected	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1479	1469	4532	4317		3185	
Flt Permitted	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1479	1469	4532	4317		3185	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	112	119	360	34	1206	36
RTOR Reduction (vph)	1	66	0	15	0	0	0
Lane Group Flow (vph)	0	46	119	379	0	1242	0
Confl. Peds. (#/hr)		67			15		
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	3%	3%	2%	2%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	17.6	17.6	17.6	13.3		40.1	
Effective Green, g (s)	17.6	17.6	17.6	13.3		40.1	
Actuated g/C Ratio	0.21	0.21	0.21	0.16		0.47	
Clearance Time (s)	4.5	4.5	4.5	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	306	304	938	675		1502	
v/s Ratio Prot			0.03	c0.09		c0.39	
v/s Ratio Perm	0.00	c0.03					
v/c Ratio	0.00	0.15	0.13	0.56		0.83	
Uniform Delay, d1	26.7	27.6	27.4	33.2		19.4	
Progression Factor	1.00	1.15	1.05	1.00		1.00	
Incremental Delay, d2	0.0	0.2	0.1	1.1		5.4	
Delay (s)	26.7	31.9	28.9	34.2		24.8	
Level of Service	C	C	C	C		C	
Approach Delay (s)			30.3	34.2		24.8	
Approach LOS			C	C		C	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			27.5		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.61				
Actuated Cycle Length (s)			85.0		Sum of lost time (s)		14.0
Intersection Capacity Utilization			69.5%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							













## HCM 2010 Signalized Intersection Summary

### 2: M.L.K. Jr Way & 12th St
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	38	650	30	30	89	0	0	174	70
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.96	0.99		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				38	650	30	30	89	0	0	174	70
Adj No. of Lanes				0	3	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				150	2725	129	258	745	0	0	756	290
Arrive On Green				0.55	0.55	0.55	0.30	0.30	0.00	0.00	0.30	0.30
Sat Flow, veh/h				272	4955	235	564	2569	0	0	2616	968
Grp Volume(v), veh/h				263	219	236	63	56	0	0	122	122
Grp Sat Flow(s),veh/h/ln				1886	1729	1847	1404	1643	0	0	1805	1684
Q Serve(g_s), s				4.4	3.9	4.0	0.1	1.5	0.0	0.0	3.1	3.3
Cycle Q Clear(g_c), s				4.4	3.9	4.0	3.3	1.5	0.0	0.0	3.1	3.3
Prop In Lane				0.14		0.13	0.48		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				1038	951	1016	510	493	0	0	542	505
V/C Ratio(X)				0.25	0.23	0.23	0.12	0.11	0.00	0.00	0.23	0.24
Avail Cap(c_a), veh/h				1038	951	1016	510	493	0	0	542	505
HCM Platoon Ratio				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	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.1	7.0	7.0	15.2	15.2	0.0	0.0	15.8	15.8
Incr Delay (d2), s/veh				0.6	0.6	0.5	0.5	0.5	0.0	0.0	1.0	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
%ile BackOfQ(50%),veh/ln				2.4	2.0	2.1	0.8	0.7	0.0	0.0	1.6	1.7
LnGrp Delay(d),s/veh				7.6	7.5	7.5	15.7	15.7	0.0	0.0	16.7	17.0
LnGrp LOS				A	A	A	B	B			B	B
Approach Vol, veh/h					718			119			244	
Approach Delay, s/veh					7.6			15.7			16.9	
Approach LOS					A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		5.3		6.4		5.3						
Green Ext Time (p_c), s		1.8		0.0		1.8						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.6								
HCM 2010 LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 3: Brush St & 11th St

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↑↑								↘	↑↑↑			
Volume (vph)	0	223	57	0	0	0	0	0	0	410	1221	36		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.5								5.0	5.0			
Lane Util. Factor		0.95								0.86	0.86			
Frbp, ped/bikes		1.00								1.00	1.00			
Flpb, ped/bikes		1.00								1.00	1.00			
Frt		0.97								1.00	1.00			
Flt Protected		1.00								0.95	1.00			
Satd. Flow (prot)		3384								1535	4821			
Flt Permitted		1.00								0.95	1.00			
Satd. Flow (perm)		3384								1535	4821			
Peak-hour factor, PHF	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. Flow (vph)	0	223	57	0	0	0	0	0	0	410	1221	36		
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	0	84	4	0		
Lane Group Flow (vph)	0	246	0	0	0	0	0	0	0	285	1294	0		
Confl. Peds. (#/hr)	27		3							1		21		
Confl. Bikes (#/hr)			3			1								
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	0%	0%	0%	1%	1%	1%		
Turn Type		NA								Perm	NA			
Protected Phases		4									6			
Permitted Phases										6				
Actuated Green, G (s)		11.5								64.0	64.0			
Effective Green, g (s)		11.5								64.0	64.0			
Actuated g/C Ratio		0.14								0.75	0.75			
Clearance Time (s)		4.5								5.0	5.0			
Vehicle Extension (s)		3.0								3.0	3.0			
Lane Grp Cap (vph)		457								1155	3629			
v/s Ratio Prot		c0.07												
v/s Ratio Perm										0.19	0.27			
v/c Ratio		0.54								0.25	0.36			
Uniform Delay, d1		34.3								3.2	3.5			
Progression Factor		1.00								0.16	0.12			
Incremental Delay, d2		1.2								0.4	0.2			
Delay (s)		35.5								0.9	0.6			
Level of Service		D								A	A			
Approach Delay (s)		35.5			0.0			0.0			0.7			
Approach LOS		D			A			A			A			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			5.7									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.38											
Actuated Cycle Length (s)			85.0								9.5		Sum of lost time (s)	
Intersection Capacity Utilization			41.8%										ICU Level of Service	A
Analysis Period (min)			15											
c Critical Lane Group														














HCM 2010 Signalized Intersection Summary  
 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	17	521	52	0	0	0	0	99	32	63	147	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.96	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	17	521	52				0	99	32	63	147	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	106	3475	347				0	762	234	304	681	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.28	0.28	0.00
Sat Flow, veh/h	188	6133	613				0	2786	827	743	2490	0
Grp Volume(v), veh/h	171	268	151				0	65	66	113	97	0
Grp Sat Flow(s),veh/h/ln	1891	1634	1776				0	1805	1712	1504	1643	0
Q Serve(g_s), s	2.6	2.3	2.4				0.0	1.6	1.7	1.5	2.7	0.0
Cycle Q Clear(g_c), s	2.6	2.3	2.4				0.0	1.6	1.7	3.2	2.7	0.0
Prop In Lane	0.10		0.35				0.00		0.48	0.56		0.00
Lane Grp Cap(c), veh/h	1071	1852	1006				0	511	485	520	465	0
V/C Ratio(X)	0.16	0.14	0.15				0.00	0.13	0.14	0.22	0.21	0.00
Avail Cap(c_a), veh/h	1071	1852	1006				0	511	485	520	465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.2	6.1	6.2				0.0	16.0	16.0	16.5	16.4	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.3				0.0	0.5	0.6	1.0	1.0	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
%ile BackOfQ(50%),veh/ln	1.4	1.1	1.3				0.0	0.9	0.9	1.6	1.3	0.0
LnGrp Delay(d),s/veh	6.5	6.3	6.5				0.0	16.5	16.6	17.4	17.4	0.0
LnGrp LOS	A	A	A					B	B	B	B	
Approach Vol, veh/h		590						131			210	
Approach Delay, s/veh		6.4						16.6			17.4	
Approach LOS		A						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		3.7		4.6		5.2						
Green Ext Time (p_c), s		1.7		0.0		1.6						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									


















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	2	60	124	661	53	1945	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frbp, ped/bikes	0.94	1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.99		1.00	
Flt Protected	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1389	1504	4322	4370		3126	
Flt Permitted	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1389	1504	4322	4370		3126	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	60	124	661	53	1945	16
RTOR Reduction (vph)	2	52	0	8	0	0	0
Lane Group Flow (vph)	0	8	124	706	0	1961	0
Confl. Peds. (#/hr)	36				11		
Heavy Vehicles (%)	0%	8%	8%	1%	1%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	15.8	15.8	15.8	17.5		66.2	
Effective Green, g (s)	15.8	15.8	15.8	17.5		66.2	
Actuated g/C Ratio	0.14	0.14	0.14	0.15		0.58	
Clearance Time (s)	6.0	6.0	6.0	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	206	593	665		1799	
v/s Ratio Prot			c0.03	c0.16		c0.63	
v/s Ratio Perm	0.00	0.01					
v/c Ratio	0.00	0.04	0.21	1.06		1.09	
Uniform Delay, d1	42.8	43.0	44.1	48.8		24.4	
Progression Factor	1.00	1.27	0.49	1.00		1.00	
Incremental Delay, d2	0.0	0.1	0.2	52.6		50.3	
Delay (s)	42.8	54.5	21.6	101.3		74.7	
Level of Service	D	D	C	F		E	
Approach Delay (s)			32.3	101.3		74.7	
Approach LOS			C	F		E	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			78.6		HCM 2000 Level of Service		E
HCM 2000 Volume to Capacity ratio			0.95				
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		15.5
Intersection Capacity Utilization			94.5%		ICU Level of Service		F
Analysis Period (min)			15				
c Critical Lane Group							













## HCM 2010 Signalized Intersection Summary

### 2: M.L.K. Jr Way & 12th St
















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	93	294	32	50	132	0	0	143	28
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.97	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1810	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				93	294	32	50	132	0	0	143	28
Adj No. of Lanes				0	3	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	1.00
Percent Heavy Veh, %				0	5	0	0	0	0	0	0	0
Cap, veh/h				588	2011	220	291	740	0	0	901	171
Arrive On Green				0.55	0.55	0.55	0.30	0.30	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1069	3656	400	667	2554	0	0	3098	571
Grp Volume(v), veh/h				153	128	138	97	85	0	0	84	87
Grp Sat Flow(s),veh/h/ln				1756	1647	1723	1492	1643	0	0	1805	1769
Q Serve(g_s), s				2.6	2.3	2.3	0.5	2.3	0.0	0.0	2.1	2.2
Cycle Q Clear(g_c), s				2.6	2.3	2.3	2.7	2.3	0.0	0.0	2.1	2.2
Prop In Lane				0.61		0.23	0.52		0.00	0.00		0.32
Lane Grp Cap(c), veh/h				966	906	947	538	493	0	0	542	531
V/C Ratio(X)				0.16	0.14	0.15	0.18	0.17	0.00	0.00	0.16	0.16
Avail Cap(c_a), veh/h				966	906	947	538	493	0	0	542	531
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				6.7	6.6	6.6	15.5	15.5	0.0	0.0	15.4	15.5
Incr Delay (d2), s/veh				0.3	0.3	0.3	0.7	0.8	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				1.3	1.1	1.2	1.3	1.1	0.0	0.0	1.1	1.2
LnGrp Delay(d),s/veh				7.0	6.9	6.9	16.3	16.3	0.0	0.0	16.0	16.1
LnGrp LOS				A	A	A	B	B			B	B
Approach Vol, veh/h					419			182			171	
Approach Delay, s/veh					7.0			16.3			16.1	
Approach LOS					A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		4.2		4.6		4.7						
Green Ext Time (p_c), s		1.8		0.0		1.7						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.2								
HCM 2010 LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 3: Brush St & 11th St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑								↵	↑↑↑		
Volume (vph)	0	187	48	0	0	0	0	0	0	991	1630	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5								5.0	5.0		
Lane Util. Factor		0.95								0.86	0.86		
Frbp, ped/bikes		1.00								1.00	1.00		
Flpb, ped/bikes		1.00								1.00	1.00		
Frt		0.97								1.00	1.00		
Flt Protected		1.00								0.95	0.99		
Satd. Flow (prot)		3353								1537	4799		
Flt Permitted		1.00								0.95	0.99		
Satd. Flow (perm)		3353								1537	4799		
Peak-hour factor, PHF	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. Flow (vph)	0	187	48	0	0	0	0	0	0	991	1630	30	
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	55	21	0	
Lane Group Flow (vph)	0	213	0	0	0	0	0	0	0	589	1986	0	
Confl. Peds. (#/hr)	45		2									16	
Confl. Bikes (#/hr)			2										
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	0%	0%	0%	1%	1%	1%	
Turn Type		NA								Perm	NA		
Protected Phases		4									6		
Permitted Phases										6			
Actuated Green, G (s)		19.0								86.5	86.5		
Effective Green, g (s)		19.0								86.5	86.5		
Actuated g/C Ratio		0.17								0.75	0.75		
Clearance Time (s)		4.5								5.0	5.0		
Vehicle Extension (s)		3.0								3.0	3.0		
Lane Grp Cap (vph)		553								1156	3609		
v/s Ratio Prot		c0.06											
v/s Ratio Perm										0.38	0.41		
v/c Ratio		0.39								0.51	0.55		
Uniform Delay, d1		42.8								5.7	6.0		
Progression Factor		1.00								0.07	0.10		
Incremental Delay, d2		0.4								0.1	0.1		
Delay (s)		43.2								0.6	0.7		
Level of Service		D								A	A		
Approach Delay (s)		43.2			0.0			0.0			0.6		
Approach LOS		D			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			4.1		HCM 2000 Level of Service						A		
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			115.0		Sum of lost time (s)						9.5		
Intersection Capacity Utilization			54.8%		ICU Level of Service						A		
Analysis Period (min)			15										
c Critical Lane Group													

HCM 2010 Signalized Intersection Summary  
 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	363	819	77	0	0	0	0	106	21	77	105	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	363	819	77				0	106	21	77	105	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	1	0				0	0	0	0	0	0
Cap, veh/h	1015	2603	244				0	850	163	384	553	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.28	0.28	0.00
Sat Flow, veh/h	1792	4593	430				0	3096	577	974	2039	0
Grp Volume(v), veh/h	363	576	320				0	62	65	97	85	0
Grp Sat Flow(s),veh/h/ln	1792	1618	1787				0	1805	1773	1284	1643	0
Q Serve(g_s), s	6.6	5.6	5.7				0.0	1.5	1.6	2.7	2.3	0.0
Cycle Q Clear(g_c), s	6.6	5.6	5.7				0.0	1.5	1.6	4.3	2.3	0.0
Prop In Lane	1.00		0.24				0.00		0.33	0.79		0.00
Lane Grp Cap(c), veh/h	1015	1834	1013				0	511	502	471	465	0
V/C Ratio(X)	0.36	0.31	0.32				0.00	0.12	0.13	0.21	0.18	0.00
Avail Cap(c_a), veh/h	1015	1834	1013				0	511	502	471	465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	6.9	6.9				0.0	16.0	16.0	17.1	16.2	0.0
Incr Delay (d2), s/veh	1.0	0.4	0.8				0.0	0.5	0.5	1.0	0.9	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
%ile BackOfQ(50%),veh/ln	3.5	2.6	3.0				0.0	0.8	0.9	1.4	1.2	0.0
LnGrp Delay(d),s/veh	8.0	7.3	7.7				0.0	16.4	16.5	18.1	17.1	0.0
LnGrp LOS	A	A	A					B	B	B	B	
Approach Vol, veh/h		1259						127			182	
Approach Delay, s/veh		7.6						16.5			17.6	
Approach LOS		A						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		3.6		8.6		6.3						
Green Ext Time (p_c), s		1.5		0.0		1.3						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									



HCM 2010 TWSC  
 5: M.L.K. Jr Way & Project Driveway

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	18	36	146	321	75	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	36	146	321	75	165














Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	540	234	0	0	467	0
Stage 1	307	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	472	768	-	-	1091	-
Stage 1	719	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	436	768	-	-	1091	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	2.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	613	1091	-
HCM Lane V/C Ratio	-	-	0.088	0.069	-
HCM Control Delay (s)	-	-	11.4	8.5	0.2
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-
















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	1	157	119	361	34	1238	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	0.93	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.99		1.00	
Flt Protected	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1479	1469	4532	4317		3185	
Flt Permitted	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1479	1469	4532	4317		3185	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	157	119	361	34	1238	36
RTOR Reduction (vph)	1	66	0	14	0	0	0
Lane Group Flow (vph)	0	91	119	381	0	1274	0
Confl. Peds. (#/hr)		67			15		
Confl. Bikes (#/hr)					1		
Heavy Vehicles (%)	0%	3%	3%	2%	2%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	17.7	17.7	17.7	13.3		40.0	
Effective Green, g (s)	17.7	17.7	17.7	13.3		40.0	
Actuated g/C Ratio	0.21	0.21	0.21	0.16		0.47	
Clearance Time (s)	4.5	4.5	4.5	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	307	305	943	675		1498	
v/s Ratio Prot			0.03	c0.09		c0.40	
v/s Ratio Perm	0.00	c0.06					
v/c Ratio	0.00	0.30	0.13	0.56		0.85	
Uniform Delay, d1	26.6	28.4	27.4	33.2		19.9	
Progression Factor	1.00	1.42	1.21	1.00		1.00	
Incremental Delay, d2	0.0	0.5	0.1	1.1		6.3	
Delay (s)	26.6	40.7	33.1	34.3		26.1	
Level of Service	C	D	C	C		C	
Approach Delay (s)			37.4	34.3		26.1	
Approach LOS			D	C		C	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			29.4		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.66				
Actuated Cycle Length (s)			85.0		Sum of lost time (s)		14.0
Intersection Capacity Utilization			73.3%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							













## HCM 2010 Signalized Intersection Summary

### 2: M.L.K. Jr Way & 12th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	49	650	30	228	123	0	0	176	70
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.96	0.99		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				49	650	30	228	123	0	0	176	70
Adj No. of Lanes				0	3	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				190	2685	127	398	493	0	0	759	288
Arrive On Green				0.55	0.55	0.55	0.30	0.30	0.00	0.00	0.30	0.30
Sat Flow, veh/h				346	4882	231	927	1729	0	0	2624	961
Grp Volume(v), veh/h				267	223	239	228	123	0	0	123	123
Grp Sat Flow(s),veh/h/ln				1883	1729	1847	927	1643	0	0	1805	1685
Q Serve(g_s), s				4.5	4.0	4.0	11.4	3.4	0.0	0.0	3.1	3.3
Cycle Q Clear(g_c), s				4.5	4.0	4.0	14.7	3.4	0.0	0.0	3.1	3.3
Prop In Lane				0.18		0.13	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				1035	951	1016	398	493	0	0	542	506
V/C Ratio(X)				0.26	0.23	0.24	0.57	0.25	0.00	0.00	0.23	0.24
Avail Cap(c_a), veh/h				1035	951	1016	398	493	0	0	542	506
HCM Platoon Ratio				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	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.1	7.0	7.0	21.4	15.9	0.0	0.0	15.8	15.9
Incr Delay (d2), s/veh				0.6	0.6	0.5	5.9	1.2	0.0	0.0	1.0	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
%ile BackOfQ(50%),veh/ln				2.5	2.0	2.1	4.2	1.7	0.0	0.0	1.7	1.7
LnGrp Delay(d),s/veh				7.7	7.6	7.5	27.3	17.1	0.0	0.0	16.8	17.0
LnGrp LOS				A	A	A	C	B			B	B
Approach Vol, veh/h					729			351			246	
Approach Delay, s/veh					7.6			23.7			16.9	
Approach LOS					A			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		5.3		6.5		16.7						
Green Ext Time (p_c), s		3.3		0.0		0.5						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.6								
HCM 2010 LOS				B								

# HCM Signalized Intersection Capacity Analysis
















## 3: Brush St & 11th St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑								↘	↑↑↑		
Volume (vph)	0	223	57	0	0	0	0	0	0	443	1266	36	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5								5.0	5.0		
Lane Util. Factor		0.95								0.86	0.86		
Frbp, ped/bikes		1.00								1.00	1.00		
Flpb, ped/bikes		1.00								1.00	1.00		
Frt		0.97								1.00	1.00		
Flt Protected		1.00								0.95	1.00		
Satd. Flow (prot)		3384								1535	4822		
Flt Permitted		1.00								0.95	1.00		
Satd. Flow (perm)		3384								1535	4822		
Peak-hour factor, PHF	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. Flow (vph)	0	223	57	0	0	0	0	0	0	443	1266	36	
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	0	84	4	0	
Lane Group Flow (vph)	0	246	0	0	0	0	0	0	0	315	1342	0	
Confl. Peds. (#/hr)	27		3							1		21	
Confl. Bikes (#/hr)			3			1							
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	0%	0%	0%	1%	1%	1%	
Turn Type		NA								Perm	NA		
Protected Phases		4									6		
Permitted Phases										6			
Actuated Green, G (s)		11.5								64.0	64.0		
Effective Green, g (s)		11.5								64.0	64.0		
Actuated g/C Ratio		0.14								0.75	0.75		
Clearance Time (s)		4.5								5.0	5.0		
Vehicle Extension (s)		3.0								3.0	3.0		
Lane Grp Cap (vph)		457								1155	3630		
v/s Ratio Prot		c0.07											
v/s Ratio Perm										0.21	0.28		
v/c Ratio		0.54								0.27	0.37		
Uniform Delay, d1		34.3								3.3	3.6		
Progression Factor		1.00								0.12	0.17		
Incremental Delay, d2		1.2								0.4	0.2		
Delay (s)		35.5								0.8	0.8		
Level of Service		D								A	A		
Approach Delay (s)		35.5			0.0			0.0			0.8		
Approach LOS		D			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			5.6		HCM 2000 Level of Service					A			
HCM 2000 Volume to Capacity ratio			0.40										
Actuated Cycle Length (s)			85.0		Sum of lost time (s)					9.5			
Intersection Capacity Utilization			42.9%		ICU Level of Service					A			
Analysis Period (min)			15										

c Critical Lane Group

# HCM 2010 Signalized Intersection Summary

## 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	65	521	52	0	0	0	0	109	32	125	202	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.96	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	65	521	52				0	109	32	125	202	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	374	3225	322				0	781	219	361	576	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.57	0.57	0.00
Sat Flow, veh/h	660	5692	568				0	2851	773	906	2121	0
Grp Volume(v), veh/h	184	291	163				0	70	71	168	159	0
Grp Sat Flow(s),veh/h/ln	1867	1634	1785				0	1805	1724	1297	1643	0
Q Serve(g_s), s	2.8	2.5	2.6				0.0	1.7	1.9	3.6	3.1	0.0
Cycle Q Clear(g_c), s	2.8	2.5	2.6				0.0	1.7	1.9	5.4	3.1	0.0
Prop In Lane	0.35		0.32				0.00		0.45	0.74		0.00
Lane Grp Cap(c), veh/h	1058	1852	1011				0	511	489	472	465	0
V/C Ratio(X)	0.17	0.16	0.16				0.00	0.14	0.15	0.36	0.34	0.00
Avail Cap(c_a), veh/h	1058	1852	1011				0	511	489	472	465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.2	6.2	6.2				0.0	16.0	16.1	10.6	10.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.3				0.0	0.6	0.6	2.1	2.0	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
%ile BackOfQ(50%),veh/ln	1.5	1.2	1.4				0.0	0.9	1.0	2.0	1.6	0.0
LnGrp Delay(d),s/veh	6.6	6.4	6.5				0.0	16.6	16.7	12.7	12.0	0.0
LnGrp LOS	A	A	A					B	B	B	B	
Approach Vol, veh/h		638						141			327	
Approach Delay, s/veh		6.5						16.6			12.4	
Approach LOS		A						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		3.9		4.8		7.4						
Green Ext Time (p_c), s		2.4		0.0		2.0						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									



HCM 2010 TWSC  
 5: M.L.K. Jr Way & Project Driveway

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	117	232	119	58	13	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	232	119	58	13	210














Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	279	89	0
Stage 1	148	-	-
Stage 2	131	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	688	951	1396
Stage 1	864	-	-
Stage 2	881	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	680	951	1396
Mov Cap-2 Maneuver	680	-	-
Stage 1	864	-	-
Stage 2	871	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	839	1396	-
HCM Lane V/C Ratio	-	-	0.416	0.009	-
HCM Control Delay (s)	-	-	12.3	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	-



















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	10	80	390	790	130	2030	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	0.91	1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.98		0.99	
Flt Protected	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1353	1504	4322	4310		3115	
Flt Permitted	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1353	1504	4322	4310		3115	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	80	390	790	130	2030	90
RTOR Reduction (vph)	8	52	0	20	0	0	0
Lane Group Flow (vph)	2	28	390	901	0	2120	0
Confl. Peds. (#/hr)	54				17		
Heavy Vehicles (%)	0%	8%	8%	1%	1%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	18.7	18.7	18.7	17.5		63.3	
Effective Green, g (s)	18.7	18.7	18.7	17.5		63.3	
Actuated g/C Ratio	0.16	0.16	0.16	0.15		0.55	
Clearance Time (s)	6.0	6.0	6.0	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	220	244	702	655		1714	
v/s Ratio Prot			c0.09	c0.21		c0.68	
v/s Ratio Perm	0.00	0.02					
v/c Ratio	0.01	0.12	0.56	1.37		1.24	
Uniform Delay, d1	40.4	41.1	44.3	48.8		25.9	
Progression Factor	1.00	0.65	0.43	1.00		1.00	
Incremental Delay, d2	0.0	0.2	0.9	178.2		111.8	
Delay (s)	40.4	27.1	20.1	227.0		137.7	
Level of Service	D	C	C	F		F	
Approach Delay (s)			21.3	227.0		137.7	
Approach LOS			C	F		F	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			145.2		HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.13				
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		15.5
Intersection Capacity Utilization			109.2%		ICU Level of Service		H
Analysis Period (min)			15				
c Critical Lane Group							













## HCM 2010 Signalized Intersection Summary

### 2: M.L.K. Jr Way & 12th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	40	660	50	40	260	0	0	250	50
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.93	0.97		1.00	1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1810	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				40	660	50	40	260	0	0	250	50
Adj No. of Lanes				0	3	0	1	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	1.00
Percent Heavy Veh, %				0	5	0	0	0	0	0	0	0
Cap, veh/h				143	2499	194	291	570	0	0	452	90
Arrive On Green				0.55	0.55	0.55	0.60	0.60	0.00	0.00	0.30	0.30
Sat Flow, veh/h				260	4545	353	1064	1900	0	0	1507	301
Grp Volume(v), veh/h				277	230	243	40	260	0	0	0	300
Grp Sat Flow(s),veh/h/ln				1797	1647	1714	1064	1900	0	0	0	1808
Q Serve(g_s), s				4.9	4.4	4.5	1.7	4.5	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s				4.9	4.4	4.5	10.0	4.5	0.0	0.0	0.0	8.4
Prop In Lane				0.14		0.21	1.00		0.00	0.00		0.17
Lane Grp Cap(c), veh/h				988	906	943	291	570	0	0	0	542
V/C Ratio(X)				0.28	0.25	0.26	0.14	0.46	0.00	0.00	0.00	0.55
Avail Cap(c_a), veh/h				988	906	943	291	570	0	0	0	542
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.2	7.1	7.1	13.5	9.3	0.0	0.0	0.0	17.6
Incr Delay (d2), s/veh				0.7	0.7	0.7	1.0	2.6	0.0	0.0	0.0	4.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	2.2	2.3	0.5	2.7	0.0	0.0	0.0	4.8
LnGrp Delay(d),s/veh				7.9	7.7	7.7	14.4	11.9	0.0	0.0	0.0	21.6
LnGrp LOS				A	A	A	B	B				C
Approach Vol, veh/h					750			300			300	
Approach Delay, s/veh					7.8			12.3			21.6	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		10.4		6.9		12.0						
Green Ext Time (p_c), s		2.3		0.0		1.9						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay					11.9							
HCM 2010 LOS					B							

















# HCM Signalized Intersection Capacity Analysis

## 3: Brush St & 11th St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑								↘	↑↑↑		
Volume (vph)	0	220	80	0	0	0	0	0	0	910	1960	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5								5.0	5.0		
Lane Util. Factor		0.95								0.86	0.86		
Frbp, ped/bikes		0.99								1.00	1.00		
Flpb, ped/bikes		1.00								1.00	1.00		
Frt		0.96								1.00	1.00		
Flt Protected		1.00								0.95	1.00		
Satd. Flow (prot)		3315								1537	4818		
Flt Permitted		1.00								0.95	1.00		
Satd. Flow (perm)		3315								1537	4818		
Peak-hour factor, PHF	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. Flow (vph)	0	220	80	0	0	0	0	0	0	910	1960	30	
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	35	9	0	
Lane Group Flow (vph)	0	283	0	0	0	0	0	0	0	666	2190	0	
Confl. Peds. (#/hr)	68		3									24	
Confl. Bikes (#/hr)			3										
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	0%	0%	0%	1%	1%	1%	
Turn Type		NA								Perm	NA		
Protected Phases		4									6		
Permitted Phases										6			
Actuated Green, G (s)		19.8								85.7	85.7		
Effective Green, g (s)		19.8								85.7	85.7		
Actuated g/C Ratio		0.17								0.75	0.75		
Clearance Time (s)		4.5								5.0	5.0		
Vehicle Extension (s)		3.0								3.0	3.0		
Lane Grp Cap (vph)		570								1145	3590		
v/s Ratio Prot		c0.09											
v/s Ratio Perm										0.43	0.45		
v/c Ratio		0.50								0.58	0.61		
Uniform Delay, d1		43.1								6.6	6.8		
Progression Factor		1.00								0.07	0.13		
Incremental Delay, d2		0.7								0.2	0.1		
Delay (s)		43.8								0.6	0.9		
Level of Service		D								A	A		
Approach Delay (s)		43.8			0.0			0.0			0.9		
Approach LOS		D			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			4.9									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			115.0									Sum of lost time (s)	9.5
Intersection Capacity Utilization			60.6%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

# HCM 2010 Signalized Intersection Summary














## 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	880	80	0	0	0	0	170	30	80	210	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92				1.00		0.92	0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	130	880	80				0	170	30	80	210	0
Adj No. of Lanes	0	4	0				0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	1	0				0	0	0	0	0	0
Cap, veh/h	431	3146	288				0	439	78	346	538	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.57	0.57	0.00
Sat Flow, veh/h	761	5551	509				0	1550	274	1160	1900	0
Grp Volume(v), veh/h	315	501	274				0	0	200	80	210	0
Grp Sat Flow(s),veh/h/ln	1843	1618	1742				0	0	1824	1160	1900	0
Q Serve(g_s), s	5.4	4.8	4.8				0.0	0.0	5.3	2.9	3.7	0.0
Cycle Q Clear(g_c), s	5.4	4.8	4.8				0.0	0.0	5.3	8.2	3.7	0.0
Prop In Lane	0.41		0.29				0.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	1044	1834	987				0	0	517	346	538	0
V/C Ratio(X)	0.30	0.27	0.28				0.00	0.00	0.39	0.23	0.39	0.00
Avail Cap(c_a), veh/h	1044	1834	987				0	0	517	346	538	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.8	6.7	6.7				0.0	0.0	17.3	13.0	10.1	0.0
Incr Delay (d2), s/veh	0.7	0.4	0.7				0.0	0.0	2.2	1.6	2.1	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
%ile BackOfQ(50%),veh/ln	2.9	2.2	2.5				0.0	0.0	3.0	1.1	2.2	0.0
LnGrp Delay(d),s/veh	7.5	7.0	7.4				0.0	0.0	19.5	14.5	12.2	0.0
LnGrp LOS	A	A	A						B	B	B	
Approach Vol, veh/h		1090						200			290	
Approach Delay, s/veh		7.3						19.5			12.9	
Approach LOS		A						B			B	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		7.3		7.4		10.2						
Green Ext Time (p_c), s		2.0		0.0		1.6						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.8									
HCM 2010 LOS			A									



















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	10	130	360	400	90	1300	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	0.90	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.97		0.99	
Flt Protected	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1479	1415	4532	4230		3105	
Flt Permitted	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1479	1415	4532	4230		3105	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	130	360	400	90	1300	100
RTOR Reduction (vph)	8	64	0	47	0	0	0
Lane Group Flow (vph)	2	66	360	443	0	1400	0
Confl. Peds. (#/hr)		101			23		
Confl. Bikes (#/hr)					2		
Heavy Vehicles (%)	0%	3%	3%	2%	2%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	19.0	19.0	19.0	14.3		37.7	
Effective Green, g (s)	19.0	19.0	19.0	14.3		37.7	
Actuated g/C Ratio	0.22	0.22	0.22	0.17		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	330	316	1013	711		1377	
v/s Ratio Prot			c0.08	c0.10		c0.45	
v/s Ratio Perm	0.00	0.05					
v/c Ratio	0.01	0.21	0.36	0.62		1.02	
Uniform Delay, d1	25.7	26.9	27.8	32.8		23.6	
Progression Factor	1.00	1.53	1.28	1.00		1.00	
Incremental Delay, d2	0.0	0.3	0.2	1.7		28.5	
Delay (s)	25.7	41.3	35.8	34.5		52.2	
Level of Service	C	D	D	C		D	
Approach Delay (s)			37.3	34.5		52.2	
Approach LOS			D	C		D	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			45.4		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.76				
Actuated Cycle Length (s)			85.0		Sum of lost time (s)		14.0
Intersection Capacity Utilization			78.0%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							













## HCM 2010 Signalized Intersection Summary

### 2: M.L.K. Jr Way & 12th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	60	880	50	40	220	0	0	280	90
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.91	0.98		1.00	1.00		0.91
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				60	880	50	40	220	0	0	280	90
Adj No. of Lanes				0	3	0	1	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				171	2660	156	236	570	0	0	403	130
Arrive On Green				0.55	0.55	0.55	0.60	0.60	0.00	0.00	0.30	0.30
Sat Flow, veh/h				310	4837	283	1005	1900	0	0	1344	432
Grp Volume(v), veh/h				365	304	321	40	220	0	0	0	370
Grp Sat Flow(s),veh/h/ln				1884	1729	1816	1005	1900	0	0	0	1776
Q Serve(g_s), s				6.5	5.8	5.8	2.0	3.6	0.0	0.0	0.0	11.1
Cycle Q Clear(g_c), s				6.5	5.8	5.8	13.1	3.6	0.0	0.0	0.0	11.1
Prop In Lane				0.16		0.16	1.00		0.00	0.00		0.24
Lane Grp Cap(c), veh/h				1036	951	999	236	570	0	0	0	533
V/C Ratio(X)				0.35	0.32	0.32	0.17	0.39	0.00	0.00	0.00	0.69
Avail Cap(c_a), veh/h				1036	951	999	236	570	0	0	0	533
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.5	7.4	7.4	15.6	9.1	0.0	0.0	0.0	18.6
Incr Delay (d2), s/veh				0.9	0.9	0.9	1.5	2.0	0.0	0.0	0.0	7.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.6	2.9	3.1	0.7	2.1	0.0	0.0	0.0	6.4
LnGrp Delay(d),s/veh				8.5	8.3	8.2	17.2	11.1	0.0	0.0	0.0	25.9
LnGrp LOS				A	A	A	B	B				C
Approach Vol, veh/h					990			260			370	
Approach Delay, s/veh					8.3			12.0			25.9	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		13.1		8.5		15.1						
Green Ext Time (p_c), s		1.8		0.0		1.1						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

# HCM Signalized Intersection Capacity Analysis

















## 3: Brush St & 11th St

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑								↘	↑↑↑		
Volume (vph)	0	330	90	0	0	0	0	0	0	440	1350	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5								5.0	5.0		
Lane Util. Factor		0.95								0.86	0.86		
Frbp, ped/bikes		1.00								1.00	1.00		
Flpb, ped/bikes		1.00								1.00	1.00		
Frt		0.97								1.00	1.00		
Flt Protected		1.00								0.95	1.00		
Satd. Flow (prot)		3375								1534	4818		
Flt Permitted		1.00								0.95	1.00		
Satd. Flow (perm)		3375								1534	4818		
Peak-hour factor, PHF	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. Flow (vph)	0	330	90	0	0	0	0	0	0	440	1350	40	
RTOR Reduction (vph)	0	33	0	0	0	0	0	0	0	54	5	0	
Lane Group Flow (vph)	0	387	0	0	0	0	0	0	0	342	1429	0	
Confl. Peds. (#/hr)	41		5							2		42	
Confl. Bikes (#/hr)			5			2							
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	0%	0%	0%	1%	1%	1%	
Turn Type		NA								Perm	NA		
Protected Phases		4									6		
Permitted Phases										6			
Actuated Green, G (s)		15.1								60.4	60.4		
Effective Green, g (s)		15.1								60.4	60.4		
Actuated g/C Ratio		0.18								0.71	0.71		
Clearance Time (s)		4.5								5.0	5.0		
Vehicle Extension (s)		3.0								3.0	3.0		
Lane Grp Cap (vph)		599								1090	3423		
v/s Ratio Prot		c0.11											
v/s Ratio Perm										0.22	0.30		
v/c Ratio		0.65								0.31	0.42		
Uniform Delay, d1		32.5								4.6	5.1		
Progression Factor		1.00								0.03	0.13		
Incremental Delay, d2		2.4								0.4	0.2		
Delay (s)		34.9								0.6	0.9		
Level of Service		C								A	A		
Approach Delay (s)		34.9			0.0			0.0			0.8		
Approach LOS		C			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			7.2									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.46										
Actuated Cycle Length (s)			85.0									Sum of lost time (s)	9.5
Intersection Capacity Utilization			48.4%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group














# HCM 2010 Signalized Intersection Summary

## 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	600	70	0	0	0	0	210	40	70	260	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.91	0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	50	600	70				0	210	40	70	260	0
Adj No. of Lanes	0	4	0				0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	255	3269	381				0	432	82	308	538	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.57	0.57	0.00
Sat Flow, veh/h	449	5768	672				0	1524	290	1117	1900	0
Grp Volume(v), veh/h	209	329	182				0	0	250	70	260	0
Grp Sat Flow(s),veh/h/ln	1878	1634	1744				0	0	1814	1117	1900	0
Q Serve(g_s), s	3.3	2.9	3.0				0.0	0.0	6.9	2.8	4.9	0.0
Cycle Q Clear(g_c), s	3.3	2.9	3.0				0.0	0.0	6.9	9.7	4.9	0.0
Prop In Lane	0.24		0.39				0.00		0.16	1.00		0.00
Lane Grp Cap(c), veh/h	1064	1852	988				0	0	514	308	538	0
V/C Ratio(X)	0.20	0.18	0.18				0.00	0.00	0.49	0.23	0.48	0.00
Avail Cap(c_a), veh/h	1064	1852	988				0	0	514	308	538	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.3	6.3	6.3				0.0	0.0	17.9	14.0	10.4	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.4				0.0	0.0	3.3	1.7	3.1	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
%ile BackOfQ(50%),veh/ln	1.8	1.3	1.5				0.0	0.0	3.9	1.0	2.9	0.0
LnGrp Delay(d),s/veh	6.8	6.5	6.7				0.0	0.0	21.1	15.7	13.5	0.0
LnGrp LOS	A	A	A						C	B	B	
Approach Vol, veh/h		720						250			330	
Approach Delay, s/veh		6.6						21.1			13.9	
Approach LOS		A						C			B	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		8.9		5.3		11.7						
Green Ext Time (p_c), s		2.2		0.0		1.6						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.3									
HCM 2010 LOS			B									

















# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp

							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	10	87	390	796	130	2208	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	0.91	1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.98		0.99	
Flt Protected	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1353	1504	4322	4310		3116	
Flt Permitted	1.00	0.95	1.00	1.00		0.95	
Satd. Flow (perm)	1353	1504	4322	4310		3116	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	87	390	796	130	2208	90
RTOR Reduction (vph)	8	52	0	20	0	0	0
Lane Group Flow (vph)	2	35	390	907	0	2298	0
Confl. Peds. (#/hr)	54				17		
Heavy Vehicles (%)	0%	8%	8%	1%	1%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	18.7	18.7	18.7	17.5		63.3	
Effective Green, g (s)	18.7	18.7	18.7	17.5		63.3	
Actuated g/C Ratio	0.16	0.16	0.16	0.15		0.55	
Clearance Time (s)	6.0	6.0	6.0	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	220	244	702	655		1715	
v/s Ratio Prot			c0.09	c0.21		c0.74	
v/s Ratio Perm	0.00	0.02					
v/c Ratio	0.01	0.14	0.56	1.38		1.34	
Uniform Delay, d1	40.4	41.3	44.3	48.8		25.9	
Progression Factor	1.00	0.61	0.42	1.00		1.00	
Incremental Delay, d2	0.0	0.3	0.9	182.2		157.0	
Delay (s)	40.4	25.4	19.6	230.9		182.9	
Level of Service	D	C	B	F		F	
Approach Delay (s)			20.7	230.9		182.9	
Approach LOS			C	F		F	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			173.6		HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.20				
Actuated Cycle Length (s)			115.0		Sum of lost time (s)		15.5
Intersection Capacity Utilization			115.0%		ICU Level of Service		H
Analysis Period (min)			15				
c Critical Lane Group							

## HCM 2010 Signalized Intersection Summary













### 2: M.L.K. Jr Way & 12th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	101	660	50	71	265	0	0	264	50
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.93	0.97		1.00	1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1810	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				101	660	50	71	265	0	0	264	50
Adj No. of Lanes				0	3	0	1	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	1.00
Percent Heavy Veh, %				0	5	0	0	0	0	0	0	0
Cap, veh/h				332	2319	180	281	570	0	0	457	87
Arrive On Green				0.55	0.55	0.55	0.60	0.60	0.00	0.00	0.30	0.30
Sat Flow, veh/h				604	4217	326	1052	1900	0	0	1524	289
Grp Volume(v), veh/h				298	250	264	71	265	0	0	0	314
Grp Sat Flow(s),veh/h/ln				1779	1647	1721	1052	1900	0	0	0	1812
Q Serve(g_s), s				5.4	4.8	4.9	3.2	4.6	0.0	0.0	0.0	8.8
Cycle Q Clear(g_c), s				5.4	4.8	4.9	12.1	4.6	0.0	0.0	0.0	8.8
Prop In Lane				0.34		0.19	1.00		0.00	0.00		0.16
Lane Grp Cap(c), veh/h				979	906	947	281	570	0	0	0	544
V/C Ratio(X)				0.30	0.28	0.28	0.25	0.46	0.00	0.00	0.00	0.58
Avail Cap(c_a), veh/h				979	906	947	281	570	0	0	0	544
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.3	7.2	7.2	14.3	9.3	0.0	0.0	0.0	17.8
Incr Delay (d2), s/veh				0.8	0.8	0.7	2.1	2.7	0.0	0.0	0.0	4.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.9	2.3	2.5	1.1	2.8	0.0	0.0	0.0	5.0
LnGrp Delay(d),s/veh				8.1	7.9	7.9	16.5	12.0	0.0	0.0	0.0	22.2
LnGrp LOS				A	A	A	B	B				C
Approach Vol, veh/h					811			336			314	
Approach Delay, s/veh					8.0			13.0			22.2	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		10.8		7.4		14.1						
Green Ext Time (p_c), s		2.3		0.0		1.5						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay					12.2							
HCM 2010 LOS					B							




















# HCM Signalized Intersection Capacity Analysis

## 3: Brush St & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑								↘	↑↑↑	
Volume (vph)	0	220	80	0	0	0	0	0	0	1094	1967	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5								5.0	5.0	
Lane Util. Factor		0.95								0.86	0.86	
Frbp, ped/bikes		0.99								1.00	1.00	
Flpb, ped/bikes		1.00								1.00	1.00	
Frt		0.96								1.00	1.00	
Flt Protected		1.00								0.95	0.99	
Satd. Flow (prot)		3315								1537	4806	
Flt Permitted		1.00								0.95	0.99	
Satd. Flow (perm)		3315								1537	4806	
Peak-hour factor, PHF	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. Flow (vph)	0	220	80	0	0	0	0	0	0	1094	1967	30
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	35	16	0
Lane Group Flow (vph)	0	283	0	0	0	0	0	0	0	720	2320	0
Confl. Peds. (#/hr)	68		3									24
Confl. Bikes (#/hr)			3									
Heavy Vehicles (%)	4%	4%	4%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA								Perm	NA	
Protected Phases		4									6	
Permitted Phases										6		
Actuated Green, G (s)		19.8								85.7	85.7	
Effective Green, g (s)		19.8								85.7	85.7	
Actuated g/C Ratio		0.17								0.75	0.75	
Clearance Time (s)		4.5								5.0	5.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		570								1145	3581	
v/s Ratio Prot		c0.09										
v/s Ratio Perm										0.47	0.48	
v/c Ratio		0.50								0.63	0.65	
Uniform Delay, d1		43.1								7.0	7.2	
Progression Factor		1.00								0.06	0.12	
Incremental Delay, d2		0.7								0.2	0.1	
Delay (s)		43.8								0.7	0.9	
Level of Service		D								A	A	
Approach Delay (s)		43.8			0.0			0.0			0.9	
Approach LOS		D			A			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			4.7		HCM 2000 Level of Service						A	
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			115.0		Sum of lost time (s)					9.5		
Intersection Capacity Utilization			63.5%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 2010 Signalized Intersection Summary

## 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	397	880	80	0	0	0	0	223	30	90	218	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92				1.00		0.92	0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1881	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	397	880	80				0	223	30	90	218	0
Adj No. of Lanes	0	4	0				0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	1	0				0	0	0	0	0	0
Cap, veh/h	1015	2600	235				0	459	62	308	538	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.57	0.57	0.00
Sat Flow, veh/h	1792	4588	415				0	1621	218	1110	1900	0
Grp Volume(v), veh/h	397	620	340				0	0	253	90	218	0
Grp Sat Flow(s),veh/h/ln	1792	1618	1768				0	0	1839	1110	1900	0
Q Serve(g_s), s	7.4	6.2	6.2				0.0	0.0	6.9	3.8	3.9	0.0
Cycle Q Clear(g_c), s	7.4	6.2	6.2				0.0	0.0	6.9	10.7	3.9	0.0
Prop In Lane	1.00		0.24				0.00		0.12	1.00		0.00
Lane Grp Cap(c), veh/h	1015	1834	1002				0	0	521	308	538	0
V/C Ratio(X)	0.39	0.34	0.34				0.00	0.00	0.49	0.29	0.40	0.00
Avail Cap(c_a), veh/h	1015	1834	1002				0	0	521	308	538	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	7.0	7.0				0.0	0.0	17.9	14.3	10.2	0.0
Incr Delay (d2), s/veh	1.1	0.5	0.9				0.0	0.0	3.2	2.4	2.3	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
%ile BackOfQ(50%),veh/ln	4.0	2.8	3.2				0.0	0.0	3.9	1.4	2.3	0.0
LnGrp Delay(d),s/veh	8.4	7.5	7.9				0.0	0.0	21.1	16.7	12.4	0.0
LnGrp LOS	A	A	A						C	B	B	
Approach Vol, veh/h		1357						253			308	
Approach Delay, s/veh		7.8						21.1			13.7	
Approach LOS		A						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		8.9		9.4		12.7						
Green Ext Time (p_c), s		2.1		0.0		1.3						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									

HCM 2010 TWSC  
 5: M.L.K. Jr Way & Project Driveway

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	18	36	300	321	75	291
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	36	300	321	75	291














Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	902	461	0
Stage 1	461	-	-
Stage 2	441	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	308	600	960
Stage 1	635	-	-
Stage 2	648	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	279	600	960
Mov Cap-2 Maneuver	279	-	-
Stage 1	635	-	-
Stage 2	588	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	1.9
HCM LOS	B		


















Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	434	960	-
HCM Lane V/C Ratio	-	-	0.124	0.078	-
HCM Control Delay (s)	-	-	14.5	9.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.3	-

# HCM Signalized Intersection Capacity Analysis

## 1: Brush St & 12th St & I-980 Off-Ramp













							
Movement	EBR	WBL	WBT	SBT	SBR	SWL	SWR
Lane Configurations							
Volume (vph)	10	175	360	401	90	1332	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		5.0	
Lane Util. Factor	1.00	1.00	0.91	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	0.90	1.00	1.00		1.00	
Frt	0.86	1.00	1.00	0.97		0.99	
Flt Protected	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1479	1415	4532	4230		3185	
Flt Permitted	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1479	1415	4532	4230		3185	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	175	360	401	90	1332	100
RTOR Reduction (vph)	8	64	0	47	0	0	0
Lane Group Flow (vph)	2	111	360	444	0	1432	0
Confl. Peds. (#/hr)		101			23		
Confl. Bikes (#/hr)					2		
Heavy Vehicles (%)	0%	3%	3%	2%	2%	1%	1%
Parking (#/hr)				5	5		
Turn Type	Perm	Perm	NA	NA		Prot	
Protected Phases			4	5		6	
Permitted Phases	4	4					
Actuated Green, G (s)	19.0	19.0	19.0	14.3		37.7	
Effective Green, g (s)	19.0	19.0	19.0	14.3		37.7	
Actuated g/C Ratio	0.22	0.22	0.22	0.17		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	330	316	1013	711		1412	
v/s Ratio Prot			c0.08	c0.10		c0.45	
v/s Ratio Perm	0.00	0.08					
v/c Ratio	0.01	0.35	0.36	0.62		1.01	
Uniform Delay, d1	25.7	27.8	27.8	32.9		23.6	
Progression Factor	1.00	1.58	1.34	1.00		1.00	
Incremental Delay, d2	0.0	0.5	0.2	1.7		27.5	
Delay (s)	25.7	44.5	37.5	34.6		51.2	
Level of Service	C	D	D	C		D	
Approach Delay (s)			39.8	34.6		51.2	
Approach LOS			D	C		D	
<b>Intersection Summary</b>							
HCM 2000 Control Delay			45.3		HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.76				
Actuated Cycle Length (s)			85.0		Sum of lost time (s)		14.0
Intersection Capacity Utilization			81.8%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							

HCM 2010 Signalized Intersection Summary  
 2: M.L.K. Jr Way & 12th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	71	880	50	238	254	0	0	282	90
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.91	0.98		1.00	1.00		0.91
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				71	880	50	238	254	0	0	282	90
Adj No. of Lanes				0	3	0	1	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				199	2632	154	235	570	0	0	404	129
Arrive On Green				0.55	0.55	0.55	0.60	0.60	0.00	0.00	0.30	0.30
Sat Flow, veh/h				363	4786	280	1003	1900	0	0	1346	430
Grp Volume(v), veh/h				368	308	325	238	254	0	0	0	372
Grp Sat Flow(s),veh/h/ln				1882	1729	1817	1003	1900	0	0	0	1776
Q Serve(g_s), s				6.6	5.8	5.9	6.9	4.4	0.0	0.0	0.0	11.1
Cycle Q Clear(g_c), s				6.6	5.8	5.9	18.0	4.4	0.0	0.0	0.0	11.1
Prop In Lane				0.19		0.15	1.00		0.00	0.00		0.24
Lane Grp Cap(c), veh/h				1035	951	999	235	570	0	0	0	533
V/C Ratio(X)				0.36	0.32	0.33	1.01	0.45	0.00	0.00	0.00	0.70
Avail Cap(c_a), veh/h				1035	951	999	235	570	0	0	0	533
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.6	7.4	7.4	19.3	9.3	0.0	0.0	0.0	18.6
Incr Delay (d2), s/veh				1.0	0.9	0.9	62.1	2.5	0.0	0.0	0.0	7.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.7	3.0	3.1	7.8	2.7	0.0	0.0	0.0	6.5
LnGrp Delay(d),s/veh				8.5	8.3	8.3	81.6	11.8	0.0	0.0	0.0	26.0
LnGrp LOS				A	A	A	F	B				C
Approach Vol, veh/h					1001			492			372	
Approach Delay, s/veh					8.4			45.5			26.0	
Approach LOS					A			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		18.0		33.0		18.0						
Max Q Clear Time (g_c+I1), s		13.1		8.6		20.0						
Green Ext Time (p_c), s		2.3		0.0		0.0						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 3: Brush St & 11th St

















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑								↘	↑↑↑		
Volume (vph)	0	330	90	0	0	0	0	0	0	473	1395	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5								5.0	5.0		
Lane Util. Factor		0.95								0.86	0.86		
Frbp, ped/bikes		1.00								1.00	1.00		
Flpb, ped/bikes		1.00								1.00	1.00		
Frt		0.97								1.00	1.00		
Flt Protected		1.00								0.95	1.00		
Satd. Flow (prot)		3375								1534	4819		
Flt Permitted		1.00								0.95	1.00		
Satd. Flow (perm)		3375								1534	4819		
Peak-hour factor, PHF	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. Flow (vph)	0	330	90	0	0	0	0	0	0	473	1395	40	
RTOR Reduction (vph)	0	29	0	0	0	0	0	0	0	55	5	0	
Lane Group Flow (vph)	0	391	0	0	0	0	0	0	0	371	1477	0	
Confl. Peds. (#/hr)	41		5							2		42	
Confl. Bikes (#/hr)			5			2							
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	0%	0%	0%	1%	1%	1%	
Turn Type		NA								Perm	NA		
Protected Phases		4									6		
Permitted Phases										6			
Actuated Green, G (s)		15.3								60.2	60.2		
Effective Green, g (s)		15.3								60.2	60.2		
Actuated g/C Ratio		0.18								0.71	0.71		
Clearance Time (s)		4.5								5.0	5.0		
Vehicle Extension (s)		3.0								3.0	3.0		
Lane Grp Cap (vph)		607								1086	3412		
v/s Ratio Prot		c0.12											
v/s Ratio Perm										0.24	0.31		
v/c Ratio		0.64								0.34	0.43		
Uniform Delay, d1		32.3								4.8	5.2		
Progression Factor		1.00								0.05	0.20		
Incremental Delay, d2		2.4								0.5	0.2		
Delay (s)		34.7								0.7	1.3		
Level of Service		C								A	A		
Approach Delay (s)		34.7			0.0			0.0			1.1		
Approach LOS		C			A			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			7.2									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.48										
Actuated Cycle Length (s)			85.0									Sum of lost time (s)	9.5
Intersection Capacity Utilization			49.5%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group



# HCM 2010 Signalized Intersection Summary

## 4: M.L.K. Jr Way & 11th St

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	98	600	70	0	0	0	0	220	40	132	315	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.91	0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	98	600	70				0	220	40	132	315	0
Adj No. of Lanes	0	4	0				0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	466	3075	358				0	436	79	301	538	0
Arrive On Green	0.57	0.57	0.57				0.00	0.28	0.28	0.57	0.57	0.00
Sat Flow, veh/h	822	5427	632				0	1537	280	1107	1900	0
Grp Volume(v), veh/h	222	352	194				0	0	260	132	315	0
Grp Sat Flow(s),veh/h/ln	1859	1634	1753				0	0	1817	1107	1900	0
Q Serve(g_s), s	3.5	3.1	3.2				0.0	0.0	7.2	6.3	6.4	0.0
Cycle Q Clear(g_c), s	3.5	3.1	3.2				0.0	0.0	7.2	13.5	6.4	0.0
Prop In Lane	0.44		0.36				0.00		0.15	1.00		0.00
Lane Grp Cap(c), veh/h	1053	1852	993				0	0	515	301	538	0
V/C Ratio(X)	0.21	0.19	0.20				0.00	0.00	0.51	0.44	0.59	0.00
Avail Cap(c_a), veh/h	1053	1852	993				0	0	515	301	538	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.4	6.3	6.3				0.0	0.0	18.0	15.4	10.7	0.0
Incr Delay (d2), s/veh	0.5	0.2	0.4				0.0	0.0	3.5	4.6	4.6	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
%ile BackOfQ(50%),veh/ln	1.9	1.5	1.7				0.0	0.0	4.1	2.3	3.8	0.0
LnGrp Delay(d),s/veh	6.9	6.5	6.8				0.0	0.0	21.5	20.0	15.3	0.0
LnGrp LOS	A	A	A						C	B	B	
Approach Vol, veh/h		768						260			447	
Approach Delay, s/veh		6.7						21.5			16.7	
Approach LOS		A						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.5		38.5		21.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		17.0		34.0		17.0						
Max Q Clear Time (g_c+I1), s		9.2		5.5		15.5						
Green Ext Time (p_c), s		2.6		0.0		0.7						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			12.3									
HCM 2010 LOS			B									

HCM 2010 TWSC  
 5: M.L.K. Jr Way & Project Driveway

**Intersection**

Int Delay, s/veh 6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	117	232	260	58	13	330
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	232	260	58	13	330

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	645	289	0
Stage 1	289	-	-
Stage 2	356	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	437	750	1242
Stage 1	760	-	-
Stage 2	709	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	431	750	1242
Mov Cap-2 Maneuver	431	-	-
Stage 1	760	-	-
Stage 2	700	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	601	1242	-
HCM Lane V/C Ratio	-	-	0.581	0.01	-
HCM Control Delay (s)	-	-	19	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.7	0	-