Bank Street at Mitch Owens Road Commercial Development Traffic Impact Assessment Update

To:	Amira Shehata City of Ottawa	From:	Robert Vastag, MCIP, RPP 400 - 1331 Clyde Avenue Ottawa, ON K2C 3G4
File:	163600949	Date:	March 4, 2014

Reference: Bank Street at Mitch Owens Road Commercial Development Traffic Impact Assessment Update

1.0 INTRODUCTION

In June of 2012 the *Bank Street at Mitch Owens Road Commercial Development Transportation Impact Assessment* (the 2012 TIA) was prepared by GENIVAR to support a rezoning application for a 12-acre vacant parcel of land located at the south-west corner of the Bank Street at Mitch Owens Road intersection in the City of Ottawa. The proposed retail / commercial development features a combined gross floor area of roughly 10,000 square meters spread over six individual building pads.

The 2012 TIA identified improvements as being required at the Bank Street at Mitch Owens Road intersection (among other improvements identified at other locations that are not the subject of this update). The improvements identified at the Bank Street at Mitch Owens Road intersection (the subject intersection) were required to address a combination of existing deficiencies, future background growth and site traffic generated by the development proposal.

Since the completion of the 2012 TIA there have been two notable updates. First, the City of Ottawa's Transportation Master Plan has been updated and the Bank Street widening in the vicinity of the site is no longer within the affordable transportation network. In the 2012 TIA this improvement was identified as being required to accommodate background growth up to the 2019 ultimate horizon. Second, there are more recent turning movement counts available at the Bank Street at Mitch Owens Road intersection that were conducted in 2013.

Through discussions with the City of Ottawa it was determined that an update to the 2012 TIA would be required. The purpose of this memorandum, therefore, is to update the findings of 2012 TIA and to confirm the transportation improvements required at the Bank Street at Mitch Owens Road intersection.

It is noted that the author of the 2012 TIA is the same as the author of the subject memorandum.

2.0 METHODOLOGY

As discuss with the City of Ottawa, the focus of this memo will be to update the assessment of intersection operations at the Bank Street at Mitch Owens Road intersection.

The methodology utilized in this update is outlined as follows:

- Existing traffic conditions will be updated and assessed using the most recent traffic counts available at the Bank Street at Mitch Owens Road intersection (counts from 2013 to assess AM and PM peak hours; counts from 2012 to assess the Saturday peak)
- In the assessment of future background conditions growth from other known background developments will be consistent with the assumptions of the 2012 TIA.
- In the assessment of future background conditions the historic rate of growth assumed in the 2012 TIA will be revisited based on the newly available traffic count information
- Site generated traffic volumes will be taken directly from the 2012 TIA
- The study horizon years will be adjusted by one year to reflect the commercial development's anticipated opening-day of 2015. The ultimate horizon (i.e. the plus 5 year horizon), therefore, will be 2020.

3.0 TRANSPORTATION FORECASTS

The most recent available intersection turning movement counts at the Bank Street at Mitch Owen Road intersection from 2013 were provided by the City of Ottawa for the weekday condition. Traffic counts from the 2012 TIA were used to assess the Saturday mid-day condition (the Saturday counts were conducted in 2012).

Appendix A includes the intersection turning movement count summaries.

Table 1 provides a summary of the overall growth experienced at the Bank Street and Mitch Owens Road intersection between 2010 to 2013.

Table 1
Growth in Overall Peak Hour Traffic Volumes at the Bank Street / Mitch Owens Road Intersection

Peak Hour	Count Year [1]			2010 to 2012		2012 to 2013		2010 to 2013	
	2010	2012	2013	Growth	Annual Growth %	Growth	Annual Growth %	Growth	Annual Growth %
AM	1922	1596	1565	(326)	(8.5%)	(31)	(1.9%)	(357)	(6.2%)
PM	2020	1987	1771	(33)	(0.8%)	(216)	(10.9%)	(249)	(4.1%)

[1] Traffic volumes represent overall intersection totals for the peak hour

As shown in the above table, there has been a net decline in the overall peak hour traffic volumes at the Bank Street / Mitch Owens Road intersection during the period between 2010 to 2013.

To remain conservative in the assessment, existing traffic volumes were not adjusted to represent the historic decline identified in Table 1. Furthermore, the observed rate of peak hour traffic decline was not applied to the traffic forecasts. In lieu of a background growth rate, only traffic generated by known area developments was explicitly added to the future road network. As noted earlier, the traffic generated by other area background developments is consistent with what was assumed in the 2012 TIA.

Table 2 below provides a summary of the existing and forecasted traffic volumes at the Bank Street / Mitch Owens Road intersection.

Table 2
Existing and Future Traffic Volumes at the Bank Street / Mitch Owens Intersection

Horizon	Peak	Eastbound				Westbound				Northbound				Southbound				Intersection Total
		L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Existing	AM	297	133	61	491	15	121	46	182	131	524	12	667	13	105	107	225	1565
	PM	95	228	54	377	3	167	36	206	48	244	11	303	29	679	177	885	1771
	SAT	97	75	65	237	5	69	33	107	76	208	6	290	46	278	108	432	1066
2015 Future Background	AM	297	133	97	526	23	121	46	189	149	577	14	740	13	190	107	310	1765
	PM	95	228	87	409	12	167	36	214	106	447	26	579	29	857	177	1063	2266
	SAT	97	75	135	307	10	69	33	12	160	439	13	611	46	578	108	732	1763
2015 Total Future	AM	323	135	97	554	26	128	46	199	185	562	14	761	13	196	110	319	1833
	PM	156	256	87	498	20	178	36	233	156	422	26	604	29	904	205	1138	2474
	SAT	224	109	135	468	16	84	33	133	275	358	13	645	46	643	132	821	2068
2020 Ultimate	AM	326	136	97	559	25	128	47	200	186	562	15	763	13	196	110	319	1841
	PM	156	257	87	501	20	180	36	235	157	422	26	605	29	904	209	1142	2482
	SAT	232	116	140	488	16	92	32	141	282	357	13	653	46	643	148	837	2118

4.0 TRANSPORTATION ASSESSMENT

4.1 EXISTING CONDITIONS

Table 3 below provides a summary of existing intersection operations.

Table 3
Existing Traffic Operations at the Bank Street / Mitch Owens Road Intersection

Scenario	Peak Hour	Intersection Operations				Recommended Mitigation
		LOS	v/c	Delay (s)	Critical Movements	
Prior to Improvements	AM	D	0.88	45.5	EBT/L, 1.05	Signal timing adjustments
	PM	D	0.88	45.4	none	None
	SAT	A	0.38	17.7	none	None
Following Improvements	AM	D	0.84	29.0	none	
	PM	D	0.88	45.4	none	
	SAT	A	0.38	17.7	None	

As shown in the above table, during the AM peak hour the eastbound shared left / through movement exceeds capacity. Signal timing adjustment and optimization will permit the intersection to function acceptably. In particular, the southbound left turn advanced phase should be eliminated given the low volumes experienced by this movement and this time should be reallocated to other, more heavily utilized movements.

Detailed intersection performance worksheets can be found in Appendix B.

4.2 2015 FUTURE BACKGROUND CONDITIONS

Table 4 below provides a summary of 2015 future background intersection operations.

Table 4
2015 Future Background Traffic Operations at the Bank Street / Mitch Owens Road Intersection

Scenario	Peak Hour	Intersection Operations				Recommended Mitigation
		LOS	v/c	Delay (s)	Critical Movements	
Optimized Signal Timings	AM	D	0.82	26.7	none	Optimized signal timing
	PM	D	0.86	26.1	none	Optimized signal timing
	SAT	A	0.52	14.2	none	Optimized signal timing

As shown in the above table, with the signal phasing and timing plans optimized the intersection is expected to operate satisfactorily.

Detailed intersection performance worksheets can be found in Appendix B.

4.3 2015 TOTAL FUTURE CONDITIONS

Table 5 below provides a summary of 2015 total future intersection operations.

Table 5
2015 Total Future Traffic Operations at the Bank Street / Mitch Owens Road Intersection

Scenario	Peak Hour	Intersection Operations				Recommended Mitigation
		LOS	v/c	Delay (s)	Critical Movements	
Prior to Improvements	AM	D	0.84	29.0	none	None
	PM	F	1.13	167.6	EBL/T – 1.14 NBL - 1.08 SBT - 1.10	Add EB and WB LTLs
	SAT	D	0.88	27.4	none	None
Following Improvements	AM	B	0.70	24.6	none	
	PM	C	0.80	46.5	none	
	SAT	C	0.71	20.3	none	

It is noted that in order to facilitate the commercial development's proposed Bank Street access, the massive eastbound right turn channel at the Bank Street / Mitch Owens Road intersection must be reconstructed to reflect a more typical design treatment for a right turn lane (i.e. smart channel). This improvement has been assumed in the above intersection performance analysis.

As shown in the above table, with the addition of site traffic during the PM peak hour, the eastbound shared left / through, the northbound left turn, and the southbound through movements are expected to exceed capacity. To correct these anticipated deficiencies, the intersection requires exclusive eastbound and westbound left turn lanes in order for the intersection to operate satisfactorily.

Detailed intersection performance worksheets can be found in Appendix B.

4.4 2020 ULTIMATE FUTURE CONDITIONS

Table 6 below provides a summary of 2020 ultimate future intersection operations.

Table 6
2020 Ultimate Future Traffic Operations at the Bank Street / Mitch Owens Road Intersection

Scenario	Peak Hour	Intersection Operations				Recommended Mitigation
		LOS	v/c	Delay (s)	Critical Movements	
Optimized Signal Timings	AM	C	0.73	25.4	none	Optimized signal timing
	PM	D	0.82	27.3	none	Optimized signal timing
	SAT	D	0.83	22.6	none	Optimized signal timing

As shown in the above table, with the improvements identified during the 2015 total future horizon the intersection is expected to operate satisfactorily 5 years beyond the build-out of the subject development.

Detailed intersection performance worksheets can be found in Appendix B.

5.0 CONCLUSIONS

The proposed retail-commercial development at the south-west corner of the Bank Street at Mitch Owen Road intersection will trigger the following intersection improvements at the subject intersection:

- The long-contemplated eastbound and westbound left turn lanes will be required in order for the intersection to operate acceptably. By 2020, the proposed development is expected to contribute roughly 30% of the overall peak hour traffic volumes projected for the eastbound left turn movement.

- To facilitate the commercial development's proposed Bank Street access the massive existing eastbound right turn channelized ramp at the Bank Street / Mitch Owens Road intersection will need to be reconstructed and replaced by a more convention right turn lane treatment (i.e. smart channel).

The attached Figures 1 and 2 illustrate two potential conceptual designs of the improvements identified above. In the attached concepts there are subtle differences to the southbound receiving lanes on Bank Street; Figure 1 shows a potential design treatment with no weaving zone whereas the Figure 2 concept includes a weaving area on Bank Street.

With the above improvements, the intersection is expected to operate satisfactorily and the development should be permitted to proceed.

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Our client wishes to proceed with the detailed design of the subject improvements, and as such, we seek the City's comments and overall acceptance of the proposed improvements and any preliminary comments related to the conceptual designs. We would be pleased to meet with you to discuss the above in greater detail.

Reference: Bank Street at Mitch Owens Road Commercial Development Traffic Impact Assessment Update

Should you have any questions or concerns please feel free to contact the undersigned at your earliest convenience.

Stantec Consulting Ltd.

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Attachments: Appendix A – Intersection Turning Movement Counts
Appendix B – Detailed Intersection Analysis Worksheets
Figure 1 – Bank Street at Mitch Owens Road – Conceptual (without weave on Bank Street)
Figure 2 – Bank Street at Mitch Owens Road – Conceptual (with weave on Bank Street)

Appendix A – Intersection Turning Movement Counts

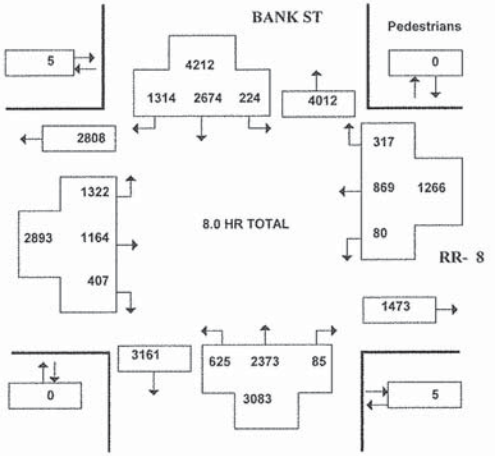
MITCH OWENS RD and BANK ST

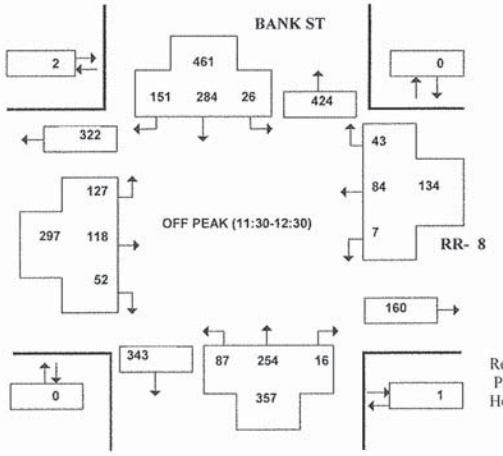
(ULRS Listing RR- 8 & BANK ST)

Survey Date: Thursday 27 June 2013
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Thursday in June is 0.9





Refer to Summary Page for Survey Hours.

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Ottawa — *Public Works and Services Department*
Count ID 3198

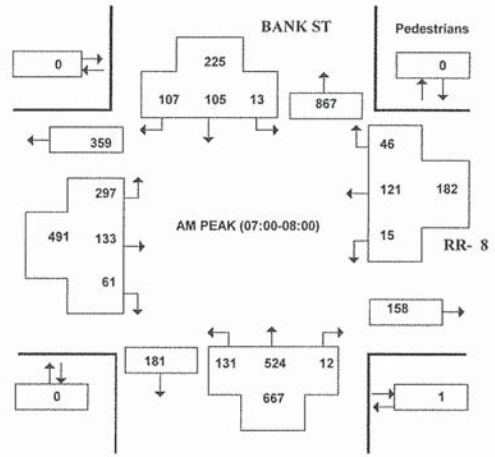
MITCH OWENS RD and BANK ST

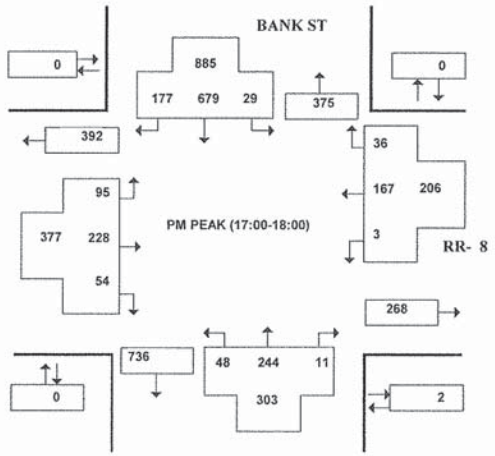
(ULRS Listing RR- 8 & BANK ST)

Survey Date: Thursday 27 June 2013
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Thursday in June is 0.9





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Count ID 3198(

Vehicular Turning Movements - Summary

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Thursday 27 June 2013
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Thursday in June is 0.9

	BANK ST									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-08:00	131	524	12	667	13	105	107	225	892	297	133	61	491	15	121	46	182	673	1565
08:00-09:00	113	372	7	492	16	138	91	245	737	236	149	73	458	12	96	39	147	605	1342
09:00-10:00	74	271	8	353	18	179	139	336	689	199	155	46	400	11	88	61	160	560	1249
11:30-12:30	87	254	16	357	26	284	151	461	818	127	118	52	297	7	84	43	134	431	1249
12:30-13:30	70	207	15	292	32	300	146	478	770	114	89	32	235	3	69	29	101	336	1106
15:00-16:00	59	264	9	332	47	424	243	714	1046	151	116	37	304	20	119	46	185	489	1535
16:00-17:00	43	237	7	287	43	565	260	868	1155	103	176	52	331	9	125	17	151	482	1637
17:00-18:00	48	244	11	303	29	679	177	885	1188	95	228	54	377	3	167	36	206	583	1771
8.0 HR TOTAL	625	2373	85	3083	224	2674	1314	4212	7295	1322	1164	407	2893	80	869	317	1266	4159	11454
EQU. 12 HR TOTAL	868	3298	118	4284	311	3716	1826	5853	10137	1837	1617	565	4019	111	1207	440	1758	5777	15914
AVG. 12 HR TOTAL	781	2968	106	3855	279	3344	1643	5266	9121	1653	1455	508	3616	99	1086	396	1581	5197	14318
AVG. 24 HR TOTAL	1023	3888	138	5049	365	4380	2152	6897	11946	2165	1906	665	4736	129	1422	518	2069	6805	18751
AM TOTAL (0700-0900)	244	896	19	1159	29	243	198	470	1629	533	282	134	949	27	217	85	329	1278	2907
PM TOTAL (1530-1730)	93	498	18	609	86	1140	478	1704	2313	239	327	89	655	21	267	55	343	998	3311

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

Note: These volumes were calculated by multiplying the Average Daily 12 hr totals by 1.31.

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Count ID 31980

Vehicular Turning Movements (15 Min. Volumes)

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Thursday 27 June 2013
Conditions: dry
Start Time: 07:00

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Thursday in June is 0.9

	BANK ST									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-07:15	29	148	3	180	1	14	21	36	216	81	25	2	108	3	25	3	31	139	355
07:15-07:30	41	126	6	173	4	16	33	53	226	73	43	11	127	4	35	18	57	184	410
07:30-07:45	36	140	2	178	3	34	19	56	234	62	30	31	123	3	31	14	48	171	405
07:45-08:00	25	110	1	136	5	41	34	80	216	81	35	17	133	5	30	11	46	179	395
08:00-08:15	29	96	3	128	6	22	16	44	172	54	31	6	91	0	16	11	27	118	290
08:15-08:30	32	110	1	143	3	28	17	48	191	77	60	10	147	4	31	8	43	190	381
08:30-08:45	29	75	1	105	4	42	25	71	176	47	31	40	118	3	23	13	39	157	333
08:45-09:00	23	91	2	116	3	46	33	82	198	58	27	17	102	5	26	7	38	140	338
09:00-09:15	21	68	3	92	5	59	33	97	189	49	40	9	98	8	22	27	57	155	344
09:15-09:30	25	79	4	108	6	39	38	83	191	59	44	17	120	1	30	10	41	161	352
09:30-09:45	14	60	1	75	7	50	37	94	169	36	24	14	74	2	21	18	41	115	284
09:45-10:00	14	64	0	78	0	31	31	62	140	55	47	6	108	0	15	6	21	129	269
11:30-11:45	32	80	4	116	4	57	37	98	214	28	28	17	73	4	12	10	26	99	313
11:45-12:00	18	49	3	70	6	81	38	125	195	26	28	3	57	1	20	14	35	92	287
12:00-12:15	21	68	3	92	10	66	40	116	208	37	29	19	85	0	20	8	28	113	321
12:15-12:30	16	57	6	79	6	80	36	122	201	36	33	13	82	2	32	11	45	127	328
12:30-12:45	24	65	7	96	8	54	28	90	186	30	20	3	53	2	20	7	29	82	268
12:45-13:00	18	43	2	63	7	69	42	118	181	19	17	2	38	0	11	8	19	57	238
13:00-13:15	18	60	2	80	10	85	35	130	210	44	18	14	76	1	16	6	23	99	309
13:15-13:30	10	39	4	53	7	92	41	140	193	21	34	13	68	0	22	8	30	98	291
15:00-15:15	12	77	0	89	5	89	46	140	229	23	23	3	49	5	13	5	23	72	301
15:15-15:30	14	53	1	68	9	86	68	163	231	36	31	11	78	4	27	12	43	121	352
15:30-15:45	14	60	2	76	12	128	57	197	273	52	31	18	101	6	41	14	61	162	435
15:45-16:00	19	74	6	99	21	121	72	214	313	40	31	5	76	5	38	15	58	134	447
16:00-16:15	15	67	1	83	15	147	61	223	306	20	43	6	69	3	37	10	50	119	425
16:15-16:30	8	45	4	57	9	141	74	224	281	44	55	22	121	3	26	4	33	154	435
16:30-16:45	11	80	0	91	10	163	58	231	322	26	34	12	72	0	26	1	27	99	421
16:45-17:00	9	45	2	56	9	114	67	190	246	13	44	12	69	3	36	2	41	110	356
17:00-17:15	12	67	3	82	4	132	49	185	267	17	20	5	42	1	32	3	36	78	345
17:15-17:30	5	60	0	65	6	194	40	240	305	27	69	9	105	0	31	6	37	142	447
17:30-17:45	9	73	1	83	9	171	46	226	309	25	81	21	127	2	43	8	53	180	489
17:45-18:00	22	44	7	73	10	182	42	234	307	26	58	19	103	0	61	19	80	183	490

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Count ID 31980

Pedestrian Volume Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Thursday 27 June 2013 **Conditions:** dry **Start Time:** 0700

Time Period	CROSSING BANK ST N/B APPROACH	CROSSING BANK ST S/B APPROACH	STREET TOTAL	CROSSING RR- 8 E/B APPROACH	CROSSING RR- 8 W/B APPROACH	STREET TOTAL	GRAND TOTAL
07:00-08:00	1	0	1	0	0	0	1
08:00-09:00	0	1	1	0	0	0	1
09:00-10:00	0	0	0	0	0	0	0
11:30-12:30	1	2	3	0	0	0	3
12:30-13:30	0	0	0	0	0	0	0
15:00-16:00	1	0	1	0	0	0	1
16:00-17:00	0	2	2	0	0	0	2
17:00-18:00	2	0	2	0	0	0	2
8.0 HR TOTAL	5	5	10	0	0	0	10
PEAK PERIOD SUMMARIES							
AM PEAK PERIOD (7:00-9:00)							
07:00-07:15	1	0	1	0	0	0	1
07:15-07:30	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0
08:00-08:15	0	0	0	0	0	0	0
08:15-08:30	0	1	1	0	0	0	1
08:30-08:45	0	0	0	0	0	0	0
08:45-09:00	0	0	0	0	0	0	0
TOTALS	1	1	2	0	0	0	2
OFF PEAK PERIOD (11:30-13:30)							
11:30-11:45	1	0	1	0	0	0	1
11:45-12:00	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0
12:15-12:30	0	2	2	0	0	0	2
12:30-12:45	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0
TOTALS	1	2	3	0	0	0	3
PM PEAK PERIOD (15:30-17:30)							
15:30-15:45	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0
16:00-16:15	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0
16:45-17:00	0	2	2	0	0	0	2
17:00-17:15	1	0	1	0	0	0	1
17:15-17:30	1	0	1	0	0	0	1
TOTALS	2	2	4	0	0	0	4

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Ottawa — *Public Works and Services Department*

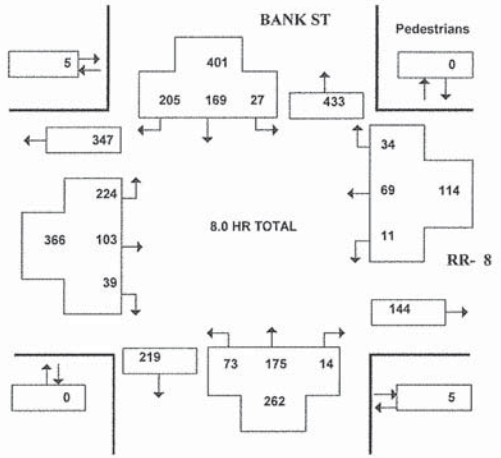
Count ID 31980

Heavy Vehicle Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date :Thursday 27 June 2013 **Conditions : dry** **Start Time : 0700**



	BANK ST									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-08:00	9	29	3	41	4	12	29	45	86	23	11	10	44	1	12	4	17	61	147
08:00-09:00	12	27	1	40	4	21	21	46	86	33	11	6	50	3	10	4	17	67	153
09:00-10:00	8	14	1	23	4	25	22	51	74	37	13	8	58	1	10	6	17	75	149
11:30-12:30	15	21	3	39	4	23	22	49	88	27	12	5	44	1	6	7	14	58	146
12:30-13:30	16	15	2	33	2	24	33	59	92	24	15	6	45	1	6	2	9	54	146
15:00-16:00	7	29	3	39	7	19	45	71	110	33	8	0	41	3	8	10	21	62	172
16:00-17:00	3	24	0	27	2	20	23	45	72	25	20	1	46	1	8	1	10	56	128
17:00-18:00	3	16	1	20	0	25	10	35	55	22	13	3	38	0	9	0	9	47	102
8.0 HR TOTAL	73	175	14	262	27	169	205	401	663	224	103	39	366	11	69	34	114	480	1143

Heavy Vehicles are vehicles having one rear axle with four or more wheels, or having two or more rear axles. These vehicles include most O.C. Transpo, school and inter-city buses. Further, they ARE included in the Turning Movement Count Summary.

Approved by: AWD

Printed on: 13/02/2014

Ottawa — *Public Works and Services Department*

Count ID 31980

Bicycle Volume Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Thursday 27 June 2013 **Conditions:** dry **Start Time:** 0700

Time Period	NORTHBOUND APPROACH ON BANK ST	SOUTHBOUND APPROACH ON BANK ST	STREET TOTAL	EASTBOUND APPROACH ON RR- 8	WESTBOUND APPROACH ON RR- 8	STREET TOTAL	GRAND TOTAL
07:00-08:00	0	0	0	0	0	0	0
08:00-09:00	0	0	0	0	0	0	0
09:00-10:00	0	0	0	0	0	0	0
11:30-12:30	2	0	2	0	0	0	2
12:30-13:30	0	0	0	1	0	1	1
15:00-16:00	0	0	0	2	0	2	2
16:00-17:00	0	0	0	0	0	0	0
17:00-18:00	0	0	0	0	0	0	0
8.0 HR TOTAL	2	0	2	3	0	3	5

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

Approved by: AWD

Printed on: 13/02/2014

Ottawa — *Public Works and Services Department*

Count ID 3135

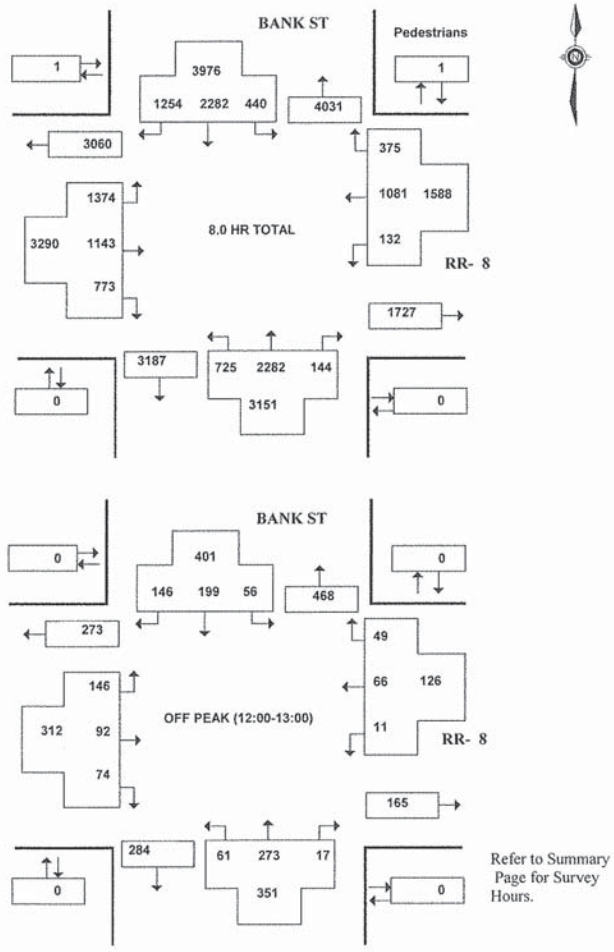
MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Monday 20 August 2012
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in August is 1



Refer to Summary Page for Survey Hours.

Approved by : DT

Printed on : 13/02/2014

Ottawa — *Public Works and Services Department*

Count ID 3135

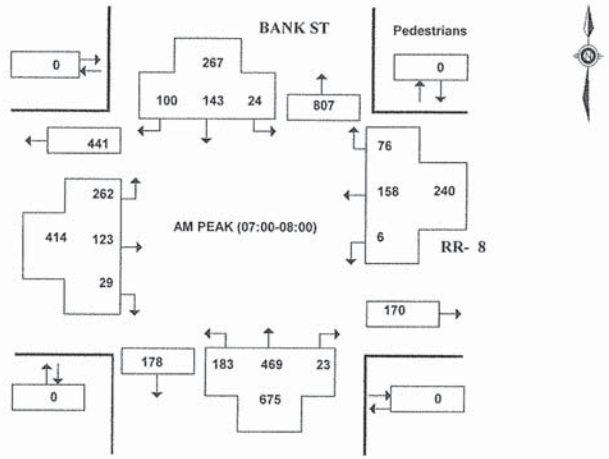
MITCH OWENS RD and BANK ST

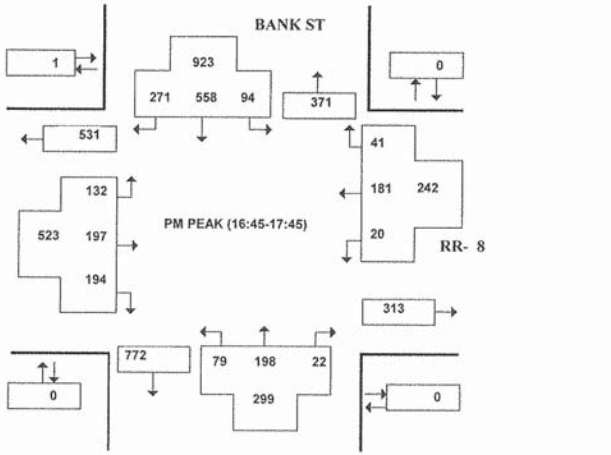
(ULRS Listing RR- 8 & BANK ST)

Survey Date: Monday 20 August 2012
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in August is
1





Approved by : DT

Printed on : 13/02/2014

Ottawa — *Public Works and Services Department*

Count ID 31351

Vehicular Turning Movements - Summary

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Monday 20 August 2012
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in August is
1

	BANK ST									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-08:00	183	469	23	**675**	24	143	100	**267**	**942**	262	123	29	**414**	6	158	76	**240**	**654**	**1596**
08:00-09:00	103	354	26	**483**	23	153	108	**284**	**767**	221	165	68	**454**	9	122	47	**178**	**632**	**1399**
09:00-10:00	87	272	8	**367**	34	198	100	**332**	**699**	157	113	65	**335**	23	96	39	**158**	**493**	**1192**
11:30-12:30	56	262	12	**330**	47	213	127	**387**	**717**	132	99	57	**288**	18	67	45	**130**	**418**	**1135**
12:30-13:30	64	266	17	**347**	46	170	129	**345**	**692**	157	76	69	**302**	13	99	50	**162**	**464**	**1156**
15:00-16:00	73	256	17	**346**	67	368	199	**634**	**980**	156	139	136	**431**	19	134	34	**187**	**618**	**1598**
16:00-17:00	73	220	14	**307**	92	531	211	**834**	**1141**	162	207	160	**529**	26	221	45	**292**	**821**	**1962**
17:00-18:00	86	183	27	**296**	107	506	280	**893**	**1189**	127	221	189	**537**	18	184	39	**241**	**778**	**1967**
8.0 HR TOTAL	725	2282	144	**3151**	440	2282	1254	**3976**	**7127**	1374	1143	773	**3290**	132	1081	375	**1588**	**4878**	**12005**
EQU. 12 HR TOTAL	1007	3171	200	**4378**	611	3171	1743	**5525**	**9903**	1909	1588	1074	**4571**	183	1502	521	**2206**	**6777**	**16680**
AVG. 12 HR TOTAL	1007	3171	200	**4378**	611	3171	1743	**5525**	**9903**	1909	1588	1074	**4571**	183	1502	521	**2206**	**6777**	**16680**
AVG. 24 HR TOTAL	1319	4154	262	**5735**	800	4154	2283	**7237**	**12972**	2500	2080	1406	**5986**	239	1967	682	**2888**	**8874**	**21846**
AM TOTAL (0700-0900)	286	823	49	**1158**	47	296	208	**551**	**1709**	483	288	97	**868**	15	280	123	**418**	**1286**	**2995**
PM TOTAL (1530-1730)	143	436	36	**615**	183	1009	460	**1652**	**2267**	297	386	334	**1017**	50	378	82	**510**	**1527**	**3794**

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

Note: These volumes were calculated by multiplying the Average Daily 12 hr totals by 1.31.

Ottawa — *Public Works and Services Department*

Count ID 31351

Vehicular Turning Movements (15 Min. Volumes)

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Monday 20 August 2012
Conditions: dry
Start Time: 07:00

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in August is 1

	BANK ST								RR- 8									
	Northbound				Southbound				Eastbound				Westbound					
Time Period	LT	ST	RT	SUB TOT	LT	ST	RT	SUB TOT	STR TOT	LT	ST	RT	SUB TOT	LT	ST	RT	SUB TOT	STR TOT	GRAND TOT
07:00-07:15	66	111	12	189	2	34	23	59	248	49	31	4	84	0	44	32	76	160	408
07:15-07:30	38	122	7	167	9	20	24	53	220	66	35	7	108	2	44	11	57	165	385
07:30-07:45	39	126	1	166	4	47	24	75	241	80	25	15	120	1	40	18	59	179	420
07:45-08:00	40	110	3	153	9	42	29	80	233	67	32	3	102	3	30	15	48	150	383
08:00-08:15	28	96	9	133	7	33	25	65	198	68	42	8	118	1	33	11	45	163	361
08:15-08:30	23	85	7	115	5	34	19	58	173	45	39	10	94	3	26	14	43	137	310
08:30-08:45	26	104	8	138	10	36	22	68	206	43	48	14	105	3	37	15	55	160	366
08:45-09:00	26	69	2	97	1	50	42	93	190	65	36	36	137	2	26	7	35	172	362
09:00-09:15	24	82	3	109	6	49	28	83	192	36	18	15	69	5	27	8	40	109	301
09:15-09:30	22	50	3	75	11	35	24	70	145	42	41	12	95	4	25	14	43	138	283
09:30-09:45	23	75	1	99	9	59	26	94	193	37	27	20	84	8	19	7	34	118	311
09:45-10:00	18	65	1	84	8	55	22	85	169	42	27	18	87	6	25	10	41	128	297
11:30-11:45	14	46	3	63	10	56	28	94	157	31	29	14	74	4	16	12	32	106	263
11:45-12:00	10	68	3	81	12	47	28	87	168	34	29	11	74	8	22	7	37	111	279
12:00-12:15	18	74	3	95	15	55	35	105	200	34	21	20	75	2	10	15	27	102	302
12:15-12:30	14	74	3	91	10	55	36	101	192	33	20	12	65	4	19	11	34	99	291
12:30-12:45	14	58	5	77	14	38	38	90	167	39	22	19	80	2	16	9	27	107	274
12:45-13:00	15	67	6	88	17	51	37	105	193	40	29	23	92	3	21	14	38	130	323
13:00-13:15	13	63	2	78	5	56	30	91	169	29	11	15	55	2	24	10	36	91	260
13:15-13:30	22	78	4	104	10	25	24	59	163	49	14	12	75	6	38	17	61	136	299
15:00-15:15	20	62	6	88	13	73	49	135	223	25	35	23	83	5	33	8	46	129	352
15:15-15:30	20	71	4	95	20	81	44	145	240	49	29	24	102	2	30	8	40	142	382
15:30-15:45	16	63	5	84	17	93	55	165	249	31	37	42	110	4	32	9	45	155	404
15:45-16:00	17	60	2	79	17	121	51	189	268	51	38	47	136	8	39	9	56	192	460
16:00-16:15	23	59	4	86	32	122	60	214	300	41	60	39	140	3	47	10	60	200	500
16:15-16:30	16	49	2	67	24	133	46	203	270	43	46	43	132	10	45	8	63	195	465
16:30-16:45	19	61	5	85	21	114	46	181	266	35	51	35	121	9	77	15	101	222	488
16:45-17:00	15	51	3	69	15	162	59	236	305	43	50	43	136	4	52	12	68	204	509
17:00-17:15	21	37	10	68	29	128	77	234	302	25	51	44	120	5	43	11	59	179	481
17:15-17:30	16	56	5	77	28	136	66	230	307	28	53	41	122	7	43	8	58	180	487
17:30-17:45	27	54	4	85	22	132	69	223	308	36	43	66	145	4	43	10	57	202	510
17:45-18:00	22	36	8	66	28	110	68	206	272	38	74	38	150	2	55	10	67	217	489

Approved by: DT

Printed on : 13/02/2014

Ottawa — *Public Works and Services Department*

Count ID 31351

Pedestrian Volume Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Monday 20 August 2012 **Conditions:** dry **Start Time:** 0700

Time Period	CROSSING BANK ST N/B APPROACH	CROSSING BANK ST S/B APPROACH	STREET TOTAL	CROSSING RR- 8 E/B APPROACH	CROSSING RR- 8 W/B APPROACH	STREET TOTAL	GRAND TOTAL
07:00-08:00	0	0	0	0	0	0	0
08:00-09:00	0	0	0	0	0	0	0
09:00-10:00	0	0	0	0	0	0	0
11:30-12:30	0	0	0	0	0	0	0
12:30-13:30	0	0	0	0	0	0	0
15:00-16:00	0	0	0	0	0	0	0
16:00-17:00	0	0	0	0	1	1	1
17:00-18:00	0	1	1	0	0	0	1
8.0 HR TOTAL	0	1	1	0	1	1	2
PEAK PERIOD SUMMARIES							
AM PEAK PERIOD (7:00-9:00)							
07:00-07:15	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0
08:00-08:15	0	0	0	0	0	0	0
08:15-08:30	0	0	0	0	0	0	0
08:30-08:45	0	0	0	0	0	0	0
08:45-09:00	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0
OFF PEAK PERIOD (11:30-13:30)							
11:30-11:45	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0
PM PEAK PERIOD (15:30-17:30)							
15:30-15:45	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0
16:00-16:15	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	1	1	1
16:45-17:00	0	0	0	0	0	0	0
17:00-17:15	0	1	1	0	0	0	1
17:15-17:30	0	0	0	0	0	0	0
TOTALS	0	1	1	0	1	1	2

Approved by: DT

Printed on : 13/02/2014

Ottawa — *Public Works and Services Department*

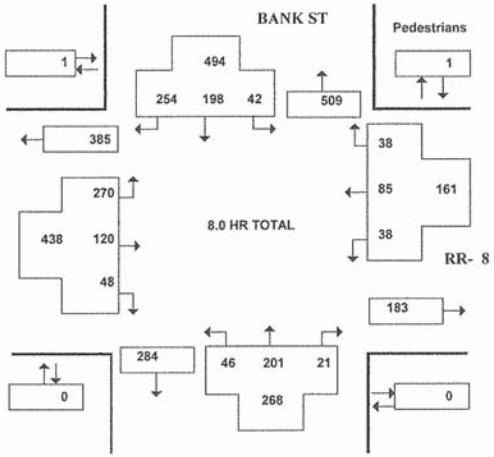
Count ID 31351

Heavy Vehicle Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date :Monday 20 August 2012 **Conditions : dry** **Start Time : 0700**



	BANK ST									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-08:00	7	17	1	**25**	6	26	35	**67**	**92**	35	16	3	**54**	4	18	6	**28**	**82**	**174**
08:00-09:00	4	37	5	**46**	4	30	41	**75**	**121**	44	18	5	**67**	5	20	7	**32**	**99**	**220**
09:00-10:00	4	30	0	**34**	5	34	34	**73**	**107**	41	11	7	**59**	11	7	4	**22**	**81**	**188**
11:30-12:30	5	31	3	**39**	7	25	21	**53**	**92**	19	12	9	**40**	7	5	4	**16**	**56**	**148**
12:30-13:30	7	38	5	**50**	6	22	24	**52**	**102**	37	8	5	**50**	4	7	5	**16**	**66**	**168**
15:00-16:00	5	13	2	**20**	4	24	31	**59**	**79**	20	13	4	**37**	2	10	2	**14**	**51**	**130**
16:00-17:00	6	20	1	**27**	5	17	36	**58**	**85**	40	17	6	**63**	5	10	6	**21**	**84**	**169**
17:00-18:00	8	15	4	**27**	5	20	32	**57**	**84**	34	25	9	**68**	0	8	4	**12**	**80**	**164**
8.0 HR TOTAL	46	201	21	**268**	42	198	254	**494**	**762**	270	120	48	**438**	38	85	38	**161**	**599**	**1361**

Heavy Vehicles are vehicles having one rear axle with four or more wheels, or having two or more rear axles. These vehicles include most O.C. Transpo, school and inter-city buses. Further, they ARE included in the Turning Movement Count Summary.

Approved by: DT

Printed on: 13/02/2014

Ottawa — *Public Works and Services Department*

Count ID 31351

Bicycle Volume Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & BANK ST)

Survey Date: Monday 20 August 2012 **Conditions:** dry **Start Time:** 0700

Time Period	NORTHBOUND APPROACH ON BANK ST	SOUTHBOUND APPROACH ON BANK ST	STREET TOTAL	EASTBOUND APPROACH ON RR- 8	WESTBOUND APPROACH ON RR- 8	STREET TOTAL	GRAND TOTAL
07:00-08:00	0	0	0	0	0	0	0
08:00-09:00	0	0	0	0	0	0	0
09:00-10:00	0	1	1	0	0	0	1
11:30-12:30	0	0	0	0	0	0	0
12:30-13:30	0	0	0	0	0	0	0
15:00-16:00	0	1	1	0	0	0	1
16:00-17:00	0	1	1	0	0	0	1
17:00-18:00	0	0	0	0	0	0	0
8.0 HR TOTAL	0	3	3	0	0	0	3

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

Approved by: DT

Printed on: 13/02/2014

Ottawa *Public Works and Services Department* Count ID 2822

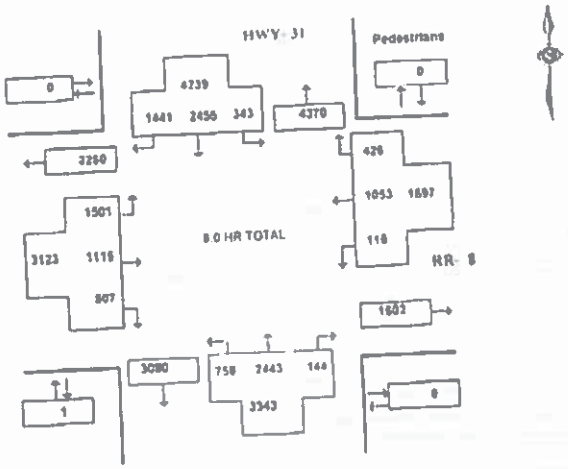
MITCH OWENS RD and BANK ST

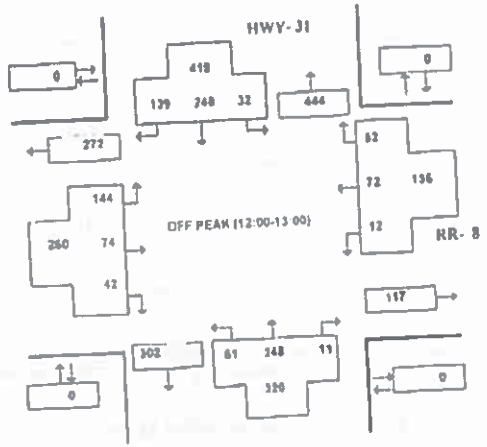
(HWY-31 being RR-8 & HWY-31)

Survey Date: Monday 17 May 2010
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in May is 1





Refer to Summary Page for Survey Hours.

Ottawa *Public Works and Services Department* Count ID 2822

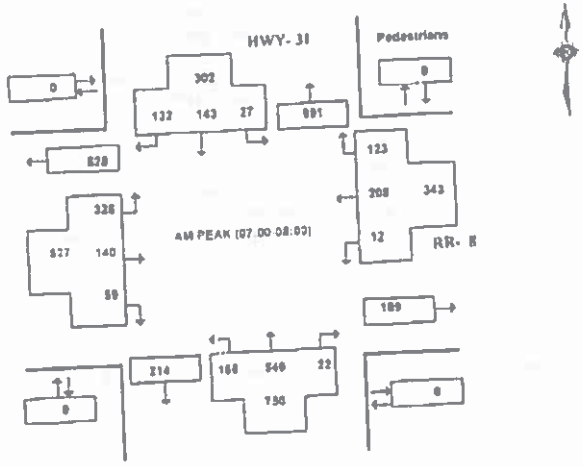
MITCH OWENS RD and BANK ST

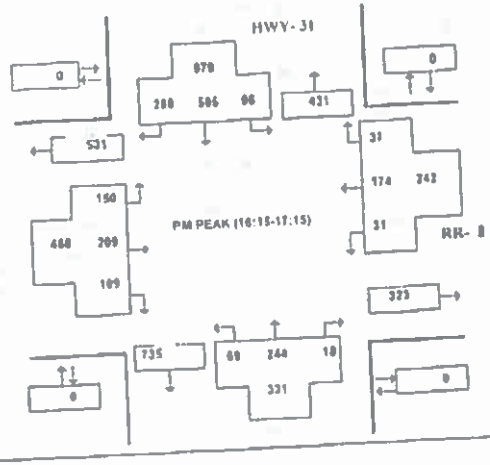
(HWY-31 being RR-8 & HWY-31)

Survey Date: Monday 17 May 2010
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in May is 1





Ottawa — *Public Works and Services Department*

Count ID: 24220

Vehicular Turning Movements - Summary

MITCH OWENS RD and BANK ST

(0185 Listing RR- 8 & HWY- 31)

Survey Date: Monday 17 May 2010
Conditions: dry
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Monday in May is
1

	HWY- 31									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-08:00	188	540	22	750	27	143	132	302	1052	328	140	59	527	12	208	123	343	870	1922
08:00-09:00	154	408	15	577	13	151	130	294	871	277	137	48	462	9	135	57	202	664	1535
09:00-10:00	72	277	13	362	16	138	141	295	657	195	119	41	355	14	101	53	168	524	1181
11:30-12:30	65	223	14	302	32	219	115	366	668	133	66	42	238	9	84	44	137	375	1043
12:30-13:30	60	248	12	320	37	239	117	393	713	150	77	42	269	11	83	41	135	404	1117
15:00-16:00	79	249	28	356	49	457	241	747	1103	155	153	75	384	11	103	33	149	533	1636
16:00-17:00	69	269	22	360	73	572	267	912	1272	143	235	102	480	26	150	35	211	691	1963
17:00-18:00	69	231	16	316	96	536	298	930	1246	121	188	98	407	26	186	38	252	659	1905
8.0 HR TOTAL	756	2443	144	3343	343	2455	1641	4239	7582	1501	1115	507	3123	118	1053	426	1697	4720	12302
EQU 12 HR TOTAL	1050	3395	200	4645	476	3412	2002	5890	10535	2086	1548	704	4338	164	1463	592	2219	6558	17093
AVG 12 HR TOTAL	1050	3395	200	4645	476	3412	2002	5890	10535	2086	1548	704	4339	164	1463	592	2219	6558	17093
AVG 24 HR TOTAL	1375	4447	262	6084	623	4468	2622	7714	13798	2732	2029	922	5683	214	1916	775	2905	8588	22386
AM TOTAL (0700-0900)	342	948	39	1327	40	294	262	596	1923	605	277	107	989	21	344	180	545	1534	3457
PM TOTAL (1530-1730)	156	515	40	711	153	1103	577	1833	2544	288	408	178	854	44	301	73	418	1272	3816

Note: These values are calculated by multiplying the totals by the appropriate expansion factor

Note: These volumes are calculated by multiplying the Equivalent 12 hr totals by the AADT factor

Note: These volumes were calculated by multiplying the Average Daily 12 hr totals by 1.31.

Ottawa — *Public Works and Services Department*

Count ID: 24220

Vehicular Turning Movements (15 Min. Volumes)

MITCH OWENS RD and BANK ST

(0185 Listing RR- 8 & HWY- 31)

Survey Date: Monday 17 May 2010
Conditions: dry
Start Time: 07:00

Total Observed U-Turns
Northbound 0 Southbound: 0
Eastbound 0 Westbound: 0

AADT Factor
Monday in May is
1

	HWY- 31									RR- 8									
	Northbound			SUB	Southbound			SUB	STR	Eastbound			SUB	Westbound			SUB	STR	GRAND
Time Period	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	LT	ST	RT	TOT	LT	ST	RT	TOT	TOT	TOT
07:00-07:15	43	137	8	188	7	25	36	68	256	81	28	12	121	0	59	50	109	230	486
07:15-07:30	49	133	3	185	12	38	31	81	266	85	48	17	150	7	44	29	80	230	496
07:30-07:45	52	137	8	197	2	47	37	86	283	73	30	9	114	2	51	18	71	185	468
07:45-08:00	44	133	5	182	6	33	28	67	249	87	34	21	142	3	54	26	83	225	474
08:00-08:15	63	106	4	185	1	25	43	69	254	76	43	9	128	2	38	13	81	179	433
08:15-08:30	34	104	4	142	3	42	25	70	212	82	34	16	132	2	27	17	58	188	400
08:30-08:45	36	114	3	153	8	42	33	83	236	58	35	14	107	3	27	19	49	156	392
08:45-09:00	31	80	6	117	1	42	29	72	189	63	25	9	97	2	36	8	46	143	332
09:00-09:15	19	76	2	97	4	41	40	85	182	67	36	12	115	4	34	17	55	170	352
09:15-09:30	10	64	4	78	3	44	35	82	160	52	20	9	81	2	25	17	44	125	285
09:30-09:45	17	67	6	90	6	28	35	69	159	38	28	5	69	6	16	10	32	101	260
09:45-10:00	26	70	1	97	3	25	31	59	156	39	37	15	91	2	26	9	37	128	284
11:30-11:45	27	54	4	85	8	44	23	75	160	28	19	12	59	1	26	11	38	97	255
11:45-12:00	10	45	4	59	11	56	21	88	147	38	11	5	52	1	18	5	26	77	224
12:00-12:15	14	73	3	90	9	65	41	105	195	36	14	7	57	5	23	11	39	96	291
12:15-12:30	14	51	3	68	6	64	30	100	168	30	22	18	70	2	16	17	35	105	273
12:30-12:45	14	68	2	82	7	64	35	106	188	48	21	8	76	2	23	11	36	111	299
12:45-13:00	19	58	3	80	10	65	33	108	188	33	17	9	59	3	10	13	26	84	272
13:00-13:15	9	63	5	74	9	56	31	96	170	36	17	11	64	3	27	8	38	102	272
13:15-13:30	18	64	2	84	11	54	18	83	167	36	22	14	72	3	23	9	35	107	274
15:00-15:15	14	52	9	75	7	105	43	155	230	44	33	15	93	4	22	5	31	124	354
15:15-15:30	18	72	5	95	10	102	54	166	261	40	30	16	86	1	22	10	33	119	380
15:30-15:45	30	59	7	96	15	100	67	182	278	45	43	31	119	2	28	6	36	152	430
15:45-16:00	17	66	7	90	17	150	77	244	334	27	53	12	89	4	31	14	49	138	472
16:00-16:15	20	73	5	104	11	142	73	226	330	29	70	19	118	2	34	9	45	163	493
16:15-16:30	20	68	6	94	20	135	57	212	306	37	48	37	122	4	36	9	49	171	477
16:30-16:45	19	57	4	80	22	167	63	252	332	40	61	24	126	13	38	8	59	184	516
16:45-17:00	10	65	7	82	20	125	74	222	304	37	56	22	115	7	42	9	58	173	477
17:00-17:15	20	54	1	75	34	165	94	293	368	36	44	26	106	7	58	11	76	182	550
17:15-17:30	20	67	3	90	14	116	72	202	292	17	39	7	63	5	34	7	46	109	401
17:30-17:45	12	56	7	75	25	120	75	220	295	36	53	29	117	4	43	7	54	171	466
17:45-18:00	17	54	5	76	23	135	57	215	291	33	52	36	121	10	53	13	76	197	488

Approved by AW

Processed on 02/02/2012

Ottawa

Public Works and Services Department

Count ID 28220

Pedestrian Volume Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & HWY- 31)

Survey Date: Monday 17 May 2010 Conditions: dry Start Time: 0700

Time Period	CROSSING HWY-31 NB APPROACH	CROSSING HWY-31 SB APPROACH	STREET TOTAL	CROSSING RR- 8 EB APPROACH	CROSSING RR- 8 WB APPROACH	STREET TOTAL	GRAND TOTAL
07:00-08:00	0	0	0	0	0	0	0
08:00-09:00	0	0	0	1	0	1	1
09:00-10:00	0	0	0	0	0	0	0
11:30-12:30	0	0	0	0	0	0	0
12:30-13:30	0	0	0	0	0	0	0
15:00-16:00	0	0	0	0	0	0	0
16:00-17:00	0	0	0	0	0	0	0
17:00-18:00	0	0	0	0	0	0	0
8.0 HR TOTAL	0	0	0	1	0	1	1

PEAK PERIOD SUMMARIES

Time Period	CROSSING HWY-31 NB APPROACH	CROSSING HWY-31 SB APPROACH	STREET TOTAL	CROSSING RR- 8 EB APPROACH	CROSSING RR- 8 WB APPROACH	STREET TOTAL	GRAND TOTAL
AM PEAK PERIOD (7:00-9:00)							
07:00-07:15	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0
08:00-08:15	0	0	0	0	0	0	0
08:15-08:30	0	0	0	0	0	0	0
08:30-08:45	0	0	0	0	0	0	0
08:45-09:00	0	0	0	1	0	1	1
TOTALS	0	0	0	1	0	1	1
OFF PEAK PERIOD (11:30-13:30)							
11:30-11:45	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0
PM PEAK PERIOD (15:30-17:30)							
15:30-15:45	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0
16:00-16:15	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0

Printed on: 02/02/2012

Approved by: AW

Ottawa

Public Works and Services Department

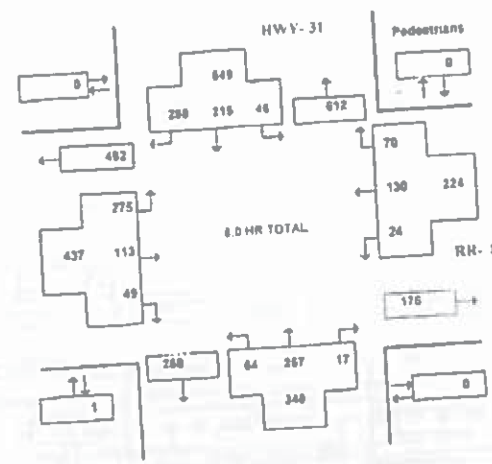
Count ID 28220

Heavy Vehicle Summary Sheet - Hourly Volumes

MITCH OWENS RD and BANK ST

(ULRS Listing RR- 8 & HWY- 31)

Survey Date: Monday 17 May 2010 Conditions: dry Start Time: 0700



Time Period	HWY-31 Northbound LT	ST	RT	SUB TOT	Southbound LT	ST	RT	SUB TOT	STR TOT	RR-8 Eastbound LT	ST	RT	SUB TOT	Westbound LT	ST	RT	SUB TOT	STR TOT	GRAND TOT
07:00-08:00	12	35	2	49	5	25	38	68	117	34	6	5	45	3	26	12	41	86	203
08:00-09:00	9	32	1	42	6	32	38	76	118	42	17	6	65	1	16	9	26	91	209
09:00-10:00	9	35	2	46	6	33	40	79	125	37	16	12	65	5	20	13	38	103	228
11:30-12:30	10	27	2	39	9	23	29	61	100	37	8	6	51	3	13	11	27	78	178
12:30-13:30	10	51	3	64	6	17	26	49	113	27	7	5	39	2	14	12	28	67	180
15:00-16:00	4	24	2	30	7	25	51	83	113	50	14	5	69	3	11	7	21	90	203
16:00-17:00	6	38	3	47	4	36	37	77	124	29	28	4	61	5	9	3	17	78	202
17:00-18:00	4	25	2	31	3	24	29	56	87	19	17	6	42	2	21	3	26	68	155
8.0 HR TOTAL	64	267	17	348	46	215	288	549	897	275	113	49	437	24	130	70	224	661	1558

Heavy Vehicles are vehicles having one rear axle with four or more wheels, or having two or more rear axles. These vehicles include [illegible] OC Transpo school and intercity buses. Further they ARE included in the Turning Movement Count Summary.

Printed on: 02/02/2012

Approved by: AW

Bank @ Mitch Owens
Saturday February 11/2012

	BANK Southbound				MITCH OWENS Westbound				BANK Northbound				MITCH OWENS Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
01:30 PM	28	47	15	0	6	15	6	0	1	72	13	0	8	16	22	0	
01:45 PM	22	72	9	0	7	19	2	0	2	52	25	0	13	22	27	0	
02:00 PM	31	55	10	0	9	19	0	0	0	51	13	0	20	20	22	0	1049
02:15 PM	28	80	14	0	7	11	2	0	1	53	23	0	12	23	24	0	1066
02:30 PM	27	71	13	0	10	20	1	0	3	52	15	0	20	10	24	0	1029
02:45 PM	31	53	13	0	11	14	4	0	2	41	11	0	20	15	20	0	1032
03:00 PM	26	65	13	0	12	10	2	0	5	52	13	0	14	22	19	0	1002
03:15 PM	27	60	7	0	6	22	3	0	2	54	13	0	19	18	17	0	
Heavy Vehicles																	
01:30 PM	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	
01:45 PM	3	3	0	0	0	1	0	0	0	0	0	0	1	0	0	0	
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
02:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	13
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	8
02:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	9
03:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	8
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	

Peak Hour

	BANK Southbound				MITCH OWENS Westbound				BANK Northbound				MITCH OWENS Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
1:45 PM	108	278	46	0	33	69	5	0	6	208	76	0	65	75	97	0	1066
HV %	3%	1%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	2%	3%	2%	0%	

Appendix B – Detailed Intersection Analysis Worksheets

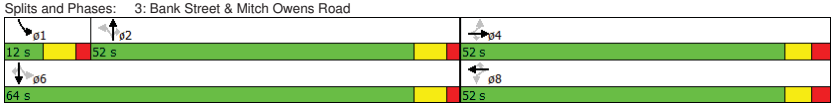
Existing Conditions Without Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	297	133	61	15	121	46	131	524	12	13	105	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.967			0.995		0.950			0.950		
Satd. Flow (prot)	0	1630	1334	0	1651	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.701			0.919		0.684			0.213		
Satd. Flow (perm)	0	1178	1334	0	1525	1419	1163	1717	1238	296	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			96			96			95			116
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	323	145	66	16	132	50	142	570	13	14	114	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	468	66	0	148	50	142	570	13	14	114	116
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	1	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	10.6	24.6	24.6
Total Split (s)	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	12.0	64.0	64.0
Total Split (%)	44.8%	44.8%	44.8%	44.8%	44.8%	44.8%	44.8%	44.8%	44.8%	10.3%	55.2%	55.2%
Maximum Green (s)	45.5	45.5	45.5	45.5	45.5	45.5	45.4	45.4	45.4	5.4	57.4	57.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0		10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0		0	0
Act Effct Green (s)		45.5	45.5		45.5	45.5	52.6	52.6	52.6	57.4	57.4	57.4
Actuated g/C Ratio		0.39	0.39		0.39	0.39	0.45	0.45	0.45	0.49	0.49	0.49
v/c Ratio		1.01	0.11		0.25	0.08	0.27	0.73	0.02	0.07	0.14	0.18
Control Delay		81.2	2.3		25.2	0.7	23.2	34.3	0.1	15.8	16.5	3.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		81.2	2.3		25.2	0.7	23.2	34.3	0.1	15.8	16.5	3.5
LOS		F	A		C	A	C	C	A	B	B	A
Approach Delay		71.4			19.0			31.5			10.3	
Approach LOS		E			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 116			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 39.5		Intersection LOS: D	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	468	66	148	50	142	570	13	14	114	116
v/c Ratio	1.01	0.11	0.25	0.08	0.27	0.73	0.02	0.07	0.14	0.18
Control Delay	81.2	2.3	25.2	0.7	23.2	34.3	0.1	15.8	16.5	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	2.3	25.2	0.7	23.2	34.3	0.1	15.8	16.5	3.5
Queue Length 50th (m)	~108.0	0.0	22.3	0.0	18.0	94.9	0.0	1.6	13.6	0.0
Queue Length 95th (m)	#174.1	4.2	37.5	1.1	38.3	#176.9	0.0	4.9	24.0	9.3
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	462	581	598	614	527	778	613	194	811	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.11	0.25	0.08	0.27	0.73	0.02	0.07	0.14	0.18

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	297	133	61	15	121	46	131	524	12	13	105	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1624	1334		1650	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.70	1.00		0.92	1.00	0.68	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)		1179	1334		1524	1419	1163	1717	1238	295	1640	1218
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	145	66	16	132	50	142	570	13	14	114	116
RTOR Reduction (vph)	0	0	41	0	0	31	0	0	7	0	0	57
Lane Group Flow (vph)	0	468	25	0	148	19	142	570	6	14	114	59
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		45.5	45.5		45.5	45.5	52.6	52.6	52.6	61.4	61.4	61.4
Effective Green, g (s)		45.5	45.5		45.5	45.5	52.6	52.6	52.6	61.4	61.4	61.4
Actuated g/C Ratio		0.38	0.38		0.38	0.38	0.44	0.44	0.44	0.51	0.51	0.51
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		447	505		577	538	509	752	542	169	839	623
v/s Ratio Prot								c0.33		0.00	c0.07	
v/s Ratio Perm		c0.40	0.02		0.10	0.01	0.12		0.00	0.04		0.05
v/c Ratio		1.05	0.05		0.26	0.04	0.28	0.76	0.01	0.08	0.14	0.10
Uniform Delay, d1		37.2	23.6		25.6	23.4	21.6	28.3	19.0	18.6	15.4	15.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		55.4	0.0		0.2	0.0	1.4	7.0	0.0	0.2	0.3	0.3
Delay (s)		92.6	23.6		25.9	23.5	22.9	35.4	19.1	18.8	15.7	15.3
Level of Service		F	C		C	C	C	D	B	B	B	B
Approach Delay (s)		84.1			25.3			32.7			15.7	
Approach LOS		F			C			C			B	

Intersection Summary

HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

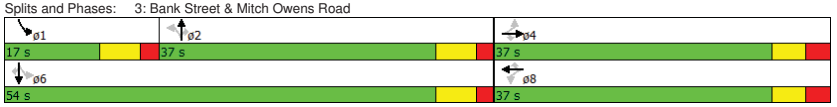
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	228	54	3	167	36	48	244	11	29	679	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.986			0.999		0.950			0.950		
Satd. Flow (prot)	0	1617	1459	0	1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted		0.811			0.994		0.288			0.486		
Satd. Flow (perm)	0	1329	1459	0	1724	1547	494	1701	1419	885	1750	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			122			122			121			192
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Adj. Flow (vph)	103	248	59	3	182	39	52	265	12	32	738	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	351	59	0	185	39	52	265	12	32	738	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	1	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	10.6	24.6	24.6
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	17.0	54.0	54.0
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	18.7%	59.3%	59.3%
Maximum Green (s)	30.5	30.5	30.5	30.5	30.5	30.5	30.4	30.4	30.4	10.4	47.4	47.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0		10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0		0	0
Act Effct Green (s)		26.0	26.0		26.0	26.0	39.9	39.9	39.9	47.6	47.6	47.6
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.46	0.46	0.46	0.55	0.55	0.55
v/c Ratio		0.88	0.11		0.36	0.07	0.23	0.34	0.02	0.06	0.77	0.22
Control Delay		53.3	0.4		25.6	0.2	22.7	19.8	0.0	10.7	23.3	2.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		53.3	0.4		25.6	0.2	22.7	19.8	0.0	10.7	23.3	2.4
LOS		D	A		C	A	C	B	A	B	C	A
Approach Delay		45.7			21.2			19.5			18.7	
Approach LOS		D			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 86.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 24.9		Intersection LOS: C	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	351	59	185	39	52	265	12	32	738	192
v/c Ratio	0.88	0.11	0.36	0.07	0.23	0.34	0.02	0.06	0.77	0.22
Control Delay	53.3	0.4	25.6	0.2	22.7	19.8	0.0	10.7	23.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	0.4	25.6	0.2	22.7	19.8	0.0	10.7	23.3	2.4
Queue Length 50th (m)	55.0	0.0	23.8	0.0	6.0	32.3	0.0	2.5	96.8	0.0
Queue Length 95th (m)	#98.6	0.3	40.6	0.0	16.2	55.2	0.0	6.8	#155.1	9.4
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	469	594	608	625	227	782	717	587	960	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.10	0.30	0.06	0.23	0.34	0.02	0.05	0.77	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	228	54	3	167	36	48	244	11	29	679	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1615	1459		1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted		0.81	1.00		0.99	1.00	0.29	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)		1328	1459		1724	1547	494	1701	1419	884	1750	1459
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	248	59	3	182	39	52	265	12	32	738	192
RTOR Reduction (vph)	0	0	42	0	0	28	0	0	7	0	0	84
Lane Group Flow (vph)	0	351	17	0	185	11	52	265	5	32	738	108
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		26.0	26.0		26.0	26.0	39.8	39.8	39.8	50.3	50.3	50.3
Effective Green, g (s)		26.0	26.0		26.0	26.0	39.8	39.8	39.8	50.3	50.3	50.3
Actuated g/C Ratio		0.29	0.29		0.29	0.29	0.45	0.45	0.45	0.56	0.56	0.56
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		386	424		501	449	219	757	631	534	984	820
v/s Ratio Prot								0.16		0.00	c0.42	
v/s Ratio Perm		c0.26	0.01		0.11	0.01	0.11		0.00	0.03		0.07
v/c Ratio		0.91	0.04		0.37	0.03	0.24	0.35	0.01	0.06	0.75	0.13
Uniform Delay, d1		30.6	22.7		25.2	22.6	15.4	16.3	13.8	9.1	14.8	9.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		24.5	0.0		0.5	0.0	2.5	1.3	0.0	0.0	5.2	0.3
Delay (s)		55.1	22.8		25.6	22.7	17.9	17.6	13.8	9.2	20.0	9.6
Level of Service		E	C		C	C	B	B	B	A	C	A
Approach Delay (s)		50.4			25.1			17.5			17.6	
Approach LOS		D			C			B			B	

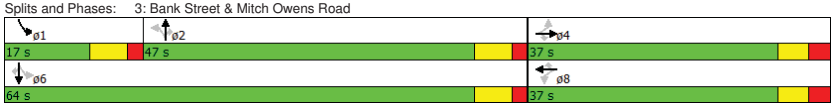
Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	75	65	5	69	33	76	208	6	46	278	108
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.973			0.997		0.950			0.950		
Satd. Flow (prot)	0	1748	1547	0	1765	1547	1729	1820	1517	1729	1820	1547
Flt Permitted		0.782			0.976		0.576			0.547		
Satd. Flow (perm)	0	1402	1547	0	1727	1547	1048	1820	1517	996	1820	1547
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			110			110			109			117
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	105	82	71	5	75	36	83	226	7	50	302	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	187	71	0	80	36	83	226	7	50	302	117
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	1	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	10.6	24.6	24.6
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	47.0	47.0	47.0	17.0	64.0	64.0
Total Split (%)	36.6%	36.6%	36.6%	36.6%	36.6%	36.6%	46.5%	46.5%	46.5%	16.8%	63.4%	63.4%
Maximum Green (s)	30.5	30.5	30.5	30.5	30.5	30.5	40.4	40.4	40.4	10.4	57.4	57.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0		10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0		0	0
Act Effct Green (s)		17.0	17.0		17.0	17.0	51.3	51.3	51.3	59.3	59.3	59.3
Actuated g/C Ratio		0.19	0.19		0.19	0.19	0.57	0.57	0.57	0.66	0.66	0.66
v/c Ratio		0.70	0.19		0.24	0.09	0.14	0.22	0.01	0.07	0.25	0.11
Control Delay		47.7	3.1		31.2	0.5	13.4	12.8	0.0	6.8	7.6	1.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		47.7	3.1		31.2	0.5	13.4	12.8	0.0	6.8	7.6	1.8
LOS		D	A		C	A	B	B	A	A	A	A
Approach Delay		35.4			21.6			12.7			6.0	
Approach LOS		D			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 101			
Actuated Cycle Length: 89.5			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	187	71	80	36	83	226	7	50	302	117
v/c Ratio	0.70	0.19	0.24	0.09	0.14	0.22	0.01	0.07	0.25	0.11
Control Delay	47.7	3.1	31.2	0.5	13.4	12.8	0.0	6.8	7.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	3.1	31.2	0.5	13.4	12.8	0.0	6.8	7.6	1.8
Queue Length 50th (m)	29.4	0.0	11.4	0.0	7.0	20.0	0.0	2.6	18.2	0.0
Queue Length 95th (m)	50.4	4.2	22.9	0.0	18.2	40.9	0.0	7.9	37.8	6.1
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	478	600	589	600	600	1043	915	745	1206	1065
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.12	0.14	0.06	0.14	0.22	0.01	0.07	0.25	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	75	65	5	69	33	76	208	6	46	278	108
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1744	1547		1764	1547	1729	1820	1517	1729	1820	1547
Flt Permitted		0.78	1.00		0.98	1.00	0.58	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)		1401	1547		1727	1547	1048	1820	1517	996	1820	1547
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	82	71	5	75	36	83	226	7	50	302	117
RTOR Reduction (vph)	0	0	58	0	0	29	0	0	3	0	0	38
Lane Group Flow (vph)	0	187	13	0	80	7	83	226	4	50	302	79
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		17.0	17.0		17.0	17.0	51.3	51.3	51.3	62.0	62.0	62.0
Effective Green, g (s)		17.0	17.0		17.0	17.0	51.3	51.3	51.3	62.0	62.0	62.0
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.56	0.56	0.56	0.67	0.67	0.67
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		258	285		318	285	583	1013	844	703	1225	1041
v/s Ratio Prot								0.12		0.00	c0.17	
v/s Ratio Perm		c0.13	0.01		0.05	0.00	0.08		0.00	0.04		0.05
v/c Ratio		0.72	0.05		0.25	0.02	0.14	0.22	0.00	0.07	0.25	0.08
Uniform Delay, d1		35.3	30.9		32.1	30.8	9.8	10.3	9.1	5.3	5.9	5.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		9.7	0.1		0.4	0.0	0.5	0.5	0.0	0.0	0.5	0.1
Delay (s)		45.0	30.9		32.5	30.8	10.3	10.8	9.1	5.4	6.4	5.3
Level of Service		D	C		C	C	B	B	A	A	A	A
Approach Delay (s)		41.2			32.0			10.7			6.0	
Approach LOS		D			C			B			A	

Intersection Summary					
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.38				
Actuated Cycle Length (s)	92.1	Sum of lost time (s)		19.7	
Intersection Capacity Utilization	52.8%	ICU Level of Service		A	
Analysis Period (min)	15				
c Critical Lane Group					

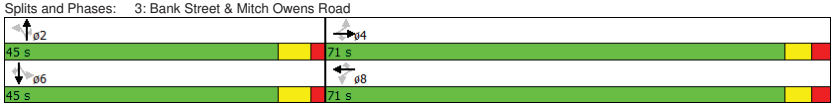
Existing Conditions
With Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	297	133	61	15	121	46	131	524	12	13	105	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.967			0.995		0.950			0.950		
Satd. Flow (prot)	0	1630	1334	0	1651	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.704			0.936		0.684			0.233		
Satd. Flow (perm)	0	1183	1334	0	1553	1419	1163	1717	1238	324	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			66			50			33			116
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	323	145	66	16	132	50	142	570	13	14	114	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	468	66	0	148	50	142	570	13	14	114	116
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	61.2%	61.2%	61.2%	61.2%	61.2%	61.2%	38.8%	38.8%	38.8%	38.8%	38.8%	38.8%
Maximum Green (s)	64.5	64.5	64.5	64.5	64.5	64.5	38.4	38.4	38.4	38.4	38.4	38.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		41.9	41.9		41.9	41.9	39.2	39.2	39.2	39.2	39.2	39.2
Actuated g/C Ratio		0.44	0.44		0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
v/c Ratio		0.89	0.10		0.21	0.08	0.29	0.80	0.02	0.10	0.17	0.20
Control Delay		43.6	3.6		15.7	3.8	24.7	37.6	2.1	26.2	22.4	5.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		43.6	3.6		15.7	3.8	24.7	37.6	2.1	26.2	22.4	5.9
LOS		D	A		B	A	C	D	A	C	C	A
Approach Delay		38.7			12.7			34.5			14.7	
Approach LOS		D			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 94.5			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 30.4		Intersection LOS: C	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	468	66	148	50	142	570	13	14	114	116
v/c Ratio	0.89	0.10	0.21	0.08	0.29	0.80	0.02	0.10	0.17	0.20
Control Delay	43.6	3.6	15.7	3.8	24.7	37.6	2.1	26.2	22.4	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	3.6	15.7	3.8	24.7	37.6	2.1	26.2	22.4	5.9
Queue Length 50th (m)	74.5	0.0	15.8	0.0	16.7	88.2	0.0	1.5	12.7	0.0
Queue Length 95th (m)	116.7	6.0	26.4	5.4	42.4	#201.5	1.2	7.5	32.7	12.6
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	823	949	1081	1003	482	711	532	134	680	572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.07	0.14	0.05	0.29	0.80	0.02	0.10	0.17	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	297	133	61	15	121	46	131	524	12	13	105	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1625	1334		1650	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.70	1.00		0.94	1.00	0.68	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)		1184	1334		1553	1419	1163	1717	1238	323	1640	1218
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	323	145	66	16	132	50	142	570	13	14	114	116
RTOR Reduction (vph)	0	0	37	0	0	28	0	0	8	0	0	68
Lane Group Flow (vph)	0	468	29	0	148	22	142	570	5	14	114	48
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		42.0	42.0		42.0	42.0	39.2	39.2	39.2	39.2	39.2	39.2
Effective Green, g (s)		42.0	42.0		42.0	42.0	39.2	39.2	39.2	39.2	39.2	39.2
Actuated g/C Ratio		0.45	0.45		0.45	0.45	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		527	594		691	632	483	713	514	134	681	506
v/s Ratio Prot								c0.33			0.07	
v/s Ratio Perm		c0.40	0.02		0.10	0.02	0.12		0.00	0.04		0.04
v/c Ratio		0.89	0.05		0.21	0.04	0.29	0.80	0.01	0.10	0.17	0.10
Uniform Delay, d1		24.0	14.8		16.0	14.7	18.3	24.1	16.2	16.8	17.3	16.8
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		16.5	0.0		0.2	0.0	1.5	9.1	0.0	1.6	0.5	0.4
Delay (s)		40.5	14.9		16.2	14.8	19.9	33.2	16.2	18.4	17.8	17.1
Level of Service		D	B		B	B	B	C	B	B	B	B
Approach Delay (s)		37.3			15.8			30.3			17.5	
Approach LOS		D			B			C			B	

Intersection Summary				
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	94.3	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	77.8%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

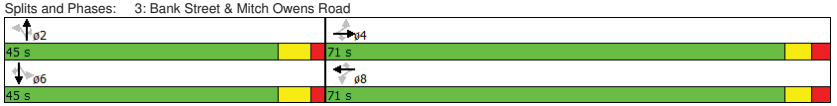
2015 Future Background Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	297	133	97	23	121	46	149	577	14	13	190	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.967			0.992		0.950			0.950		
Satd. Flow (prot)	0	1630	1334	0	1648	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.706			0.903		0.638			0.249		
Satd. Flow (perm)	0	1186	1334	0	1500	1419	1085	1717	1238	346	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			46			33			107
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	297	133	97	23	121	46	149	577	14	13	190	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	430	97	0	144	46	149	577	14	13	190	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	61.2%	61.2%	61.2%	61.2%	61.2%	61.2%	38.8%	38.8%	38.8%	38.8%	38.8%	38.8%
Maximum Green (s)	64.5	64.5	64.5	64.5	64.5	64.5	38.4	38.4	38.4	38.4	38.4	38.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		37.5	37.5		37.5	37.5	39.1	39.1	39.1	39.1	39.1	39.1
Actuated g/C Ratio		0.42	0.42		0.42	0.42	0.43	0.43	0.43	0.43	0.43	0.43
v/c Ratio		0.87	0.16		0.23	0.07	0.32	0.77	0.03	0.09	0.27	0.18
Control Delay		45.7	3.5		16.6	4.2	22.9	33.9	2.4	23.1	20.9	5.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		45.7	3.5		16.6	4.2	22.9	33.9	2.4	23.1	20.9	5.5
LOS		D	A		B	A	C	C	A	C	C	A
Approach Delay		37.9			13.6			31.1			15.7	
Approach LOS		D			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 90			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 28.5		Intersection LOS: C	
Intersection Capacity Utilization 90.0%		ICU Level of Service E	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	430	97	144	46	149	577	14	13	190	107
v/c Ratio	0.87	0.16	0.23	0.07	0.32	0.77	0.03	0.09	0.27	0.18
Control Delay	45.7	3.5	16.6	4.2	22.9	33.9	2.4	23.1	20.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	3.5	16.6	4.2	22.9	33.9	2.4	23.1	20.9	5.5
Queue Length 50th (m)	64.8	0.0	15.3	0.0	16.2	81.3	0.0	1.3	20.1	0.0
Queue Length 95th (m)	127.0	9.6	29.8	6.4	48.6	#226.4	2.3	7.6	55.4	14.7
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	865	1000	1095	1048	471	746	556	150	712	589
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.10	0.13	0.04	0.32	0.77	0.03	0.09	0.27	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	297	133	97	23	121	46	149	577	14	13	190	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1625	1334		1648	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.71	1.00		0.90	1.00	0.64	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)		1188	1334		1500	1419	1085	1717	1238	346	1640	1218
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)	297	133	97	23	121	46	149	577	14	13	190	107
RTOR Reduction (vph)	0	0	56	0	0	27	0	0	8	0	0	60
Lane Group Flow (vph)	0	430	41	0	144	19	149	577	6	13	190	47
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		37.6	37.6		37.6	37.6	39.1	39.1	39.1	39.1	39.1	39.1
Effective Green, g (s)		37.6	37.6		37.6	37.6	39.1	39.1	39.1	39.1	39.1	39.1
Actuated g/C Ratio		0.42	0.42		0.42	0.42	0.44	0.44	0.44	0.44	0.44	0.44
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		497	558		628	594	472	747	539	150	714	530
v/s Ratio Prot								c0.34			0.12	
v/s Ratio Perm		c0.36	0.03		0.10	0.01	0.14		0.00	0.04		0.04
v/c Ratio		0.87	0.07		0.23	0.03	0.32	0.77	0.01	0.09	0.27	0.09
Uniform Delay, d1		23.8	15.6		16.8	15.4	16.6	21.6	14.4	14.9	16.2	14.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		16.9	0.1		0.2	0.0	1.8	8.0	0.0	1.1	0.9	0.3
Delay (s)		40.7	15.7		17.0	15.4	18.3	29.6	14.4	16.0	17.1	15.2
Level of Service		D	B		B	B	B	C	B	B	B	B
Approach Delay (s)		36.1			16.6			27.0			16.4	
Approach LOS		D			B			C			B	

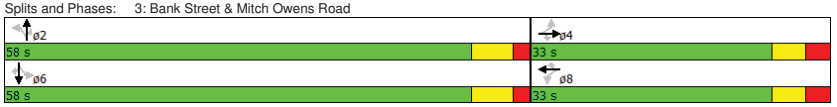
Intersection Summary				
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	89.8	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	90.0%	ICU Level of Service	E	
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	228	87	12	167	36	106	447	26	29	857	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.986			0.997		0.950			0.950		
Satd. Flow (prot)	0	1617	1459	0	1734	1547	1631	1701	1419	1729	1750	1459
Flt Permitted		0.815			0.965		0.163			0.449		
Satd. Flow (perm)	0	1335	1459	0	1678	1547	280	1701	1419	817	1750	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			87			43			42			177
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Adj. Flow (vph)	95	228	87	12	167	36	106	447	26	29	857	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	323	87	0	179	36	106	447	26	29	857	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	58.0	58.0	58.0	58.0	58.0	58.0
Total Split (%)	36.3%	36.3%	36.3%	36.3%	36.3%	36.3%	63.7%	63.7%	63.7%	63.7%	63.7%	63.7%
Maximum Green (s)	26.5	26.5	26.5	26.5	26.5	26.5	51.4	51.4	51.4	51.4	51.4	51.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		24.1	24.1		24.1	24.1	51.5	51.5	51.5	51.5	51.5	51.5
Actuated g/C Ratio		0.27	0.27		0.27	0.27	0.58	0.58	0.58	0.58	0.58	0.58
v/c Ratio		0.89	0.19		0.39	0.08	0.65	0.45	0.03	0.06	0.84	0.19
Control Delay		66.9	6.8		29.0	6.9	38.8	13.0	1.7	9.4	26.7	2.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		66.9	6.8		29.0	6.9	38.8	13.0	1.7	9.4	26.7	2.1
LOS		E	A		C	A	D	B	A	A	C	A
Approach Delay		54.2			25.3			17.2			22.1	
Approach LOS		D			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 88.7			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 103.8%		ICU Level of Service G	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	87	179	36	106	447	26	29	857	177
v/c Ratio	0.89	0.19	0.39	0.08	0.65	0.45	0.03	0.06	0.84	0.19
Control Delay	66.9	6.8	29.0	6.9	38.8	13.0	1.7	9.4	26.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	6.8	29.0	6.9	38.8	13.0	1.7	9.4	26.7	2.1
Queue Length 50th (m)	52.6	0.0	24.8	0.0	12.1	43.1	0.0	2.1	119.3	0.0
Queue Length 95th (m)	#115.6	12.9	48.3	7.1	#49.2	77.7	2.7	6.7	#244.7	10.8
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	399	497	501	492	162	986	840	474	1015	921
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.18	0.36	0.07	0.65	0.45	0.03	0.06	0.84	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	228	87	12	167	36	106	447	26	29	857	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1614	1459		1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted		0.82	1.00		0.96	1.00	0.16	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1335	1459		1678	1547	279	1701	1419	816	1750	1459
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)	95	228	87	12	167	36	106	447	26	29	857	177
RTOR Reduction (vph)	0	0	63	0	0	26	0	0	11	0	0	74
Lane Group Flow (vph)	0	323	24	0	179	10	106	447	15	29	857	103
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		24.1	24.1		24.1	24.1	51.5	51.5	51.5	51.5	51.5	51.5
Effective Green, g (s)		24.1	24.1		24.1	24.1	51.5	51.5	51.5	51.5	51.5	51.5
Actuated g/C Ratio		0.27	0.27		0.27	0.27	0.58	0.58	0.58	0.58	0.58	0.58
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		362	396		455	420	161	987	823	473	1016	847
v/s Ratio Prot								0.26			c0.49	
v/s Ratio Perm		c0.24	0.02		0.11	0.01	0.38		0.01	0.04		0.07
v/c Ratio		0.89	0.06		0.39	0.02	0.66	0.45	0.02	0.06	0.84	0.12
Uniform Delay, d1		31.1	23.9		26.3	23.7	12.6	10.6	7.9	8.1	15.3	8.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		29.5	0.1		0.6	0.0	20.8	1.5	0.0	0.2	9.2	0.3
Delay (s)		60.5	24.0		26.9	23.7	33.5	12.1	7.9	8.3	24.5	8.7
Level of Service		E	C		C	C	C	B	A	A	C	A
Approach Delay (s)		52.8			26.4			15.8			21.5	
Approach LOS		D			C			B			C	

Intersection Summary

HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	13.1
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	60		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	75	135	10	69	33	160	439	13	46	578	108
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.973			0.994		0.950			0.950		
Satd. Flow (prot)	0	1748	1547	0	1763	1547	1729	1820	1517	1729	1820	1547
Flt Permitted		0.781			0.946		0.393			0.484		
Satd. Flow (perm)	0	1400	1547	0	1677	1547	715	1820	1517	881	1820	1547
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			135			39			38			108
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	97	75	135	10	69	33	160	439	13	46	578	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	135	0	79	33	160	439	13	46	578	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	35.0	35.0	35.0	35.0	35.0	35.0	66.0	66.0	66.0	66.0	66.0	66.0
Total Split (%)	34.7%	34.7%	34.7%	34.7%	34.7%	34.7%	65.3%	65.3%	65.3%	65.3%	65.3%	65.3%
Maximum Green (s)	28.5	28.5	28.5	28.5	28.5	28.5	59.4	59.4	59.4	59.4	59.4	59.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		16.1	16.1		16.1	16.1	60.4	60.4	60.4	60.4	60.4	60.4
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.67	0.67	0.67	0.67	0.67	0.67
v/c Ratio		0.69	0.35		0.26	0.11	0.33	0.36	0.01	0.08	0.47	0.10
Control Delay		49.2	8.1		32.8	9.1	9.6	8.1	0.3	6.7	9.4	1.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		49.2	8.1		32.8	9.1	9.6	8.1	0.3	6.7	9.4	1.7
LOS		D	A		C	A	A	A	A	A	A	A
Approach Delay		31.1			25.8			8.3			8.1	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 101			
Actuated Cycle Length: 89.7			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	135	79	33	160	439	13	46	578	108
v/c Ratio	0.69	0.35	0.26	0.11	0.33	0.36	0.01	0.08	0.47	0.10
Control Delay	49.2	8.1	32.8	9.1	9.6	8.1	0.3	6.7	9.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	8.1	32.8	9.1	9.6	8.1	0.3	6.7	9.4	1.7
Queue Length 50th (m)	27.5	0.0	11.6	0.0	10.1	28.2	0.0	2.4	41.4	0.0
Queue Length 95th (m)	54.6	17.8	26.4	7.6	31.0	65.4	0.7	8.5	96.5	7.3
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	445	584	533	519	481	1226	1034	593	1226	1077
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.23	0.15	0.06	0.33	0.36	0.01	0.08	0.47	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	75	135	10	69	33	160	439	13	46	578	108
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1744	1547		1762	1547	1729	1820	1517	1729	1820	1547
Flt Permitted		0.78	1.00		0.95	1.00	0.39	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		1401	1547		1678	1547	716	1820	1517	881	1820	1547
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)	97	75	135	10	69	33	160	439	13	46	578	108
RTOR Reduction (vph)	0	0	111	0	0	27	0	0	4	0	0	35
Lane Group Flow (vph)	0	172	24	0	79	6	160	439	9	46	578	73
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		16.1	16.1		16.1	16.1	60.4	60.4	60.4	60.4	60.4	60.4
Effective Green, g (s)		16.1	16.1		16.1	16.1	60.4	60.4	60.4	60.4	60.4	60.4
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.67	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		251	277		301	277	482	1226	1022	593	1226	1042
v/s Ratio Prot								0.24			c0.32	
v/s Ratio Perm		c0.12	0.02		0.05	0.00	0.22		0.01	0.05		0.05
v/c Ratio		0.69	0.09		0.26	0.02	0.33	0.36	0.01	0.08	0.47	0.07
Uniform Delay, d1		34.4	30.6		31.6	30.3	6.1	6.3	4.8	5.0	7.0	5.0
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		7.8	0.1		0.5	0.0	1.9	0.8	0.0	0.3	1.3	0.1
Delay (s)		42.2	30.8		32.1	30.3	8.0	7.1	4.8	5.3	8.3	5.1
Level of Service		D	C		C	C	A	A	A	A	A	A
Approach Delay (s)		37.2			31.6			7.3			7.6	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	89.6	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	74.4%	ICU Level of Service	D	
Analysis Period (min)	60			
c Critical Lane Group				

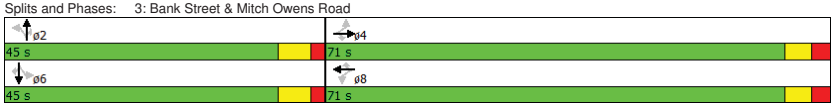
2015 Total Future Conditions Without Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.966			0.992		0.950			0.950		
Satd. Flow (prot)	0	1628	1334	0	1649	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.696			0.891		0.633			0.243		
Satd. Flow (perm)	0	1170	1334	0	1481	1419	1077	1717	1238	338	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			46			33			110
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	458	97	0	154	46	185	562	14	13	196	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0	45.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	61.2%	61.2%	61.2%	61.2%	61.2%	61.2%	38.8%	38.8%	38.8%	38.8%	38.8%	38.8%
Maximum Green (s)	64.5	64.5	64.5	64.5	64.5	64.5	38.4	38.4	38.4	38.4	38.4	38.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		41.5	41.5		41.5	41.5	39.2	39.2	39.2	39.2	39.2	39.2
Actuated g/C Ratio		0.44	0.44		0.44	0.44	0.42	0.42	0.42	0.42	0.42	0.42
v/c Ratio		0.89	0.15		0.24	0.07	0.41	0.79	0.03	0.09	0.29	0.19
Control Delay		48.3	3.2		16.1	3.9	27.0	37.0	2.6	25.7	23.3	6.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		48.3	3.2		16.1	3.9	27.0	37.0	2.6	25.7	23.3	6.0
LOS		D	A		B	A	C	D	A	C	C	A
Approach Delay		40.4			13.3			33.9			17.4	
Approach LOS		D			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 94.1			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 30.8		Intersection LOS: C	
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	458	97	154	46	185	562	14	13	196	110
v/c Ratio	0.89	0.15	0.24	0.07	0.41	0.79	0.03	0.09	0.29	0.19
Control Delay	48.3	3.2	16.1	3.9	27.0	37.0	2.6	25.7	23.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	3.2	16.1	3.9	27.0	37.0	2.6	25.7	23.3	6.0
Queue Length 50th (m)	72.4	0.0	16.5	0.0	22.8	85.3	0.0	1.4	22.7	0.0
Queue Length 95th (m)	#144.3	9.3	31.4	6.3	65.8	#234.1	2.3	8.1	61.1	15.8
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	819	962	1036	1007	449	715	535	140	683	571
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.10	0.15	0.05	0.41	0.79	0.03	0.09	0.29	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1624	1334		1648	1419	1616	1717	1238	1320	1640	1218
Flt Permitted		0.70	1.00		0.89	1.00	0.63	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)		1170	1334		1480	1419	1077	1717	1238	338	1640	1218
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)	323	135	97	26	128	46	185	562	14	13	196	110
RTOR Reduction (vph)	0	0	54	0	0	26	0	0	8	0	0	64
Lane Group Flow (vph)	0	458	43	0	154	20	185	562	6	13	196	46
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		41.5	41.5		41.5	41.5	39.2	39.2	39.2	39.2	39.2	39.2
Effective Green, g (s)		41.5	41.5		41.5	41.5	39.2	39.2	39.2	39.2	39.2	39.2
Actuated g/C Ratio		0.44	0.44		0.44	0.44	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		517	590		654	627	450	717	517	141	685	509
v/s Ratio Prot								c0.33			0.12	
v/s Ratio Perm		c0.39	0.03		0.10	0.01	0.17		0.00	0.04		0.04
v/c Ratio		0.89	0.07		0.24	0.03	0.41	0.78	0.01	0.09	0.29	0.09
Uniform Delay, d1		24.0	15.1		16.3	14.8	19.2	23.6	16.0	16.5	18.0	16.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		19.9	0.1		0.2	0.0	2.8	8.9	0.0	1.3	1.1	0.4
Delay (s)		43.9	15.1		16.5	14.8	22.0	32.5	16.0	17.8	19.1	16.9
Level of Service		D	B		B	B	C	C	B	B	B	B
Approach Delay (s)		38.9			16.1			29.7			18.3	
Approach LOS		D			B			C			B	

Intersection Summary

HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	13.1
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	60		

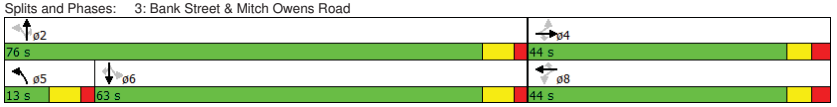
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.981			0.995		0.950			0.950		
Satd. Flow (prot)	0	1588	1459	0	1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted		0.714			0.808		0.063			0.516		
Satd. Flow (perm)	0	1154	1459	0	1407	1547	108	1701	1419	939	1750	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			93			32			141
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Adj. Flow (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	412	87	0	198	36	156	422	26	29	904	205
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	10.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	13.0	76.0	76.0	63.0	63.0	63.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	10.8%	63.3%	63.3%	52.5%	52.5%	52.5%
Maximum Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	6.4	69.4	69.4	56.4	56.4	56.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0		10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0	0	0	0
Act Effct Green (s)		37.5	37.5		37.5	37.5	69.4	69.4	69.4	56.4	56.4	56.4
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.58	0.58	0.58	0.47	0.47	0.47
v/c Ratio		1.14	0.17		0.45	0.07	1.09	0.43	0.03	0.07	1.10	0.27
Control Delay		333.2	6.1		37.1	0.2	285.3	15.9	3.1	18.0	232.5	7.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		333.2	6.1		37.1	0.2	285.3	15.9	3.1	18.0	232.5	7.3
LOS		F	A		D	A	F	B	A	B	F	A
Approach Delay		276.2			31.4			84.9			186.5	
Approach LOS		F			C			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 165.1		Intersection LOS: F	
Intersection Capacity Utilization 115.6%		ICU Level of Service H	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	412	87	198	36	156	422	26	29	904	205
v/c Ratio	1.14	0.17	0.45	0.07	1.09	0.43	0.03	0.07	1.10	0.27
Control Delay	333.2	6.1	37.1	0.2	285.3	15.9	3.1	18.0	232.5	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	333.2	6.1	37.1	0.2	285.3	15.9	3.1	18.0	232.5	7.3
Queue Length 50th (m)	~113.5	0.0	37.2	0.0	~27.0	52.8	0.0	3.7	~241.4	8.1
Queue Length 95th (m)	#203.2	13.3	68.3	0.0	#83.3	88.9	3.9	10.4	#374.2	28.1
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	360	519	439	547	143	983	834	441	822	760
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.17	0.45	0.07	1.09	0.43	0.03	0.07	1.10	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1586	1459		1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted		0.71	1.00		0.81	1.00	0.06	1.00	1.00	0.52	1.00	1.00
Satd. Flow (perm)		1154	1459		1407	1547	109	1701	1419	939	1750	1459
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)	156	256	87	20	178	36	156	422	26	29	904	205
RTOR Reduction (vph)	0	0	60	0	0	25	0	0	11	0	0	75
Lane Group Flow (vph)	0	412	27	0	198	11	156	422	15	29	904	130
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		37.5	37.5		37.5	37.5	69.4	69.4	69.4	56.4	56.4	56.4
Effective Green, g (s)		37.5	37.5		37.5	37.5	69.4	69.4	69.4	56.4	56.4	56.4
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.58	0.58	0.58	0.47	0.47	0.47
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		360	455		439	483	144	983	820	441	822	685
v/s Ratio Prot							c0.06	0.25			0.52	
v/s Ratio Perm		c0.36	0.02		0.14	0.01	c0.57		0.01	0.03		0.09
v/c Ratio		1.14	0.06		0.45	0.02	1.08	0.43	0.02	0.07	1.10	0.19
Uniform Delay, d1		41.2	28.9		33.0	28.6	34.6	14.2	10.8	17.4	31.8	18.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		294.9	0.1		0.7	0.0	248.2	1.4	0.0	0.3	201.1	0.6
Delay (s)		336.2	29.0		33.8	28.6	282.8	15.6	10.8	17.7	232.9	19.1
Level of Service		F	C		C	C	F	B	B	B	F	B
Approach Delay (s)		282.6			33.0			84.4			188.9	
Approach LOS		F			C			F			F	

Intersection Summary

HCM 2000 Control Delay	167.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	115.6%	ICU Level of Service	H
Analysis Period (min)	60		

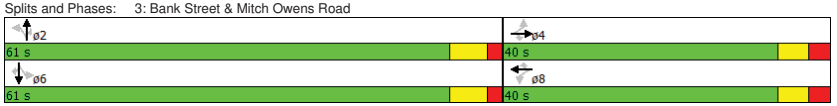
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.967			0.992		0.950			0.950		
Satd. Flow (prot)	0	1743	1547	0	1761	1547	1729	1820	1517	1729	1820	1547
Flt Permitted		0.737			0.917		0.297			0.512		
Satd. Flow (perm)	0	1325	1547	0	1627	1547	541	1820	1517	932	1820	1547
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			135			39			38			132
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	333	135	0	100	33	275	358	13	46	643	132
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	61.0	61.0	61.0	61.0	61.0	61.0
Total Split (%)	39.6%	39.6%	39.6%	39.6%	39.6%	39.6%	60.4%	60.4%	60.4%	60.4%	60.4%	60.4%
Maximum Green (s)	33.5	33.5	33.5	33.5	33.5	33.5	54.4	54.4	54.4	54.4	54.4	54.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		27.6	27.6		27.6	27.6	54.6	54.6	54.6	54.6	54.6	54.6
Actuated g/C Ratio		0.29	0.29		0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
v/c Ratio		0.87	0.25		0.21	0.07	0.89	0.34	0.01	0.09	0.62	0.14
Control Delay		60.4	5.6		26.2	6.9	62.3	13.0	0.5	11.4	17.9	2.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		60.4	5.6		26.2	6.9	62.3	13.0	0.5	11.4	17.9	2.5
LOS		E	A		C	A	E	B	A	B	B	A
Approach Delay		44.5			21.4			33.7			15.1	
Approach LOS		D			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 101			
Actuated Cycle Length: 95.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 94.0%		ICU Level of Service F	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	333	135	100	33	275	358	13	46	643	132
v/c Ratio	0.87	0.25	0.21	0.07	0.89	0.34	0.01	0.09	0.62	0.14
Control Delay	60.4	5.6	26.2	6.9	62.3	13.0	0.5	11.4	17.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	5.6	26.2	6.9	62.3	13.0	0.5	11.4	17.9	2.5
Queue Length 50th (m)	57.8	0.0	13.8	0.0	43.6	34.7	0.0	3.8	77.6	0.0
Queue Length 95th (m)	#119.8	16.0	29.3	6.7	#119.8	66.6	0.9	11.0	150.0	10.5
Internal Link Dist (m)	154.9		152.8			93.4			91.2	
Turn Bay Length (m)										
Base Capacity (vph)	467	632	573	570	309	1041	884	533	1041	942
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.21	0.17	0.06	0.89	0.34	0.01	0.09	0.62	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1739	1547		1761	1547	1729	1820	1517	1729	1820	1547
Flt Permitted		0.74	1.00		0.92	1.00	0.30	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)		1326	1547		1628	1547	540	1820	1517	931	1820	1547
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)	224	109	135	16	84	33	275	358	13	46	643	132
RTOR Reduction (vph)	0	0	96	0	0	23	0	0	6	0	0	56
Lane Group Flow (vph)	0	333	39	0	100	10	275	358	7	46	643	76
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)		27.7	27.7		27.7	27.7	54.6	54.6	54.6	54.6	54.6	54.6
Effective Green, g (s)		27.7	27.7		27.7	27.7	54.6	54.6	54.6	54.6	54.6	54.6
Actuated g/C Ratio		0.29	0.29		0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
Clearance Time (s)		6.5	6.5		6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		385	449		472	449	309	1041	868	532	1041	885
v/s Ratio Prot								0.20			0.35	
v/s Ratio Perm		c0.25	0.03		0.06	0.01	c0.51		0.00	0.05		0.05
v/c Ratio		0.86	0.09		0.21	0.02	0.89	0.34	0.01	0.09	0.62	0.09
Uniform Delay, d1		32.1	24.6		25.6	24.2	17.8	10.9	8.8	9.2	13.5	9.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		21.4	0.1		0.2	0.0	39.3	0.9	0.0	0.3	2.8	0.2
Delay (s)		53.4	24.7		25.8	24.2	57.1	11.8	8.8	9.5	16.3	9.4
Level of Service		D	C		C	C	E	B	A	A	B	A
Approach Delay (s)		45.2			25.4			31.0			14.8	
Approach LOS		D			C			C			B	

Intersection Summary					
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	95.4	Sum of lost time (s)		13.1	
Intersection Capacity Utilization	94.0%	ICU Level of Service		F	
Analysis Period (min)	60				
c Critical Lane Group					

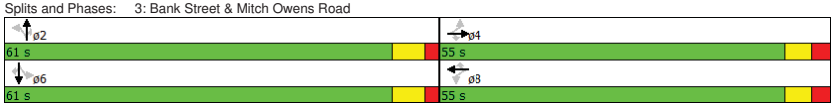
2015 Total Future Conditions
With Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00								
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	1685	1334	1616	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.675			0.671			0.634			0.333		
Satd. Flow (perm)	1133	1685	1334	1137	1655	1419	1078	1717	1238	463	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			46			33			110
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	55.0	55.0	55.0	55.0	55.0	55.0	61.0	61.0	61.0	61.0	61.0	61.0
Total Split (%)	47.4%	47.4%	47.4%	47.4%	47.4%	47.4%	52.6%	52.6%	52.6%	52.6%	52.6%	52.6%
Maximum Green (s)	48.5	48.5	48.5	48.5	48.5	48.5	54.4	54.4	54.4	54.4	54.4	54.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	33.6	33.6	33.6	33.6	33.6	33.6	54.9	54.9	54.9	54.9	54.9	54.9
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.33	0.54	0.54	0.54	0.54	0.54	0.54
v/c Ratio	0.86	0.24	0.19	0.07	0.23	0.09	0.32	0.61	0.02	0.05	0.22	0.16
Control Delay	59.2	24.8	5.3	22.0	24.7	6.5	17.4	21.9	1.6	15.9	15.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	24.8	5.3	22.0	24.7	6.5	17.4	21.9	1.6	15.9	15.2	3.7
LOS	E	C	A	C	C	A	B	C	A	B	B	A
Approach Delay		41.4			20.1			20.4			11.3	
Approach LOS		D			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 101.8			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Queues
3: Bank Street & Mitch Owens Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	323	135	97	26	128	46	185	562	14	13	196	110
v/c Ratio	0.86	0.24	0.19	0.07	0.23	0.09	0.32	0.61	0.02	0.05	0.22	0.16
Control Delay	59.2	24.8	5.3	22.0	24.7	6.5	17.4	21.9	1.6	15.9	15.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	24.8	5.3	22.0	24.7	6.5	17.4	21.9	1.6	15.9	15.2	3.7
Queue Length 50th (m)	58.7	19.1	0.0	3.5	18.0	0.0	19.6	73.3	0.0	1.2	19.5	0.0
Queue Length 95th (m)	#118.8	36.5	12.5	10.1	35.0	8.4	51.1	167.5	1.8	6.0	47.4	12.2
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	545	810	692	547	796	706	581	926	683	249	885	707
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.17	0.14	0.05	0.16	0.07	0.32	0.61	0.02	0.05	0.22	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
3: Bank Street & Mitch Owens Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	323	135	97	26	128	46	185	562	14	13	196	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1595	1685	1334	1610	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.67	1.00	1.00	0.67	1.00	1.00	0.63	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	1133	1685	1334	1137	1655	1419	1079	1717	1238	462	1640	1218
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)	323	135	97	26	128	46	185	562	14	13	196	110
RTOR Reduction (vph)	0	0	65	0	0	31	0	0	6	0	0	51
Lane Group Flow (vph)	323	135	32	26	128	15	185	562	8	13	196	59
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	33.6	33.6	33.6	33.6	33.6	33.6	54.9	54.9	54.9	54.9	54.9	54.9
Effective Green, g (s)	33.6	33.6	33.6	33.6	33.6	33.6	54.9	54.9	54.9	54.9	54.9	54.9
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.33	0.54	0.54	0.54	0.54	0.54	0.54
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	374	557	441	376	547	469	583	927	668	249	886	658
v/s Ratio Prot		0.08			0.08			c0.33			0.12	
v/s Ratio Perm	c0.29		0.02	0.02		0.01	0.17		0.01	0.03		0.05
v/c Ratio	0.86	0.24	0.07	0.07	0.23	0.03	0.32	0.61	0.01	0.05	0.22	0.09
Uniform Delay, d1	31.9	24.7	23.3	23.3	24.7	23.0	13.0	16.0	10.8	11.0	12.2	11.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.7	0.2	0.1	0.1	0.2	0.0	1.4	3.0	0.0	0.4	0.6	0.3
Delay (s)	53.6	25.0	23.4	23.4	24.9	23.0	14.4	18.9	10.8	11.4	12.8	11.6
Level of Service	D	C	C	C	C	C	B	B	B	B	B	B
Approach Delay (s)		41.3			24.3			17.7			12.3	
Approach LOS		D			C			B			B	

Intersection Summary

HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	13.1
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	60		

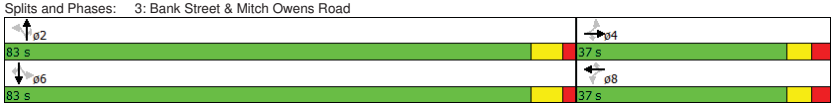
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00								
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1406	1717	1459	1729	1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted	0.558			0.397			0.194			0.482		
Satd. Flow (perm)	823	1717	1459	720	1733	1547	333	1701	1419	877	1750	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			87			36			32			205
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Adj. Flow (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	37.0	37.0	37.0	37.0	37.0	37.0	83.0	83.0	83.0	83.0	83.0	83.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%	69.2%	69.2%	69.2%	69.2%	69.2%	69.2%
Maximum Green (s)	30.5	30.5	30.5	30.5	30.5	30.5	76.4	76.4	76.4	76.4	76.4	76.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	24.7	24.7	24.7	24.7	24.7	24.7	76.7	76.7	76.7	76.7	76.7	76.7
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.67	0.67	0.67	0.67	0.67	0.67
v/c Ratio	0.88	0.69	0.23	0.13	0.48	0.10	0.70	0.37	0.03	0.05	0.77	0.20
Control Delay	102.7	51.9	8.8	37.2	43.3	11.4	35.8	10.3	2.3	8.2	20.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.7	51.9	8.8	37.2	43.3	11.4	35.8	10.3	2.3	8.2	20.2	1.6
LOS	F	D	A	D	D	B	D	B	A	A	C	A
Approach Delay		60.3			37.9			16.5			16.6	
Approach LOS		E			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.5			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 27.4		Intersection LOS: C	
Intersection Capacity Utilization 100.2%		ICU Level of Service G	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	256	87	20	178	36	156	422	26	29	904	205
v/c Ratio	0.88	0.69	0.23	0.13	0.48	0.10	0.70	0.37	0.03	0.05	0.77	0.20
Control Delay	102.7	51.9	8.8	37.2	43.3	11.4	35.8	10.3	2.3	8.2	20.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.7	51.9	8.8	37.2	43.3	11.4	35.8	10.3	2.3	8.2	20.2	1.6
Queue Length 50th (m)	34.0	53.1	0.0	3.6	35.0	0.0	21.4	40.9	0.0	2.2	136.4	0.0
Queue Length 95th (m)	#80.6	91.9	15.7	11.6	63.4	9.9	#79.9	74.9	3.3	6.8	#302.8	11.3
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	220	458	453	192	463	440	223	1138	960	587	1171	1044
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.56	0.19	0.10	0.38	0.08	0.70	0.37	0.03	0.05	0.77	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	256	87	20	178	36	156	422	26	29	904	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1401	1717	1459	1724	1733	1547	1631	1701	1419	1729	1750	1459
Flt Permitted	0.56	1.00	1.00	0.40	1.00	1.00	0.19	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)	822	1717	1459	721	1733	1547	333	1701	1419	878	1750	1459
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)	156	256	87	20	178	36	156	422	26	29	904	205
RTOR Reduction (vph)	0	0	68	0	0	28	0	0	9	0	0	68
Lane Group Flow (vph)	156	256	19	20	178	8	156	422	17	29	904	137
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	23%	6%	6%	0%	5%	0%	6%	7%	9%	0%	4%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	24.7	24.7	24.7	24.7	24.7	24.7	76.6	76.6	76.6	76.6	76.6	76.6
Effective Green, g (s)	24.7	24.7	24.7	24.7	24.7	24.7	76.6	76.6	76.6	76.6	76.6	76.6
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.67	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	177	370	315	155	374	334	222	1138	950	587	1171	976
v/s Ratio Prot		0.15			0.10			0.25			c0.52	
v/s Ratio Perm	c0.19		0.01	0.03		0.01	0.47		0.01	0.03		0.09
v/c Ratio	0.88	0.69	0.06	0.13	0.48	0.02	0.70	0.37	0.02	0.05	0.77	0.14
Uniform Delay, d1	43.4	41.3	35.6	36.2	39.2	35.3	11.8	8.3	6.3	6.5	12.9	6.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	49.5	5.7	0.1	0.4	1.0	0.0	18.5	0.9	0.0	0.2	5.1	0.3
Delay (s)	93.0	47.0	35.7	36.6	40.2	35.4	30.3	9.2	6.4	6.6	18.1	7.2
Level of Service	F	D	D	D	D	D	C	A	A	A	B	A
Approach Delay (s)		59.4			39.1			14.6			15.8	
Approach LOS		E			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	114.4	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	100.2%	ICU Level of Service	G	
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00								
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	1767	1547	1729	1767	1547	1729	1820	1517	1729	1820	1547
Flt Permitted	0.702			0.687			0.342			0.532		
Satd. Flow (perm)	1273	1767	1547	1246	1767	1547	622	1820	1517	968	1820	1547
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			135			39			38			132
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	71.0	71.0	71.0	71.0	71.0	71.0
Total Split (%)	29.7%	29.7%	29.7%	29.7%	29.7%	29.7%	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%
Maximum Green (s)	23.5	23.5	23.5	23.5	23.5	23.5	64.4	64.4	64.4	64.4	64.4	64.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	20.6	20.6	20.6	20.6	20.6	20.6	64.5	64.5	64.5	64.5	64.5	64.5
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.66	0.66	0.66	0.66	0.66	0.66
v/c Ratio	0.84	0.29	0.31	0.06	0.23	0.09	0.67	0.30	0.01	0.07	0.54	0.12
Control Delay	69.7	34.6	7.8	31.1	33.4	9.2	22.2	8.5	0.3	7.3	11.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	34.6	7.8	31.1	33.4	9.2	22.2	8.5	0.3	7.3	11.6	1.6
LOS	E	C	A	C	C	A	C	A	A	A	B	A
Approach Delay		43.7			27.1			14.2			9.7	
Approach LOS		D			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 101			
Actuated Cycle Length: 98.3			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 88.0%		ICU Level of Service E	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	224	109	135	16	84	33	275	358	13	46	643	132
v/c Ratio	0.84	0.29	0.31	0.06	0.23	0.09	0.67	0.30	0.01	0.07	0.54	0.12
Control Delay	69.7	34.6	7.8	31.1	33.4	9.2	22.2	8.5	0.3	7.3	11.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	34.6	7.8	31.1	33.4	9.2	22.2	8.5	0.3	7.3	11.6	1.6
Queue Length 50th (m)	41.0	17.5	0.0	2.5	13.3	0.0	31.9	28.8	0.0	3.1	64.3	0.0
Queue Length 95th (m)	#91.3	36.4	18.6	8.7	29.2	7.8	#98.2	50.3	0.7	8.3	113.1	7.9
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	305	423	473	298	423	399	408	1194	1009	635	1194	1061
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.26	0.29	0.05	0.20	0.08	0.67	0.30	0.01	0.07	0.54	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	224	109	135	16	84	33	275	358	13	46	643	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1722	1767	1547	1723	1767	1547	1729	1820	1517	1729	1820	1547
Flt Permitted	0.70	1.00	1.00	0.69	1.00	1.00	0.34	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	1274	1767	1547	1245	1767	1547	622	1820	1517	969	1820	1547
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)	224	109	135	16	84	33	275	358	13	46	643	132
RTOR Reduction (vph)	0	0	107	0	0	26	0	0	4	0	0	45
Lane Group Flow (vph)	224	109	28	16	84	7	275	358	9	46	643	87
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	20.6	20.6	20.6	20.6	20.6	20.6	64.5	64.5	64.5	64.5	64.5	64.5
Effective Green, g (s)	20.6	20.6	20.6	20.6	20.6	20.6	64.5	64.5	64.5	64.5	64.5	64.5
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.66	0.66	0.66	0.66	0.66	0.66
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	267	370	324	261	370	324	408	1195	996	636	1195	1016
v/s Ratio Prot		0.06			0.05			0.20			0.35	
v/s Ratio Perm	c0.18		0.02	0.01		0.00	c0.44		0.01	0.05		0.06
v/c Ratio	0.84	0.29	0.09	0.06	0.23	0.02	0.67	0.30	0.01	0.07	0.54	0.09
Uniform Delay, d1	37.2	32.7	31.2	31.1	32.2	30.8	10.4	7.2	5.8	6.1	8.9	6.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.6	0.4	0.1	0.1	0.3	0.0	9.0	0.6	0.0	0.2	1.8	0.2
Delay (s)	60.8	33.1	31.4	31.2	32.5	30.8	19.4	7.8	5.8	6.3	10.7	6.3
Level of Service	E	C	C	C	C	C	B	A	A	A	B	A
Approach Delay (s)		45.9			31.9			12.7			9.7	
Approach LOS		D			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	98.2	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	88.0%	ICU Level of Service	E	
Analysis Period (min)	60			
c Critical Lane Group				

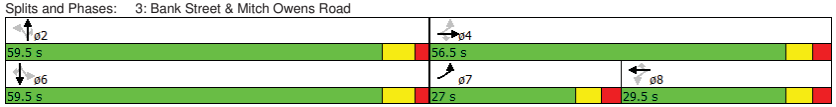
2020 Ultimate Future Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	326	136	97	25	128	47	186	562	15	13	196	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00								
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	1685	1334	1616	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.435			0.670			0.634			0.305		
Satd. Flow (perm)	730	1685	1334	1135	1655	1419	1078	1717	1238	424	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			95			94			110
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	326	136	97	25	128	47	186	562	15	13	196	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	136	97	25	128	47	186	562	15	13	196	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	27.0	56.5	56.5	29.5	29.5	29.5	59.5	59.5	59.5	59.5	59.5	59.5
Total Split (%)	23.3%	48.7%	48.7%	25.4%	25.4%	25.4%	51.3%	51.3%	51.3%	51.3%	51.3%	51.3%
Maximum Green (s)	20.5	50.0	50.0	23.0	23.0	23.0	52.9	52.9	52.9	52.9	52.9	52.9
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	39.7	39.7	39.7	13.4	13.4	13.4	53.0	53.0	53.0	53.0	53.0	53.0
Actuated g/C Ratio	0.37	0.37	0.37	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	0.75	0.22	0.17	0.17	0.61	0.18	0.35	0.65	0.02	0.06	0.24	0.17
Control Delay	38.3	23.1	5.0	43.7	57.2	1.8	19.3	25.2	0.1	16.5	16.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	23.1	5.0	43.7	57.2	1.8	19.3	25.2	0.1	16.5	16.9	3.8
LOS	D	C	A	D	E	A	B	C	A	B	B	A
Approach Delay		28.8			42.5			23.3			12.4	
Approach LOS		C			D			C			B	
Queue Length 50th (m)	51.9	18.7	0.0	4.7	25.5	0.0	22.6	83.9	0.0	1.4	22.4	0.0
Queue Length 95th (m)	#101.2	36.3	12.5	14.1	49.8	3.0	49.8	162.4	0.0	6.0	45.9	12.0
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	442	797	682	247	360	383	539	859	666	212	821	664
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.17	0.14	0.10	0.36	0.12	0.35	0.65	0.02	0.06	0.24	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 116			
Actuated Cycle Length: 105.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 82.6%		ICU Level of Service E	
Analysis Period (min) 60			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	326	136	97	25	128	47	186	562	15	13	196	110
v/c Ratio	0.75	0.22	0.17	0.17	0.61	0.18	0.35	0.65	0.02	0.06	0.24	0.17
Control Delay	38.3	23.1	5.0	43.7	57.2	1.8	19.3	25.2	0.1	16.5	16.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	23.1	5.0	43.7	57.2	1.8	19.3	25.2	0.1	16.5	16.9	3.8
Queue Length 50th (m)	51.9	18.7	0.0	4.7	25.5	0.0	22.6	83.9	0.0	1.4	22.4	0.0
Queue Length 95th (m)	#101.2	36.3	12.5	14.1	49.8	3.0	49.8	162.4	0.0	6.0	45.9	12.0
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	442	797	682	247	360	383	539	859	666	212	821	664
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.17	0.14	0.10	0.36	0.12	0.35	0.65	0.02	0.06	0.24	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	326	136	97	25	128	47	186	562	15	13	196	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1599	1685	1334	1610	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.44	1.00	1.00	0.67	1.00	1.00	0.63	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	732	1685	1334	1135	1655	1419	1079	1717	1238	424	1640	1218
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)	326	136	97	25	128	47	186	562	15	13	196	110
RTOR Reduction (vph)	0	0	61	0	0	41	0	0	7	0	0	55
Lane Group Flow (vph)	326	136	36	25	128	6	186	562	8	13	196	55
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	39.7	39.7	39.7	13.4	13.4	13.4	53.0	53.0	53.0	53.0	53.0	53.0
Effective Green, g (s)	39.7	39.7	39.7	13.4	13.4	13.4	53.0	53.0	53.0	53.0	53.0	53.0
Actuated g/C Ratio	0.38	0.38	0.38	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	436	632	500	143	209	179	540	860	620	212	821	610
v/s Ratio Prot	c0.14	0.08			0.08			c0.33			0.12	
v/s Ratio Perm	c0.14		0.03	0.02		0.00	0.17		0.01	0.03		0.05
v/c Ratio	0.75	0.22	0.07	0.17	0.61	0.03	0.34	0.65	0.01	0.06	0.24	0.09
Uniform Delay, d1	26.3	22.5	21.2	41.3	43.7	40.5	15.9	19.6	13.3	13.6	15.0	13.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.2	0.1	0.6	5.3	0.1	1.7	3.9	0.0	0.6	0.7	0.3
Delay (s)	33.4	22.6	21.3	41.8	49.1	40.6	17.7	23.5	13.3	14.1	15.7	14.1
Level of Service	C	C	C	D	D	D	B	C	B	B	B	B
Approach Delay (s)		28.7			46.2			21.9			15.1	
Approach LOS		C			D			C			B	

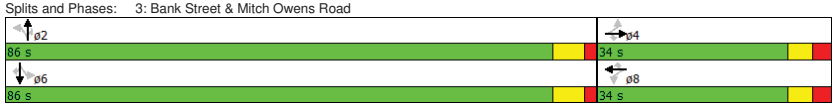
Intersection Summary				
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	105.8	Sum of lost time (s)	19.6	
Intersection Capacity Utilization	82.6%	ICU Level of Service	E	
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	257	87	20	180	36	157	422	26	29	904	209
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00								
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	1685	1334	1616	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.537			0.366			0.207			0.487		
Satd. Flow (perm)	902	1685	1334	621	1655	1419	352	1717	1238	677	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			87			36			32			209
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	156	257	87	20	180	36	157	422	26	29	904	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	257	87	20	180	36	157	422	26	29	904	209
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	86.0	86.0	86.0	86.0	86.0	86.0
Total Split (%)	28.3%	28.3%	28.3%	28.3%	28.3%	28.3%	71.7%	71.7%	71.7%	71.7%	71.7%	71.7%
Maximum Green (s)	27.5	27.5	27.5	27.5	27.5	27.5	79.4	79.4	79.4	79.4	79.4	79.4
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	22.9	22.9	22.9	22.9	22.9	22.9	79.5	79.5	79.5	79.5	79.5	79.5
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.69	0.69	0.69	0.69	0.69	0.69
v/c Ratio	0.88	0.77	0.26	0.16	0.55	0.12	0.65	0.36	0.03	0.06	0.80	0.23
Control Delay	101.8	61.2	9.9	41.0	48.2	12.4	28.1	9.1	2.0	7.4	21.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.8	61.2	9.9	41.0	48.2	12.4	28.1	9.1	2.0	7.4	21.0	1.6
LOS	F	E	A	D	D	B	C	A	A	A	C	A
Approach Delay		64.9			42.2			13.7			17.1	
Approach LOS		E			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 100.4%		ICU Level of Service G	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	257	87	20	180	36	157	422	26	29	904	209
v/c Ratio	0.88	0.77	0.26	0.16	0.55	0.12	0.65	0.36	0.03	0.06	0.80	0.23
Control Delay	101.8	61.2	9.9	41.0	48.2	12.4	28.1	9.1	2.0	7.4	21.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.8	61.2	9.9	41.0	48.2	12.4	28.1	9.1	2.0	7.4	21.0	1.6
Queue Length 50th (m)	34.5	55.4	0.0	3.8	36.9	0.0	19.7	38.8	0.0	2.1	139.6	0.0
Queue Length 95th (m)	#81.2	#101.9	16.4	12.1	67.2	10.3	#75.2	68.6	3.0	6.4	#309.9	10.6
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	214	401	384	147	394	365	242	1181	861	465	1128	903
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.64	0.23	0.14	0.46	0.10	0.65	0.36	0.03	0.06	0.80	0.23

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	257	87	20	180	36	157	422	26	29	904	209
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1595	1685	1334	1611	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.54	1.00	1.00	0.37	1.00	1.00	0.21	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	902	1685	1334	621	1655	1419	351	1717	1238	677	1640	1218
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)	156	257	87	20	180	36	157	422	26	29	904	209
RTOR Reduction (vph)	0	0	70	0	0	29	0	0	8	0	0	65
Lane Group Flow (vph)	156	257	17	20	180	7	157	422	18	29	904	144
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.9	22.9	22.9	22.9	22.9	22.9	79.6	79.6	79.6	79.6	79.6	79.6
Effective Green, g (s)	22.9	22.9	22.9	22.9	22.9	22.9	79.6	79.6	79.6	79.6	79.6	79.6
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.69	0.69	0.69	0.69	0.69	0.69
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	178	333	264	123	327	281	241	1182	852	466	1129	838
v/s Ratio Prot		0.15			0.11			0.25			c0.55	
v/s Ratio Perm	c0.17		0.01	0.03		0.01	0.45		0.01	0.04		0.12
v/c Ratio	0.88	0.77	0.07	0.16	0.55	0.03	0.65	0.36	0.02	0.06	0.80	0.17
Uniform Delay, d1	45.0	43.9	37.7	38.4	41.7	37.4	10.2	7.4	5.7	5.9	12.5	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	46.9	11.3	0.1	0.6	2.0	0.0	13.7	0.8	0.0	0.3	6.3	0.4
Delay (s)	91.9	55.2	37.8	39.0	43.7	37.4	23.8	8.3	5.7	6.1	18.8	6.8
Level of Service	F	E	D	D	D	D	C	A	A	A	B	A
Approach Delay (s)		63.6			42.4			12.2			16.3	
Approach LOS		E			D			B			B	

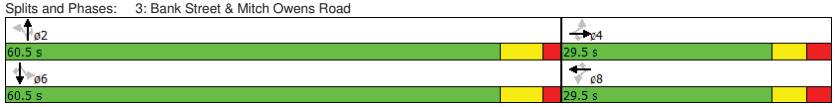
Intersection Summary				
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	115.6	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	100.4%	ICU Level of Service	G	
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	232	116	140	16	92	32	282	357	13	46	643	148
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00								
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1601	1685	1334	1616	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.697			0.682			0.327			0.531		
Satd. Flow (perm)	1171	1685	1334	1156	1655	1419	556	1717	1238	738	1640	1218
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140			44			42			148
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		178.9			176.8			117.4			115.2	
Travel Time (s)		10.7			10.6			7.0			6.9	
Confl. Peds. (#/hr)	2			2								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Adj. Flow (vph)	232	116	140	16	92	32	282	357	13	46	643	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	116	140	16	92	32	282	357	13	46	643	148
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)	29.5	29.5	29.5	29.5	29.5	29.5	60.5	60.5	60.5	60.5	60.5	60.5
Total Split (%)	32.8%	32.8%	32.8%	32.8%	32.8%	32.8%	67.2%	67.2%	67.2%	67.2%	67.2%	67.2%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0	23.0	53.9	53.9	53.9	53.9	53.9	53.9
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	20.3	20.3	20.3	20.3	20.3	20.3	54.0	54.0	54.0	54.0	54.0	54.0
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.62	0.62	0.62	0.62	0.62	0.62
v/c Ratio	0.85	0.30	0.34	0.06	0.24	0.09	0.82	0.34	0.02	0.10	0.63	0.18
Control Delay	67.8	29.6	7.4	26.2	28.6	6.5	40.5	9.7	0.1	8.4	14.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	29.6	7.4	26.2	28.6	6.5	40.5	9.7	0.1	8.4	14.8	2.0
LOS	E	C	A	C	C	A	D	A	A	A	B	A
Approach Delay		41.4			23.3			22.8			12.2	
Approach LOS		D			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 87.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 22.9		Intersection LOS: C	
Intersection Capacity Utilization 88.9%		ICU Level of Service E	
Analysis Period (min) 60			

Splits and Phases: 3: Bank Street & Mitch Owens Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	232	116	140	16	92	32	282	357	13	46	643	148
v/c Ratio	0.85	0.30	0.34	0.06	0.24	0.09	0.82	0.34	0.02	0.10	0.63	0.18
Control Delay	67.8	29.6	7.4	26.2	28.6	6.5	40.5	9.7	0.1	8.4	14.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	29.6	7.4	26.2	28.6	6.5	40.5	9.7	0.1	8.4	14.8	2.0
Queue Length 50th (m)	37.3	16.1	0.0	2.1	12.6	0.0	36.4	28.7	0.0	3.1	67.3	0.0
Queue Length 95th (m)	#87.4	34.0	17.5	7.9	28.0	6.3	#105.6	52.0	0.6	8.9	129.2	9.0
Internal Link Dist (m)		154.9			152.8			93.4			91.2	
Turn Bay Length (m)												
Base Capacity (vph)	308	443	454	304	435	406	342	1060	780	455	1013	808
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.26	0.31	0.05	0.21	0.08	0.82	0.34	0.02	0.10	0.63	0.18

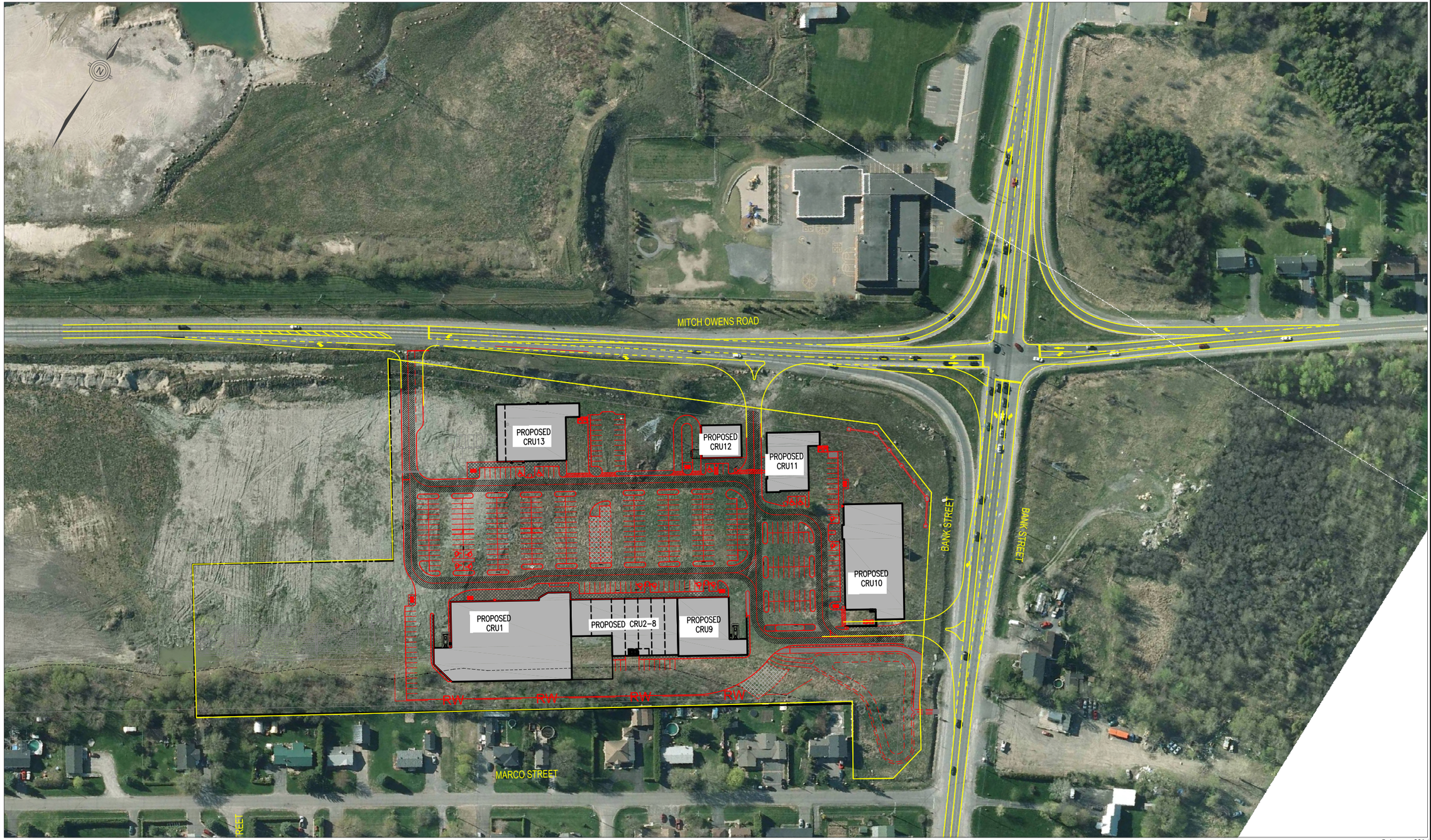
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	232	116	140	16	92	32	282	357	13	46	643	148
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1596	1685	1334	1611	1655	1419	1616	1717	1238	1320	1640	1218
Flt Permitted	0.70	1.00	1.00	0.68	1.00	1.00	0.33	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	1171	1685	1334	1157	1655	1419	557	1717	1238	737	1640	1218
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)	232	116	140	16	92	32	282	357	13	46	643	148
RTOR Reduction (vph)	0	0	107	0	0	25	0	0	5	0	0	57
Lane Group Flow (vph)	232	116	33	16	92	7	282	357	8	46	643	91
Confl. Peds. (#/hr)	2			2								
Heavy Vehicles (%)	8%	8%	16%	7%	10%	9%	7%	6%	25%	31%	11%	27%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	20.3	20.3	20.3	20.3	20.3	20.3	54.0	54.0	54.0	54.0	54.0	54.0
Effective Green, g (s)	20.3	20.3	20.3	20.3	20.3	20.3	54.0	54.0	54.0	54.0	54.0	54.0
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.62	0.62	0.62	0.62	0.62	0.62
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	271	391	309	268	384	329	344	1060	764	455	1013	752
v/s Ratio Prot		0.07			0.06			0.21			0.39	
v/s Ratio Perm	c0.20		0.02	0.01		0.01	c0.51		0.01	0.06		0.08
v/c Ratio	0.86	0.30	0.11	0.06	0.24	0.02	0.82	0.34	0.01	0.10	0.63	0.12
Uniform Delay, d1	32.2	27.7	26.4	26.1	27.3	25.9	12.9	8.1	6.4	6.8	10.5	6.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.2	0.4	0.2	0.1	0.3	0.0	22.3	0.9	0.0	0.4	3.1	0.3
Delay (s)	59.3	28.1	26.6	26.2	27.6	25.9	35.2	8.9	6.4	7.3	13.6	7.2
Level of Service	E	C	C	C	C	C	D	A	A	A	B	A
Approach Delay (s)		42.5			27.1			20.2			12.1	
Approach LOS		D			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	88.9%	ICU Level of Service	E	
Analysis Period (min)	60			
c Critical Lane Group				

Figure 1 – Bank Street at Mitch Owens Road – Conceptual (without weave on Bank Street)



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2014/02/11 9:55 AM By: MacMurray, Kevin

ORIGINAL SHEET - ISO A3

February 2014
163600XXX

Client/Project

Stantec

1331 Clyde Avenue, Suite 400
Ottawa, Ontario, Canada
www.stantec.com

Legend

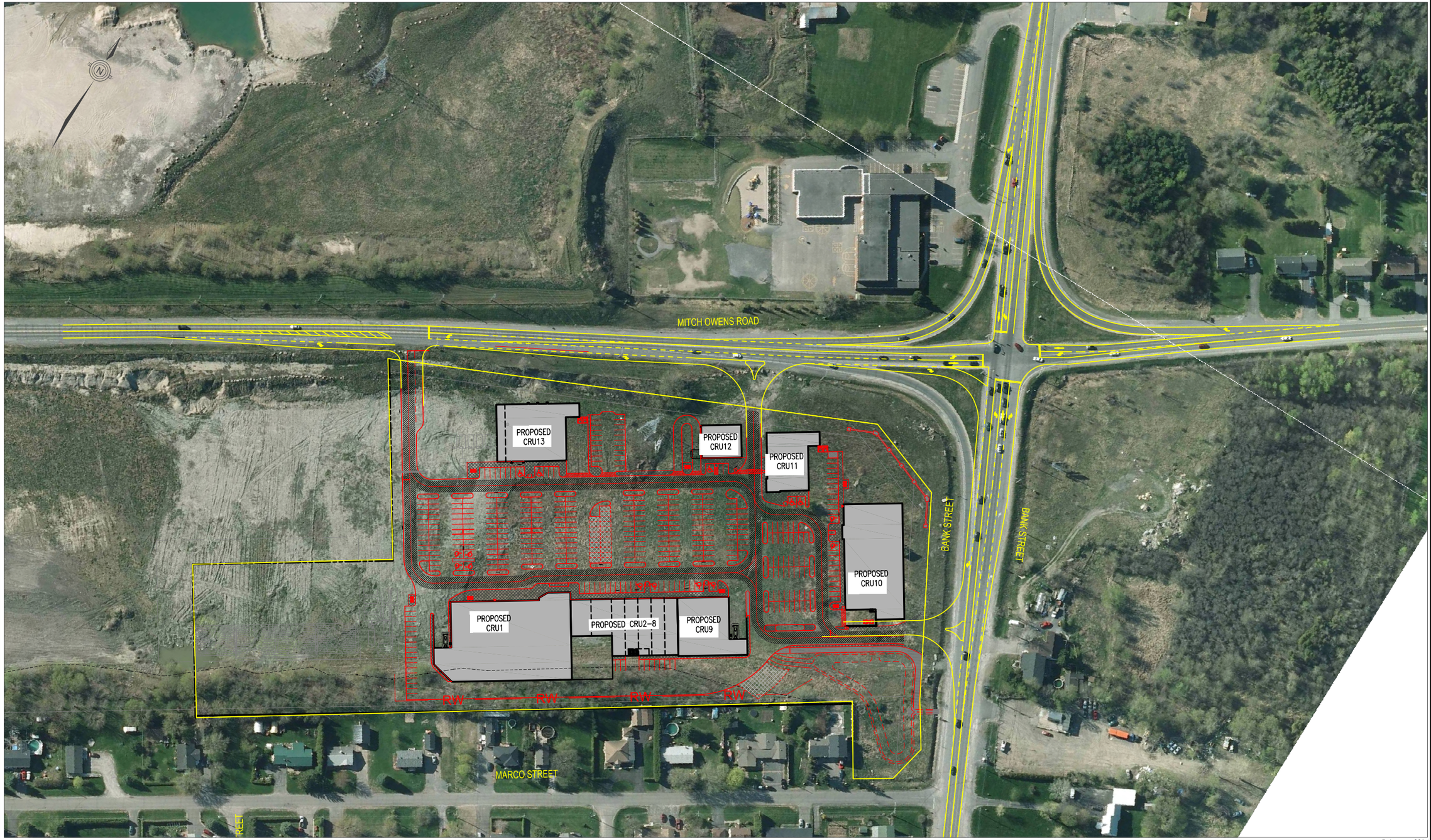
Notes

HORIZONTAL
0m 10 20 40

Figure No.
Figure 1

Title
Bank Street at Mitch Owens Road - Conceptual
(without weave on Bank Street)

Figure 2 – Bank Street at Mitch Owens Road – Conceptual (with weave on Bank Street)



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2014/02/11 9:56 AM By: MacMurray, Kevin

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0m 10 20 40

Figure No.
Figure 2

Title
Bank Street at Mitch Owens Road - Conceptual
(with weave on Bank Street)