City of Manhattan Kansas

Concept Plan: Volume 2

Aggieville Vision to Reality

December 2018

AGGIEVILLE
VISION TO REALITY

What is **Volume 2?**

Volume 2 provides additional background information on several project components. This document includes large graphics of the activities from the design charrette such that what was written on each sticky pad is legible for those interested. Section 2 includes a detailed traffic analysis that looks at the potential traffic impacts associated with the proposed concept plan options. The third section provides the full public engagement summary. These additional pieces give community members the opportunity to review the full extent of analysis that informed the concepts for Aggieville that are included in Volume 1.

AGGIEVILLE
VISION TO REALITY

Contents

ochsner hare + hare
the olsson studio

AGGIEVILLE

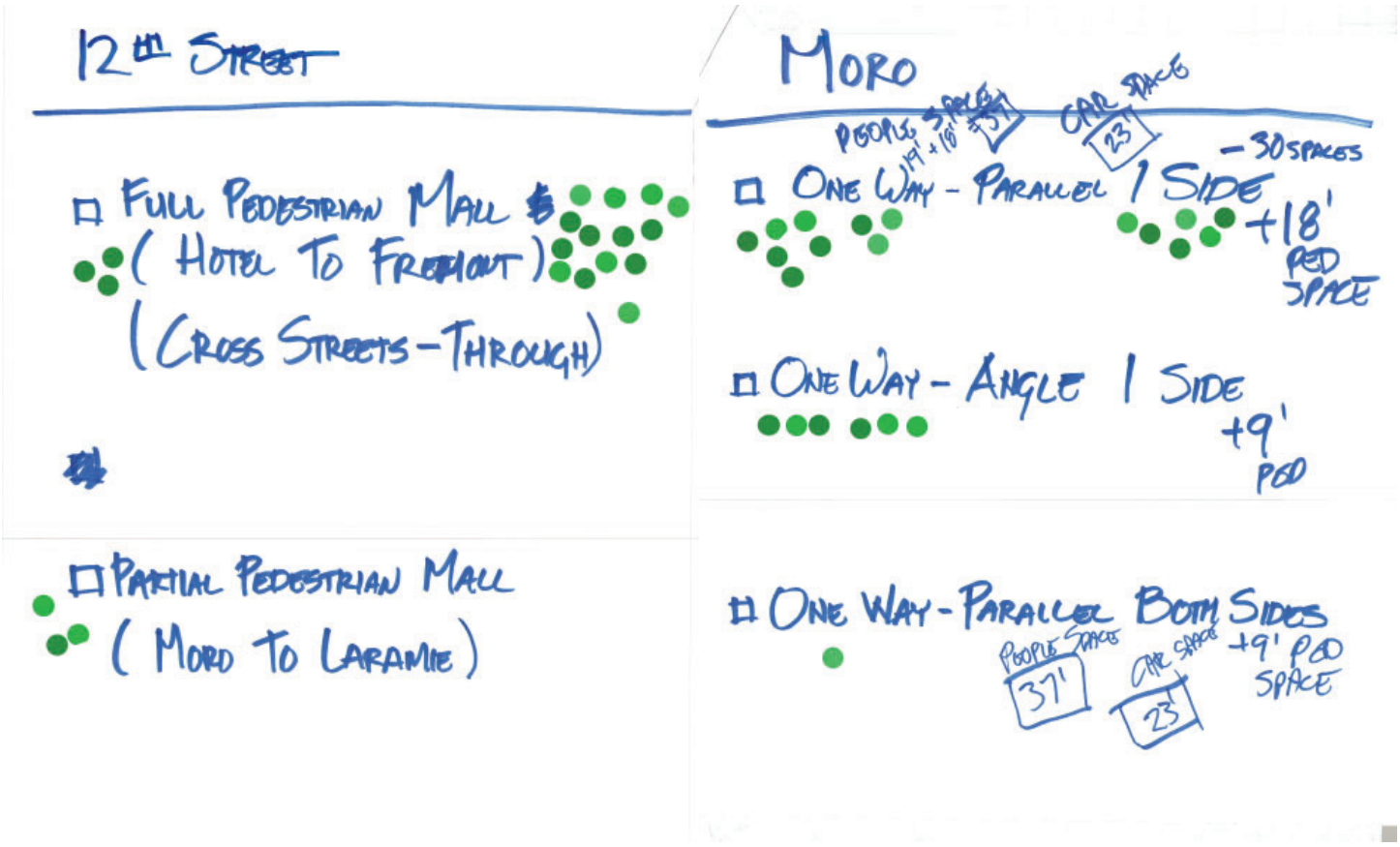
VISION TO REALITY

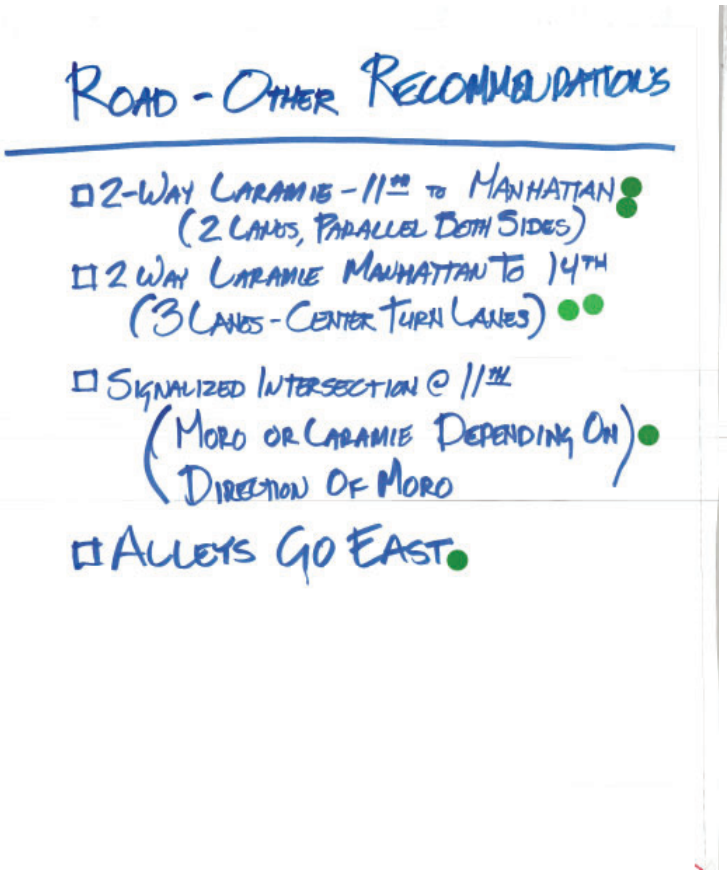
1

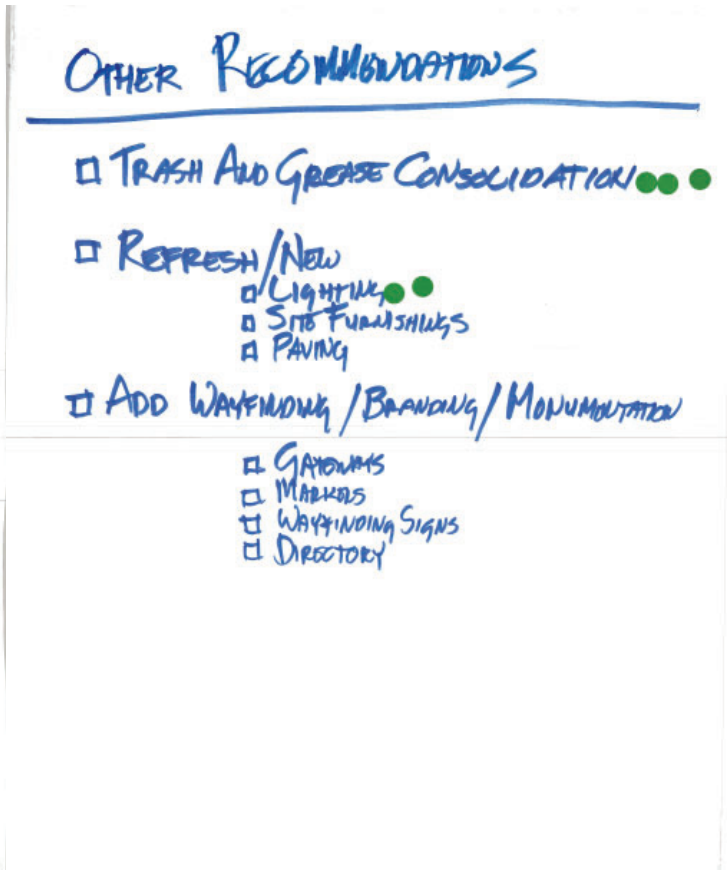
Charrette Summary Enlargements


WHAT'S WORKING?
History + Uniqueness
Outdoor eating spaces
Little Apple Alley
Bars + Restaurants
WHAT'S NOT?
Parking
Cross walk by Bluemont Hotel takes too long
Traffic on Moro
Traffic Flow
No crosswalk
Parking Delivery congestion
No Cross walks
NEEDS
Parking Garage
Trash Recycle Consolidation
No dogs
Urban Sidewalks
Robust Public WiFi
Parking
Lighting
Close Moro
WANTS
No holes or divots in sidewalks
Updates Outdated Themes
Atmosphere
Covered Moro
Cameras everywhere


WHAT'S MISSING?
Welcome Signage Wayfinding Signage
More outdoor seating
Diversity
Lights
A GATEWAY
TREES
PUBLIC EVENT AREAS
THE ONE THING
Clean + Beauty = PRIDE
Parking
Community Pride in the district
FAVORITE
Unique businesses
Nothing
Coziest space
Brick Facades
I'M A big fan of the Dark Horse here!
Me too!
LEAST FAVORITE
Parking
The Alleys
Alley behind bluestem


12th Street
Full Pedestrian Mall
(Hotel To Fremont)
(Cross Streets - Through)
Partial Pedestrian Mall
(Mord To Laramie)
Moro
People Space
Car Space
23
-30 spaces
One Way - Parallel 1 Side
+18' PED SPACE
One Way - Angle 1 Side
+9' PED
One Way - Parallel Both Sides
People Space
37'
Car Space
23
+9' PED SPACE
Triangle Park
Little Moro Removed
Little Moro Stays
Improve With Amenity, Activity Drivers, Hardscape + Landscape
Minimize Improvements - Landscape And Edge Only


ROAD - OTHER RECOMMENDATIONS
2-WAY LARAMIE - 11TH TO MANHATTAN (2 LANES, PARALLEL BOTH SIDES)
2 WAY LARAMIE MANHATTAN TO 14TH (3 LANES - CENTER TURN LANES)
SIGNALIZED INTERSECTION @ 11TH (MORO OR LARAMIE DEPENDING ON DIRECTION OF MORO)
ALLEYS GO EAST


OTHER RECOMMENDATIONS
TRASH AND GREASE CONSOLIDATION
REFRESH/NEW
LIGHTING
SITE FURNISHINGS
PAVING
ADD WAYFINDING/BRANDING/MONUMENTATION
GATEWAYS
MARKERS
WAYFINDING SIGNS
DIRECTORY

AGGIEVILLE

VISION TO REALITY

2

Traffic Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	660	90	60	560	250	0	0	0	260	150	240
Future Volume (veh/h)	190	660	90	60	560	250	0	0	0	260	150	240
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	207	717	98	65	609	272				283	163	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	250	1221	167	492	1865	832				359	377	319
Arrive On Green	0.05	0.13	0.13	0.55	1.00	1.00				0.20	0.20	0.20
Sat Flow, veh/h	1781	3141	429	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	207	405	410	65	609	272				283	163	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1793	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	10.4	19.4	19.4	1.6	0.0	0.0				13.6	6.9	14.2
Cycle Q Clear(g_c), s	10.4	19.4	19.4	1.6	0.0	0.0				13.6	6.9	14.2
Prop In Lane	1.00		0.24	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	250	691	697	492	1865	832				359	377	319
V/C Ratio(X)	0.83	0.59	0.59	0.13	0.33	0.33				0.79	0.43	0.82
Avail Cap(c_a), veh/h	396	691	697	492	1865	832				495	520	440
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	32.4	32.4	14.9	0.0	0.0				34.1	31.4	34.4
Incr Delay (d2), s/veh	7.2	3.3	3.2	0.1	0.5	1.0				5.8	0.8	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	9.8	9.9	0.6	0.1	0.2				6.3	3.1	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	35.7	35.7	15.0	0.5	1.0				39.9	32.2	42.6
LnGrp LOS	D	D	D	B	A	A				D	C	D
Approach Vol, veh/h		1022			946						707	
Approach Delay, s/veh		38.4			1.6						39.2	
Approach LOS		D			A						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			28.9	39.0		22.1	16.6	51.2				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	35.0		25.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s			3.6	21.4		16.2	12.4	2.0				
Green Ext Time (p_c), s			0.1	4.4		2.0	0.3	5.7				

Intersection Summary												
HCM 6th Ctrl Delay			25.6									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	770	130	60	750	0	130	30	110	10	20	70
Future Volume (veh/h)	50	770	130	60	750	0	130	30	110	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	837	141	65	815	0	141	33	120	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	1715	289	84	1461	0	165	31	405	44	70	162
Arrive On Green	0.20	0.56	0.56	0.02	0.14	0.00	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1781	3042	513	1781	3647	0	363	123	1585	0	275	634
Grp Volume(v), veh/h	54	489	489	65	815	0	174	0	120	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1778	1781	1777	0	486	0	1585	909	0	0
Q Serve(g_s), s	2.3	14.9	14.9	3.3	19.3	0.0	0.0	0.0	5.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	14.9	14.9	3.3	19.3	0.0	23.0	0.0	5.5	23.0	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.00	0.81		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	356	1002	1002	84	1461	0	197	0	405	276	0	0
V/C Ratio(X)	0.15	0.49	0.49	0.77	0.56	0.00	0.89	0.00	0.30	0.39	0.00	0.00
Avail Cap(c_a), veh/h	356	1002	1002	178	1461	0	197	0	405	276	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.7	11.8	11.8	43.8	31.2	0.0	36.3	0.0	27.0	27.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.7	1.7	12.7	1.4	0.0	34.7	0.0	0.4	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.9	5.9	1.8	9.4	0.0	5.7	0.0	2.1	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	13.5	13.5	56.5	32.7	0.0	71.0	0.0	27.4	28.2	0.0	0.0
LnGrp LOS	C	B	B	E	C	A	E	A	C	C	A	A
Approach Vol, veh/h		1032			880			294			109	
Approach Delay, s/veh		14.4			34.4			53.2			28.2	
Approach LOS		B			C			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	8.3	54.7		27.0	22.0	41.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		23.0	9.0	46.0		23.0	18.0	37.0				
Max Q Clear Time (g_c+I1), s		25.0	5.3	16.9		25.0	4.3	21.3				
Green Ext Time (p_c), s		0.0	0.0	7.5		0.0	0.1	5.2				

Intersection Summary												
HCM 6th Ctrl Delay			27.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

MD Existing
08/31/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	70	160	0	50	20	110	380	10	20	350	40
Future Volume (veh/h)	50	70	160	0	50	20	110	380	10	20	350	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	76	174	0	54	22	120	413	11	22	380	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	106	242	0	264	108	644	1132	30	645	1030	117
Arrive On Green	0.21	0.21	0.21	0.00	0.21	0.21	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1323	505	1157	0	1263	515	964	1813	48	963	1650	187
Grp Volume(v), veh/h	54	0	250	0	0	76	120	0	424	22	0	423
Grp Sat Flow(s),veh/h/ln	1323	0	1662	0	0	1778	964	0	1862	963	0	1837
Q Serve(g_s), s	1.7	0.0	6.7	0.0	0.0	1.7	3.3	0.0	5.3	0.5	0.0	5.4
Cycle Q Clear(g_c), s	3.4	0.0	6.7	0.0	0.0	1.7	8.7	0.0	5.3	5.9	0.0	5.4
Prop In Lane	1.00		0.70	0.00		0.29	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	380	0	348	0	0	372	644	0	1162	645	0	1147
V/C Ratio(X)	0.14	0.00	0.72	0.00	0.00	0.20	0.19	0.00	0.36	0.03	0.00	0.37
Avail Cap(c_a), veh/h	709	0	761	0	0	814	644	0	1162	645	0	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	17.7	0.0	0.0	15.7	6.5	0.0	4.4	5.8	0.0	4.4
Incr Delay (d2), s/veh	0.2	0.0	2.8	0.0	0.0	0.3	0.6	0.0	0.9	0.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.5	0.0	0.0	0.6	0.6	0.0	1.5	0.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	0.0	20.5	0.0	0.0	16.0	7.2	0.0	5.3	5.9	0.0	5.3
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		304			76			544			445	
Approach Delay, s/veh		19.9			16.0			5.7			5.3	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		14.0		34.0		14.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		10.7		8.7		7.9		3.7				
Green Ext Time (p_c), s		3.2		1.4		2.8		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

MD Existing
08/31/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	760	80	110	730	20	100	40	180	20	70	40
Future Volume (veh/h)	170	760	80	110	730	20	100	40	180	20	70	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	826	87	120	793	22	109	43	196	22	76	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	473	1779	187	497	1863	52	282	78	355	129	190	107
Arrive On Green	0.15	1.00	1.00	0.05	0.53	0.53	0.05	0.27	0.27	0.17	0.17	0.17
Sat Flow, veh/h	1781	3244	342	1781	3532	98	1781	293	1337	1141	1122	635
Grp Volume(v), veh/h	185	452	461	120	399	416	109	0	239	22	0	119
Grp Sat Flow(s),veh/h/ln	1781	1777	1809	1781	1777	1853	1781	0	1630	1141	0	1756
Q Serve(g_s), s	4.3	0.0	0.0	2.7	12.3	12.3	0.0	0.0	11.4	1.7	0.0	5.4
Cycle Q Clear(g_c), s	4.3	0.0	0.0	2.7	12.3	12.3	0.0	0.0	11.4	13.1	0.0	5.4
Prop In Lane	1.00		0.19	1.00		0.05	1.00		0.82	1.00		0.36
Lane Grp Cap(c), veh/h	473	975	992	497	937	977	282	0	433	129	0	297
V/C Ratio(X)	0.39	0.46	0.46	0.24	0.43	0.43	0.39	0.00	0.55	0.17	0.00	0.40
Avail Cap(c_a), veh/h	698	975	992	759	937	977	546	0	724	164	0	351
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	8.5	13.0	13.0	36.5	0.0	28.5	42.0	0.0	33.3
Incr Delay (d2), s/veh	0.5	1.6	1.6	0.2	1.4	1.4	0.9	0.0	1.1	0.6	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.4	0.4	1.0	5.0	5.2	2.3	0.0	4.5	0.5	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	1.6	1.6	8.7	14.4	14.3	37.4	0.0	29.6	42.7	0.0	34.2
LnGrp LOS	A	A	A	A	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1098			935			348			141	
Approach Delay, s/veh		2.8			13.6			32.0			35.5	
Approach LOS		A			B			C			D	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		27.9	8.8	53.4	8.7	19.2	10.6	51.5				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		13.4	4.7	2.0	2.0	15.1	6.3	14.3				
Green Ext Time (p_c), s		1.6	0.2	5.7	0.2	0.2	0.4	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	870	30	20	840	10	0	0	80	10	10	30
Future Vol, veh/h	10	870	30	20	840	10	0	0	80	10	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	946	33	22	913	11	0	0	87	11	11	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	924	0	0	979	0	0	-	-	490	1458	1964	462
Stage 1	-	-	-	-	-	-	-	-	-	963	963	-
Stage 2	-	-	-	-	-	-	-	-	-	495	1001	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	735	-	-	701	-	-	0	0	524	91	62	547
Stage 1	-	-	-	-	-	-	0	0	-	274	332	-
Stage 2	-	-	-	-	-	-	0	0	-	525	319	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	735	-	-	701	-	-	-	-	524	72	58	547
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	72	58	-
Stage 1	-	-	-	-	-	-	-	-	-	265	322	-
Stage 2	-	-	-	-	-	-	-	-	-	423	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13.2	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	524	735	-	-	701	-	-	547
HCM Lane V/C Ratio	0.166	0.015	-	-	0.031	-	-	0.06
HCM Control Delay (s)	13.2	10	-	-	10.3	-	-	12
HCM Lane LOS	B	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.2

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	140	70	0	0	0	0	30	30	10	50	0
Future Vol, veh/h	90	140	70	0	0	0	0	30	30	10	50	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	152	76	0	0	0	0	33	33	11	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.6	7.8	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	30%	17%
Vol Thru, %	50%	47%	83%
Vol Right, %	50%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	300	60
LT Vol	0	90	10
Through Vol	30	140	50
RT Vol	30	70	0
Lane Flow Rate	65	326	65
Geometry Grp	1	1	1
Degree of Util (X)	0.08	0.369	0.086
Departure Headway (Hd)	4.442	4.078	4.772
Convergence, Y/N	Yes	Yes	Yes
Cap	811	867	755
Service Time	2.445	2.173	2.775
HCM Lane V/C Ratio	0.08	0.376	0.086
HCM Control Delay	7.8	9.6	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.7	0.3

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	20	40	10	10	10	150	140	40	50	70	60
Future Vol, veh/h	70	20	40	10	10	10	150	140	40	50	70	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	22	43	11	11	11	163	152	43	54	76	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	728	738	109	749	749	174	141	0	0	195	0	0
Stage 1	217	217	-	500	500	-	-	-	-	-	-	-
Stage 2	511	521	-	249	249	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	339	346	945	328	341	869	1442	-	-	1378	-	-
Stage 1	785	723	-	553	543	-	-	-	-	-	-	-
Stage 2	545	532	-	755	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	284	289	945	258	285	869	1442	-	-	1378	-	-
Mov Cap-2 Maneuver	284	289	-	258	285	-	-	-	-	-	-	-
Stage 1	685	692	-	482	473	-	-	-	-	-	-	-
Stage 2	459	464	-	668	671	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.1	16.3	3.6	2.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	363	351	1378	-	-
HCM Lane V/C Ratio	0.113	-	-	0.389	0.093	0.039	-	-
HCM Control Delay (s)	7.8	0	-	21.1	16.3	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	1.8	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱		↕			↱			↰	
Traffic Vol, veh/h	80	10	80	20	0	10	0	330	10	10	410	0
Future Vol, veh/h	80	10	80	20	0	10	0	330	10	10	410	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	11	87	22	0	11	0	359	11	11	446	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	838	838	446	882	833	365	-	0	0	370	0	0
Stage 1	468	468	-	365	365	-	-	-	-	-	-	-
Stage 2	370	370	-	517	468	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	286	302	612	267	304	680	0	-	-	1189	-	0
Stage 1	575	561	-	654	623	-	0	-	-	-	-	0
Stage 2	650	620	-	541	561	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	279	298	612	221	300	680	-	-	-	1189	-	-
Mov Cap-2 Maneuver	279	298	-	221	300	-	-	-	-	-	-	-
Stage 1	575	554	-	654	623	-	-	-	-	-	-	-
Stage 2	640	620	-	450	554	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	19.3	0	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	279	298	612	285	1189	-
HCM Lane V/C Ratio	-	-	0.312	0.036	0.142	0.114	0.009	-
HCM Control Delay (s)	-	-	23.6	17.5	11.9	19.3	8.1	0
HCM Lane LOS	-	-	C	C	B	C	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.1	0.5	0.4	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	10	20	70	330	0	20	380	90
Future Vol, veh/h	0	0	0	0	10	20	70	330	0	20	380	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	11	22	76	359	0	22	413	98

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1017	1066	359	511	0	0	359	0	0
Stage 1	511	511	-	-	-	-	-	-	-
Stage 2	506	555	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	263	222	685	1054	-	-	1200	-	-
Stage 1	602	537	-	-	-	-	-	-	-
Stage 2	606	513	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	233	0	685	1054	-	-	1200	-	-
Mov Cap-2 Maneuver	233	0	-	-	-	-	-	-	-
Stage 1	533	0	-	-	-	-	-	-	-
Stage 2	606	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	1.5	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1054	-	-	685	1200	-	-
HCM Lane V/C Ratio	0.072	-	-	0.048	0.018	-	-
HCM Control Delay (s)	8.7	0	-	10.5	8.1	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Future Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	196	0	65	130	0	0	163	11

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	429	434	130	174	0	-	-	-	0
Stage 1	260	260	-	-	-	-	-	-	-
Stage 2	169	174	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	583	515	920	1403	-	0	0	-	-
Stage 1	783	693	-	-	-	0	0	-	-
Stage 2	861	755	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	554	0	920	1403	-	-	-	-	-
Mov Cap-2 Maneuver	554	0	-	-	-	-	-	-	-
Stage 1	744	0	-	-	-	-	-	-	-
Stage 2	861	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1403	-	554	-	-
HCM Lane V/C Ratio	0.046	-	0.373	-	-
HCM Control Delay (s)	7.7	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	140	10	10	180	30	10	10	10	110	20	60
Future Vol, veh/h	20	140	10	10	180	30	10	10	10	110	20	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	152	11	11	196	33	11	11	11	120	22	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	229	0	0	163	0	0	480	453	158	448	442	213
Stage 1	-	-	-	-	-	-	202	202	-	235	235	-
Stage 2	-	-	-	-	-	-	278	251	-	213	207	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1339	-	-	1416	-	-	496	503	887	521	510	827
Stage 1	-	-	-	-	-	-	800	734	-	768	710	-
Stage 2	-	-	-	-	-	-	728	699	-	789	731	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1339	-	-	1416	-	-	433	489	887	495	496	827
Mov Cap-2 Maneuver	-	-	-	-	-	-	433	489	-	495	496	-
Stage 1	-	-	-	-	-	-	786	721	-	754	704	-
Stage 2	-	-	-	-	-	-	644	693	-	754	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12	14.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	547	1339	-	-	1416	-	-	567
HCM Lane V/C Ratio	0.06	0.016	-	-	0.008	-	-	0.364
HCM Control Delay (s)	12	7.7	0	-	7.6	0	-	14.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	1.7

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	220	80	0	0	110
Future Vol, veh/h	30	220	80	0	0	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	239	87	0	0	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	207	87	0	-	-	-
Stage 1	87	-	-	-	-	-
Stage 2	120	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	781	971	-	0	0	-
Stage 1	936	-	-	0	0	-
Stage 2	905	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	781	971	-	-	-	-
Mov Cap-2 Maneuver	781	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	905	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	943	-
HCM Lane V/C Ratio	-	0.288	-
HCM Control Delay (s)	-	10.4	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	230	0	10	170	20	0	0	10	40	0	40
Future Vol, veh/h	20	230	0	10	170	20	0	0	10	40	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	250	0	11	185	22	0	0	11	43	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	250	0	0	534	523	250	518	512	196
Stage 1	-	-	-	-	-	-	294	294	-	218	218	-
Stage 2	-	-	-	-	-	-	240	229	-	300	294	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1364	-	-	1316	-	-	457	459	789	468	465	845
Stage 1	-	-	-	-	-	-	714	670	-	784	723	-
Stage 2	-	-	-	-	-	-	763	715	-	709	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1364	-	-	1316	-	-	424	446	789	452	452	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	446	-	452	452	-
Stage 1	-	-	-	-	-	-	700	657	-	769	716	-
Stage 2	-	-	-	-	-	-	717	709	-	686	657	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	9.6	12.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	789	1364	-	-	1316	-	-	589
HCM Lane V/C Ratio	0.014	0.016	-	-	0.008	-	-	0.148
HCM Control Delay (s)	9.6	7.7	0	-	7.8	0	-	12.2
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

PM Existing
08/31/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	900	160	70	710	240	0	0	0	330	130	290
Future Volume (veh/h)	230	900	160	70	710	240	0	0	0	330	130	290
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	250	978	174	76	772	261				359	141	315
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	493	1740	309	98	1264	564				417	438	371
Arrive On Green	0.55	1.00	1.00	0.11	0.71	0.71				0.23	0.23	0.23
Sat Flow, veh/h	1781	3015	536	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	250	576	576	76	772	261				359	141	315
Grp Sat Flow(s),veh/h/ln	1781	1777	1774	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	7.8	0.0	0.0	3.7	10.0	6.4				17.4	5.6	17.1
Cycle Q Clear(g_c), s	7.8	0.0	0.0	3.7	10.0	6.4				17.4	5.6	17.1
Prop In Lane	1.00		0.30	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	493	1026	1024	98	1264	564				417	438	371
V/C Ratio(X)	0.51	0.56	0.56	0.77	0.61	0.46				0.86	0.32	0.85
Avail Cap(c_a), veh/h	493	1026	1024	356	1264	564				495	520	440
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	0.0	39.5	9.8	9.3				33.0	28.5	32.9
Incr Delay (d2), s/veh	0.6	1.6	1.6	12.0	2.2	2.7				12.6	0.4	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.5	0.5	1.9	2.9	2.1				8.8	2.5	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	1.6	1.6	51.5	12.0	12.0				45.6	29.0	45.6
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1402			1109						815	
Approach Delay, s/veh		4.4			14.7						42.7	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			9.0	55.9		25.1	28.9	36.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	35.0		25.0	21.0	32.0				
Max Q Clear Time (g_c+I1), s			5.7	2.0		19.4	9.8	12.0				
Green Ext Time (p_c), s			0.1	9.7		1.7	0.5	6.4				

Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

PM Existing
08/31/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1100	130	90	900	10	150	20	140	50	40	80
Future Volume (veh/h)	30	1100	130	90	900	10	150	20	140	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1196	141	98	978	11	163	22	152	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	1629	191	123	1360	15	239	28	458	58	53	54
Arrive On Green	0.20	0.51	0.51	0.14	0.76	0.76	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	3203	377	1781	3599	40	568	96	1585	23	184	186
Grp Volume(v), veh/h	33	662	675	98	483	506	185	0	152	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1803	1781	1777	1863	664	0	1585	393	0	0
Q Serve(g_s), s	1.4	26.3	26.5	4.8	13.1	13.1	0.0	0.0	6.8	1.3	0.0	0.0
Cycle Q Clear(g_c), s	1.4	26.3	26.5	4.8	13.1	13.1	24.7	0.0	6.8	26.0	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.02	0.88		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	356	904	917	123	671	704	267	0	458	165	0	0
V/C Ratio(X)	0.09	0.73	0.74	0.80	0.72	0.72	0.69	0.00	0.33	1.11	0.00	0.00
Avail Cap(c_a), veh/h	356	904	917	158	671	704	267	0	458	165	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.3	17.3	17.4	38.2	8.4	8.4	31.3	0.0	25.2	31.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	5.2	5.2	15.9	5.4	5.2	7.5	0.0	0.4	104.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	11.2	11.5	2.5	3.7	3.8	4.4	0.0	2.6	8.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	22.5	22.6	54.1	13.8	13.6	38.7	0.0	25.6	135.8	0.0	0.0
LnGrp LOS	C	C	C	D	B	B	D	A	C	F	A	A
Approach Vol, veh/h		1370			1087			337			184	
Approach Delay, s/veh		22.8			17.4			32.8			135.8	
Approach LOS		C			B			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	10.2	49.8		30.0	22.0	38.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		26.0	8.0	44.0		26.0	18.0	34.0				
Max Q Clear Time (g_c+I1), s		26.7	6.8	28.5		28.0	3.4	15.1				
Green Ext Time (p_c), s		0.0	0.0	8.3		0.0	0.0	6.4				

Intersection Summary												
HCM 6th Ctrl Delay			28.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

PM Existing
08/31/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	90	100	10	50	30	130	380	20	30	350	40
Future Volume (veh/h)	70	90	100	10	50	30	130	380	20	30	350	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	98	109	11	54	33	141	413	22	33	380	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	147	163	99	177	96	676	1137	61	668	1067	121
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1310	809	900	70	976	531	964	1760	94	954	1650	187
Grp Volume(v), veh/h	76	0	207	98	0	0	141	0	435	33	0	423
Grp Sat Flow(s),veh/h/ln	1310	0	1708	1578	0	0	964	0	1853	954	0	1837
Q Serve(g_s), s	0.0	0.0	5.2	0.0	0.0	0.0	3.7	0.0	5.0	0.8	0.0	4.9
Cycle Q Clear(g_c), s	2.3	0.0	5.2	5.3	0.0	0.0	8.6	0.0	5.0	5.8	0.0	4.9
Prop In Lane	1.00		0.53	0.11		0.34	1.00		0.05	1.00		0.10
Lane Grp Cap(c), veh/h	393	0	310	372	0	0	676	0	1198	668	0	1187
V/C Ratio(X)	0.19	0.00	0.67	0.26	0.00	0.00	0.21	0.00	0.36	0.05	0.00	0.36
Avail Cap(c_a), veh/h	776	0	810	858	0	0	676	0	1198	668	0	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	17.7	16.5	0.0	0.0	5.7	0.0	3.8	5.1	0.0	3.8
Incr Delay (d2), s/veh	0.2	0.0	2.5	0.4	0.0	0.0	0.7	0.0	0.9	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.0	0.8	0.0	0.0	0.6	0.0	1.2	0.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	0.0	20.2	16.8	0.0	0.0	6.4	0.0	4.6	5.3	0.0	4.6
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		283			98			576			456	
Approach Delay, s/veh		19.3			16.8			5.1			4.7	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		12.4		34.0		12.4				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		30.0		22.0		30.0		22.0				
Max Q Clear Time (g_c+I1), s		10.6		7.2		7.8		7.3				
Green Ext Time (p_c), s		3.4		1.2		2.9		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			8.6									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

PM Existing
08/31/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1000	100	110	1010	30	100	70	210	60	90	60
Future Volume (veh/h)	160	1000	100	110	1010	30	100	70	210	60	90	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	1087	109	120	1098	33	109	76	228	65	98	65
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1683	169	409	1751	53	289	122	366	124	210	139
Arrive On Green	0.15	1.00	1.00	0.05	0.50	0.50	0.05	0.30	0.30	0.20	0.20	0.20
Sat Flow, veh/h	1781	3262	327	1781	3522	106	1781	412	1236	1075	1049	696
Grp Volume(v), veh/h	174	592	604	120	554	577	109	0	304	65	0	163
Grp Sat Flow(s),veh/h/ln	1781	1777	1812	1781	1777	1851	1781	0	1648	1075	0	1745
Q Serve(g_s), s	4.3	0.0	0.0	2.9	20.5	20.5	0.0	0.0	14.3	3.7	0.0	7.4
Cycle Q Clear(g_c), s	4.3	0.0	0.0	2.9	20.5	20.5	0.0	0.0	14.3	18.0	0.0	7.4
Prop In Lane	1.00		0.18	1.00		0.06	1.00		0.75	1.00		0.40
Lane Grp Cap(c), veh/h	344	917	935	409	883	920	289	0	488	124	0	349
V/C Ratio(X)	0.51	0.65	0.65	0.29	0.63	0.63	0.38	0.00	0.62	0.52	0.00	0.47
Avail Cap(c_a), veh/h	570	917	935	669	883	920	553	0	732	124	0	349
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	9.7	16.5	16.5	35.9	0.0	27.3	43.8	0.0	31.8
Incr Delay (d2), s/veh	1.1	3.5	3.4	0.4	3.4	3.2	0.8	0.0	1.3	4.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.9	0.9	1.1	8.6	9.0	2.3	0.0	5.7	1.6	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	3.5	3.4	10.1	19.9	19.8	36.7	0.0	28.6	47.8	0.0	32.7
LnGrp LOS	B	A	A	B	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1370			1251			413			228	
Approach Delay, s/veh		4.7			18.9			30.8			37.0	
Approach LOS		A			B			C			D	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		30.7	8.9	50.4	8.7	22.0	10.6	48.7				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		16.3	4.9	2.0	2.0	20.0	6.3	22.5				
Green Ext Time (p_c), s		2.0	0.2	8.0	0.2	0.0	0.3	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1250	50	50	1100	20	0	0	100	10	10	40
Future Vol, veh/h	20	1250	50	50	1100	20	0	0	100	10	10	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1359	54	54	1196	22	0	0	109	11	11	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1218	0	0	1413	0	0	-	-	707	2039	2772	609
Stage 1	-	-	-	-	-	-	-	-	-	1315	1315	-
Stage 2	-	-	-	-	-	-	-	-	-	724	1457	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	568	-	-	478	-	-	0	0	378	33	19	438
Stage 1	-	-	-	-	-	-	0	0	-	167	226	-
Stage 2	-	-	-	-	-	-	0	0	-	383	193	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	568	-	-	478	-	-	-	-	378	18	14	438
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	18	14	-
Stage 1	-	-	-	-	-	-	-	-	-	136	200	-
Stage 2	-	-	-	-	-	-	-	-	-	222	157	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	18.3	14.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	378	568	-	-	478	-	-	438
HCM Lane V/C Ratio	0.288	0.038	-	-	0.114	-	-	0.099
HCM Control Delay (s)	18.3	11.6	-	-	13.5	-	-	14.1
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.4	-	-	0.3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	170	70	0	0	0	0	40	40	50	50	0
Future Vol, veh/h	60	170	70	0	0	0	0	40	40	50	50	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	185	76	0	0	0	0	43	43	54	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.1	8.1	8.8
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	20%	50%
Vol Thru, %	50%	57%	50%
Vol Right, %	50%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	80	300	100
LT Vol	0	60	50
Through Vol	40	170	50
RT Vol	40	70	0
Lane Flow Rate	87	326	109
Geometry Grp	1	1	1
Degree of Util (X)	0.109	0.39	0.147
Departure Headway (Hd)	4.517	4.302	4.884
Convergence, Y/N	Yes	Yes	Yes
Cap	793	838	735
Service Time	2.548	2.323	2.913
HCM Lane V/C Ratio	0.11	0.389	0.148
HCM Control Delay	8.1	10.1	8.8
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.4	1.9	0.5

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	90	20	30	10	10	0	190	140	20	40	90	60
Future Vol, veh/h	90	20	30	10	10	0	190	140	20	40	90	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	22	33	11	11	0	207	152	22	43	98	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	800	805	131	821	826	163	163	0	0	174	0	0
Stage 1	217	217	-	577	577	-	-	-	-	-	-	-
Stage 2	583	588	-	244	249	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	303	316	919	293	307	882	1416	-	-	1403	-	-
Stage 1	785	723	-	502	502	-	-	-	-	-	-	-
Stage 2	498	496	-	760	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	250	256	919	226	249	882	1416	-	-	1403	-	-
Mov Cap-2 Maneuver	250	256	-	226	249	-	-	-	-	-	-	-
Stage 1	658	698	-	421	421	-	-	-	-	-	-	-
Stage 2	407	416	-	686	677	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.2	21.7	4.3	1.6
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1416	-	-	297	237	1403	-	-
HCM Lane V/C Ratio	0.146	-	-	0.512	0.092	0.031	-	-
HCM Control Delay (s)	8	0	-	29.2	21.7	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.7	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↗		↕			↱			↲	
Traffic Vol, veh/h	120	30	100	20	0	40	0	420	0	10	490	0
Future Vol, veh/h	120	30	100	20	0	40	0	420	0	10	490	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	33	109	22	0	43	0	457	0	11	533	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1034	1012	533	1083	1012	457	-	0	0	457	0	0
Stage 1	555	555	-	457	457	-	-	-	-	-	-	-
Stage 2	479	457	-	626	555	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	210	239	547	195	239	604	0	-	-	1104	-	0
Stage 1	516	513	-	583	568	-	0	-	-	-	-	0
Stage 2	568	568	-	472	513	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	193	236	547	138	236	604	-	-	-	1104	-	-
Mov Cap-2 Maneuver	193	236	-	138	236	-	-	-	-	-	-	-
Stage 1	516	506	-	583	568	-	-	-	-	-	-	-
Stage 2	527	568	-	349	506	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.7	21.4	0	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	193	236	547	284	1104	-
HCM Lane V/C Ratio	-	-	0.676	0.138	0.199	0.23	0.01	-
HCM Control Delay (s)	-	-	55.6	22.7	13.2	21.4	8.3	0
HCM Lane LOS	-	-	F	C	B	C	A	A
HCM 95th %tile Q(veh)	-	-	4.1	0.5	0.7	0.9	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	20	10	70	420	10	30	420	100
Future Vol, veh/h	0	0	0	10	20	10	70	420	10	30	420	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	22	11	76	457	11	33	457	109

Major/Minor	Minor1				Major1			Major2		
Conflicting Flow All	1193	1247	463	566	0	0	468	0	0	
Stage 1	615	615	-	-	-	-	-	-	-	
Stage 2	578	632	-	-	-	-	-	-	-	
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	206	173	599	1006	-	-	1094	-	-	
Stage 1	539	482	-	-	-	-	-	-	-	
Stage 2	561	474	-	-	-	-	-	-	-	
Platoon blocked, %					-	-		-	-	
Mov Cap-1 Maneuver	177	0	599	1006	-	-	1094	-	-	
Mov Cap-2 Maneuver	177	0	-	-	-	-	-	-	-	
Stage 1	462	0	-	-	-	-	-	-	-	
Stage 2	561	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	20.7	1.2	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1006	-	-	273	1094	-	-
HCM Lane V/C Ratio	0.076	-	-	0.159	0.03	-	-
HCM Control Delay (s)	8.9	0	-	20.7	8.4	0	-
HCM Lane LOS	A	A	-	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Future Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	196	0	65	130	0	0	163	11

Major/Minor	Minor1				Major1			Major2		
Conflicting Flow All	429	434	130	174	0	-	-	-	0	
Stage 1	260	260	-	-	-	-	-	-	-	
Stage 2	169	174	-	-	-	-	-	-	-	
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-	
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-	
Pot Cap-1 Maneuver	583	515	920	1403	-	0	0	-	-	
Stage 1	783	693	-	-	-	0	0	-	-	
Stage 2	861	755	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	554	0	920	1403	-	-	-	-	-	
Mov Cap-2 Maneuver	554	0	-	-	-	-	-	-	-	
Stage 1	744	0	-	-	-	-	-	-	-	
Stage 2	861	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	15.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1403	-	554	-	-
HCM Lane V/C Ratio	0.046	-	0.373	-	-
HCM Control Delay (s)	7.7	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	210	10	0	230	30	10	0	10	110	0	50
Future Vol, veh/h	20	210	10	0	230	30	10	0	10	110	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	228	11	0	250	33	11	0	11	120	0	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	283	0	0	239	0	0	572	561	234	550	550	267
Stage 1	-	-	-	-	-	-	278	278	-	267	267	-
Stage 2	-	-	-	-	-	-	294	283	-	283	283	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1279	-	-	1328	-	-	431	436	805	446	443	772
Stage 1	-	-	-	-	-	-	728	680	-	738	688	-
Stage 2	-	-	-	-	-	-	714	677	-	724	677	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1279	-	-	1328	-	-	394	427	805	433	434	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	394	427	-	433	434	-
Stage 1	-	-	-	-	-	-	713	666	-	723	688	-
Stage 2	-	-	-	-	-	-	664	677	-	700	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.1	15.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	529	1279	-	-	1328	-	-	502
HCM Lane V/C Ratio	0.041	0.017	-	-	-	-	-	0.346
HCM Control Delay (s)	12.1	7.9	0	-	0	-	-	15.9
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.5

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	6.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	240	90	0	0	120
Future Vol, veh/h	60	240	90	0	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	261	98	0	0	130

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	228	98	0	-	-	-
Stage 1	98	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	760	958	-	0	0	-
Stage 1	926	-	-	0	0	-
Stage 2	896	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	760	958	-	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	911	-
HCM Lane V/C Ratio	-	0.358	-
HCM Control Delay (s)	-	11.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.6	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	240	10	10	180	20	10	0	10	50	0	60
Future Vol, veh/h	50	240	10	10	180	20	10	0	10	50	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	261	11	11	196	22	11	0	11	54	0	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	218	0	0	272	0	0	637	615	267	609	609	207
Stage 1	-	-	-	-	-	-	375	375	-	229	229	-
Stage 2	-	-	-	-	-	-	262	240	-	380	380	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1352	-	-	1291	-	-	390	407	772	407	410	833
Stage 1	-	-	-	-	-	-	646	617	-	774	715	-
Stage 2	-	-	-	-	-	-	743	707	-	642	614	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1352	-	-	1291	-	-	344	384	772	384	387	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	384	-	384	387	-
Stage 1	-	-	-	-	-	-	616	588	-	738	708	-
Stage 2	-	-	-	-	-	-	678	700	-	603	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.4	12.9	13.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	1352	-	-	1291	-	-	544
HCM Lane V/C Ratio	0.046	0.04	-	-	0.008	-	-	0.22
HCM Control Delay (s)	12.9	7.8	0	-	7.8	0	-	13.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	700	100	70	580	260	0	0	0	270	160	250
Future Volume (veh/h)	200	700	100	70	580	260	0	0	0	270	160	250
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	217	761	109	76	630	283				293	174	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	517	1878	269	98	1303	581				373	392	332
Arrive On Green	0.58	1.00	1.00	0.11	0.73	0.73				0.21	0.21	0.21
Sat Flow, veh/h	1781	3120	447	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	217	433	437	76	630	283				293	174	272
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	6.1	0.0	0.0	3.7	6.6	6.7				14.0	7.3	14.7
Cycle Q Clear(g_c), s	6.1	0.0	0.0	3.7	6.6	6.7				14.0	7.3	14.7
Prop In Lane	1.00		0.25	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	517	1069	1077	98	1303	581				373	392	332
V/C Ratio(X)	0.42	0.41	0.41	0.77	0.48	0.49				0.79	0.44	0.82
Avail Cap(c_a), veh/h	517	1069	1077	356	1303	581				515	540	458
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	0.0	39.5	8.5	8.5				33.7	31.0	33.9
Incr Delay (d2), s/veh	0.5	1.0	1.0	12.0	1.3	2.9				5.4	0.8	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.3	0.3	1.9	2.1	2.1				6.5	3.3	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	1.0	1.0	51.5	9.8	11.4				39.1	31.8	42.1
LnGrp LOS	B	A	A	D	A	B				D	C	D
Approach Vol, veh/h		1087			989						739	
Approach Delay, s/veh		3.8			13.4						38.5	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			9.0	58.2		22.9	30.1	37.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	34.0		26.0	19.0	33.0				
Max Q Clear Time (g_c+I1), s			5.7	2.0		16.7	8.1	8.7				
Green Ext Time (p_c), s			0.1	6.5		2.1	0.4	5.7				

Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	790	150	70	760	0	150	30	130	10	20	70
Future Volume (veh/h)	50	790	150	70	760	0	150	30	130	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	859	163	76	826	0	163	33	141	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	1559	296	97	1907	0	171	26	458	44	75	172
Arrive On Green	0.04	0.52	0.52	0.11	1.00	0.00	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	2980	565	1781	3647	0	338	92	1585	0	258	595
Grp Volume(v), veh/h	54	512	510	76	826	0	196	0	141	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1769	1781	1777	0	429	0	1585	853	0	0
Q Serve(g_s), s	2.7	17.4	17.4	3.7	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	17.4	17.4	3.7	0.0	0.0	26.0	0.0	6.2	26.0	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.00	0.83		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	73	930	925	97	1907	0	197	0	458	291	0	0
V/C Ratio(X)	0.74	0.55	0.55	0.78	0.43	0.00	0.99	0.00	0.31	0.38	0.00	0.00
Avail Cap(c_a), veh/h	356	930	925	178	1907	0	197	0	458	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.7	14.4	14.4	39.6	0.0	0.0	36.4	0.0	25.0	25.2	0.0	0.0
Incr Delay (d2), s/veh	13.3	2.3	2.4	11.5	0.6	0.0	62.1	0.0	0.4	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.1	7.1	1.9	0.2	0.0	7.7	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	16.7	16.7	51.1	0.6	0.0	98.6	0.0	25.4	26.0	0.0	0.0
LnGrp LOS	E	B	B	D	A	A	F	A	C	C	A	A
Approach Vol, veh/h		1076			902			337			109	
Approach Delay, s/veh		18.7			4.9			67.9			26.0	
Approach LOS		B			A			E			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	8.9	51.1		30.0	7.7	52.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		26.0	9.0	43.0		26.0	18.0	34.0				
Max Q Clear Time (g_c+I1), s		28.0	5.7	19.4		28.0	4.7	2.0				
Green Ext Time (p_c), s		0.0	0.0	7.4		0.0	0.1	6.7				

Intersection Summary												
HCM 6th Ctrl Delay			20.7									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	70	160	0	50	20	110	470	10	20	420	40
Future Volume (veh/h)	50	70	160	0	50	20	110	470	10	20	420	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	76	174	0	54	22	120	511	11	22	457	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	103	236	0	258	105	593	1161	25	579	1072	101
Arrive On Green	0.20	0.20	0.20	0.00	0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1323	505	1157	0	1263	515	898	1824	39	880	1683	158
Grp Volume(v), veh/h	54	0	250	0	0	76	120	0	522	22	0	500
Grp Sat Flow(s),veh/h/ln	1323	0	1662	0	0	1778	898	0	1863	880	0	1842
Q Serve(g_s), s	1.8	0.0	7.1	0.0	0.0	1.8	3.9	0.0	7.1	0.7	0.0	6.8
Cycle Q Clear(g_c), s	3.6	0.0	7.1	0.0	0.0	1.8	10.7	0.0	7.1	7.8	0.0	6.8
Prop In Lane	1.00		0.70	0.00		0.29	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	367	0	340	0	0	363	593	0	1186	579	0	1172
V/C Ratio(X)	0.15	0.00	0.74	0.00	0.00	0.21	0.20	0.00	0.44	0.04	0.00	0.43
Avail Cap(c_a), veh/h	623	0	661	0	0	707	593	0	1186	579	0	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	18.7	0.0	0.0	16.6	7.2	0.0	4.6	6.6	0.0	4.6
Incr Delay (d2), s/veh	0.2	0.0	3.1	0.0	0.0	0.3	0.8	0.0	1.2	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.7	0.0	0.0	0.7	0.7	0.0	2.0	0.1	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	21.8	0.0	0.0	16.9	8.0	0.0	5.8	6.7	0.0	5.7
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		304			76			642			522	
Approach Delay, s/veh		21.2			16.9			6.2			5.7	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		14.3		36.0		14.3				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		12.7		9.1		9.8		3.8				
Green Ext Time (p_c), s		4.0		1.2		3.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.5									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	760	100	140	730	20	130	50	230	20	90	50
Future Volume (veh/h)	200	760	100	140	730	20	130	50	230	20	90	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	826	109	152	793	22	141	54	250	22	98	54
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	1584	209	485	1692	47	302	86	400	122	227	125
Arrive On Green	0.18	1.00	1.00	0.07	0.48	0.48	0.05	0.30	0.30	0.20	0.20	0.20
Sat Flow, veh/h	1781	3156	416	1781	3532	98	1781	289	1340	1075	1133	625
Grp Volume(v), veh/h	217	465	470	152	399	416	141	0	304	22	0	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	1777	1853	1781	0	1629	1075	0	1758
Q Serve(g_s), s	5.6	0.0	0.0	3.8	13.6	13.6	0.0	0.0	14.5	1.8	0.0	6.8
Cycle Q Clear(g_c), s	5.6	0.0	0.0	3.8	13.6	13.6	0.0	0.0	14.5	16.3	0.0	6.8
Prop In Lane	1.00		0.23	1.00		0.05	1.00		0.82	1.00		0.36
Lane Grp Cap(c), veh/h	459	892	901	485	851	888	302	0	486	122	0	352
V/C Ratio(X)	0.47	0.52	0.52	0.31	0.47	0.47	0.47	0.00	0.63	0.18	0.00	0.43
Avail Cap(c_a), veh/h	656	892	901	723	851	888	562	0	724	122	0	352
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.0	0.0	0.0	10.2	15.7	15.8	36.2	0.0	27.2	42.4	0.0	31.5
Incr Delay (d2), s/veh	0.8	2.2	2.2	0.4	1.9	1.8	1.1	0.0	1.3	0.7	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	0.5	1.5	5.6	5.9	3.0	0.0	5.7	0.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	2.2	2.2	10.5	17.6	17.5	37.3	0.0	28.6	43.1	0.0	32.4
LnGrp LOS	B	A	A	B	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1152			967			445			174	
Approach Delay, s/veh		3.8			16.5			31.3			33.7	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		30.9	10.0	49.2	8.9	22.0	12.0	47.1				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		16.5	5.8	2.0	2.0	18.3	7.6	15.6				
Green Ext Time (p_c), s		2.0	0.3	5.9	0.3	0.0	0.4	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	10	80	20	0	10	0	420	10	10	480	0
Future Vol, veh/h	80	10	80	20	0	10	0	420	10	10	480	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	11	87	22	0	11	0	457	11	11	522	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1012	1012	522	1056	1007	463	-	0	0	468	0	0
Stage 1	544	544	-	463	463	-	-	-	-	-	-	-
Stage 2	468	468	-	593	544	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	218	239	555	203	241	599	0	-	-	1094	-	0
Stage 1	523	519	-	579	564	-	0	-	-	-	-	0
Stage 2	575	561	-	492	519	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	212	236	555	163	238	599	-	-	-	1094	-	-
Mov Cap-2 Maneuver	212	236	-	163	238	-	-	-	-	-	-	-
Stage 1	523	512	-	579	564	-	-	-	-	-	-	-
Stage 2	565	561	-	400	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.9	24.7	0	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	212	236	555	215	1094	-
HCM Lane V/C Ratio	-	-	0.41	0.046	0.157	0.152	0.01	-
HCM Control Delay (s)	-	-	33.3	21	12.7	24.7	8.3	0
HCM Lane LOS	-	-	D	C	B	C	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0.1	0.6	0.5	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	920	30	20	880	10	0	0	80	10	10	30
Future Vol, veh/h	10	920	30	20	880	10	0	0	80	10	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1000	33	22	957	11	0	0	87	11	11	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	968	0	0	1033	0	0	-	-	517	1529	2062	484
Stage 1	-	-	-	-	-	-	-	-	-	1007	1007	-
Stage 2	-	-	-	-	-	-	-	-	-	522	1055	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	707	-	-	668	-	-	0	0	503	80	54	529
Stage 1	-	-	-	-	-	-	0	0	-	258	317	-
Stage 2	-	-	-	-	-	-	0	0	-	506	301	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	707	-	-	668	-	-	-	-	503	63	50	529
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	63	50	-
Stage 1	-	-	-	-	-	-	-	-	-	248	307	-
Stage 2	-	-	-	-	-	-	-	-	-	403	290	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13.6	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	503	707	-	-	668	-	-	529
HCM Lane V/C Ratio	0.173	0.015	-	-	0.033	-	-	0.062
HCM Control Delay (s)	13.6	10.2	-	-	10.6	-	-	12.3
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Future Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	196	0	65	130	0	0	163	11

Major/Minor	Minor1				Major1				Major2			
Conflicting Flow All	429	434	130	174	0	-	-	-	0			
Stage 1	260	260	-	-	-	-	-	-	-			
Stage 2	169	174	-	-	-	-	-	-	-			
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-			
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-			
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-			
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-			
Pot Cap-1 Maneuver	583	515	920	1403	-	0	0	-	-			
Stage 1	783	693	-	-	-	0	0	-	-			
Stage 2	861	755	-	-	-	0	0	-	-			
Platoon blocked, %					-			-	-			
Mov Cap-1 Maneuver	554	0	920	1403	-	-	-	-	-			
Mov Cap-2 Maneuver	554	0	-	-	-	-	-	-	-			
Stage 1	744	0	-	-	-	-	-	-	-			
Stage 2	861	0	-	-	-	-	-	-	-			

Approach	WB	NB	SB
HCM Control Delay, s	15.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1403	-	554	-	-
HCM Lane V/C Ratio	0.046	-	0.373	-	-
HCM Control Delay (s)	7.7	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	20	40	10	10	10	150	140	40	50	100	60
Future Vol, veh/h	70	20	40	10	10	10	150	140	40	50	100	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	22	43	11	11	11	163	152	43	54	109	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	761	771	142	782	782	174	174	0	0	195	0	0
Stage 1	250	250	-	500	500	-	-	-	-	-	-	-
Stage 2	511	521	-	282	282	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	322	331	906	312	326	869	1403	-	-	1378	-	-
Stage 1	754	700	-	553	543	-	-	-	-	-	-	-
Stage 2	545	532	-	725	678	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	269	275	906	243	271	869	1403	-	-	1378	-	-
Mov Cap-2 Maneuver	269	275	-	243	271	-	-	-	-	-	-	-
Stage 1	655	669	-	481	472	-	-	-	-	-	-	-
Stage 2	457	462	-	638	648	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.5	16.9	3.6	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	345	335	1378	-	-
HCM Lane V/C Ratio	0.116	-	-	0.41	0.097	0.039	-	-
HCM Control Delay (s)	7.9	0	-	22.5	16.9	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	1.9	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	10	20	70	420	0	20	450	90
Future Vol, veh/h	0	0	0	0	10	20	70	420	0	20	450	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	11	22	76	457	0	22	489	98

Major/Minor	Minor1				Major1				Major2			
Conflicting Flow All	1191	1240	457	587	0	0	457	0	0			
Stage 1	609	609	-	-	-	-	-	-	-			
Stage 2	582	631	-	-	-	-	-	-	-			
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-			
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-			
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-			
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-			
Pot Cap-1 Maneuver	207	175	604	988	-	-	1104	-	-			
Stage 1	543	485	-	-	-	-	-	-	-			
Stage 2	559	474	-	-	-	-	-	-	-			
Platoon blocked, %					-	-		-	-			
Mov Cap-1 Maneuver	180	0	604	988	-	-	1104	-	-			
Mov Cap-2 Maneuver	180	0	-	-	-	-	-	-	-			
Stage 1	472	0	-	-	-	-	-	-	-			
Stage 2	559	0	-	-	-	-	-	-	-			

Approach	WB	NB	SB
HCM Control Delay, s	11.3	1.3	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	988	-	-	604	1104	-	-
HCM Lane V/C Ratio	0.077	-	-	0.054	0.02	-	-
HCM Control Delay (s)	8.9	0	-	11.3	8.3	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	230	0	10	170	20	0	0	10	40	0	40
Future Vol, veh/h	20	230	0	10	170	20	0	0	10	40	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	250	0	11	185	22	0	0	11	43	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	250	0	0	534	523	250	518	512	196
Stage 1	-	-	-	-	-	-	294	294	-	218	218	-
Stage 2	-	-	-	-	-	-	240	229	-	300	294	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1364	-	-	1316	-	-	457	459	789	468	465	845
Stage 1	-	-	-	-	-	-	714	670	-	784	723	-
Stage 2	-	-	-	-	-	-	763	715	-	709	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1364	-	-	1316	-	-	424	446	789	452	452	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	446	-	452	452	-
Stage 1	-	-	-	-	-	-	700	657	-	769	716	-
Stage 2	-	-	-	-	-	-	717	709	-	686	657	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	9.6	12.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	789	1364	-	-	1316	-	-	589
HCM Lane V/C Ratio	0.014	0.016	-	-	0.008	-	-	0.148
HCM Control Delay (s)	9.6	7.7	0	-	7.8	0	-	12.2
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	140	10	10	180	30	10	10	10	110	50	60
Future Vol, veh/h	20	140	10	10	180	30	10	10	10	110	50	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	152	11	11	196	33	11	11	11	120	54	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	229	0	0	163	0	0	496	453	158	448	442	213
Stage 1	-	-	-	-	-	-	202	202	-	235	235	-
Stage 2	-	-	-	-	-	-	294	251	-	213	207	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1339	-	-	1416	-	-	484	503	887	521	510	827
Stage 1	-	-	-	-	-	-	800	734	-	768	710	-
Stage 2	-	-	-	-	-	-	714	699	-	789	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1339	-	-	1416	-	-	400	489	887	495	496	827
Mov Cap-2 Maneuver	-	-	-	-	-	-	400	489	-	495	496	-
Stage 1	-	-	-	-	-	-	786	721	-	754	704	-
Stage 2	-	-	-	-	-	-	601	693	-	754	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.3	16.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	529	1339	-	-	1416	-	-	556
HCM Lane V/C Ratio	0.062	0.016	-	-	0.008	-	-	0.43
HCM Control Delay (s)	12.3	7.7	0	-	7.6	0	-	16.3
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	2.1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	140	70	0	0	0	0	30	30	10	50	0
Future Vol, veh/h	90	140	70	0	0	0	0	30	30	10	50	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	152	76	0	0	0	0	33	33	11	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.6	7.8	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	30%	17%
Vol Thru, %	50%	47%	83%
Vol Right, %	50%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	300	60
LT Vol	0	90	10
Through Vol	30	140	50
RT Vol	30	70	0
Lane Flow Rate	65	326	65
Geometry Grp	1	1	1
Degree of Util (X)	0.08	0.369	0.086
Departure Headway (Hd)	4.442	4.078	4.772
Convergence, Y/N	Yes	Yes	Yes
Cap	811	867	755
Service Time	2.445	2.173	2.775
HCM Lane V/C Ratio	0.08	0.376	0.086
HCM Control Delay	7.8	9.6	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.7	0.3

Intersection	
Int Delay, s/veh	5.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	220	80	0	0	140
Future Vol, veh/h	30	220	80	0	0	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	239	87	0	0	152

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	239	87	0	-	-	-
Stage 1	87	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	749	971	-	0	0	-
Stage 1	936	-	-	0	0	-
Stage 2	876	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	749	971	-	-	-	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	876	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	938	-
HCM Lane V/C Ratio	-	0.29	-
HCM Control Delay (s)	-	10.4	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	940	180	80	730	250	0	0	0	350	140	300
Future Volume (veh/h)	240	940	180	80	730	250	0	0	0	350	140	300
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	261	1022	196	87	793	272				380	152	326
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	460	1672	320	112	1303	581				431	452	383
Arrive On Green	0.52	1.00	1.00	0.13	0.73	0.73				0.24	0.24	0.24
Sat Flow, veh/h	1781	2975	569	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	261	609	609	87	793	272				380	152	326
Grp Sat Flow(s),veh/h/ln	1781	1777	1768	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	9.0	0.0	0.0	4.3	9.7	6.3				18.5	6.0	17.7
Cycle Q Clear(g_c), s	9.0	0.0	0.0	4.3	9.7	6.3				18.5	6.0	17.7
Prop In Lane	1.00		0.32	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	460	998	993	112	1303	581				431	452	383
V/C Ratio(X)	0.57	0.61	0.61	0.78	0.61	0.47				0.88	0.34	0.85
Avail Cap(c_a), veh/h	460	998	993	356	1303	581				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	38.7	8.9	8.4				32.9	28.2	32.6
Incr Delay (d2), s/veh	1.1	1.9	1.9	10.8	2.1	2.7				16.4	0.4	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.5	0.5	2.1	2.8	2.0				9.7	2.7	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	1.9	1.9	49.6	11.0	11.1				49.3	28.6	46.7
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1479			1152						858	
Approach Delay, s/veh		5.0			14.0						44.6	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			9.7	54.6		25.8	27.2	37.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	36.0		24.0	21.0	33.0				
Max Q Clear Time (g_c+I1), s			6.3	2.0		20.5	11.0	11.7				
Green Ext Time (p_c), s			0.1	10.7		1.3	0.5	6.8				

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1150	150	100	920	10	170	20	160	50	40	80
Future Volume (veh/h)	30	1150	150	100	920	10	170	20	160	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1250	163	109	1000	11	185	22	174	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1546	201	178	2008	22	237	19	440	52	48	43
Arrive On Green	0.03	0.49	0.49	0.20	1.00	1.00	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	3163	411	1781	3600	40	581	69	1585	0	173	155
Grp Volume(v), veh/h	33	700	713	109	494	517	207	0	174	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1796	1781	1777	1863	650	0	1585	328	0	0
Q Serve(g_s), s	1.6	29.9	30.3	5.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	29.9	30.3	5.0	0.0	0.0	25.0	0.0	8.0	25.0	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.02	0.89		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	56	869	878	178	991	1039	256	0	440	143	0	0
V/C Ratio(X)	0.59	0.81	0.81	0.61	0.50	0.50	0.81	0.00	0.40	1.29	0.00	0.00
Avail Cap(c_a), veh/h	356	869	878	178	991	1039	256	0	440	143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.0	19.4	19.5	34.4	0.0	0.0	34.1	0.0	26.4	30.6	0.0	0.0
Incr Delay (d2), s/veh	9.7	7.9	8.1	4.9	1.4	1.4	17.2	0.0	0.6	172.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	13.3	13.7	2.2	0.4	0.4	5.8	0.0	3.0	10.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	27.3	27.6	39.3	1.4	1.4	51.3	0.0	26.9	203.0	0.0	0.0
LnGrp LOS	D	C	C	D	A	A	D	A	C	F	A	A
Approach Vol, veh/h		1446			1120			381			184	
Approach Delay, s/veh		28.0			5.1			40.2			203.0	
Approach LOS		C			A			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.0	13.0	48.0		29.0	6.8	54.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		25.0	9.0	44.0		25.0	18.0	35.0				
Max Q Clear Time (g_c+I1), s		27.0	7.0	32.3		27.0	3.6	2.0				
Green Ext Time (p_c), s		0.0	0.0	7.3		0.0	0.0	7.9				

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	90	100	10	50	30	130	480	20	30	440	40
Future Volume (veh/h)	70	90	100	10	50	30	130	480	20	30	440	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	98	109	11	54	33	141	522	22	33	478	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	141	157	92	166	90	613	1183	50	598	1123	101
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1310	809	900	65	950	515	881	1782	75	862	1691	152
Grp Volume(v), veh/h	76	0	207	98	0	0	141	0	544	33	0	521
Grp Sat Flow(s),veh/h/ln	1310	0	1708	1530	0	0	881	0	1857	862	0	1843
Q Serve(g_s), s	0.0	0.0	5.7	0.1	0.0	0.0	4.4	0.0	6.9	0.9	0.0	6.6
Cycle Q Clear(g_c), s	2.7	0.0	5.7	5.7	0.0	0.0	11.0	0.0	6.9	7.9	0.0	6.6
Prop In Lane	1.00		0.53	0.11		0.34	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	364	0	299	348	0	0	613	0	1233	598	0	1224
V/C Ratio(X)	0.21	0.00	0.69	0.28	0.00	0.00	0.23	0.00	0.44	0.06	0.00	0.43
Avail Cap(c_a), veh/h	635	0	653	692	0	0	613	0	1233	598	0	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	19.2	17.9	0.0	0.0	6.5	0.0	4.0	5.8	0.0	3.9
Incr Delay (d2), s/veh	0.3	0.0	2.9	0.4	0.0	0.0	0.9	0.0	1.1	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.2	0.9	0.0	0.0	0.7	0.0	1.7	0.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	22.1	18.4	0.0	0.0	7.4	0.0	5.1	6.0	0.0	5.0
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		283			98			685			554	
Approach Delay, s/veh		21.1			18.4			5.6			5.1	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		12.7		37.0		12.7				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		33.0		19.0		33.0		19.0				
Max Q Clear Time (g_c+I1), s		13.0		7.7		9.9		7.7				
Green Ext Time (p_c), s		4.4		1.1		3.7		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			8.9									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	1000	130	140	1010	40	130	80	270	70	120	70
Future Volume (veh/h)	190	1000	130	140	1010	40	130	80	270	70	120	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	1087	141	152	1098	43	141	87	293	76	130	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	1557	202	301	1654	65	312	116	390	180	199	116
Arrive On Green	0.08	0.49	0.49	0.07	0.47	0.47	0.08	0.31	0.31	0.18	0.18	0.18
Sat Flow, veh/h	1781	3164	410	1781	3486	136	1781	376	1266	1003	1107	647
Grp Volume(v), veh/h	207	610	618	152	560	581	141	0	380	76	0	206
Grp Sat Flow(s),veh/h/ln	1781	1777	1797	1781	1777	1846	1781	0	1642	1003	0	1754
Q Serve(g_s), s	5.2	23.9	24.0	3.9	21.7	21.8	5.5	0.0	18.7	6.6	0.0	9.8
Cycle Q Clear(g_c), s	5.2	23.9	24.0	3.9	21.7	21.8	5.5	0.0	18.7	13.9	0.0	9.8
Prop In Lane	1.00		0.23	1.00		0.07	1.00		0.77	1.00		0.37
Lane Grp Cap(c), veh/h	345	874	884	301	843	876	312	0	506	180	0	315
V/C Ratio(X)	0.60	0.70	0.70	0.50	0.66	0.66	0.45	0.00	0.75	0.42	0.00	0.65
Avail Cap(c_a), veh/h	551	874	884	539	843	876	519	0	730	200	0	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	17.7	17.7	14.6	18.1	18.2	25.8	0.0	28.0	39.5	0.0	34.3
Incr Delay (d2), s/veh	1.7	4.6	4.6	1.3	4.1	4.0	1.0	0.0	2.6	1.6	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	10.2	10.4	1.5	9.4	9.7	2.4	0.0	7.5	1.7	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	22.3	22.3	15.9	22.3	22.1	26.8	0.0	30.7	41.0	0.0	38.0
LnGrp LOS	B	C	C	B	C	C	C	A	C	D	A	D
Approach Vol, veh/h		1435			1293			521			282	
Approach Delay, s/veh		21.4			21.4			29.6			38.8	
Approach LOS		C			C			C			D	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		31.7	10.0	48.3	11.5	20.2	11.6	46.7				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		20.7	5.9	26.0	7.5	15.9	7.2	23.8				
Green Ext Time (p_c), s		2.4	0.3	0.0	0.2	0.3	0.4	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			24.0									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	13.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	30	100	20	0	40	0	520	0	10	580	0
Future Vol, veh/h	120	30	100	20	0	40	0	520	0	10	580	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	130	33	109	22	0	43	0	565	0	11	630	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1239	1217	630	1288	1217	565	-	0	0	565	0	0
Stage 1	652	652	-	565	565	-	-	-	-	-	-	-
Stage 2	587	565	-	723	652	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	152	181	482	141	181	524	0	-	-	1007	-	0
Stage 1	457	464	-	510	508	-	0	-	-	-	-	0
Stage 2	496	508	-	417	464	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	138	178	482	93	178	524	-	-	-	1007	-	-
Mov Cap-2 Maneuver	138	178	-	93	178	-	-	-	-	-	-	-
Stage 1	457	456	-	510	508	-	-	-	-	-	-	-
Stage 2	455	508	-	295	456	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	69.3	30.4	0	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	138	178	482	206	1007	-
HCM Lane V/C Ratio	-	-	0.945	0.183	0.226	0.317	0.011	-
HCM Control Delay (s)	-	-	124.8	29.7	14.6	30.4	8.6	0
HCM Lane LOS	-	-	F	D	B	D	A	A
HCM 95th %tile Q(veh)	-	-	6.5	0.7	0.9	1.3	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1310	50	50	1140	20	0	0	100	10	10	40
Future Vol, veh/h	20	1310	50	50	1140	20	0	0	100	10	10	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1424	54	54	1239	22	0	0	109	11	11	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1261	0	0	1478	0	0	-	-	739	2114	2880	631
Stage 1	-	-	-	-	-	-	-	-	-	1358	1358	-
Stage 2	-	-	-	-	-	-	-	-	-	756	1522	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	547	-	-	452	-	-	0	0	360	29	16	424
Stage 1	-	-	-	-	-	-	0	0	-	157	215	-
Stage 2	-	-	-	-	-	-	0	0	-	366	179	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	547	-	-	452	-	-	-	-	360	15	11	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	15	11	-
Stage 1	-	-	-	-	-	-	-	-	-	120	189	-
Stage 2	-	-	-	-	-	-	-	-	-	196	137	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	19.3	14.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	360	547	-	-	452	-	-	424
HCM Lane V/C Ratio	0.302	0.04	-	-	0.12	-	-	0.103
HCM Control Delay (s)	19.3	11.9	-	-	14.1	-	-	14.5
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.4	-	-	0.3

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Future Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	196	0	65	130	0	0	163	11

Major/Minor	Minor1				Major1				Major2			
Conflicting Flow All	429	434	130	174	0	-	-	-	0			
Stage 1	260	260	-	-	-	-	-	-	-			
Stage 2	169	174	-	-	-	-	-	-	-			
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-			
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-			
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-			
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-			
Pot Cap-1 Maneuver	583	515	920	1403	-	0	0	-	-			
Stage 1	783	693	-	-	-	0	0	-	-			
Stage 2	861	755	-	-	-	0	0	-	-			
Platoon blocked, %					-			-	-			
Mov Cap-1 Maneuver	554	0	920	1403	-	-	-	-	-			
Mov Cap-2 Maneuver	554	0	-	-	-	-	-	-	-			
Stage 1	744	0	-	-	-	-	-	-	-			
Stage 2	861	0	-	-	-	-	-	-	-			

Approach	WB	NB	SB
HCM Control Delay, s	15.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1403	-	554	-	-
HCM Lane V/C Ratio	0.046	-	0.373	-	-
HCM Control Delay (s)	7.7	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	20	30	10	10	0	190	140	20	40	130	60
Future Vol, veh/h	90	20	30	10	10	0	190	140	20	40	130	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	22	33	11	11	0	207	152	22	43	141	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	843	848	174	864	869	163	206	0	0	174	0	0
Stage 1	260	260	-	577	577	-	-	-	-	-	-	-
Stage 2	583	588	-	287	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	284	298	869	274	290	882	1365	-	-	1403	-	-
Stage 1	745	693	-	502	502	-	-	-	-	-	-	-
Stage 2	498	496	-	720	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	233	239	869	209	233	882	1365	-	-	1403	-	-
Mov Cap-2 Maneuver	233	239	-	209	233	-	-	-	-	-	-	-
Stage 1	620	669	-	418	418	-	-	-	-	-	-	-
Stage 2	404	413	-	647	648	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.6	23.2	4.4	1.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1365	-	-	278	220	1403	-	-
HCM Lane V/C Ratio	0.151	-	-	0.547	0.099	0.031	-	-
HCM Control Delay (s)	8.1	0	-	32.6	23.2	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	3	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	20	10	70	520	10	30	510	100
Future Vol, veh/h	0	0	0	10	20	10	70	520	10	30	510	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	22	11	76	565	11	33	554	109

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1398	1452	571	663	0	0	576	0	0
Stage 1	723	723	-	-	-	-	-	-	-
Stage 2	675	729	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	155	130	520	926	-	-	997	-	-
Stage 1	481	431	-	-	-	-	-	-	-
Stage 2	506	428	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	129	0	520	926	-	-	997	-	-
Mov Cap-2 Maneuver	129	0	-	-	-	-	-	-	-
Stage 1	400	0	-	-	-	-	-	-	-
Stage 2	506	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27	1.1	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	207	997	-	-
HCM Lane V/C Ratio	0.082	-	-	0.21	0.033	-	-
HCM Control Delay (s)	9.2	0	-	27	8.7	0	-
HCM Lane LOS	A	A	-	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	0.1	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	240	10	10	180	20	10	0	10	50	0	60
Future Vol, veh/h	50	240	10	10	180	20	10	0	10	50	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	261	11	11	196	22	11	0	11	54	0	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	218	0	0	272	0	0	637	615	267	609	609	207
Stage 1	-	-	-	-	-	-	375	375	-	229	229	-
Stage 2	-	-	-	-	-	-	262	240	-	380	380	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1352	-	-	1291	-	-	390	407	772	407	410	833
Stage 1	-	-	-	-	-	-	646	617	-	774	715	-
Stage 2	-	-	-	-	-	-	743	707	-	642	614	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1352	-	-	1291	-	-	344	384	772	384	387	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	384	-	384	387	-
Stage 1	-	-	-	-	-	-	616	588	-	738	708	-
Stage 2	-	-	-	-	-	-	678	700	-	603	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.4	12.9	13.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	1352	-	-	1291	-	-	544
HCM Lane V/C Ratio	0.046	0.04	-	-	0.008	-	-	0.22
HCM Control Delay (s)	12.9	7.8	0	-	7.8	0	-	13.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	210	10	0	230	30	10	0	10	110	40	50
Future Vol, veh/h	20	210	10	0	230	30	10	0	10	110	40	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	228	11	0	250	33	11	0	11	120	43	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	283	0	0	239	0	0	593	561	234	550	550	267
Stage 1	-	-	-	-	-	-	278	278	-	267	267	-
Stage 2	-	-	-	-	-	-	315	283	-	283	283	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1279	-	-	1328	-	-	417	436	805	446	443	772
Stage 1	-	-	-	-	-	-	728	680	-	738	688	-
Stage 2	-	-	-	-	-	-	696	677	-	724	677	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1279	-	-	1328	-	-	352	427	805	433	434	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	352	427	-	433	434	-
Stage 1	-	-	-	-	-	-	713	666	-	723	688	-
Stage 2	-	-	-	-	-	-	606	677	-	700	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.7	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	490	1279	-	-	1328	-	-	487
HCM Lane V/C Ratio	0.044	0.017	-	-	-	-	-	0.446
HCM Control Delay (s)	12.7	7.9	0	-	0	-	-	18.2
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	2.3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	170	70	0	0	0	0	40	40	50	50	0
Future Vol, veh/h	60	170	70	0	0	0	0	40	40	50	50	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	185	76	0	0	0	0	43	43	54	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.1	8.1	8.8
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	20%	50%
Vol Thru, %	50%	57%	50%
Vol Right, %	50%	23%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	80	300	100
LT Vol	0	60	50
Through Vol	40	170	50
RT Vol	40	70	0
Lane Flow Rate	87	326	109
Geometry Grp	1	1	1
Degree of Util (X)	0.109	0.39	0.147
Departure Headway (Hd)	4.517	4.302	4.884
Convergence, Y/N	Yes	Yes	Yes
Cap	793	838	735
Service Time	2.548	2.323	2.913
HCM Lane V/C Ratio	0.11	0.389	0.148
HCM Control Delay	8.1	10.1	8.8
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.4	1.9	0.5

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	240	90	0	0	160
Future Vol, veh/h	60	240	90	0	0	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	261	98	0	0	174

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	272	98	0	-	-	-
Stage 1	98	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	717	958	-	0	0	-
Stage 1	926	-	-	0	0	-
Stage 2	856	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	717	958	-	-	-	-
Mov Cap-2 Maneuver	717	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	856	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	898	-
HCM Lane V/C Ratio	-	0.363	-
HCM Control Delay (s)	-	11.3	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.7	-

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	712	100	118	580	260	0	0	0	270	185	250
Future Volume (veh/h)	208	712	100	118	580	260	0	0	0	270	185	250
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	226	774	109	128	630	283				293	201	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	535	1772	249	160	1264	564				375	394	334
Arrive On Green	0.60	1.00	1.00	0.18	0.71	0.71				0.21	0.21	0.21
Sat Flow, veh/h	1781	3128	440	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	226	440	443	128	630	283				293	201	272
Grp Sat Flow(s),veh/h/ln	1781	1777	1791	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	6.1	0.0	0.0	6.2	7.1	7.2				14.0	8.6	14.7
Cycle Q Clear(g_c), s	6.1	0.0	0.0	6.2	7.1	7.2				14.0	8.6	14.7
Prop In Lane	1.00		0.25	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	535	1007	1015	160	1264	564				375	394	334
V/C Ratio(X)	0.42	0.44	0.44	0.80	0.50	0.50				0.78	0.51	0.81
Avail Cap(c_a), veh/h	535	1007	1015	356	1264	564				515	540	458
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	36.2	9.4	9.4				33.6	31.4	33.8
Incr Delay (d2), s/veh	0.5	1.2	1.2	9.0	1.4	3.2				5.3	1.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.3	0.3	2.9	2.3	2.3				6.5	3.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	1.2	1.2	45.2	10.8	12.6				38.8	32.4	41.7
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1109			1041						766	
Approach Delay, s/veh		3.8			15.5						38.2	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			12.1	55.0		23.0	31.0	36.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	34.0		26.0	20.0	32.0				
Max Q Clear Time (g_c+I1), s			8.2	2.0		16.7	8.1	9.2				
Green Ext Time (p_c), s			0.2	6.6		2.2	0.5	5.6				

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	790	192	70	760	0	169	30	150	10	20	70
Future Volume (veh/h)	50	790	192	70	760	0	169	30	150	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	859	209	76	826	0	184	33	163	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	1451	353	97	1868	0	174	18	476	44	76	175
Arrive On Green	0.04	0.51	0.51	0.11	1.00	0.00	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	2834	689	1781	3647	0	332	60	1585	0	253	583
Grp Volume(v), veh/h	54	538	530	76	826	0	217	0	163	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1746	1781	1777	0	392	0	1585	836	0	0
Q Serve(g_s), s	2.7	19.1	19.1	3.7	0.0	0.0	0.0	0.0	7.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	19.1	19.1	3.7	0.0	0.0	27.0	0.0	7.2	27.0	0.0	0.0
Prop In Lane	1.00		0.39	1.00		0.00	0.85		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	73	910	894	97	1868	0	192	0	476	295	0	0
V/C Ratio(X)	0.74	0.59	0.59	0.78	0.44	0.00	1.13	0.00	0.34	0.37	0.00	0.00
Avail Cap(c_a), veh/h	356	910	894	178	1868	0	192	0	476	295	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.7	15.4	15.4	39.6	0.0	0.0	36.7	0.0	24.6	24.6	0.0	0.0
Incr Delay (d2), s/veh	13.3	2.8	2.9	11.5	0.7	0.0	105.3	0.0	0.4	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.9	7.8	1.9	0.2	0.0	9.8	0.0	2.7	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	18.2	18.3	51.1	0.7	0.0	142.0	0.0	25.0	25.4	0.0	0.0
LnGrp LOS	E	B	B	D	A	A	F	A	C	C	A	A
Approach Vol, veh/h		1122			902			380			109	
Approach Delay, s/veh		20.0			4.9			91.8			25.4	
Approach LOS		C			A			F			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	8.9	50.1		31.0	7.7	51.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		27.0	9.0	42.0		27.0	18.0	33.0				
Max Q Clear Time (g_c+I1), s		29.0	5.7	21.1		29.0	4.7	2.0				
Green Ext Time (p_c), s		0.0	0.0	7.5		0.0	0.1	6.7				

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	72	168	0	53	20	127	470	10	20	420	40
Future Volume (veh/h)	50	72	168	0	53	20	127	470	10	20	420	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	78	183	0	58	22	138	511	11	22	457	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	105	246	0	273	103	585	1151	25	571	1063	100
Arrive On Green	0.21	0.21	0.21	0.00	0.21	0.21	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1319	496	1164	0	1292	490	898	1824	39	880	1683	158
Grp Volume(v), veh/h	54	0	261	0	0	80	138	0	522	22	0	500
Grp Sat Flow(s),veh/h/ln	1319	0	1661	0	0	1782	898	0	1863	880	0	1842
Q Serve(g_s), s	1.8	0.0	7.5	0.0	0.0	1.9	4.7	0.0	7.3	0.7	0.0	7.0
Cycle Q Clear(g_c), s	3.7	0.0	7.5	0.0	0.0	1.9	11.6	0.0	7.3	7.9	0.0	7.0
Prop In Lane	1.00		0.70	0.00		0.27	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	371	0	350	0	0	376	585	0	1176	571	0	1163
V/C Ratio(X)	0.15	0.00	0.74	0.00	0.00	0.21	0.24	0.00	0.44	0.04	0.00	0.43
Avail Cap(c_a), veh/h	613	0	655	0	0	703	585	0	1176	571	0	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	18.7	0.0	0.0	16.5	7.7	0.0	4.8	6.8	0.0	4.7
Incr Delay (d2), s/veh	0.2	0.0	3.2	0.0	0.0	0.3	0.9	0.0	1.2	0.1	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.9	0.0	0.0	0.7	0.8	0.0	2.1	0.1	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	0.0	21.9	0.0	0.0	16.8	8.6	0.0	6.0	6.9	0.0	5.9
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		315			80			660			522	
Approach Delay, s/veh		21.2			16.8			6.6			5.9	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		14.7		36.0		14.7				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		13.6		9.5		9.9		3.9				
Green Ext Time (p_c), s		4.1		1.3		3.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.8									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	772	100	140	769	20	130	55	242	20	90	59
Future Volume (veh/h)	200	772	100	140	769	20	130	55	242	20	90	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	839	109	152	836	22	141	60	263	22	98	64
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	1587	206	482	1695	45	294	90	396	108	211	138
Arrive On Green	0.18	1.00	1.00	0.07	0.48	0.48	0.05	0.30	0.30	0.20	0.20	0.20
Sat Flow, veh/h	1781	3162	411	1781	3537	93	1781	303	1328	1057	1056	690
Grp Volume(v), veh/h	217	471	477	152	420	438	141	0	323	22	0	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1796	1781	1777	1854	1781	0	1631	1057	0	1746
Q Serve(g_s), s	5.6	0.0	0.0	3.8	14.5	14.5	0.0	0.0	15.6	1.9	0.0	7.4
Cycle Q Clear(g_c), s	5.6	0.0	0.0	3.8	14.5	14.5	0.0	0.0	15.6	17.5	0.0	7.4
Prop In Lane	1.00		0.23	1.00		0.05	1.00		0.81	1.00		0.40
Lane Grp Cap(c), veh/h	444	892	902	482	851	888	294	0	487	108	0	349
V/C Ratio(X)	0.49	0.53	0.53	0.32	0.49	0.49	0.48	0.00	0.66	0.20	0.00	0.46
Avail Cap(c_a), veh/h	641	892	902	720	851	888	554	0	725	108	0	349
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.2	0.0	0.0	10.2	16.0	16.0	36.7	0.0	27.6	43.5	0.0	31.7
Incr Delay (d2), s/veh	0.8	2.2	2.2	0.4	2.0	2.0	1.2	0.0	1.6	0.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.6	0.6	1.5	6.0	6.3	3.0	0.0	6.1	0.5	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	2.2	2.2	10.5	18.0	18.0	37.9	0.0	29.2	44.4	0.0	32.7
LnGrp LOS	B	A	A	B	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1165			1010			464			184	
Approach Delay, s/veh		3.9			16.9			31.8			34.1	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		30.9	10.0	49.2	8.9	22.0	12.0	47.1				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		17.6	5.8	2.0	2.0	19.5	7.6	16.5				
Green Ext Time (p_c), s		2.1	0.3	6.0	0.3	0.0	0.4	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			15.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	932	30	20	928	10	0	0	80	10	10	30
Future Vol, veh/h	10	932	30	20	928	10	0	0	80	10	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1013	33	22	1009	11	0	0	87	11	11	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1020	0	0	1046	0	0	-	-	523	1588	2127	510
Stage 1	-	-	-	-	-	-	-	-	-	1059	1059	-
Stage 2	-	-	-	-	-	-	-	-	-	529	1068	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	676	-	-	661	-	-	0	0	499	72	49	509
Stage 1	-	-	-	-	-	-	0	0	-	240	299	-
Stage 2	-	-	-	-	-	-	0	0	-	501	296	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	676	-	-	661	-	-	-	-	499	56	46	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	56	46	-
Stage 1	-	-	-	-	-	-	-	-	-	231	289	-
Stage 2	-	-	-	-	-	-	-	-	-	398	284	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13.7	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	499	676	-	-	661	-	-	509
HCM Lane V/C Ratio	0.174	0.016	-	-	0.033	-	-	0.064
HCM Control Delay (s)	13.7	10.4	-	-	10.6	-	-	12.6
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.2

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	158	70	0	0	0	0	30	30	10	50	0
Future Vol, veh/h	90	158	70	0	0	0	0	30	30	10	50	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	172	76	0	0	0	0	33	33	11	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.9	7.9	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	28%	17%
Vol Thru, %	50%	50%	83%
Vol Right, %	50%	22%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	318	60
LT Vol	0	90	10
Through Vol	30	158	50
RT Vol	30	70	0
Lane Flow Rate	65	346	65
Geometry Grp	1	1	1
Degree of Util (X)	0.081	0.392	0.087
Departure Headway (Hd)	4.489	4.083	4.819
Convergence, Y/N	Yes	Yes	Yes
Cap	802	868	747
Service Time	2.492	2.182	2.822
HCM Lane V/C Ratio	0.081	0.399	0.087
HCM Control Delay	7.9	9.9	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.9	0.3

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	20	48	10	10	10	150	140	40	50	102	60
Future Vol, veh/h	70	20	48	10	10	10	150	140	40	50	102	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	22	52	11	11	11	163	152	43	54	111	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	763	773	144	789	784	174	176	0	0	195	0	0
Stage 1	252	252	-	500	500	-	-	-	-	-	-	-
Stage 2	511	521	-	289	284	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	321	330	903	308	325	869	1400	-	-	1378	-	-
Stage 1	752	698	-	553	543	-	-	-	-	-	-	-
Stage 2	545	532	-	719	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	267	274	903	237	270	869	1400	-	-	1378	-	-
Mov Cap-2 Maneuver	267	274	-	237	270	-	-	-	-	-	-	-
Stage 1	653	667	-	481	472	-	-	-	-	-	-	-
Stage 2	457	462	-	627	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.4	17.1	3.6	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1400	-	-	355	331	1378	-	-
HCM Lane V/C Ratio	0.116	-	-	0.423	0.099	0.039	-	-
HCM Control Delay (s)	7.9	0	-	22.4	17.1	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱		↕			↱			↰	
Traffic Vol, veh/h	97	10	81	20	0	10	0	420	10	10	480	0
Future Vol, veh/h	97	10	81	20	0	10	0	420	10	10	480	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	11	88	22	0	11	0	457	11	11	522	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1012	1012	522	1057	1007	463	-	0	0	468	0	0
Stage 1	544	544	-	463	463	-	-	-	-	-	-	-
Stage 2	468	468	-	594	544	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	218	239	555	203	241	599	0	-	-	1094	-	0
Stage 1	523	519	-	579	564	-	0	-	-	-	-	0
Stage 2	575	561	-	491	519	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	212	236	555	163	238	599	-	-	-	1094	-	-
Mov Cap-2 Maneuver	212	236	-	163	238	-	-	-	-	-	-	-
Stage 1	523	512	-	579	564	-	-	-	-	-	-	-
Stage 2	565	561	-	399	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26	24.7	0	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	212	236	555	215	1094	-
HCM Lane V/C Ratio	-	-	0.497	0.046	0.159	0.152	0.01	-
HCM Control Delay (s)	-	-	37.7	21	12.7	24.7	8.3	0
HCM Lane LOS	-	-	E	C	B	C	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0.1	0.6	0.5	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	3	10	20	70	420	0	21	450	90
Future Vol, veh/h	0	0	0	3	10	20	70	420	0	21	450	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	11	22	76	457	0	23	489	98

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1193	1242	457	587	0	0	457	0	0
Stage 1	609	609	-	-	-	-	-	-	-
Stage 2	584	633	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	206	175	604	988	-	-	1104	-	-
Stage 1	543	485	-	-	-	-	-	-	-
Stage 2	557	473	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	179	0	604	988	-	-	1104	-	-
Mov Cap-2 Maneuver	179	0	-	-	-	-	-	-	-
Stage 1	472	0	-	-	-	-	-	-	-
Stage 2	557	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	1.3	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	988	-	-	461	1104	-	-
HCM Lane V/C Ratio	0.077	-	-	0.078	0.021	-	-
HCM Control Delay (s)	8.9	0	-	13.5	8.3	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Future Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	196	0	65	130	0	0	163	11

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	429	434	130	174	0	-	-	-	0
Stage 1	260	260	-	-	-	-	-	-	-
Stage 2	169	174	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	583	515	920	1403	-	0	0	-	-
Stage 1	783	693	-	-	-	0	0	-	-
Stage 2	861	755	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	554	0	920	1403	-	-	-	-	-
Mov Cap-2 Maneuver	554	0	-	-	-	-	-	-	-
Stage 1	744	0	-	-	-	-	-	-	-
Stage 2	861	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1403	-	554	-	-
HCM Lane V/C Ratio	0.046	-	0.373	-	-
HCM Control Delay (s)	7.7	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	140	10	10	180	50	10	10	10	120	50	60
Future Vol, veh/h	20	140	10	10	180	50	10	10	10	120	50	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	152	11	11	196	54	11	11	11	130	54	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	250	0	0	163	0	0	507	474	158	458	452	223
Stage 1	-	-	-	-	-	-	202	202	-	245	245	-
Stage 2	-	-	-	-	-	-	305	272	-	213	207	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1316	-	-	1416	-	-	476	489	887	513	503	817
Stage 1	-	-	-	-	-	-	800	734	-	759	703	-
Stage 2	-	-	-	-	-	-	705	685	-	789	731	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1316	-	-	1416	-	-	393	476	887	488	489	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	476	-	488	489	-
Stage 1	-	-	-	-	-	-	786	721	-	745	697	-
Stage 2	-	-	-	-	-	-	593	679	-	754	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.4	17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	520	1316	-	-	1416	-	-	546
HCM Lane V/C Ratio	0.063	0.017	-	-	0.008	-	-	0.458
HCM Control Delay (s)	12.4	7.8	0	-	7.6	0	-	17
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	2.4

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	220	103	0	0	150
Future Vol, veh/h	30	220	103	0	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	239	112	0	0	163

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	112	0	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	715	941	-	0	0	-
Stage 1	913	-	-	0	0	-
Stage 2	866	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	715	941	-	-	-	-
Mov Cap-2 Maneuver	715	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	907	-
HCM Lane V/C Ratio	-	0.3	-
HCM Control Delay (s)	-	10.7	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.3	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	240	0	10	190	20	0	0	10	40	0	40
Future Vol, veh/h	20	240	0	10	190	20	0	0	10	40	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	261	0	11	207	22	0	0	11	43	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	229	0	0	261	0	0	567	556	261	551	545	218
Stage 1	-	-	-	-	-	-	305	305	-	240	240	-
Stage 2	-	-	-	-	-	-	262	251	-	311	305	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1339	-	-	1303	-	-	434	439	778	445	446	822
Stage 1	-	-	-	-	-	-	705	662	-	763	707	-
Stage 2	-	-	-	-	-	-	743	699	-	699	662	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1339	-	-	1303	-	-	402	426	778	429	433	822
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	426	-	429	433	-
Stage 1	-	-	-	-	-	-	692	649	-	749	700	-
Stage 2	-	-	-	-	-	-	697	692	-	676	649	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	9.7	12.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	778	1339	-	-	1303	-	-	564
HCM Lane V/C Ratio	0.014	0.016	-	-	0.008	-	-	0.154
HCM Control Delay (s)	9.7	7.7	0	-	7.8	0	-	12.5
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	966	180	106	730	250	0	0	0	350	153	300
Future Volume (veh/h)	258	966	180	106	730	250	0	0	0	350	153	300
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	280	1050	196	115	793	272				380	166	326
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	479	1624	302	145	1264	564				431	453	384
Arrive On Green	0.54	1.00	1.00	0.16	0.71	0.71				0.24	0.24	0.24
Sat Flow, veh/h	1781	2990	557	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	280	623	623	115	793	272				380	166	326
Grp Sat Flow(s),veh/h/ln	1781	1777	1770	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	9.5	0.0	0.0	5.6	10.5	6.8				18.5	6.6	17.7
Cycle Q Clear(g_c), s	9.5	0.0	0.0	5.6	10.5	6.8				18.5	6.6	17.7
Prop In Lane	1.00		0.31	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	479	965	961	145	1264	564				431	453	384
V/C Ratio(X)	0.58	0.65	0.65	0.79	0.63	0.48				0.88	0.37	0.85
Avail Cap(c_a), veh/h	479	965	961	356	1264	564				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	0.0	36.9	9.9	9.4				32.9	28.4	32.5
Incr Delay (d2), s/veh	1.0	1.9	1.9	9.3	2.4	2.9				16.3	0.5	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.5	0.5	2.6	3.0	2.2				9.7	3.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	1.9	1.9	46.3	12.3	12.3				49.2	28.9	46.6
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1526			1180						872	
Approach Delay, s/veh		5.0			15.6						44.3	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			11.3	52.9		25.8	28.2	36.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	36.0		24.0	22.0	32.0				
Max Q Clear Time (g_c+I1), s			7.6	2.0		20.5	11.5	12.5				
Green Ext Time (p_c), s			0.2	11.1		1.3	0.6	6.5				

Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1150	172	100	920	10	214	20	204	50	40	80
Future Volume (veh/h)	30	1150	172	100	920	10	214	20	204	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1250	187	109	1000	11	233	22	222	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1482	220	158	1928	21	249	16	476	52	48	43
Arrive On Green	0.03	0.48	0.48	0.18	1.00	1.00	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	3103	461	1781	3600	40	575	54	1585	0	161	144
Grp Volume(v), veh/h	33	713	724	109	494	517	255	0	222	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1787	1781	1777	1863	630	0	1585	305	0	0
Q Serve(g_s), s	1.6	31.5	32.0	5.2	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	31.5	32.0	5.2	0.0	0.0	27.0	0.0	10.3	27.0	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.02	0.91		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	56	849	854	158	951	998	265	0	476	143	0	0
V/C Ratio(X)	0.59	0.84	0.85	0.69	0.52	0.52	0.96	0.00	0.47	1.29	0.00	0.00
Avail Cap(c_a), veh/h	356	849	854	158	951	998	265	0	476	143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.0	20.5	20.6	35.8	0.0	0.0	35.0	0.0	25.6	29.3	0.0	0.0
Incr Delay (d2), s/veh	9.7	9.8	10.2	9.5	1.6	1.5	44.3	0.0	0.7	171.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	14.4	14.8	2.5	0.4	0.4	8.9	0.0	3.9	9.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	30.3	30.9	45.3	1.6	1.5	79.3	0.0	26.4	200.4	0.0	0.0
LnGrp LOS	D	C	C	D	A	A	E	A	C	F	A	A
Approach Vol, veh/h		1470			1120			477			184	
Approach Delay, s/veh		31.1			5.8			54.7			200.4	
Approach LOS		C			A			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	12.0	47.0		31.0	6.8	52.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		27.0	8.0	43.0		27.0	18.0	33.0				
Max Q Clear Time (g_c+I1), s		29.0	7.2	34.0		29.0	3.6	2.0				
Green Ext Time (p_c), s		0.0	0.0	6.0		0.0	0.0	7.8				

Intersection Summary												
HCM 6th Ctrl Delay			35.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	95	118	10	52	30	139	480	20	30	440	40
Future Volume (veh/h)	70	95	118	10	52	30	139	480	20	30	440	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	103	128	11	57	33	151	522	22	33	478	43
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	144	178	90	184	95	596	1162	49	581	1103	99
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1307	758	942	59	970	499	881	1782	75	862	1691	152
Grp Volume(v), veh/h	76	0	231	101	0	0	151	0	544	33	0	521
Grp Sat Flow(s),veh/h/ln	1307	0	1701	1529	0	0	881	0	1857	862	0	1843
Q Serve(g_s), s	0.0	0.0	6.4	0.1	0.0	0.0	5.1	0.0	7.3	1.0	0.0	6.9
Cycle Q Clear(g_c), s	3.1	0.0	6.4	6.5	0.0	0.0	12.0	0.0	7.3	8.3	0.0	6.9
Prop In Lane	1.00		0.55	0.11		0.33	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	361	0	322	368	0	0	596	0	1211	581	0	1202
V/C Ratio(X)	0.21	0.00	0.72	0.27	0.00	0.00	0.25	0.00	0.45	0.06	0.00	0.43
Avail Cap(c_a), veh/h	604	0	639	678	0	0	596	0	1211	581	0	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	19.2	17.6	0.0	0.0	7.2	0.0	4.3	6.4	0.0	4.3
Incr Delay (d2), s/veh	0.3	0.0	3.0	0.4	0.0	0.0	1.0	0.0	1.2	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.5	0.9	0.0	0.0	0.9	0.0	1.9	0.2	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	0.0	22.2	18.0	0.0	0.0	8.2	0.0	5.5	6.5	0.0	5.4
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		307			101			695			554	
Approach Delay, s/veh		21.2			18.0			6.1			5.5	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		13.6		37.0		13.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		33.0		19.0		33.0		19.0				
Max Q Clear Time (g_c+I1), s		14.0		8.4		10.3		8.5				
Green Ext Time (p_c), s		4.4		1.2		3.7		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	1026	130	140	1031	40	130	92	296	70	120	75
Future Volume (veh/h)	190	1026	130	140	1031	40	130	92	296	70	120	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	1115	141	152	1121	43	141	100	322	76	130	82
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	1497	189	284	1581	61	331	127	410	171	214	135
Arrive On Green	0.09	0.47	0.47	0.07	0.45	0.45	0.08	0.33	0.33	0.20	0.20	0.20
Sat Flow, veh/h	1781	3174	401	1781	3489	134	1781	390	1255	965	1072	676
Grp Volume(v), veh/h	207	623	633	152	571	593	141	0	422	76	0	212
Grp Sat Flow(s),veh/h/ln	1781	1777	1798	1781	1777	1846	1781	0	1644	965	0	1749
Q Serve(g_s), s	5.4	25.7	25.8	4.0	23.3	23.3	5.4	0.0	20.9	7.0	0.0	9.9
Cycle Q Clear(g_c), s	5.4	25.7	25.8	4.0	23.3	23.3	5.4	0.0	20.9	16.5	0.0	9.9
Prop In Lane	1.00		0.22	1.00		0.07	1.00		0.76	1.00		0.39
Lane Grp Cap(c), veh/h	328	838	848	284	805	837	331	0	537	171	0	350
V/C Ratio(X)	0.63	0.74	0.75	0.54	0.71	0.71	0.43	0.00	0.79	0.44	0.00	0.61
Avail Cap(c_a), veh/h	530	838	848	518	805	837	541	0	731	171	0	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.1	19.4	19.4	16.2	19.8	19.8	24.5	0.0	27.4	40.1	0.0	32.8
Incr Delay (d2), s/veh	2.0	5.9	5.9	1.6	5.2	5.0	0.9	0.0	4.0	1.8	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	11.3	11.5	1.6	10.3	10.6	2.3	0.0	8.5	1.7	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	25.3	25.3	17.8	25.1	24.9	25.4	0.0	31.4	41.9	0.0	35.8
LnGrp LOS	B	C	C	B	C	C	C	A	C	D	A	D
Approach Vol, veh/h		1463			1316			563			288	
Approach Delay, s/veh		24.3			24.1			29.9			37.4	
Approach LOS		C			C			C			D	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		33.4	10.2	46.4	11.4	22.0	11.8	44.8				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		22.9	6.0	27.8	7.4	18.5	7.4	25.3				
Green Ext Time (p_c), s		2.6	0.3	0.0	0.2	0.0	0.4	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1336	50	50	1166	20	0	0	100	10	10	40
Future Vol, veh/h	20	1336	50	50	1166	20	0	0	100	10	10	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1452	54	54	1267	22	0	0	109	11	11	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1289	0	0	1506	0	0	-	-	753	2156	2936	645
Stage 1	-	-	-	-	-	-	-	-	-	1386	1386	-
Stage 2	-	-	-	-	-	-	-	-	-	770	1550	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	534	-	-	441	-	-	0	0	352	27	15	415
Stage 1	-	-	-	-	-	-	0	0	-	151	209	-
Stage 2	-	-	-	-	-	-	0	0	-	359	173	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	534	-	-	441	-	-	-	-	352	14	~ 10	415
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	14	~ 10	-
Stage 1	-	-	-	-	-	-	-	-	-	111	184	-
Stage 2	-	-	-	-	-	-	-	-	-	183	128	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	19.7	14.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	352	534	-	-	441	-	-	415
HCM Lane V/C Ratio	0.309	0.041	-	-	0.123	-	-	0.105
HCM Control Delay (s)	19.7	12	-	-	14.3	-	-	14.7
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.4	-	-	0.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	211	70	0	0	0	0	40	40	50	50	0
Future Vol, veh/h	60	211	70	0	0	0	0	40	40	50	50	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	229	76	0	0	0	0	43	43	54	54	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.8	8.3	8.9
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	18%	50%
Vol Thru, %	50%	62%	50%
Vol Right, %	50%	21%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	80	341	100
LT Vol	0	60	50
Through Vol	40	211	50
RT Vol	40	70	0
Lane Flow Rate	87	371	109
Geometry Grp	1	1	1
Degree of Util (X)	0.112	0.445	0.151
Departure Headway (Hd)	4.626	4.324	4.991
Convergence, Y/N	Yes	Yes	Yes
Cap	773	834	717
Service Time	2.663	2.348	3.027
HCM Lane V/C Ratio	0.113	0.445	0.152
HCM Control Delay	8.3	10.8	8.9
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.4	2.3	0.5

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	90	20	48	10	10	0	190	140	20	40	135	60
Future Vol, veh/h	90	20	48	10	10	0	190	140	20	40	135	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	22	52	11	11	0	207	152	22	43	147	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	849	854	180	880	875	163	212	0	0	174	0	0
Stage 1	266	266	-	577	577	-	-	-	-	-	-	-
Stage 2	583	588	-	303	298	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	281	296	863	268	288	882	1358	-	-	1403	-	-
Stage 1	739	689	-	502	502	-	-	-	-	-	-	-
Stage 2	498	496	-	706	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	237	863	199	231	882	1358	-	-	1403	-	-
Mov Cap-2 Maneuver	230	237	-	199	231	-	-	-	-	-	-	-
Stage 1	614	665	-	417	417	-	-	-	-	-	-	-
Stage 2	403	412	-	619	644	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.5	23.7	4.4	1.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1358	-	-	297	214	1403	-	-
HCM Lane V/C Ratio	0.152	-	-	0.578	0.102	0.031	-	-
HCM Control Delay (s)	8.1	0	-	32.5	23.7	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	3.4	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	26.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↗		↕			↱			↲	
Traffic Vol, veh/h	158	30	103	20	0	40	0	520	0	10	580	0
Future Vol, veh/h	158	30	103	20	0	40	0	520	0	10	580	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	172	33	112	22	0	43	0	565	0	11	630	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1239	1217	630	1290	1217	565	-	0	0	565	0	0
Stage 1	652	652	-	565	565	-	-	-	-	-	-	-
Stage 2	587	565	-	725	652	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 152	181	482	140	181	524	0	-	-	1007	-	0
Stage 1	457	464	-	510	508	-	0	-	-	-	-	0
Stage 2	496	508	-	416	464	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 138	178	482	91	178	524	-	-	-	1007	-	-
Mov Cap-2 Maneuver	~ 138	178	-	91	178	-	-	-	-	-	-	-
Stage 1	457	456	-	510	508	-	-	-	-	-	-	-
Stage 2	455	508	-	291	456	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	127.1	30.9	0	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	138	178	482	203	1007	-
HCM Lane V/C Ratio	-	-	1.244	0.183	0.232	0.321	0.011	-
HCM Control Delay (s)	-	-	218.9	29.7	14.7	30.9	8.6	0
HCM Lane LOS	-	-	F	D	B	D	A	A
HCM 95th %tile Q(veh)	-	-	10.4	0.7	0.9	1.3	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	12	20	10	70	520	10	33	510	100
Future Vol, veh/h	0	0	0	12	20	10	70	520	10	33	510	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	22	11	76	565	11	36	554	109

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1404	1458	571	663	0	0	576	0	0
Stage 1	723	723	-	-	-	-	-	-	-
Stage 2	681	735	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	154	129	520	926	-	-	997	-	-
Stage 1	481	431	-	-	-	-	-	-	-
Stage 2	503	425	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	128	0	520	926	-	-	997	-	-
Mov Cap-2 Maneuver	128	0	-	-	-	-	-	-	-
Stage 1	398	0	-	-	-	-	-	-	-
Stage 2	503	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29	1.1	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	195	997	-	-
HCM Lane V/C Ratio	0.082	-	-	0.234	0.036	-	-
HCM Control Delay (s)	9.2	0	-	29	8.7	0	-
HCM Lane LOS	A	A	-	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.9	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Future Vol, veh/h	0	0	0	10	180	0	60	120	0	0	150	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	196	0	65	130	0	0	163	11

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	429	434	130	174	0	-	-	-	0
Stage 1	260	260	-	-	-	-	-	-	-
Stage 2	169	174	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	583	515	920	1403	-	0	0	-	-
Stage 1	783	693	-	-	-	0	0	-	-
Stage 2	861	755	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	554	0	920	1403	-	-	-	-	-
Mov Cap-2 Maneuver	554	0	-	-	-	-	-	-	-
Stage 1	744	0	-	-	-	-	-	-	-
Stage 2	861	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1403	-	554	-	-
HCM Lane V/C Ratio	0.046	-	0.373	-	-
HCM Control Delay (s)	7.7	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	210	10	0	230	41	10	0	10	133	40	50
Future Vol, veh/h	20	210	10	0	230	41	10	0	10	133	40	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	228	11	0	250	45	11	0	11	145	43	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	295	0	0	239	0	0	599	573	234	556	556	273
Stage 1	-	-	-	-	-	-	278	278	-	273	273	-
Stage 2	-	-	-	-	-	-	321	295	-	283	283	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1266	-	-	1328	-	-	413	430	805	442	439	766
Stage 1	-	-	-	-	-	-	728	680	-	733	684	-
Stage 2	-	-	-	-	-	-	691	669	-	724	677	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1266	-	-	1328	-	-	349	421	805	429	430	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	421	-	429	430	-
Stage 1	-	-	-	-	-	-	713	666	-	718	684	-
Stage 2	-	-	-	-	-	-	601	669	-	700	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.7	20.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	487	1266	-	-	1328	-	-	476
HCM Lane V/C Ratio	0.045	0.017	-	-	-	-	-	0.509
HCM Control Delay (s)	12.7	7.9	0	-	0	-	-	20.2
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	2.8

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	240	103	0	0	183
Future Vol, veh/h	60	240	103	0	0	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	261	112	0	0	199

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	311	112	0	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	681	941	-	0	0	-
Stage 1	913	-	-	0	0	-
Stage 2	835	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	681	941	-	-	-	-
Mov Cap-2 Maneuver	681	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	835	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	874	-
HCM Lane V/C Ratio	-	0.373	-
HCM Control Delay (s)	-	11.5	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.7	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	263	10	10	191	20	10	0	10	50	0	60
Future Vol, veh/h	50	263	10	10	191	20	10	0	10	50	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	286	11	11	208	22	11	0	11	54	0	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	297	0	0	674	652	292	646	646	219
Stage 1	-	-	-	-	-	-	400	400	-	241	241	-
Stage 2	-	-	-	-	-	-	274	252	-	405	405	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1338	-	-	1264	-	-	368	387	747	385	390	821
Stage 1	-	-	-	-	-	-	626	602	-	762	706	-
Stage 2	-	-	-	-	-	-	732	698	-	622	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1338	-	-	1264	-	-	324	365	747	363	367	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	324	365	-	363	367	-
Stage 1	-	-	-	-	-	-	596	573	-	725	699	-
Stage 2	-	-	-	-	-	-	667	691	-	584	569	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.4	13.4	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	452	1338	-	-	1264	-	-	522
HCM Lane V/C Ratio	0.048	0.041	-	-	0.009	-	-	0.229
HCM Control Delay (s)	13.4	7.8	0	-	7.9	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.9

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	666	100	201	520	241	0	0	0	245	226	235
Future Volume (veh/h)	229	666	100	201	520	241	0	0	0	245	226	235
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	249	724	109	218	565	262				266	246	255
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	555	1627	245	252	1264	564				356	373	316
Arrive On Green	0.62	1.00	1.00	0.28	0.71	0.71				0.20	0.20	0.20
Sat Flow, veh/h	1781	3097	466	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	249	415	418	218	565	262				266	246	255
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	6.6	0.0	0.0	10.5	6.1	6.4				12.6	10.9	13.8
Cycle Q Clear(g_c), s	6.6	0.0	0.0	10.5	6.1	6.4				12.6	10.9	13.8
Prop In Lane	1.00		0.26	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	555	933	938	252	1264	564				356	373	316
V/C Ratio(X)	0.45	0.44	0.45	0.86	0.45	0.46				0.75	0.66	0.81
Avail Cap(c_a), veh/h	555	933	938	396	1264	564				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	0.0	0.0	31.4	9.3	9.3				33.9	33.2	34.4
Incr Delay (d2), s/veh	0.5	1.4	1.3	11.3	1.1	2.7				4.5	2.0	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.4	0.4	4.6	2.0	2.1				5.8	5.1	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.4	1.4	1.3	42.7	10.4	12.0				38.4	35.2	42.5
LnGrp LOS	B	A	A	D	B	B				D	D	D
Approach Vol, veh/h		1082			1045						767	
Approach Delay, s/veh		4.1			17.5						38.7	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			16.8	51.3		22.0	32.0	36.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			20.0	34.0		24.0	22.0	32.0				
Max Q Clear Time (g_c+I1), s			12.5	2.0		15.8	8.6	8.4				
Green Ext Time (p_c), s			0.4	6.1		2.2	0.6	5.0				

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	731	245	26	729	0	197	30	158	10	20	70
Future Volume (veh/h)	50	731	245	26	729	0	197	30	158	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	795	266	28	792	0	214	33	172	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	1380	461	50	1264	0	176	16	493	44	77	178
Arrive On Green	0.20	0.53	0.53	0.06	0.71	0.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	2615	875	1781	3647	0	326	50	1585	0	248	571
Grp Volume(v), veh/h	54	540	521	28	792	0	247	0	172	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	0	377	0	1585	819	0	0
Q Serve(g_s), s	2.3	18.6	18.6	1.4	10.5	0.0	0.0	0.0	7.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	18.6	18.6	1.4	10.5	0.0	28.0	0.0	7.5	28.0	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.00	0.87		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	356	937	904	50	1264	0	192	0	493	299	0	0
V/C Ratio(X)	0.15	0.58	0.58	0.56	0.63	0.00	1.29	0.00	0.35	0.36	0.00	0.00
Avail Cap(c_a), veh/h	356	937	904	99	1264	0	192	0	493	299	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.7	14.4	14.4	41.9	9.9	0.0	36.4	0.0	24.0	24.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.6	2.7	8.7	2.1	0.0	162.8	0.0	0.4	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.6	7.4	0.7	3.0	0.0	12.9	0.0	2.8	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	17.0	17.1	50.7	12.0	0.0	199.2	0.0	24.4	24.7	0.0	0.0
LnGrp LOS	C	B	B	D	B	A	F	A	C	C	A	A
Approach Vol, veh/h		1115			820			419			109	
Approach Delay, s/veh		17.7			13.4			127.5			24.7	
Approach LOS		B			B			F			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.0	6.5	51.5		32.0	22.0	36.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		28.0	5.0	45.0		28.0	18.0	32.0				
Max Q Clear Time (g_c+I1), s		30.0	3.4	20.6		30.0	4.3	12.5				
Green Ext Time (p_c), s		0.0	0.0	8.0		0.0	0.1	5.5				

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	76	182	0	56	18	140	455	10	16	405	39
Future Volume (veh/h)	50	76	182	0	56	18	140	455	10	16	405	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	83	198	0	61	20	152	495	11	17	440	42
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	109	260	0	300	98	585	1133	25	569	1045	100
Arrive On Green	0.22	0.22	0.22	0.00	0.22	0.22	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1317	490	1170	0	1349	442	913	1823	41	893	1681	160
Grp Volume(v), veh/h	54	0	281	0	0	81	152	0	506	17	0	482
Grp Sat Flow(s),veh/h/ln	1317	0	1660	0	0	1791	913	0	1863	893	0	1841
Q Serve(g_s), s	1.8	0.0	8.2	0.0	0.0	1.9	5.3	0.0	7.3	0.5	0.0	6.9
Cycle Q Clear(g_c), s	3.7	0.0	8.2	0.0	0.0	1.9	12.2	0.0	7.3	7.8	0.0	6.9
Prop In Lane	1.00		0.70	0.00		0.25	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	385	0	370	0	0	399	585	0	1159	569	0	1145
V/C Ratio(X)	0.14	0.00	0.76	0.00	0.00	0.20	0.26	0.00	0.44	0.03	0.00	0.42
Avail Cap(c_a), veh/h	603	0	645	0	0	696	585	0	1159	569	0	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	18.7	0.0	0.0	16.3	8.1	0.0	5.0	7.1	0.0	5.0
Incr Delay (d2), s/veh	0.2	0.0	3.2	0.0	0.0	0.2	1.1	0.0	1.2	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.1	0.0	0.0	0.7	1.0	0.0	2.1	0.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	22.0	0.0	0.0	16.5	9.2	0.0	6.2	7.2	0.0	6.1
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		335			81			658			499	
Approach Delay, s/veh		21.3			16.5			6.9			6.2	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		15.5		36.0		15.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		14.2		10.2		9.8		3.9				
Green Ext Time (p_c), s		4.0		1.3		3.3		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	754	97	125	783	20	77	73	265	20	87	62
Future Volume (veh/h)	184	754	97	125	783	20	77	73	265	20	87	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	820	105	136	851	22	84	79	288	22	95	67
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	1627	208	484	1738	45	284	103	377	80	204	144
Arrive On Green	0.16	1.00	1.00	0.06	0.49	0.49	0.05	0.29	0.29	0.20	0.20	0.20
Sat Flow, veh/h	1781	3168	406	1781	3539	91	1781	353	1286	1015	1021	720
Grp Volume(v), veh/h	200	460	465	136	427	446	84	0	367	22	0	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1797	1781	1777	1854	1781	0	1639	1015	0	1741
Q Serve(g_s), s	5.1	0.0	0.0	3.3	14.5	14.5	0.0	0.0	18.4	0.0	0.0	7.4
Cycle Q Clear(g_c), s	5.1	0.0	0.0	3.3	14.5	14.5	0.0	0.0	18.4	18.0	0.0	7.4
Prop In Lane	1.00		0.23	1.00		0.05	1.00		0.78	1.00		0.41
Lane Grp Cap(c), veh/h	436	912	923	484	873	911	284	0	481	80	0	348
V/C Ratio(X)	0.46	0.50	0.50	0.28	0.49	0.49	0.30	0.00	0.76	0.27	0.00	0.47
Avail Cap(c_a), veh/h	646	912	923	733	873	911	553	0	728	80	0	348
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	9.8	15.3	15.3	35.4	0.0	29.0	45.0	0.0	31.8
Incr Delay (d2), s/veh	0.8	2.0	2.0	0.3	2.0	1.9	0.6	0.0	2.6	1.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.5	0.5	1.3	6.0	6.2	1.7	0.0	7.3	0.5	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	2.0	2.0	10.1	17.3	17.2	35.9	0.0	31.6	46.8	0.0	32.7
LnGrp LOS	B	A	A	B	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1125			1009			451			184	
Approach Delay, s/veh		3.5			16.3			32.4			34.4	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		30.4	9.4	50.2	8.4	22.0	11.4	48.2				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		20.4	5.3	2.0	2.0	20.0	7.1	16.5				
Green Ext Time (p_c), s		2.4	0.3	5.8	0.2	0.0	0.4	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	903	8	3	932	10	0	0	63	10	10	30
Future Vol, veh/h	10	903	8	3	932	10	0	0	63	10	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	982	9	3	1013	11	0	0	68	11	11	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1024	0	0	991	0	0	-	-	496	1538	2038	512
Stage 1	-	-	-	-	-	-	-	-	-	1025	1025	-
Stage 2	-	-	-	-	-	-	-	-	-	513	1013	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	674	-	-	693	-	-	0	0	519	79	56	507
Stage 1	-	-	-	-	-	-	0	0	-	252	311	-
Stage 2	-	-	-	-	-	-	0	0	-	512	315	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	674	-	-	693	-	-	-	-	519	66	54	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	66	54	-
Stage 1	-	-	-	-	-	-	-	-	-	243	310	-
Stage 2	-	-	-	-	-	-	-	-	-	428	304	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	674	-	-	693	-	-	507
HCM Lane V/C Ratio	0.132	0.016	-	-	0.005	-	-	0.064
HCM Control Delay (s)	13	10.4	-	-	10.2	-	-	12.6
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	221	68	0	0	0	0	24	28	6	32	0
Future Vol, veh/h	90	221	68	0	0	0	0	24	28	6	32	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	240	74	0	0	0	0	26	30	7	35	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.6	7.9	8.3
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	24%	16%
Vol Thru, %	46%	58%	84%
Vol Right, %	54%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	52	379	38
LT Vol	0	90	6
Through Vol	24	221	32
RT Vol	28	68	0
Lane Flow Rate	57	412	41
Geometry Grp	1	1	1
Degree of Util (X)	0.072	0.463	0.057
Departure Headway (Hd)	4.577	4.042	4.95
Convergence, Y/N	Yes	Yes	Yes
Cap	787	877	727
Service Time	2.58	2.123	2.954
HCM Lane V/C Ratio	0.072	0.47	0.056
HCM Control Delay	7.9	10.6	8.3
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.2	2.5	0.2

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	20	68	10	10	10	135	140	40	50	98	31
Future Vol, veh/h	70	20	68	10	10	10	135	140	40	50	98	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	22	74	11	11	11	147	152	43	54	107	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	711	721	124	748	717	174	141	0	0	195	0	0
Stage 1	232	232	-	468	468	-	-	-	-	-	-	-
Stage 2	479	489	-	280	249	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	348	353	927	329	355	869	1442	-	-	1378	-	-
Stage 1	771	713	-	575	561	-	-	-	-	-	-	-
Stage 2	568	549	-	727	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	295	299	927	253	301	869	1442	-	-	1378	-	-
Mov Cap-2 Maneuver	295	299	-	253	301	-	-	-	-	-	-	-
Stage 1	682	682	-	509	496	-	-	-	-	-	-	-
Stage 2	486	486	-	620	671	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.4	16.1	3.3	2.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	419	356	1378	-	-
HCM Lane V/C Ratio	0.102	-	-	0.41	0.092	0.039	-	-
HCM Control Delay (s)	7.8	0	-	19.4	16.1	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↗		↕			↱			↳	
Traffic Vol, veh/h	154	10	81	20	0	10	0	397	10	10	459	0
Future Vol, veh/h	154	10	81	20	0	10	0	397	10	10	459	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	167	11	88	22	0	11	0	432	11	11	499	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	964	964	499	1009	959	438	-	0	0	443	0	0
Stage 1	521	521	-	438	438	-	-	-	-	-	-	-
Stage 2	443	443	-	571	521	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	235	255	572	219	257	619	0	-	-	1117	-	0
Stage 1	539	532	-	597	579	-	0	-	-	-	-	0
Stage 2	594	576	-	506	532	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	228	251	572	177	253	619	-	-	-	1117	-	-
Mov Cap-2 Maneuver	228	251	-	177	253	-	-	-	-	-	-	-
Stage 1	539	525	-	597	579	-	-	-	-	-	-	-
Stage 2	584	576	-	413	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	39.4	23	0	0.2
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	228	251	572	232	1117	-
HCM Lane V/C Ratio	-	-	0.734	0.043	0.154	0.141	0.01	-
HCM Control Delay (s)	-	-	54.8	20	12.4	23	8.3	0
HCM Lane LOS	-	-	F	C	B	C	A	A
HCM 95th %tile Q(veh)	-	-	5	0.1	0.5	0.5	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	7	18	70	403	0	22	430	90
Future Vol, veh/h	0	0	0	9	7	18	70	403	0	22	430	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	8	20	76	438	0	24	467	98

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1154	1203	438	565	0	0	438	0	0
Stage 1	590	590	-	-	-	-	-	-	-
Stage 2	564	613	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	218	184	619	1007	-	-	1122	-	-
Stage 1	554	495	-	-	-	-	-	-	-
Stage 2	569	483	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	190	0	619	1007	-	-	1122	-	-
Mov Cap-2 Maneuver	190	0	-	-	-	-	-	-	-
Stage 1	483	0	-	-	-	-	-	-	-
Stage 2	569	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	1.3	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1007	-	-	353	1122	-	-
HCM Lane V/C Ratio	0.076	-	-	0.105	0.021	-	-
HCM Control Delay (s)	8.9	0	-	16.4	8.3	0	-
HCM Lane LOS	A	A	-	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	177	0	60	113	0	0	131	10
Future Vol, veh/h	0	0	0	10	177	0	60	113	0	0	131	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	192	0	65	123	0	0	142	11

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	401	406	123	153	0	-	-	-	0
Stage 1	253	253	-	-	-	-	-	-	-
Stage 2	148	153	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	605	534	928	1428	-	0	0	-	-
Stage 1	789	698	-	-	-	0	0	-	-
Stage 2	880	771	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	575	0	928	1428	-	-	-	-	-
Mov Cap-2 Maneuver	575	0	-	-	-	-	-	-	-
Stage 1	750	0	-	-	-	-	-	-	-
Stage 2	880	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	2.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1428	-	575	-	-
HCM Lane V/C Ratio	0.046	-	0.353	-	-
HCM Control Delay (s)	7.6	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	138	10	10	165	74	10	10	10	146	50	50
Future Vol, veh/h	20	138	10	10	165	74	10	10	10	146	50	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	150	11	11	179	80	11	11	11	159	54	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	161	0	0	495	481	156	452	446	219
Stage 1	-	-	-	-	-	-	200	200	-	241	241	-
Stage 2	-	-	-	-	-	-	295	281	-	211	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1306	-	-	1418	-	-	485	485	890	518	507	821
Stage 1	-	-	-	-	-	-	802	736	-	762	706	-
Stage 2	-	-	-	-	-	-	713	678	-	791	732	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1306	-	-	1418	-	-	406	471	890	492	493	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	471	-	492	493	-
Stage 1	-	-	-	-	-	-	787	722	-	748	700	-
Stage 2	-	-	-	-	-	-	609	672	-	755	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.3	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	525	1306	-	-	1418	-	-	536
HCM Lane V/C Ratio	0.062	0.017	-	-	0.008	-	-	0.499
HCM Control Delay (s)	12.3	7.8	0	-	7.6	0	-	18.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	2.8

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕		↕			↕
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	217	133	0	0	166
Future Vol, veh/h	30	217	133	0	0	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	236	145	0	0	180

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	325	145	0	-	-	-
Stage 1	145	-	-	-	-	-
Stage 2	180	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	669	902	-	0	0	-
Stage 1	882	-	-	0	0	-
Stage 2	851	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	669	902	-	-	-	-
Mov Cap-2 Maneuver	669	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	865	-
HCM Lane V/C Ratio	-	0.31	-
HCM Control Delay (s)	-	11	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.3	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	266	0	10	210	15	0	0	10	32	0	29
Future Vol, veh/h	18	266	0	10	210	15	0	0	10	32	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	289	0	11	228	16	0	0	11	35	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	244	0	0	289	0	0	603	595	289	593	587	236
Stage 1	-	-	-	-	-	-	329	329	-	258	258	-
Stage 2	-	-	-	-	-	-	274	266	-	335	329	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1322	-	-	1273	-	-	411	417	750	417	422	803
Stage 1	-	-	-	-	-	-	684	646	-	747	694	-
Stage 2	-	-	-	-	-	-	732	689	-	679	646	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1322	-	-	1273	-	-	386	405	750	402	410	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	386	405	-	402	410	-
Stage 1	-	-	-	-	-	-	672	634	-	734	687	-
Stage 2	-	-	-	-	-	-	696	682	-	657	634	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	9.9	12.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	750	1322	-	-	1273	-	-	527
HCM Lane V/C Ratio	0.014	0.015	-	-	0.009	-	-	0.126
HCM Control Delay (s)	9.9	7.8	0	-	7.9	0	-	12.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	931	180	185	682	230	0	0	0	325	192	291
Future Volume (veh/h)	280	931	180	185	682	230	0	0	0	325	192	291
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	304	1012	196	201	741	250				353	209	316
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	537	1493	289	235	1185	528				413	434	368
Arrive On Green	0.60	1.00	1.00	0.26	0.67	0.67				0.23	0.23	0.23
Sat Flow, veh/h	1781	2970	574	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	304	605	603	201	741	250				353	209	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	9.3	0.0	0.0	9.7	10.7	6.9				17.1	8.7	17.2
Cycle Q Clear(g_c), s	9.3	0.0	0.0	9.7	10.7	6.9				17.1	8.7	17.2
Prop In Lane	1.00		0.32	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	537	893	888	235	1185	528				413	434	368
V/C Ratio(X)	0.57	0.68	0.68	0.86	0.63	0.47				0.85	0.48	0.86
Avail Cap(c_a), veh/h	537	893	888	356	1185	528				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	32.3	11.8	11.2				33.1	29.9	33.1
Incr Delay (d2), s/veh	0.9	2.5	2.6	12.2	2.5	3.0				12.7	0.8	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.6	0.6	4.3	3.3	2.3				8.6	3.9	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	2.5	2.6	44.5	14.3	14.2				45.8	30.7	47.8
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1512			1192						878	
Approach Delay, s/veh		5.1			19.4						42.9	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			15.9	49.2		24.9	31.1	34.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	36.0		24.0	24.0	30.0				
Max Q Clear Time (g_c+I1), s			11.7	2.0		19.2	11.3	12.7				
Green Ext Time (p_c), s			0.3	10.6		1.7	0.7	5.7				

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1086	232	73	890	10	237	20	220	50	40	80
Future Volume (veh/h)	30	1086	232	73	890	10	237	20	220	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1180	252	79	967	11	258	22	239	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1424	302	100	1847	21	260	16	511	52	48	43
Arrive On Green	0.03	0.49	0.49	0.11	1.00	1.00	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	2918	618	1781	3599	41	569	49	1585	0	150	134
Grp Volume(v), veh/h	33	715	717	79	477	501	280	0	239	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1863	618	0	1585	284	0	0
Q Serve(g_s), s	1.6	31.0	31.7	3.9	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	31.0	31.7	3.9	0.0	0.0	29.0	0.0	10.8	29.0	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.02	0.92		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	56	867	859	100	912	956	276	0	511	143	0	0
V/C Ratio(X)	0.59	0.82	0.84	0.79	0.52	0.52	1.01	0.00	0.47	1.28	0.00	0.00
Avail Cap(c_a), veh/h	356	867	859	119	912	956	276	0	511	143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.0	19.7	19.9	39.4	0.0	0.0	34.5	0.0	24.3	28.0	0.0	0.0
Incr Delay (d2), s/veh	9.7	8.8	9.4	20.7	1.7	1.6	58.0	0.0	0.7	170.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	14.0	14.2	2.2	0.4	0.4	10.5	0.0	4.0	9.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	28.5	29.3	60.1	1.7	1.6	92.5	0.0	25.0	198.2	0.0	0.0
LnGrp LOS	D	C	C	E	A	A	F	A	C	F	A	A
Approach Vol, veh/h		1465			1057			519			184	
Approach Delay, s/veh		29.5			6.0			61.4			198.2	
Approach LOS		C			A			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.0	9.1	47.9		33.0	6.8	50.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		29.0	6.0	43.0		29.0	18.0	31.0				
Max Q Clear Time (g_c+I1), s		31.0	5.9	33.7		31.0	3.6	2.0				
Green Ext Time (p_c), s		0.0	0.0	6.2		0.0	0.0	7.3				

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	99	131	10	56	28	153	466	20	26	424	38
Future Volume (veh/h)	70	99	131	10	56	28	153	466	20	26	424	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	108	142	11	61	30	166	507	22	28	461	41
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	149	196	91	211	93	593	1134	49	575	1079	96
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1306	733	964	58	1037	456	896	1779	77	874	1693	151
Grp Volume(v), veh/h	76	0	250	102	0	0	166	0	529	28	0	502
Grp Sat Flow(s),veh/h/ln	1306	0	1697	1551	0	0	896	0	1856	874	0	1843
Q Serve(g_s), s	0.0	0.0	6.9	0.1	0.0	0.0	5.7	0.0	7.2	0.8	0.0	6.8
Cycle Q Clear(g_c), s	3.2	0.0	6.9	7.0	0.0	0.0	12.5	0.0	7.2	8.1	0.0	6.8
Prop In Lane	1.00		0.57	0.11		0.29	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	368	0	345	394	0	0	593	0	1184	575	0	1175
V/C Ratio(X)	0.21	0.00	0.73	0.26	0.00	0.00	0.28	0.00	0.45	0.05	0.00	0.43
Avail Cap(c_a), veh/h	623	0	676	720	0	0	593	0	1184	575	0	1175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	18.7	16.9	0.0	0.0	7.6	0.0	4.6	6.7	0.0	4.5
Incr Delay (d2), s/veh	0.3	0.0	2.9	0.3	0.0	0.0	1.2	0.0	1.2	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.7	0.9	0.0	0.0	1.0	0.0	2.0	0.1	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	21.6	17.3	0.0	0.0	8.8	0.0	5.8	6.8	0.0	5.7
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		326			102			695			530	
Approach Delay, s/veh		20.7			17.3			6.5			5.7	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		14.2		36.0		14.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		14.5		8.9		10.1		9.0				
Green Ext Time (p_c), s		4.2		1.3		3.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	1012	126	125	1048	40	77	108	316	70	116	79
Future Volume (veh/h)	176	1012	126	125	1048	40	77	108	316	70	116	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	1100	137	136	1139	43	84	117	343	76	126	86
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	1553	193	308	1640	62	304	133	389	129	229	156
Arrive On Green	0.11	0.65	0.65	0.06	0.47	0.47	0.05	0.32	0.32	0.22	0.22	0.22
Sat Flow, veh/h	1781	3181	395	1781	3492	132	1781	419	1230	932	1036	707
Grp Volume(v), veh/h	191	614	623	136	579	603	84	0	460	76	0	212
Grp Sat Flow(s),veh/h/ln	1781	1777	1799	1781	1777	1847	1781	0	1649	932	0	1743
Q Serve(g_s), s	4.9	20.2	20.3	3.5	23.1	23.1	3.1	0.0	23.8	4.7	0.0	9.7
Cycle Q Clear(g_c), s	4.9	20.2	20.3	3.5	23.1	23.1	3.1	0.0	23.8	19.9	0.0	9.7
Prop In Lane	1.00		0.22	1.00		0.07	1.00		0.75	1.00		0.41
Lane Grp Cap(c), veh/h	324	868	879	308	834	867	304	0	522	129	0	385
V/C Ratio(X)	0.59	0.71	0.71	0.44	0.69	0.69	0.28	0.00	0.88	0.59	0.00	0.55
Avail Cap(c_a), veh/h	537	868	879	555	834	867	568	0	733	129	0	385
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	11.6	11.6	13.4	18.8	18.8	24.3	0.0	29.1	43.5	0.0	31.1
Incr Delay (d2), s/veh	1.7	4.8	4.8	1.0	4.7	4.6	0.5	0.0	9.1	7.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.8	6.9	1.4	10.0	10.4	1.3	0.0	10.4	1.9	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	16.4	16.4	14.4	23.5	23.4	24.8	0.0	38.2	50.5	0.0	32.8
LnGrp LOS	B	B	B	B	C	C	C	A	D	D	A	C
Approach Vol, veh/h		1428			1318			544			288	
Approach Delay, s/veh		16.4			22.5			36.2			37.5	
Approach LOS		B			C			D			D	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		32.5	9.6	48.0	8.6	23.9	11.2	46.3				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		25.8	5.5	22.3	5.1	21.9	6.9	25.1				
Green Ext Time (p_c), s		2.7	0.3	0.0	0.1	0.0	0.4	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.4									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1316	31	10	1177	0	0	0	78	10	10	40
Future Vol, veh/h	20	1316	31	10	1177	0	0	0	78	10	10	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1430	34	11	1279	0	0	0	85	11	11	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1279	0	0	1464	0	0	-	-	732	2060	2809	640
Stage 1	-	-	-	-	-	-	-	-	-	1301	1301	-
Stage 2	-	-	-	-	-	-	-	-	-	759	1508	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	539	-	-	457	-	-	0	0	364	32	18	418
Stage 1	-	-	-	-	-	-	0	0	-	170	229	-
Stage 2	-	-	-	-	-	-	0	0	-	365	182	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	539	-	-	457	-	-	-	-	364	20	14	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	20	14	-
Stage 1	-	-	-	-	-	-	-	-	-	132	224	-
Stage 2	-	-	-	-	-	-	-	-	-	218	141	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	17.9	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	539	-	-	457	-	-	418
HCM Lane V/C Ratio	0.233	0.04	-	-	0.024	-	-	0.104
HCM Control Delay (s)	17.9	12	-	-	13.1	-	-	14.6
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	267	67	0	0	0	0	33	36	45	32	0
Future Vol, veh/h	60	267	67	0	0	0	0	33	36	45	32	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	290	73	0	0	0	0	36	39	49	35	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.6	8.3	8.8
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	15%	58%
Vol Thru, %	48%	68%	42%
Vol Right, %	52%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	69	394	77
LT Vol	0	60	45
Through Vol	33	267	32
RT Vol	36	67	0
Lane Flow Rate	75	428	84
Geometry Grp	1	1	1
Degree of Util (X)	0.098	0.506	0.119
Departure Headway (Hd)	4.706	4.257	5.12
Convergence, Y/N	Yes	Yes	Yes
Cap	761	848	700
Service Time	2.741	2.278	3.153
HCM Lane V/C Ratio	0.099	0.505	0.12
HCM Control Delay	8.3	11.6	8.8
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.3	2.9	0.4

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	90	20	71	10	10	0	181	140	20	40	125	22
Future Vol, veh/h	90	20	71	10	10	0	181	140	20	40	125	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	22	77	11	11	0	197	152	22	43	136	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	797	802	148	841	803	163	160	0	0	174	0	0
Stage 1	234	234	-	557	557	-	-	-	-	-	-	-
Stage 2	563	568	-	284	246	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	305	317	899	284	317	882	1419	-	-	1403	-	-
Stage 1	769	711	-	515	512	-	-	-	-	-	-	-
Stage 2	511	506	-	723	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	254	259	899	209	259	882	1419	-	-	1403	-	-
Mov Cap-2 Maneuver	254	259	-	209	259	-	-	-	-	-	-	-
Stage 1	651	687	-	436	433	-	-	-	-	-	-	-
Stage 2	421	428	-	618	679	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27	22.2	4.2	1.6
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	355	231	1403	-	-
HCM Lane V/C Ratio	0.139	-	-	0.554	0.094	0.031	-	-
HCM Control Delay (s)	7.9	0	-	27	22.2	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	3.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	46.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↗		↕			↱			↰	
Traffic Vol, veh/h	208	30	100	20	0	40	0	494	0	10	557	0
Future Vol, veh/h	208	30	100	20	0	40	0	494	0	10	557	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	33	109	22	0	43	0	537	0	11	605	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1186	1164	605	1235	1164	537	-	0	0	537	0	0
Stage 1	627	627	-	537	537	-	-	-	-	-	-	-
Stage 2	559	537	-	698	627	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 166	194	498	153	194	544	0	-	-	1031	-	0
Stage 1	471	476	-	528	523	-	0	-	-	-	-	0
Stage 2	513	523	-	431	476	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 151	191	498	103	191	544	-	-	-	1031	-	-
Mov Cap-2 Maneuver	~ 151	191	-	103	191	-	-	-	-	-	-	-
Stage 1	471	468	-	528	523	-	-	-	-	-	-	-
Stage 2	472	523	-	308	468	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	197.3	27.5	0	0.2
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	151	191	498	224	1031	-
HCM Lane V/C Ratio	-	-	1.497	0.171	0.218	0.291	0.011	-
HCM Control Delay (s)	-	-	$ 309.8	27.7	14.2	27.5	8.5	0
HCM Lane LOS	-	-	F	D	B	D	A	A
HCM 95th %tile Q(veh)	-	-	15	0.6	0.8	1.2	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	18	18	8	70	504	10	34	488	100
Future Vol, veh/h	0	0	0	18	18	8	70	504	10	34	488	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	20	20	9	76	548	11	37	530	109

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1365	1419	554	639	0	0	559	0	0
Stage 1	706	706	-	-	-	-	-	-	-
Stage 2	659	713	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	162	137	532	945	-	-	1012	-	-
Stage 1	489	439	-	-	-	-	-	-	-
Stage 2	515	435	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	135	0	532	945	-	-	1012	-	-
Mov Cap-2 Maneuver	135	0	-	-	-	-	-	-	-
Stage 1	407	0	-	-	-	-	-	-	-
Stage 2	515	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.1	1.1	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	945	-	-	175	1012	-	-
HCM Lane V/C Ratio	0.081	-	-	0.273	0.037	-	-
HCM Control Delay (s)	9.1	0	-	33.1	8.7	0	-
HCM Lane LOS	A	A	-	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.1	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	178	0	60	111	0	0	131	10
Future Vol, veh/h	0	0	0	10	178	0	60	111	0	0	131	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	193	0	65	121	0	0	142	11

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	399	404	121	153	0	-	-	-	0
Stage 1	251	251	-	-	-	-	-	-	-
Stage 2	148	153	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	607	536	930	1428	-	0	0	-	-
Stage 1	791	699	-	-	-	0	0	-	-
Stage 2	880	771	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	577	0	930	1428	-	-	-	-	-
Mov Cap-2 Maneuver	577	0	-	-	-	-	-	-	-
Stage 1	752	0	-	-	-	-	-	-	-
Stage 2	880	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	2.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1428	-	577	-	-
HCM Lane V/C Ratio	0.046	-	0.354	-	-
HCM Control Delay (s)	7.6	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	207	10	0	214	69	10	0	10	159	40	37
Future Vol, veh/h	20	207	10	0	214	69	10	0	10	159	40	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	225	11	0	233	75	11	0	11	173	43	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	308	0	0	236	0	0	587	583	231	551	551	271
Stage 1	-	-	-	-	-	-	275	275	-	271	271	-
Stage 2	-	-	-	-	-	-	312	308	-	280	280	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1253	-	-	1331	-	-	421	424	808	445	442	768
Stage 1	-	-	-	-	-	-	731	683	-	735	685	-
Stage 2	-	-	-	-	-	-	699	660	-	727	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1253	-	-	1331	-	-	363	416	808	432	433	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	363	416	-	432	433	-
Stage 1	-	-	-	-	-	-	716	669	-	720	685	-
Stage 2	-	-	-	-	-	-	620	660	-	703	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.5	21.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	501	1253	-	-	1331	-	-	464
HCM Lane V/C Ratio	0.043	0.017	-	-	-	-	-	0.553
HCM Control Delay (s)	12.5	7.9	0	-	0	-	-	21.9
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	3.3

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕		↕			↕
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	238	137	0	0	196
Future Vol, veh/h	60	238	137	0	0	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	259	149	0	0	213

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	362	149	0	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	637	898	-	0	0	-
Stage 1	879	-	-	0	0	-
Stage 2	823	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	637	898	-	-	-	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	830	-
HCM Lane V/C Ratio	-	0.39	-
HCM Control Delay (s)	-	12.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.9	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	289	10	10	213	14	10	0	10	41	0	50
Future Vol, veh/h	47	289	10	10	213	14	10	0	10	41	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	314	11	11	232	15	11	0	11	45	0	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	325	0	0	711	691	320	689	689	240
Stage 1	-	-	-	-	-	-	422	422	-	262	262	-
Stage 2	-	-	-	-	-	-	289	269	-	427	427	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1235	-	-	348	368	721	360	369	799
Stage 1	-	-	-	-	-	-	609	588	-	743	691	-
Stage 2	-	-	-	-	-	-	719	687	-	606	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1235	-	-	310	347	721	339	348	799
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	347	-	339	348	-
Stage 1	-	-	-	-	-	-	580	560	-	708	684	-
Stage 2	-	-	-	-	-	-	663	680	-	569	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.3	13.7	14.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	434	1319	-	-	1235	-	-	496
HCM Lane V/C Ratio	0.05	0.039	-	-	0.009	-	-	0.199
HCM Control Delay (s)	13.7	7.8	0	-	7.9	0	-	14.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.7

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

10/18/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	731	203	26	729	0	178	30	138	10	20	70
Future Volume (veh/h)	50	731	203	26	729	0	178	30	138	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	795	221	28	792	0	193	33	150	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	1449	403	50	1828	0	175	17	493	44	77	178
Arrive On Green	0.04	0.53	0.53	0.06	1.00	0.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	2746	763	1781	3647	0	325	56	1585	0	248	571
Grp Volume(v), veh/h	54	514	502	28	792	0	226	0	150	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1733	1781	1777	0	381	0	1585	819	0	0
Q Serve(g_s), s	2.7	17.3	17.3	1.4	0.0	0.0	0.0	0.0	6.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	17.3	17.3	1.4	0.0	0.0	28.0	0.0	6.5	28.0	0.0	0.0
Prop In Lane	1.00		0.44	1.00		0.00	0.85		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	73	937	914	50	1828	0	193	0	493	299	0	0
V/C Ratio(X)	0.74	0.55	0.55	0.56	0.43	0.00	1.17	0.00	0.30	0.36	0.00	0.00
Avail Cap(c_a), veh/h	356	937	914	99	1828	0	193	0	493	299	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.7	14.1	14.1	41.9	0.0	0.0	36.4	0.0	23.6	24.0	0.0	0.0
Incr Delay (d2), s/veh	13.3	2.3	2.4	8.7	0.7	0.0	119.1	0.0	0.3	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.1	6.9	0.7	0.2	0.0	10.6	0.0	2.4	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	16.4	16.5	50.7	0.7	0.0	155.5	0.0	23.9	24.7	0.0	0.0
LnGrp LOS	E	B	B	D	A	A	F	A	C	C	A	A
Approach Vol, veh/h		1070			820			376			109	
Approach Delay, s/veh		18.5			2.4			103.0			24.7	
Approach LOS		B			A			F			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.0	6.5	51.5		32.0	7.7	50.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		28.0	5.0	45.0		28.0	18.0	32.0				
Max Q Clear Time (g_c+I1), s		30.0	3.4	19.3		30.0	4.7	2.0				
Green Ext Time (p_c), s		0.0	0.0	7.6		0.0	0.1	6.3				

Intersection Summary												
HCM 6th Ctrl Delay			26.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

10/18/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	654	100	153	520	241	0	0	0	245	201	235
Future Volume (veh/h)	221	654	100	153	520	241	0	0	0	245	201	235
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	240	711	109	166	565	262				266	218	255
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	594	1713	262	200	1185	528				356	374	317
Arrive On Green	0.67	1.00	1.00	0.22	0.67	0.67				0.20	0.20	0.20
Sat Flow, veh/h	1781	3089	473	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	240	409	411	166	565	262				266	218	255
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	5.5	0.0	0.0	8.0	7.0	7.4				12.6	9.5	13.8
Cycle Q Clear(g_c), s	5.5	0.0	0.0	8.0	7.0	7.4				12.6	9.5	13.8
Prop In Lane	1.00		0.27	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	594	985	990	200	1185	528				356	374	317
V/C Ratio(X)	0.40	0.41	0.42	0.83	0.48	0.50				0.75	0.58	0.81
Avail Cap(c_a), veh/h	594	985	990	376	1185	528				495	520	440
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	0.0	34.1	11.2	11.2				33.9	32.6	34.3
Incr Delay (d2), s/veh	0.4	1.2	1.2	8.5	1.4	3.3				4.0	1.4	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.3	0.3	3.5	2.3	2.4				5.7	4.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	1.2	1.2	42.6	12.5	14.5				37.8	34.1	41.7
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1060			993						739	
Approach Delay, s/veh		3.5			18.1						38.1	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			14.1	53.9		22.0	34.0	34.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			19.0	34.0		25.0	23.0	30.0				
Max Q Clear Time (g_c+I1), s			10.0	2.0		15.8	7.5	9.4				
Green Ext Time (p_c), s			0.3	6.0		2.2	0.6	4.8				

Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

10/18/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	742	97	125	744	20	77	68	300	20	87	53
Future Volume (veh/h)	184	742	97	125	744	20	77	68	300	20	87	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	807	105	136	809	22	84	74	326	22	95	58
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	1623	211	488	1736	47	292	88	390	80	217	133
Arrive On Green	0.16	1.00	1.00	0.06	0.49	0.49	0.05	0.29	0.29	0.20	0.20	0.20
Sat Flow, veh/h	1781	3162	411	1781	3534	96	1781	302	1329	985	1087	664
Grp Volume(v), veh/h	200	453	459	136	407	424	84	0	400	22	0	153
Grp Sat Flow(s),veh/h/ln	1781	1777	1796	1781	1777	1853	1781	0	1631	985	0	1751
Q Serve(g_s), s	5.1	0.0	0.0	3.3	13.6	13.6	0.0	0.0	20.7	0.0	0.0	6.9
Cycle Q Clear(g_c), s	5.1	0.0	0.0	3.3	13.6	13.6	0.0	0.0	20.7	18.0	0.0	6.9
Prop In Lane	1.00		0.23	1.00		0.05	1.00		0.81	1.00		0.38
Lane Grp Cap(c), veh/h	451	912	922	488	873	910	292	0	478	80	0	350
V/C Ratio(X)	0.44	0.50	0.50	0.28	0.47	0.47	0.29	0.00	0.84	0.27	0.00	0.44
Avail Cap(c_a), veh/h	661	912	922	737	873	910	561	0	725	80	0	350
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	9.8	15.1	15.1	34.9	0.0	29.8	45.0	0.0	31.6
Incr Delay (d2), s/veh	0.7	1.9	1.9	0.3	1.8	1.7	0.5	0.0	5.3	1.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.5	0.5	1.3	5.6	5.8	1.7	0.0	8.6	0.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	1.9	1.9	10.1	16.9	16.8	35.4	0.0	35.1	46.8	0.0	32.4
LnGrp LOS	B	A	A	B	B	B	D	A	D	D	A	C
Approach Vol, veh/h		1112			967			484			175	
Approach Delay, s/veh		3.5			15.9			35.2			34.2	
Approach LOS		A			B			D			C	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		30.4	9.4	50.2	8.4	22.0	11.4	48.2				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		22.7	5.3	2.0	2.0	20.0	7.1	15.6				
Green Ext Time (p_c), s		2.5	0.3	5.7	0.2	0.0	0.4	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

10/18/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	74	174	0	53	18	123	455	10	16	405	39
Future Volume (veh/h)	107	74	174	0	53	18	123	455	10	16	405	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	80	189	0	58	20	134	495	11	17	440	42
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	108	255	0	291	100	590	1139	25	574	1051	100
Arrive On Green	0.22	0.22	0.22	0.00	0.22	0.22	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1321	494	1167	0	1329	458	913	1823	41	893	1681	160
Grp Volume(v), veh/h	116	0	269	0	0	78	134	0	506	17	0	482
Grp Sat Flow(s),veh/h/ln	1321	0	1660	0	0	1788	913	0	1863	893	0	1841
Q Serve(g_s), s	4.0	0.0	7.7	0.0	0.0	1.8	4.5	0.0	7.2	0.5	0.0	6.8
Cycle Q Clear(g_c), s	5.9	0.0	7.7	0.0	0.0	1.8	11.3	0.0	7.2	7.7	0.0	6.8
Prop In Lane	1.00		0.70	0.00		0.26	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	382	0	363	0	0	391	590	0	1164	574	0	1151
V/C Ratio(X)	0.30	0.00	0.74	0.00	0.00	0.20	0.23	0.00	0.43	0.03	0.00	0.42
Avail Cap(c_a), veh/h	610	0	649	0	0	698	590	0	1164	574	0	1151
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	18.6	0.0	0.0	16.3	7.7	0.0	4.9	6.9	0.0	4.9
Incr Delay (d2), s/veh	0.4	0.0	3.0	0.0	0.0	0.2	0.9	0.0	1.2	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	2.9	0.0	0.0	0.7	0.8	0.0	2.1	0.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	0.0	21.6	0.0	0.0	16.6	8.6	0.0	6.1	7.0	0.0	6.0
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		385			78			640			499	
Approach Delay, s/veh		20.9			16.6			6.6			6.0	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		15.2		36.0		15.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		13.3		9.7		9.7		3.8				
Green Ext Time (p_c), s		3.9		1.5		3.3		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									

HCM 6th AWSC
10: N 11th St & Laramie St 10/18/2018

Intersection	
Intersection Delay, s/veh	35.8
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	137	10	80	2	2	5	21	460	0	21	430	27
Future Vol, veh/h	137	10	80	2	2	5	21	460	0	21	430	27
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	149	11	87	2	2	5	23	500	0	23	467	29
Number of Lanes	1	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	3
HCM Control Delay	13.2	11.1	42.2	40.5
HCM LOS	B	B	E	E

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	4%	100%	0%	0%	22%	4%
Vol Thru, %	96%	0%	100%	0%	22%	90%
Vol Right, %	0%	0%	0%	100%	56%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	481	137	10	80	9	478
LT Vol	21	137	0	0	2	21
Through Vol	460	0	10	0	2	430
RT Vol	0	0	0	80	5	27
Lane Flow Rate	523	149	11	87	10	520
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.903	0.33	0.023	0.163	0.022	0.893
Departure Headway (Hd)	6.216	7.978	7.464	6.744	8.214	6.185
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	580	448	476	528	438	582
Service Time	3.989	5.775	5.26	4.539	5.914	3.958
HCM Lane V/C Ratio	0.902	0.333	0.023	0.165	0.023	0.893
HCM Control Delay	42.2	14.7	10.4	10.9	11.1	40.5
HCM Lane LOS	E	B	B	B	B	E
HCM 95th-tile Q	10.9	1.4	0.1	0.6	0.1	10.6

HCM 6th TWSC
3: N 12th St & Bluemont Ave 10/18/2018

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	891	8	3	884	10	0	0	16	10	0	30
Future Vol, veh/h	10	891	8	3	884	10	0	0	16	10	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	968	9	3	961	11	0	0	17	11	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	972	0	0	977	0	0	-	-	489	1479	-	486
Stage 1	-	-	-	-	-	-	-	-	-	973	-	-
Stage 2	-	-	-	-	-	-	-	-	-	506	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	705	-	-	702	-	-	0	0	525	87	0	527
Stage 1	-	-	-	-	-	-	0	0	-	271	0	-
Stage 2	-	-	-	-	-	-	0	0	-	517	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	705	-	-	702	-	-	-	-	525	82	-	527
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	82	-	-
Stage 1	-	-	-	-	-	-	-	-	-	262	-	-
Stage 2	-	-	-	-	-	-	-	-	-	483	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	12.1	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	525	705	-	-	702	-	-	527
HCM Lane V/C Ratio	0.033	0.015	-	-	0.005	-	-	0.062
HCM Control Delay (s)	12.1	10.2	-	-	10.2	-	-	12.3
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	24	5	23	49	421	10	10	491	63
Future Vol, veh/h	0	0	0	24	5	23	49	421	10	10	491	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	26	5	25	53	458	11	11	534	68

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1160	1194	464	602	0	0	469	0	0
Stage 1	570	570	-	-	-	-	-	-	-
Stage 2	590	624	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	216	187	598	975	-	-	1093	-	-
Stage 1	566	505	-	-	-	-	-	-	-
Stage 2	554	478	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	197	0	598	975	-	-	1093	-	-
Mov Cap-2 Maneuver	197	0	-	-	-	-	-	-	-
Stage 1	516	0	-	-	-	-	-	-	-
Stage 2	554	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.2	0.9	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	975	-	-	293	1093	-	-
HCM Lane V/C Ratio	0.055	-	-	0.193	0.01	-	-
HCM Control Delay (s)	8.9	0	-	20.2	8.3	0	-
HCM Lane LOS	A	A	-	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	20	60	10	10	10	135	140	40	50	96	31
Future Vol, veh/h	70	20	60	10	10	10	135	140	40	50	96	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	22	65	11	11	11	147	152	43	54	104	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	708	718	121	741	714	174	138	0	0	195	0	0
Stage 1	229	229	-	468	468	-	-	-	-	-	-	-
Stage 2	479	489	-	273	246	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	350	355	930	332	357	869	1446	-	-	1378	-	-
Stage 1	774	715	-	575	561	-	-	-	-	-	-	-
Stage 2	568	549	-	733	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	297	301	930	258	302	869	1446	-	-	1378	-	-
Mov Cap-2 Maneuver	297	301	-	258	302	-	-	-	-	-	-	-
Stage 1	685	684	-	509	496	-	-	-	-	-	-	-
Stage 2	486	486	-	632	673	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.5	16	3.3	2.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	409	360	1378	-	-
HCM Lane V/C Ratio	0.101	-	-	0.399	0.091	0.039	-	-
HCM Control Delay (s)	7.8	0	-	19.5	16	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.9	0.3	0.1	-	-

HCM 6th TWSC
9: N 12th St & Laramie St 10/18/2018

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				
Traffic Vol, veh/h	0	359	0	3	53	0	18	0	28	0	0	0
Future Vol, veh/h	0	359	0	3	53	0	18	0	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	390	0	3	58	0	20	0	30	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	58	0	0	390	0	0	454	454	390
Stage 1	-	-	-	-	-	-	390	390	-
Stage 2	-	-	-	-	-	-	64	64	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1546	-	-	1169	-	-	564	502	658
Stage 1	-	-	-	-	-	-	684	608	-
Stage 2	-	-	-	-	-	-	959	842	-
Platoon blocked, %			-			-			
Mov Cap-1 Maneuver	1546	-	-	1169	-	-	562	0	658
Mov Cap-2 Maneuver	-	-	-	-	-	-	562	0	-
Stage 1	-	-	-	-	-	-	682	0	-
Stage 2	-	-	-	-	-	-	959	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	617	1546	-	-	1169	-	-
HCM Lane V/C Ratio	0.081	-	-	-	0.003	-	-
HCM Control Delay (s)	11.3	0	-	-	8.1	0	-
HCM Lane LOS	B	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-

HCM 6th TWSC
12: Fremont St & Manhattan Ave 10/18/2018

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	138	10	10	165	111	10	10	10	136	50	50
Future Vol, veh/h	20	138	10	10	165	111	10	10	10	136	50	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	150	11	11	179	121	11	11	11	148	54	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	300	0	0	161	0	0	516	522	156	473	467	240
Stage 1	-	-	-	-	-	-	200	200	-	262	262	-
Stage 2	-	-	-	-	-	-	316	322	-	211	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1261	-	-	1418	-	-	470	459	890	501	493	799
Stage 1	-	-	-	-	-	-	802	736	-	743	691	-
Stage 2	-	-	-	-	-	-	695	651	-	791	732	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1261	-	-	1418	-	-	392	446	890	475	479	799
Mov Cap-2 Maneuver	-	-	-	-	-	-	392	446	-	475	479	-
Stage 1	-	-	-	-	-	-	787	722	-	729	685	-
Stage 2	-	-	-	-	-	-	591	645	-	755	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.6	18.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	507	1261	-	-	1418	-	-	521
HCM Lane V/C Ratio	0.064	0.017	-	-	0.008	-	-	0.492
HCM Control Delay (s)	12.6	7.9	0	-	7.6	0	-	18.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	2.7

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	256	0	10	190	15	0	0	10	89	0	86
Future Vol, veh/h	18	256	0	10	190	15	0	0	10	89	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	278	0	11	207	16	0	0	11	97	0	93

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	278	0	0	602	563	278	561	555	215
Stage 1	-	-	-	-	-	-	318	318	-	237	237	-
Stage 2	-	-	-	-	-	-	284	245	-	324	318	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1346	-	-	1285	-	-	412	435	761	438	440	825
Stage 1	-	-	-	-	-	-	693	654	-	766	709	-
Stage 2	-	-	-	-	-	-	723	703	-	688	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1285	-	-	358	423	761	423	428	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	423	-	423	428	-
Stage 1	-	-	-	-	-	-	681	642	-	752	702	-
Stage 2	-	-	-	-	-	-	635	696	-	666	642	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	9.8	14.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	761	1346	-	-	1285	-	-	556
HCM Lane V/C Ratio	0.014	0.015	-	-	0.008	-	-	0.342
HCM Control Delay (s)	9.8	7.7	0	-	7.8	0	-	14.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.5

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↑			↱
Traffic Vol, veh/h	9	65	167	104	234	177
Future Vol, veh/h	9	65	167	104	234	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	71	182	113	254	192

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	939	239	0	0	295	0
Stage 1	239	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	293	800	-	-	1266	-
Stage 1	801	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	227	800	-	-	1266	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	621	-	-	-	-	-
Stage 2	493	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	4.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	612	1266	-
HCM Lane V/C Ratio	-	-	0.131	0.201	-
HCM Control Delay (s)	-	-	11.8	8.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.8	-

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggieville
10/18/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1086	210	73	890	10	193	20	176	50	40	80
Future Volume (veh/h)	30	1086	210	73	890	10	193	20	176	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1180	228	79	967	11	210	22	191	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1487	285	119	1927	22	248	18	476	52	48	43
Arrive On Green	0.03	0.50	0.50	0.13	1.00	1.00	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	2974	571	1781	3599	41	574	60	1585	0	161	144
Grp Volume(v), veh/h	33	702	706	79	477	501	232	0	191	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1768	1781	1777	1863	634	0	1585	305	0	0
Q Serve(g_s), s	1.6	29.4	29.9	3.8	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	29.4	29.9	3.8	0.0	0.0	27.0	0.0	8.6	27.0	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.02	0.91		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	56	888	884	119	951	998	266	0	476	143	0	0
V/C Ratio(X)	0.59	0.79	0.80	0.67	0.50	0.50	0.87	0.00	0.40	1.29	0.00	0.00
Avail Cap(c_a), veh/h	356	888	884	119	951	998	266	0	476	143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.0	18.6	18.7	38.0	0.0	0.0	33.9	0.0	25.1	29.3	0.0	0.0
Incr Delay (d2), s/veh	9.7	7.1	7.5	10.9	1.6	1.5	25.4	0.0	0.5	171.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.9	13.1	1.9	0.4	0.4	7.0	0.0	3.2	9.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	25.7	26.2	49.0	1.6	1.5	59.3	0.0	25.6	200.4	0.0	0.0
LnGrp LOS	D	C	C	D	A	A	E	A	C	F	A	A
Approach Vol, veh/h		1441			1057			423			184	
Approach Delay, s/veh		26.6			5.1			44.1			200.4	
Approach LOS		C			A			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	10.0	49.0		31.0	6.8	52.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		27.0	6.0	45.0		27.0	18.0	33.0				
Max Q Clear Time (g_c+I1), s		29.0	5.8	31.9		29.0	3.6	2.0				
Green Ext Time (p_c), s		0.0	0.0	7.9		0.0	0.0	7.4				

Intersection Summary			
HCM 6th Ctrl Delay		31.9	
HCM 6th LOS		C	

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
10/18/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	905	180	159	682	230	0	0	0	325	179	291
Future Volume (veh/h)	262	905	180	159	682	230	0	0	0	325	179	291
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	285	984	196	173	741	250				353	195	316
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	517	1532	305	207	1224	546				413	434	367
Arrive On Green	0.58	1.00	1.00	0.23	0.69	0.69				0.23	0.23	0.23
Sat Flow, veh/h	1781	2954	587	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	285	591	589	173	741	250				353	195	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	8.9	0.0	0.0	8.3	10.0	6.5				17.1	8.0	17.2
Cycle Q Clear(g_c), s	8.9	0.0	0.0	8.3	10.0	6.5				17.1	8.0	17.2
Prop In Lane	1.00		0.33	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	517	922	915	207	1224	546				413	434	367
V/C Ratio(X)	0.55	0.64	0.64	0.84	0.61	0.46				0.85	0.45	0.86
Avail Cap(c_a), veh/h	517	922	915	356	1224	546				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	0.0	33.7	10.7	10.2				33.1	29.6	33.2
Incr Delay (d2), s/veh	0.9	2.4	2.4	8.6	2.2	2.8				12.8	0.7	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.6	0.6	3.6	3.0	2.1				8.7	3.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	2.4	2.4	42.3	13.0	12.9				46.0	30.4	47.9
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1465			1164						864	
Approach Delay, s/veh		5.1			17.3						43.2	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			14.5	50.7		24.9	30.1	35.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	36.0		24.0	23.0	31.0				
Max Q Clear Time (g_c+I1), s			10.3	2.0		19.2	10.9	12.0				
Green Ext Time (p_c), s			0.3	10.2		1.6	0.7	6.0				

Intersection Summary			
HCM 6th Ctrl Delay		18.6	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	986	126	125	1027	40	77	96	349	70	116	74
Future Volume (veh/h)	176	986	126	125	1027	40	77	96	349	70	116	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	1072	137	136	1116	43	84	104	379	76	126	80
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1496	191	272	1583	61	329	117	427	128	253	161
Arrive On Green	0.05	0.32	0.32	0.06	0.45	0.45	0.05	0.33	0.33	0.24	0.24	0.24
Sat Flow, veh/h	1781	3170	405	1781	3489	134	1781	353	1286	912	1069	679
Grp Volume(v), veh/h	191	600	609	136	568	591	84	0	483	76	0	206
Grp Sat Flow(s),veh/h/ln	1781	1777	1798	1781	1777	1846	1781	0	1639	912	0	1748
Q Serve(g_s), s	5.0	26.9	27.0	3.6	23.1	23.1	3.1	0.0	25.1	4.7	0.0	9.2
Cycle Q Clear(g_c), s	5.0	26.9	27.0	3.6	23.1	23.1	3.1	0.0	25.1	21.3	0.0	9.2
Prop In Lane	1.00		0.23	1.00		0.07	1.00		0.78	1.00		0.39
Lane Grp Cap(c), veh/h	320	839	848	272	806	838	329	0	544	128	0	414
V/C Ratio(X)	0.60	0.72	0.72	0.50	0.70	0.71	0.26	0.00	0.89	0.59	0.00	0.50
Avail Cap(c_a), veh/h	532	839	848	516	806	838	595	0	728	128	0	414
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	25.4	25.5	16.4	19.7	19.7	23.3	0.0	28.5	43.5	0.0	29.7
Incr Delay (d2), s/veh	1.8	5.2	5.2	1.4	5.1	5.0	0.4	0.0	10.3	7.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	13.0	13.2	1.5	10.1	10.5	1.3	0.0	11.0	1.9	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	30.6	30.6	17.9	24.9	24.7	23.7	0.0	38.8	50.7	0.0	30.7
LnGrp LOS	B	C	C	B	C	C	C	A	D	D	A	C
Approach Vol, veh/h		1400			1295			567			282	
Approach Delay, s/veh		28.9			24.1			36.5			36.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		33.9	9.7	46.5	8.6	25.3	11.3	44.8				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		27.1	5.6	29.0	5.1	23.3	7.0	25.1				
Green Ext Time (p_c), s		2.7	0.3	0.0	0.1	0.0	0.4	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			28.9									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	94	113	10	54	28	144	466	20	26	424	38
Future Volume (veh/h)	126	94	113	10	54	28	144	466	20	26	424	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	102	123	11	59	30	157	507	22	28	461	41
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	146	176	91	195	89	611	1161	50	592	1105	98
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1308	772	931	64	1034	470	896	1779	77	874	1693	151
Grp Volume(v), veh/h	137	0	225	100	0	0	157	0	529	28	0	502
Grp Sat Flow(s),veh/h/ln	1308	0	1703	1567	0	0	896	0	1856	874	0	1843
Q Serve(g_s), s	0.0	0.0	6.2	0.1	0.0	0.0	5.1	0.0	7.0	0.8	0.0	6.6
Cycle Q Clear(g_c), s	5.7	0.0	6.2	6.3	0.0	0.0	11.7	0.0	7.0	7.8	0.0	6.6
Prop In Lane	1.00		0.55	0.11		0.30	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	366	0	322	375	0	0	611	0	1212	592	0	1203
V/C Ratio(X)	0.37	0.00	0.70	0.27	0.00	0.00	0.26	0.00	0.44	0.05	0.00	0.42
Avail Cap(c_a), veh/h	610	0	640	687	0	0	611	0	1212	592	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	0.0	19.2	17.6	0.0	0.0	7.0	0.0	4.3	6.2	0.0	4.2
Incr Delay (d2), s/veh	0.6	0.0	2.7	0.4	0.0	0.0	1.0	0.0	1.1	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	2.4	0.9	0.0	0.0	0.9	0.0	1.9	0.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	0.0	21.9	18.0	0.0	0.0	8.0	0.0	5.4	6.3	0.0	5.3
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		362			100			686			530	
Approach Delay, s/veh		21.0			18.0			6.0			5.3	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		13.6		37.0		13.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		33.0		19.0		33.0		19.0				
Max Q Clear Time (g_c+I1), s		13.7		8.2		9.8		8.3				
Green Ext Time (p_c), s		4.3		1.3		3.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	55.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	137	10	80	5	5	2	21	560	10	31	488	30
Future Vol, veh/h	137	10	80	5	5	2	21	560	10	31	488	30
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	149	11	87	5	5	2	23	609	11	34	530	33
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13.9	11.8	71.9	55.1
HCM LOS	B	B	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	4%	100%	0%	42%	6%
Vol Thru, %	95%	0%	11%	42%	89%
Vol Right, %	2%	0%	89%	17%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	591	137	90	12	549
LT Vol	21	137	0	5	31
Through Vol	560	0	10	5	488
RT Vol	10	0	80	2	30
Lane Flow Rate	642	149	98	13	597
Geometry Grp	2	7	7	5	2
Degree of Util (X)	1.042	0.338	0.193	0.03	0.976
Departure Headway (Hd)	5.841	8.39	7.23	8.553	5.89
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	617	432	499	421	609
Service Time	3.929	6.09	4.93	6.553	3.981
HCM Lane V/C Ratio	1.041	0.345	0.196	0.031	0.98
HCM Control Delay	71.9	15.3	11.7	11.8	55.1
HCM Lane LOS	F	C	B	B	F
HCM 95th-tile Q	17.1	1.5	0.7	0.1	14

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1290	31	10	1151	0	0	0	20	10	0	40
Future Vol, veh/h	20	1290	31	10	1151	0	0	0	20	10	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1402	34	11	1251	0	0	0	22	11	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1251	0	0	1436	0	0	-	-	718	2018	-	626
Stage 1	-	-	-	-	-	-	-	-	-	1273	-	-
Stage 2	-	-	-	-	-	-	-	-	-	745	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	552	-	-	469	-	-	0	0	371	34	0	427
Stage 1	-	-	-	-	-	-	0	0	-	177	0	-
Stage 2	-	-	-	-	-	-	0	0	-	372	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	552	-	-	469	-	-	-	-	371	27	-	427
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	27	-	-
Stage 1	-	-	-	-	-	-	-	-	-	141	-	-
Stage 2	-	-	-	-	-	-	-	-	-	280	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	15.3	14.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	371	552	-	-	469	-	-	427
HCM Lane V/C Ratio	0.059	0.039	-	-	0.023	-	-	0.102
HCM Control Delay (s)	15.3	11.8	-	-	12.9	-	-	14.4
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	31	13	46	49	527	0	10	589	70
Future Vol, veh/h	0	0	0	31	13	46	49	527	0	10	589	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	34	14	50	53	573	0	11	640	76

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1379	1417	573	716	0	0	573	0	0
Stage 1	679	679	-	-	-	-	-	-	-
Stage 2	700	738	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	137	519	885	-	-	1000	-	-
Stage 1	504	451	-	-	-	-	-	-	-
Stage 2	493	424	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	142	0	519	885	-	-	1000	-	-
Mov Cap-2 Maneuver	142	0	-	-	-	-	-	-	-
Stage 1	451	0	-	-	-	-	-	-	-
Stage 2	493	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.2	0.8	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	885	-	-	251	1000	-	-
HCM Lane V/C Ratio	0.06	-	-	0.39	0.011	-	-
HCM Control Delay (s)	9.3	0	-	28.2	8.6	0	-
HCM Lane LOS	A	A	-	D	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.8	0	-	-

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	90	20	53	10	10	0	181	140	20	40	120	22
Future Vol, veh/h	90	20	53	10	10	0	181	140	20	40	120	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	22	58	11	11	0	197	152	22	43	130	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	791	796	142	825	797	163	154	0	0	174	0	0
Stage 1	228	228	-	557	557	-	-	-	-	-	-	-
Stage 2	563	568	-	268	240	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	307	320	906	292	319	882	1426	-	-	1403	-	-
Stage 1	775	715	-	515	512	-	-	-	-	-	-	-
Stage 2	511	506	-	738	707	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	262	906	221	261	882	1426	-	-	1403	-	-
Mov Cap-2 Maneuver	256	262	-	221	261	-	-	-	-	-	-	-
Stage 1	656	691	-	436	434	-	-	-	-	-	-	-
Stage 2	422	429	-	647	683	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.2	21.6	4.2	1.7
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1426	-	-	335	239	1403	-	-
HCM Lane V/C Ratio	0.138	-	-	0.529	0.091	0.031	-	-
HCM Control Delay (s)	7.9	0	-	27.2	21.6	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.9	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕				
Traffic Vol, veh/h	0	359	0	3	53	0	18	0	28	0	0	0
Future Vol, veh/h	0	359	0	3	53	0	18	0	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	390	0	3	58	0	20	0	30	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	58	0	0	390	0	0	454	454	390
Stage 1	-	-	-	-	-	-	390	390	-
Stage 2	-	-	-	-	-	-	64	64	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1546	-	-	1169	-	-	564	502	658
Stage 1	-	-	-	-	-	-	684	608	-
Stage 2	-	-	-	-	-	-	959	842	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1546	-	-	1169	-	-	562	0	658
Mov Cap-2 Maneuver	-	-	-	-	-	-	562	0	-
Stage 1	-	-	-	-	-	-	682	0	-
Stage 2	-	-	-	-	-	-	959	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	617	1546	-	-	1169	-	-
HCM Lane V/C Ratio	0.081	-	-	-	0.003	-	-
HCM Control Delay (s)	11.3	0	-	-	8.1	0	-
HCM Lane LOS	B	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	207	10	0	214	114	10	0	10	136	40	37
Future Vol, veh/h	20	207	10	0	214	114	10	0	10	136	40	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	225	11	0	233	124	11	0	11	148	43	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	357	0	0	236	0	0	612	632	231	575	575	295
Stage 1	-	-	-	-	-	-	275	275	-	295	295	-
Stage 2	-	-	-	-	-	-	337	357	-	280	280	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1202	-	-	1331	-	-	405	398	808	429	429	744
Stage 1	-	-	-	-	-	-	731	683	-	713	669	-
Stage 2	-	-	-	-	-	-	677	628	-	727	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1202	-	-	1331	-	-	347	390	808	417	420	744
Mov Cap-2 Maneuver	-	-	-	-	-	-	347	390	-	417	420	-
Stage 1	-	-	-	-	-	-	716	669	-	698	669	-
Stage 2	-	-	-	-	-	-	599	628	-	702	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.8	21
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	1202	-	-	1331	-	-	452
HCM Lane V/C Ratio	0.045	0.018	-	-	-	-	-	0.512
HCM Control Delay (s)	12.8	8.1	0	-	0	-	-	21
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	2.9

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	266	10	10	202	14	10	0	10	97	0	106
Future Vol, veh/h	47	266	10	10	202	14	10	0	10	97	0	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	289	11	11	220	15	11	0	11	105	0	115

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	235	0	0	300	0	0	704	654	295	652	652	228
Stage 1	-	-	-	-	-	-	397	397	-	250	250	-
Stage 2	-	-	-	-	-	-	307	257	-	402	402	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1332	-	-	1261	-	-	352	386	744	381	387	811
Stage 1	-	-	-	-	-	-	629	603	-	754	700	-
Stage 2	-	-	-	-	-	-	703	695	-	625	600	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1332	-	-	1261	-	-	289	364	744	360	365	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	364	-	360	365	-
Stage 1	-	-	-	-	-	-	600	575	-	719	693	-
Stage 2	-	-	-	-	-	-	597	688	-	588	572	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.3	14.1	17.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	416	1332	-	-	1261	-	-	507
HCM Lane V/C Ratio	0.052	0.038	-	-	0.009	-	-	0.435
HCM Control Delay (s)	14.1	7.8	0	-	7.9	0	-	17.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	2.2

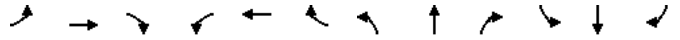
Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰		↑			↱
Traffic Vol, veh/h	18	71	180	114	259	215
Future Vol, veh/h	18	71	180	114	259	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	77	196	124	282	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1056	258	0	0	320	0
Stage 1	258	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	250	781	-	-	1240	-
Stage 1	785	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	185	781	-	-	1240	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	443	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	4.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	473	1240	-
HCM Lane V/C Ratio	-	-	0.205	0.227	-
HCM Control Delay (s)	-	-	14.6	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.9	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	10	80	5	5	2	21	560	10	31	488	30
Future Volume (veh/h)	137	10	80	5	5	2	21	560	10	31	488	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	11	87	5	5	2	23	609	11	34	530	33
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	31	247	259	177	48	157	922	16	170	856	51
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1409	181	1432	360	1024	277	25	1778	31	44	1651	99
Grp Volume(v), veh/h	149	0	98	12	0	0	643	0	0	597	0	0
Grp Sat Flow(s),veh/h/ln	1409	0	1613	1661	0	0	1835	0	0	1794	0	0
Q Serve(g_s), s	2.3	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	1.4	0.1	0.0	0.0	6.6	0.0	0.0	5.9	0.0	0.0
Prop In Lane	1.00		0.89	0.42		0.17	0.04		0.02	0.06		0.06
Lane Grp Cap(c), veh/h	523	0	278	483	0	0	1096	0	0	1078	0	0
V/C Ratio(X)	0.28	0.00	0.35	0.02	0.00	0.00	0.59	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	1260	0	1121	1289	0	0	2516	0	0	2447	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	0.0	9.4	8.9	0.0	0.0	4.6	0.0	0.0	4.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.8	0.0	0.0	0.0	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.0	10.2	8.9	0.0	0.0	5.1	0.0	0.0	4.9	0.0	0.0
LnGrp LOS	B	A	B	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		247			12			643			597	
Approach Delay, s/veh		10.2			8.9			5.1			4.9	
Approach LOS		B			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.4		8.5		17.4		8.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		34.0		18.0		34.0		18.0				
Max Q Clear Time (g_c+I1), s		8.6		4.5		7.9		2.1				
Green Ext Time (p_c), s		4.9		0.8		4.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			5.9									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	666	100	201	520	241	90	21	113	245	226	235
Future Volume (veh/h)	229	666	100	201	520	241	90	21	113	245	226	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	724	109	218	565	262	98	23	123	266	246	255
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	1398	210	251	987	440	229	222	188	412	310	263
Arrive On Green	0.63	0.90	0.90	0.28	0.56	0.56	0.06	0.12	0.12	0.11	0.17	0.17
Sat Flow, veh/h	1781	3097	466	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	249	415	418	218	565	262	98	23	123	266	246	255
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.5	3.8	3.9	10.5	9.3	7.1	4.3	1.0	6.7	10.0	11.4	7.4
Cycle Q Clear(g_c), s	6.5	3.8	3.9	10.5	9.3	7.1	4.3	1.0	6.7	10.0	11.4	7.4
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	561	802	806	251	987	440	229	222	188	412	310	263
V/C Ratio(X)	0.44	0.52	0.52	0.87	0.57	0.60	0.43	0.10	0.65	0.65	0.79	0.97
Avail Cap(c_a), veh/h	561	802	806	356	987	440	234	374	317	412	457	387
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	2.6	2.6	31.5	16.5	8.7	32.1	35.4	37.9	30.2	36.0	9.9
Incr Delay (d2), s/veh	0.5	2.1	2.1	14.7	2.4	5.8	1.3	0.2	3.8	3.5	5.7	30.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.3	1.3	4.8	3.3	3.3	1.9	0.5	2.7	5.3	5.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	4.7	4.7	46.2	18.9	14.5	33.4	35.6	41.7	33.6	41.8	40.9
LnGrp LOS	B	A	A	D	B	B	C	D	D	C	D	D
Approach Vol, veh/h		1082			1045			244			767	
Approach Delay, s/veh		6.7			23.5			37.8			38.7	
Approach LOS		A			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	14.7	16.7	44.6	9.7	18.9	32.3	29.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	18.0	18.0	28.0	6.0	22.0	21.0	25.0
Max Q Clear Time (g_c+I1), s	12.0	8.7	12.5	5.9	6.3	13.4	8.5	11.3
Green Ext Time (p_c), s	0.0	0.3	0.3	5.6	0.0	1.6	0.6	4.1

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	731	245	26	729	0	132	20	106	10	20	70
Future Volume (veh/h)	50	731	245	26	729	0	132	20	106	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	795	266	28	792	0	143	22	115	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	1424	476	99	1421	0	170	21	423	44	72	165
Arrive On Green	0.20	0.54	0.54	0.11	0.80	0.00	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1781	2615	875	1781	3647	0	359	79	1585	0	269	620
Grp Volume(v), veh/h	54	540	521	28	792	0	165	0	115	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	0	438	0	1585	890	0	0
Q Serve(g_s), s	2.3	17.9	17.9	1.3	7.2	0.0	0.0	0.0	5.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	17.9	17.9	1.3	7.2	0.0	24.0	0.0	5.2	24.0	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.00	0.87		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	356	967	933	99	1421	0	192	0	423	281	0	0
V/C Ratio(X)	0.15	0.56	0.56	0.28	0.56	0.00	0.86	0.00	0.27	0.39	0.00	0.00
Avail Cap(c_a), veh/h	356	967	933	99	1421	0	192	0	423	281	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.7	13.4	13.4	38.4	6.1	0.0	36.1	0.0	26.1	26.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.3	2.4	1.4	1.4	0.0	30.7	0.0	0.3	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.2	7.0	0.6	2.0	0.0	5.3	0.0	2.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	15.7	15.8	39.7	7.5	0.0	66.8	0.0	26.4	27.5	0.0	0.0
LnGrp LOS	C	B	B	D	A	A	E	A	C	C	A	A
Approach Vol, veh/h		1115			820			280			109	
Approach Delay, s/veh		16.5			8.6			50.2			27.5	
Approach LOS		B			A			D			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.0	9.0	53.0		28.0	22.0	40.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		24.0	5.0	49.0		24.0	18.0	36.0
Max Q Clear Time (g_c+I1), s		26.0	3.3	19.9		26.0	4.3	9.2
Green Ext Time (p_c), s		0.0	0.0	8.5		0.0	0.1	6.1

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
14: Fremont St & N 11th St

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	76	182	0	56	18	140	455	10	16	405	39
Future Volume (veh/h)	50	76	182	0	56	18	140	455	10	16	405	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	83	198	0	61	20	152	495	11	17	440	42
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	109	260	0	300	98	585	1133	25	569	1045	100
Arrive On Green	0.22	0.22	0.22	0.00	0.22	0.22	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1317	490	1170	0	1349	442	913	1823	41	893	1681	160
Grp Volume(v), veh/h	54	0	281	0	0	81	152	0	506	17	0	482
Grp Sat Flow(s),veh/h/ln	1317	0	1660	0	0	1791	913	0	1863	893	0	1841
Q Serve(g_s), s	1.8	0.0	8.2	0.0	0.0	1.9	5.3	0.0	7.3	0.5	0.0	6.9
Cycle Q Clear(g_c), s	3.7	0.0	8.2	0.0	0.0	1.9	12.2	0.0	7.3	7.8	0.0	6.9
Prop In Lane	1.00		0.70	0.00		0.25	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	385	0	370	0	0	399	585	0	1159	569	0	1145
V/C Ratio(X)	0.14	0.00	0.76	0.00	0.00	0.20	0.26	0.00	0.44	0.03	0.00	0.42
Avail Cap(c_a), veh/h	603	0	645	0	0	696	585	0	1159	569	0	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	18.7	0.0	0.0	16.3	8.1	0.0	5.0	7.1	0.0	5.0
Incr Delay (d2), s/veh	0.2	0.0	3.2	0.0	0.0	0.2	1.1	0.0	1.2	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.1	0.0	0.0	0.7	1.0	0.0	2.1	0.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	22.0	0.0	0.0	16.5	9.2	0.0	6.2	7.2	0.0	6.1
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		335			81			658			499	
Approach Delay, s/veh		21.3			16.5			6.9			6.2	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		15.5		36.0		15.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		14.2		10.2		9.8		3.9				
Green Ext Time (p_c), s		4.0		1.3		3.3		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.2									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	754	97	125	783	20	52	62	225	20	87	62
Future Volume (veh/h)	184	754	97	125	783	20	52	62	225	20	87	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	820	105	136	851	22	57	67	245	22	95	67
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	1650	211	377	1775	46	272	101	369	114	204	144
Arrive On Green	0.05	0.35	0.35	0.06	0.50	0.50	0.04	0.29	0.29	0.20	0.20	0.20
Sat Flow, veh/h	1781	3168	406	1781	3539	91	1781	352	1287	1067	1021	720
Grp Volume(v), veh/h	200	460	465	136	427	446	57	0	312	22	0	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1797	1781	1777	1854	1781	0	1639	1067	0	1741
Q Serve(g_s), s	4.7	18.3	18.3	3.3	14.2	14.2	0.0	0.0	15.1	1.8	0.0	7.4
Cycle Q Clear(g_c), s	4.7	18.3	18.3	3.3	14.2	14.2	0.0	0.0	15.1	16.9	0.0	7.4
Prop In Lane	1.00		0.23	1.00		0.05	1.00		0.79	1.00		0.41
Lane Grp Cap(c), veh/h	438	925	936	377	891	930	272	0	470	114	0	348
V/C Ratio(X)	0.46	0.50	0.50	0.36	0.48	0.48	0.21	0.00	0.66	0.19	0.00	0.47
Avail Cap(c_a), veh/h	654	925	936	628	891	930	553	0	728	114	0	348
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	20.0	20.0	11.4	14.7	14.7	35.1	0.0	28.3	43.0	0.0	31.8
Incr Delay (d2), s/veh	0.7	1.9	1.9	0.6	1.8	1.8	0.4	0.0	1.6	0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	8.5	8.6	1.2	5.8	6.1	1.1	0.0	6.0	0.5	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	21.9	21.9	12.0	16.6	16.5	35.5	0.0	29.9	43.8	0.0	32.7
LnGrp LOS	B	C	C	B	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1125			1009			369			184	
Approach Delay, s/veh		20.1			15.9			30.8			34.1	
Approach LOS		C			B			C			C	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		29.8	9.3	50.9	7.8	22.0	11.1	49.1				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		17.1	5.3	20.3	2.0	18.9	6.7	16.2				
Green Ext Time (p_c), s		2.0	0.3	0.0	0.1	0.0	0.4	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	10	81	20	0	10	0	340	10	10	459	0
Future Vol, veh/h	135	10	81	20	0	10	0	340	10	10	459	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	147	11	88	22	0	11	0	370	11	11	499	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	902	902	499	947	897	376	-	0	0	381	0	0
Stage 1	521	521	-	376	376	-	-	-	-	-	-	-
Stage 2	381	381	-	571	521	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	259	277	572	241	279	670	0	-	-	1177	-	0
Stage 1	539	532	-	645	616	-	0	-	-	-	-	0
Stage 2	641	613	-	506	532	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	252	273	572	196	275	670	-	-	-	1177	-	-
Mov Cap-2 Maneuver	252	273	-	196	275	-	-	-	-	-	-	-
Stage 1	539	525	-	645	616	-	-	-	-	-	-	-
Stage 2	631	613	-	414	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.6	21.1	0	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	252	273	572	256	1177	-
HCM Lane V/C Ratio	-	-	0.582	0.04	0.154	0.127	0.009	-
HCM Control Delay (s)	-	-	37.4	18.7	12.4	21.1	8.1	0
HCM Lane LOS	-	-	E	C	B	C	A	A
HCM 95th %tile Q(veh)	-	-	3.3	0.1	0.5	0.4	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	903	8	3	932	10	0	0	42	10	10	30
Future Vol, veh/h	10	903	8	3	932	10	0	0	42	10	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	982	9	3	1013	11	0	0	46	11	11	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1024	0	0	991	0	0	-	-	496	1538	2038	512
Stage 1	-	-	-	-	-	-	-	-	-	1025	1025	-
Stage 2	-	-	-	-	-	-	-	-	-	513	1013	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	674	-	-	693	-	-	0	0	519	79	56	507
Stage 1	-	-	-	-	-	-	0	0	-	252	311	-
Stage 2	-	-	-	-	-	-	0	0	-	512	315	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	674	-	-	693	-	-	-	-	519	70	54	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	70	54	-
Stage 1	-	-	-	-	-	-	-	-	-	243	310	-
Stage 2	-	-	-	-	-	-	-	-	-	450	304	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	12.6	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	674	-	-	693	-	-	507
HCM Lane V/C Ratio	0.088	0.016	-	-	0.005	-	-	0.064
HCM Control Delay (s)	12.6	10.4	-	-	10.2	-	-	12.6
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	177	0	60	113	0	0	0	0
Future Vol, veh/h	0	0	0	10	177	0	60	113	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	192	0	65	123	0	0	0	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	254	254	123	1	0	-	-	-	0
Stage 1	253	253	-	-	-	-	-	-	-
Stage 2	1	1	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	735	650	928	1622	-	0	0	-	-
Stage 1	789	698	-	-	-	0	0	-	-
Stage 2	1022	895	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	703	0	928	1622	-	-	-	-	-
Mov Cap-2 Maneuver	703	0	-	-	-	-	-	-	-
Stage 1	755	0	-	-	-	-	-	-	-
Stage 2	1022	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1622	-	703	-	-
HCM Lane V/C Ratio	0.04	-	0.289	-	-
HCM Control Delay (s)	7.3	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	20	68	10	10	10	135	140	40	50	98	31
Future Vol, veh/h	70	20	68	10	10	10	135	140	40	50	98	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	22	74	11	11	11	147	152	43	54	107	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	711	721	124	748	717	174	141	0	0	195	0	0
Stage 1	232	232	-	468	468	-	-	-	-	-	-	-
Stage 2	479	489	-	280	249	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	348	353	927	329	355	869	1442	-	-	1378	-	-
Stage 1	771	713	-	575	561	-	-	-	-	-	-	-
Stage 2	568	549	-	727	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	295	299	927	253	301	869	1442	-	-	1378	-	-
Mov Cap-2 Maneuver	295	299	-	253	301	-	-	-	-	-	-	-
Stage 1	682	682	-	509	496	-	-	-	-	-	-	-
Stage 2	486	486	-	620	671	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.4	16.1	3.3	2.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	419	356	1378	-	-
HCM Lane V/C Ratio	0.102	-	-	0.41	0.092	0.039	-	-
HCM Control Delay (s)	7.8	0	-	19.4	16.1	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	9	7	18	70	346	0	22	430	90
Future Vol, veh/h	0	0	0	9	7	18	70	346	0	22	430	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	8	20	76	376	0	24	467	98

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1092	1141	376	565	0	0	376	0	0
Stage 1	528	528	-	-	-	-	-	-	-
Stage 2	564	613	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	237	201	670	1007	-	-	1182	-	-
Stage 1	592	528	-	-	-	-	-	-	-
Stage 2	569	483	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	208	0	670	1007	-	-	1182	-	-
Mov Cap-2 Maneuver	208	0	-	-	-	-	-	-	-
Stage 1	520	0	-	-	-	-	-	-	-
Stage 2	569	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	1.5	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1007	-	-	385	1182	-	-
HCM Lane V/C Ratio	0.076	-	-	0.096	0.02	-	-
HCM Control Delay (s)	8.9	0	-	15.3	8.1	0	-
HCM Lane LOS	A	A	-	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	266	0	10	210	15	0	0	10	0	0	0
Future Vol, veh/h	18	266	0	10	210	15	0	0	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	289	0	11	228	16	0	0	11	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	244	0	0	289	0	0	587	595	289	593	587	236
Stage 1	-	-	-	-	-	-	329	329	-	258	258	-
Stage 2	-	-	-	-	-	-	258	266	-	335	329	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1322	-	-	1273	-	-	421	417	750	417	422	803
Stage 1	-	-	-	-	-	-	684	646	-	747	694	-
Stage 2	-	-	-	-	-	-	747	689	-	679	646	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1322	-	-	1273	-	-	412	405	750	402	410	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	412	405	-	402	410	-
Stage 1	-	-	-	-	-	-	672	634	-	734	687	-
Stage 2	-	-	-	-	-	-	740	682	-	657	634	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	9.9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	750	1322	-	-	1273	-	-	-
HCM Lane V/C Ratio	0.014	0.015	-	-	0.009	-	-	-
HCM Control Delay (s)	9.9	7.8	0	-	7.9	0	-	0
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	138	10	10	165	74	10	10	10	146	50	50
Future Vol, veh/h	20	138	10	10	165	74	10	10	10	146	50	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	150	11	11	179	80	11	11	11	159	54	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	161	0	0	495	481	156	452	446	219
Stage 1	-	-	-	-	-	-	200	200	-	241	241	-
Stage 2	-	-	-	-	-	-	295	281	-	211	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1306	-	-	1418	-	-	485	485	890	518	507	821
Stage 1	-	-	-	-	-	-	802	736	-	762	706	-
Stage 2	-	-	-	-	-	-	713	678	-	791	732	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1306	-	-	1418	-	-	406	471	890	492	493	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	471	-	492	493	-
Stage 1	-	-	-	-	-	-	787	722	-	748	700	-
Stage 2	-	-	-	-	-	-	609	672	-	755	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.3	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	525	1306	-	-	1418	-	-	536
HCM Lane V/C Ratio	0.062	0.017	-	-	0.008	-	-	0.499
HCM Control Delay (s)	12.3	7.8	0	-	7.6	0	-	18.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1086	232	73	890	10	159	13	147	50	40	80
Future Volume (veh/h)	30	1086	232	73	890	10	159	13	147	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1180	252	79	967	11	173	14	160	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	1488	315	143	2015	23	235	13	460	47	43	39
Arrive On Green	0.03	0.51	0.51	0.16	1.00	1.00	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	2918	618	1781	3599	41	570	46	1585	0	150	134
Grp Volume(v), veh/h	33	715	717	79	477	501	187	0	160	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1863	616	0	1585	284	0	0
Q Serve(g_s), s	1.8	33.0	33.7	4.1	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.8	33.0	33.7	4.1	0.0	0.0	29.0	0.0	8.0	29.0	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.02	0.93		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	53	906	897	143	995	1043	248	0	460	129	0	0
V/C Ratio(X)	0.62	0.79	0.80	0.55	0.48	0.48	0.75	0.00	0.35	1.43	0.00	0.00
Avail Cap(c_a), veh/h	321	906	897	143	995	1043	248	0	460	129	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	47.9	20.1	20.3	40.4	0.0	0.0	36.1	0.0	28.0	33.0	0.0	0.0
Incr Delay (d2), s/veh	11.0	6.9	7.4	3.8	1.4	1.3	12.3	0.0	0.5	230.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	14.5	14.8	1.9	0.4	0.4	5.4	0.0	3.1	11.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	27.0	27.7	44.2	1.4	1.3	48.4	0.0	28.5	263.6	0.0	0.0
LnGrp LOS	E	C	C	D	A	A	D	A	C	F	A	A
Approach Vol, veh/h		1465			1057			347			184	
Approach Delay, s/veh		28.0			4.5			39.2			263.6	
Approach LOS		C			A			D			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	33.0	12.0	55.0	33.0	7.0	60.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	29.0	8.0	51.0	29.0	18.0	41.0
Max Q Clear Time (g_c+I1), s	31.0	6.1	35.7	31.0	3.8	2.0
Green Ext Time (p_c), s	0.0	0.0	9.0	0.0	0.0	7.8

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	217	133	0	0	166
Future Vol, veh/h	30	217	133	0	0	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	236	145	0	0	180

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	325	145	0	-	-	-
Stage 1	145	-	-	-	-	-
Stage 2	180	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	669	902	-	0	0	-
Stage 1	882	-	-	0	0	-
Stage 2	851	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	669	902	-	-	-	-
Mov Cap-2 Maneuver	669	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	865	-
HCM Lane V/C Ratio	-	0.31	-
HCM Control Delay (s)	-	11	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.3	-

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	1012	126	125	1048	40	52	92	269	70	116	79
Future Volume (veh/h)	176	1012	126	125	1048	40	52	92	269	70	116	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	1100	137	136	1139	43	57	100	292	76	126	86
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	623	1685	209	295	1048	40	235	114	332	115	198	135
Arrive On Green	0.62	1.00	1.00	0.08	0.30	0.30	0.04	0.27	0.27	0.19	0.19	0.19
Sat Flow, veh/h	1781	3181	395	1781	3492	132	1781	421	1229	992	1036	707
Grp Volume(v), veh/h	191	614	623	136	579	603	57	0	392	76	0	212
Grp Sat Flow(s),veh/h/ln	1781	1777	1799	1781	1777	1847	1781	0	1649	992	0	1743
Q Serve(g_s), s	0.1	0.0	0.0	6.0	30.0	30.0	2.5	0.0	22.7	4.3	0.0	11.2
Cycle Q Clear(g_c), s	0.1	0.0	0.0	6.0	30.0	30.0	2.5	0.0	22.7	19.1	0.0	11.2
Prop In Lane	1.00		0.22	1.00		0.07	1.00		0.74	1.00		0.41
Lane Grp Cap(c), veh/h	623	941	953	295	533	554	235	0	446	115	0	332
V/C Ratio(X)	0.31	0.65	0.65	0.46	1.09	1.09	0.24	0.00	0.88	0.66	0.00	0.64
Avail Cap(c_a), veh/h	623	941	953	474	533	554	485	0	660	115	0	332
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	28.1	35.0	35.0	29.9	0.0	34.9	48.8	0.0	37.3
Incr Delay (d2), s/veh	0.3	3.5	3.5	1.1	64.7	64.2	0.5	0.0	9.1	13.4	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.9	0.9	2.6	22.2	23.0	1.1	0.0	10.1	2.3	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.4	3.5	3.5	29.2	99.7	99.2	30.5	0.0	44.0	62.2	0.0	41.3
LnGrp LOS	B	A	A	C	F	F	C	A	D	E	A	D
Approach Vol, veh/h		1428			1318			449			288	
Approach Delay, s/veh		4.8			92.2			42.3			46.8	
Approach LOS		A			F			D			D	
Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		31.0	12.0	57.0	8.0	23.1	35.0	34.0				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	30.0	18.0	18.0	18.0	30.0				
Max Q Clear Time (g_c+I1), s		24.7	8.0	2.0	4.5	21.1	2.1	32.0				
Green Ext Time (p_c), s		2.3	0.2	10.2	0.1	0.0	0.5	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	931	180	185	682	230	104	23	146	325	192	291
Future Volume (veh/h)	280	931	180	185	682	230	104	23	146	325	192	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	304	1012	196	201	741	250	113	25	159	353	209	316
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	1129	218	327	1329	593	282	330	280	448	405	343
Arrive On Green	0.25	0.51	0.51	0.37	0.75	0.75	0.06	0.18	0.18	0.10	0.22	0.22
Sat Flow, veh/h	1781	2970	574	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	304	605	603	201	741	250	113	25	159	353	209	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	16.5	30.8	30.9	9.2	9.0	5.8	5.2	1.1	6.2	10.0	9.9	19.5
Cycle Q Clear(g_c), s	16.5	30.8	30.9	9.2	9.0	5.8	5.2	1.1	6.2	10.0	9.9	19.5
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	338	675	671	327	1329	593	282	330	280	448	405	343
V/C Ratio(X)	0.90	0.90	0.90	0.61	0.56	0.42	0.40	0.08	0.57	0.79	0.52	0.92
Avail Cap(c_a), veh/h	428	675	671	327	1329	593	282	337	285	448	411	349
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	22.9	23.0	28.8	9.0	8.6	31.3	34.4	17.4	33.0	34.6	38.3
Incr Delay (d2), s/veh	14.2	12.8	13.1	3.4	1.7	2.2	0.9	0.1	2.6	9.0	1.1	28.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	13.3	13.4	3.7	2.7	1.9	2.3	0.5	3.6	4.3	4.6	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	35.7	36.1	32.2	10.7	10.8	32.2	34.5	20.0	42.0	35.6	67.1
LnGrp LOS	D	D	D	C	B	B	C	C	B	D	D	E
Approach Vol, veh/h		1512			1192			297			878	
Approach Delay, s/veh		38.9			14.4			25.9			49.5	
Approach LOS		D			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	21.6	22.4	42.0	10.0	25.6	23.0	41.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	10.0	18.0	18.0	38.0	6.0	22.0	24.0	32.0				
Max Q Clear Time (g_c+I1), s	12.0	8.2	11.2	32.9	7.2	21.5	18.5	11.0				
Green Ext Time (p_c), s	0.0	0.4	0.3	3.3	0.0	0.1	0.5	6.2				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	256	67	0	0	0	0	27	36	45	32	0
Future Vol, veh/h	41	256	67	0	0	0	0	27	36	45	32	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	278	73	0	0	0	0	29	39	49	35	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.9	8.1	8.7
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	11%	58%
Vol Thru, %	43%	70%	42%
Vol Right, %	57%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	63	364	77
LT Vol	0	41	45
Through Vol	27	256	32
RT Vol	36	67	0
Lane Flow Rate	68	396	84
Geometry Grp	1	1	1
Degree of Util (X)	0.087	0.464	0.117
Departure Headway (Hd)	4.592	4.22	5.027
Convergence, Y/N	Yes	Yes	Yes
Cap	779	855	713
Service Time	2.624	2.237	3.057
HCM Lane V/C Ratio	0.087	0.463	0.118
HCM Control Delay	8.1	10.9	8.7
HCM Lane LOS	A	B	A
HCM 95th-tile Q	0.3	2.5	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	99	131	10	56	28	153	466	20	26	424	38
Future Volume (veh/h)	70	99	131	10	56	28	153	466	20	26	424	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	108	142	11	61	30	166	507	22	28	461	41
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	149	196	91	211	93	593	1134	49	575	1079	96
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1306	733	964	58	1037	456	896	1779	77	874	1693	151
Grp Volume(v), veh/h	76	0	250	102	0	0	166	0	529	28	0	502
Grp Sat Flow(s),veh/h/ln	1306	0	1697	1551	0	0	896	0	1856	874	0	1843
Q Serve(g_s), s	0.0	0.0	6.9	0.1	0.0	0.0	5.7	0.0	7.2	0.8	0.0	6.8
Cycle Q Clear(g_c), s	3.2	0.0	6.9	7.0	0.0	0.0	12.5	0.0	7.2	8.1	0.0	6.8
Prop In Lane	1.00		0.57	0.11		0.29	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	368	0	345	394	0	0	593	0	1184	575	0	1175
V/C Ratio(X)	0.21	0.00	0.73	0.26	0.00	0.00	0.28	0.00	0.45	0.05	0.00	0.43
Avail Cap(c_a), veh/h	623	0	676	720	0	0	593	0	1184	575	0	1175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	18.7	16.9	0.0	0.0	7.6	0.0	4.6	6.7	0.0	4.5
Incr Delay (d2), s/veh	0.3	0.0	2.9	0.3	0.0	0.0	1.2	0.0	1.2	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.7	0.9	0.0	0.0	1.0	0.0	2.0	0.1	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	21.6	17.3	0.0	0.0	8.8	0.0	5.8	6.8	0.0	5.7
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		326			102			695			530	
Approach Delay, s/veh		20.7			17.3			6.5			5.7	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		14.2		36.0		14.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		14.5		8.9		10.1		9.0				
Green Ext Time (p_c), s		4.2		1.3		3.5		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		9.7
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	27.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	30	100	20	0	40	0	427	0	10	557	0
Future Vol, veh/h	186	30	100	20	0	40	0	427	0	10	557	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	120	-	120	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	202	33	109	22	0	43	0	464	0	11	605	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1113	1091	605	1162	1091	464	-	0	0	464	0	0
Stage 1	627	627	-	464	464	-	-	-	-	-	-	-
Stage 2	486	464	-	698	627	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 186	215	498	172	215	598	0	-	-	1097	-	0
Stage 1	471	476	-	578	564	-	0	-	-	-	-	0
Stage 2	563	564	-	431	476	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 171	212	498	117	212	598	-	-	-	1097	-	-
Mov Cap-2 Maneuver	~ 171	212	-	117	212	-	-	-	-	-	-	-
Stage 1	471	469	-	578	564	-	-	-	-	-	-	-
Stage 2	522	564	-	309	469	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	113.2	24.2	0	0.1
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	171	212	498	252	1097	-
HCM Lane V/C Ratio	-	-	1.182	0.154	0.218	0.259	0.01	-
HCM Control Delay (s)	-	-	180.6	25	14.2	24.2	8.3	0
HCM Lane LOS	-	-	F	D	B	C	A	A
HCM 95th %tile Q(veh)	-	-	10.9	0.5	0.8	1	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1316	31	10	1177	0	0	0	52	10	10	40
Future Vol, veh/h	20	1316	31	10	1177	0	0	0	52	10	10	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1430	34	11	1279	0	0	0	57	11	11	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1279	0	0	1464	0	0	-	-	732	2060	2809	640
Stage 1	-	-	-	-	-	-	-	-	-	1301	1301	-
Stage 2	-	-	-	-	-	-	-	-	-	759	1508	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	539	-	-	457	-	-	0	0	364	32	18	418
Stage 1	-	-	-	-	-	-	0	0	-	170	229	-
Stage 2	-	-	-	-	-	-	0	0	-	365	182	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	539	-	-	457	-	-	-	-	364	22	14	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	22	14	-
Stage 1	-	-	-	-	-	-	-	-	-	132	224	-
Stage 2	-	-	-	-	-	-	-	-	-	240	141	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	16.7	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	539	-	-	457	-	-	418
HCM Lane V/C Ratio	0.155	0.04	-	-	0.024	-	-	0.104
HCM Control Delay (s)	16.7	12	-	-	13.1	-	-	14.6
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	178	0	60	111	0	0	0	0
Future Vol, veh/h	0	0	0	10	178	0	60	111	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	193	0	65	121	0	0	0	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	252	252	121	1	0	-	-	-	0
Stage 1	251	251	-	-	-	-	-	-	-
Stage 2	1	1	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	737	651	930	1622	-	0	0	-	-
Stage 1	791	699	-	-	-	0	0	-	-
Stage 2	1022	895	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	705	0	930	1622	-	-	-	-	-
Mov Cap-2 Maneuver	705	0	-	-	-	-	-	-	-
Stage 1	757	0	-	-	-	-	-	-	-
Stage 2	1022	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	1622	-	705	-	-
HCM Lane V/C Ratio	0.04	-	0.29	-	-
HCM Control Delay (s)	7.3	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	20	71	10	10	0	181	140	20	40	125	22
Future Vol, veh/h	90	20	71	10	10	0	181	140	20	40	125	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	22	77	11	11	0	197	152	22	43	136	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	797	802	148	841	803	163	160	0	0	174	0	0
Stage 1	234	234	-	557	557	-	-	-	-	-	-	-
Stage 2	563	568	-	284	246	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	305	317	899	284	317	882	1419	-	-	1403	-	-
Stage 1	769	711	-	515	512	-	-	-	-	-	-	-
Stage 2	511	506	-	723	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	254	259	899	209	259	882	1419	-	-	1403	-	-
Mov Cap-2 Maneuver	254	259	-	209	259	-	-	-	-	-	-	-
Stage 1	651	687	-	436	433	-	-	-	-	-	-	-
Stage 2	421	428	-	618	679	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27	22.2	4.2	1.6
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	355	231	1403	-	-
HCM Lane V/C Ratio	0.139	-	-	0.554	0.094	0.031	-	-
HCM Control Delay (s)	7.9	0	-	27	22.2	7.6	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	3.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	18	18	8	70	437	10	34	488	100
Future Vol, veh/h	0	0	0	18	18	8	70	437	10	34	488	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	20	20	9	76	475	11	37	530	109

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1292	1346	481	639	0	0	486	0	0
Stage 1	633	633	-	-	-	-	-	-	-
Stage 2	659	713	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	180	151	585	945	-	-	1077	-	-
Stage 1	529	473	-	-	-	-	-	-	-
Stage 2	515	435	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	152	0	585	945	-	-	1077	-	-
Mov Cap-2 Maneuver	152	0	-	-	-	-	-	-	-
Stage 1	445	0	-	-	-	-	-	-	-
Stage 2	515	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29	1.2	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	945	-	-	197	1077	-	-
HCM Lane V/C Ratio	0.081	-	-	0.243	0.034	-	-
HCM Control Delay (s)	9.1	0	-	29	8.5	0	-
HCM Lane LOS	A	A	-	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.9	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	289	10	10	213	14	10	0	10	0	0	0
Future Vol, veh/h	47	289	10	10	213	14	10	0	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	314	11	11	232	15	11	0	11	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	325	0	0	684	691	320	689	689	240
Stage 1	-	-	-	-	-	-	422	422	-	262	262	-
Stage 2	-	-	-	-	-	-	262	269	-	427	427	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1235	-	-	363	368	721	360	369	799
Stage 1	-	-	-	-	-	-	609	588	-	743	691	-
Stage 2	-	-	-	-	-	-	743	687	-	606	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1235	-	-	347	347	721	339	348	799
Mov Cap-2 Maneuver	-	-	-	-	-	-	347	347	-	339	348	-
Stage 1	-	-	-	-	-	-	580	560	-	708	684	-
Stage 2	-	-	-	-	-	-	736	680	-	569	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.3	13	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	469	1319	-	-	1235	-	-	-
HCM Lane V/C Ratio	0.046	0.039	-	-	0.009	-	-	-
HCM Control Delay (s)	13	7.8	0	-	7.9	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	207	10	0	214	69	10	0	10	159	40	37
Future Vol, veh/h	20	207	10	0	214	69	10	0	10	159	40	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	225	11	0	233	75	11	0	11	173	43	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	308	0	0	236	0	0	587	583	231	551	551	271
Stage 1	-	-	-	-	-	-	275	275	-	271	271	-
Stage 2	-	-	-	-	-	-	312	308	-	280	280	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1253	-	-	1331	-	-	421	424	808	445	442	768
Stage 1	-	-	-	-	-	-	731	683	-	735	685	-
Stage 2	-	-	-	-	-	-	699	660	-	727	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1253	-	-	1331	-	-	363	416	808	432	433	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	363	416	-	432	433	-
Stage 1	-	-	-	-	-	-	716	669	-	720	685	-
Stage 2	-	-	-	-	-	-	620	660	-	703	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.5	21.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	501	1253	-	-	1331	-	-	464
HCM Lane V/C Ratio	0.043	0.017	-	-	-	-	-	0.553
HCM Control Delay (s)	12.5	7.9	0	-	0	-	-	21.9
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	731	245	26	729	0	197	30	158	10	20	70
Future Volume (veh/h)	50	731	245	26	729	0	197	30	158	10	20	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	795	266	28	792	0	214	33	172	11	22	76
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	1380	461	50	1828	0	176	16	493	44	77	178
Arrive On Green	0.04	0.53	0.53	0.06	1.00	0.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	2615	875	1781	3647	0	326	50	1585	0	248	571
Grp Volume(v), veh/h	54	540	521	28	792	0	247	0	172	109	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	0	377	0	1585	819	0	0
Q Serve(g_s), s	2.7	18.6	18.6	1.4	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	18.6	18.6	1.4	0.0	0.0	28.0	0.0	7.5	28.0	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.00	0.87		1.00	0.10		0.70
Lane Grp Cap(c), veh/h	73	937	904	50	1828	0	192	0	493	299	0	0
V/C Ratio(X)	0.74	0.58	0.58	0.56	0.43	0.00	1.29	0.00	0.35	0.36	0.00	0.00
Avail Cap(c_a), veh/h	356	937	904	99	1828	0	192	0	493	299	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.7	14.4	14.4	41.9	0.0	0.0	36.4	0.0	24.0	24.0	0.0	0.0
Incr Delay (d2), s/veh	13.3	2.6	2.7	8.7	0.7	0.0	162.8	0.0	0.4	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.6	7.4	0.7	0.2	0.0	12.9	0.0	2.8	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	17.0	17.1	50.7	0.7	0.0	199.2	0.0	24.4	24.7	0.0	0.0
LnGrp LOS	E	B	B	D	A	A	F	A	C	C	A	A
Approach Vol, veh/h		1115			820			419			109	
Approach Delay, s/veh		18.9			2.4			127.5			24.7	
Approach LOS		B			A			F			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.0	6.5	51.5		32.0	7.7	50.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		28.0	5.0	45.0		28.0	18.0	32.0				
Max Q Clear Time (g_c+I1), s		30.0	3.4	20.6		30.0	4.7	2.0				
Green Ext Time (p_c), s		0.0	0.0	8.0		0.0	0.1	6.3				

Intersection Summary												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	238	137	0	0	196
Future Vol, veh/h	60	238	137	0	0	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	259	149	0	0	213

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	362	149	0	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	637	898	-	0	0	-
Stage 1	879	-	-	0	0	-
Stage 2	823	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	637	898	-	-	-	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	830	-
HCM Lane V/C Ratio	-	0.39	-
HCM Control Delay (s)	-	12.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.9	-

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	754	97	125	783	20	77	73	265	20	87	62
Future Volume (veh/h)	184	754	97	125	783	20	77	73	265	20	87	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	820	105	136	851	22	84	79	288	22	95	67
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	1627	208	484	1738	45	284	103	377	80	204	144
Arrive On Green	0.16	1.00	1.00	0.06	0.49	0.49	0.05	0.29	0.29	0.20	0.20	0.20
Sat Flow, veh/h	1781	3168	406	1781	3539	91	1781	353	1286	1015	1021	720
Grp Volume(v), veh/h	200	460	465	136	427	446	84	0	367	22	0	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1797	1781	1777	1854	1781	0	1639	1015	0	1741
Q Serve(g_s), s	5.1	0.0	0.0	3.3	14.5	14.5	0.0	0.0	18.4	0.0	0.0	7.4
Cycle Q Clear(g_c), s	5.1	0.0	0.0	3.3	14.5	14.5	0.0	0.0	18.4	18.0	0.0	7.4
Prop In Lane	1.00		0.23	1.00		0.05	1.00		0.78	1.00		0.41
Lane Grp Cap(c), veh/h	436	912	923	484	873	911	284	0	481	80	0	348
V/C Ratio(X)	0.46	0.50	0.50	0.28	0.49	0.49	0.30	0.00	0.76	0.27	0.00	0.47
Avail Cap(c_a), veh/h	646	912	923	733	873	911	553	0	728	80	0	348
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	9.8	15.3	15.3	35.4	0.0	29.0	45.0	0.0	31.8
Incr Delay (d2), s/veh	0.8	2.0	2.0	0.3	2.0	1.9	0.6	0.0	2.6	1.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.5	0.5	1.3	6.0	6.2	1.7	0.0	7.3	0.5	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	2.0	2.0	10.1	17.3	17.2	35.9	0.0	31.6	46.8	0.0	32.7
LnGrp LOS	B	A	A	B	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1125			1009			451			184	
Approach Delay, s/veh		3.5			16.3			32.4			34.4	
Approach LOS		A			B			C			C	

Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		30.4	9.4	50.2	8.4	22.0	11.4	48.2				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		20.4	5.3	2.0	2.0	20.0	7.1	16.5				
Green Ext Time (p_c), s		2.4	0.3	5.8	0.2	0.0	0.4	1.8				

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

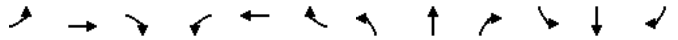
HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

Aggieville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	666	100	201	520	241	0	0	0	245	226	235
Future Volume (veh/h)	229	666	100	201	520	241	0	0	0	245	226	235
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	249	724	109	218	565	262				266	246	255
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	555	1627	245	252	1264	564				356	373	316
Arrive On Green	0.62	1.00	1.00	0.28	0.71	0.71				0.20	0.20	0.20
Sat Flow, veh/h	1781	3097	466	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	249	415	418	218	565	262				266	246	255
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	6.6	0.0	0.0	10.5	6.1	6.4				12.6	10.9	13.8
Cycle Q Clear(g_c), s	6.6	0.0	0.0	10.5	6.1	6.4				12.6	10.9	13.8
Prop In Lane	1.00		0.26	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	555	933	938	252	1264	564				356	373	316
V/C Ratio(X)	0.45	0.44	0.45	0.86	0.45	0.46				0.75	0.66	0.81
Avail Cap(c_a), veh/h	555	933	938	396	1264	564				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	0.0	0.0	31.4	9.3	9.3				33.9	33.2	34.4
Incr Delay (d2), s/veh	0.5	1.4	1.3	11.3	1.1	2.7				4.5	2.0	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.4	0.4	4.6	2.0	2.1				5.8	5.1	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.4	1.4	1.3	42.7	10.4	12.0				38.4	35.2	42.5
LnGrp LOS	B	A	A	D	B	B				D	D	D
Approach Vol, veh/h		1082			1045						767	
Approach Delay, s/veh		4.1			17.5						38.7	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			16.8	51.3		22.0	32.0	36.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			20.0	34.0		24.0	22.0	32.0				
Max Q Clear Time (g_c+I1), s			12.5	2.0		15.8	8.6	8.4				
Green Ext Time (p_c), s			0.4	6.1		2.2	0.6	5.0				

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	76	182	0	56	18	140	455	10	16	405	39
Future Volume (veh/h)	50	76	182	0	56	18	140	455	10	16	405	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	83	198	0	61	20	152	495	11	17	440	42
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	109	260	0	300	98	585	1133	25	569	1045	100
Arrive On Green	0.22	0.22	0.22	0.00	0.22	0.22	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1317	490	1170	0	1349	442	913	1823	41	893	1681	160
Grp Volume(v), veh/h	54	0	281	0	0	81	152	0	506	17	0	482
Grp Sat Flow(s),veh/h/ln	1317	0	1660	0	0	1791	913	0	1863	893	0	1841
Q Serve(g_s), s	1.8	0.0	8.2	0.0	0.0	1.9	5.3	0.0	7.3	0.5	0.0	6.9
Cycle Q Clear(g_c), s	3.7	0.0	8.2	0.0	0.0	1.9	12.2	0.0	7.3	7.8	0.0	6.9
Prop In Lane	1.00		0.70	0.00		0.25	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	385	0	370	0	0	399	585	0	1159	569	0	1145
V/C Ratio(X)	0.14	0.00	0.76	0.00	0.00	0.20	0.26	0.00	0.44	0.03	0.00	0.42
Avail Cap(c_a), veh/h	603	0	645	0	0	696	585	0	1159	569	0	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	18.7	0.0	0.0	16.3	8.1	0.0	5.0	7.1	0.0	5.0
Incr Delay (d2), s/veh	0.2	0.0	3.2	0.0	0.0	0.2	1.1	0.0	1.2	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.1	0.0	0.0	0.7	1.0	0.0	2.1	0.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	22.0	0.0	0.0	16.5	9.2	0.0	6.2	7.2	0.0	6.1
LnGrp LOS	B	A	C	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		335			81			658			499	
Approach Delay, s/veh		21.3			16.5			6.9			6.2	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		15.5		36.0		15.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		14.2		10.2		9.8		3.9				
Green Ext Time (p_c), s		4.0		1.3		3.3		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.2									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	10	397	10	10	459
Future Vol, veh/h	20	10	397	10	10	459
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	11	432	11	11	499

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	959	438	0	0	443	0
Stage 1	438	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	285	619	-	-	1117	-
Stage 1	651	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	281	619	-	-	1117	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 344	1117	-
HCM Lane V/C Ratio	-	- 0.095	0.01	-
HCM Control Delay (s)	-	- 16.6	8.3	0
HCM Lane LOS	-	- C	A	A
HCM 95th %tile Q(veh)	-	- 0.3	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	903	8	3	932	10	0	0	63	10	10	30
Future Vol, veh/h	10	903	8	3	932	10	0	0	63	10	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	982	9	3	1013	11	0	0	68	11	11	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1024	0	0	991	0	0	-	-	496	1538	2038	512
Stage 1	-	-	-	-	-	-	-	-	-	1025	1025	-
Stage 2	-	-	-	-	-	-	-	-	-	513	1013	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	674	-	-	693	-	-	0	0	519	79	56	507
Stage 1	-	-	-	-	-	-	0	0	-	252	311	-
Stage 2	-	-	-	-	-	-	0	0	-	512	315	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	674	-	-	693	-	-	-	-	519	66	54	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	66	54	-
Stage 1	-	-	-	-	-	-	-	-	-	243	310	-
Stage 2	-	-	-	-	-	-	-	-	-	428	304	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	674	-	-	693	-	-	507
HCM Lane V/C Ratio	0.132	0.016	-	-	0.005	-	-	0.064
HCM Control Delay (s)	13	10.4	-	-	10.2	-	-	12.6
HCM Lane LOS	B	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	15.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	221	68	10	177	0	60	113	28	6	131	10
Future Vol, veh/h	90	221	68	10	177	0	60	113	28	6	131	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	240	74	11	192	0	65	123	30	7	142	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	314	0	0	764	687	277	764	724	192
Stage 1	-	-	-	-	-	-	473	473	-	214	214	-
Stage 2	-	-	-	-	-	-	291	214	-	550	510	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1246	-	-	321	370	762	321	352	850
Stage 1	-	-	-	-	-	-	572	558	-	788	725	-
Stage 2	-	-	-	-	-	-	717	725	-	519	538	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1381	-	-	1246	-	-	192	334	762	205	318	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	192	334	-	205	318	-
Stage 1	-	-	-	-	-	-	522	509	-	719	718	-
Stage 2	-	-	-	-	-	-	562	718	-	345	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.4	46.5	24.7
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	292	1381	-	-	1246	-	-	333
HCM Lane V/C Ratio	0.748	0.071	-	-	0.009	-	-	0.46
HCM Control Delay (s)	46.5	7.8	0	-	7.9	0	-	24.7
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	5.6	0.2	-	-	0	-	-	2.3

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	20	118	10	10	10	135	24	40	50	201	31
Future Vol, veh/h	20	20	118	10	10	10	135	24	40	50	201	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	22	128	11	11	11	147	26	43	54	218	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	696	706	235	760	702	48	252	0	0	69	0	0
Stage 1	343	343	-	342	342	-	-	-	-	-	-	-
Stage 2	353	363	-	418	360	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	356	361	804	323	362	1021	1313	-	-	1532	-	-
Stage 1	672	637	-	673	638	-	-	-	-	-	-	-
Stage 2	664	625	-	612	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	303	306	804	227	307	1021	1313	-	-	1532	-	-
Mov Cap-2 Maneuver	303	306	-	227	307	-	-	-	-	-	-	-
Stage 1	593	611	-	594	563	-	-	-	-	-	-	-
Stage 2	569	552	-	476	600	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	16.4	5.5	1.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1313	-	-	568	347	1532	-	-
HCM Lane V/C Ratio	0.112	-	-	0.302	0.094	0.035	-	-
HCM Control Delay (s)	8.1	0	-	14.1	16.4	7.4	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	1.3	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	24.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	154	10	81	9	7	18	70	403	0	22	430	90
Future Vol, veh/h	154	10	81	9	7	18	70	403	0	22	430	90
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	167	11	88	10	8	20	76	438	0	24	467	98

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1168	1154	516	1204	1203	438	565	0	0	438	0	0
Stage 1	564	564	-	590	590	-	-	-	-	-	-	-
Stage 2	604	590	-	614	613	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	170	197	559	161	184	619	1007	-	-	1122	-	-
Stage 1	510	508	-	494	495	-	-	-	-	-	-	-
Stage 2	485	495	-	479	483	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 143	172	559	116	160	619	1007	-	-	1122	-	-
Mov Cap-2 Maneuver	~ 143	172	-	116	160	-	-	-	-	-	-	-
Stage 1	459	492	-	445	446	-	-	-	-	-	-	-
Stage 2	415	446	-	382	468	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	125	24	1.3	0.3
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1007	-	-	143	448	226	1122	-	-
HCM Lane V/C Ratio	0.076	-	-	1.171	0.221	0.164	0.021	-	-
HCM Control Delay (s)	8.9	0	-	189.9	15.3	24	8.3	0	-
HCM Lane LOS	A	A	-	F	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	9.6	0.8	0.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	266	0	10	210	15	0	0	10	32	0	29
Future Vol, veh/h	18	266	0	10	210	15	0	0	10	32	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	289	0	11	228	16	0	0	11	35	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	244	0	0	289	0	0	603	595	289	593	587	236
Stage 1	-	-	-	-	-	-	329	329	-	258	258	-
Stage 2	-	-	-	-	-	-	274	266	-	335	329	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1322	-	-	1273	-	-	411	417	750	417	422	803
Stage 1	-	-	-	-	-	-	684	646	-	747	694	-
Stage 2	-	-	-	-	-	-	732	689	-	679	646	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1322	-	-	1273	-	-	386	405	750	402	410	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	386	405	-	402	410	-
Stage 1	-	-	-	-	-	-	672	634	-	734	687	-
Stage 2	-	-	-	-	-	-	696	682	-	657	634	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	9.9	12.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	750	1322	-	-	1273	-	-	527
HCM Lane V/C Ratio	0.014	0.015	-	-	0.009	-	-	0.126
HCM Control Delay (s)	9.9	7.8	0	-	7.9	0	-	12.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	138	10	10	165	74	10	10	10	146	50	50
Future Vol, veh/h	20	138	10	10	165	74	10	10	10	146	50	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	150	11	11	179	80	11	11	11	159	54	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	161	0	0	495	481	156	452	446	219
Stage 1	-	-	-	-	-	-	200	200	-	241	241	-
Stage 2	-	-	-	-	-	-	295	281	-	211	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1306	-	-	1418	-	-	485	485	890	518	507	821
Stage 1	-	-	-	-	-	-	802	736	-	762	706	-
Stage 2	-	-	-	-	-	-	713	678	-	791	732	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1306	-	-	1418	-	-	406	471	890	492	493	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	471	-	492	493	-
Stage 1	-	-	-	-	-	-	787	722	-	748	700	-
Stage 2	-	-	-	-	-	-	609	672	-	755	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.3	12.3	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	525	1306	-	-	1418	-	-	536
HCM Lane V/C Ratio	0.062	0.017	-	-	0.008	-	-	0.499
HCM Control Delay (s)	12.3	7.8	0	-	7.6	0	-	18.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	2.8

HCM 6th Signalized Intersection Summary
1: N 14th St & Anderson Ave

Aggiville
09/05/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1086	232	73	890	10	237	20	220	50	40	80
Future Volume (veh/h)	30	1086	232	73	890	10	237	20	220	50	40	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1180	252	79	967	11	258	22	239	54	43	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1424	302	100	1847	21	260	16	511	52	48	43
Arrive On Green	0.03	0.49	0.49	0.11	1.00	1.00	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	2918	618	1781	3599	41	569	49	1585	0	150	134
Grp Volume(v), veh/h	33	715	717	79	477	501	280	0	239	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1863	618	0	1585	284	0	0
Q Serve(g_s), s	1.6	31.0	31.7	3.9	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	31.0	31.7	3.9	0.0	0.0	29.0	0.0	10.8	29.0	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.02	0.92		1.00	0.29		0.47
Lane Grp Cap(c), veh/h	56	867	859	100	912	956	276	0	511	143	0	0
V/C Ratio(X)	0.59	0.82	0.84	0.79	0.52	0.52	1.01	0.00	0.47	1.28	0.00	0.00
Avail Cap(c_a), veh/h	356	867	859	119	912	956	276	0	511	143	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.0	19.7	19.9	39.4	0.0	0.0	34.5	0.0	24.3	28.0	0.0	0.0
Incr Delay (d2), s/veh	9.7	8.8	9.4	20.7	1.7	1.6	58.0	0.0	0.7	170.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	14.0	14.2	2.2	0.4	0.4	10.5	0.0	4.0	9.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	28.5	29.3	60.1	1.7	1.6	92.5	0.0	25.0	198.2	0.0	0.0
LnGrp LOS	D	C	C	E	A	A	F	A	C	F	A	A
Approach Vol, veh/h		1465			1057			519			184	
Approach Delay, s/veh		29.5			6.0			61.4			198.2	
Approach LOS		C			A			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.0	9.1	47.9		33.0	6.8	50.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		29.0	6.0	43.0		29.0	18.0	31.0				
Max Q Clear Time (g_c+I1), s		31.0	5.9	33.7		31.0	3.6	2.0				
Green Ext Time (p_c), s		0.0	0.0	6.2		0.0	0.0	7.3				

Intersection Summary												
HCM 6th Ctrl Delay			36.6									
HCM 6th LOS			D									

HCM 6th TWSC
85: Manhattan Ave & Laramie St

Aggieville
09/05/2018

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	217	133	116	153	166
Future Vol, veh/h	30	217	133	116	153	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	236	145	126	166	180

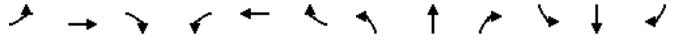
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	720	208	0	0	271	0
Stage 1	208	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	395	832	-	-	1292	-
Stage 1	827	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	339	832	-	-	1292	-
Mov Cap-2 Maneuver	339	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	339	832	1292	-
HCM Lane V/C Ratio	-	-	0.096	0.283	0.129	-
HCM Control Delay (s)	-	-	16.7	11	8.2	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	1.2	0.4	-

HCM 6th Signalized Intersection Summary
4: N 11th St & Bluemont Ave

Aggiville
09/05/2018



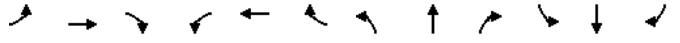
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	1012	126	125	1048	40	77	108	316	70	116	79
Future Volume (veh/h)	176	1012	126	125	1048	40	77	108	316	70	116	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	1100	137	136	1139	43	84	117	343	76	126	86
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	1554	193	262	1646	62	304	133	389	129	229	156
Arrive On Green	0.03	0.16	0.16	0.06	0.47	0.47	0.05	0.32	0.32	0.22	0.22	0.22
Sat Flow, veh/h	1781	3181	395	1781	3492	132	1781	419	1230	932	1036	707
Grp Volume(v), veh/h	191	614	623	136	579	603	84	0	460	76	0	212
Grp Sat Flow(s),veh/h/ln	1781	1777	1799	1781	1777	1847	1781	0	1649	932	0	1743
Q Serve(g_s), s	4.8	29.4	29.5	3.5	23.0	23.0	3.1	0.0	23.8	4.7	0.0	9.7
Cycle Q Clear(g_c), s	4.8	29.4	29.5	3.5	23.0	23.0	3.1	0.0	23.8	19.9	0.0	9.7
Prop In Lane	1.00		0.22	1.00		0.07	1.00		0.75	1.00		0.41
Lane Grp Cap(c), veh/h	322	868	879	262	838	870	304	0	522	129	0	385
V/C Ratio(X)	0.59	0.71	0.71	0.52	0.69	0.69	0.28	0.00	0.88	0.59	0.00	0.55
Avail Cap(c_a), veh/h	538	868	879	508	838	870	568	0	733	129	0	385
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	31.7	31.7	16.9	18.7	18.7	24.3	0.0	29.1	43.5	0.0	31.1
Incr Delay (d2), s/veh	1.7	4.8	4.8	1.6	4.7	4.5	0.5	0.0	9.1	7.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	15.0	15.3	1.4	10.0	10.3	1.3	0.0	10.4	1.9	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	36.5	36.5	18.5	23.3	23.2	24.8	0.0	38.2	50.5	0.0	32.8
LnGrp LOS	B	D	D	B	C	C	C	A	D	D	A	C
Approach Vol, veh/h		1428			1318			544			288	
Approach Delay, s/veh		34.0			22.8			36.2			37.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		32.5	9.5	48.0	8.6	23.9	11.1	46.4				
Change Period (Y+Rc), s		4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s		40.0	18.0	20.0	18.0	18.0	18.0	20.0				
Max Q Clear Time (g_c+I1), s		25.8	5.5	31.5	5.1	21.9	6.8	25.0				
Green Ext Time (p_c), s		2.7	0.3	0.0	0.1	0.0	0.4	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
2: Manhattan Ave & Anderson Ave

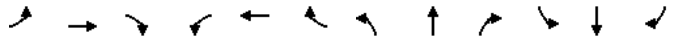
Aggiville
09/05/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	931	180	185	682	230	0	0	0	325	192	291
Future Volume (veh/h)	280	931	180	185	682	230	0	0	0	325	192	291
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	304	1012	196	201	741	250				353	209	316
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	537	1493	289	235	1185	528				413	434	368
Arrive On Green	0.60	1.00	1.00	0.26	0.67	0.67				0.23	0.23	0.23
Sat Flow, veh/h	1781	2970	574	1781	3554	1585				1781	1870	1585
Grp Volume(v), veh/h	304	605	603	201	741	250				353	209	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1781	1777	1585				1781	1870	1585
Q Serve(g_s), s	9.3	0.0	0.0	9.7	10.7	6.9				17.1	8.7	17.2
Cycle Q Clear(g_c), s	9.3	0.0	0.0	9.7	10.7	6.9				17.1	8.7	17.2
Prop In Lane	1.00		0.32	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	537	893	888	235	1185	528				413	434	368
V/C Ratio(X)	0.57	0.68	0.68	0.86	0.63	0.47				0.85	0.48	0.86
Avail Cap(c_a), veh/h	537	893	888	356	1185	528				475	499	423
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	32.3	11.8	11.2				33.1	29.9	33.1
Incr Delay (d2), s/veh	0.9	2.5	2.6	12.2	2.5	3.0				12.7	0.8	14.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.6	0.6	4.3	3.3	2.3				8.6	3.9	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	2.5	2.6	44.5	14.3	14.2				45.8	30.7	47.8
LnGrp LOS	B	A	A	D	B	B				D	C	D
Approach Vol, veh/h		1512			1192						878	
Approach Delay, s/veh		5.1			19.4						42.9	
Approach LOS		A			B						D	

Timer - Assigned Phs			3	4		6	7	8				
Phs Duration (G+Y+Rc), s			15.9	49.2		24.9	31.1	34.0				
Change Period (Y+Rc), s			4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s			18.0	36.0		24.0	24.0	30.0				
Max Q Clear Time (g_c+I1), s			11.7	2.0		19.2	11.3	12.7				
Green Ext Time (p_c), s			0.3	10.6		1.7	0.7	5.7				

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	99	131	10	56	28	153	466	20	26	424	38
Future Volume (veh/h)	70	99	131	10	56	28	153	466	20	26	424	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	108	142	11	61	30	166	507	22	28	461	41
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	149	196	91	211	93	593	1134	49	575	1079	96
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1306	733	964	58	1037	456	896	1779	77	874	1693	151
Grp Volume(v), veh/h	76	0	250	102	0	0	166	0	529	28	0	502
Grp Sat Flow(s),veh/h/ln	1306	0	1697	1551	0	0	896	0	1856	874	0	1843
Q Serve(g_s), s	0.0	0.0	6.9	0.1	0.0	0.0	5.7	0.0	7.2	0.8	0.0	6.8
Cycle Q Clear(g_c), s	3.2	0.0	6.9	7.0	0.0	0.0	12.5	0.0	7.2	8.1	0.0	6.8
Prop In Lane	1.00		0.57	0.11		0.29	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	368	0	345	394	0	0	593	0	1184	575	0	1175
V/C Ratio(X)	0.21	0.00	0.73	0.26	0.00	0.00	0.28	0.00	0.45	0.05	0.00	0.43
Avail Cap(c_a), veh/h	623	0	676	720	0	0	593	0	1184	575	0	1175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	18.7	16.9	0.0	0.0	7.6	0.0	4.6	6.7	0.0	4.5
Incr Delay (d2), s/veh	0.3	0.0	2.9	0.3	0.0	0.0	1.2	0.0	1.2	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.7	0.9	0.0	0.0	1.0	0.0	2.0	0.1	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	21.6	17.3	0.0	0.0	8.8	0.0	5.8	6.8	0.0	5.7
LnGrp LOS	B	A	C	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		326			102			695			530	
Approach Delay, s/veh		20.7			17.3			6.5			5.7	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		14.2		36.0		14.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		32.0		20.0		32.0		20.0				
Max Q Clear Time (g_c+I1), s		14.5		8.9		10.1		9.0				
Green Ext Time (p_c), s		4.2		1.3		3.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	40	494	0	10	557
Future Vol, veh/h	20	40	494	0	10	557
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	43	537	0	11	605

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1164	537	0	0	537	0
Stage 1	537	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	215	544	-	-	1031	-
Stage 1	586	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	212	544	-	-	1031	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	357	1031	-
HCM Lane V/C Ratio	-	-	0.183	0.011	-
HCM Control Delay (s)	-	-	17.3	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1316	31	10	1177	0	0	0	78	10	10	40
Future Vol, veh/h	20	1316	31	10	1177	0	0	0	78	10	10	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	185	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1430	34	11	1279	0	0	0	85	11	11	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1279	0	0	1464	0	0	-	-	732	2060	2809	640
Stage 1	-	-	-	-	-	-	-	-	-	1301	1301	-
Stage 2	-	-	-	-	-	-	-	-	-	759	1508	-
Critical Hdwy	4.14	-	-	4.14	-	-	-	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	-	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	539	-	-	457	-	-	0	0	364	32	18	418
Stage 1	-	-	-	-	-	-	0	0	-	170	229	-
Stage 2	-	-	-	-	-	-	0	0	-	365	182	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	539	-	-	457	-	-	-	-	364	20	14	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	20	14	-
Stage 1	-	-	-	-	-	-	-	-	-	132	224	-
Stage 2	-	-	-	-	-	-	-	-	-	218	141	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	17.9	14.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	539	-	-	457	-	-	418
HCM Lane V/C Ratio	0.233	0.04	-	-	0.024	-	-	0.104
HCM Control Delay (s)	17.9	12	-	-	13.1	-	-	14.6
HCM Lane LOS	C	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	267	67	10	178	0	60	111	36	45	131	10
Future Vol, veh/h	60	267	67	10	178	0	60	111	36	45	131	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	290	73	11	193	0	65	121	39	49	142	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	193	0	0	363	0	0	749	672	327	752	708	193
Stage 1	-	-	-	-	-	-	457	457	-	215	215	-
Stage 2	-	-	-	-	-	-	292	215	-	537	493	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1380	-	-	1196	-	-	328	377	714	327	360	849
Stage 1	-	-	-	-	-	-	583	568	-	787	725	-
Stage 2	-	-	-	-	-	-	716	725	-	528	547	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1380	-	-	1196	-	-	206	351	714	215	335	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	351	-	215	335	-
Stage 1	-	-	-	-	-	-	548	534	-	740	718	-
Stage 2	-	-	-	-	-	-	561	718	-	363	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.4	40.5	23.1
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	315	1380	-	-	1196	-	-	350
HCM Lane V/C Ratio	0.714	0.047	-	-	0.009	-	-	0.438
HCM Control Delay (s)	40.5	7.7	0	-	8	0	-	23.1
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	5.1	0.1	-	-	0	-	-	2.1

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	20	132	10	10	0	181	0	20	40	266	22
Future Vol, veh/h	29	20	132	10	10	0	181	0	20	40	266	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	22	143	11	11	0	197	0	22	43	289	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	798	803	301	875	804	11	313	0	0	22	0	0
Stage 1	387	387	-	405	405	-	-	-	-	-	-	-
Stage 2	411	416	-	470	399	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	304	317	739	270	316	1070	1247	-	-	1593	-	-
Stage 1	637	610	-	622	598	-	-	-	-	-	-	-
Stage 2	618	592	-	574	602	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	252	257	739	174	257	1070	1247	-	-	1593	-	-
Mov Cap-2 Maneuver	252	257	-	174	257	-	-	-	-	-	-	-
Stage 1	535	590	-	522	502	-	-	-	-	-	-	-
Stage 2	508	497	-	431	582	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	24.3	7.6	0.9
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1247	-	-	487	208	1593	-	-
HCM Lane V/C Ratio	0.158	-	-	0.404	0.105	0.027	-	-
HCM Control Delay (s)	8.4	0	-	17.3	24.3	7.3	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	1.9	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

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

Intersection	
Int Delay, s/veh	106.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	208	30	100	18	18	8	70	504	10	34	488	100
Future Vol, veh/h	208	30	100	18	18	8	70	504	10	34	488	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	226	33	109	20	20	9	76	548	11	37	530	109

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1379	1370	585	1436	1419	554	639	0	0	559	0	0
Stage 1	659	659	-	706	706	-	-	-	-	-	-	-
Stage 2	720	711	-	730	713	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 122	146	511	111	137	532	945	-	-	1012	-	-
Stage 1	453	461	-	427	439	-	-	-	-	-	-	-
Stage 2	419	436	-	414	435	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 91	121	511	61	114	532	945	-	-	1012	-	-
Mov Cap-2 Maneuver	~ 91	121	-	61	114	-	-	-	-	-	-	-
Stage 1	400	434	-	377	388	-	-	-	-	-	-	-
Stage 2	346	385	-	284	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 486.7	77.6	1.1	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	945	-	-	91	293	94	1012	-	-
HCM Lane V/C Ratio	0.081	-	-	2.484	0.482	0.509	0.037	-	-
HCM Control Delay (s)	9.1	0	-	$ 773.3	28.2	77.6	8.7	0	-
HCM Lane LOS	A	A	-	F	D	F	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	20.9	2.5	2.2	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	289	10	10	213	14	10	0	10	41	0	50
Future Vol, veh/h	47	289	10	10	213	14	10	0	10	41	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	314	11	11	232	15	11	0	11	45	0	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	325	0	0	711	691	320	689	689	240
Stage 1	-	-	-	-	-	-	422	422	-	262	262	-
Stage 2	-	-	-	-	-	-	289	269	-	427	427	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1235	-	-	348	368	721	360	369	799
Stage 1	-	-	-	-	-	-	609	588	-	743	691	-
Stage 2	-	-	-	-	-	-	719	687	-	606	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1235	-	-	310	347	721	339	348	799
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	347	-	339	348	-
Stage 1	-	-	-	-	-	-	580	560	-	708	684	-
Stage 2	-	-	-	-	-	-	663	680	-	569	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.3	13.7	14.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	434	1319	-	-	1235	-	-	496
HCM Lane V/C Ratio	0.05	0.039	-	-	0.009	-	-	0.199
HCM Control Delay (s)	13.7	7.8	0	-	7.9	0	-	14.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	207	10	0	214	69	10	0	10	159	40	37
Future Vol, veh/h	20	207	10	0	214	69	10	0	10	159	40	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	225	11	0	233	75	11	0	11	173	43	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	308	0	0	236	0	0	587	583	231	551	551	271
Stage 1	-	-	-	-	-	-	275	275	-	271	271	-
Stage 2	-	-	-	-	-	-	312	308	-	280	280	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1253	-	-	1331	-	-	421	424	808	445	442	768
Stage 1	-	-	-	-	-	-	731	683	-	735	685	-
Stage 2	-	-	-	-	-	-	699	660	-	727	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1253	-	-	1331	-	-	363	416	808	432	433	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	363	416	-	432	433	-
Stage 1	-	-	-	-	-	-	716	669	-	720	685	-
Stage 2	-	-	-	-	-	-	620	660	-	703	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	12.5	21.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	501	1253	-	-	1331	-	-	464
HCM Lane V/C Ratio	0.043	0.017	-	-	-	-	-	0.553
HCM Control Delay (s)	12.5	7.9	0	-	0	-	-	21.9
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	3.3

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	238	137	143	202	196
Future Vol, veh/h	60	238	137	143	202	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	259	149	155	220	213

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	880	227	0	0	304	0
Stage 1	227	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	318	812	-	-	1257	-
Stage 1	811	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	255	812	-	-	1257	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	518	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	4.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	255	812	1257	-
HCM Lane V/C Ratio	-	-	0.256	0.319	0.175	-
HCM Control Delay (s)	-	-	23.9	11.5	8.5	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	1	1.4	0.6	-

AGGIEVILLE

VISION TO REALITY

3

Public Engagement

NEW BOSTON
creative group

Final Community Engagement Report of Findings

Focus Groups
One-on-One Interviews
Community Survey Results

Prepared by
Kristin Brighton
Anne Sisley

October 2, 2018

Executive Summary of Public Engagement

New Boston Creative Group led the Olsson Team's community engagement activities in the summer of 2018 to determine the attitudes and opinions of various stakeholder groups concerning a future parking garage and streetscape improvements in Aggieville.

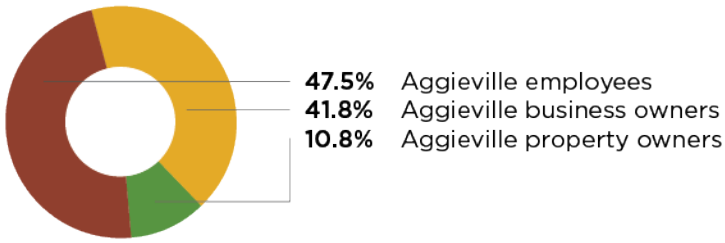
This process involved more than 5,000 members of our community in a formal discussion about the future of Aggieville, using a variety of methods. This included:

- Creating, promoting and monitoring social media accounts and paid advertising for Aggieville Vision to Reality events on Facebook, Twitter, and Instagram;
- Developing three press releases to promote different phases of the project, which generated newspaper, radio and television media coverage for various aspects of the process;
- Developing and promoting an online community survey (4,636 completed responses);
- Promoting the June 28 Aggieville Community Visioning Event (approximately 155 participants on a 107-degree summer day);
- Facilitating eight focus groups in July and August (with 114 participants);
- Conducting one-on-one and small-group interviews with members of the Aggieville business community (included 15 participants);
- Promoting and facilitating a three-day design charrette event Sept. 11-13, led by Olsson Associate's Ochsner Hare & Hare Design Studio (approximately 37 participants);
- Talking with with the Aggieville Business Association board of directors and members over several monthly meetings throughout this process; and
- Holding a community open house Sept. 12 (approximately 80 participants.

A Note About Aggieville Participants:

Because their numbers were so small in comparison to other demographic groups, in this report we've combined property owners, business owners and Aggieville employees into one audience group, which we'll refer to as the Aggieville business community. This should not be confused with the formal organization, the Aggieville Business Association (ABA).

Aggieville Business Community Breakdown



Project Timing

When asked, "Is this a good time to reinvest in Aggieville?" nearly everyone in the focus groups said the project is overdue — one person said the only better time "would have been yesterday." Participants noted that Aggieville has a well-established brand and history, but that they are now often embarrassed to take guests to the district because it is looking so dirty and tired. Many said they'd like to see Aggieville once again become a district that is busy with retail and professional services during the business day and feature a bustling nightlife as well, as it has been in the past.

Aggieville's role in helping to recruit students and new residents to the community was also cited as a reason why now is a good time to make the district more of a community asset.

From the Aggieville business community, we heard Aggieville feels like the city's "step-child" that has been ignored for decades, while downtown recently had major investment. The district feels it is finally now "their turn."

Perceptions of Existing Parking Issue

Focus group participants were asked a yes or no question on their demographic sheets about whether they believe Aggieville has a parking problem today. Combined, 71% of the 114 focus group participants chose "yes," which was nearly identical to the 70.2% of online survey participants who responded in the affirmative. Students chose "yes" on the survey in higher numbers than most of the other groups did.

Perceptions and Concerns Regarding a Parking Garage

Focus group participants had many questions about the garage, showing that the greater community is still largely unaware of the project. Once the facilitators explained what's been done already in this process, many questions were asked regarding the garage's façade: if it will have security and be well-lit; whether it will be free or have user fees; why the city surface parking lot behind Kite's wasn't selected because it is more central to the district; and whether Aggieville employees could park in the garage at a reduced rate. Many people asked about the continued availability of parking in City Park, and were concerned when told about plans to reduce parking and add green space.

Regarding user fees, most members of the Aggieville business community conceded that while, ideally, the garage would be free, at least during daytime business hours, this option isn't realistic. Many people shared concerns that Manhattan's small-town culture will resist paying to park, especially for short runs to pick up a quick-service lunch or a dozen donuts. Some feared that having to pay to park in Aggieville would result in the district losing some of its charm, while others think people are becoming accustomed to parking in other popular business and tourism districts across the globe, and that if a garage with user fees makes it easier to find parking, people will eventually adapt to the change.

When facilitators pointed out that a free garage could be abused by K-State students and staff who might choose to park in a free Aggieville garage rather than pay to park on campus, most participants agreed that the user fees were needed and should be set at a similar price to those of the K-State Student Union garage, at least during business hours.

Many seemed interested in parking validation concepts, which would waive parking fees for those who made a purchase over a certain amount in the district, or make the first hour or two of a stay

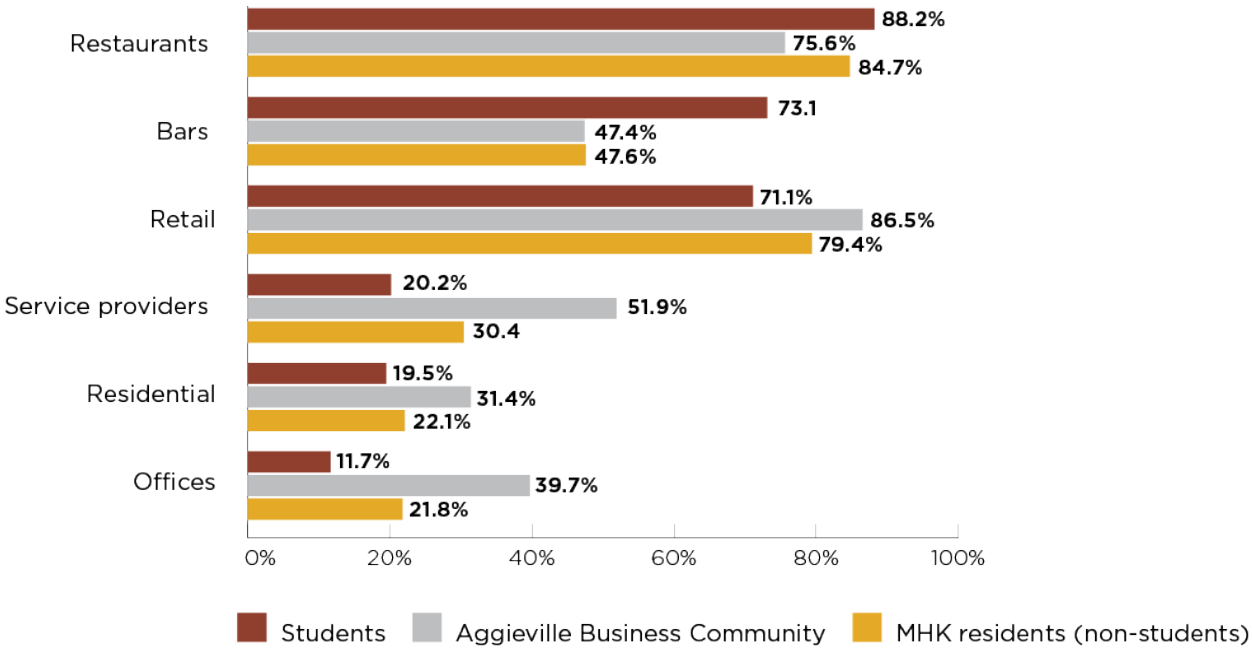
free to not discourage short visits for lunch. In nearly every discussion, people stressed finding a solution that does not penalize those who choose to leave their car in the garage overnight, rather than driving while intoxicated. It was suggested repeatedly that parking fees stop accruing at 2 a.m. to encourage safe driving decisions.

Opinions Regarding Redevelopment of Aggieville

What types of new development do people want in Aggieville?

On the online community survey, nearly every audience group — except the Aggieville business community — agreed that the most desired type of new development in Aggieville is more restaurants (86.2%), with retail receiving the second most responses (77%). These two responses were also given the most support in focus groups as well. More bars was the third most common response, higher than restaurants with students.

Most Popular Types of Future Development (Select Audiences)



What role should city government play in shaping development in the new-and-improved district?

Focus group participants were asked whether the city should put design restrictions or guidelines on new development. Most of the focus group participants supported the Aggieville Vision Plan's efforts to keep Moro Street's historic and varied aesthetic, with buildings at the current height, as well as design standards to keep the varied, locally owned feel of businesses in the district's core.

While some expressed concern or displeasure at the idea of more five-story buildings in the district's outer streets, others see increased density as an exciting advantage that would increase foot traffic and help the businesses in the district succeed.

Questions were also asked in focus groups about whether the city should in any way try to shape the type of new development going into the district (such as taking a formal action to limit the number of new liquor licenses). While current bar owners especially would favor limitations on the

number of additional bars, students wanted to see more and different types of bars open in the area. The majority of the participants seemed to believe that the free market should dictate new development.

What were some of the specific additions or enhancements people would like to see in a redeveloped Aggieville?

Overall, people enjoy the homegrown flavor of businesses in the district, and would hate to see a bunch of national brands move in. A small grocery store or farmer's market consistently rose to the top of requests, as well as other types of entertainment besides bars, such as a movie theater.

Several participants in the focus groups volunteered that Aggieville needs more diversity in types of bars and restaurants it offers, specifically requesting more restaurants and nightlife catering to diverse ethnic groups and cultures.

It was mentioned in several groups that a designated spot for rideshare services to pick up and drop off customers would be beneficial to both customers and drivers, and would reduce traffic and confusion.

Enhancing Triangle Park

What would inspire more people to use Triangle Park?

Most focus group and survey participants envision Triangle Park as an outdoor plaza with some sort of permanent structure with a roof for sun/rain protection and more seats and benches for outdoor dining and socializing. We heard repeatedly that the park should be considered a welcoming space for the district and contain an iconic landmark or gateway to serve as an identifying spot for Aggieville in visitor photos. This could include some type of art — a statue, mural, monument, fountain or sign. Many people were concerned about preserving the trees and natural green space of the area.

What other ideas came forth for its enhancement?

Other than art or a gateway to parallel the Higginbotham Gate on the other side of Bluemont-Anderson, there was a lot of interest in using this space as a public event or gathering space. Ideas included installing either a permanent or temporary stage and sound system, but concerns about traffic noise and safety because of proximity to Anderson made others hesitant about making a major investment in this area. (Others pointed out there's no reason to recreate what's only a few blocks away in City Park.) Adding a barrier for sound and safety between the park and the streets seems to be a must if Triangle Park is going to be used more as a public gathering space.

Adding a big-screen TV (possibly on the wall of Pie Five) was quite controversial, with some loving the idea of being able to have community watch parties in the park, and others hating this idea, preferring the spot to remain a zone for peaceful interaction and relaxation.

Many people agreed Triangle Park was underutilized, and some felt it wasn't very important in the scheme of the greater redevelopment. There was a contingent of people who felt this land should be turned into additional parking space or transformed into a pick-up/drop-off point for rideshare and public transportation.

Facilitators tested the idea of closing down the street south of the park between the green space and Pie Five — known to many as "Little Moro" — as a way to add more space to the park. Some

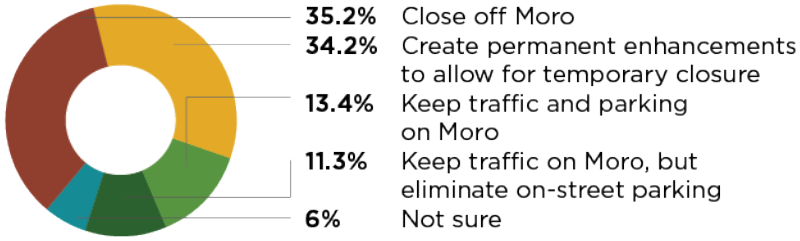
thought this was a great idea, while others (especially Aggieville business community members) didn't want to lose this entrance to the district, or its parking.

Moro Street After Garage Is Built

Other than differing opinions as to whether an outdoor big-screen TV would be a positive or negative addition to the district, perhaps the most controversial question posed in the focus groups and the online survey is what to do with Moro Street and its parking after a parking garage is built. In both the focus groups and the survey, people were torn between liking a pedestrian-mall concept with more outside dining, and not wanting to lose parking close to businesses. Many Aggieville business community members were especially vocal about not wanting to remove all on-street parking in front of businesses, and there were repeated concerns about accessibility for the handicapped and elderly customers.

After much discussion on both sides, facilitators felt there was the most acceptance and uniform agreement with the idea of installing temporary bollards at the entrances and closing the street on a regular schedule for weekend evenings, game days, and festivals. This flexible compromise would keep pedestrians safe during high-traffic periods and possibly allow for the legal carrying of open containers of alcohol at certain times. If such a plan is adopted, signage would need to be posted near the bollards and a regularly adhered to so the community would learn when to expect the road closures and adapt to them.

What to Do with Moro After Garage Is Built? (Total Respondents)

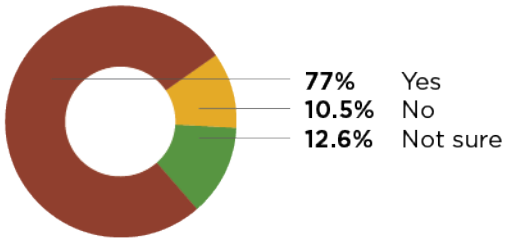


Transforming Alleys into Public Spaces

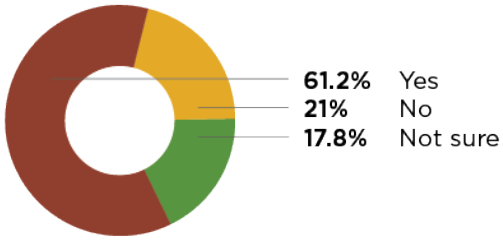
At the June 28 visioning event, the public seemed very intrigued by concepts that transformed alleyways into charming public spaces tucked away behind restaurants to accommodate outdoor dining and socializing. In the survey, we found that 77% of participants were in favor of transforming some of Aggieville's alleys into more public spaces.

However, through interviews and focus groups, the facilitators uncovered many barriers to doing this, including the current decentralization of trash storage and pick-up services, a desire to add more recycling capacity in the district, a lack of indoor grease traps that forces restaurants to manually transport grease in the alleys (resulting in spillage and odor), and the reality that alleys are used heavily for deliveries. Aggieville business community members were less positive about transforming alleys than other groups were.

Do You Support Transforming Alleys into Usable Space? (Total Respondents)



Do You Support Transforming Alleys into Usable Space? (Aggieville Business Community)



Before much can be done to clean up and transform alleys into public spaces, the city needs to take the lead in helping the district establish policies to centralize trash/recycling/grease disposal, and new policies need to be put in place (and enforced) to push deliveries into the early morning hours, thus decreasing traffic demand during times the public is in the district. There has been some discussion as to whether ongoing fees for trash/recycling/grease disposal could be consolidated by the city and rolled into Business Improvement District (BID) dues.

Concerns About Construction Process

We visited with the Aggieville Business Association about concerns they have about their businesses surviving during the construction process. Many are already nervous about losing the parking stalls off Bluemont to the new hotel project without the garage already in place, and past experience has shown that major construction projects can result in significant loss of business since customers will just avoid the area to avoid the hassle.

Other than agreeing the city should avoid major detours or road closures during football season, there was no district-wide consensus on any one time of year that is preferable over another. While some businesses are seasonal (an ice cream restaurant, for example, would love for their construction impact to be felt during the winter), many of the restaurants in particular said they are actually busiest in the summer months when students are gone and more townies come out.

The most important factor in this process is for access to the businesses to remain open through temporary means even when streets and sidewalks are under construction, and for businesses to know far in advance when their access will be impacted, with an estimate of how long they will be affected.

Cleaning up the alleys first was a suggestion of many business owners, some of whom could use rear entrances as an alternative entrance when the main streets/sidewalks are closed.

How Can We Define Success?

Ultimately, this will be a very quantifiable project, as the city will be able to measure its ROI directly with increases in sales and property tax revenues. However, qualitatively, many focus group participants said that seeing an improvement in overall attitude and community pride of locals in the community would be the way they could determine success. Behaviorally, many participants said they hope to see more people in Aggieville during the daytime hours, and more Manhattan area residents and families enjoying the district year-round.

Remaining Questions and Concerns

Perhaps the greatest impact of this community engagement process was the opportunity to inform various stakeholder groups about the project and dispel rumors that have been circulating about changes to come. Repeatedly in focus groups and interviews, business owners requested that the city have an aggressive communications plan to keep everyone informed about the process and construction phases, well ahead of actions that could directly affect their customers and therefore their businesses.

TIF financing is difficult for many to understand, so during this process the city must repeatedly stress that funding for these changes will not be a burden property owners will bear, but will instead result from capturing future increases in property values as the district becomes more desirable.

Community Visioning Event, Summary of Comments

Aggieville Vision to Reality

Visual Preferencing Open House Thursday, June 28, 2018 Kite's bar and Grille, 11:00 am - 6:00 pm.

Representatives of the design team conducted an open house intended to gather opinion and preferencing for features, characteristics, and amenities to be considered for improvements to the visitor experience in Aggieville.

The design team presented 6 boards containing imagery related to features and characteristics of urban districts. The images were divided into 6 categories, each represented within a single presentation board. The categories were as follows.

1. Alleys
2. Amenities
3. Events
4. Street Crossings and Gateways
5. Streetscapes
6. Triangle Park

Each of the boards addressed 1 of these topics, and each board contained the same quantity and size of images, so as not to effect the opinions by means of composition or relative numbers of images.

Participants were asked to study the photos, and to record those images that they found particularly appealing or desirable, by means of placing adhesive stickers on the images. The participants were also encouraged to interact with members of the design team with questions or comments, to leave comments on provided comment cards, and to participate in the on-line survey. In all, approximately 155 people visited the event.

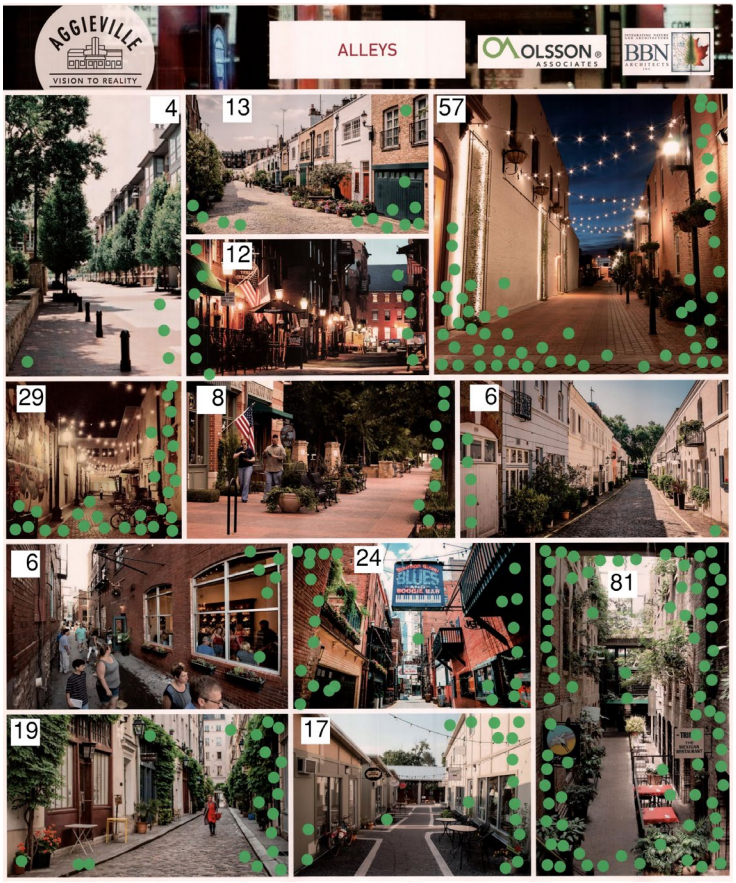
The following is a subjective analysis of what we find to be the outcome of this exercise.

Analysis of Images

The category most commented on was Amenities (303 marks). This was followed by Streetscape (286 marks), and Events (284 marks).

The single image receiving the most positive marks was on the Alleys category and is of an indoor alley passageway in Omaha, Nebraska. Two of the top 3 most favored images were of improved alleys. There were a total of 5 images that garnered positive marks from at least one third of the participants, including the two improved alley images, two streets that had been converted to pedestrian malls, and one image of food trucks.

BBN team members collected the boards following the event and tallied the number of favorable responses for each image. We then attempted to analyze the similarities of key features among the most popular images in each category in order to derive what might have been influencing the selections, as explained below.

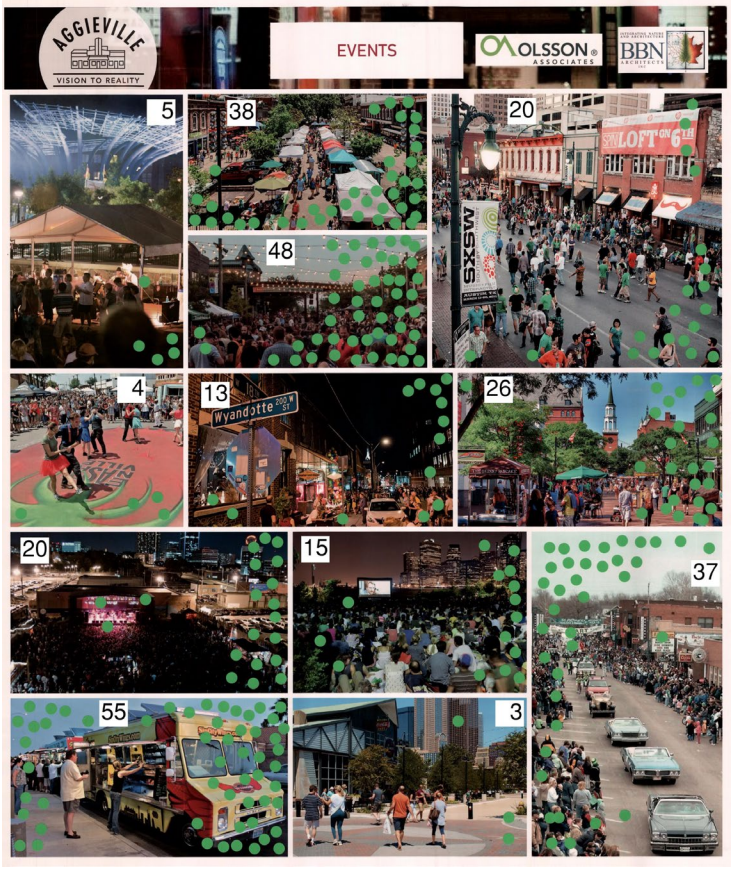


1. Alleys

-The most popular alley images all included ample lighting
-The popular images all had brick or cobblestone paving
-Popular alleys were activated with bike racks, tables, potted plants - all items suggesting activity beyond utilitarian use
-Popular alleys had windows and high vantage points, and business signage.
- Trash and utilities were either not visible or were clearly organized. Tidy.

2. Amenities

- Overhead lighting (string or festival lighting) was evident in the most popular images.
- Video screens were very popular.
-Trees and plantings are desirable
-Means of protecting plant areas, such as ornamental tree guards and low fencing were popular.

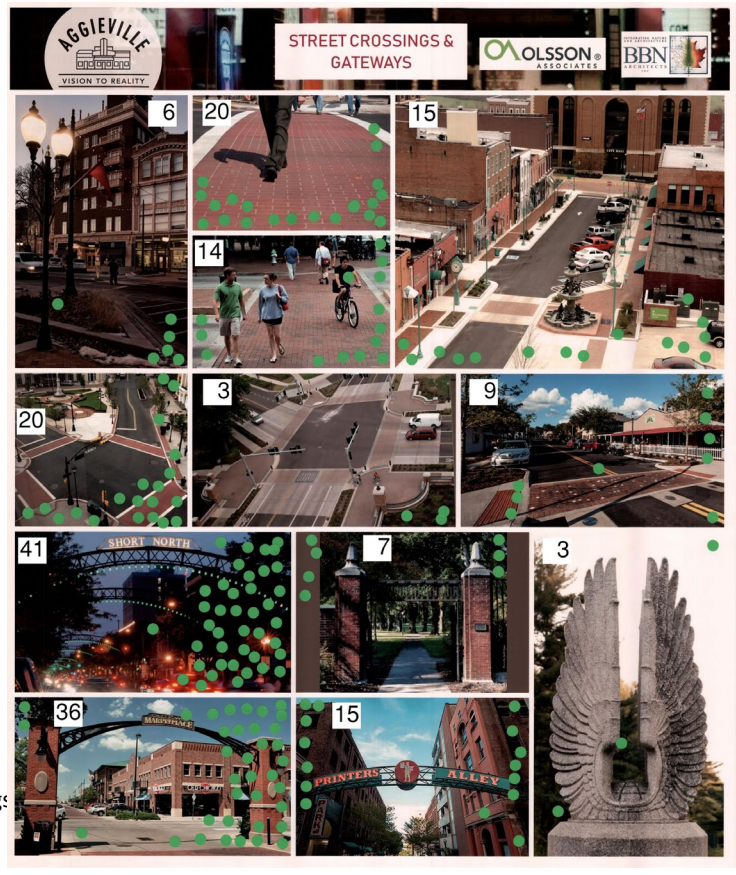


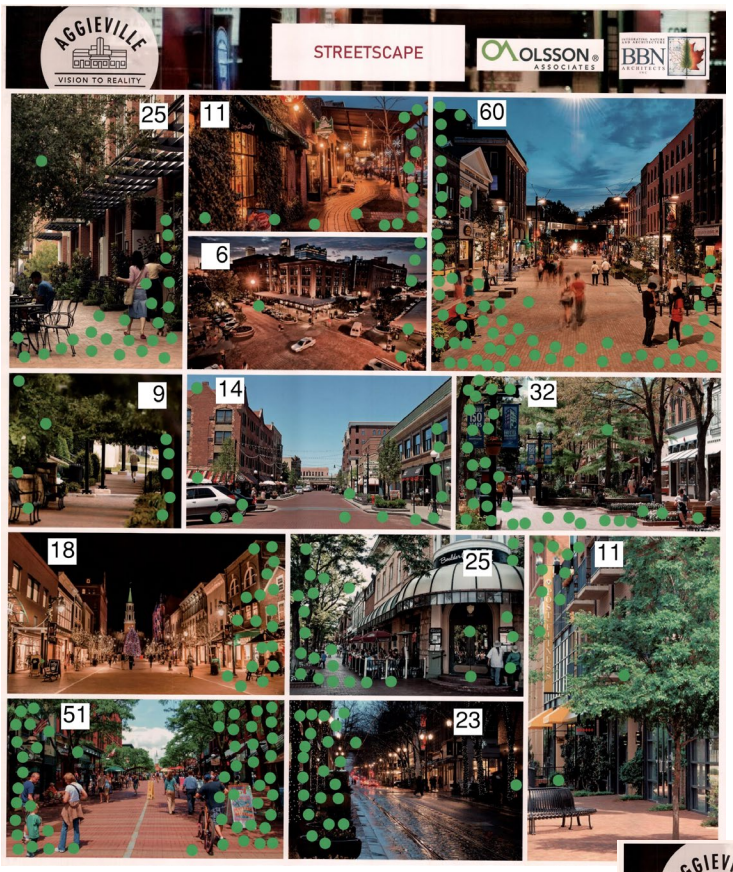
3. Events

- Overhead features defining event spaces, such as hanging lights of covered bandstands, received a majority of the favorable marks.
- Event spaces with temporary , but active and colorful items were very popular. These include food trucks, colorful market tents, and umbrella kiosks. This seems to suggest a desire for a very lively and active, yet very changeable, atmosphere.
-Interestingly, one of the most popular images was of Aggieville as it exists today, taken during a parade event.

4. Street Crossings and Gateways

- Crosswalks that were clearly defined, using contrasting paving materials such as brick, were highly favored
- Gateways and district markers that included decorative lighting and overhead features were favored over vertical markers or monuments.





5. Streetscapes

- The most popular images were pedestrian oriented and free of cars. They also included interesting paving.
-Streetscapes with seasonal lighting, festival lighting and glowing shop windows were highly favored
-Sidewalk cafes were appealing.
-All of the streetscape images seen as favorable included trees and plants.
-Streetscape images with wide, multi-lane streets and cars received few favorable marks.

6. Triangle Park

- Video screens for event presentations were desirable.
- A defined area for presentation, bandstand or covered stage, received favorable marks.
- Trees and intimate shaded areas are seen as important, as were open lawns for event seating. This seeming contradiction suggests a need for multiple zones within the park area.

Summary of Comment Cards

A total of 18 comment cards were collected. BBN reviewed the comment cards for the primary comments or concerns cited in each. BBN then tallied the comments that were similar among the various cards.

The most common comments were a concern for improvement of the pedestrian environment and a desire for more landscaping and greenery, each of these appearing in one third of the comment cards. The next most commonly cited concerns were for safety and lighting improvements, creating a district that is attractive to all ages and demographics, and improving opportunities for events, live music, and the arts.

Seven cards contained comments regarding the mix of pedestrians and vehicles in Aggieville. Three preferred closing Moro Street to all vehicle permanently, three preferred temporary closing of Moro to vehicles on a scheduled basis, and 1 insisted that Moro must always be open to vehicular traffic. Other issues gaining comment on more than one card included a concern for preservation of the history of Aggieville, minimal or no intervention in Aggieville, and a desire for more cleanliness.

General Conclusions

The level of participation, the eagerness to express preferences, and comments received both in the comment cards and in conversation indicate a strong desire for improvement in Aggieville. There seems

to be a realization of the importance of Aggieville to the entire community and a wish to bolster it as an active and vibrant multi-use district.

-Pedestrian safety and the hierarchy of pedestrians over autos was a common comment.
-Clear and well defined crosswalks and mid-block crossings are desired.
-A richer palette of materials, including brick paving, limestone, and plant materials is preferred.
- Better lighting is important for safety and for the appeal of the district.
-Improvements to the alleys including better lighting, signage, walking surfaces and waste management can make them a viable pedestrian way .
- Many of the preferred images shared the characteristic of having vertical or overhead components. These included festival lights, trees, entry arches, hanging planter baskets. These common traits demonstrate a desire to carry the streetscape environment into the third dimension as a space definer.
- There is a desire for Aggieville to promote events such as live outdoor music, movies, presentations, parades and street festivals, though permanent structures to support these, other than perhaps a small stage area, may not be necessary.

Online Community Survey Summary

Online Community Survey Summary

The online community survey was distributed using social and traditional media. The City of Manhattan, Manhattan Area Chamber of Commerce, and Aggieville Business Association all shared the survey on its social media feeds and other methods of communicating with their stakeholder groups. A Facebook, Instagram, and Twitter feed for Aggieville Vision to Reality was established, and digital ads were purchased to invite people living in the region to participate. The K-State Alumni Association also distributed the survey through its July and August newsletters.

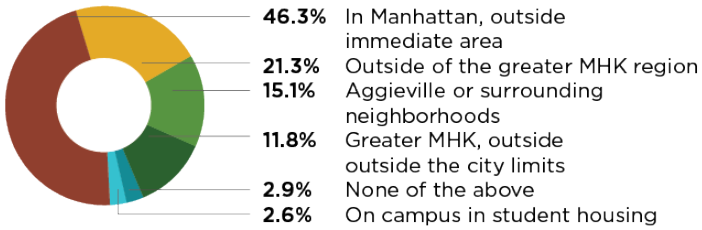
A press release was sent to promote the survey in the news media, resulting in local media coverage. The end result was 4,636 completed surveys. Here are highlights of the survey results; tables providing the results by audience group are provided in the later in this Appendix.

A note about the survey: To keep the survey brief, we didn't ask in-depth demographic questions about our participants, other than where they lived in relation to Aggieville and how they are most accurately affiliated with the district, as a Manhattan resident, K-State student, military member, etc.

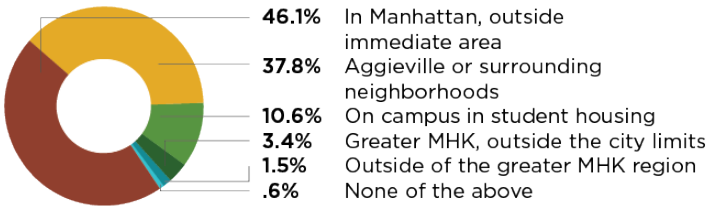
Where Respondents Live

The largest group to take the survey were Manhattan residents (61.4%), who were divided into those who self-report not living in the immediate Aggieville neighborhoods (46.3%), with 15.1% reporting they live in Aggieville or its surrounding neighborhoods. Another 21.3% live outside of the greater Manhattan area (mostly K-State alumni), and 11.8% live in the nearby region but outside the city limits. Another 2.6% reported living on-campus in student housing.

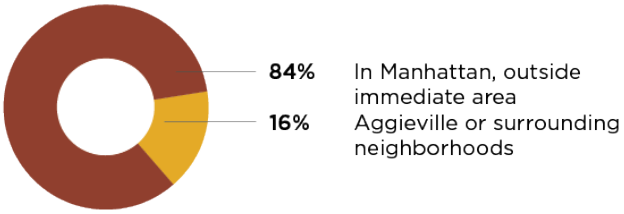
Where Survey Participants Live (Total Respondents)



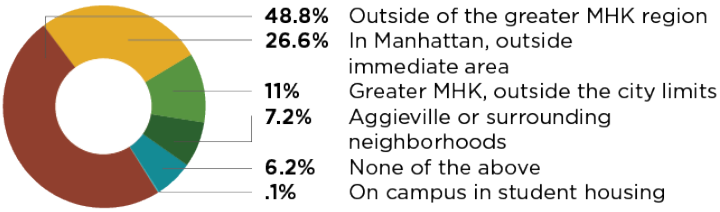
Where Participating Students Live



Where Non-student Manhattan Residents Live



Where Alumni Participants Live

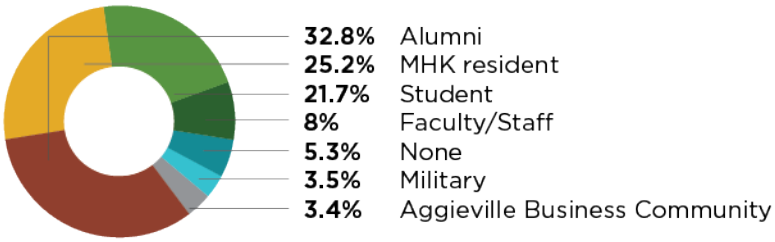


Who Were These Respondents?

Online community survey participants included 17 Aggieville property owners, 66 Aggieville business owners, 75 Aggieville employees, 161 military service or family members, 371 K-State faculty/staff, 1,007 students (which could include students from any academic institution), 1,170 Manhattan residents, and 1,522 K-State alumni. (Please see elsewhere in this report for focus group and interview data from other Aggieville business community members.)

People were instructed to select which description fit them "best," and some residents reported they live in Manhattan, but in question 2 chose "K-State alumni" rather than "Manhattan resident." Another 247 said "none" of these labels fit them.

Respondent Breakdown by Audience

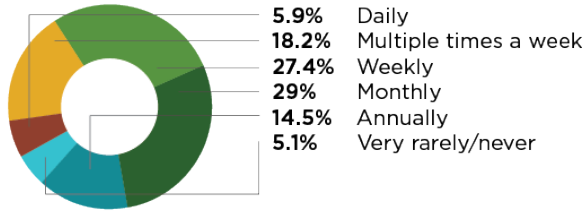


How Often Do They Visit Aggieville?

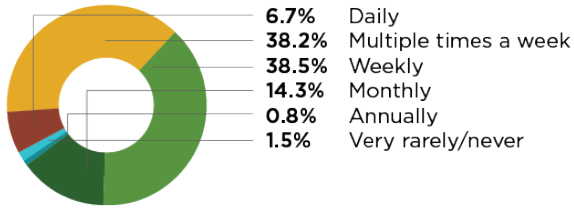
Online community survey participants visit Aggieville less often than those who attended focus groups, but still are loyal patrons. While only 5.9% reported visiting daily, 18.2% reported visiting multiple times per week, 27.4% visit weekly, and 29% visit monthly. Another 14.5% visit annually, and 5.1% report they very rarely/never visit the district.

When the survey numbers are subdivided by demographic group, students reported visiting Aggieville the most, with 38.2% visiting multiple times a week. The most common answer for Manhattan residents who are not students was 34.6% reporting they visit Aggieville weekly.

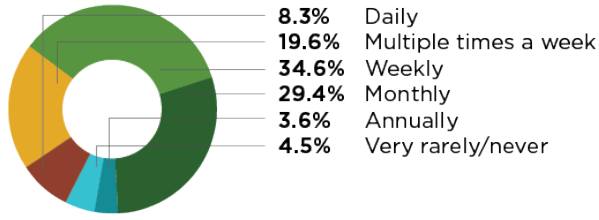
How Frequently Respondents Visit Aggieville (Total Respondents)



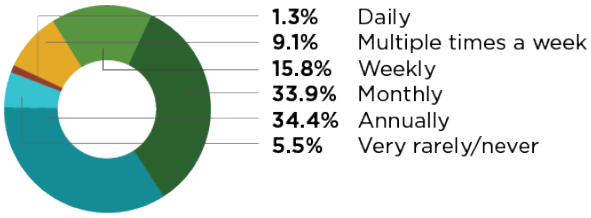
How Frequently Students Visit Aggieville



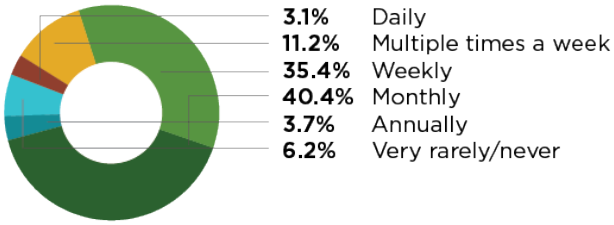
How Frequently Manhattan Residents (Non-students) Visit Aggieville



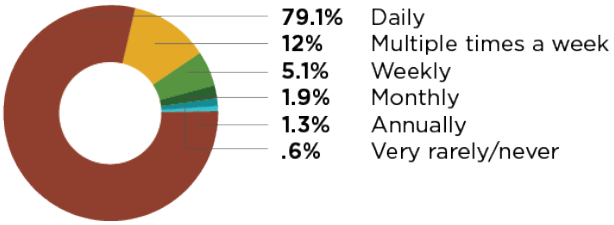
How Frequently Alumni Visit Aggieville



How Frequently Military Members Visit Aggieville



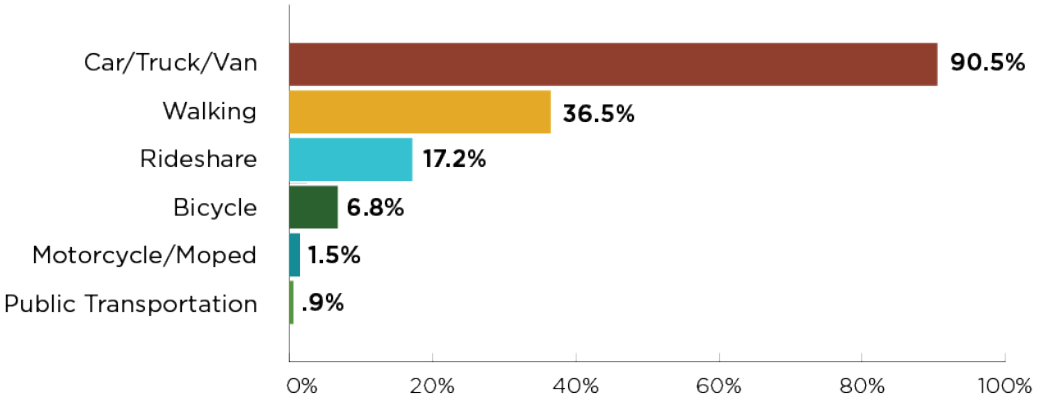
How Frequently Aggieville Business Community Respondents Visit Aggieville



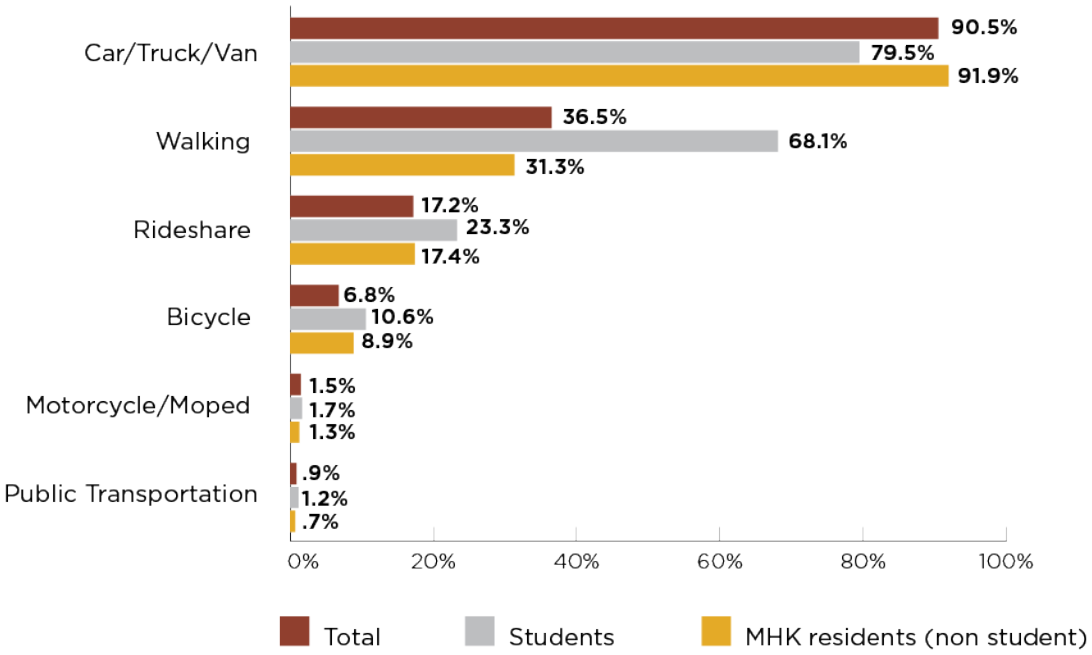
How Do They Get to Aggieville Today?

Overall, personal vehicles are predominantly the way the majority of people get to Aggieville today, but a significant percentage walk to the district or take a rideshare. Students drive at a lower percentage than other groups do, and walk to Aggieville in the greatest numbers.

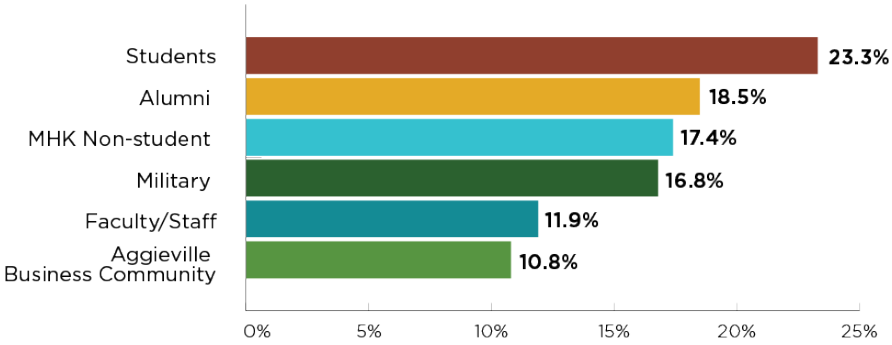
Top Modes of Transportation to Aggieville (Total Respondents)



Comparison of Top Modes of Transportation (Total vs. Students vs. Manhattan Residents)



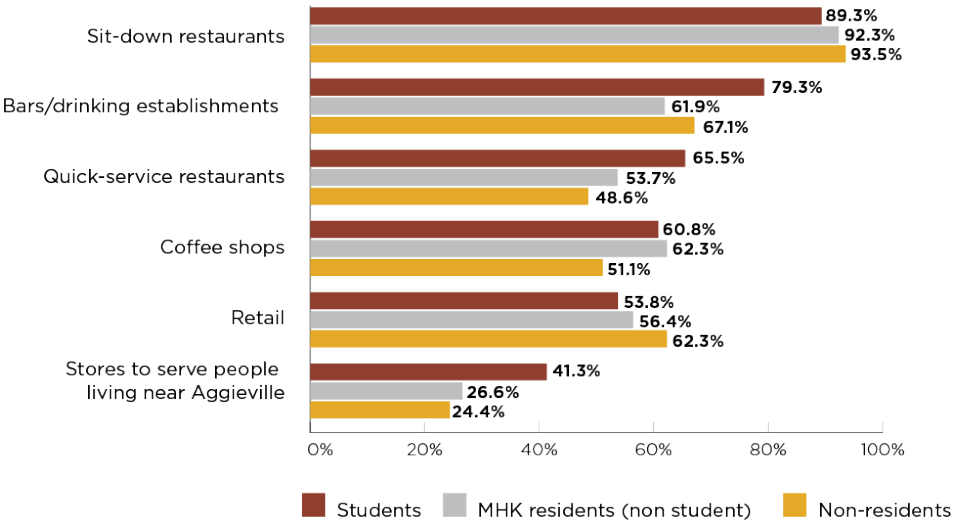
Respondents by Audience Group Who Use Rideshare Services



Where Do Respondents Go in Aggieville Today?

The most popular destinations today include sit-down restaurants (92%), bars (67%), coffee shops (57.9%), retail (57.7%), and quick-service restaurants (54.1%). This varies slightly by demographic group, especially with people who work in the Aggieville business community and students answering this question.

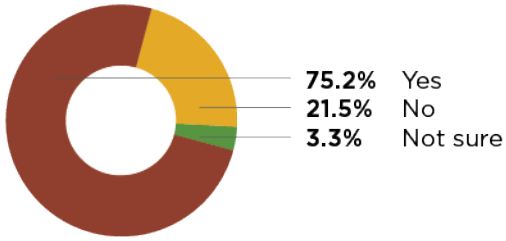
Top Six Aggieville Destination Types (Select Audiences)



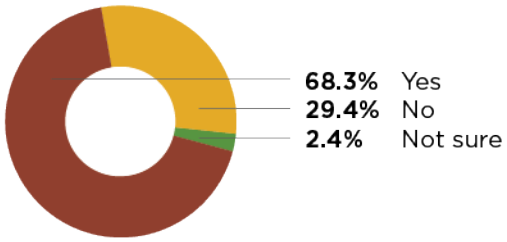
Is Parking an Issue Today?

Every group agreed that Aggieville currently has a shortage of parking spaces, with K-State faculty/staff choosing "yes" at a lower percentage than the other groups did, and students choosing "yes" in the largest numbers.

Is Aggieville Parking an Issue Today for Students?



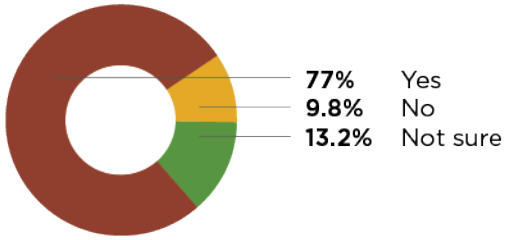
Is Aggieville Parking an Issue Today for Manhattan Residents?



Do Respondents Support Building a Parking Garage?

The online community survey found that 77% of total respondents (as well as 77% of non-student Manhattan residents) are in favor of a garage being constructed in Aggieville, with students, the Aggieville business community, and military participants answering at rates more than 80%.

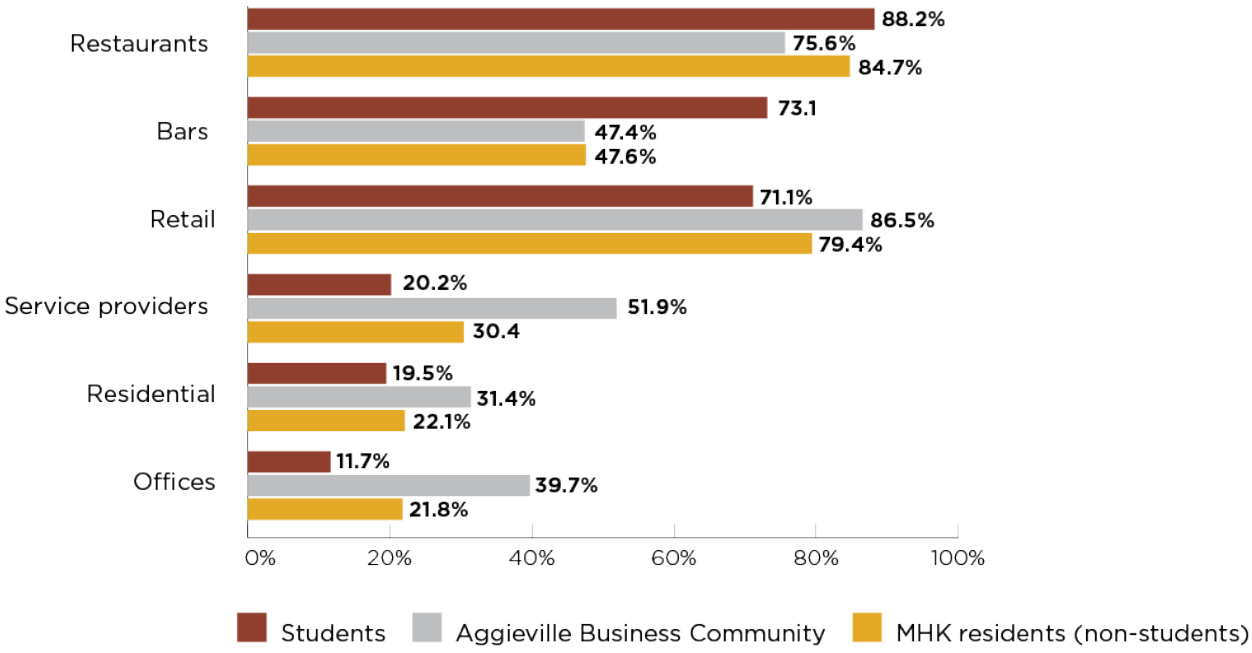
Do You Support the City Building a Parking Garage in Aggieville?



What Types of Future Development Do Respondents Support?

Overall, the top answers were restaurants (86%), retail (77%), and bars (57%). However, for members of the Aggieville business community in this online survey, retail was the top choice, then restaurants, then service providers to cater to the needs of those who live and work in the district.

Most Popular Types of Future Development (Select Audiences)

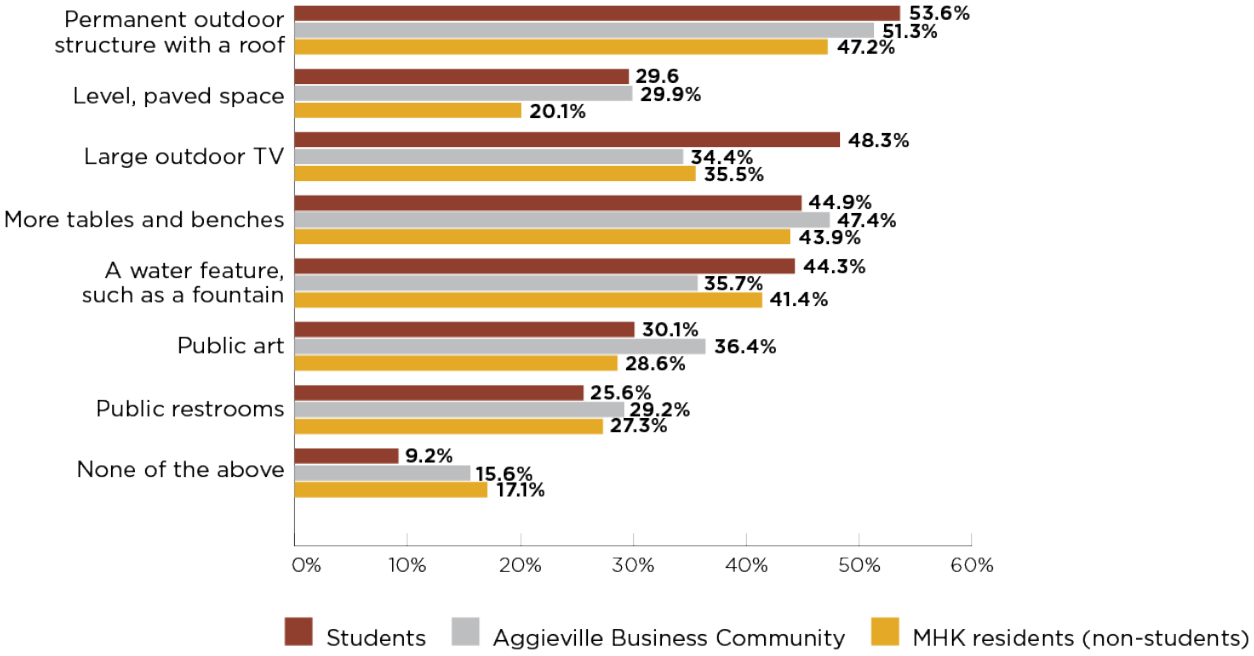


What Would Inspire Respondents to Use Triangle Park More?

When all audiences were combined, the number one answer was a permanent outdoor structure with a roof (49%), followed by more tables and benches (44%), a water feature (41%), a large outdoor TV (38%), and public restrooms (28%).

For the Aggieville business community, the top choice in this online survey was also a permanent structure (51%) and tables and benches (47.4%), followed by public art (36.4%), a water features such as a fountain (35.7%), and a large outdoor TV (34.4%).

What Additions Would Make You Use Triangle Park More? (Select Groups)

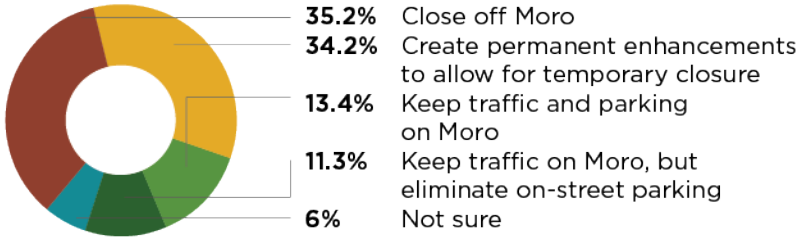


What to Do with Moro After Garage Is Built?

Collectively, the community was very split between closing off Moro (35%) and creating permanent enhancements (bollards) to temporarily close Moro (34%). The other answers were less supported, including keep traffic and parking on Moro (like today) at 13.4%, keep traffic on Moro but eliminate on-street parking to allow more room for amenities (11.3%). Another 6% said they were not sure.

For the Aggieville business community, this answer was significantly different, with the top choices being to add permanent enhancements to allow for temporary closure (37%), keep like today (24%), and close off Moro (23%).

What to Do with Moro After Garage Is Built? (Total Respondents)



Which Streetscape Elements Are Most Important to Improving the Overall Aggieville Experience?

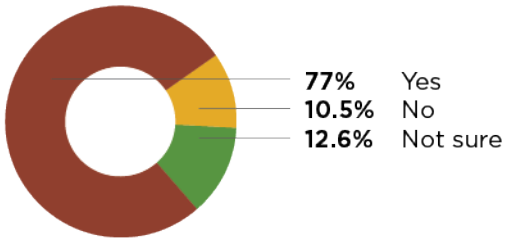
For this question, participants ranked the options 1 for important, 2 for neutral, and 3 for not important, so the lower the number, the more important to respondents. There are slight variations in these responses (full table of responses is in the Appendix), but the collective top choices are show in the chart below.

Streetscaping Element	Weighted Average
Trash/recycling receptacles	1.28
Seating/benches	1.45
Landscaping and trees	1.48
Shade	1.52
Public wifi	1.54
Decorative lighting	1.57
Public event spaces	1.60
Features such as art, fountains & pavilions	1.69
Outdoor sound system	1.83
Bike racks	1.84
Large outdoor television/movie screen	2.13

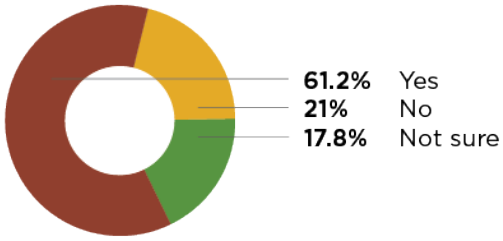
Interest in Transforming Some Alleys into Usable Space?

In this online community survey, the public seemed quite interested (77% choosing "yes") to the idea of transforming some of the district's alleys into useful space for additional outdoor dining or other activities. However, the Aggieville business community seemed less convinced this was possible or practical, with only 61% choosing "yes" and 18% choosing "not sure" in this survey.

Do You Support Transforming Alleys into Usable Space? (Total Respondents)



Do You Support Transforming Alleys into Usable Space? (Aggieville Business Community)



Which Alley Enhancements Are Most Important?

As a follow-up to the previous question, participants were allowed to pick three enhancements for alleys that would appeal to them. The top answers included additional lighting (72%), minimizing trash and grease odor (53%), outdoor dining (32%), and concealing trash and dumpsters (30%).

The main difference between the total group and the Aggieville business community in this survey was that this group seemed overall less interested (or open to) the idea of making alleys outdoor dining space, with only 20.9% choosing this option. Other audience groups, including K-State faculty/staff, (36.1%), non-residents (33.1%), and students scored this higher than the average (33%).

Which alley enhancements are most important?	Total	Aggieville Business Community
Additional Lighting	71.9 (1)	67.7 (1)
Minimize odor from trash and grease	53.3 (2)	52.5 (2)
Outdoor dining	32 (3)	20.9 (5)
Concealed trash and dumpsters	29.9 (4)	32.3 (3-tie)
Defined walkways	25.8 (5)	29.8 (4)
Plants and landscaping	19.5 (6)	17.1 (6)
Reduced visual clutter	18.8 (7)	32.3 (3-tie)
Murals and art	18.2 (8)	14.6 (7)
More alley entrances to businesses	11.7 (9)	13.3 (8)
Better wayfinding signage	6.7 (10)	8.9 (9)

All Community Survey Results

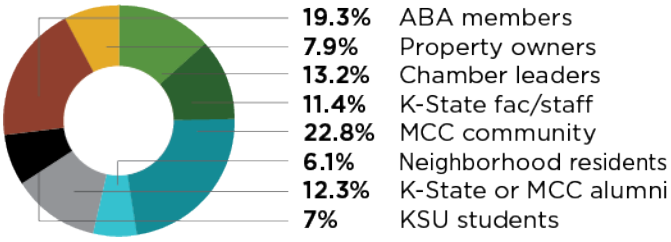
Focus Group Participant Demographics and Summary of Findings

Focus Group Participant Demographics

In total, 114 focus group participants completed demographic information sheets at one of eight meetings:

- Manhattan Area Chamber of Commerce leaders, July 12;
- Aggieville property owners, July 25;
- Aggieville Business Association members, July 26;
- K-State faculty/staff, August 28;
- Manhattan Christian College faculty/staff/student government, August 28;
- K-State students, August 30;
- Aggieville neighborhood residents, August 30; and
- K-State/MCC alumni, September 1.

Focus Group Participants Breakdown by Audience Group



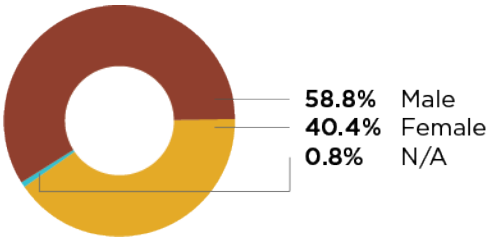
Below are their combined demographic breakdowns to assist readers in understanding the make-up of the participants of these groups, as well as a few survey questions we asked focus group participants to answer prior to the group discussion.

Gender

Participants were 59% male and 40% female, with less than 1% that didn't select a gender.

In general, more men participated in groups than women did (67 men, compared to 46 women), especially in the chamber of commerce group (13 men, 2 women), and K-State student group (6 men, 2 women).

Focus Group Participants by Gender

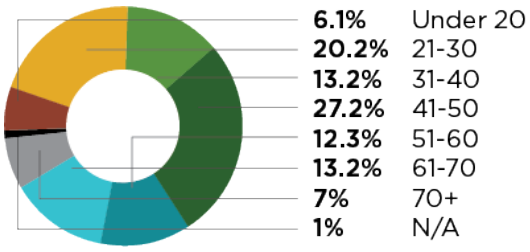


Age

The largest age group that participated in the focus groups was 41-50 (27.2%). The second largest group was 21-30 (20.2%), and the third largest were 31-40 and 61-70 (both with 13.2%).

Only 6% of participants were under 20 years old, and 7% were over 70, with nearly half of those being Aggieville property owners.

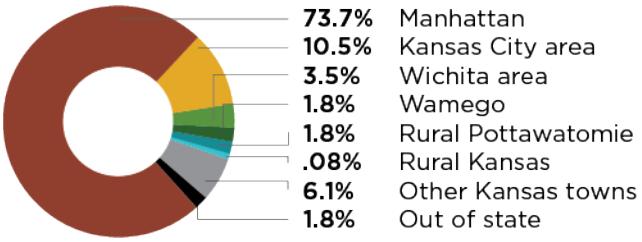
Focus Group Participants by Age



Place of Residence

Nearly 74% of focus group participants live in Manhattan, with 10.5% from the Kansas City area and 3.5% from the Wichita area. All other participants (12.3%) reported their "home" was in another Kansas community or out-of-state. Most non-MHK region residents were K-State students or alumni.

Where Focus Group Participants Live

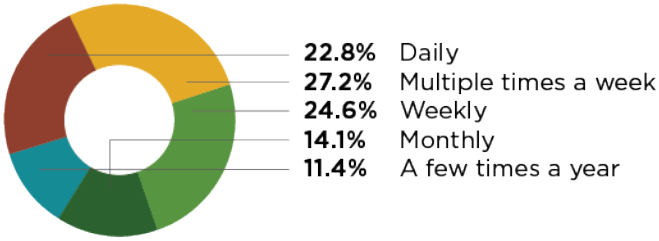


Frequency of Visits to Aggieville

The focus group participants frequent Aggieville, with 22.8% visiting daily, 27.2% visiting multiple times per week, 24.6% visiting weekly, and only 11.4% visiting a few times per year.

No one who participated said they only visit once a year.

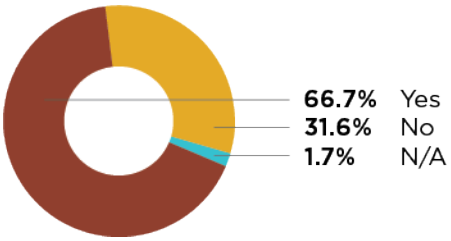
How Often Focus Group Participants Visit Aggieville



College Ties

Nearly 67% of our focus group participants attended K-State or Manhattan Christian College, while 31.6% did not.

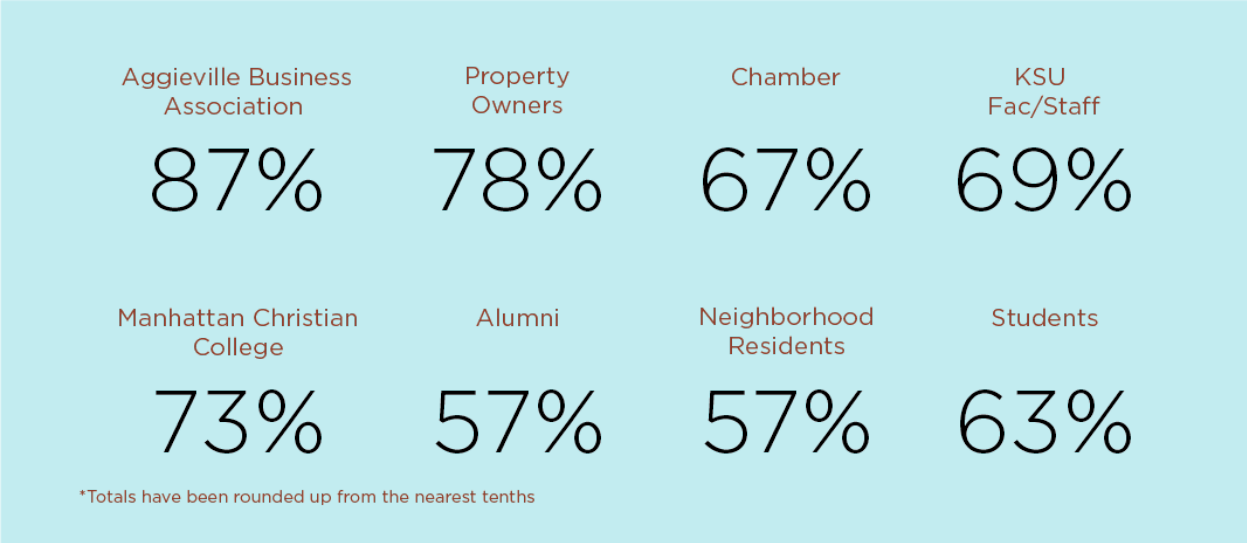
Focus Group Participants who were K-State or MCC Alumni



Does Aggieville Have a Parking Problem?

All focus group participants were asked to weigh in on the question, "Do you feel parking is an issue today when visiting Aggieville?" All-in-all, the percentage who said there is a problem today (71%) was nearly identical to what we found with the online community survey, which had 70.2% of people respond yes to a very similar question.

Is Parking an Issue for You Today When Visiting Aggieville? (By Focus Group Audience)



Summary of Focus Groups

Overview

New Boston Creative Group and Olsson Associates conducted eight focus groups in July and August 2018:

- Chamber of commerce members
- Aggieville property owners
- Aggieville Business Association board members
- K-State faculty and staff
- MCC leadership and students
- K-State students
- Aggieville neighborhood residents
- K-State alumni (outside Manhattan area)

Major Topics of Discussion

Below are summaries of the overall consensus from the focus groups surrounding the main topics discussed.

Timing:

- Aggieville is well known across the country, but Manhattan residents and alumni are often ashamed to bring friends and family here.
- Many want to see Aggieville return to what it used to be, with a wide variety of shops and restaurants where residents and visitors could spend a day with their families.
- Aggieville is a huge part of the K-State experience, so investing in Aggieville now could help with university recruitment.
- Fits in with Manhattan's economic development goals because of our growing need for innovation districts.
- Fits in with city's goal to create more density rather than large parking lots.
- Aggieville could help retain and attract people to Manhattan, especially with NBAF and Ft. Riley.
- Students and young professionals want something different than what Aggieville offers now. We should adapt to their needs and prepare to adapt to the needs of future generations.
- Aggieville is a famous brand outside Manhattan, featured in lists of great bar districts, mentioned on ESPN, but doesn't live up to the expectations.
- After Downtown redeveloped, it has become a hub of activity where people love to visit. Now it's Aggieville's turn.

Parking:

All participants see parking as a problem in the district, and almost all (all but two) participants believe a parking garage is the solution. The location of the parking garage was received positively.

Many participants mentioned that if they want to visit an Aggieville business (like a restaurant) but can't find a parking spot, they go to another area of town. Some of them don't even try to find a spot during certain times of day.

Concerns about the garage included:

- The appearance of its façade
- Whether it will block existing storefronts and signage
- Security and lighting
- Whether including commercial space in the garage is beneficial to current businesses
- How to control K-State students and faculty from parking in the garage and walking to campus
- Whether it's too far outside of Aggieville
    - Many participants questioned whether the lot behind Kite's would be a better fit because of its central location.
- How the garage will affect the planned parking changes to City Park (where many people said they currently park to walk to Aggieville)
- MCC feels like Aggieville traffic is already a huge burden on their campus. Many drivers speed through Laramie St, without realizing that it is part of a campus. There is concern that a garage on that corner may just increase this traffic, making things less safe for their students. There would definitely need to be a change in traffic flow around 14th and Laramie, as well as 14th and Anderson.
- Having a safe place for employees of Aggieville businesses to park

Paying to Park in the Garage:

- Free parking would be ideal, but not realistic.
- There is concern that Manhattan has a "small town culture" that will reject the idea of paying for parking.
- Some participants think that the ability to park for free around almost all of town makes Manhattan unique, "a gem". Losing this may lead to a loss of part of Manhattan's "small-

town" charm.

- Most participants said they would be willing to pay to park if it made visiting Aggieville easier and more pedestrian-friendly.
    - Several people mentioned that in other cities' entertainment districts — like Columbia, MO; Austin, TX; and Mass Street in Lawrence — paying for parking is just expected.
    - While it will be an adjustment for Manhattan residents, participants agreed that eventually the town would grow to accept it, as other places have.
- Paying for parking would discourage K-State students from parking in Aggieville and walking to campus.
- Neighborhood residents are concerned about students who park on their residential streets for free. This garage doesn't solve that problem, especially if it is pay-to-park, meaning students won't use it. They are worried that a paid garage will push more people to park on the surrounding streets.
- MCC is concerned that a paid garage will mean even more people will try to park on their campus to walk to Aggieville, unless there is a culture change.
- Validation by restaurants and shops kept being brought up as a solution. Participants seemed to like this idea, or other ways to make the garage easier to use for the variety of activities that bring people to the district (such as pay from 7-5, free after 5, free on weekends, first hour free, etc.)
- Garage needs to be open 24 hours and not penalize anyone who leaves their car in the garage after drinking to prevent drinking and driving.

Setting Design Standards for New Development:

- Most participants felt that these kinds of restrictions on developers already exist in Manhattan and believe that should not change.
- Want anything new to look like it fits in
- Concern about maintaining Aggieville's historic buildings and look
- Hearing "five-story buildings" when discussing Aggieville seemed to elicit a negative gut reaction from many Manhattan residents, that was lessened when they heard that Moro will stay 1-2 story historic buildings.

Setting Limits on the Type and Number of Businesses that can Come into the District:

- City should stay hands-off and let the free market dictate what Aggieville becomes.

- A few could see the benefit of limiting the number of bars, or possibly limiting the number of available liquor licenses.

- Students mentioned wanting "more bars" but when asked to elaborate, they just wanted more variety of bars. The bars that exist don't really cater to them.

- If variety is a concern, then capping the number of bars where they are now may not allow the market to drive the changes students and future generations of students want to see.

Triangle Park:

Triangle Park is currently a clear entrance to Aggieville and the first thing many people see when they visit. Therefore, it should reflect Aggieville in a positive light. People expressed a desire for Triangle Park to be more of a gathering place than it is now. However, there was little agreement about what that should look like.

Some possibilities discussed were:

- Some type of art piece — especially "Instagram-worthy" art for tourism

- Could mirror the K-State gateway across the street and become another focal point

- A welcome sign, an Aggieville sign

- A K-State related statue or monument (another graduation picture spot)

- More events and live music, but only if the sound from Anderson/Bluemont is muffled in some way

- A plaza with tables and chairs for outdoor dining was extremely popular.

- Use the Triangle Park area for an Uber/Lyft pick-up/drop-off point and ATA bus stop.

- A large screen TV (like Power and Light in Kansas City) for televised events and games got an extremely positive reaction from every group *except* neighborhood residents, who would prefer the area to stay green, and only suggested additional plants and greenscaping.

- Closing "Little Moro" to expand the park was extremely popular.

One major concern in almost every group was making Triangle Park safer for children to play, specifically by adding a wall along Anderson for safety.

- This wall could mirror the wall on the other side of the street on the edge of campus.

- The idea of leaving some green space in the area was also common.

Most participants agreed that its proximity to City Park means there should be something different in Triangle Park, i.e. not a stage, fountain, or splash park.

Construction and Its Impact on Business:

- No real consensus: each business and visitor will be impacted differently by construction.
- Business owners mentioned spring and summer as being the best times. However, several restaurants said the times K-State is not in session are their busiest times, because more locals with more disposable income come out to enjoy their businesses.
- The most important thing is that the city communicates the plans clearly and stays on schedule.
- Maintaining accessibility was brought up in almost every group.
- Several groups mentioned starting with improvements in the alleys to allow for businesses to direct customers to their back entrances when the construction moves to Moro. However, some businesses do not have back entrances.

Closing off Moro to Traffic Permanently, or Temporarily with Permanent Bollards:

- Flexibility was a common theme.
- Most focus group participants liked the idea of bollards that would allow the street to be closed at certain times of day, like Friday and Saturday nights, but only if there was consistency with that schedule and it was widely communicated.
    - Using the bollards for events could allow for more festivals and would make Fake Patty's Day and New Year's Eve easier to manage.
    - The idea of using bollards to block off Moro in conjunction with possible open container was extremely popular.
    - Bollards also sounded great to those involved in university parades. Parades are a huge part of Manhattan's culture, especially Homecoming, St. Patrick's Day and Christmas. Bollards would make parades even safer, but a pedestrian mall would make parades impossible (if there were trees and benches, etc.)
- Fewer people liked the idea of closing the whole weekend, especially during the day on Saturday, because that is the highest traffic day for several of the retail businesses.
- Closing off the street to traffic permanently was much less favored among these groups. But the idea of on-street dining was popular.
- If Moro is closed permanently, there's no going back. Temporary bollards allow a chance to "test it out" and if the city eventually wants to make it completely pedestrian, it could be a later option.
- Younger alumni, faculty and students had a common consideration that the city can't know what future students and demographics will want. Doing anything too permanent could

prevent adaptation in the future to what the new "trending" thing is.

- Some common ideas if Moro is closed either permanently or temporarily were a farmer's market, outdoor concerts and other events, festivals, food trucks, etc. Purple Power Play could move there instead of the park.

Defining Success with Aggieville:

- More revenue for businesses, more foot traffic, more tourism
- A positive change in feeling about the district among "townies;" removing the disdain and replacing it with pride in the district
- Creating a diverse area that students, families, townies and visitors can spend time during the day *and* night
- Adding diversity of retail and activities so that Aggieville can be used as more of a recruitment tool for the university
- Making Aggieville an area that Manhattan residents, MCC and K-State are proud of

Other Questions and Concerns:

- Communication and a timeline
- More explanation of the TIF
- How long the project is going to take
- Creating not just variety of commercial, retail, bars and restaurants, but cultivating ethnic diversity among these businesses
- Maintaining and growing the small business presence that everyone has grown to love about Aggieville
- Concerns and confusion about the new hotel were common.

Creative Hopes and Dreams for Aggieville:

- Making rooftop event space on the garage
- Tarps above Moro connecting the buildings as protection from rain
- Uber, Lyft, ATA and designated driver pick-up/drop-off areas
- A grocery store, even a small one, for people who live near Aggieville
- A farmer's market

- Housing for retired adults who want to live in an apartment above everything they need
- Recovering the original brick/cobblestone under Moro St.
- Murals
- A movie theater
- Work on the branding of Aggieville to include the entire area; most people see it as just Moro St.
- More entertainment besides bars
- More quirky walkways, including more alleys as main entrances to storefronts (like Olson's Shoe Repair)
- Making recycling more of a priority in the district

Focus Group Transcripts

Each group began with Mark Bachamp providing an overview of the project, showing the video created as part of the Aggieville Vision Plan, and explaining how TIF district would work as a funding source for the project.

Kristin Brighton presented questions, and both Kristin and Mark facilitated discussion. Comments in italics interspersed in these transcripts were made by both facilitators to clarify points or ask follow-up questions.

Members of the BBN team were also present for most groups and in a few cases asked follow-up questions. These are noted in the transcript.

Chamber of Commerce Leaders

July 12, 2018 — Manhattan Area Chamber of Commerce Boardroom
19 Total Participants

1. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - I think it's a great idea. I know there's controversy all around, but if you look at the revenue that Aggieville brings in, the city has to upkeep it.

    - I'm very supportive and understanding that enrollment at K-State has been challenged and we can invest in this to help with that.

    - You should look at it as a business expansion, a business is going to have a concept of the outcome and they will have already calculated the increased revenue and profitability. So at the end of this, what is the increase of transactions? What does that mean for economic development? Someone should do the math.

    - I think we need to look at increasing diversity of businesses. In order to become more viable, you have to expand what's there so you can expand who wants to go into the Ville.

    - Aggieville is an iconic part of Manhattan, part of the fiber of Manhattan, makes Manhattan what Manhattan is. I definitely think it's a worthwhile project but as I age my attraction to bars decreases and I think all citizens should feel good about going and participating and more diversity of businesses would greatly improve the situation.

    - In 1980 the diversity was different than what it is today – dress shops, men's clothing stores, etc., much different than it is today.

    - *MB: A lot of what we're hearing is there is a lot of attraction and interest into making that diversity, but when they look at the parking issue they quit looking. It all comes back to parking, is what we're hearing from different groups.*

- The city has a direct interest in this, as a Parks and Rec board member, we're doing a master plan and we're going to be dropping City Park parking to make it more walkable and green. Parking lots won't be a part of it. A lot of what happens in the park right now is outflow parking from Aggieville and residential district…and K-State. Someone is going to have to address that.

- The timeliness is good. I think that with all the efforts we're putting to getting people returning to the Flint Hills, it's right in line with that.

2. **How does Aggieville fit in and support Manhattan's economic development goals?**
    - Well, one of the items that's been identified in Region Reimagined project is the need for innovation districts. Some other communities have used areas such as Aggieville to create vibrant, lively innovation districts.

    - I think with the north campus reimagining, that N. Manhattan corridor and its connection to north campus, I think that it's a natural end point, drawing what goes on up there down to the central part of the city.

    - Aggieville has a natural place inside of that

    - With CivicPlus going downtown, Ward [Morgan] had to create an Aggieville in the downtown area to satisfy the people that work for him. It's the same opportunity in Aggieville because we could find some sort of a company who would like to plop themselves somewhere in that area. My dream is we have a vibrant downtown and a vibrant Aggieville and we've got 4-5 blocks in between that we can reimagine what those corridors look like. People want to live downtown, people of retirement age want walkable areas. It's the perfect anchor for our community.

3. **Past research has concluded that Aggieville cannot grow without creating more space for public parking. Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this?**

    - Support: everyone in the room raises their hand.

    - But can there be a caveat? That it doesn't look like a parking garage.

    - *MB: That's what you saw in the video.*

    - There's another issue, finding that developer that will put up that commercial retail space.

    - I think I understand the reasons you talk about for development and refacing. I don't think—we should start with a parking garage in the center of Aggieville. I don't think two blocks is enough. From a functional point of view, we can't build anymore dysfunctional parking garages. We should start with something more in the center, back behind kites and down the line a second one would be great. Expecting someone on a one-hour lunch to walk two blocks twice.

- Those of us who went to Columbia [Missouri] saw great parking garages that didn't look like garages but they were also not just city built and supported; they had private industry go in to helping build them. Manhattan needs to seriously consider—we hear all this talk about more and more parking garages and people want to put that on the backs of the city and the tax payers and we need to look for other sources. You paid to park in the other ones. We have a philosophy in Manhattan that no one should pay anything for parking anywhere and I think we have to rip the Band-Aid off and get into user fees. I would be willing, instead of driving around, to pay something to park in a garage. People who know me have heard me talk about paying for parking and I think we need to move towards that as a city.

- *MB: Part of our project is to generate the revenue for that, but that depends on whether it's enacted by the city commission.*

- I would definitely agree that you have to have some kind of partnership on these garages. We have to find partnerships that'll work and it's really difficult, the ones I looked at in Lawrence couldn't pay for themselves. They tried retail on the first floor, monthly fees on the second and third floors. We have to be realistic and find a creative way to make it work.

- TIF funds are an effective tool, but the city doesn't take the money into the general fund as long as it's in effect. It freezes it at today's dollars. It's one of those leaps you take, but can you general fund survive? The other alternative you raise taxes, or sales tax revenues.

- Do you think paying for parking would deter people from going down to Aggieville if they had to pay? Right now, I would pay to park if I knew I could get a space instead of driving around looking and eventually leaving. I think you need to make a case to the public. You can't find a place on Mass Ave [in Lawrence] and people are willing to park there. When I go into a parking garage in Kansas City, I expect to pay to park. It's a very Manhattan-like philosophy because people aren't going to want to go there if they have to pay. We had the same issue with the airport. I don't want all of you having to subsidize me parking in Aggieville.

- It is a shift. I just spent a couple days in Asheville [North Carolina] and it's a similar dynamic that we're looking forward to move towards. There's meters on the street, but they're paying. By the hour. I think people are just hoping to find somewhere to pay to park. I think as the community grows that could be something that we really look at and as far as the enrollment being down at K-State, as we enhance this area, that's going to be a bonus as far as recruiting people to the community or keep people here.

- When I was in Ithaca, NY, we went to Ithaca commons, like Aggieville but the garage was a block and half or two away and the bus stop was there. But the first few floors were parking for the people who lived down in the area. We didn't think about having to pay and walk a couple blocks. That's the destination you really wanted to go to. That's where we wanted to be.

- What I envision, it's not just Aggieville, but the park as well, the reality is we're not going to fund this type of thing with our local property taxes. We have to generate more economy, new economy, more people coming into town, spending more money in Aggieville. An influx of money. Those people are probably going to be used to paying for parking. As locals it'll be annoying but we have to do this for economic opportunities.

- None of us think about paying for parking on campus.

- I agree user fees need to be an element of the total solution, they pay because there's only one place to go. People pay to park on campus because there's only one university, in essence. People pay to park downtown because they have to go there, it's a specific tourist destination, Aggieville has got to be a destination that the fee for the parking doesn't drive them to go somewhere else in town more easily. To do the math, we have to determine what people are willing to pay for parking and that is going to be determined by what unique things they can get there and not elsewhere.

- Where does $20 million get us? A garage is $12 million. What else? That's what this project is trying to figure out.

- There's the whole thing about people not willing to walk 20 mins back and forth for lunch, but when you're in other cities I don't think anything of walking distances. This is a society issue where we're not willing to walk more than two blocks. Aggieville business owners complain that their own employees park right in front of the shops that they work at. Their employees don't want to park in the back.

- The current situation down there: Varney's shows the impact of the parking. It ran its course, there's a new owner of that building, but operating out of first floor, mostly retail, there's a very large and great space that they can't do anything with. It'd be the perfect opportunity to have a medium-sized business for somebody that wanted to be in Aggieville but no place for 40-50 people to park. If that parking garage was there now it'd already be an office space

4. What questions do you still have for the city about using tax increment financing to fund the parking garage and other Aggieville enhancements?

- A lot of voters are going to struggle with those finance concepts but if you can simply show them graphically what the collections are year-by-year and what the expenditures are year-by-year that gives them enough information to make a decision.

- You mentioned how it affects the school district, those would be important.

- *MB: The city has considered a CID, which a lot of communities used, Manhattan never has, to raise sales tax a half percent and those go to private improvements, and pay the developer. It's a great incentive for developers to come in and do some work which is an incentive to bring in financing. It applies to that area.*

- So that's passed on to users, you paid more downtown until it got paid for. That's another option. Only for the Aggieville district

- We've used a variation. One called TBD that helps build infrastructure, that's how Walmart went in, but it built the roads, and the infrastructure around there.

- I think a lot of the property owners are going to have to change hands before this is all over. The way they view these investments now will change. We're talking about changing things against peoples will anyway, but add on to that I think whatever district you define needs to go all the way to the park. So we can get Arts in the Park and everything.

- I need help understanding parking, if the park is deciding not to adopt parking, where is the park envisioning people to park in the park. Reduction of parking inside the park, turned into greenspace, and reduction in the road system in the park. One of the plans—and this will not actually bring the parking numbers back to where they are today—but that is parking on the edge of the park, on Poyntz, 14th, 11th.

- And that will serve all its needs for the park?

- Well you're going to have more parking.

- You're encouraging users to get in by foot by bike

- Will there still be parking at the pool? Yes.

- That parking is not being used by the park. The #1 parking areas is the parking on the north end, are residents and Aggieville people. Some are holding areas for cars for weeks.

5. **Do you support the city commission shaping the type and number of businesses that come into the district (such as limiting the number of new bars or apartments) through ordinances and zoning, or do you think the city commission should allow free enterprise to determine this mix?**

    - Turn off the recorders! (Everyone laughs)

    - I think within that you have to say a certain percent of square footage can be bars, and you can still have the free market function.

    - I don't see retail coming back, at least not local retail, so you'll change the face if you bring in corporate businesses. Aggieville is the most locally-owned business district in the city. Are we keeping it that way? Or are we bringing in outside businesses?

    - To me, it's less of an issue of a use of the property, but what the property looks like. Gas stations don't fit in, it's less about what actual activity takes place in the space but it's about design.

- I don't think we want a gas station down there.

- There are no more drive-thrus allowed anyway.

- I think an increase of professional services would be good but I think there's a fine line there.

- I think it's going to be problematic if you look at it from a vacuum for any government to dictate what businesses can and cannot operate and work against the free market. There is a way to overcome that, you need to have a broad community voter support of a vision for the district, so that the city in essence has democratically supported it.

6. **One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?**

    - Flatten it out.

    - I think there's currently an initiative to add some significant piece of art in Triangle Park, something that's a visual focal point.

    - They should mimic the stone wall that's on K-State's southern border. It is K-State owned.

    - Maybe creating that barrier makes it easier for families to bring kids in that doesn't make the traffic so scary.

    - *MB: What if Little Moro, which is the street next to Pie-five, goes away, Triangle Park is expanded, has overhead protection from weather, screens, like blue earth, art, stages, entertainment.? What we're seeing in our survey a lot of people are wanting to see more event space in Aggieville.*

    - I feel like that specific parcel will be noisy, won't be relaxing, I don't know where else you'd put it.

    - Let the park do that, it's got all the space in the world to do events.

    - You could do this with Triangle Park, as a business thinker I've constantly come up with the issue of visibility, if visitors can't see a sign or a store, you have a conflict. What if you took little Moro created a place where people could pull up and grab a map that's got a directory, to see where do I have to go, so that they're not doing this slow poke down Moro. Then they can proceed efficiently.

    - When's the last time you used a map?

    - People are looking for stuff because of trees.

- To me, right now, that space might as well just not exist, I don't take my kids there, I've been there once, it's just kind of a wasteland to me. There has to be a physical barrier to Anderson. But if you make it bigger and more of a destination, because it is on the outside of Aggieville, will people go there?

- I can't get real excited about Triangle Park no matter what you do to it. I wouldn't spend a lot of time talking about Triangle Park, we've got a lot bigger fish to fry that'll make a difference on whether this is successful or not.

- I agree.

- I was thinking about, if you look at it, it has periodically been symbolic. If you want to maintain that, but I do see it as a missed opportunity to utilize it. If you take it away, it's kind of like that triangle that kids used to play at in the stadium, it was a little grass area where they threw a football, but that went away. I don't know the solution but it could be a more useable space.

- You could use that spot as a more formal entrance into Aggieville, signage, welcoming you, "come on in". If you know that you're entering sort of a fun area.

- Triangle Park will never be a "park" how my family and I define it.

- It's used as a pick-up and drop-off too.

- Could be a place for Uber and Lyft.

- Maybe that's it, to repurpose it for ride share or ATA bus

7. **The city commission is looking at design standards. Do you support the city establishing design standards for the exterior facades and heights of privately owned buildings to ensure the overall consistency, tone and aesthetic of the district? Or, should the city commission be hands off and allow private developers to determine the physical appearance of their properties?**

    - I don't know with the UDO how much they're rewording some of those, from my standpoint, the laundry list is this long with what you have to do. I think there has to be a balance between giving a list of things that we want to see with being able to give designers and owners a little bit of leeway so that it doesn't all look the same.

    - Do we have any historic issues in the area? No

    - Having been involved with developments on Bluemont, facades are important. People will be upset from all sides if there's not enough red brick or limestone so I would say the former is a good idea.

    - Most developers expect certain restrictions on how that's going to look. They know that's part of the deal.

- The biggest thing if we can avoid the cinderblock-faced stuff in the future, that completely blows historic Moro. I think that's important.

- I also envision it as part of making it an attraction, including the park and all of Moro, there may be some space that is public, bathrooms, display space for art, a visitor's area, then you can lead by example than just try and regulate it.

- That's a good point.

- That's costly and a risk to take.

8. **One concern when doing construction in a business district is the impact on businesses during construction, especially hen roads and parking will be impacted. What should the city keep in mind when planning this project to minimize the impact on private business?**

    - Communicate with the businesses… and the public.

    - You have to tell the public where they can go, what are the alternatives.

    - It's got to be better than it is today.

    - They have to understand that it's short-term loss but long-term gain.

    - One thing, with Aggieville and Moro, the timing can be to improve the alleys first so that they can be a secondary access instead of having to walk down a dirty alleyway.

    - Signage. For visitors to guide through construction.

    - Accessibility of alleys is important.

9. **As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?**

    - Temporary bollards!

    - There's two lives of Aggieville: the daytime life, and there's a nighttime life. I would support having the opportunity to have traffic during the day and look at the nighttime to shut it down.

- Pearl Street in Boulder [CO] does a good job of that, parts are closed, parts can close for events.

- I think there are studies about where some of the cities that have shut these down that went back in and opened back up again.

- What did the ABA say to that? If I were them they would all sound a little scary.

- If I could argue, debatably, that the purpose of the street is to get to where you're parking, if you solve parking, it opens up your options. Totally closed off is consistency; I'm always the person not anticipating that it's closed at this time. That's the problem about things that can be arbitrarily closed.

- *MB: I had a great conversation with police officers at the visioning. They're in full favor of open container on Moro, because they won't have to be policing every person that walks out of a bar, and full support of some physical barrier that can be put up to close Aggieville that aren't barricades, something more secure, for security reasons. It was amazing to me on how it's easier for them to work with open container, and also closing because you contain traffic easier.*

- All the time?

- Either way, they like it being able to be closed.

- I can see students getting a ticket on Tuesday night with open container.

- Only in a closed area can you be allowed an open container. There's your consistency issue.

- I would be disappointed with do nothing. I want on-street dining and we'd have to get rid of some parking to do that.

- What would really help is to put two-way traffic and widening sidewalks from the dining. And temporary closures. I think two-way traffic won't go to the parking garage. The only reason it's one way now is to try and create more parking.

10. What's the one thing that should not change in Aggieville?

- Varney's. The sign. That building is iconic to Manhattan. It's the Wareham of Aggieville.

- *MB: I'll be the devils advocate and ask, why can't that whole block go away and be made into something different?*

- Because then you don't have Aggieville.

- The Varney's building is in the Aggieville logo. That's the only specific thing in Aggieville that's recognizable.

- Where would you drop the apple?

- A few years ago, when we starting percolating these ideas, it seemed like main street Moro is the sacred cow, which is why Laramie and Bluemont were up zoning and you keep main street Moro which made Laramie people feel like they weren't important.

- Maybe you could move the whole [Varney's] storefront into Triangle Park and create a monument.

11. How would you define success with Aggieville improvements? How will we know these investments have been successful?

- If there are people down there, more people down there, not less people.

- At any point, a lot of times when you say Aggieville locally there's always a little disdain or spite, and if we can get rid of that and there's pride in the business district, that would be huge.

- There's always one objective way to measure. I mean, we have to acknowledge that first it's a place of commerce. There has to be profitability. Businesses have to make money there.

- Believe it or not, when you think of Manhattan and you live outside of Manhattan what is the first thing you think of? Aggieville!

- People from all over the country come up to me and say "Manhattan? The Little Apple? Aggieville! I've been there!" I'm sure it happens to everyone.

- People try to duplicate Aggieville and can't do it. Aggieville is Aggieville and what we're wanting to do here is not kill it.

- I would argue, though, that the Aggieville people think of is nostalgic, it's not what Aggieville is today. It's a completely different entity than the way people reminisce about it in their years of college.

- Every day we wait is a day to late, Aggieville has already had some significant decline and we have to change that direction somehow dramatically, to return it back to the great days of yesteryear. I don't think today's graduates look back at Aggieville fondly the way we did.

- I think part of that is the demographic changes. That was a meeting place; people would go during the day. That doesn't seem to exist anymore. It's just super late at night.

- But the coffee shops are full.

- Some of the things are behavior changes of how 18-22 year olds spend their money and time.

- They're on their computers; they don't go to the mall.

12. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- As I was walking through Aggieville the other day, I knew this was coming, I was looking at the uneven sidewalks and who knows what is on those surfaces. I wasn't sure if I wanted my kids walking on it. If we can address how to keep those sidewalks clean and make it a place where a family feels comfortable taking their young kids. I think if there's a way to hit all the populations, hit college students, hit teenagers, hit families, hit the older population, that way you've got something for everybody.

- I'm not sure how we do this, but one of the things we risk with this is debating the vision every time something comes up, we need to get to a point where we know the vision well enough that when something comes up we know what to do. We can't debate this every time someone wants to put a new investment in Aggieville. People turning over on the city commission have different ideas, but that's just going to slow us down and make it unattractive. I don't know how to do that but I think that's something we need to try to accomplish.

- We have to codify it strongly enough that a future commission has a hard time changing it.

- I think those design standards will help that.

- In downtown, it was so massive you're doing it all at once. In this case, it's a bunch of different properties.

- Here you don't have a developer, it's going to be whoever decides to buy this piece of property and do something with that.

- What was the Aggieville plan in the early 2000s?

- Campus edge plan, that set standards but there were no teeth to that.

- A lot of people think the city commission setting up the parking garage is the first major step forward. It's banking public commitment to do something.

- I would say that retail is going to be a challenge. Have you looked at our north end development around Hi-vee? All the retail spots are open.

- Retail's a hard nut to crack right now.

- Lawrence has a lot of open places too.
- There's no reason to go there other than shop, that should be different here.
- If you make a destination then it works, but it's gotta be a destination.
- You might need grant money to incentivize some of these building improvements. Not only setting the bar high but maybe they get some help with that to take it that extra step to make it really nice.

Aggieville Property Owners

July 25, 2018 — Manhattan Area Chamber of Commerce Boardroom
9 Total Participants

1. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - Yes. We need to make investments to keep our young people in Aggieville. Aggieville is about young people. Traffic, we need to do something about that.
    - We need old people to come, too. Yes, we do. If you have any kind of a retail [store], people want to park in front of the store. That's just life. I've experienced it and you'll drive around the block several times to see if you can find a close enough parking spot. I guess the grand idea is to close off Moro?
    - Just closed off nights and weekends?
    - *KB: Nothing is determined.*
    - Sometimes we have chased college kids out of Aggieville, they don't show up until way late. Some of that has been—we're a little bit too conscious about kids getting drunk. The police, the city, the whole bit, I think they need to be a little—sometimes you can say "this is your warning," but I don't know, they've just been a little aggressive. They used to go into bars and check everybody out.
    - I've seen Aggieville on the decline. I've said it all along, and—another of other merchants down there—the problem has always been the issue of parking. You ask yourself, Aggieville right now has a city parking lot up by the Varney's area, then they have one mid-way, and a third one down on the east edge. I personally, and I had one merchant that was pretty adversarial, that we ought to stack the middle one, it's in the center, so that the location of the people walking, it stands to reason to stack that one. I've heard that the talk is to do the Rally House one. If you take Kansas City and you look at areas up there—they had an area where they completely shut the street down, put a bunch of planters in, and things of that nature, but I witnessed that and it went into a decline. If we approached Aggieville very similar to the Plaza [in Kansas City], the Plaza's worked, it's worked for years. The only problem with the Plaza right now is that it's seen the real young kids come in there and scare away the older folks. I still think

that if we simply adjusted the parking with a stacked parking garage, and even charged a fee to pay for it… I do that all [pay] over the place, at the parking lot at KU Med I pay, and I'm giving them a lot of money and I still pay for my parking and I don't object to it at all. That's what I think would be a really good way to resolve all this. When I saw the video there…you got my friend here, if in fact we decided to corridor Bluemont to shut off those entrances as a safety feature, that's going to hurt this guy bad. He's already been hurt terribly by the median. Thank god I have 4-wheel-drive because I can still turn left. That's kind of my take on things. I also noticed in your film, we'll have this business and it'll have a parking lot in the back—is the business going to be obligated to this parking lot in the back, and this area is going to be taxed and are they going to have to carry that burden?

- To answer your question, I think now is the time to put money in Aggieville to compete with downtown and the east and west side.

- And the thing, too, is I know our young people—they drink. I mean, that's going to happen. And what we've actually done, I think, has made it maybe more unsafe because the drinking was not contained. It's now gone to house parties and that type of thing. There's a town in Illinois called Nauvoo, and they had a wine festival annually and they shut down the street and it worked. The Fake Patty's Day is just not done correctly by our police administration. That's important to Aggieville but Aggieville has lost its mix of retail and bar.

- I think it's a good time for the city to invest in Aggieville; the population has increased greatly.

- But when you're talking a TIF that's going fall upon us, not the average citizen.

- And the fact that the density around Aggieville has increased greatly.

- Did they make it so you don't need to have quite as many parking spots when you build an apartment? That means they can't park in back of the apartment place so they're going to be looking for places to park. So it's time the city did something.

2. **Past research has concluded that Aggieville cannot grow without creating more space for public parking. Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this?**

    - *All participants but one raise their hands.*

    - I think we need more parking for our employees. Having retail down there who work late at night and have to park far away, I'm worried for their safety. A lighted parking garage would be beneficial. I'm not sure about retail but definitely for the employees it would be very beneficial.

    - *MB: We've heard that a lot. Find a place for employees to park that's safe. And that's through our revenue projections as part of the parking garage, we're going to look at—is*

there a reduced rate? Your restaurant gets five spots?

- Yeah, I just want the opportunity. They [my employees] don't care, I care.
- Are they going to let them park in the park? Or are they going to stop that?
- *MB: The city is getting close to adopting a new master plan for the park, which changes the parking and the way you drive through the park. There is also a new parking ordinance that the city has passed for Aggieville that changes those time zones. The park has been all day long—they want, in order to help Aggieville out, to reduce those hours, and allow more traffic to move faster. So to answer part of your question, the city and the ABA is wanting to get the long-term K-State students, faculty, and staff who are parking on those streets back on the KSU campus and not parking in Aggieville.*
- *KB: But ultimately there will be less parking in the park.*

3. *Please raise your hand if you do not support the city building a parking garage. Can you explain why you are against this?*

    - I just don't like change up there. I think that's just part of its charisma. I'm old, too.
    - Could you have the parking garage and still in front of the store? Because there are handicap issues, too.

4. **What's your feeling about user fees regarding the garage? Do you support there being some charge for the garage to help offset costs and keep people from using it as K-State overflow parking?**

    - I think they can charge, especially on weekends, football weekends.
    - It needs to be a real flexible system to adapt to time and demand.
    - If Student Union can charge, then…
    - There used to be meters in Aggieville weren't there? Years ago.
    - I don't think anybody would gripe about paying.
    - Well, the Union parking was a bond, that's how that was paid for.
    - It's not a deterrent if there's a charge.
    - Gotta pay everywhere else you go.

5. **What questions do you still have for the city about using tax increment financing to fund the parking garage and other Aggieville enhancements?**

- Is there going to be any waiting? The further away from the parking garage you are, are you going to get assessed the same?

- *MB: There is no assessment. A TIF caps what you're paying now and redirects all future tax dollars to a separate fund and that fund accumulates 10 years, 20 years to public improvements. The only thing is, the City of Manhattan, Riley County and the school district aren't able to collect.*

- *KB: You won't feel any difference.*

- *MB: It has not been discussed, but an option, too, is to do like downtown and put a half-cent sales tax on Aggieville that would generate more dollars to do more improvements. You go to Hy-Vee you pay different, but nobody really notices that.*

- What happened to the thought, the hotel is purchasing our lot, what about that money? Is that going to it too?

- *MB: Yes. That parking lot pays zero in tax so you look at the value of what that automatically generates in tax, it kicks in a lot of money that will fund the parking garage and other improvements.*

- Is the TIF on the hotel set today?

- *MB: No, the district has to be established prior to improvements.*

- The key to that whole TIF is the project of the hotel because that's the benchmark that provides significant tax revenue.

- It's captured on today's value.

- *MB: I think with the growth over the last 20 years, which has been about 7% a year—Jason pops in 4% growth as being conservative, and it would generate about 20 million dollars over 20 years.*

6. **Do you support the city commission shaping the type and number of businesses that come into the district (such as limiting the number of new bars or apartments) through ordinances and zoning, or do you think the city commission should allow free enterprise to determine this mix?**

    - I don't think they know a damn thing about retail and I would be upset if they got too much control. I can't even believe they're contemplating that in this day and age.

    - I tell people you used to be able to buy a motorboat in Aggieville.

    - MB: In our phase 1, increase in restaurants, increase in apartments, bars are stable. That's how we looked at the mix of uses.

    - For on Laramie, that's where my building is, we have to build to the sidewalk, is that correct? That kills the business because you have no parking in front of the business.

Who's going to put a retail shop on Laramie if you can't park there? We need some parking in front of our buildings. You have to design it so that if you go through the alley, it's not so ugly. Moro's fine, but making all the buildings the same height, I get that part, but free enterprise, businesses should be able to do what they envision.

- What does Lawrence do? On Mass St?
- They have an ordinance limiting bars. You can't put a bar within a certain distance of another bar.
- I remember when Aggieville had x amount of cereal malt beverage licenses. They were like gold.
- *KB: I've heard that thrown out as a possibility.*
- Do they differentiate between bar and restaurant [on Mass]?
- I don't know.
- That's kind of confusing, bar versus restaurant.
- You have to have that mixture of food by state law.
- So on that master plan where you potentially shut down Moro, is that open container?
- *KB: We'll get to that.*

7. **One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?**

    - A Kansas City-style fountain, I love the one off the Plaza.
    - Every now and then they have live music there which is really cool, a pavilion there or whatever, that could really be a neat thing. Triangle Park is not big so you've got to be real careful what you put in there. You sit at Rock-a-Belly and you see a musician over there playing, it's really cool.
    - Some sort of a barrier from Anderson to the park, low profile, but if you have small children and want to have a picnic, it would make you feel safer.
    - *MB: We've heard that a lot.*
    - You can match the wall that's across the street.
    - *KB: We've heard that, too!*

- One key is making Moro as flexible as possible, have the ability to shut it down, but have the ability to park sometimes and shut it down after hours. Same thing with Triangle Park. Limited space, so you need to focus on flexibility.

- *Daniel Crouch (BBN Architects): Can I throw out a question? How about the street that cuts between Rally House and Triangle Park?*

- That's an awful great entry. One of the only two entrances.

- *DC: If we took those two streets, and added onto Triangle Park, it substantially grows. There are a lot of trucks that try to make that right hand turn. Are those streets important there?*

    - If they decide to tear down some memorials, I wish they'd give that some thought. I'd be a little upset, I can still protest.

    - If you shut down just the street by Rally House, then you'd probably have to open up the right hand turn on Bluemont.

    - *MB: We're looking at what we can and can't do as part of our traffic analysis. We're going to have to look at, if we do something it impacts something else, and how much money is that going to cost to do that? And we'll have those answers before the charrette. So that we can say "No, we can't do that because of the impacts on traffic." We'll know all that in about a month.*

    - Who owns the land?

    - *MB: K-State. The city maintains it, K-State owns it. It'll probably stay in K-State hands.*

    - What's the tax?

    - *MB: There is no tax on it. The city pays maintenance cost.*

    - I have one question—what are you considering Aggieville? Kevin Chen is doing a large development across from the Burger King.

    - *MB: The boundary is Bluemont south to the park. 14th on the west to 10th. Now, 11th street is Wahoo but we're expanding it one more block to 10th because that will probably end up as part of it in the future. Can't go west against the Christian College.*

8. **The city commission is looking at design standards. Do you support the city establishing design standards for the exterior facades and heights of privately owned buildings to ensure the overall consistency, tone and aesthetic of the district? Or, should the city commission be hands off and allow private developers to determine the physical appearance of their properties?**

- I like that Aggieville isn't so sterile. I've been to sterile shopping centers. Aggieville's neat because it's a mix of all sorts of different architecture.

- *MB: Moro & Manhattan Avenue is to stay historic district. Meaning, it has to stay like it is, you can tear the building down, but it has to go back looking like it does today. What's really being discussed is if it's two blocks away—Bart, you buy a couple businesses or homes, you invest 8 million dollars in putting up a five-story building, retail, commercial and apartments and right next door I go in and put in a one-story commercial building. That's not a good feel and a good mix. I think where the city wants to go is, they want to make sure that what goes next to it is compatible. I don't think they'll get into what it's made out of. But making sure that it's compatible with adjacent uses. I think that's where the design standards come in with the UDO. Being able to develop and upsell some of those areas north of Aggieville.*

9. **One concern when doing construction in a business district is the impact on businesses during construction, especially when roads and parking will be impacted. What should the city keep in mind when planning this project to minimize the impact on private business?**

    - I personally envision the parking garage where this hotel is going and that would be the perfect thing. What are we going to do when that's under construction? People aren't used to walking, they really aren't, and I think we're spoiled. What's going to happen to those businesses, Starbucks, Coco Bolos, they can go across the street but that's the big question for us—for a year, year and a half, we're going to have basically no parking.

    - Could we beat that construction? No, the timing is off.

    - That's too bad.

    - *MB: The timing is not in line with getting a new garage built prior to the hotel.*

    - That again goes with the centrally located stacked garage. The Kite's parking lot.

    - *MB: Here's where, and I wasn't going to get in the weeds, but I will. You want the parking on the outer limits to keep the pedestrian-traffic conflicts to a minimum and if you put it in the middle, you have all that traffic coming in and out, while people are trying to walk out of the parking garage. If there's an event, you have to go through Aggieville to get out.*

    - What if that parking lot was open to Laramie only?

    - *MB: That lot isn't big enough, with the apartment parking lot next door, which we could probably work out, we could probably incorporate that into the garage. We have not looked at that lot.*

    - The biggest lot is the Rally House.

    - So you people are going to put it upon your shoulders when some businesses go out—you and the city, because it was their brilliant idea—when some people go out of

business because of the lack of parking till they get the parking garage?

- *KB: That's why we're taking notes. Our job is to explore it and report back to the city.*

- When we get an outskirts parking garage, wheel chairs, I don't know…you've already got the property and it's already a city parking lot. I'd be fine with Rally House, but it has to be at least close enough for disabled [access].

10. **As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?**

    - Flexibility, somehow. I remember the good old days where we could have chili cook-offs, Moro was a festive place. I get real frustrated in general that Manhattan doesn't do festivals. We used to have a great Arts in the Park thing, real festive area. Aggieville needs to raise its festivity. How that's done? You've got to make Moro flexible. When we were in the Final Four or the Elite Eight, the police shut that thing down and it was terrible.

    - I like the idea of the bollards.

    - In Austria, you walk down the middle of the street and you felt safe cause cars couldn't get in there. I agree that we need more concerts and such. It'd be nice to shut down Moro at times.

    - There's a lot of money on Fake Patty's Day.

    - They could have open container, too.

    - You add a bandstand on one side and you manage what the people can do.

    - It'd be nice to be able to sit outside of Coldstone.

    - But we're competing with downtown, the west side, the east side, and downtown's gotten a lot of influx. I believe one iconic restaurant that left Aggieville and now has left our town completely was Hibachi. Those types of things really hurt. And I remember when Moro was two lanes, we got a lot more people, because it was a cruise. You cruised it.

    - *KB: Now who's cruising are the Uber drivers.*

    - It turned into one-way to gain parking stalls and I believe the number I heard was 4 stalls.

- Having those bollards would give us a leg up on downtown because we'd have the flexibility and it'd be up to ABA to actually do things. The maker's fair was a big success.

- *MB: I think the police would much rather have better control. They don't want to have to bring barricades and set them up.*

- Not every activity has to involve drinking. I support that one.

11. How would you define success with Aggieville improvements? How will we know these investments have been successful?

- For business it'd be to be able to pay the property taxes without suffering. They have to increase their business significantly.

- I'll let you know in two years.

- How many doors are open?

- *MB: We'll probably have to go from storefront to storefront on Moro. Water needs to be replaced, sewer needs to be replaced. It's all old. It's not our vision to do this all at once. This is going to be a multi-staged project that you guys are going to have to know at least a year in advance where the project is coming or what's next. That's the objective. Multiple projects over multiple years so we have the least impact on the least amount of businesses. There will probably be walkways, like you've seen in Chicago, we'll have to figure out deliveries. This is not something that's going to be happening right away. I'm hoping we have a parking garage under construction in two years.*

- What happens to Burger King?

- *MB: Somehow we'll have to deal with that later on or the parking garage gets shorter or higher.*

- Are you making accommodations for mass transit? Places for the ATA bus?

- *MB: We'll need to address that and Uber and Lyft. We don't want them cruising. If you go to a major event at the Sprint Center, they send you away two blocks.*

- There have to be multiple pick up points. We have Wildcat-To-Go deliveries for customers, so we have 40 of those a day and we need to make sure those drivers can get to our shop, cause you're talking something that's going to melt. If it's food, food poisoning. Everybody's going into the food delivery business.

- *KB: They're trying to think ahead to the future of transportation. Autonomous cars are even a possibility so the garage needs to be able to adapt in 20 or 30 years—maybe we're not even driving. We have a survey going around right now and almost 20% of the respondents use Uber or Lyft to get to Aggieville.*

- They all use rideshare?

- *KB: Yes, Uber or Lyft.*

- So having to figure out a drop off spot. Multiple spots.

- Hopefully mass transit grows too.

12. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- I think as soon as possible, we need a timeline. So we can plan on various things like that.

- *MB: Probably after we get done with the charrette, after we know for sure about the hotel, we'll look at timelines. I'm assuming all of you are members of the ABA. So we hope we can get them information and that can be flooded out to you guys.*

- What would keep the hotel from not being built?

- MB: It's got to go through the city process. You just don't know what might come up or they may decide to pull the plug. It's a process.

- How long would that normally take?

- *MB: From July to October.*

- And likewise the parking garage hasn't been approved by the city commission either.

- *MB: There are a lot of things that have to come together to make this all happen. You're probably hearing a lot of hearsay. If you have questions give me a call, we got your names and we'll get you notified when those are.*

- So the location of this garage is not a done deal yet?

- *MB: No, but that was the recommendation of the phase one of the study.*

- I cannot see the City Commission deciding what kind of businesses are going into Aggieville.

- *KB: I only asked that question because people keep saying they want to limit the number of bars.*

- Do we get to vote on that?

- *MB: It'd be an ordinance.*

- I'd have to go before the City Commission.
- *KB: They may not do anything but that could come up doing this process. It just depends on what everybody wants out of the project.*

- What I got out of this meeting is, I think we're in really great hands. Things are going to be good.

- It's the parking garage that is probably the worst [during construction].

- It'll be the streetscaping that'll be worst. And the alleys.

- Do it in front of Coldstone in the wintertime.

- *MB: That's a good point.*

- I like the district being down to 10th street. You can build a few more things.

Aggieville Business Association Members

July 26, 2018 — Bluemont Hotel
20 Participants

1. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - Do you see it?

    - Crumbling at the structure.

    - It's such an important part of this town and it's not what it should be. Downtown and Aggieville should both rise together at this point. It's like nothing we've ever seen before. Having both [Downtown and Aggieville] be super strong and rise together is something I want to see.

    - As Manhattan continues to grow, and the direction in which Manhattan wants to go as far as retaining different groups, Aggieville has to grow with it. If something isn't done that's impossible.

    - Soon we'll have all the thousands of people working at NBAF right up the street. Hopefully.

    - My understanding is downtown gets to come first and Aggieville gets seconds so the timing is historically how it's always been.

    - Especially because Aggieville is kind of the first front that students will see, we need that to reflect what the city wants to reflect. It needs to keep up with the times in order to keep [students] coming here, or it'll be somewhere else. [University of] Kansas, wherever. Somewhere else.

2. **Past research has concluded that Aggieville cannot grow without creating more space for public parking. Please raise your hand if you support the city investing in a public**

garage in Aggieville? Why are you in favor of this?

- *19 raised hands*

- Garages promote foot traffic and foot traffic promotes business.

- We've always had a big parking problem with so many students living here and coming to and from campus and I think the Ville has suffered from that. The parking garage is a win-win because we can suffice that need, but we can still get people in and out of our businesses.

- *MB: Do people park in the union garage and walk to Aggieville?*

- Always. Definitely.
- Where we're at by Jeff's Pizza Shop and Green Tea, people park there and walk to campus or Moro street, so we get bottlenecked because our lot's full. It would spread that out.

- A lot of our employees feel uncomfortable parking on the street late nights because they're worried about getting a ticket or somebody's going to vandalize their vehicle.

3. **Please raise your hand if you do not support the city building a parking garage. Can you explain why you are against this?**

    - *1 person*

    - As long as it doesn't hinder our retail space. That's my biggest concern. I'm not on the main thoroughfare and the garage that they're going to put over here, you aren't going to be able to see my store. I spent a lot of money on my signage and as soon as this stuff goes up, I'm going to have to figure out how to move it, where I'm going to get the money to move it. We're going to be in this little shadow over there. Olson's [Shoe Repair] and SOS [Sisters of Sound] will be hindered by the parking garage. We've been there for 13 years, Olsson's have been there for over 100. Security, lighting, they usually light inside, but they don't light outside. Security are the first people that get fired when they're not making enough money.

4. **What's your feeling about user fees regarding the garage? Do you support there being some charge for the garage to help offset costs and keep people from using it as K-State overflow parking? Why or why not?**

    - Just like anything, as long as it's not outrageous I think people are going to pay it to get down there. If it's $15 an hour I wouldn't park there, I'd park in the park and walk over.

    - *KB: The city is planning changes to parking in the park with the parking garage in mind.*

    - I'm for it. I'm used to paying so I don't care.

    - I'd prefer not to see a fee. I'd like free parking — as long as it's regulated so someone does not park there forever. I think that it would encourage more and more people to

come down and walk if they could without having to pay. There are plenty of garages across the United States that you don't have to pay for.

- [There needs to be] some kind of signage or something that is regulated. Not just put the sign up there and ignore it. But regulated so you can't park there for 24 hours. But if you take an Uber home, we want your car to be safely parked in a garage so you can get home safely. If a car is there because you had to Uber home, that's completely different.

- But then you still run into the same situation we have now, with K-State students and professors parking. You have to regulate it. You can't make it free. That's my opinion.

- I think during the school year, instantly in the morning it would go up. You'd have people parking for free.

- If it was regulated like the Rally House parking lot. Heat [RCPD] goes around every three hours and you get ticket, so that doesn't stop the professors and students but especially a parking ticket moved up to $15 from $3 or whatever it was.

- *KB: The city has made a lot of changes already to regulate parking.*

- I think a fee is reasonable. I also worry about my employees and what they can afford. Maybe there's a pass they can purchase. For people who are working in the district can buy a $50 pass for the year. That would be ideal.
- MB: That's part of the model that we're going to run on the garage is to what we can do based on employees. We want employees to park somewhere that's safe and affordable.

- One possibility regarding the garage is having designated spots that Aggieville Businesses can lease for their own employees' use. Do you think your business might be interested in having reserved stalls for your employees, at a yet-to-be determined cost to your business?

    - *Nods all around the room.*

    - Sounds good.

    - Yeah I agree with that because we have probably 8 to 10 people that need to park there at night. I think we would buy permits if they were available.

    - This is kind of a backwards question, but what is the capacity of this garage going to be?

    - MB: 500-800

    - I'm for it, too.

5. **Do you support the city commission shaping the type and number of businesses that come into the district (such as limiting the number of new bars or apartments) through ordinances and zoning, or do you think the city commission should allow free enterprise**

to determine this mix?

- Shouldn't dictate it. It's not their jurisdiction. Free market. If someone wants to open a business down there.

- *KB: Some people want to limit bars.*

- Here's the thing: in the last couple years we've seen how many places have failed in Aggieville. The free market works.

- I don't think that's something the City Commission should decide. That should be up to the developer.

- I think there should be a capped limit on liquor licenses.

- I'm for that, too.

- That just creates opportunities for consolidations. Like Johnny Kaw's. One liquor license. They could just keep knocking down doors and expanding.

- They can't sustain that, I imagine.

- We did some research on districts like Aggieville. We're one of the only districts around that has it open on the liquor licenses. People thought that it was crazy we do that.

- I think part of the problem is if a bar opens and fails within a year, they've made these renovations so it's going to just be a bar again. I'm for some sort of cap [on licenses].

- On Mass Street [in Lawrence] there's a cap, you can't have any more. You can buy that persons license.

- I think there should be a cap on liquor licenses but I think it should be the district that decides that and puts it forth. I think the board and the business's owners should decide that. But the rest of the market, once we have that cap, should be a free market. Open to whoever and whatever.

- Didn't that used to be a thing? And it just involved cooking the books a little bit? I was in high school at the time and I thought I heard that.

- It's hard to cook the books when you get audited.

- Let's move on from that.

- Obviously being the businesses we are, I would be for a cap. I do think that the business district — not the city — should determine that, but just to play devil's advocate, as far as the betterment of the district, if we build a parking garage, all the plans I've heard so far include retail in the garage. Is it better to leave that space empty or is it better to put a cap on the type of businesses?

- I think also, devil's advocate, from a building owner perspective. If I have a space that goes vacant and I'm limited who I can lease it to, then I'm under duress as far as tax and utilities and such.

- I think, to echo that, my biggest concern is a lot of these plans involve building five story buildings, and even in this building [the Bluemont Hotel], that retail space didn't fill until a year ago. I think Manhattan has a really bad habit of building buildings for the heck of it. I don't think it's necessary to build retail spaces and wait to fill.

- I would really appreciate it if you can build a garage like the ones in Japan that go up when you park and sink back down into the ground.

- Hit the button and it brings your car down.

- *MB: Here's our dilemma as designers: we have no developer involved in the project. So we don't know what's feasible for commercial or retail space, some of you know that apartments are a very soft market. So without a master developer or somebody that's working with this, we don't know what's going to get built, we know a garage will. But how much can the community support for commercial retail and apartments? We're under the assumption of a garage, but how that's figured out, it'll be later. Until somebody says I have a business that wants to bring people here. We know we have to have a façade but how much space do we leave in the middle for business.*

- Improvements to the district will bring more tenants in so it's — what comes first?

- If we had more parking, we'd get more people down here.

- Chicken or the egg.

- This may be speaking out of turn, but where is the improvement in bringing in places that are going to cost too much for a local business or a corporate place, but for a start up local business, it's hard for us to survive as we are now, but if property value goes up, it's going to be hard to afford.

- For all of us, I feel like most people in here are local business, bringing in more higher end retail…Subway at $5 foot longs didn't survive, so how am I going to survive?

- But you have to have parking for Subway.

- That's just like Buffalo Wild Wings. That's their smallest store but they don't want to move it. They would triple in businesses once we get that parking, just like the majority of us.

- The point being like if we build this parking garage with empty retail spaces, how does that benefit the small guys? It sounds like we need parking to get more people in here first and solve that problem without trying to build retail spaces that will sit empty for two years.

- *MB: I don't think we're interested in retail space, the private sector is going to do that. We don't know who that is. It could be somebody locally or the outside.*

6. **One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?**

    - More comfortable seating and spaces to eat to make it more appealing. It's not super appealing to sit at a picnic table. A little more well-designed.

    - Live music and events.

    - It's your first impression of Aggieville so that's the gateway into The Ville itself, that can say a lot for someone just driving by, beautify it a little bit, doesn't have to have a ton of investment but just something that brings people in. It could be that iconic corner.

    - I think it'd be nice to see something that's opposite of what people typically think of Aggieville. It's thought of an adult party entertainment district, so some kind of art, something that would encourage family, all ages to come through, walk, engaged.

    - Maybe a matching wall to K-State's wall to keep kids corralled.

    - Like it was said before, it is kind of a first front into Aggieville, you could even make it a tribute to Aggieville. I've only been here 2 years and I've already learned so much history of it. You can dedicate that to the history of Aggieville. Something to kind of coax people in and say this is what we're about. It's kind of an induction into our little setting.

    - An art installation. Like the "I AM AMSTERDAM" sign. It's a photo op, like people go there and they take photos. Or that little green spray paint [in the alley] that people take pictures there.

    - There's a lot of research that Instagram is driving tourism right now. So if we can get some Instagram-able places, we'll get more visitors.

    - Maybe an interactive art piece?

    - Keep the trees.

    - Yes, it definitely needs to remain a green space.

7. **The city commission is looking at design standards. Do you support the city establishing design standards for the exterior facades and heights of privately owned buildings to ensure the overall consistency, tone and aesthetic of the district? Or, should the city commission be hands off and allow private developers to determine the physical appearance of their properties?**

- There absolutely should be some sort of guidelines that come forth but not restrictive. For instance, the building materials that one uses, as with anything that you build you want to use the right materials for it so there should be some kind of guidelines so that people build what they want how they want it with the right materials so that it stands up. But I think people should be able to design what they want. As far as height requirements, we can't have a 5 story and a 1 story, that's going to look ridiculous. So we need some sort of guidelines.

- Guidelines are good.

- MB: Aggieville is part of the UDO and part of that district is Aggieville so if you want to follow that in the City Commissions you need to follow it.

8. **One concern when doing construction in a business district is the impact on businesses during construction, especially when roads and parking will be impacted. What should the city keep in mind when planning this project to minimize the impact on private business?**

    - I think there should be deadlines. You go to a big corporate job, there are deadlines and if they're missed that person gets fined. That person who tore up the street out here [at the intersection of Bluemont/Anderson and N. Manhattan] took too long. We don't need that. That would put a lot of us out of business.

    - *KB: What would you like the city to know from your standpoint as they plan this?*

    - Do it during the summer.

    - Don't wait until move-in weekend to start it. Because that tends to happen a lot.

    - *MB: I don't think there's a lot of ice cream sold by Cold Stone in the winter but it's hard to do our work during the wintertime. You're saying summer is the best. If we have to extend, before or after, spring or the fall?*

    - Start the day after the last home football game.

    - Student population might have an idea how to get around it in the spring because they've been here, than in the fall when new students are there. You know what it's like driving around town in the fall when students move in.

    - Fake Paddy's Day. March 18th.

    - I love historical context, and we're not the only people who did this, but what can be learned from the past? Downtown? The 80s? We should look to the past to see how they've done it before.

    - *MB: Walkways, plants, we're going to provide all that.*

- That's where if we can learn lessons from the past that would be fantastic. Think about Coldstone vs. Thread. Thread only has Moro frontage so there may be opportunities to go through the back of some of these. It wouldn't be great for Coldstone, but it wouldn't kill that business, it wouldn't be shut down. Thread would be shut down.

- *MB: Alleys are part of this, too. We have to figure out deliveries. We're having a separate meeting with delivery companies to ask them how do we get your beer in? What about food deliveries?*

- *KB: Are there more alleys where trash can be consolidated?*

- I think the biggest key component to all of this is the communication process. Right now we have zero communication regarding construction. Anybody can do it without letting any of the Aggieville businesses know. The biggest thing the city needs to ensure is a viable communication plan across the board. Every business, delivery owner should know. Some kind of something set up where all the information is being distributed. Construction should have some kind of permit so we can know what's going on.

- *MB: Maybe that's something that you as a board should adopt, not with even this project.*

- We're working on it, it's a hassle.

9. **As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?**

    - I think your bollards, no matter what goes on, those should be installed because when we shut down the streets people run over them. We need something permanent. I don't like streets shut down but I have to go down there and fix it.

    - If we've got 600 or 800 more parking stalls, I don't think there's an issue at all.

    - That's probably the plan that I hear the most people talking about, saying that's such a good idea to create a routine.
    - I think that's the best way to go but we have to be very cognizant of the communication of that, because the tourists don't know.

    - As it's transient, in four years the whole [student] population's going to forget and we're going to teach them all over again. But with the bollards, what happens if somebody

parks before 6 and their car is left there over night?

- The Friday and Saturday night closure is the only one that sounds somewhat reasonable, if the folks in the bar industry support that. As a person who tries to sell small objects to lots and lots of people, road closure would kill our business.

- It would be great for festivals.

- No matter what, we need those closures. We need the ability to shut the streets down.

- MB: If it closes 8 o'clock and reopens Sunday at noon—

- I don't want to shut down any streets except for the opportunity to do so for events or if bar owners agree that Friday and Saturday evenings work. If that's supported by the community that's going to benefit, that's fantastic. If we were going to be closed Friday-Sunday during the day that would be a disaster for our businesses.

- If this became viable I would drop them down around bar close.

- MB: We're also thinking about designating an Uber/Lyft area.

10. How would you define success with Aggieville improvements? How will we know these investments have been successful?

- Full store fronts.

- It's embarrassing to walk your guests who finally came to Kansas to see it. To be more proud of the district.

- Sales.

- I'd say the local population, townies, not saying "I don't go to Aggieville when the college kids are here." I hear that more times than I want to count. There's a fair amount that don't but there are a lot that believe summer and winter break is the only time [they can visit]. Just an overall image re-haul. This isn't '84 anymore when we're dragging goal posts through Aggieville and busting down windows.

- But Aggieville in those days was a thriving community and had all of those little shops, which, as a small start up business, your rent is astronomical, you know you really have to work to stay in business. The bars have squeezed all of those out. When I came to Aggieville, it was 1982 and you could spend a very nice morning as a family with small children. There was the candy man and Campbell's and Woody's and all those little girly shops, boutiques, and there were bars, places to eat and you could have a coffee. It was a lovely pleasant experience. We moved away and came back and were absolutely horrified. If you're not going to go and drink, there's nothing to do. Not very much. You can do your shopping in half an hour and leave.

- In 25 years this town has changed a lot.

- We need more of a 24/7 area.

- The success of the diversification of the district. Everything that attracts people to come down and walk amongst a district. Right now if bar scene is all you want, but we don't have the unique shops, in order to move the direction of Aggieville towards that, we've got to be able to diversify so we have to have those mom and pop stores that aren't afraid their business is going to fail.

- There needs to be some kind of incentive for small businesses.

11. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- The parking lot across from Fuzzy's next to Kite's — is there a plan for that? How does that fit in?

- *MB: Our parking study did not include taking that parking away and put that into the garage, what happens with that lot will take that parking away.*

- Would that area be a good place to set up Uber for the parking garage?

- *KB: It needs to be somewhere on the edges.*

- *MB: Uber and Lyft, in all your traffic studies, all they do is cruise, we want them to quit cruising and park.*

- In the video renderings, we keep hearing five-story buildings. Where did that come from? Why do people need to build the five-story buildings?

- *MB: The Bluemont [Hotel] set the tone. This was the anchor that set the tone for what the future plan of Aggieville in order to get that higher density and the best use out of the ground.*

- I'm just not a fan of that anyway, so I just get panicky when I hear the five-story building thing. The Bluemont is a hotel, obviously it needs more than one story.

- The only way to increase your business is to get more and more people in Aggieville. Living, working.
    - *KB: The more things we could get that encourage people to be able to live in Manhattan without a car. It could be a really cool live-work-play kind of area.*

    - *MB: The City Commission is ultimately where it needs to go. We're trying to get the best plan together that can be a consensus.*

- I’ve lived here for 20-some years but I’ve been in the district for four and one of our biggest challenges in Aggieville is the constant infighting and disagreement. We have to put all of that aside. We need to show the city that we want to make progress.

K-State Faculty/Staff

August 28, 2018 — K-State Union
13 Total Participants

Idea presented by participant before the discussion started: Create event space on top of the garage on the roof.

1. **As a faculty or staff member, why do you visit Aggieville today?**

    - Restaurants usually. A drink at the bar after the work. Drink and food mainly.
    - I remember when I was younger, there were a lot of shops down there — I'd love a bookstore back — Acme Gift, some of those shops I'd like to see more of that and maybe not an increase in the bars.
    - I work at the Beach art museum and second year now we're going to partner with the Manhattan Nonviolence Initiative when they do their music festival in Triangle Park and that's been a really great thing for us.
    - With McCain there it makes the whole area like an arts district.
    - Workspace. Coffee shops, Bluestem, Radina's.
    - Breakfast on Sundays at Bluestem.
    - One thing that would be good is if there was a little grocery store. I know the students, especially grad students, would love that. Somewhere to buy milk and bread.
    - *KB explains that national chains won't come into Aggieville today because there isn't enough parking.*
    - Like Trader Joes?
    - I don't go to Aggieville because there's not parking. I go for donuts early in the morning when students aren't there but otherwise I enjoy myself somewhere else.
    - I think there's a smaller Whole Foods spinoff that might be more doable. Whole Foods 360?
    - *KB: 30,000 people live within one mile in Aggieville.*
    - I've lived in all four corners of Aggieville and usually didn't have a car to go to the grocery store, which was a problem. At the gas station you can find, like, an old apple, and that's it.
    - It'd be nice to have an urgent care down there; all are on other side of campus.

- I just want to add one more comment: I have a high schooler and she and her friends will go and hammock in City Park, then they'll go to Varsity and play ping pong and go to Radina's and get Italian sodas. We live close to City Park and Aggieville. Especially if you're walking or cycling, it's very accessible.

- *KB: In our survey we found that 70% of students said they walk to Aggieville.*

- I go to The Library that doesn't have books because that's pretty convenient.

- I would also add a meeting space for people from K-State to meet off campus so that they don't have to worry about parking on campus. Bluestem is the only place and parking is so difficult.

2. What role, if any, do you feel Aggieville plays in recruiting students to K-State?

- Currently, it doesn't. I don't think so.

- As of now, I remember my days as an orientation leader, we were scripted to say, "Aggieville is a good place for shops and boutiques," and leave it at that. Not bars. Currently, I say the food places, but I don't mention bars.

- I think for children of alumni it is attractive. Because their parents bring them there and they've grown up going to Aggieville. So for that cohort it's attractive.

- People coming in from nonconventional admission things. If you poll students and stuff, or I just talked to people in the community, and people told me Aggieville was one of the most fun places they went to, any day of the week or game day. That solidified Manhattan, made me want to come here more. That was in comparison to OU with their campus corner up north. I heard more people talking about it being fun.

- I think people that don't have any idea what it is, and they see the gum on the sidewalks, the smells, it kind of turns people away.

- Constructions barriers with a half burnt down building for over a year is an eyesore to a community.

3. Do you have any concerns that Aggieville is in any way a detriment to recruiting new students to K-State?

- It's not the attraction it once was. It's past.

- Most college towns or big universities, they have an Aggieville, a strip, a corner, they have something that lends itself to the culture of the university because that's where students go. It's part of being a K-Stater. It doesn't hurt.

4. What changes could be made in Aggieville to help with campus recruitment efforts?

- Pedestrianize it. If you get rid of the roads, if it's a pedestrian place, that would be amazing.

- One of the things downtown now is the game store, The Village Geek, somewhere people can gather that's not focused on drinking. There's nothing for them to do in Aggieville except Varsity and play ping-pong, like he mentioned.

- An alternative movie theater!

- That's a great idea.

- The university isn't fully comfortable marketing it as an asset. We all view it as one, but the university doesn't know how to make it one because of the state it is in today, but if you could diversify it, the university could lean into it more and own it.

- There's also a lot of risk with that, too. You've got all kind of rules about MIP and Title IX and some of these other things that campus has got to be concerned about. There are some risks to it.

- Something other than bars down there seems to be… My perception of it after growing up here is that it is a bar district. We need to make it more "people that don't drink" friendly. I guess family friendly.

- *KB: We've had people say it should be more useable by townies.*

- My point of view, I think Aggieville *is* family friendly. I don't take them down on Friday night at 10 o'clock but on weekends and during the day, going shopping at Acme, Bluestem, Radina's, there's all kind of things for us to do as a family, especially with its proximity to City Park.

- I would say, too, speaking as someone who doesn't have kids in the community, there need to be more diverse activities. I also think a lot of community activities in Manhattan are geared towards children. So having something in between that isn't geared towards kids but isn't Friday night 11pm is really attractive. Which is really just Poyntz right now.

- Outdoor seating would be lovely, with little umbrellas.

- My impression is that this generation of students' social life is much different than when I was in college. We'd go after class at 5 and drink until the bars closed at 2. My students don't *talk* about going out until even 10 pm. We didn't have cell phones to figure out where everyone was. You went to Aggieville to find your friends. I think economically we're forcing a change of what Aggieville's going to look like in the future.

- I've been here 18 years and there used to be an art gallery in Aggieville and that used to have the art students' final projects. It was like in the evening so people would go and walk around and buy their pieces or just look and meet the students. I used to go there all the time. My whole house is filled with artwork that students

have made from that shop and now that's gone. That was really nice. It was called Urban Designs.

- I have one more thing to add for recruiting. If the public spaces and the streets were more appealing, shutting down Little Moro and turning it into a park and it could never be the scale of Power and Light, but it could have events for K-State games, for the World Cup. There's like 25,000 trips that go by on Anderson. That would be a really strong way to promote the community and promote Aggieville. Also the amenities, there's a real lack of basic things like benches and trash cans. There's adequate lighting but it's not great, it's dated. So I think just basic comfort amenities would really improve the overall quality.

5. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - The only better time would have been yesterday.

    - Everything's coming together, Hale, enrollment, the hotel, it's a Watershed moment. Do it.

    - It's trending. You have to think about where the campus and community is heading and preparing yourself for what it's going to be like 10-15 years down the road.

    - As the university is trying to get more students enrolled, now's the time to do it because it could be a real draw for K-State.

    - Bringing in new businesses, like something for young professionals to do, that's going to be more attractive than even Downtown. I would love to see them block off Moro St.

    - Can I ask if this conversation is interfaced with public transportation? We're talking a lot about expanding parking but don't we want to figure out some ways for people who don't have cars to visit?

    - *KB explains that the designers are taking Uber, Lyft and ATA bus into consideration, including a designated drop-off/pick-up spot.*

    - *MB: We're looking at ATA bus and even accommodating a large bus. We're going to assume that with more ridership vehicles will get longer. We have a few good spots for a drop off. There's probably a better spot than right in front of Rally House. Bikes, like the bike boulevard coming off N. Manhattan Avenue, they shoot across Bluemont and have nowhere to go.*

    - I would like to add, I was born and raised here and the way I look at things is "What is the next big happening?" I'm looking at all those families coming here for NBAF, I just think how it lends itself to businesses, to what else can be developed. It's just a

little stale now, so let's mix it up a little.

- As that growth comes, there could be an opportunity for more housing in Aggieville.
- With the parking garage, have they talked about doing an underground garage?
- *MB: No. It's very difficult to do that because of all the ground water and storm water, it makes it a lot more expensive.*

6. Past research has concluded that Aggieville cannot grow without creating more space for public parking.

- Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this?
    - *All but one raises their hand.*
    - Will it be free? That makes a big difference.
    - I recognize that there is a need for additional parking but I also don't want to endorse additional parking at the expense of one of the things that make the community what it is. I've been all over our country and this idea of free parking and being able to flow real easy in Aggieville and Downtown is practically unheard of. It's a jewel.
    - *KB explains that a free parking garage could likely attract a lot of K-State students parking there during the day, rather than paying for a space in the Union parking garage.*
- Please raise your hand if you do not support the city building a parking garage. Can you explain why you are against this?
    - *No one raises their hand*.

7. How would you feel about being asked to pay to park in a parking garage in Aggieville?

- I think people with parking permits park at K-State.
- *KB: The students wouldn't buy parking permits, and it won't help the businesses.*
- But what are we talking about 500 stalls? How many people are at K-State that drive and either buy parking passes? All I'm saying is if you have 24,000 students and 4 -5 thousand employees, even if we have people just park there for free. I think they would find somewhere else to park just as easily, like they are doing now. On the side streets, not in the garage.

- Is there a way that you can do paid parking but you still have some free with the hours, like in that Rally House and Burger King parking lot?

- *MB: There will be a proforma that will be generated. If the garage gets paid for you have to maintain it. First hour's free? First hour and half free? If it's not working you can go in and reprogram it and change it. Validation?*

- It sounds like the city shouldn't have to pay for it, if it's such an expensive garage.

- *KB: It won't increase anyone's property taxes, so the idea is if we invest in a garage then the whole district and the city will benefit.*

- It's the idea that private money follows public investment. I'm sure this has been talked about already, but I assume that some of that parking will be for residents of new apartments.

- *MB: Everybody wants that but you're not going to use TIF dollars to do that.*

- Regarding the garage wrap, I might throw out a strategy used by Continuum developers in Denver. They wrapped around and leased the space for artists to come in, and over time that would transition out and become other uses when developers get interested. Maybe there are more creative alternatives than restaurants and retail.

- *MB: It's very good space to use, very good investment.*

- If it's like the first hour free and then you pay I'd be fine with that, if you want to quickly grab a coffee.

- Aggieville better offer a whole lot more than it does today if I'm going to pay to park. There are other places to go in town.

- Public transportation, ATA bus, biking, ride share, if you can make it easier for people to get there and not drive you provide an out for them to not pay for parking.

- We really need options. 15 years ago that was the recruitment tool, they wanted to show how great Aggieville was, so if it's something for attraction we can look at that. But it needs to have an option, but if I have to pay completely, I would go somewhere else. I think we should look at an option.

- Most of us have parking permits. We'll park across campus and walk.

- But it would be lovely to have a parking spot in Aggieville. To just have a spot.

- It sounds like a lot of people aren't going because there's not parking, so if there's validation, now you've spent more time there because you have somewhere to park and a business to visit.

- *MB: As designers we can say, "okay we can put a garage here," but you put your other hat on and say "would you go to Varsity Donuts if you had to park in the garage?" In my*

opinion, you won't. You want to be able to drive up to that front door. There's going to be some trade-offs of trying to get some sort of parking for those early morning hours for Varsity. But if it's really a big activity, you'll go into the garage and you're going to walk.

8. Which types of new development in Aggieville would you like to see? (Raise your hands and share any comments you have about each)

a. Retail? — **10**
b. Residential? — **2**
c. Offices? — **6**
d. Restaurants? — **10**
e. Bars? — **3** (if it's good)
f. Service providers, like hair salons, dry cleaners, etc. — **7**
    i. – specifically grocery stores, there are a lot of hairdressers
g. None – leave Aggieville as it is — **0**
h. More entertainment — **9**

- I would like something for more diverse audiences. Aggieville is not the reason I took this job. I didn't see anything that I would want to go to. It should have a more diverse aspect, not just ethnicity. I was in the College of Ag, so everyone thought I should go there. Some attractions for some diverse groups.

9. One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?

- Enlarge it.
- Some picnic tables.
- I agree with that.
- It needs a serious redesign. Whole-scale redesign.
- I would add gathering spaces, I would add some kind of stage, probably a screen? Shade structures that could be moved and removed, market areas, an outdoor market, a community garden.
- Farmers market!
- A farmers market could be like a grocery store.
- Some kind of water element, that could be engaging for kids, strategic tree planting because it's kind of a disaster, an edge so that people don't feel like they're going to get run over, and sound protection.

- I was going to say City Park has a lot amenities and thinking about how they could interact. We have event space, a fountain, is there a way to find things that City Park doesn't have? We see Triangle Park as a way that the city and K-State meet so we should make it feel like those two entities.

- Triangle Park to me just doesn't have a purpose, we use it for a lot of service activities, and even when I get there's no clear place to gather. Kind of defining what is its identity, community events, and markets, that's great. People just need to know what Triangle Park is.

- There's visual alignment on Anderson as you're going east, so some kind of a landmark, a gateway feature, an identity piece that you can see from a ways away.

10. **As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?**

    - I like the meeting of both of those, close it sometimes and open it other times.

    - I like the first option, the pedestrian mall. With flowers and pots and trees and stuff. I'd sit on a park bench and have a sandwich.

    - The last option you mentioned, just having a road with no parking, makes no sense to me. I can understand the argument of having parking sometimes but that doesn't serve as much of a purpose to me.

    - Changing the Aggieville parking to parallel parking and widening one of the sidewalks. You would have room for street trees and still parking for business owners.

    - Your second option of the bollards, I think that's great from a future perspective. Who knows what Aggieville could turn into, we have ideas, but we don't know. There could be a couple businesses that turn people off from it. That leaves us a lot of options for it to be customized. I plan the Homecoming parade, I would love the bollards. I'm biased, though.

    - I think the closing on Friday and Saturday is serving two audiences really effectively. Alumni want to flood the bars and restaurants in Aggieville but it's for a very short period of time. The businesses want people to come down and have storefront. We're not a very walkable community, we all own cars. I think there are a lot of people who aren't going to change the way we behave.

11. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- Eliminate the stinky alleys. It is ridiculous that you have to look where you're walking.

- *MB: That's part of our project too, but we've got major challenges, none of the businesses have grease receptacles.*

- They all have different companies who pick up the trash.

- *MB: We're talking about deliveries. We had meetings with Budweiser, Pepsi and food deliveries to determine how we can get deliveries done by 10:00 in the morning and get you out so the alleys can be more of a front door. Bluestem has a great back door but the trash is still there. We'd have to bury the power, that could be very nice looking if we can make that happen.*

- Just to add complexity to the alleys, many businesses don't recycle because it's too hard. That's definitely something that doesn't align with our values in the community. I think businesses want to do it, but it's too hard.

- Lighting needs to be a lot better too. When it's dark, that's when people get hurt and that's when it gets a reputation that it's not a safe place.

Manhattan Christian College Faculty/Staff/Students

August 28, 2018 — Manhattan Christian College
30 Participants

1. **What role does Aggieville play in your recruitment?**

    - I had an advisee last week and he was at another college north of us and he really appreciated that there were stores and locations and restaurants that he could walk to.

    - That's a big deal with freshman. Their families ask, "how far is the closest restaurant?" so that's been a plus for me. I can say, "you don't even have to have to have a car." My daughter was at another school where she had to drive everywhere but now her car is parked constantly.

    - For myself, I thought it was pretty sweet that everything is right there. MCC is in the middle of Manhattan. It's fun to take people through it when people are visiting, whether that's new students or family and friends.

    - MCC's a very community-driven environment that when we have study groups or discussions we can just walk together to continue those conversations at a coffee shop.

    - Just from a historical perspective, it's definitely improved from when I was a student in the 80s when you didn't want too many 18-19 year olds going there. Some youth groups come from our big youth conference can go down there. I think it's changed the businesses. Mother's Worry, Dark Horse aren't down there. I think it does help.

    - I've got a question about would it create more of a police presence? I live on campus and honestly it sounds like a racetrack. My first month here I just could not believe the noise of the cars and the speed of the cars going from here to the park every night. It's just like they're driving into your living room. (14th street) and east on Anderson is pretty loud, too.

2. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - It's worn out. I got here just after that improvement and to me it's different than it used to be. It needs a new look. It needs freshened up.

    - Just overall thinking of Manhattan's trying to change its whole presence but I think overall changing Aggieville now and making it more community friendly and not just focused on bars and K-State but family things, shopping, restaurants, the little ceramic place, those kinds of things make it better.

    - I think an upgrade is very important in view of the fact that K-State's enrollment is going down and we're experiencing a decrease in enrollment as well and we just need a little higher class of place to point to. The fact that Aggieville hasn't done

much for 30 years puts them behind the times. Students who come to down have visited other college campuses and this could very much impact the decision of whether they come or not. I love downtown Manhattan, the environment is friendly and the people feel like they're important. The city went to all this trouble to do this for us for me it makes a big difference and I think Aggieville should be next.

- I think Manhattan in general has moved towards being more pedestrian and bike focused, I think capitalizing on that is a good idea.

3. **Past research has concluded that Aggieville cannot grow without creating more space for public parking.**

    - **Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this?** 23 of 30

        - It's a better use of space like you we're saying going vertical, horizontal can't fit enough spaces. We're always looking for some place and people end up parking really weirdly when there aren't enough spaces.

        - I think the lack of parking in Aggieville is a detriment to the businesses there. There have been times when we've come to town to go to a restaurant in Aggieville, there's no place to park so your choice is walk several blocks or go somewhere else. For people that aren't determined to go where they're going, they'll just go somewhere else.

        - The fact that it's not just going to be a parking garage, helps. But knowing it's going to look like the area also helps it be much more palatable.

        - If it opens Moro up for walking and strolling, that would be good.

    - **Please raise your hand if you do not support the city building a parking garage. Can you explain why you are against this?** 1 of 30

        - I'm really ambivalent. My concern is, I grew up in Junction City, and my concern is with Manhattan's narrow streets, my concern is when you put a parking garage is if you'll need to widen the streets as traffic increases. But I also realize eventually you have to do something.

        - *MB: Think about when people will be leaving and think when everybody else is asleep, so when everybody's leaving the parking garage at 2am the rest of the streets aren't very crowded. How does it impact other streets?*

        - I also wonder how much traffic is people driving around to find a parking place

        - *KB: A lot of it is Uber and Lyft drivers circling as well.*

4. **The parking garage on the lot by Rally House will be very close to MCC. What concerns or questions do you have about this project specific to MCC?**

    - Pedestrians crossing there, especially 14th.
    - 14th also has really low visibility on the sides. I remember a month into my freshman year that there was a car accident every week at that intersection.
    - And I don't know if there'd be any charge for the parking so the concern of mine if there is, if it's too high, will that push everybody a half a block away to our parking lots.
    - Sanitary conditions, you know what parking garages are notorious for, especially after an all-night drinking escapade.
    - Security, lighting
    - Police presence
    - Will there be security cameras in there?
    - *MB: that's part of the discussions when we get down in the design.*
    - It seems like a good idea for anyone that's in Aggieville walking back to MCC, with lighting and everything.
    - I think the question is if people can charge to park there or not, because if it's free, there could me more traffic in this area during the day.
    - If it's free it'll be full. Which will draw more cars on the street.

5. **There's been a lot of discussion about whether the garage should be free to encourage its use or have user fees to help cover its costs. How do you feel about this issue?**

    - I've seen some good plans where it's like charge during the day from 7am to 6pm and free after, or free for certain periods, so you generate people coming in but during the business day when the college is in session and when we're in session its charged so you're not getting all those people parking in there unless they're willing to pay for it.
    - I think it needs to be free because it'd be defeating the purpose of it, isn't it? Because a lot of people won't pay to park there, so it will continue the parking problem, so you'll have people driving around to take what fewer spaces there are. Rather than paying a dollar, I'd drive three quarters of a mile to find somewhere free to park.
    - I like the flex parking idea, sometimes charge, sometimes not, but it can't be too much. It's going to be a picky price point there to maintain the building but not

enough to deter people.

- *MB: Discussion about giving businesses-specific parking stalls. Would MCC want to reserve a block in the parking lot?*

- I've been part of discussions in the last 10-15 years, would there be so many that we could encourage people to park there and we'd pay a minimal fee from 8-5. It's not much further of a walk. Or if we have a special event, could we have our faculty and staff park there to open up our parking lot. There's a lot we could do there.

- I don't know if any businesses will validate your parking which would help pay for it.

- And that way then students just using it to park and going to class wouldn't use it for that.

- Radina's would sell a lot more coffee.

- It might be apples and oranges but I think it would be worthwhile to talk to the city with how they've gotten around with their free garage downtown.

- The one Downtown's not used?

- *KB: A lot of the time. They thought people would walk downtown, but people mostly use it for the convention center.*

- Is there a reason why the parking garage is being considered next to Burger King instead of behind Kite's?

- *KB: Traffic patterns, we don't want people to be driving into the heart of Aggieville. Pedestrian/car conflicts because now you're getting cars in the middle of Aggieville.*

- Which puts more pressure on 14th and Laramie

6. What questions do you still have for the city about using tax increment financing to fund the parking garage and other Aggieville enhancements?

- So, the business owners in Aggieville now, would their property taxes go up?

- *No.*

- So they're not going to necessarily have more tax burden than they already have?

- If their property value goes up, they'll pay more tax. They're not going to pay more just because.

- *MB: Caveat is that everything we're talking about takes city approval. TIF district takes city, county and school district approval. Because you're affecting the future revenue of the city, school district and county. But if it's a worthwhile economic*

venture for everybody, then they'll agree.

7. **Which types of new development in Aggieville would you like to see? (Raise your hands and share any comments you have about each)**

    a. Retail? — **24**
    b. Residential? — **Depends on the age group it targets**
    c. Offices? — **4**
    d. Restaurants? — **23**
    e. Bars? — **0**
    f. Service providers, like hair salons, dry cleaners, etc.? — **21**
    g. None – leave Aggieville as it is — **0**
    h. A decent movie theater! There are some other novelty things, a movie theater, entertainment things to do — **23**

8. **Do you support the city commission shaping the type and number of businesses that come into the district (such as limiting the number of new bars or apartments) through ordinances and zoning, or do you think the city commission should allow free enterprise to determine this mix?**

    - I think if we allow the market to shape it, Fake Patty's Day would make more bars be there, but the rest of the year it's not happening, so it could change what Aggieville looks like.

    - Shaping it allows for more diversity of business that gives it a year-round use but if it was more diverse and it was all-day long traffic I think the businesses would like that.

    - The only problem I see with shaping is what happens when market trends change in 5 or 10 years, but that's where everyone wants to see this type of business, then you have to go through a different city commission to change it.

9. **One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?**

    - Shaded tables.

    - Public restrooms, probably. *(others agreed)*

    - I saw the idea on the survey for a screen. I think that would be sweet, having something that's open that you can go to. People love the one at Varsity [food truck].

    - Events, away games.

    - Seating.

- A band shell or a stage, music festivals, concerts in the park.

- *MB: what we'd like to do is close Little Moro. Let's say that goes away and we expand the park to the south and then you can add some stage, some overhead out of the weather type of thing. Live music.*

- Maybe just have the bollards so you could close it during the weekend?

- Some kind of wall or barrier against Anderson if you're going to make it more family friendly.

- Isn't the greater question the vision for this space? City Park's only two blocks away and if you're recreating it that seems silly. You have to create something unique.

- *MB: Walk with food, drinks, having that to be an atmosphere for that.*

- *KB: It's a transition zone — it's a blending of campus and city.*

10. As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?

- I think the barricade thing is super cool because with how many K-State fans that come, it would prevent from possibly someone getting hit with all the cars. It would be beneficial for the garage but shutting down that street would be beneficial.

- It definitely seems like the most dangerous area at night is down Moro. When you've got a lot of cars and a ton of people parked there. You've got a lot of drunk people trying to walk across the street. It always seems really dangerous down there. If you could leave it open during the day so you could drive up and get your lunch, but close it at night, it would be safer for everyone.

- I love the idea of shutting it down for entertainment purposes, parades, safety and events. Also, for parades, "It's okay to be in the street?" and "are all the members of the band out of the street?" I think outside dining would be a really cool atmosphere.

- That's one of the things right now is as Aggieville has changed over the years there's no cohesiveness. It needs to have a cohesive look.

- There's probably nothing that would change the atmosphere more than completely closing it.

- So if you remove those parking spaces, how much pressure is it putting on the garage?

- *MB: The charrette is going to figure out what are we going to do with Aggieville permanently.*

- One of the things that surprised me is when you said City Park was going to lose a bunch of parking places but I think City Park should add parking to take away from the pressure of Aggieville parking. No one even thinks twice about parking and walking.

- Add parking on Leavenworth on this side of City Park.

- *KB: Some people want more green space.*

- The only other thought I have about closing off traffic and parking on Moro are people who have disabilities so still needing to understand that there's going to have to be, I know you guys know, ADA regulations and sometimes you wanna go and you can't find a spot, so making sure that is covered so people can still go to a business if they want to. Being very strategic about where those handicap accessible spots are.

- How many parking spots are on Moro? 8?

- *MB: If you're going to eat in Aggieville, you don't always find a place to park.*

- I park here and walk.

- *Patrick Schaub (BBN) asked a question: One of the examples is how these considerations get intertwined is if you think about closing Moro down during the day, if you're going to get coffee, walk and eat, but it's different for services. Would you park in the garage and walk to get your hair done, would you park in the garage and walk to your eye doctor?*

11. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- One that was brought up in our office earlier today was this Quick Shop parking and the entrance and exit on 14th street and the traffic flow. How are you talking to these business owners in regards to their property that they own and how willing are they to change some of that?

- *MB: Of course, Quick Shop, until that gets sold to a higher better use, nothing's going to be done with those entrances. Once that is sold to something higher better use, that's when the city can control what's going to happen and what can't. We really can't come in and say "that's the worst intersection there is and you need to close it" so until it redevelops it's going to be a challenge. What we can do to fix that is maybe create a three-lane street. Does Laramie get a light?*

- Traffic already backs up from here all the way to the park.

- Alongside that about all the wrecks that we see there, I think something that would be simple that would help, is to take away the parking on the street right by our gym and the side of the road, and anytime I'm trying to go home, it's so hard to see those cars and every time I'm hoping there's no one. I've seen wrecks. On 14th.

- Something that the college has looked at before and I think it's gotten a lot of pushback is closing this section of Laramie and making it a pedestrian zone. We would take one for the team and do that.

- I hadn't really thought about it but we already have super safety concerns about Laramie being open. A lot of people don't know that this is a campus, you have to pay attention. Nobody slows down. So if this garage makes that worse, that's going to be hard to stomach.

- *MB: Maybe there could be a signal for pedestrians, too.*

- We kind of said earlier we were going to get back to security. Last fall and winter they're only given two officers at night.

- *MB: There's been conversations with RCPD and closing down Moro on Friday and Saturday nights helps enforcement.*

- Every night there's three to four accidents. I think there would be benefits to close down Moro at least for nightlife.

K-State Students

August 30, 2018 — K-State Union
8 Total Participants

1. What role, if any, do you feel Aggieville plays in recruiting students to K-State?

- It's a draw. Ours is unique compared to other schools in the country.

- I was having a dinner with my parents and the waiter went to K-State and he talked about Aggieville. That interested me in K-State. It can be a draw. Uniquely having a college bar district right off campus, a lot of other colleges have a bar district but it's far away, like Mass Street. It's a unique perspective within walking distance that it can serve the needs of nighttime *and* daytime students.

- Maybe the university uses it as a recruitment tool. Being an orientation leader throughout the summers, we're specifically asked to reference Aggieville as a shopping, bar and food draw.

- I agree, when I was a Wildcat Warmup leader, we take the students who are coming in as freshman to Aggieville for an evening because that's part of the K-State experience. I like that Aggieville itself is a daytime/nighttime thing, get coffee, go shopping, but at night it becomes a cool bar district. All the bars are next door and you go around and meet people at different places. It's really cool — I like the way that Aggieville is.

- *MB: We used to go at 7 o'clock and then stay till 2am. You guys don't go until 11 and then leave at 2 am.*

- Alcohol costs drove that because it's very expensive to start at 7. I don't know if it's related to what's available in Aggieville more so as things become more expensive.

- I think he's right, it's cheaper to buy a six pack than to buy six beers at a bar.

- Are you all K-State grads? When I first heard about it, in KC they brought in these outside companies who didn't know anything about it but made changes. You have to identify the culture before you can affect change.

- *MB: What's good about this team is all of us live here. We all go eat at Coco Bolos, and we all have trouble finding somewhere to park.*

- My main concern was our culture and how we can move forward as a community versus bringing in outside organizations to come in and make changes. I didn't want that for Manhattan's community.

- *KB: We're drawing on how other communities have done things. We're all involved in the community. That's why we were brought on to the team, we're doing focus groups. We want this to be something that everyone feels they had a chance to give input to.*

- One thing that's definitely been on my mind when I heard. Students make up a large percentage of the people that go to Aggieville, but with NBAF and The Foundation, young professionals and people with disposable income are going to come, I think there's going to be a lot more traffic earlier still, maybe people want to beat the rush from the students.

- The one thing that I was thinking about with this that I'm torn about, I really love how KC has developed, it's really cool, I'm a fan of the progression of building up and becoming hip and cool. But I'm torn because part of me also enjoys the small town feel of Manhattan in Aggieville and a lot of people say that. I love how it feels like it's a small town, I don't know that I want to lose that about Manhattan. I know that something needs to happen to keep things from not getting stale. What's the response been to surveys to that?

- *KB: Moro will stay the way it is. Even the parking garage. We want to mix progressive and traditional. It's starting to show it's wear and tear and age. Preserve the charm but make it clean.*

- *MB: How do you make Aggieville better? Since you don't go to the bars till 11 o'clock, where does the revenue come from 3 hours, so how do we get more people down there?*

- I think expansion of the live music scene in Aggieville would bring more people in. We have a small live music venue and it only services one genre of music. Expansion would bring an earlier crowd. 8'oclock concert, they would stay for drinks after.

- Another thing is I'm always hesitant about going to Aggieville because it's not the cleanest place, and that goes to landscaping and how people dispose of things. If you don't see litter you might be legally blind. I do believe people would use trash receptacles if there were more of them.

2. **How could Aggieville be improved to become more of an attractor for students considering K-State?**

    - If there were more benches and stuff there. It's all walkways. We are in the same fraternity, we are behind Aggieville and that helps us recruit. We spend time there because we pass through it every single morning. Walking that same strip for 4 years now and not having somewhere to sit down. I like the idea of more space, more sidewalk space and places to just hang out.

3. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - Well, half of this town in the school year is college students and we're losing students, for recruitment reasons, our recruitment efforts are up but our enrollment is down. Not every student will come here because of Aggieville but there's a reason to help. Revenue down there and development there will be good for the city and the university. They have to go hand in hand.

    - How much everything is progressing on campus, with Kramer and all the updates, and Goodnow, and so I think going along with all those updates and I think the two should grow together. It's much needed when it's the same as my when my parents went here.

    - NBAF, K-State and the city is in a turning point, of population growth, decline of students, too. So something has to change if we want to keep on growing as a city and a university.

4. **Past research has concluded that Aggieville cannot grow without creating more space for public parking. Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this?** *All*

    Please raise your hand if you do not support the city building a parking garage. Can you explain why you are against this? *None*

    Discussion:

- The idea of having the bollards come out of the ground to make it pedestrian only traffic. A designated drop-off or pick-up zone for Uber and Lyft and designated drivers. it's annoying when they stop in the middle of the street.

- I really liked more options for outdoor eating, even if it was in City Park, more tables that have umbrellas, and there are places like that on campus, but something that keeps me from going to Aggieville to hang out and do homework is I know Bluestem is going to be super busy. If I knew I could walk down and sit down that would be fine. Doesn't have to be in a restaurant, maybe just outside there.

- More of an emphasis on small business restaurants, local ones, we do have a lot of chains through Aggieville, our favorite restaurants in Manhattan are locally owned. I'm talking about the small-town community having more emphasis on smaller businesses.

- *MB: Manhattan's very fortunate to have what we have in that area of locally owned restaurants.*

- I have a question about the garage. With a wraparound? Can you elaborate on that? Will that be stores and housing?

- *MB: We would need an outside developer to pay for the commercial retail or apartment space, and if we don't have that, it's just going to be a fake façade to look like it is, but it's not. Right now, as you know, there's a housing issue with apartments in Manhattan, it's going to be very hard for an outside developer to want to come in and put apartments in Aggieville when people there can't fill their apartments now. In order for us to build the garage, we can't wait for a developer to show up a year from now. We'll probably start designed after the first of the year. We're trying to find that because it could be very nice. It is needed on Manhattan Ave to have something there with activity. But you have to realize it's TIF dollars paying for it.*

- It's a step that should be taken to expand and grow as a community.

- Are these parking garages public or would they be pay to park?

- *MB: What would you want?*

- Public parking would be fantastic, I currently park on the street in front of houses, over on the other side of Aggieville across from our house and I don't think that's really a convenient spot, I think taking all of that away is unnecessary.

5. **How would you feel about being asked to pay to park in a parking garage in Aggieville?**

    - *MB: Would you be willing to pay?*

        - It depends on how much.

- *KB: If we build a free parking garage in Aggieville, why would anyone park on campus?*

- Could you do like a validation thing like in big cities, if you go to certain businesses, have the people working at the stores validate that I was doing business or eating. And that would prevent students from parking for school.

- *Patrick Schaub: One of the things we've talked about, if there's a fee, how do we deal with people leaving their car in the garage overnight, that might encourage people to drive when they shouldn't, if they're worried about being charged.*

- What about long term permits?

- *KB: Possible for employees, apartments to pay a flat fee.*

- I know a lot of people park in City Park, are there plans for that?

- *KB: Some of the parking spaces in City Park are going to go away.*

- By the pavilion? That's where we all park.

- *KB: Parks and Rec is doing that.*

- If it was paid parking, the garage would be built with TIF money, so the parking would get paid back to the city?

- *MB: The TIF dollars would construct it, but you need a long-term solution of how to maintain it. Security, lights, staff. That's what it'll be put into.*

6. **Which types of new development in Aggieville would you like to see? (Raise your hands and share any comments you have about each)**

- Retail? — **0**
- Residential? — **0**
- Offices? — **5**
- Restaurants? — **6**
- Bars? — **6**
- Service providers, like hair salons, dry cleaners, etc. — **7**
- None – leave Aggieville as it is — **0**
- Entertainment — **8**

- What I think of Aggieville now is a separation of work time and time away from work

- I think the key is trying to combine the two. I like those new buildings on Bluemont, offices and stuff can stay there and offices on Moro.

- What about CivicPlus?

- That would drive economic growth in Aggieville.

- That's why I thought business. I thought about small businesses and stuff. I grew up in Kansas City, Kansas, and they're having some cool developments there that started popping up near where I grew up. I can foresee, who was it just came to town, Hops Brothers, having more small businesses like that. I think that's cool. Even if they don't have some stuff for the community, that's good for us in general.

- Definitely, there used to be a lot more foot traffic than there is now. I think with adding businesses by Bluemont Hotel would increase that foot traffic.

- *KB: What types of entertainment would you want to see and do?*

  - Music venue is a great idea.

  - What was that movie theater called?

    - *KB: There was a Varsity Theater and a Campus Theater. One was in Rally House and one a few blocks down Moro.*

  - Some sports or basketball courts, I know they have that at the rec, never mind I'm rethinking my idea. Indoor basketball courts, multiple uses, hockey, indoor soccer.

  - I thought it was interesting talking about service providers. In my mind, there's the east side of town where you can get everything and check off your entire list or you can choose the westside where there's Dillon's and Target, but I don't see that central in the Ville where you can go there and check off your entire list. More like service stuff, haircuts, dry cleaners.

  - One thing I'd like to mention about the haircut there are four or five for men, there's only one for women.

  - A lot of women that I know don't like to go and try that one, so they go back to where their hometown is, so having a variety of options would be good.

  - I know there's one in there now, like Eleven Fifteen, like a rentable event space. Wedding, parties, anything.

  - *Patrick Schaub: It seems like we have bars. Why do you want more bars?*

    - I think there's not as much variety in the atmospheres but in the ones that I have been to the atmosphere seems to be pretty similar. Some people want to more of a variety.

    - It's cause Johnny Kaw's owns all of them.

    - You have different types of bars but there's a lack of an upscale place that they might go, or even some college students who don't want to

spend $2.50 on something they won't enjoy but would like to spend more money on drinks. Like young professionals.

- Young professionals go to downtown to drink and undergrads to go Aggieville. I agree, though, Gordo's with the deck on top. Maybe more rooftop like Taphouse how they have that upstairs, I'd like to see that.

7. **One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?**

    - Is there only one walkway that goes through it? I know the sidewalks and there's just one pathway, I don't go there that often. It doesn't seem like people are hanging out there. I know Manhattan Pride goes through there and hangs out in that park but that's all I know. A lot needs to happen there.

    - I think noise, because on all three sides there are cars going by all the time so I guess it doesn't seem like a very tranquil place to sit down and study, I don't know if trees would help that.

    - Adding trees or bushes around the surrounding and having spots where you can have tables with umbrellas, and benches and seating, possibly having live music, but be able to use that space for not just live music but something else.

    - I think with the noise level if there's technology out there to cancel that out that's good. I think it provides an opportunity for live music like Town Center in Leewood in the grassy area they have there. If anything, you might have to meet noise with noise. I can't see it being a quiet place.

    - Like in Power and Light, a large screen.

    - If that sort of change would come, would city policy reflect that change? So, I'm asking about open container? I feel like that would be kind of a draw, if it's contained in Triangle Park.

    - *KB: There is some discussion of that.*

    - *MB: The RCPD would rather be able to stop paying so much attention to people walking out of bars and focus on other things.*

8. **As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like**

weekends and game days. What, if any, changes would you like to see made to Moro Street?

- I think the removable bollards is probably the best option because if it's a slow day, off day, for some reason it's 6pm and no one's here, maybe you don't have to do it.

- I can't imagine Aggieville having it closed off for good and planting trees because of parades, like Homecoming, St. Patrick's Day, Christmas. I couldn't imagine us not being able to go through there. Unless that's part of the change that would come. It's so historic going through Aggieville.

- I think those bollards would give the opportunity on some nights to have food trucks come in, so that it's not just a street that's safe to cross whenever you want but has things that are helpful.

- Well, even like Purple Power Play, you could have that in the Ville, make it even bigger than what it is.

- I was able to travel the state and talk to alumni about their experiences this past year, they always talked about Aggieville, because they could drink at 18 and some of them were questioning what developments are happening in Aggieville now. Like Varsity and a T-Shirt shop, they would ask, "why would people do that?" I was kind of surprised by that.

- Even I feel like it was my freshman year with Varney's not having those books there because once books stop there's no need to go back in there. I guess I'm just curious to see what alumni would have to say.

9. **What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?**

- I lived my senior year of high school here and then I went away and came back for grad school and one thing that, unless you live here 24/7, most people who are from here don't really go to the Ville that much when the school year starts. I like So Long Saloon, but it's always packed, especially when the students are here, there's no reason for me to go there and stand for 40 minutes. During the summer if you go to the Ville you see families, so if there was a way to bring the families back in during the school year that would be great. No one's going to bring their kids down to the Ville when all these 21 year olds are going to drink. I can only think of Varsity and Coldstone, so if you're a family that has young kids you're just not going to go there.

- I think maybe more on a marketing side, I really don't see the Ville as that entire set of blocks. I really just see three blocks on Moro, so whether that's branding that entire section as the Ville and it offers more than three blocks of bars.

- You guys said it would go on 10th. How would that affect us? Oh, we're in there. *[referring to his fraternity]*

- We're talking about bringing business in, townies would be able to bring in some diversity of food. You don't find home grown Italian, Mexican, soul food, and with the diverse population we have here at K-State I think there's an opportunity to expand the different cultures into Aggieville. It's hard to ask small business family owners to bring their restaurant in. La Fiesta down Tuttle Creek and La Hacienda, and when my parents come into town and where are we going to eat, it's not necessarily Mexican food. Taco Lucha's my favorite but it's not the same.

- *MB: If we would go down to Coco Bolos we'd get there at 6:30 and there'd be 4 tables empty so a lot of restaurants are empty you think they're full because you can't park and you just leave.*

- We luckily have not had that issue because we can park so close we walk every time.

- *KB: Students do walk. The city says there are 30,000 people who live within one mile of Aggieville. 70% of students say they walk to Aggieville.*

- Part of the reason we do walk is for safety and the convenience of knowing we're not going to have to worry about parking, especially around dinnertime. I'll drop my parents off and then I'll park somewhere on the street and walk over. I really liked the idea of diverse restaurants. The question is, is the Manhattan community going to embrace that? For example, Dancing Ganeisha, I went a lot, but the student population alone wasn't enough to sustain that business. Are we just going to be limited to that one food category which is tex mex and burgers and fries? That goes into that emphasis on smaller, local restaurants because if you're unfamiliar with a type of cuisine you're more likely to just go to a familiar chain. Not all the time, but Manhattan isn't known for its food scene. If you wanted to try an ethnic restaurant I don't think Manhattan would be the first place you would go.

Aggieville Neighborhood Residents

August 30, 2018 — Holiday Inn Landon Room
7 Total Participants

1. **What do you like about living close to Aggieville?**

    - I like not having to fight with parking, I can ride my bike from my house.
    - I like the restaurants and cafés. I'm sad that fashion stores have gone and Dancing Ganeisha has closed.
    - We have a preponderance of bars. More than there used to be. I think I like that I can walk over and have dinner there and it's nice. Have a cup of coffee in the morning. It's really nice that the locally owned restaurants are all nearby.
    - Until recently Aggieville was much more attractive than downtown.
    - But downtown smells better.
    - I've had a really similar experience. It lets you feel like you have an urban quality of life, walk and bike, live without a car, get a cocktail at the local pub after work, go have dinner with your family. I hope we can preserve that quality of life and have a more vibrant Aggieville at the same time.
    - Have you thought how people with dogs would live in the new design? You know Radina's always has water out for dogs, and young people have ever more dogs these days.
    - *MB: We're going to include an outside dog water at the airport, so maybe we can incorporate it in Aggieville. That's a good thought.*
    - Doggy bags and trash cans like in the park.
    - The only place I've ever seen dog waste on a sidewalk is in Aggieville.
    - They should have dispensers like in City Park.
    - Back to your question, Aggieville has the delight of not having a homeowners association.
    - Nobody cares if you hang your wash out. There's a little freedom like that.
    - I wouldn't live in an HOA place.
    - And you live in a place where people come to, when they visit, and you just live there.

2. **What don't you like about living close to Aggieville?**

    - Students littering in our yards.
    - Everybody freakin' parks in front of your house and pees and pukes and leaves their beer cans.
    - I think [she] and I have both had naked students on our porches. I've had passed out students in my yard.
    - My children call St. Patty's "drunk day."
    - I'd rather have them drunk in my yard than speeding drunk down the street.
    - It doesn't happen every night.
    - It's gotten worse. I lived there before Fake Patty's Day started and that's really a black eye on our community.
    - When you have people passing out drunk at 11 am in your yard. And the trash.
    - And the safety.

3. **Are there changes that could be made to Aggieville that would enhance quality of life for those who live in the general region around Aggieville?**

    - More density in Aggieville and less surface parking.
    - I think more fashion stores and restaurants and fewer bars.
    - A corner store!
    - I like Straight Upp, the little design studio, that's nice.
    - Better crosswalks, flashing lights. When students cross Bluemont I worry for them but even at the roundabout, I walk my dogs and it's the most dangerous and it's terrifying to cross that. But you have a bus stop right there — which are wonderful — but we need better cross walk alertness.
    - Yes I agree, every several years someone gets hit on Bluemont.
    - Let's talk about Bluemont. That's where I've almost been hit — it was 11th and Bluemont. That is a corridor that I think the city has not effectively managed as it is. Let's have pedestrian islands, real ones, let's have a wonderful pedestrian and bike friendly corridor.
    - I don't feel the improvements between 11th and 14th haven't made me feel safer. And they haven't added to the quality of the experience. It reminds me of Lubbock, Texas.

- You ask why we live in that neighborhood, one of the reasons was old trees. I wanted something with character and shade.

- We need more streetscaping in Aggieville, benches…

- Fix the alleys and how they smell.

- There's two I can think of that are terrible.

- I think a lot of us walk down the alleys. I know Rod Harms when he ran Aggieville tried really hard to get everyone to work together and share the alleys with pedestrians and each other.

- I think [the businesses] need to be called to task on what they're doing. They're not very careful about carrying their grease out.

- You know that storm water solution of the Starbucks, they have a rancid plastic container out there. It's disgusting.

- Coordination of dumpster pickups and the alley thing would ease that.

- *MB: We're trying to solve that. Without a large expense to business owners, there's no way to have grease traps within their business.*

- But the owners are doing quite well!

- *MB: Well I know, but you would hate to do improvements to Aggieville and people are still carrying grease. Somehow consolidate trash, have one trash hauler not seven. We've had a lot of meetings with a lot of people down there, trying to get ideas of how we get deliveries done before a certain hour.*

- In big cities deliveries happen during a certain interval of time, typically during the night.

- I think the city's just going to have to be a little tougher, because we've put up with arguments from bar owners but if the city said they had to do it, they would.

- *MB: There are positive signs from the business owners that we can get some stuff done.*

- Actually, in every big city I've ever been in, when it gets warm in summer trash smells. So I never was too shocked by Aggieville; I thought that's just what happens!

4. **The city hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - Because it's going to get overtaken by downtown.

- I have no idea!

- I love downtown, I have much more positive feelings about it now than Aggieville. I have three places I go in Aggieville, and I understand its location and the money comes from the students that are spending it down there.

- Watching downtown revitalize has been such a great feeling, downtown was dead, nobody went there. I live near both so I can walk to downtown and have a great dinner, and not get crowded out by students, and I can park. But I understand the benefit of making Aggieville safe.

- I remember when Rockstar and Rogers moved to downtown and had to close because they weren't getting customers and come back to Aggieville.

- I think you find in the neighborhoods and the people who live around Aggieville that we like the old buildings and architecture, and we like living with around students. We have to maintain a balance. If you get too many students living in one rental place…three is fine but when you get more kids like 7 or 8… It's kind of precarious right now, it's shifting too heavily towards student fun and those might cease to exist. You do maintain the balance, we live in a university town and we like the students.

- But then why are these giant apartments going up near Aggieville, like that 12B place, I'm so thankful that our neighborhood is protected.

- I think we're hoping that the number of apartments, because it's now a buyer's market, not a renters market, and those slum landlords will find it's no longer rentable and those will turn into low-income homes for families that will want to invigorate the old neighborhood.

- The thing about our neighborhood is it's an understood low-income housing area. We can walk anywhere. That's why I get very nervous when I see upzoning encroaching on our neighborhood. Everyone says, "That neighborhood around Bluemont School is just student housing," but no!

- That's an aspect of densification to the west of us including Aggieville, too, is to push storm water to our neighborhood.

- I think we *just* got our storm water drainage issue fixed.

- You asked what is bad: too many bars. I walk through Aggieville for 15 years every day and it has changed drastically in the last decade. We're on this teetering point. Why now? Gosh, I don't know, I don't really like Aggieville anymore. There's not even a bookstore in there. Maybe the answer is if we don't do something now then it's not going to be worth saving.

- There was a mention that the TIF would bring money that would be used to improve the sewer and drainage so improving just Aggieville will probably not help. Sewage

does not get magically from there to the plant.

- *MB: I'm assuming that everything is fine with sewage because you don't see it. But storm, it's an extension of storm sewer into pipes that already exist on Bluemont. They're not big enough but we're working on it.*

- You already had impervious surface with the parking lot so going five stories up won't increase runoff, but we do have significant issues with storm water and sewer. But we're also seeing climate change and more significant storms.

- So we're screwing Sisters of Sound and Olsson's? It's not really capitalism.

- *MB: The $800,000 from the hotel will be the seed money for the garage. That's going to increase the amount of tax dollars.*

- So we're not giving the hotel a bunch of tax breaks?

- So the first garage would be the five story by Rally House? *Yes*

- What about south of Bluestem, south of Kite's?

- *That's another city-owned lot that could be envisioned to be sold to be another commercial housing developer.*

- So that one's not being considered for the location of the garage?

- *KB: We don't want to drive all the cars to the heart of Aggieville, for traffic control.*

- If you work on campus, can you park at the garage all day and walk to work?

- There was a mention of parking free?

- *KB: We'll get to that.*

5. **Past research has concluded that Aggieville cannot grow without creating more space for public parking.**

    - Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this? *5 in favor.*

        - To create more spaces.

        - So people won't park in the neighborhoods.

        - But they will anyway!

        - Especially if it costs to park in it…

- *KB: They're going to do a lot with parking management. Two-hour limits on the streets around Aggieville.*
- As long as that's not my car in front of my house!
- *MB: Right now there are streets around Aggieville that have unlimited parking. As you can see at 7:30 they're full and they leave at 5.*
- Don't some of those parking changes take place this fall?
- *KB: Some October 1 to create turnover of cars.*
- I'm in support because I support going vertical with parking instead of surface lots and streets without trees. We want to go vertical with parking and have wonderful, pedestrian friendly streets.

- **Please raise your hand if you do not support the city building a parking garage in Aggieville. Can you explain why you are against this?**
  - *No one raises their hand, but discussion continues.*
  - I think there still needs to be more bike racks.
  - *KB: We're looking at how we can accommodate Uber and Lyft and build pick up drop off points. ATA bus, too.*
  - The parking garages are great, but is there a consideration of the mobility issues of our community members? Accessible spots?
  - Even without considering handicapped and all that, when the triplets were little moving around with them was a trauma. We had to drive a minivan. We're people with kids and you can't walk or bike. That happens. So there will need to be parking for that.

6. **Do you think the parking garage should be free or have a user fee associated with it?**

- If you go to a store or a restaurant in Aggieville, they give you a slip that lets you leave the garage for free, and if you're just there for nothing, you have to pay.
- What would you do about students and staff?
- *KB: That's the dilemma. While everyone would love to provide the merchants free parking, students and staff will definitely park there instead of the K-State garages and parking lots.*
- Limit the amount of time and then ticket them.

- But you could do an hour class and pay. I thought when we ran the numbers, you need the income from the garage to make it work?
- *MB: We don't know what we're doing yet to come up with total cost.*
- I'm constantly amazed at what parking structures cost.
- If I ever have to drive to Aggieville, and I have to pay for the parking garage, then I'm going to park on 14th street and walk in. Right now I do that.
- What if you have to pick up something heavy or bulky?
- And you're probably not going to park on 14th street anyway.
- I'm talking about in the evenings.
- *KB: We've talked about first few hours free.*
- *MB: We don't want to discourage someone from leaving Aggieville late at night when they've been drinking because they'll get a ticket.*
- *KB: We want employees to park in that garage.*
- Maybe employees are going to get a free pass.
- If we can give them for free, they can get it for free.
- If you want to bring clients to Aggieville then you don't charge for that.
- If I need to go to Aggieville and it's a busy time, I change my plan.
- You don't go at night. You go before 10.
- I schedule my business around finding a place to park!
- *KB: The hope is that if the parking problem is solved more people will go for lunch.*
- During the school year you don't have parking but you also don't have a seat at a table.
- I just drive around twice, I just assume I have to do that.
- Just park across the street in the campus parking lot.
- Something that hurts my eyes is the amount of parking in City Park. It makes it an "unpark."
- *KB: The good news is Parks and Rec is looking at that.*

- People just park on Fremont.
- Fraternities, low-income students.
- There's a lot of good arguments for paid parking. But the employees suffer from that.
- I do think that ATA, we have the four new routes and some park and ride now so that may help with the amount of parking that students if they know they can jump on the bus and get on campus and get right to campus that may help. That would free up more space on Leavenworth.
- If we can get benches for the bus system.
- You're saying that developers don't want to invest in Aggieville because there's not enough parking?
- *KB: Traffic study said Thursdays at lunch was the busiest time. More than even Saturday nights.*
- I definitely think there's a perception problem here, I've never had a problem parking!
- I don't have any trouble in the daytime.
- It depends on the time of the day.
- *MB: The owner of Coldstone says it's neat how when spring break comes he sees people from the community. He sees people he knows.*
- So it's a perception more than an actual problem?
- "It's summer we should go have a beer before the students get back."
- A success would be to get more people all year round.
- I just don't go to Aggieiville because I don't want to mess with the parking.
- I'm just thinking people are lazy…
- They're Midwestern, it's their perception, we're used to things being really spread out.
- So maybe they need to have more desirable businesses there and people will come. I remember when four shops became one solid bar. There's not variety down there.
- They changed the laws on food and bars. It was a while ago.

7. **Which types of new development in Aggieville would you like to see? (Raise your hands and share any comments you have about each)**

    a. Retail? — **6**
    b. Residential? — **3**
    c. Offices? — **4**
    d. Restaurants? — **6**
    e. Bars? — **0**
    f. Service providers, like hair salons, dry cleaners, etc. — **5**
    g. None – leave Aggieville as it is. — **0**
    h. Entertainment besides bars? — **5**

8. **One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?**

    - Little places to sit and eat.
    - I do have lunch there sometimes.
    - It seems to have a problem with acoustics. When I've gone there the group struggled to use electronic equipment, that struck me as a pattern.
    - I've been there for various groups that were protesting and there's a lot of traffic. I think Triangle Park is very low on my priorities of things to fix up, there are other things in town I'd rather see spruced up. Cars are zipping by. One time we were reading the names of lost pets and with the cars zooming by it was awkward. There's not much you could have done to make it a better place.
    - I think you hit on what's important about Triangle Park. Preserve it. It's a free speech zone. It's a green buffer. It's maybe the only beautiful part of the Bluemont/Anderson corridor.
    - I think it's rather charming the way it is, there's shade and the tree, there's a pergola.
    - More places to eat lunch, an adequate trash can.
    - *MB: What about a large screen?*
    - No TV!!
    - It doesn't need a stage, it already has one.
    - There's like, 12 TVs in every business in Aggieville. In fact, this room we're in is somewhat of a respite. I crave rooms without televisions.

- I think the one thing criticizing eateries in Aggieville is the noise level.
- I like Triangle Park cause I can get lunch and sit outside which is what I enjoy. If more restaurants in Aggieville had more outdoor seating I would go there.
- Do people really want more bars?
- *KB: The students wanted more bars. More variety of bars.*
- How about better landscaping, investing more in the greenscape of Triangle Park, more flowering bushes, for heaven's sake don't turn it into a jumbotron!
- Native plants that have information about them!
- As it is now, it is always well-watered and the plants are very green.
- What if we could expand Triangle Park?
- I like the idea of changing Little Moro.
- I don't! There's something charming about the weird traffic patterns. I would love to see something quirky and eccentric. They took the triangle at Sunset out so ambulances can get through it.
- Maybe that can be where the Uber people sit.
- But when we all get driverless cars…?

9. **As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?**

    - Are the old bricks still under there? Can we get that? Return it to its historic condition? Like the cobblestone?
    - Like Juliette.
    - Some of the smaller businesses may be upset about the parking, like Sisters of Sound or Olson's. They have some parking in front of their business but I guess no one is going there to shop Friday and Saturday night.

- I love the outdoor dining thing is having some sort of enclosure like Rock-A-Belly or Coco Bolos, outdoor heating and shading and fans, otherwise it would just be useful.

- It's enjoyable. I was recently in Wrigleyville and everything shuts down because of a noise ordinance. You're sitting outside and having fun and then suddenly everything shuts down. But I loved it during the day.

- There's not a lot of outdoor dining.

- You used to not be able to drink 'til 7!

- I would not support permanent closure of Moro. I don't think that's a good idea. Just because it's so hard to pull off a pedestrian mall in the US. People don't want to walk a whole block. I don't want to see it become a permanent bar crawl playground. It's so different at night on Moro Street than it used to be 10 years ago. It came out on the street. If it was already closed, it would just be an open container playground. I think the flexibility of sometimes closing it with bollards is great.

10. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- I would pay attention to have something that appeals to different ages. Take into account the ages of the consumers and what they would like. One thing I thought — when you get old, it's just fantastic to live right above the place where you can just go to the café, go to the restaurant, and not worry about mowing no gutters. Not that I'm going to retire soon but that sounds appealing.

- Residential in Aggieville geared towards older adults.

- I've been in apartments, it is loud up there.

- They'd have to be soundproof, and you'd have to get rid of some of the bars.

- Have you looked at the landscape architecture class's research?

- *MB: Some of them are in our staff now. It's options we've never thought about but we're figuring out ways to make it work.*

- It's hard for bars to recycle right now.

- Price of aluminum is going to go up.

- I think encouraging recycling and I think maybe those students have brought up solutions for it.

- More trash and recycling receptacles.

- If we can encourage recycling, that's better for everybody.
- And students expect it. They've grown up in that environment.
- Talking about dreaming and grease, make the restaurants have grease traps that can be collected every now and then. You do it once and it's done.
- What about requiring recycling of those businesses? I was shocked when I realized bars don't recycle in Aggieville.
- They don't have anywhere to store it. It's too hard.
- That's an infrastructure need in Aggieville.
- How is this integrated with the UDO?
    - *MB: All of the Aggieville Vision Plan follows with the UDO, high density in the areas along major corridors, Manhattan Avenue and Aggieville.*
    - I know one of the things it includes is parking. I remember specifically the conversation about bike racks, but there are no bike racks down there are there?
    - *MB: City staff is on our steering committee. They're going to make sure everything we're doing is part of the UDO.*
    - While preserving the traditional architecture of our favorite places.
- *MB: If you haven't seen the architecture of what they did with that hotel and what they did with Aggieville, I think they did a spot on job. The outside is brick, it just flows. They did a really good corner look.*
- I can't imagine having another giant building.
- It's going to look better than Popeye's!
- It's better than the gas station, and car wash.
- I'd like to see some cohesive lighting and light that isn't diffused upward so that we can save our energy.
- *MB: High percentage of people taking the survey rank lighting as a high priority, especially cool decorative lighting.*
- I think if that is going in the direction you say, the alleys will become storefronts and pedestrian areas, I think that is beautiful. Just like Olsson's that you can only go in that little walkway. It's adorable.

- We've lost so many neighborhood amenities in Aggieville.

- *MB: People who own a lot of property have tried to get people to move a business down there and they can't until they get parking solved.*

K-State/MCC Alumni

September 1, Wahoo Fire and Ice Grill
14 Total Participants

1. **Why are you here today? Why do you care about Aggieville?**

    - We want to retire here eventually. And we want it to be a nice place to come visit on non-football weekends. It's very sentimental. It becomes a part of you.

    - My experiences with Aggieville started in 1960 when our family moved here for the sole purpose of having our children be near KSU. Because of that, I was in walking distance, biking distance, immediately to Aggieville. Many jobs, many wonderful experiences. Aggieville helped raise me.

    - We have great memories of our time in Aggieville when we were in school. We still morn Hibachi Hut.

    - The last class of the day was down here!

    - I grew up in Manhattan also and for a short time we lived two blocks away. There was a grocery store, hardware store, it was a happening place on Saturday afternoons. In the evening it was still Aggieville, but it was more of a community gathering place during the day.

    - We go here because it's fun.

    - We really value our time here. We used to live right across the street. It's fun to bring our kids back and tell them stories that blow their minds. It's fun to bring the excitement of K-State to them when they're little. So that they go here when they grow up.

2. **What's your impression of Aggieville today, compared to when you were in school?**

    - It seems almost nondescript. It could be anywhere. It just doesn't have that same feel of the downhome place, Kite's isn't Kite's anymore. I can't connect back to even four years ago. It's different. Too much franchise feel.

    - I think it's better today. More variety of places to eat. My memories back in the late 70s, I didn't think there was a lot of variety at all. I know things come and go but I think it's drawing more, it seems to be, because it's busier. It didn't seem like we had traffic issues back then. There's some things, the old staples are gone, it's faded into something different. More of a nightlife culture.

    - It's obvious it deserves a facelift. Through the years, walking along the street, we could count how many weeds we should be pulling. It was dirtier with each successive year, but no love lost.

    - I think it's slightly less college-oriented. There's no book store. Ballard's isn't there anymore. You could walk over if you're a student and buy your textbooks and grab a

bite to eat. Some places seem more community-like, like yoga, but less for students like bookstores.

3. **When you visit Manhattan, how often do you spend money in the Aggieville?**

    a. Every visit? — **6**
    b. Most visits? — **7**
    c. Rarely? — **3**
    d. Never? — **0**

4. **What brings you to Aggieville when you come back to Manhattan?**

    - Kite's
    - Auntie Mae's, Keltic Star
    - Used to be the bookstore.
    - Varney's was #1 and we'd filter along and not go into stores as much but just reminisce. We're not using it as much as we used to with each excessive year of one more establishment gone.
    - Is there talk of bringing back any kind of entertainment venues like a movie theater?
    - A concert venue.
    - I mainly come back and go to the restaurants and go to bars.
    - We try and bring the kids down to eat here sometimes. They loved walking around Varney's and the bookstore. All the places for them to walk around and look at stuff. You can't walk them through the bars. Some of the family friendly stuff at this point is gone.
    - Memories and energy of college. A shopping center, if you will, but now that I think about it, we maybe do need more commercial. You can't recreate the time everybody had to buy books and everybody was going to 1 or 2 stores. So sometimes it's going to be hard to find the right businesses.

5. **What could be changed about Aggieville that might attract you here more often?**

    - More retail stores.
    - I think the hotel is nice. It's already hard to find a hotel but if I found one I could walk to that would be great. If I had to pick a spot to stay it would be Aggieville so that'll help. I would stay there.
    - We stayed at the Bluemont Hotel several times and it's a great location. How much discussion was there, it seems like putting a hotel within the perimeter of Aggieville,

is that the best use of land?

- *MB: The developer purchased just the car wash for a one-story strip mall. It didn't meet the vision of trying to go vertical along Bluemont. What if we would sell you that lot what could you do? And that's when the hotel came in. when you're looking at maximizing the dollars per square foot, the hotel was the only option we had.*

- *KB: It's a very urban type of hotel. The city benefits from the property tax increase on that space. The $800,000 that the parking lot sold for will go towards the garage.*

- Is that part of the TIF district?

- *KB: Yes, that'll add to the value of the district.*

- Is there a transit service from Aggieville?

- *MB: We have the ATA bus that has fixed routes. That is what we're going to try and incorporate into the Aggieville plan is to have a stop.*

- Do people outside of Manhattan know about ATA bus?

- It seems to have limited pick up points.

- *MB: Its routes have increased.*

- Certain events. I'd say when football and basketball teams are visiting, having an outside viewing of the game or something, closing Moro, concerts. Drawing more people there with the outside feel of Aggieville. Put tarps overhead so you have something above you. Maybe a farmer's market down here to draw people in. There's multiple things you could do.

- With the viewing of sporting events, if you had a big screen, Olympics, any big events, like Power and Light, that would get people here. People are always looking for a place to go watch.

- Part of the problem I have is finding an affordable place to stay. Granted, I could drive to and from Newton, KS, but don't want to. They tore down the Motel 6. Transportation is part of the problem and affordable places to say. It seems like there's unrestricted price gouging on game days that could be addressed at least a little bit. Super 8 wants $200 on game night. Yeah, I should have booked two nights at the Bluemont and had a place to stay.

6. Do you think Aggieville helps to recruit students to K-State today? Why or why not?

- I think it does.

- I don't think that should be the primary reason.

- I have no idea. I think the history of Aggieville is very lost with the new students unless something is done during the recruiting days at K-State.

- I think it'd be kind of neat because younger students see things, I think it can help, but the focus should be on the college. It's just another draw, outside the college, you think of things outside of your academics. Football team being successful is another attraction. It's like that.

- It's a pretty big draw. When people see it on social media, people like to make lists of entertainment areas, there's articles about the legendary bar districts, and Aggieville is always on there.

- And even if you don't want it to be a main draw, it is.

- On ESPN they talk about where would you go grab a burger, go to Aggieville. Obviously, you can't go there at 18, but they'll have heard about it.
- Are there any live music restrictions in Aggieville? Can they have live bands?

- *MB: We don't have an outside venue for bands.*

- Like the Granada in Lawrence, people drive there for big concerts all the time.

- *MB: Mass Streets an example of mixed use, shopping, restaurants, music, movies. I'm going to ask a question, I'm assuming your kids have come to K-State, and was anything of Fake Patty's Day was a deterrent to sending your kids here?*

    - No, you asked the question does Aggieville help recruiting. Pat Bosco brought us to So Long Saloon, that was part of the deal.

    - Fake Patty's Day didn't exist in 1980!

    - For our kids, Aggieville was just part of the whole scene, you're in Manhattan, you're at K-State, it was just one part, like football, sports, events. They just wanted it because they were born purple.

    - *MB: We hear a lot that it's not a good advertisement.*

    - I don't know if that would be an advertisement, especially if they cap the bars down here, then people would know that it's a good place.

    - We came down here to eat, and my dad wanted to pop into Lou's, my mom worked at Pizza Hut, I think they kept those stores PG. They had a good time here, it was kind of a draw, this is part of the experience at K-State.

    - I don't want this to be the reputation that you go down here to party and drink.

    - Because I worked here on so many storefronts, at night the attitude of Aggieville changed but it was never a deterrent to anyone I knew. But I used to work at Campbell's in Aggieville and they lost a window one night during the famous

bonfire. The Campbell's themselves had their children, big sorority girls, all graduate K-State. It was only one really drunk student. Negative things like that never got in the way of my husband and myself and my three children who all spent their 21st birthdays here in Aggieville with all their friends.

- It was always a safe place to come to. Even at nighttime I've never felt there's been an issue like "you don't go down there at night." The police are watching out.

- Sounds like you're trying to get to a balance.

7. **The City of Manhattan hasn't invested in any major public improvements in Aggieville for about 30 years. Do you support the city investing in Aggieville at this time? Why or why isn't this a good time?**

    - Aggieville's dying.

    - Everything is changing. We graduated 10 years ago and it's 99% different now than it was when we graduated. Everything else is new. It's an opportunity for a fresh look on it.

    - To get that focus back on to K-State, Aggieville goes with KSU. To give it a facelift and bring it back to that.

    - It's on the doorstep of K-State. It's now or never. It's been waiting 20 years for a little something.

    - It needs to be a destination. When you come to Manhattan, you have to go to Aggieville, stores, restaurants, entertainment. People go to the Legends because it's the Legends. People need to go to Aggieville because it's Aggieville.

    - How much of a broad view are you taking it? There's competition with downtown. If you don't do something to Aggieville what will you do there?

    - *MB: That's been a big discussion there's been a big investment in downtown and it's a phenomenal place now. People are walking down there. Aggieville's sitting there waiting.*

    - *KB: It's a little bit of a rivalry.*

    - Also, demographic-wise, with the future of Manhattan, what's going to be more attractive to them? Is it going to be Baby Boomers or people who retire? What are they going growing into?

    - I think some expect an area like this. When you go to Wichita you go to Old Town. We need Aggieville to be that.

    - New jobs coming in with NBAF, too.

- If you revamp it now, the community as a whole has something to be proud of and something they want to tell people about.

8. Past research has concluded that Aggieville cannot grow without creating more space for public parking.

- Please raise your hand if you support the city investing in a public garage in Aggieville? Why are you in favor of this? *Everybody.*
    - Is there another solution? Like a bus? Much more saleable, less costly.
    - *MB: We actually have a parking garage empty down at the Hilton Garden Inn, with this one we don't want it to be built and be empty as well. That could happen for major events, but to solve the problem of enticing people to come down here and spend some time, people always want to park close.*
    - *KB: Thursdays at lunch was busiest. We think there's a lot of business lost.*
    - So who's (parking in all of the current spots) here?
    - *MB: A lot of the streets surrounding Aggieville, Freemont, 14th have unlimited parking, so KSU students, faculty, staff park there, 7:30 to 5. So the city is going through now and changing the parking requirements to turn it over and force them to go back up to KSU. There's a lot of employees down here and a lot don't have a place to park. So getting them into the garage and getting them off the streets and giving them a safe spot at 2am when they're getting off work.*
    - KB: If there is a garage in Aggieville, would you be open to paying?
    - What's the price point?
    - *KB: We don't know. Maybe first hour or two would be free, there's an option of validation.*
    - Like Crown Center.
    - $3.50 rather than driving around, I'd pay that, or it's validated, I'd totally pay that. But not too much more.
    - *MB: As locals we've decreased DUIs a lot because of Uber and Lyft. One thing we don't want to do is encourage somebody that thinks they're going to get a ticket to drive home. They need to be able to leave their vehicles and not get penalized. But if it comes down to it is that going to be a deterrent?*
    - No, especially with validation, that encourages them to shop.
    - *KB: We can't build a free garage and have 500 students park in it every day.*

- It seems like they don't really have a transportation hub here, where you can get taxis or bus systems. I don't think it stopped during the day or the weekends. I have trouble walking around even, so some place where I know I can eventually get a cab or eventually get a bus.

- *MB: We want to try and create a bus stop area, where everyone knows where it's at.*

- Taxis — there's not a place for 'em right now.

- What about sharing the garage with KSU?

- *MB: There's discussion to do a joint parking garage with K-State but that's programmed to be arts and sciences. K-State's new philosophy is not to take green space away for a new building, they'll use parking lot.*

- For alumni coming back it's going to be a lot less of a deterrent. I think if you charge anything for parking, students aren't going to go for it.

- *MB: We just don't want the hourly students during the day.*

- After 5, if you show your student ID maybe?

- *MB: Even if they leave it overnight? I should be able to do that, too. (Not just students)*

9. Which types of new development in Aggieville would you like to see? (Raise your hands and share any comments you have about each)

a. Retail? — **12**
b. Residential? — **3**
c. Offices? — **5**
d. Restaurants? — **8**
e. Bars? — **2**
f. Service providers, like hair salons, dry cleaners, etc. — **9**
g. None – leave Aggieville as it is — 0
h. More entertainment besides bars? — **13**

10. One area this project seeks to improve is Triangle Park, the grassy area south of the intersection of Bluemont, North Manhattan, and Anderson Avenues. What would you like to see done in this park to enhance this area and make the overall district more attractive for new business attraction and for visitors?

- Is that big enough to be a venue for entertainment or jam sessions?

- *KB: They do some now.*

- It's so small, a fountain that would be attractive to others to sit around and gather. Now it's not much of a gathering place.

- I think if you could close those streets down and increase its area for an event, then you could maximize it for entertainment.

- A statue of old Willie the Wildcat, something like that. We take our kids to show them different statues and things like that around campus. A visual identity.

- *MB: Another graduation picture location.*

- I went to Fort Worth and I went to this really cool place that was a wood structure, with a TV screen, a giant Jenga game, stuff like that would be cool in Triangle Park.

- I could see knowing business people downtown that suffer greatly on band day or parade, the average is there will be businesses here that will suffer when the streets are closed. How can you please everyone?

- A crazy idea would be the future Bill Snyder museum. He's going to be our hero forever.

- Across the street is like the gateway to campus and I think that could be a gateway to Aggieville, if there's some structure there that kind of differentiates it. The identifier. That's the point where people can say "meet me at the corner of Aggieville." If you say "meet me at Triangle Park," they're like "what?"

11. As part of this project, if a garage is built, we are assessing whether it would be to the district's benefit to change the traffic patterns in this area. Some people have suggested eliminating parking on Moro Street to allow for wider sidewalks, while still allowing vehicle traffic. Some like the idea of closing off the street entirely to cars to create a pedestrian-friendly area and more room for outdoor events. Others want to make permanent enhancements — like adding decorative traffic bollards — to make it more efficient and safer to close off the street during high-traffic times, like weekends and game days. What, if any, changes would you like to see made to Moro Street?

- I like the idea of closing it off during events or game weekends. I know, we have small kids, if that's closed and I know we're safe, I don't have to worry about them darting out. Closing it off for certain times. Based on what you've said about lunch, you do need to leave the parking and street for those lunchtime spots, if you could make it for the outdoor dining and either parking or drive-through. Not only for small children, for drunk adults.

- *KB: If they close it off they could look at open container.*

- In these crazy times, it would be a safe place.

- I like the idea of flexible when it's closed at night but it's also good to drive during the day. Maybe widening the sidewalks would be nice.

12. What other questions or concerns do you have about the city moving forward with the garage and making investments in improving Aggieville?

- I don't know about city politics, are there a lot of disagreements? Are they really working to get unity to come to an agreement to move forward or is this dissent?
    - *MB: This is our 8th focus group and we've had them with K-State students, alum, faculty, MCC, Chamber, ABA, what you have is a totally different focus of what the business owners want versus what other people want it to be. As I've said at every meeting, I just want a consensus that everybody agrees upon so that we have a unified voice going to the city commission. If Aggieville in the end looks like this today with new lipstick and concrete pavement, we've all failed. Currently the City Commission, I think, right now is in full favor of doing something. Mainly because there's a funding source for it. It makes it a lot easier to not use tax dollars to pay for it.*
    - Is the parking lot a green light?
    - *MB: Actually there is about 100% backing from everybody for a parking garage. The "but" is what's going to happen to the street. Everybody wants on-street dining, So Long, Coldstone, would love to have that but we'd have to give up something.*
    - *MB explains about the charrette and the city process of approval, and how everything will have to be completed in stages.*
    - So you're saying 2025?
    - *KB: It'll be done in phases*
    - *MB: what we come up with, the hotel is going through the public process right now, it'll be through city process in October. So 12th street will be the first phase of what Aggieville's going to look like with the streets. So probably a 3-5 year process.*
- You've talked about what it's going to look like but not how it's going to feel? Like Nashvillle. If you went 20 years ago it's totally different than now. They created a feel. What's the experience we want people to have in Aggieville?
- I think it's all about college students.
- *MB: There's nobody within the city or community is wanting to do away with the student experience.*
- Something I heard you say you mentioned focus groups, I was curious what the bar owners thought about capping the bars? I'm concerned about capping a kind of

business in Aggieville, it seems like it's student driven, I wouldn't want to, because if you're growing more, it seems concerning to me.

- *MB: Right now the highest best use is a bar.*

- My concern is making it less market-driven by what the student traffic is, than making it top down where bar owners get to say we don't want any new bars. It seems like it makes it a consolidation of new bars. That seemed concerning to me. It's all student driven, and I've heard mention that it'll drive more retail. Ballard's didn't go out of business because of bars nearby, it was Dick's. Varney's was Amazon and Chegg. We're not going to cap restaurants, but we're capping bars.

- *MB: Aggieville is struggling right now. The change in drinking habits of the students, they only come down at 11-2, they drink at home. You're exactly right but we're hearing from the bar owners that the demographics have changed. People are drinking at home.*

- If they're struggling then why would you need a cap? If a new bar wants to open up and other bars are struggling, then let them and see how they do. Free enterprise won't dictate it if there's cap.

- *MB: Mass Street has a cap. So many bars per square foot.*

- Okay. I don't own a bar or restaurant or anything. I just don't want us to be stuck if things change.

One-on-One Interviews

Conducted July — September 2018

To date, Kristin Brighton and Mark Bachamp have conducted nine formal one-on-one and small-group interviews with business owners, property owners and vendors in Aggieville. These discussions have both answerd and posed new questions about this project, and have enabled several key members of the Aggieville community to provide input to the process.

Below are notes summarizing these conversations.

Charlie Busch, McCullough Development Inc.

Conducted July 16, 2018

- Retail relies heavily on parking – MDI has been trying not to put more bars in.
- Timing of which comes first — parking garage or more development — is crucial, especially with the 42 spaces going away for the hotel. Worried about losing parking at first — need to think about how to bridge loss of parking in the meantime.
- Also concerned about the development of new retail space on the garage wrap — don't want to just siphon existing retailers from currently rented space. Would be nice to have parking first to see if that would attract new retailers.
- Thinks it would be great to land a high-tech employer who would bring in new employees to live and work in the district.
- Would like to see the city choose a developer who can bring to the table new outside tenants.
- Not good timing for more residential. Need the garage, need to clean up the area.
- While he thinks personally it would be cool to close off Moro like Pearl Street, doesn't think the shop/property owners will want parking to go away.
- Once we know for sure the garage is on its way, everyone will be more accepting of eliminating more parking on the streets.
- Everyone will be gung-ho until it impacts their businesses.
- Would like to help make it happen, but doubts MDI will be a developer.
- Nothing he doesn't want to change — pretty open to most anything. Wants Moro to remain "Moro."
- Would like to limit the number of new bars, but when asked if he's in favor of the city restricting what types of businesses move in, he admits philosophically he doesn't like that.

But acknowledges we need to figure out a way to balance things out.

- Open to design standards, as long as not too stringent.

- Thinks eventually we'll want both garages, to keep amount of time people must walk down. Thinks people don't go down there for lunch when limited.

- Asked how far we are with deciding about paying to park in the garage and the price points that people will tolerate vs. what will keep them away.

Gwyn Riffel, Diamond Real Estate Management

Conducted July 16, 2018

- Says we've got a "one shot opportunity" to do this right.

- One of the first properties he bought in Manhattan after he moved back in the 1990s was in Aggieville.

- The biggest challenges in improving Aggieville is the large number of owners. Personally, he spent 17 years trying to buy one house to make his project at 1100 Moro happen. Then he bought the building across the street to tear it down and build a parking lot because not enough parking was near it. Progress is hard without controlling large chunks of real estate.

- "That doesn't mean a group with significant capital couldn't come in and do catalyst projects."

- Sees the Johnson hotel project as one of those catalysts. Thinks it is a blessing to help us start this next phase.

- Wants to see less parking on the streets, but does want to keep traffic moving on Moro, probably two-way, with the goal of driving people to the garage. Hopes to eventually see two garages built. Maybe a narrow street with parallel parking on one side. Is open to permanent bollards for special events. Has always felt the one-way traffic was going the wrong way.

- "Overall, I'd like to see a more pedestrian-oriented environment."

- Has personally struggled to get major retailers in because the parking ratios were out of sync. Has seen some franchises struggle to succeed because not enough foot traffic.

- Believes it needs to be a mixed-use development. However, the community is out-of-balance today with multi-family housing. Not sustainable.

- Retail is evolving. Only retail that will thrive is nice, artisan. Will be what it is. Need to pursue services and office spaces. "That's going to be the fabric of mixed use."

- Across the board, landlords having 15% vacancies. Will take five years to absorb into the market. Need to see how Fort Riley and K-State shake out.

- Rental rates dropping. Half of a century there were no vacancies in Manhattan. Then, in August 2015, everyone woke up to 10% vacancy. Hard to adjust. Rents 20% lower, many don't require a security deposit.

- Quality will succeed. He's still getting people to pay high rents for Blue Earth.

- Would like to see Triangle Park hardscaped, and mini Moro replaced with an enlarged Triangle Park.

- Believes power lines have to be buried. No one has power lines above ground in other areas. Needed if we're going to make Aggieville the best it can be.

- Commercial tax rates are becoming a burden. Supports use of CID to help owners make improvements. Without the TIF and the hotel project, our work would be another report that would just get put on the shelf.

- Likes urgency of the hotel driving the timeline up – "gets things done."

- Believes we need design standards. Understands owners like/want the freedom to do what you want, but not opposed to establishing design criteria and a design board who must approve plans.

- Asked if he supports the city getting involved in the mix of businesses. "Look what the free market has done – it's destroyed Aggieville." Not sure where other cities have done this successfully, but should be explored.

- Believes district needs a small grocer or drug store to make the neighborhood self-sustaining.

- Said that the annual Simmons report of local economic indicators have 2/3 negative indicators this year, result of dropping enrollments at KSU and continued deployments from Fort Riley. Fewer families here. The real challenge will be how to get us out of this economic slump.

Bud and Bobby Cox, CocoBolos

Conducted July 17, 2018

- Bud would like to see a timeline for the whole process. Helping businesses to plan and prepare for times when parking will be limited is key.

- Will be directly impacted by loss of city lot beside them. Lots of questions about the hotel timeline, and whether their customers will be able to park in the hotel garage. Also concerns about where people can park during construction.

- Thinks we need good, unique retail in the district, and was glad to hear the garage could have retail space added to it. Agrees we don't need more bars and restaurants.

- The Starbucks drive-through is a big mess and will need to be considered in traffic flow studies.

- Their business peaks during the summer when there is less competition for parking, and dips during the school year, peaking during weekends.

- They report the city lot beside them isn't patrolled today.

- Would like to see the garage built sooner vs. later, so provide replacement spots during construction.

- Supports low-cost paid parking, like $2. Thinks we'll need a system for passes for district employees. Asked how a dishwasher will respond to having to park in Aggieville. While hates to think of the cost, asked whether businesses will be able to reserve spots for their staff.

- Need to get a vision and timeline in place and communicate it so everyone can be prepared.

- Would like to see improvements to the local music scene – bring in big-name acts to Arts in the Park and other local venues and charge admission.

- Supports the RCPD, but feels they are afraid to control the crowd. The incident last year when Aggieville was closed during the Elite 8 cost them personally $4K in business, and knows the impact was great across the entire district.

- Would love to see Aggieville become like Boulder/Pearl Street, Old Town in Wichita, or Haymarket. Would favor closing Moro after garage(s) built, but knows the merchants on Moro may disagree.

- Biggest fear is how they and other businesses will survive during construction.

- They do room service for the Bluemont, and hope they can make a similar arrangement with the new hotel.

- Suggested we talk to Ira Haynes in addition to others we are already reaching out to.

Rob Hayes, Stan Hayes Enterprises

Owner of Cold Stone Creamery, HandiCorner Shopping Center
Conducted July 27, 2018

- Interested in outside seating, either behind or on Moro.

- Likes the idea of being able to use CID for improvements on properties.

- Agrees apartments and hotel will increase values for everyone, as it will increase foot traffic.
- Has been exploring the idea of a family activity center, but without more parking, it has been hard to make the idea work, has held him back from making the investment.
- Property taxes have gotten rough, some small locations have $1000/mo in property taxes.
- Asked if we're considering mass transit and Uber in our planning.
- Concerned about Laramie properties if they lose parking in front of their stores if forced to bring properties out to the street; hard to see people walking from garage clear there.
- Would rather see a sales tax go on the area to pay for the garage than charge people to park there.
- Thinks it should be a priority to attract more locals to use Aggieville, than just visitors; thinks it will require better restaurants, more activities in the off-hours.

Diane Meredith and David Sauer

Dusty Bookshelf, Threads, Acme, Orange Sky Yoga, Public Hall
Conducted July 27, 2018

- Really is glad we've got a team working to reach consensus
- Cares about the district
- Supports design guidelines
- Asked about adding parking decks vs. one singular garage
- Showed us all of the investment in their properties; also leasing the old Subway space for a yet-to-be-determined use to just to protect the property

Aggieville Vendors Group

Included Jake Wassenberg, Dennis Cook, Ryan Bramhall (ABA President), Bill McFarlin
Conducted August 16, 2018

- Dennis mentioned the need to separate temporary solutions to get through construction from permanent solutions to improve the district.

- Dennis suggested we need more entrance zones, less service zones, and need to adjust delivery times. Ideally, would like to be out of Aggieville by 10 am rather than having to deal with the hassles of patrons.

- Some businesses pay with EFT and have given delivery companies keys. Liquor has to be paid for on receipt.

- Need to work with businesses and ABA to set the tone that it is unacceptable for deliveries to come in after businesses are open.

- This group said the worst problems come from vendors and service providers not in the district daily – such as furniture deliveries, refrigeration companies.

- "It's all about cooperation and communication — getting everyone at the table."

- Dennis suggested some alleys need to be one-way. Issues with trucks coming at each other in the same alley, and one having to back out. Hard for trucks to get into the alley off 12th Street, with parking spaces close to the entrance. At 3 am, not as much of a problem. Could result in car damage.

- People can't leave service trucks in alleyways with flashers on for an hour.

- Ideally, all deliveries made before 10 am, but sometimes there are contributing factors such as weather or shipment delays.

- Bill mentioned researching how other districts have solved the problem. He said he'd email their transportation warehouse for ideas. Did a Google while we were talking, and found articles on Austin, Las Vegas, Ann Arbor.

- Don't want to task RCPD in monitoring with tickets – except for constant violators. Perhaps could become a code/ordinance issue?

- Need to remember during construction that when any alley is shut down, it will affect two blocks (also the main street, because trucks will be there instead). May need a temporary truck parking solution during construction. If Moro shut down, may still need some parallel spots to accommodate deliveries.

- Ryan suggested we survey business about who delivers to each business, so we can make sure we incorporate all vendors into the discussion.

- Grease Pits – There are companies out of Seneca and KC that service these. Actually pay businesses for the grease.

- To eliminate grease spillage in alleys, would need to get code or health departments involved. If enforcement was strict, employees would clean up their sloppiness. Mention that bars get patrolled more than restaurants because they're watched more closely with a liquor license.

- Thinks city needs to work with ABA and maybe Downtown in how to handle.

Ira Haynes, Haynes Style Shop and Beauty Salon

Also owns several properties surrounding his salon.
Conducted August 20, 2018

- Most concerned about accessibility to his business. A lot of his clients are older. Especially concerned about closing N. Manhattan and losing parking to the hotel. Has no handicapped parking near his store, and whenever the entrance at N. Manhattan is barricaded off, people can't get there and he just has to close.

- Now clients in wheelchairs have to access through back door patio via Rock-A-Belly.

- Big questions about what we are going to do during construction.

- As streetscapes are done along this part of N. Manhattan, need to see how the businesses could be ADA compliant. Has looking into getting a limo or golf cart before to drive people from parking to his space.

- "Feels like I'm being shoved out," he said, by changes and box stores, etc.

- However, he's all for revamping things, but his concern is how to take care of regular customers during the construction.

- "I've been waiting for a garage for 48 years." The current garage site is a long way for his customers to come — but closer than City Park.

- Now with bike lane, can't get a full-sized truck into spaces in front of his store. Says the bike lane is "ridiculous."

- Intrigued by idea of having a bus/ride share drop off at Triangle Park. Might help with his accessibility issues if there is a place to drop people off through there.

- Wishes he and some of the other businesses around there had been given the opportunity to buy the parking lot.

- Has considered selling his properties (owns several around the shop) — "The dirt is worth more."

- Agrees solving parking issues will make the properties more valuable and increase investment in the district. "I want this business in here forever, but if it gets impossible, we'll have to move out."

- Clients have his priority.

- Absolutely must know about construction schedule way in advance.

- Hopes it works out that businesses can use the hotel's parking 8 to 5.

Scott Sieben, Kite's Bar and Grill

August 30, 2 pm

- Would like to see outdoor dining, without losing all Moro/12th parking. Maybe make parking on only one side of street with one-way traffic.
- Kite's has a trash compactor – would love to see more of these installed so trash takes up less space. Others could share costs.
- Would be nice if the city could centralize trash efforts and handle billing.
- Now grease is transported by individual restaurants in pickle buckets. Have to use kitty litter to absorb grease when spilled. Ideally, we'd have bigger units on each block for grease. Would like an underground system.
- They change out their grease about every three days, and their current buckets are 200 gallons.
- Triangle Park – likes the idea of large TVs, creating an environment to get kids and families down here.
- In a parking garage – likes the idea of businesses being able to buy transferrable parking passes for their employees at a discounted rate. Would like to have 2 hours free, then the rest paid.
- Does think people shouldn't be penalized who leave cars overnight in garage rather than drive home drunk.

Julie Haynes, Rob Goode & Jason Humes, So Long Saloon/Taco Lucha

Conducted September 4, 2018

- Julie has concerns about Aggieville's future being determined by people other than the business owners who own property and work daily in the district.
- Right now, half of their trucks use the alleys, the rest use the front door; food typically gets delivered from the street entrance, alcohol from alleys. Beer trucks can't show up at 12 (too busy); prefer 9 am or earlier.
- Definitely need more lighting — worry about staff in alleys, hauling grease at 2 am

- Triangle Park – believes it is under utilized, would like to see it more as a plaza with tables and seating; would rather have a temporary stage than one permanently out there. Could see surrounding it with brick streets and bollards so it can be closed off at certain times.

- Definitely see their business pick up when locals come up during spring and summer, and it slows down at night.

- Could see charging in the garage during the day, but not at night.

- Likes the possibility of traffic going west, not east, on Moro.

AGGIEVILLE

VISION TO REALITY

Master Plan: Volume 2