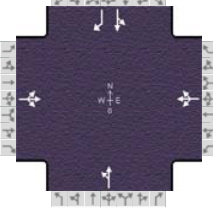
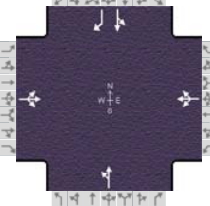
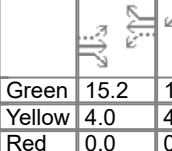
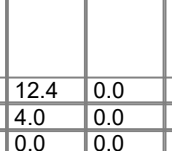
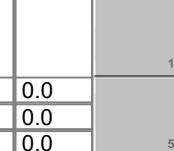


HCS 2010 Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		Kunzman Associates, Inc.				Duration, h		0.25											
Analyst		BC		Analysis Date		1/18/2016		Area Type		Other									
Jurisdiction		Riverside		Time Period		Morning Peak Hour		PHF		0.95									
Intersection		La Cadena/Stephens-I-215		Analysis Year		OY (2017) With Project		Analysis Period		1> 7:00									
File Name		AMOYW61.xus																	
Project Description		Center Street Warehouse - With Improvements																	
Demand Information				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				43	292	60	180	167	9	32	63		44	177	42				
Signal Information																			
Cycle, s	57.1	Reference Phase	2																
Offset, s	0	Reference Point	End																
Uncoordinated	Yes	Simult. Gap E/W	On																
Force Mode	Fixed	Simult. Gap N/S	On																
				Green	20.2	13.8	11.1	0.0	0.0	0.0	0.0								
				Yellow	4.0	4.0	4.0	0.0	0.0	0.0	0.0								
				Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						2				6				8				4	
Case Number						8.0				8.0				12.0				11.0	
Phase Duration, s						24.2				24.2				15.1				17.8	
Change Period, (Y+R _c), s						4.0				4.0				4.0				4.0	
Max Allow Headway (MAH), s						3.3				3.3				3.1				3.1	
Queue Clearance Time (g _s), s						13.3				18.6				4.7				8.3	
Green Extension Time (g _e), s						1.8				1.6				0.1				0.5	
Phase Call Probability						1.00				1.00				0.80				0.99	
Max Out Probability						0.01				0.05				0.00				0.00	
Movement Group Results				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement				5	2	12	1	6	16	3	8		7	4	14				
Adjusted Flow Rate (v), veh/h					416			375			100			233	44				
Adjusted Saturation Flow Rate (s), veh/h/ln					1750			1223			1814			1826	1563				
Queue Service Time (g _s), s					0.0			5.3			2.7			6.3	1.3				
Cycle Queue Clearance Time (g _c), s					11.3			16.6			2.7			6.3	1.3				
Green Ratio (g/C)					0.35			0.35			0.19			0.24	0.24				
Capacity (c), veh/h					687			527			354			442	378				
Volume-to-Capacity Ratio (X)					0.605			0.712			0.283			0.526	0.117				
Available Capacity (c _a), veh/h					979			748			953			959	821				
Back of Queue (Q), veh/ln (50th percentile)					3.9			4.0			1.0			2.4	0.4				
Queue Storage Ratio (RQ) (50th percentile)					0.00			0.00			0.00			0.00	0.00				
Uniform Delay (d ₁), s/veh					15.6			17.2			19.6			18.8	16.9				
Incremental Delay (d ₂), s/veh					0.3			0.7			0.2			0.4	0.1				
Initial Queue Delay (d ₃), s/veh					0.0			0.0			0.0			0.0	0.0				
Control Delay (d), s/veh					15.9			17.9			19.7			19.2	16.9				
Level of Service (LOS)					B			B			B			B	B				
Approach Delay, s/veh / LOS				15.9		B		17.9		B		19.7		B		18.8		B	
Intersection Delay, s/veh / LOS				17.6						B									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS				2.1		B		2.3		B		2.1		B		2.1		B	
Bicycle LOS Score / LOS				1.2		A		1.1		A		0.7		A		0.9		A	

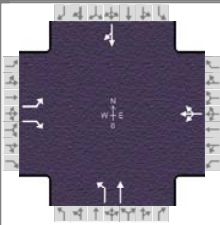
HCS 2010 Signalized Intersection Results Summary

General Information						Intersection Information																			
Agency		Kunzman Associates, Inc.				Duration, h		0.25																	
Analyst		BC		Analysis Date		1/18/2016		Area Type		Other															
Jurisdiction		Riverside		Time Period		Evening Peak Hour		PHF		0.96															
Intersection		La Cadena/Stephens-I-215		Analysis Year		OY (2017) With Project		Analysis Period		1> 7:00															
File Name		PMOYW6I.xus																							
Project Description		Center Street Warehouse - With Improvements																							
Demand Information				EB			WB			NB			SB												
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R										
Demand (v), veh/h				64	248	66	87	97	5	31	158		68	366	52										
Signal Information																									
Cycle, s	55.5	Reference Phase	2																						
Offset, s	0	Reference Point	End																						
Uncoordinated	Yes	Simult. Gap E/W	On																						
Force Mode	Fixed	Simult. Gap N/S	On	Green	15.2	15.9	12.4	0.0	0.0	0.0	0.0	Yellow	4.0	4.0	4.0	0.0	0.0	0.0	Red	0.0	0.0	0.0	0.0	0.0	0.0
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT							
Assigned Phase						2				6				8				4							
Case Number						8.0				8.0				12.0				11.0							
Phase Duration, s						19.2				19.2				16.4				19.9							
Change Period, (Y+R _c), s						4.0				4.0				4.0				4.0							
Max Allow Headway (MAH), s						3.2				3.2				3.0				3.1							
Queue Clearance Time (g _s), s						14.0				8.7				7.2				15.0							
Green Extension Time (g _e), s						1.2				1.2				0.3				0.9							
Phase Call Probability						1.00				1.00				0.95				1.00							
Max Out Probability						0.00				0.00				0.00				0.00							
Movement Group Results				EB			WB			NB			SB												
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R										
Assigned Movement				5	2	12	1	6	16	3	8		7	4	14										
Adjusted Flow Rate (v), veh/h					394			197			197			452	54										
Adjusted Saturation Flow Rate (s), veh/h/ln					1707			1298			1830			1830	1563										
Queue Service Time (g _s), s					5.3			0.0			5.2			13.0	1.4										
Cycle Queue Clearance Time (g _c), s					12.0			6.7			5.2			13.0	1.4										
Green Ratio (g/C)					0.27			0.27			0.22			0.29	0.29										
Capacity (c), veh/h					543			450			408			525	449										
Volume-to-Capacity Ratio (X)					0.725			0.437			0.482			0.861	0.121										
Available Capacity (c _a), veh/h					987			811			989			989	845										
Back of Queue (Q), veh/ln (50th percentile)					4.2			1.9			2.0			5.0	0.4										
Queue Storage Ratio (RQ) (50th percentile)					0.00			0.00			0.00			0.00	0.00										
Uniform Delay (d ₁), s/veh					18.9			16.7			18.8			18.7	14.6										
Incremental Delay (d ₂), s/veh					0.7			0.2			0.3			1.7	0.0										
Initial Queue Delay (d ₃), s/veh					0.0			0.0			0.0			0.0	0.0										
Control Delay (d), s/veh					19.6			17.0			19.1			20.4	14.7										
Level of Service (LOS)					B			B			B			C	B										
Approach Delay, s/veh / LOS				19.6	B		17.0	B		19.1	B		19.8	B											
Intersection Delay, s/veh / LOS				19.2						B															
Multimodal Results				EB			WB			NB			SB												
Pedestrian LOS Score / LOS				2.1	B		2.3	B		2.1	B		2.1	B											
Bicycle LOS Score / LOS				1.1	A		0.8	A		0.8	A		1.3	A											

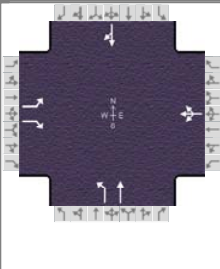
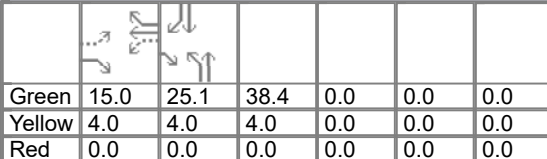
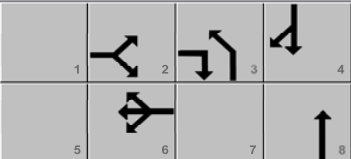
ALL-WAY STOP CONTROL ANALYSIS								
General Information					Site Information			
Analyst	BC				Intersection	La Cadena/Highgrove-I-215 NB		
Agency/Co.	Kunzman Associates, Inc.				Jurisdiction	City of Riverside		
Date Performed	1/18/2016				Analysis Year	OY (2017) With Project		
Analysis Time Period	Morning Peak Hour							
Project ID Center Street Warehouse								
East/West Street: Highgrove Place/I-215 FWY NB					North/South Street: La Cadena Drive			
Volume Adjustments and Site Characteristics								
Approach	Eastbound				Westbound			
Movement	L	T	R		L	T	R	
Volume (veh/h)	47	262	0		30	0	4	
%Thrus Left Lane								
Approach	Northbound				Southbound			
Movement	L	T	R		L	T	R	
Volume (veh/h)	0	33	40		1	80	0	
%Thrus Left Lane								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		L	R	TR		LT	
PHF	0.89		0.89	0.89	0.89		0.89	
Flow Rate (veh/h)	346		33	4	81		90	
% Heavy Vehicles	3		3	3	3		3	
No. Lanes	1		2		1		1	
Geometry Group	4a		5		2		2	
Duration, T	0.25							
Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	0.2		1.0	0.0	0.0		0.0	
Prop. Right-Turns	0.0		0.0	1.0	0.5		0.0	
Prop. Heavy Vehicle	0.0		0.0	0.0	0.0		0.0	
hLT-adj	0.2	0.2	0.5	0.5	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	0.1		0.6	-0.6	-0.3		0.1	
Departure Headway and Service Time								
hd, initial value (s)	3.20		3.20	3.20	3.20		3.20	
x, initial	0.31		0.03	0.00	0.07		0.08	
hd, final value (s)	4.58		5.80	4.59	4.68		4.99	
x, final value	0.44		0.05	0.01	0.11		0.12	
Move-up time, m (s)	2.0		2.3		2.0		2.0	
Service Time, t _s (s)	2.6		3.5	2.3	2.7		3.0	
Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	596		283	254	331		340	
Delay (s/veh)	11.12		8.83	7.32	8.23		8.70	
LOS	B		A	A	A		A	
Approach: Delay (s/veh)	11.12		8.67		8.23		8.70	
LOS	B		A		A		A	
Intersection Delay (s/veh)	10.14							
Intersection LOS	B							

ALL-WAY STOP CONTROL ANALYSIS									
General Information					Site Information				
Analyst	BC				Intersection	La Cadena/Highgrove-I-215 NB			
Agency/Co.	Kunzman Associates, Inc.				Jurisdiction	City of Riverside			
Date Performed	1/18/2016				Analysis Year	OY (2017) With Project			
Analysis Time Period	Evening Peak Hour								
Project ID Center Street Warehouse									
East/West Street: Highgrove Place/I-215 FWY NB					North/South Street: La Cadena Drive				
Volume Adjustments and Site Characteristics									
Approach	Eastbound				Westbound				
Movement	L	T	R		L	T	R		
Volume (veh/h)	27	264	0		20	0	3		
%Thrus Left Lane									
Approach	Northbound				Southbound				
Movement	L	T	R		L	T	R		
Volume (veh/h)	0	98	68		1	159	0		
%Thrus Left Lane									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Configuration	LT		L	R	TR		LT		
PHF	0.91		0.91	0.91	0.91		0.91		
Flow Rate (veh/h)	319		21	3	181		175		
% Heavy Vehicles	3		3	3	3		3		
No. Lanes	1		2		1		1		
Geometry Group	4a		5		2		2		
Duration, T	0.25								
Saturation Headway Adjustment Worksheet									
Prop. Left-Turns	0.1		1.0	0.0	0.0		0.0		
Prop. Right-Turns	0.0		0.0	1.0	0.4		0.0		
Prop. Heavy Vehicle	0.0		0.0	0.0	0.0		0.0		
hLT-adj	0.2	0.2	0.5	0.5	0.2	0.2	0.2	0.2	
hRT-adj	-0.6	-0.6	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	0.1		0.6	-0.6	-0.2		0.1		
Departure Headway and Service Time									
hd, initial value (s)	3.20		3.20	3.20	3.20		3.20		
x, initial	0.28		0.02	0.00	0.16		0.16		
hd, final value (s)	5.04		6.39	5.17	4.88		5.12		
x, final value	0.45		0.04	0.00	0.25		0.25		
Move-up time, m (s)	2.0		2.3		2.0		2.0		
Service Time, t _s (s)	3.0		4.1	2.9	2.9		3.1		
Capacity and Level of Service									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Capacity (veh/h)	569		271	253	431		425		
Delay (s/veh)	12.05		9.33	7.89	9.45		9.81		
LOS	B		A	A	A		A		
Approach: Delay (s/veh)	12.05		9.15		9.45		9.81		
LOS	B		A		A		A		
Intersection Delay (s/veh)	10.72								
Intersection LOS	B								

HCS 2010 Signalized Intersection Results Summary

General Information						Intersection Information															
Agency		Kunzman Associates, Inc.				Duration, h		0.25													
Analyst		BC		Analysis Date		1/18/2016		Area Type		Other											
Jurisdiction		Riverside		Time Period		Morning Peak Hour		PHF		0.90											
Intersection		Iowa Avenue-I-215 NB Ramp		Analysis Year		OY (2017) With Project		Analysis Period		1> 7:00											
File Name		AMOYW9I.xus																			
Project Description		Center Street Warehouse																			
Demand Information						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h						95		823	0	0	0	297	482			14	241				
Signal Information																					
Cycle, s		88.9	Reference Phase		2																
Offset, s		0	Reference Point		End	Green	40.0	18.8	18.1	0.0	0.0	0.0									
Uncoordinated		Yes	Simult. Gap E/W		On	Yellow	4.0	4.0	4.0	0.0	0.0	0.0									
Force Mode		Fixed	Simult. Gap N/S		On	Red	0.0	0.0	0.0	0.0	0.0	0.0									
Timer Results						EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase								2				6		3		8				4	
Case Number								5.0				8.0		2.0		4.0				8.3	
Phase Duration, s								44.0				44.0		22.8		44.9				22.1	
Change Period, (Y+Rc), s								4.0				4.0		4.0		4.0				4.0	
Max Allow Headway (MAH), s								3.3				0.0		3.1		3.1				3.1	
Queue Clearance Time (gs), s								42.0						18.2		21.6				17.5	
Green Extension Time (ge), s								0.0				0.0		0.6		1.6				0.6	
Phase Call Probability								1.00						1.00		1.00				1.00	
Max Out Probability								1.00						0.00		0.02				0.00	
Movement Group Results						EB			WB			NB			SB						
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement						5		12	1	6	16	3	8			4	14				
Adjusted Flow Rate (v), veh/h						106		914		0		330	536			283					
Adjusted Saturation Flow Rate (s), veh/h/ln						1757		1563		0		1757	1845			1576					
Queue Service Time (gs), s						3.1		40.0		0.0		16.2	19.6			15.5					
Cycle Queue Clearance Time (gc), s						3.1		40.0		0.0		16.2	19.6			15.5					
Green Ratio (g/C)						0.45		0.66				0.21	0.46			0.20					
Capacity (c), veh/h						871		1034				372	849			321					
Volume-to-Capacity Ratio (X)						0.121		0.884		0.000		0.887	0.631			0.883					
Available Capacity (ca), veh/h						871		1034				790	849			709					
Back of Queue (Q), veh/ln (50th percentile)						1.2		14.1		0.0		6.9	8.0			6.0					
Queue Storage Ratio (RQ) (50th percentile)						0.00		0.00		0.00		0.00	0.00			0.00					
Uniform Delay (d1), s/veh						14.3		12.3				34.0	18.3			34.4					
Incremental Delay (d2), s/veh						0.0		8.9		0.0		2.9	1.2			3.2					
Initial Queue Delay (d3), s/veh						0.0		0.0		0.0		0.0	0.0			0.0					
Control Delay (d), s/veh						14.3		21.2				36.9	19.4			37.6					
Level of Service (LOS)						B		C				D	B			D					
Approach Delay, s/veh / LOS						20.5		C		0.0		26.1		C		37.6		D			
Intersection Delay, s/veh / LOS						25.0						C									
Multimodal Results						EB			WB			NB			SB						
Pedestrian LOS Score / LOS						2.3		B	2.1		B	1.4		A	2.3		B				
Bicycle LOS Score / LOS								F	0.5		A	1.9		A	1.0		A				

HCS 2010 Signalized Intersection Results Summary

General Information						Intersection Information										
Agency		Kunzman Associates, Inc.				Duration, h		0.25								
Analyst		BC		Analysis Date		1/18/2016		Area Type		Other						
Jurisdiction		Riverside		Time Period		Evening Peak Hour		PHF		0.88						
Intersection		Iowa Avenue-I-215 NB Ramp		Analysis Year		OY (2017) With Project		Analysis Period		1> 7:00						
File Name		PMOYW9I.xus														
Project Description		Center Street Warehouse - With Improvements														
Demand Information				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				126		804	0	0	0	345	640			22	330	
Signal Information																
Cycle, s	90.5	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On	Green	15.0	25.1	38.4	0.0	0.0	0.0						
				Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
				Red	0.0	0.0	0.0	0.0	0.0	0.0						
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT					
Assigned Phase					2		6		8		4					
Case Number					5.0		8.0		10.0		12.0					
Phase Duration, s					19.0		19.0		42.4		29.1					
Change Period, (Y+R _c), s					4.0		4.0		4.0		4.0					
Max Allow Headway (MAH), s					3.3		0.0		3.1		3.3					
Queue Clearance Time (g _s), s					17.0				35.9		24.2					
Green Extension Time (g _e), s					0.0		0.0		2.4		0.8					
Phase Call Probability					1.00				1.00		1.00					
Max Out Probability					1.00				0.00		0.00					
Movement Group Results				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement				5		12	1	6	16	3	8			4	14	
Adjusted Flow Rate (v), veh/h				143		914		0		392	727			400		
Adjusted Saturation Flow Rate (s), veh/h/ln				1757		1563		0		1757	1845			1578		
Queue Service Time (g _s), s				6.7		15.0		0.0		15.0	33.9			22.2		
Cycle Queue Clearance Time (g _c), s				6.7		15.0		0.0		15.0	33.9			22.2		
Green Ratio (g/C)				0.17		0.59				0.42	0.42			0.28		
Capacity (c), veh/h				370		922				746	783			438		
Volume-to-Capacity Ratio (X)				0.387		0.991		0.000		0.526	0.929			0.913		
Available Capacity (c _a), veh/h				370		922				1358	1426			697		
Back of Queue (Q), veh/ln (50th percentile)				2.8		22.8		0.0		5.8	14.3			9.0		
Queue Storage Ratio (RQ) (50th percentile)				0.00		0.00		0.00		0.00	0.00			0.00		
Uniform Delay (d ₁), s/veh				34.3		18.3				19.3	24.8			31.7		
Incremental Delay (d ₂), s/veh				0.2		27.2		0.0		0.2	2.7			7.8		
Initial Queue Delay (d ₃), s/veh				0.0		0.0		0.0		0.0	0.0			0.0		
Control Delay (d), s/veh				34.6		45.5				19.5	27.5			39.5		
Level of Service (LOS)				C		D				B	C			D		
Approach Delay, s/veh / LOS				44.0		D		0.0		24.7		C		39.5		D
Intersection Delay, s/veh / LOS				34.9						C						
Multimodal Results				EB			WB			NB			SB			
Pedestrian LOS Score / LOS				2.3		B	2.1		B	1.4		A	2.3		B	
Bicycle LOS Score / LOS						F	0.5		A	2.3		B	1.1		A	