

**2012 BUILD CONDITIONS
W/ BALLAPRK**

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 1PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ELM STREET N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	3	0	1	3	1
LGConfig				LTR			L	TR		L	T	R
Volume				131	15	94	138	2333	203	180	1923	750
Lane Width				15.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol							0			0		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	16.0				49.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LTR 321 1805 0.81 0.18 49.9 D 49.9 D

Northbound

L 367 1718 0.41 0.71 26.0 C
 TR 2647 4861 1.04 0.54 50.0 D 48.8 D

Southbound

L 368 1719 0.53 0.71 30.6 C
 T 2684 4929 0.78 0.54 17.7 B 27.3 C
 R 818 1503 1.00 0.54 50.9 D

Intersection Delay = 38.2 (sec/veh) Intersection LOS = D

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 1PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ELM STREET N/S St: NEPPERHAN AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				131	15	94	138	2333	203	180	1923	750
% Heavy Veh				5	5	5	5	5	5	5	5	5
PHF				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol				36	4	26	37	634	55	49	523	204
Hi Ln Vol												
% Grade					0			0			0	
Ideal Sat					1900		1900	1900		1900	1900	1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	3	0	1	3	1
LGConfig					LTR		L	TR		L	T	R
Lane Width					15.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol						0			0			0
Adj Flow					260		150	2757		196	2090	815
%InSharedLn												
Prop LTs					0.546		1.000	0.000		1.000	0.000	
Prop RTs					0.392			0.080			0.000	1.000
Peds Bikes	0			25	0		25	0		25	0	
Buses					0		0	0		0	0	0
%InProtPhase							0.0			0.0		
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0		0.0	0.0		0.0	0.0	0.0
Arriv. Type					3		3	3		3	3	3
Unit Ext.					3.0		3.0	3.0		3.0	3.0	3.0
I Factor					1.000			1.000			1.000	
Lost Time					2.0		2.0	2.0		2.0	2.0	2.0
Ext of g					2.0		2.0	2.0		2.0	2.0	2.0
Ped Min g		3.2			3.4			3.4			3.4	

Analyst: JCE Inter.: 1SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ELM STREET N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	3	0	1	3	1
LGConfig				LTR			L	TR		L	T	R
Volume				105	12	75	112	1863	162	144	1994	776
Lane Width				15.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol							0			0		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	15.0				50.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LTR 301 1803 0.69 0.17 42.1 D 42.1 D

Northbound

L 367 1718 0.33 0.72 24.2 C
 TR 2701 4861 0.81 0.56 18.3 B 18.6 B

Southbound

L 367 1718 0.43 0.72 26.8 C
 T 2738 4929 0.79 0.56 17.5 B 27.6 C
 R 835 1503 1.01 0.56 53.5 D

Intersection Delay = 24.4 (sec/veh) Intersection LOS = C

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 1SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ELM STREET N/S St: NEPPERHAN AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				105	12	75	112	1863	162	144	1994	776
% Heavy Veh				5	5	5	5	5	5	5	5	5
PHF				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol				29	3	20	30	506	44	39	542	211
Hi Ln Vol												
% Grade					0			0			0	
Ideal Sat					1900		1900	1900		1900	1900	1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	3	0	1	3	1
LGConfig					LTR		L	TR		L	T	R
Lane Width					15.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol						0			0			0
Adj Flow					209		122	2201		157	2167	843
%InSharedLn												
Prop LTs					0.545		1.000	0.000		1.000	0.000	
Prop RTs					0.392			0.080			0.000	1.000
Peds Bikes	0			25	0		25	0		25	0	
Buses					0		0	0		0	0	0
%InProtPhase							0.0			0.0		
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0		0.0	0.0		0.0	0.0	0.0
Arriv. Type					3		3	3		3	3	3
Unit Ext.					3.0		3.0	3.0		3.0	3.0	3.0
I Factor					1.000			1.000			1.000	
Lost Time					2.0		2.0	2.0		2.0	2.0	2.0
Ext of g					2.0		2.0	2.0		2.0	2.0	2.0
Ped Min g		3.2			3.4			3.4			3.4	

Analyst: JCE Inter.: 2PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEW SCHOOL STREET N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	3	0	1	3	0	0	0	0	0	0	0
LGConfig	TR			L	T							
Volume	2607	212		84	1754							
Lane Width	12.0			12.0	12.0							
RTOR Vol		0										

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right	A				Right			
Peds	X	X			Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds	X	X			Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	70.0	10.0						
Yellow	3.0	3.0						
All Red	2.0	2.0						

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 3786 4868 0.81 0.78 7.4 A 7.4 A

Westbound

L 462 1719 0.20 1.00 11.7 B
 T 4929 4929 0.39 1.00 0.1 A 0.6 A

Northbound

Southbound

Intersection Delay = 4.7 (sec/veh) Intersection LOS = A

Analyst: JCE Inter.: 2SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEW SCHOOL STREET N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	3	0	1	3	0	0	0	0	0	0	0
LGConfig	TR			L	T							
Volume	2062	169		67	1865							
Lane Width	12.0			12.0	12.0							
RTOR Vol		0										

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right	A				Right			
Peds	X	X			Peds			
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right					Right			
Peds	X	X			Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	70.0	10.0						
Yellow	3.0	3.0						
All Red	2.0	2.0						

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 3785 4867 0.65 0.78 4.9 A 4.9 A

Westbound

L 462 1718 0.16 1.00 4.9 A
 T 4929 4929 0.42 1.00 0.1 A 0.2 A

Northbound

Southbound

Intersection Delay = 2.8 (sec/veh) Intersection LOS = A

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 3PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: NEW MAIN STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	3	0	1	3	0	1	0	1	1	1	1
LGConfig	TR			L	T		L	R		L	LT	R
Volume	1678	33		339	1415		165	276		865	119	344
Lane Width	12.0			12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol		0						0			0	

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds	X	X			Peds	X		
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	35.0	10.0				30.0		
Yellow	3.0	3.0				3.0		
All Red	2.0	2.0				2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1910	4912	0.97	0.39	41.9	D	41.9	D
Westbound								
L	367	1717	1.00	0.56	82.8	F		
T	2738	4929	0.56	0.56	13.2	B	26.6	C
Northbound								
L	84	251	2.13	0.33	576.5	F	232.3	F
R	501	1503	0.60	0.33	27.0	C		
Southbound								
L	560	1680	0.94	0.33	53.1	D		
LT	571	1713	0.95	0.33	55.2	E	48.6	D
R	501	1503	0.75	0.33	32.7	C		
Intersection Delay = 54.5 (sec/veh)					Intersection LOS = D			

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 3PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: NEW MAIN STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume		1678	33	339	1415		165		276	865	119	344
% Heavy Veh		5	5	5	5		5		5	5	5	5
PHF		0.92	0.92	0.92	0.92		0.92		0.92	0.92	0.92	0.92
PK 15 Vol		456	9	92	385		45		75	235	32	93
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900		1900	1900		1900		1900	1900	1900	1900
ParkExist												
NumPark												
No. Lanes	0	3	0	1	3	0	1	0	1	1	1	1
LGConfig		TR		L	T		L		R	L	LT	R
Lane Width		12.0		12.0	12.0		12.0		12.0	12.0	12.0	12.0
RTOR Vol			0						0			0
Adj Flow		1860		368	1538		179		300	526	543	374
%InSharedLn										44		
Prop LTs		0.000		1.000	0.000		1.000				0.762	
Prop RTs		0.019			0.000			1.000		0.000	1.000	
Peds Bikes	25		0				25		0	25		0
Buses		0		0	0		0		0	0	0	0
%InProtPhase				0.0								
Duration	0.25											
				Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0		0.0		0.0	0.0	0.0	0.0
Arriv. Type		3		3	3		3		3	3	3	3
Unit Ext.		3.0		3.0	3.0		3.0		3.0	3.0	3.0	3.0
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0		2.0	2.0		2.0		2.0	2.0	2.0	2.0
Ext of g		2.0		2.0	2.0		2.0		2.0	2.0	2.0	2.0
Ped Min g		3.4						3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 3SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: NEW MAIN STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	3	0	1	3	0	1	0	1	1	1	1
LGConfig	TR			L	T		L		R	L	LT	R
Volume	1284	30		345	1520		133		220	728	127	334
Lane Width	12.0			12.0	12.0		12.0		12.0	12.0	12.0	12.0
RTOR Vol		0						0			0	

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds	X	X			Peds	X		
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0	10.0				35.0		
Yellow	3.0	3.0				3.0		
All Red	2.0	2.0				2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
TR	1636	4908	0.87	0.33	33.8	C	33.8	C
Westbound								
L	366	1714	1.02	0.50	88.2	F		
T	2465	4929	0.67	0.50	17.6	B	30.7	C
Northbound								
L	185	476	0.78	0.39	43.6	D	29.2	C
R	587	1509	0.41	0.39	20.4	C		
Southbound								
L	656	1686	0.66	0.39	25.2	C		
LT	670	1722	0.74	0.39	27.9	C	25.9	C
R	587	1509	0.62	0.39	24.1	C		
Intersection Delay = 30.2 (sec/veh)					Intersection LOS = C			

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 3SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: NEW MAIN STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume		1284	30	345	1520		133		220	728	127	334
% Heavy Veh		5	5	5	5		5		5	5	5	5
PHF		0.92	0.92	0.92	0.92		0.92		0.92	0.92	0.92	0.92
PK 15 Vol		349	8	94	413		36		60	198	35	91
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900		1900	1900		1900		1900	1900	1900	1900
ParkExist												
NumPark												
No. Lanes	0	3	0	1	3	0	1	0	1	1	1	1
LGConfig		TR		L	T		L		R	L	LT	R
Lane Width		12.0		12.0	12.0		12.0		12.0	12.0	12.0	12.0
RTOR Vol			0						0			0
Adj Flow		1429		375	1652		145		239	435	494	363
%InSharedLn										45		
Prop LTs		0.000		1.000	0.000		1.000				0.721	
Prop RTs		0.023			0.000			1.000		0.000	1.000	
Peds Bikes		25	0				25	0		25	0	
Buses		0		0	0		0	0		0	0	0
%InProtPhase				0.0								
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0		0.0		0.0	0.0	0.0	0.0
Arriv. Type		3		3	3		3		3	3	3	3
Unit Ext.		3.0		3.0	3.0		3.0		3.0	3.0	3.0	3.0
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0		2.0	2.0		2.0		2.0	2.0	2.0	2.0
Ext of g		2.0		2.0	2.0		2.0		2.0	2.0	2.0	2.0
Ped Min g		3.4						3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 4PMBD
 Agency: JOHN COLLINS ENGINNERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: SOUTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	41	992	123	466	1054	356	111	268	395	130	73	17
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			72			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds		X	X	X	Peds	X		
WB Left			A	A	SB Left	A		
Thru			A	A	Thru	A		
Right			A	A	Right	A		
Peds		X	X	X	Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	10.0	22.0	20.0		28.0			
Yellow	3.0	3.0	3.0		3.0			
All Red	2.0	2.0	2.0		2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	243	1712	0.19	0.37	23.6	C		
TR	1249	3376	0.97	0.37	49.7	D	48.8	D
Westbound								
L	500	1712	1.01	0.47	79.0	E		
T	1619	3445	0.71	0.47	22.5	C	36.0	D
R	704	1497	0.55	0.47	19.9	B		
Northbound								
L	344	1227	0.35	0.28	29.4	C		
T	507	1810	0.57	0.28	32.5	C	39.0	D
R	419	1497	0.84	0.28	47.8	D		
Southbound								
L	198	708	0.71	0.28	43.8	D		
TR	490	1750	0.20	0.28	27.6	C	37.2	D

Intersection Delay = 40.3 (sec/veh) Intersection LOS = D

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 4PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: SOUTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	41	992	123	466	1054	356	111	268	395	130	73	17
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	11	270	33	127	286	97	30	73	107	35	20	5
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat	1900	1900		1900	1900	1900	1900	1900	1900	1900	1900	
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			72			0
Adj Flow	45	1212		507	1146	387	121	291	351	141	97	
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000		1.000	0.000		1.000	0.000	
Prop RTs		0.111			0.000	1.000		0.000	1.000		0.186	
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0	0	0	0	0	0	0	
%InProtPhase	0.0			0.0								
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Arriv. Type	3	3		3	3	3	3	3	3	3	3	
Unit Ext.	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Ext of g	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 4SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: SOUTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Volume	32	791	100	364	923	287	79	255	262	104	59	14
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			72			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds		X	X	X	Peds	X		
WB Left			A	A	SB Left	A		
Thru			A	A	Thru	A		
Right			A	A	Right	A		
Peds		X	X	X	Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	10.0	20.0	20.0		30.0			
Yellow	3.0	3.0	3.0		3.0			
All Red	2.0	2.0	2.0		2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	243	1709	0.14	0.35	25.1	C		
TR	1181	3374	0.82	0.35	34.4	C	34.1	C
Westbound								
L	504	1708	0.79	0.45	39.5	D		
T	1550	3445	0.65	0.45	22.3	C	25.8	C
R	673	1496	0.46	0.45	19.6	B		
Northbound								
L	374	1248	0.23	0.30	26.6	C		
T	543	1810	0.51	0.30	29.7	C	29.1	C
R	450	1500	0.46	0.30	29.2	C		
Southbound								
L	234	780	0.48	0.30	30.2	C		
TR	525	1750	0.15	0.30	25.8	C	28.4	C

Intersection Delay = 28.8 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 4SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN AVENUE N/S St: SOUTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	32	791	100	364	923	287	79	255	262	104	59	14
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	9	215	27	99	251	78	21	69	71	28	16	4
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat	1900	1900		1900	1900	1900	1900	1900	1900	1900	1900	
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	1	1	1	1	1	1	0
LGConfig	L	TR		L	T	R	L	T	R	L	TR	
Lane Width	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
RTOR Vol			0			0			72			0
Adj Flow	35	969		396	1003	312	86	277	207	113	79	
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000		1.000	0.000		1.000	0.000	
Prop RTs		0.112			0.000	1.000		0.000	1.000		0.190	
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0	0	0	0	0	0	0	
%InProtPhase	0.0			0.0								
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Arriv. Type	3	3		3	3	3	3	3	3	3	3	
Unit Ext.	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Ext of g	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: 'JCE Inter.: 5PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: SOUTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	0	0
LGConfig	LR						T					
Volume	606		180				659					
Lane Width	15.0						15.0					
RTOR Vol	0											

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru					Thru	A		
Right		A			Right			
Peds		X			Peds	X		
WB Left					SB Left			
Thru					Thru			
Right					Right			
Peds		X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	45.0				35.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 918 1836 0.93 0.50 36.8 D 36.8 D

Westbound

Northbound

T 774 1990 0.93 0.39 43.1 D 43.1 D

Southbound

Intersection Delay = 39.7 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: 'JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 5PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: SOUTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	606		180					659				
% Heavy Veh	5		5					5				
PHF	0.92		0.92					0.92				
PK 15 Vol	165		49					179				
Hi Ln Vol												
% Grade		0						0				
Ideal Sat		1900						1900				
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	1	0	0	0	0
LGConfig		LR						T				
Lane Width		15.0						15.0				
RTOR Vol			0									
Adj Flow		855						716				
%InSharedLn												
Prop LTs		0.771						0.000				
Prop RTs		0.229						0.000				
Peds Bikes	50	0		0								
Buses	0							0				
%InProtPhase												
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0						0.0				
Arriv. Type		3						3				
Unit Ext.		3.0						3.0				
I Factor		1.000						1.000				
Lost Time		2.0						2.0				
Ext of g		2.0						2.0				
Ped Min g		3.5			3.2							

Analyst: JCE Inter.: 5SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: SOUTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	0	0
LGConfig	LR						T					
Volume	713		144				570					
Lane Width	15.0						12.0					
RTOR Vol	0											

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left			
Thru					Thru	A		
Right	A				Right			
Peds	X				Peds	X		
WB Left					SB Left			
Thru					Thru			
Right					Right			
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	45.0				35.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 926 1852 1.01 0.50 53.7 D 53.7 D

Westbound

Northbound

T 704 1810 0.88 0.39 38.0 D 38.0 D

Southbound

Intersection Delay = 47.4 (sec/veh) Intersection LOS = D

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 5SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: SOUTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	713		144					570				
% Heavy Veh	5		5					5				
PHF	0.92		0.92					0.92				
PK 15 Vol	194		39					155				
Hi Ln Vol												
% Grade		0						0				
Ideal Sat		1900						1900				
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	1	0	0	0	0
LGConfig		LR						T				
Lane Width		15.0						12.0				
RTOR Vol			0									
Adj Flow		932						620				
%InSharedLn												
Prop LTs		0.832						0.000				
Prop RTs		0.168						0.000				
Peds Bikes	50	0		0								
Buses	0							0				
%InProtPhase												
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0						0.0				
Arriv. Type		3						3				
Unit Ext.		3.0						3.0				
I Factor		1.000						1.000				
Lost Time		2.0						2.0				
Ext of g		2.0						2.0				
Ped Min g		3.5			3.2							

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 6PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: SOUTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	0	0
LGConfig					TR			LT				
Volume				211	129		169	409				
Lane Width				12.0				15.0				
RTOR Vol					0							

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru	A		
Right					Right			
Peds	X				Peds	X		
WB Left					SB Left			
Thru	A				Thru			
Right	A				Right			
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	40.0				40.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

TR 747 1680 0.49 0.44 18.3 B 18.3 B

Northbound

LT 872 1962 0.72 0.44 23.4 C 23.4 C

Southbound

Intersection Delay = 21.5 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 6PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: SOUTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				211	129		169	409				
% Heavy Veh				5	5		5	5				
PHF				0.92	0.92		0.92	0.92				
PK 15 Vol				57	35		46	111				
Hi Ln Vol												
% Grade				0			0					
Ideal Sat				1900			1900					
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	0	1	0	0	0	0
LGConfig					TR			LT				
Lane Width				12.0			15.0					
RTOR Vol					0							
Adj Flow				369			629					
%InSharedLn												
Prop LTs					0.000			0.293				
Prop RTs				0.379			0.000					
Peds Bikes				50	0					0		
Buses				0			0					
%InProtPhase												
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet				0.0			0.0					
Arriv. Type				3			3					
Unit Ext.				3.0			3.0					
I Factor				1.000			1.000					
Lost Time				2.0			2.0					
Ext of g				2.0			2.0					
Ped Min g				3.5						3.2		

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 6SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: SOUTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	0	0
LGConfig					TR			LT				
Volume				174	126		135	324				
Lane Width				12.0				15.0				
RTOR Vol					0							

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru	A		
Right					Right			
Peds	X				Peds	X		
WB Left					SB Left			
Thru	A				Thru			
Right	A				Right			
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	42.0				38.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

TR 778 1668 0.42 0.47 16.3 B 16.3 B

Northbound

LT 828 1962 0.60 0.42 21.4 C 21.4 C

Southbound

Intersection Delay = 19.4 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 6SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: SOUTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				174	126		135	324				
% Heavy Veh				5	5		5	5				
PHF				0.92	0.92		0.92	0.92				
PK 15 Vol				47	34		37	88				
Hi Ln Vol												
% Grade				0			0					
Ideal Sat				1900			1900					
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	0	1	0	0	0	0
LGConfig					TR			LT				
Lane Width				12.0			15.0					
RTOR Vol					0							
Adj Flow				326			499					
%InSharedLn												
Prop LTs					0.000			0.295				
Prop RTs				0.420			0.000					
Peds Bikes				50	0					0		
Buses				0			0					
%InProtPhase												
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet				0.0			0.0					
Arriv. Type				3			3					
Unit Ext.				3.0			3.0					
I Factor				1.000			1.000					
Lost Time				2.0			2.0					
Ext of g				2.0			2.0					
Ped Min g				3.5						3.2		

Analyst: JCE Inter.: 7PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: PALISADE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	0	0	1	0	1
LGConfig								LR		L		R
Volume							5		492	837		335
Lane Width								15.0		12.0		12.0
RTOR Vol									0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right	A		
Peds					Peds	X	X	
WB Left					SB Left		A	
Thru					Thru			
Right					Right		A	
Peds					Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green						30.0	50.0	
Yellow						3.0	3.0	
All Red						2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay LOS	Approach Delay LOS
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Eastbound

Westbound

Northbound

LR 531 1594 1.02 0.33 73.4 E 73.4 E

Southbound

L 912 1642 1.00 0.56 49.2 D 38.6 D

R 816 1469 0.45 0.56 12.2 B

Intersection Delay = 49.0 (sec/veh) Intersection LOS = D

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 7PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: PALISADE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume							5		492	837		335
% Heavy Veh							5		5	5		5
PHF							0.92		0.92	0.92		0.92
PK 15 Vol							2		134	227		91
Hi Ln Vol												
% Grade								0			0	
Ideal Sat								1900		1900		1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	0	0	1	0	1
LGConfig								LR		L		R
Lane Width								15.0		12.0		12.0
RTOR Vol									0			0
Adj Flow								540		910		364
%InSharedLn												
Prop LTs									0.009			
Prop RTs								0.991				1.000
Peds Bikes							50	0		50	0	
Buses							0			0		0
%InProtPhase												
Duration	0.25											

Area Type: All other areas

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet									0.0	0.0		0.0
Arriv. Type									3	3		3
Unit Ext.									3.0	3.0		3.0
I Factor									1.000		1.000	
Lost Time									2.0	2.0		2.0
Ext of g									2.0	2.0		2.0
Ped Min g									3.5		3.5	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 7SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: PALISADE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	0	0	1	0	1
LGConfig								LR		L		R
Volume							4		667	666		296
Lane Width								15.0		12.0		12.0
RTOR Vol									0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru			
Right					Right	A		
Peds					Peds	X	X	
WB Left					SB Left		A	
Thru					Thru			
Right					Right		A	
Peds					Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green						38.0	42.0	
Yellow						3.0	3.0	
All Red						2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

Northbound

LR 684 1621 1.07 0.42 79.3 E 79.3 E

Southbound

L 759 1627 0.95 0.47 45.1 D 36.5 D

R 679 1456 0.47 0.47 17.0 B

Intersection Delay = 54.1 (sec/veh) Intersection LOS = D

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 7SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: PALISADE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume							4		667	666		296
% Heavy Veh							5		5	5		5
PHF							0.92		0.92	0.92		0.92
PK 15 Vol							1		181	181		80
Hi Ln Vol												
% Grade								0			0	
Ideal Sat								1900		1900		1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	0	0	1	0	1
LGConfig								LR		L		R
Lane Width								15.0		12.0		12.0
RTOR Vol									0			0
Adj Flow								729		724		322
%InSharedLn												
Prop LTs									0.005			
Prop RTs								0.995				1.000
Peds Bikes							50	0		50	0	
Buses							0			0		0
%InProtPhase												
Duration	0.25											

Area Type: All other areas

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet									0.0	0.0		0.0
Arriv. Type									3	3		3
Unit Ext.									3.0	3.0		3.0
I Factor									1.000		1.000	
Lost Time									2.0	2.0		2.0
Ext of g									2.0	2.0		2.0
Ped Min g									3.5		3.5	

Phone: Fax:
 E-Mail:

-----ALL-WAY STOP CONTROL(AWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 8PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: PALISADE AVENUE
 North/South Street: LOCUST HILL AVENUE

-----Worksheet 2 - Volume Adjustments and Site Characteristics-----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	39	168	46	0	1020	179	0	59	17	74	82	146
% Thrus Left Lane				50								

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			T	TR			R	
PHF			0.92	0.92			0.92	
Flow Rate			554	748			158	
% Heavy Veh			5	5			5	
No. Lanes			2				1	
Opposing-Lanes			0				0	
Conflicting-lanes			1				2	
Geometry group			1				1	
Duration, T	0.25 hrs.							

-----Worksheet 3 - Saturation Headway Adjustment Worksheet-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane			554	748			158	
Left-Turn			0	0			0	
Right-Turn			0	194			158	
Prop. Left-Turns			0.0	0.0			0.0	
Prop. Right-Turns			0.0	0.3			1.0	
Prop. Heavy Vehicle			0.0	0.0			0.0	
Geometry Group			1				1	
Adjustments Exhibit 17-33:								
hLT-adj			0.2				0.2	

Phone: Fax:
 E-Mail:

-----ALL-WAY STOP CONTROL(AWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 8SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: PALISADE AVENUE
 North/South Street: LOCUST HILL AVENUE

-----Worksheet 2 - Volume Adjustments and Site Characteristics-----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	39	168	46	0	809	124	0	59	17	74	82	161
% Thrus Left Lane				50								

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			T	TR			R	
PHF			0.92	0.92			0.92	
Flow Rate			439	574			174	
% Heavy Veh			5	5			5	
No. Lanes				2				1
Opposing-Lanes				0				0
Conflicting-lanes				1				2
Geometry group				1				1
Duration, T	0.25 hrs.							

-----Worksheet 3 - Saturation Headway Adjustment Worksheet-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane			439	574			174	
Left-Turn			0	0			0	
Right-Turn			0	134			174	
Prop. Left-Turns			0.0	0.0			0.0	
Prop. Right-Turns			0.0	0.2			1.0	
Prop. Heavy Vehicle			0.0	0.0			0.0	
Geometry Group				1				1
Adjustments Exhibit 17-33:								
hLT-adj				0.2				0.2

hRT-adj		-0.6		-0.6
hHV-adj		1.7		1.7
hadj, computed	0.1	-0.1		-0.5

-----Worksheet 4 - Departure Headway and Service Time-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate			439	574			174	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.39	0.51			0.15	
hd, final value			4.46	4.32			5.00	
x, final value			0.54	0.69			0.24	
Move-up time, m				2.0				2.0
Service Time			2.5	2.3			3.0	

-----Worksheet 5 - Capacity and Level of Service-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate			439	574			174	
Service Time			2.5	2.3			3.0	
Utilization, x			0.54	0.69			0.24	
Dep. headway, hd			4.46	4.32			5.00	
Capacity			689	824			424	
Delay			12.63	16.27			9.59	
LOS			B	C			A	
Approach:								
Delay				14.69				9.59
LOS				B				A
Intersection Delay	13.94							
								Intersection LOS B

Analyst: JCE Inter.: 9PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PALISADES AVENUE / ELM STREET N/S St: PALISADE AVE / NEW SCHOOL ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	2	0	0	1	0	0	1	0
LGConfig				LTR			LT			TR		
Volume				140	614	217	152	93			87	265
Lane Width				12.0			12.0			12.0		
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru	A		
Right					Right			
Peds	X				Peds	X		
WB Left		A			SB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		35.0				35.0		
Yellow		3.0				3.0		
All Red		2.0				2.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LTR 1437 3285 0.73 0.44 20.6 C 20.6 C

Northbound

LT 358 819 0.74 0.44 26.9 C 26.9 C

Southbound

TR 702 1605 0.55 0.44 17.5 B 17.5 B

Intersection Delay = 20.9 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 9PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PALISADES AVENUE / ELM STREET N/S St: PALISADE AVE / NEW SCHOOL ST

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				140	614	217	152	93			87	265
% Heavy Veh				5	5	5	5	5			5	5
PHF				0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol				38	167	59	41	25			24	72
Hi Ln Vol												
% Grade					0			0			0	
Ideal Sat					1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	2	0	0	1	0	0	1	0
LGConfig					LTR			LT			TR	
Lane Width					12.0			12.0			12.0	
RTOR Vol						0						0
Adj Flow					1055			266			383	
%InSharedLn												
Prop LTs					0.144			0.620			0.000	
Prop RTs					0.224			0.000			0.752	
Peds Bikes	0				25	0					25	0
Buses					0			0			0	
%InProtPhase												
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0			0.0			0.0	
Arriv. Type					3			3			3	
Unit Ext.					3.0			3.0			3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0			2.0			2.0	
Ext of g					2.0			2.0			2.0	
Ped Min g		3.2			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 9SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PALISADES AVENUE / ELM STREET N/S St: PALISADE AVE / NEW SCHOOL ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	2	0	0	1	0	0	1	0
LGConfig				LTR			LT			TR		
Volume				201	524	174	186	110			118	244
Lane Width				12.0			12.0			12.0		
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru					Thru	A		
Right					Right			
Peds	X				Peds	X		
WB Left		A			SB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				35.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LTR 1439 3290 0.68 0.44 19.3 B 19.3 B

Northbound

LT 350 801 0.92 0.44 50.0 D 50.0 D

Southbound

TR 711 1626 0.55 0.44 17.6 B 17.6 B

Intersection Delay = 24.8 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 9SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PALISADES AVENUE / ELM STREET N/S St: PALISADE AVE / NEW SCHOOL ST

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				201	524	174	186	110			118	244
% Heavy Veh				5	5	5	5	5			5	5
PHF				0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol				55	142	47	51	30			32	66
Hi Ln Vol												
% Grade					0			0			0	
Ideal Sat					1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	2	0	0	1	0	0	1	0
LGConfig					LTR			LT			TR	
Lane Width					12.0			12.0			12.0	
RTOR Vol						0						0
Adj Flow					977			322			393	
%InSharedLn												
Prop LTs					0.223			0.627			0.000	
Prop RTs					0.193			0.000			0.674	
Peds Bikes	0				25	0					25	0
Buses					0			0			0	
%InProtPhase												
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0			0.0			0.0	
Arriv. Type					3			3			3	
Unit Ext.					3.0			3.0			3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0			2.0			2.0	
Ext of g					2.0			2.0			2.0	
Ped Min g		3.2			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 10PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	18	127	45	102	38	120	30	387	84	133	392	8
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				50.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 477 1430 0.43 0.33 24.0 C 24.0 C

Westbound

LTR 388 1164 0.73 0.33 33.1 C 33.1 C

Northbound

LTR 834 1502 0.65 0.56 15.8 B 15.8 B

Southbound

LTR 657 1182 0.88 0.56 30.9 C 30.9 C

Intersection Delay = 25.3 (sec/veh) Intersection LOS = C

Phone: Fax:
E-Mail:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 10PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	18	127	45	102	38	120	30	387	84	133	392	8
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	5	35	12	28	10	33	8	105	23	36	107	2
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow		207			282			545			580	
%InSharedLn												
Prop LTs		0.097			0.394			0.061			0.250	
Prop RTs		0.237			0.461			0.167			0.016	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

Analyst: JCE Inter.: 10SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	14	102	36	114	31	99	24	333	67	107	391	7
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				50.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 480 1441 0.34 0.33 23.0 C 23.0 C

Westbound

LTR 390 1170 0.68 0.33 30.7 C 30.7 C

Northbound

LTR 844 1519 0.55 0.56 13.5 B 13.5 B

Southbound

LTR 735 1323 0.75 0.56 19.4 B 19.4 B

Intersection Delay = 20.0+ (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 10SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	14	102	36	114	31	99	24	333	67	107	391	7
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	4	28	10	31	8	27	7	90	18	29	106	2
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow		165			266			461			549	
%InSharedLn												
Prop LTs		0.091			0.466			0.056			0.211	
Prop RTs		0.236			0.406			0.158			0.015	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 11PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: N. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	1	1	0
LGConfig	LTR			LTR			LTR			L	TR	
Volume	42	267	7	96	208	168	11	340	163	241	213	84
Lane Width	12.0			15.0			12.0			10.0	10.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				45.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	532	1369	0.65	0.39	25.2	C	25.2	C
Westbound								
LTR	548	1409	0.94	0.39	50.2	D	50.2	D
Northbound								
LTR	767	1533	0.73	0.50	21.2	C	21.2	C
Southbound								
L	281	562	0.93	0.50	57.2	E		
TR	723	1446	0.45	0.50	14.9	B	33.9	C

Intersection Delay = 33.0 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 11PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: N. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	42	267	7	96	208	168	11	340	163	241	213	84
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	11	73	2	26	57	46	3	92	44	65	58	23
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	1	1	0
LGConfig		LTR			LTR			LTR		L	TR	
Lane Width		12.0			15.0			12.0		10.0	10.0	
RTOR Vol			0			0			0			0
Adj Flow		344			513			559		262	323	
%InSharedLn												
Prop LTs		0.134			0.203			0.021		1.000	0.000	
Prop RTs		0.023			0.357			0.317			0.282	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0			0			0	0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0		0.0	0.0	
Arriv. Type		3			3			3		3	3	
Unit Ext.		3.0			3.0			3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0		2.0	2.0	
Ext of g		2.0			2.0			2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 11SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: N. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	1	1	0
LGConfig	LTR			LTR			LTR			L	TR	
Volume	34	214	6	77	169	154	10	294	134	261	170	99
Lane Width	12.0			15.0			12.0			10.0	10.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				45.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	552	1420	0.50	0.39	21.6	C	21.6	C
Westbound								
LTR	586	1508	0.74	0.39	28.7	C	28.7	C
Northbound								
LTR	768	1536	0.62	0.50	17.9	B	17.9	B
Southbound								
L	317	633	0.90	0.50	46.6	D		
TR	712	1423	0.41	0.50	14.6	B	30.3	C

Intersection Delay = 25.2 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 11SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: N. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	34	214	6	77	169	154	10	294	134	261	170	99
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	9	58	2	21	46	42	3	80	36	71	46	27
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	1	1	0
LGConfig		LTR			LTR			LTR		L	TR	
Lane Width		12.0			15.0			12.0		10.0	10.0	
RTOR Vol			0			0			0			0
Adj Flow		277			435			477		284	293	
%InSharedLn												
Prop LTs		0.134			0.193			0.023		1.000	0.000	
Prop RTs		0.025			0.384			0.306			0.369	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0			0			0	0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0		0.0	0.0	
Arriv. Type		3			3			3		3	3	
Unit Ext.		3.0			3.0			3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0		2.0	2.0	
Ext of g		2.0			2.0			2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

TWO-WAY STOP CONTROL SUMMARY

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 12PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: ASHFORD AVENUE
 North/South Street: LOCUST HILL ROAD
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		504	154	104	410		
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR		547	167	113	445		
Percent Heavy Vehicles		--	--	5	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		42		79			
Peak Hour Factor, PHF		0.92		0.92			
Hourly Flow Rate, HFR		45		85			
Percent Heavy Vehicles		5		5			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 LT	7	8 LR	9	10	11
v (vph)	113				130			
C(m) (vph)	872				274			
v/c	0.13				0.47			
95% queue length	0.44				2.39			
Control Delay	9.7				29.5			
LOS	A				D			
Approach Delay					29.5			
Approach LOS					D			

TWO-WAY STOP CONTROL SUMMARY

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 12SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: ASHFORD AVENUE
 North/South Street: LOCUST HILL ROAD
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		431	167	83	350		
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR		468	181	90	380		
Percent Heavy Vehicles		--	--	5	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		34		45			
Peak Hour Factor, PHF		0.92		0.92			
Hourly Flow Rate, HFR		36		48			
Percent Heavy Vehicles		5		5			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
			4 LT	7	8 LR	9	10	11
v (vph)	90				84			
C(m) (vph)	923				313			
v/c	0.10				0.27			
95% queue length	0.32				1.06			
Control Delay	9.3				20.7			
LOS	A				C			
Approach Delay					20.7			
Approach LOS					C			

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 13PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: PALISADE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	1	1	0	0	1	0	0	0	0
LGConfig	LTR			L	TR		LTR					
Volume	74	456	81	257	284	80	129	146	146			
Lane Width	15.0			12.0	12.0		15.0					
RTOR Vol	0			0			0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right	A	A			Right			
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	8.0	40.0			27.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 698 1571 0.95 0.44 46.9 D 46.9 D

Westbound

L 368 1537 0.76 0.59 27.4 C
 TR 923 1568 0.43 0.59 10.5 B 17.5 B

Northbound

LTR 497 1658 0.92 0.30 53.2 D 53.2 D

Southbound

Intersection Delay = 37.4 (sec/veh) Intersection LOS = D

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 13PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: PALISADE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	74	456	81	257	284	80	129	146	146			
% Heavy Veh	5	5	5	5	5	5	5	5	5			
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
PK 15 Vol	20	124	22	70	77	22	35	40	40			
Hi Ln Vol												
% Grade		0			0			0				
Ideal Sat		1900		1900	1900			1900				
ParkExist												
NumPark												
No. Lanes	0	1	0	1	1	0	0	1	0	0	0	0
LGConfig		LTR		L	TR			LTR				
Lane Width		15.0		12.0	12.0			15.0				
RTOR Vol			0			0			0			
Adj Flow		664		279	396			458				
%InSharedLn												
Prop LTs		0.120		1.000	0.000			0.306				
Prop RTs		0.133			0.220			0.347				
Peds Bikes	25	0		25	0		25	0		0		
Buses		0		0	0			0				
%InProtPhase				0.0								
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0			0.0				
Arriv. Type		3		3	3			3				
Unit Ext.		3.0		3.0	3.0			3.0				
I Factor		1.000			1.000			1.000				
Lost Time		2.0		2.0	2.0			2.0				
Ext of g		2.0		2.0	2.0			2.0				
Ped Min g		3.4			3.4			3.4			3.2	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 13SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: PALISADE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	1	1	0	0	1	0	0	0	0
LGConfig	LTR			L	TR		LTR					
Volume	59	349	90	260	230	64	122	117	134			
Lane Width	15.0			12.0	12.0		15.0					
RTOR Vol	0			0			0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right	A	A			Right			
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	10.0	40.0			25.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 708 1593 0.76 0.44 26.0 C 26.0 C

Westbound

L 443 1535 0.64 0.61 14.4 B
 TR 958 1568 0.33 0.61 8.8 A 11.4 B

Northbound

LTR 458 1650 0.89 0.28 49.7 D 49.7 D

Southbound

Intersection Delay = 26.5 (sec/veh) Intersection LOS = C

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 13SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: PALISADE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	59	349	90	260	230	64	122	117	134			
% Heavy Veh	5	5	5	5	5	5	5	5	5			
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
PK 15 Vol	16	95	24	71	62	17	33	32	36			
Hi Ln Vol												
% Grade		0			0			0				
Ideal Sat		1900		1900	1900			1900				
ParkExist												
NumPark												
No. Lanes	0	1	0	1	1	0	0	1	0	0	0	0
LGConfig		LTR		L	TR			LTR				
Lane Width		15.0		12.0	12.0			15.0				
RTOR Vol			0			0			0			
Adj Flow		541		283	320			406				
%InSharedLn												
Prop LTs		0.118		1.000	0.000			0.328				
Prop RTs		0.181			0.219			0.360				
Peds Bikes	25	0		25	0		25	0		0		
Buses		0		0	0			0				
%InProtPhase				0.0								
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0			0.0				
Arriv. Type		3		3	3			3				
Unit Ext.		3.0		3.0	3.0			3.0				
I Factor		1.000			1.000			1.000				
Lost Time		2.0		2.0	2.0			2.0				
Ext of g		2.0		2.0	2.0			2.0				
Ped Min g		3.4			3.4			3.4			3.2	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 14PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	129	568	68	202	574	72	100	532	185	173	711	161
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X	X			Peds	X	X	
WB Left	A	A			SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X	X			Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	30.0	10.0			30.0	10.0		
Yellow	3.0	3.0			3.0	3.0		
All Red	2.0	2.0			2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	303	1541	0.46	0.45	37.1	D		
TR	479	1598	1.44	0.30	245.7	F	210.6	F
Westbound								
L	303	1541	0.73	0.45	46.5	D		
TR	479	1597	1.47	0.30	255.7	F	205.8	F
Northbound								
L	315	1535	0.35	0.45	31.1	C		
TR	885	2949	0.88	0.30	43.5	D	42.0	D
Southbound								
L	313	1535	0.60	0.45	37.3	D		
T	930	3101	0.83	0.30	39.1	D	37.3	D
R	398	1327	0.44	0.30	29.0	C		

Intersection Delay = 117.6 (sec/veh) Intersection LOS = F

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 14PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NEPPERHAN AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	129	568	68	202	574	72	100	532	185	173	711	161
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	35	154	18	55	156	20	27	145	50	47	193	44
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat	1900	1900		1900	1900		1900	1900		1900	1900	1900
ParkExist												
NumPark												
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0
Adj Flow	140	691		220	702		109	779		188	773	175
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000		1.000	0.000		1.000	0.000	
Prop RTs		0.107			0.111			0.258			0.000	1.000
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0		0	0		0	0	0
%InProtPhase	0.0			0.0			0.0			0.0		
Duration	0.25											
				Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Arriv. Type	3	3		3	3		3	3		3	3	3
Unit Ext.	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ext of g	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 14SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Volume	98	483	62	218	511	58	78	465	154	138	670	128
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X	X		Peds	X	X	
WB Left		A	A		SB Left	A	A	
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X	X		Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green		30.0	10.0			30.0	10.0	
Yellow		3.0	3.0			3.0	3.0	
All Red		2.0	2.0			2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	303	1540	0.35	0.45	35.8	D		
TR	479	1596	1.24	0.30	158.1	F	139.4	F
Westbound								
L	303	1540	0.78	0.45	46.3	D		
TR	480	1600	1.29	0.30	179.4	F	142.5	F
Northbound								
L	328	1534	0.26	0.45	28.0	C		
TR	886	2954	0.76	0.30	35.6	D	34.7	C
Southbound								
L	345	1533	0.43	0.45	30.2	C		
T	930	3101	0.78	0.30	36.4	D	34.3	C
R	398	1327	0.35	0.30	27.9	C		
Intersection Delay = 84.3 (sec/veh)					Intersection LOS = F			

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 14SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NEPPERHAN AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	98	483	62	218	511	58	78	465	154	138	670	128
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	27	131	17	59	139	16	21	126	42	37	182	35
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat	1900	1900		1900	1900		1900	1900		1900	1900	1900
ParkExist												
NumPark												
No. Lanes	1	1	0	1	1	0	1	2	0	1	2	1
LGConfig	L	TR		L	TR		L	TR		L	T	R
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0
Adj Flow	107	592		237	618		85	672		150	728	139
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000		1.000	0.000		1.000	0.000	
Prop RTs		0.113			0.102			0.249			0.000	1.000
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0		0	0		0	0	0
%InProtPhase	0.0			0.0			0.0			0.0		
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Arriv. Type	3	3		3	3		3	3		3	3	3
Unit Ext.	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ext of g	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: PM15BD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NYS ROUTE 9A / WALNUT STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	1	1	0
LGConfig	LTR			LT R			LTR			L TR		
Volume	222	530	57	11	460	248	69	135	27	205	149	271
Lane Width	15.0			12.0 12.0			15.0			12.0 15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	50.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	582	1047	1.51	0.56	258.5	F	258.5	F
Westbound								
LT	884	1592	0.58	0.56	14.1	B	13.1	B
R	752	1353	0.36	0.56	11.4	B		
Northbound								
LTR	255	765	0.98	0.33	81.6	F	81.6	F
Southbound								
L	290	871	0.77	0.33	38.8	D		
TR	526	1579	0.87	0.33	42.6	D	41.4	D

Intersection Delay = 110.4 (sec/veh) Intersection LOS = F

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: PM15BD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NYS ROUTE 9A / WALNUT STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	222	530	57	11	460	248	69	135	27	205	149	271
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	60	144	15	3	125	67	19	37	7	56	40	74
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900	1900		1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	1	0	1	0	1	1	0
LGConfig		LTR			LT R			LTR			L TR	
Lane Width		15.0			12.0 12.0			15.0			12.0 15.0	
RTOR Vol			0			0			0			0
Adj Flow		879			512 270			251			223 457	
%InSharedLn												
Prop LTs		0.274			0.023			0.299			1.000 0.000	
Prop RTs		0.071			0.000 1.000			0.116			0.646	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0	0		0			0	0
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0 0.0			0.0			0.0 0.0	
Arriv. Type		3			3 3			3			3 3	
Unit Ext.		3.0			3.0 3.0			3.0			3.0 3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0 2.0			2.0			2.0 2.0	
Ext of g		2.0			2.0 2.0			2.0			2.0 2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 15SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NYS ROUTE 9A / WALNUT STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	1	1	0
LGConfig	LTR			LT R			LTR			L TR		
Volume	196	440	46	8	367	198	55	108	21	163	120	326
Lane Width	15.0			12.0 12.0			15.0			12.0 15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	50.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	637	1147	1.16	0.56	109.9	F	109.9	F
Westbound								
LT	891	1603	0.46	0.56	12.3	B	11.8	B
R	752	1353	0.29	0.56	10.8	B		
Northbound								
LTR	272	817	0.74	0.33	36.5	D	36.5	D
Southbound								
L	316	948	0.56	0.33	26.8	C		
TR	517	1551	0.94	0.33	53.8	D	46.6	D

Intersection Delay = 57.0 (sec/veh) Intersection LOS = E

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 15SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: ASHBURTON AVENUE N/S St: NYS ROUTE 9A / WALNUT STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	196	440	46	8	367	198	55	108	21	163	120	326
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	53	120	12	2	100	54	15	29	6	44	33	89
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900	1900		1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	1	0	1	0	1	1	0
LGConfig		LTR			LT R			LTR		L	TR	
Lane Width		15.0			12.0	12.0		15.0		12.0	15.0	
RTOR Vol			0			0			0			0
Adj Flow		741			408	215		200		177	484	
%InSharedLn												
Prop LTs		0.287			0.022			0.300		1.000	0.000	
Prop RTs		0.067			0.000	1.000		0.115		0.731		
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0	0		0			0	0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0	0.0		0.0		0.0	0.0	
Arriv. Type		3			3	3		3		3	3	
Unit Ext.		3.0			3.0	3.0		3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0	2.0		2.0		2.0	2.0	
Ext of g		2.0			2.0	2.0		2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 16PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK AM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: WALNUT STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Volume	11	1719	23	130	1743	24	24	99	100	42	126	43
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X	X		Peds	X		
WB Left		A	A		SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X	X		Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		54.0	10.0			21.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	330	1718	0.04	0.69	32.9	C		
TR	1856	3437	1.02	0.54	49.1	D	49.0	D
Westbound								
L	330	1718	0.43	0.69	35.3	D		
TR	1856	3437	1.04	0.54	53.5	D	52.3	D
Northbound								
LTR	337	1605	0.72	0.21	44.1	D	44.1	D
Southbound								
LTR	290	1381	0.79	0.21	51.4	D	51.4	D

Intersection Delay = 50.4 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK AM HIGHWAY HOUR
 Intersection: 16PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: WALNUT STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	11	1719	23	130	1743	24	24	99	100	42	126	43
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	3	467	6	35	474	7	7	27	27	11	34	12
Hi Ln Vol												
% Grade		0			0			-6			0	
Ideal Sat	1900	1900		1900	1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow	12	1893		141	1921			243			230	
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000			0.107			0.200	
Prop RTs		0.013			0.014			0.449			0.204	
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0			0			0	
%InProtPhase	0.0			0.0								
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0			0.0			0.0	
Arriv. Type	3	3		3	3			3			3	
Unit Ext.	3.0	3.0		3.0	3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0			2.0			2.0	
Ext of g	2.0	2.0		2.0	2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 16SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: WALNUT STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR		LTR			LTR		
Volume	8	1331	19	104	1863	20	20	79	80	34	101	35
Lane Width	12.0	12.0		12.0	12.0		12.0			12.0		
RTOR Vol			0			0	0			0		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X	X		Peds	X		
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X	X		Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		57.0	10.0			18.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	330	1718	0.03	0.72	33.0	C		
TR	1959	3437	0.75	0.57	17.8	B	17.9	B
Westbound								
L	354	1716	0.32	0.72	23.9	C		
TR	1960	3439	1.04	0.57	54.5	D	52.9	D
Northbound								
LTR	291	1614	0.67	0.18	44.1	D	44.1	D
Southbound								
LTR	259	1441	0.71	0.18	47.6	D	47.6	D

Intersection Delay = 39.4 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 16SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: WALNUT STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	8	1331	19	104	1863	20	20	79	80	34	101	35
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	2	362	5	28	506	5	5	21	22	9	27	10
Hi Ln Vol												
% Grade		0			0			-6			0	
Ideal Sat	1900	1900		1900	1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	0	0	1	0	0	1	0
LGConfig	L	TR		L	TR			LTR			LTR	
Lane Width	12.0	12.0		12.0	12.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow	9	1468		113	2047			195			185	
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000			0.113			0.200	
Prop RTs		0.014			0.011			0.446			0.205	
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0			0			0	
%InProtPhase	0.0			0.0								
Duration	0.25											
Area Type: All other areas												

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0			0.0			0.0	
Arriv. Type	3	3		3	3			3			3	
Unit Ext.	3.0	3.0		3.0	3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0			2.0			2.0	
Ext of g	2.0	2.0		2.0	2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

Analyst: JCE Inter.: 17PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: PRESCOTT STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	0	0
LGConfig	L	TR		L	TR			LTR				
Volume	7	1877	18	223	2388	35	8	8	104			
Lane Width	12.0	12.0		12.0	12.0			15.0				
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right	A	A			Right			
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	10.0	55.0			20.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	73	132	0.11	0.55	11.4	B		
TR	1892	3440	1.09	0.55	71.9	E	71.7	E
Westbound								
L	245	1718	0.99	0.70	87.8	F		
TR	2406	3437	1.09	0.70	65.0	E	66.9	E
Northbound								
LTR	349	1747	0.38	0.20	35.3	D	35.3	D
Southbound								

Intersection Delay = 68.0 (sec/veh) Intersection LOS = E

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 17PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: PRESCOTT STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	7	1877	18	223	2388	35	8	8	104			
% Heavy Veh	5	5	5	5	5	5	5	5	5			
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
PK 15 Vol	2	510	5	61	649	10	2	2	28			
Hi Ln Vol												
% Grade		0			0			-6				
Ideal Sat	1900	1900		1900	1900			1900				
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	0	0	1	0	0	0	0
LGConfig	L	TR		L	TR			LTR				
Lane Width	12.0	12.0		12.0	12.0			15.0				
RTOR Vol			0			0			0			
Adj Flow	8	2060		242	2634			131				
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000			0.069				
Prop RTs		0.010			0.014			0.863				
Peds Bikes		25	0		25	0		25	0	0		
Buses	0	0		0	0			0				
%InProtPhase				0.0								
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0			0.0				
Arriv. Type	3	3		3	3			3				
Unit Ext.	3.0	3.0		3.0	3.0			3.0				
I Factor		1.000			1.000			1.000				
Lost Time	2.0	2.0		2.0	2.0			2.0				
Ext of g	2.0	2.0		2.0	2.0			2.0				
Ped Min g		3.4			3.4			3.4			3.2	

Analyst: JCE Inter.: 17SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: PRESCOTT STREET

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	0	1	0	0	0	0
LGConfig	L	TR		L	TR			LTR				
Volume	6	1457	14	178	2378	28	7	7	83			
Lane Width	12.0	12.0		12.0	12.0			15.0				
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left	A	A			SB Left			
Thru	A	A			Thru			
Right	A	A			Right			
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	10.0	55.0			20.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	73	132	0.10	0.55	11.3	B		
TR	1892	3440	0.85	0.55	22.7	C	22.6	C
Westbound								
L	244	1717	0.79	0.70	43.3	D		
TR	2407	3439	1.09	0.70	61.7	E	60.4	E
Northbound								
LTR	350	1751	0.30	0.20	34.6	C	34.6	C
Southbound								

Intersection Delay = 46.4 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 17SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: PRESCOTT STREET

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	6	1457	14	178	2378	28	7	7	83			
% Heavy Veh	5	5	5	5	5	5	5	5	5			
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
PK 15 Vol	2	396	4	48	646	8	2	2	23			
Hi Ln Vol												
% Grade		0			0			-6				
Ideal Sat	1900	1900		1900	1900			1900				
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	0	0	1	0	0	0	0
LGConfig	L	TR		L	TR			LTR				
Lane Width	12.0	12.0		12.0	12.0			15.0				
RTOR Vol			0			0			0			
Adj Flow	7	1599		193	2615			106				
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000			0.075				
Prop RTs		0.009			0.011			0.849				
Peds Bikes		25	0		25	0		25	0	0		
Buses	0	0		0	0			0				
%InProtPhase				0.0								
Duration	0.25			Area Type: All other areas								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0			0.0				
Arriv. Type	3	3		3	3			3				
Unit Ext.	3.0	3.0		3.0	3.0			3.0				
I Factor		1.000			1.000			1.000				
Lost Time	2.0	2.0		2.0	2.0			2.0				
Ext of g	2.0	2.0		2.0	2.0			2.0				
Ped Min g		3.4			3.4			3.4			3.2	

Analyst: JCE Inter.: 18PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: ASHBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	0	2	1	0	0	0	1	0	0
LGConfig	T			T R						L	LR	
Volume	2101			2492 809						797	30	
Lane Width	12.0			12.0 12.0						12.0	12.0	
RTOR Vol				0						0		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right					Right			
Peds	X				Peds	X		
WB Left					SB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	64.0				26.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
T	2205	3445	1.04	0.64	47.2	D	47.2	D
Westbound								
T	2205	3445	1.23	0.64	125.1	F	101.3	F
R	965	1508	0.91	0.64	28.0	C		
Northbound								
Southbound								
L	447	1719	1.01	0.26	81.2	F		
LR	444	1707	1.01	0.26	82.6	F	81.9	F

Intersection Delay = 80.5 (sec/veh) Intersection LOS = F

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 18PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: ASHBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume		2101			2492	809				797		30
% Heavy Veh		5			5	5				5		5
PHF		0.92			0.92	0.92				0.92		0.92
PK 15 Vol		571			677	220				217		8
Hi Ln Vol												
% Grade		0			0						0	
Ideal Sat		1900			1900	1900				1900	1900	
ParkExist												
NumPark												
No. Lanes	0	2	0	0	2	1	0	0	0	1	0	0
LGConfig		T			T	R				L	LR	
Lane Width		12.0			12.0	12.0				12.0	12.0	
RTOR Vol						0						0
Adj Flow		2284			2709	879				450	449	
%InSharedLn										48		
Prop LTs		0.000			0.000						0.926	
Prop RTs		0.000			0.000	1.000				0.073		
Peds Bikes					25	0	0			25	0	
Buses		0			0	0				0	0	
%InProtPhase												
Duration	0.25											

Area Type: All other areas

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0	0.0				0.0	0.0	
Arriv. Type		3			3	3				3	3	
Unit Ext.		3.0			3.0	3.0				3.0	3.0	
I Factor		1.000			1.000						1.000	
Lost Time		2.0			2.0	2.0				2.0	2.0	
Ext of g		2.0			2.0	2.0				2.0	2.0	
Ped Min g					3.4				3.2		3.4	

Analyst: JCE Inter.: 18SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: ASHBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	0	2	1	0	0	0	1	0	0
LGConfig	T			T R						L	LR	
Volume	1636			2462 646						653	24	
Lane Width	12.0			12.0 12.0						12.0	12.0	
RTOR Vol				0						0		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right					Right			
Peds	X				Peds	X		
WB Left					SB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	65.0				25.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

T 2239 3445 0.79 0.65 14.7 B 14.7 B

Westbound

T 2239 3445 1.20 0.65 110.0 F 90.0 F
 R 981 1509 0.72 0.65 14.0 B

Northbound

Southbound

L 430 1719 0.86 0.25 51.6 D
 LR 427 1707 0.86 0.25 51.9 D 51.7 D

Intersection Delay = 62.5 (sec/veh) Intersection LOS = E

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 18SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: ASHBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume		1636			2462	646				653		24
% Heavy Veh		5			5	5				5		5
PHF		0.92			0.92	0.92				0.92		0.92
PK 15 Vol		445			669	176				177		7
Hi Ln Vol												
% Grade		0			0						0	
Ideal Sat		1900			1900	1900				1900	1900	
ParkExist												
NumPark												
No. Lanes	0	2	0	0	2	1	0	0	0	1	0	0
LGConfig		T			T	R				L	LR	
Lane Width		12.0			12.0	12.0				12.0	12.0	
RTOR Vol						0						0
Adj Flow		1778			2676	702				369	367	
%InSharedLn										48		
Prop LTs		0.000			0.000						0.929	
Prop RTs		0.000			0.000	1.000				0.071		
Peds Bikes					25	0		0		25	0	
Buses		0			0	0				0	0	
%InProtPhase												
Duration	0.25											

Area Type: All other areas

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0	0.0				0.0	0.0	
Arriv. Type		3			3	3				3	3	
Unit Ext.		3.0			3.0	3.0				3.0	3.0	
I Factor		1.000			1.000						1.000	
Lost Time		2.0			2.0	2.0				2.0	2.0	
Ext of g		2.0			2.0	2.0				2.0	2.0	
Ped Min g					3.4			3.2			3.4	

Analyst: JCE Inter.: 19PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SAW MILL RIVER PARKWAY SB RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	0	2	0	0	0	0	0	0	2
LGConfig		T	R		T							R
Volume		2216	683		2528							773
Lane Width		12.0	12.0		12.0							12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru	A				Thru			
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	71.0				19.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

T	2446	3445	0.98	0.71	28.7	C	24.1	C
R	1147	1615	0.65	0.71	9.1	A		

Westbound

T	2446	3445	1.12	0.71	76.1	E	76.1	E
---	------	------	------	------	------	---	------	---

Northbound

Southbound

R	543	2859	1.55	0.19	295.7	F	295.7	F
Intersection Delay = 79.2 (sec/veh)					Intersection LOS = E			

Analyst: JCE Inter.: 19SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SAW MILL RIVER PARKWAY SB RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	1	0	2	0	0	0	0	0	0	2
LGConfig		T	R		T							R
Volume		1790	500		2312							797
Lane Width		12.0	12.0		12.0							12.0
RTOR Vol			0									0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru	A				Thru			
Right	A				Right			
Peds					Peds			
WB Left					SB Left			
Thru	A				Thru			
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	70.0				20.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

T	2411	3445	0.81	0.70	12.5	B	11.3	B
R	1130	1615	0.48	0.70	7.1	A		

Westbound

T	2411	3445	1.04	0.70	45.5	D	45.5	D
---	------	------	------	------	------	---	------	---

Northbound

Southbound

R	572	2859	1.51	0.20	280.2	F	280.2	F
Intersection Delay = 65.6 (sec/veh)					Intersection LOS = E			

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 20PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SAW MILL RIVER PARKWAY NB RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	0	0	1	0	2
LGConfig	L	T			T	R				L		R
Volume	623	1593			1139	224				34		1389
Lane Width	12.0	12.0			12.0	12.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		A			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right			A		WB Right	A		
Green		50.0	20.0			15.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	566	1805	1.20	0.75	136.9	F		
T	2584	3445	0.67	0.75	7.0	A	43.5	D
Westbound								
T	1723	3445	0.72	0.50	21.0	C	18.4	B
R	1130	1615	0.22	0.70	5.4	A		
Northbound								
Southbound								
L	271	1805	0.14	0.15	37.1	D		
R	1144	2859	1.32	0.40	180.2	F	176.8	F
Intersection Delay = 74.6 (sec/veh)					Intersection LOS = E			

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 20PMBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SAW MILL RIVER PARKWAY NB RAMP

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
Volume	623	1593			1139	224				34		1389	
% Heavy Veh	0	5			5	0				0		0	
PHF	0.92	0.92			0.92	0.92				0.92		0.92	
PK 15 Vol	169	433			310	61				9		377	
Hi Ln Vol													
% Grade		0			0						0		
Ideal Sat	1900	1900			1900	1900				1900		1900	
ParkExist													
NumPark													
No. Lanes		1	2	0	0	2	1	0	0	0	1	0	2
LGConfig		L	T			T	R				L	T	R
Lane Width	12.0	12.0			12.0	12.0				12.0		12.0	
RTOR Vol						0						0	
Adj Flow	677	1732			1238	243				37		1510	
%InSharedLn													
Prop LTs	1.000	0.000			0.000								
Prop RTs		0.000			0.000	1.000						1.000	
Peds Bikes					0			0		0			
Buses	0	0			0	0				0		0	
%InProtPhase	0.0												
Duration	0.25												

Area Type: All other areas

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0			0.0	0.0				0.0		0.0
Arriv. Type	3	3			3	3				3		3
Unit Ext.	3.0	3.0			3.0	3.0				3.0		3.0
I Factor		1.000			1.000						1.000	
Lost Time	2.0	2.0			2.0	2.0				2.0		2.0
Ext of g	2.0	2.0			2.0	2.0				2.0		2.0
Ped Min g					3.2			3.2			3.2	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 20SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: All other areas
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SAW MILL RIVER PARKWAY NB RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	0	0	1	0	2
LGConfig	L	T			T	R				L		R
Volume	498	1292			1025	179				27		1287
Lane Width	12.0	12.0			12.0	12.0				12.0		12.0
RTOR Vol						0						0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		A			Thru			
Right					Right			
Peds					Peds			
WB Left					SB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right			A		WB Right	A		
Green		52.0	15.0			18.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	526	1805	1.03	0.72	78.3	E		
T	2480	3445	0.57	0.72	6.9	A	26.8	C
Westbound								
T	1791	3445	0.62	0.52	17.7	B	15.6	B
R	1211	1615	0.16	0.75	3.6	A		
Northbound								
Southbound								
L	325	1805	0.09	0.18	34.3	C		
R	1086	2859	1.29	0.38	167.7	F	165.0	F
Intersection Delay = 65.8 (sec/veh)					Intersection LOS = E			

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 20SATBD
 Area Type: All other areas
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SAW MILL RIVER PARKWAY NB RAMP

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
Volume	498	1292			1025	179				27		1287	
% Heavy Veh	0	5			5	0				0		0	
PHF	0.92	0.92			0.92	0.92				0.92		0.92	
PK 15 Vol	135	351			279	49				7		350	
Hi Ln Vol													
% Grade		0			0						0		
Ideal Sat	1900	1900			1900	1900				1900		1900	
ParkExist													
NumPark													
No. Lanes		1	2	0	0	2	1	0	0	0	1	0	2
LGConfig		L	T			T	R			L	T	R	
Lane Width	12.0	12.0			12.0	12.0				12.0		12.0	
RTOR Vol						0						0	
Adj Flow	541	1404			1114	195				29		1399	
%InSharedLn													
Prop LTs	1.000	0.000			0.000								
Prop RTs		0.000			0.000	1.000						1.000	
Peds Bikes					0			0		0			
Buses	0	0			0	0				0		0	
%InProtPhase	0.0												
Duration	0.25												

Area Type: All other areas

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0			0.0	0.0				0.0		0.0
Arriv. Type	3	3			3	3				3		3
Unit Ext.	3.0	3.0			3.0	3.0				3.0		3.0
I Factor		1.000			1.000						1.000	
Lost Time	2.0	2.0			2.0	2.0				2.0		2.0
Ext of g	2.0	2.0			2.0	2.0				2.0		2.0
Ped Min g					3.2			3.2			3.2	

HCS+: Unsignalized Intersections Release 5.2

Phone: Fax:
 E-Mail:

-----ALL-WAY STOP CONTROL(AWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 21PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: DOCK STREET
 North/South Street: BUENA VISTA AVENUE

-----Worksheet 2 - Volume Adjustments and Site Characteristics-----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	0	0	137	0	42	0	179	59	94	392	0
% Thrus Left Lane												

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LR		TR		LT	
PHF			0.92		0.92		0.92	
Flow Rate			193		258		528	
% Heavy Veh			5		5		5	
No. Lanes				1		1		1
Opposing-Lanes				0		1		1
Conflicting-lanes				1		1		1
Geometry group				1		1		1
Duration, T	0.25 hrs.							

-----Worksheet 3 - Saturation Headway Adjustment Worksheet-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane			193		258		528	
Left-Turn			148		0		102	
Right-Turn			45		64		0	
Prop. Left-Turns			0.8		0.0		0.2	
Prop. Right-Turns			0.2		0.2		0.0	
Prop. Heavy Vehicle			0.0		0.0		0.0	
Geometry Group				1		1		1
Adjustments Exhibit 17-33:								
hLT-adj				0.2		0.2		0.2

hRT-adj	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7
hadj, computed	0.1	-0.1	0.1

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate			193		258		528	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.17		0.23		0.47	
hd, final value			5.95		5.17		5.01	
x, final value			0.32		0.37		0.73	
Move-up time, m				2.0		2.0		2.0
Service Time			4.0		3.2		3.0	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate			193		258		528	
Service Time			4.0		3.2		3.0	
Utilization, x			0.32		0.37		0.73	
Dep. headway, hd			5.95		5.17		5.01	
Capacity			443		508		708	
Delay			11.71		11.19		20.56	
LOS			B		B		C	
Approach:								
Delay			11.71		11.19		20.56	
LOS			B		B		C	
Intersection Delay 16.35			Intersection LOS C					

HCS+: Unsignalized Intersections Release 5.2

Phone:
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Fax:

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 21SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: DOCK STREET
 North/South Street: BUENA VISTA AVENUE

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	0	0	109	0	34	0	142	47	75	305	0
% Thrus Left Lane												

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LR		TR		LT	
PHF			0.92		0.92		0.92	
Flow Rate			154		205		412	
% Heavy Veh			5		5		5	
No. Lanes				1		1		1
Opposing-Lanes				0		1		1
Conflicting-lanes				1		1		1
Geometry group				1		1		1
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane			154		205		412	
Left-Turn			118		0		81	
Right-Turn			36		51		0	
Prop. Left-Turns			0.8		0.0		0.2	
Prop. Right-Turns			0.2		0.2		0.0	
Prop. Heavy Vehicle			0.0		0.0		0.0	
Geometry Group				1		1		1
Adjustments Exhibit 17-33:								
hLT-adj				0.2		0.2		0.2

hRT-adj	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7
hadj, computed	0.1	-0.1	0.1

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate			154		205		412	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.14		0.18		0.37	
hd, final value			5.47		4.80		4.74	
x, final value			0.23		0.27		0.54	
Move-up time, m				2.0		2.0		2.0
Service Time			3.5		2.8		2.7	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate			154		205		412	
Service Time			3.5		2.8		2.7	
Utilization, x			0.23		0.27		0.54	
Dep. headway, hd			5.47		4.80		4.74	
Capacity			404		455		662	
Delay			10.14		9.59		13.21	
LOS			B		A		B	
Approach:								
Delay			10.14		9.59		13.21	
LOS			B		A		B	
Intersection Delay	11.63							
					Intersection LOS	B		

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 22PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: BEUNA VISTA AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	12	36	89	34	53	49	131	176	8	22	336	13
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				25.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 591 1418 0.25 0.42 11.6 B 11.6 B

Westbound

LTR 579 1389 0.26 0.42 11.7 B 11.7 B

Northbound

LTR 446 1071 0.77 0.42 22.9 C 22.9 C

Southbound

LTR 652 1566 0.62 0.42 15.5 B 15.5 B

Intersection Delay = 16.8 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 22PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: BEUNA VISTA AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	12	36	89	34	53	49	131	176	8	22	336	13
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	3	10	24	9	14	13	36	48	2	6	91	4
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow		149			148			342			403	
%InSharedLn												
Prop LTs		0.087			0.250			0.415			0.060	
Prop RTs		0.651			0.358			0.026			0.035	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.3			3.3			3.3			3.3	

Analyst: JCE Inter.: 22SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: BEUNA VISTA AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	9	33	89	27	42	39	104	139	7	18	261	10
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				25.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 593 1423 0.24 0.42 11.6 B 11.6 B

Westbound

LTR 584 1401 0.20 0.42 11.3 B 11.3 B

Northbound

LTR 510 1224 0.53 0.42 14.2 B 14.2 B

Southbound

LTR 655 1573 0.48 0.42 13.3 B 13.3 B

Intersection Delay = 13.0 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 22SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: BEUNA VISTA AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	9	33	89	27	42	39	104	139	7	18	261	10
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	3	9	24	7	11	11	28	38	2	5	71	3
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow		143			117			272			315	
%InSharedLn												
Prop LTs		0.070			0.248			0.415			0.063	
Prop RTs		0.678			0.359			0.029			0.035	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0			0			0		
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.3			3.3			3.3			3.3	

TWO-WAY STOP CONTROL SUMMARY

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 23PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: HUDSON STREET
 North/South Street: BUENA VISTA AVENUE
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		324	14	47	453		
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR		352	15	51	492		
Percent Heavy Vehicles		--	--	5	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		21		32			
Peak Hour Factor, PHF		0.92		0.92			
Hourly Flow Rate, HFR		22		34			
Percent Heavy Vehicles		5		5			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
			4	7	8	9	10	11
Movement	1	4						
Lane Config		LT			LR			
v (vph)		51			56			
C(m) (vph)		1175			426			
v/c		0.04			0.13			
95% queue length		0.14			0.45			
Control Delay		8.2			14.7			
LOS		A			B			
Approach Delay					14.7			
Approach LOS					B			

HCS+: Unsignalized Intersections Release 5.2

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-----TWO-WAY STOP CONTROL(TWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 23PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: HUDSON STREET
 North/South Street: BUENA VISTA AVENUE
 Intersection Orientation: NS Study period (hrs): 0.25

-----Vehicle Volumes and Adjustments-----

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume		324	14	47	453	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Peak-15 Minute Volume		88	4	13	123	
Hourly Flow Rate, HFR		352	15	51	492	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	1	0		0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume		21	32			
Peak Hour Factor, PHF		0.92	0.92			
Peak-15 Minute Volume		6	9			
Hourly Flow Rate, HFR		22	34			
Percent Heavy Vehicles		5	5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
RT Channelized?						
Lanes	0		0			
Configuration		LR				

-----Pedestrian Volumes and Adjustments-----

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

TWO-WAY STOP CONTROL SUMMARY

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 23SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: HUDSON STREET
 North/South Street: BUENA VISTA AVENUE
 Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		256	11	37	372		
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR		278	11	40	404		
Percent Heavy Vehicles		--	--	5	--	--	
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		17		25			
Peak Hour Factor, PHF		0.92		0.92			
Hourly Flow Rate, HFR		18		27			
Percent Heavy Vehicles		5		5			
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage				No	/		/
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			4 LT	7	8 LR	9	10	11
v (vph)	40				45			
C(m) (vph)	1256				518			
v/c	0.03				0.09			
95% queue length	0.10				0.28			
Control Delay	8.0				12.6			
LOS	A				B			
Approach Delay					12.6			
Approach LOS					B			

HCS+: Unsignalized Intersections Release 5.2

Phone:
E-Mail:

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-----TWO-WAY STOP CONTROL(TWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 23SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: HUDSON STREET
 North/South Street: BUENA VISTA AVENUE
 Intersection Orientation: NS Study period (hrs): 0.25

-----Vehicle Volumes and Adjustments-----

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume		256	11	37	372	
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	
Peak-15 Minute Volume		70	3	10	101	
Hourly Flow Rate, HFR		278	11	40	404	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	1	0		0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	17		25			
Peak Hour Factor, PHF	0.92		0.92			
Peak-15 Minute Volume	5		7			
Hourly Flow Rate, HFR	18		27			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
RT Channelized?						
Lanes	0		0			
Configuration		LR				

-----Pedestrian Volumes and Adjustments-----

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 24PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN STREET/DOCK STREET N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	0	0	1	1	0	0	2	0
LGConfig	LTR						L	TR		LTR		
Volume	26	76	100				77	315	169	25	846	114
Lane Width	15.0						12.0	12.0		12.0		
RTOR Vol	0						0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left					SB Left	A		
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				25.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 686 1646 0.32 0.42 12.1 B 12.1 B

Westbound

Northbound

L 120 259 0.70 0.42 31.0 C
 TR 636 1527 0.83 0.42 24.4 C 25.3 C

Southbound

LTR 1182 2836 0.91 0.42 26.5 C 26.5 C

Intersection Delay = 24.5 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 24PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN STREET/DOCK STREET N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	26	76	100				77	315	169	25	846	114
% Heavy Veh	5	5	5				5	5	5	5	5	5
PHF	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	7	21	27				21	86	46	7	230	31
Hi Ln Vol												
% Grade		0						0			0	
Ideal Sat		1900					1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	0	0	1	1	0	0	2	0
LGConfig		LTR					L	TR			LTR	
Lane Width		15.0					12.0	12.0			12.0	
RTOR Vol			0						0			0
Adj Flow		220					84	526			1071	
%InSharedLn												
Prop LTs		0.127					1.000	0.000			0.025	
Prop RTs		0.495						0.350			0.116	
Peds Bikes	25	0		0			25	0		25	0	
Buses	0						0	0		0		
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0					0.0	0.0			0.0	
Arriv. Type		3					3	3			3	
Unit Ext.		3.0					3.0	3.0			3.0	
I Factor		1.000						1.000			1.000	
Lost Time		2.0					2.0	2.0			2.0	
Ext of g		2.0					2.0	2.0			2.0	
Ped Min g		3.3			3.2			3.3			3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 24SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN STREET/DOCK STREET N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	0	0	1	1	0	0	2	0
LGConfig	LTR						L	TR		LTR		
Volume	20	61	80				62	276	135	20	787	92
Lane Width	15.0						12.0	12.0		12.0		
RTOR Vol	0						0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
WB Left					SB Left	A		
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				25.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 686 1646 0.26 0.42 11.6 B 11.6 B

Westbound

Northbound

L 127 305 0.53 0.42 17.2 B
 TR 639 1533 0.70 0.42 17.8 B 17.7 B

Southbound

LTR 1192 2861 0.82 0.42 20.2 C 20.2 C

Intersection Delay = 18.5 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 24SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: NEPPERHAN STREET/DOCK STREET N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	20	61	80				62	276	135	20	787	92
% Heavy Veh	5	5	5				5	5	5	5	5	5
PHF	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	5	17	22				17	75	37	5	214	25
Hi Ln Vol												
% Grade		0						0			0	
Ideal Sat		1900					1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	0	0	1	1	0	0	2	0
LGConfig		LTR					L	TR			LTR	
Lane Width		15.0					12.0	12.0			12.0	
RTOR Vol			0						0			0
Adj Flow		175					67	447			977	
%InSharedLn												
Prop LTs		0.126					1.000	0.000			0.023	
Prop RTs		0.497						0.329			0.102	
Peds Bikes	25		0	0			25		0	25		0
Buses		0					0	0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0					0.0	0.0			0.0	
Arriv. Type		3					3	3			3	
Unit Ext.		3.0					3.0	3.0			3.0	
I Factor		1.000						1.000			1.000	
Lost Time		2.0					2.0	2.0			2.0	
Ext of g		2.0					2.0	2.0			2.0	
Ped Min g		3.3			3.2			3.3			3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 25PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: WARBURTON AVE / RIVERDALE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig	LR			LTR			L	T		TR		
Volume	47		163	201	68	146	117	349		796	56	
Lane Width	15.0			15.0			12.0	12.0		12.0		
RTOR Vol	0			0						0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds		X			Peds	X	X	
WB Left		A			SB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X			Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LR	463	1322	0.49	0.35	26.4	C	26.4	C
Westbound								
LTR	573	1636	0.79	0.35	36.4	D	36.4	D
Northbound								
L	345	1539	0.37	0.55	26.6	C		
T	1706	3101	0.22	0.55	11.6	B	15.4	B
Southbound								
TR	1226	3064	0.76	0.40	28.5	C	28.5	C

Intersection Delay = 26.8 (sec/veh) Intersection LOS = C

Phone: Fax:
 E-Mail:

----- OPERATIONAL ANALYSIS -----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 25PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: WARBURTON AVE / RIVERDALE AVE

----- VOLUME DATA -----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	47		163	201	68	146	117	349			796	56
% Heavy Veh	5		5	5	5	5	5	5			5	5
PHF	0.92		0.92	0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol	13		44	55	18	40	32	95			216	15
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig		LR			LTR		L	T			TR	
Lane Width		15.0			15.0		12.0	12.0			12.0	
RTOR Vol			0			0						0
Adj Flow		228			451		127	379			926	
%InSharedLn												
Prop LTs		0.224			0.483		1.000	0.000			0.000	
Prop RTs		0.776			0.353			0.000			0.066	
Peds Bikes	25	0		25	0					25	0	
Buses		0			0		0	0			0	
%InProtPhase							0.0					
Duration	0.25											

Area Type: CBD or Similar

----- OPERATING PARAMETERS -----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0			0.0	
Arriv. Type		3			3		3	3			3	
Unit Ext.		3.0			3.0		3.0	3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0			2.0	
Ext of g		2.0			2.0		2.0	2.0			2.0	
Ped Min g		3.4			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 25SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: WARBURTON AVE / RIVERDALE AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig	LR			LTR			L	T		TR		
Volume	38		113	143	54	140	99	280		746	45	
Lane Width	15.0			15.0			12.0	12.0		12.0		
RTOR Vol	0			0						0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds		X			Peds	X	X	
WB Left		A			SB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X			Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LR	473	1352	0.35	0.35	24.5	C	24.5	C
Westbound								
LTR	569	1626	0.64	0.35	29.8	C	29.8	C
Northbound								
L	364	1538	0.30	0.55	23.1	C		
T	1706	3101	0.18	0.55	11.3	B	14.4	B
Southbound								
TR	1228	3069	0.70	0.40	26.8	C	26.8	C

Intersection Delay = 24.4 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 25SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MAIN STREET N/S St: WARBURTON AVE / RIVERDALE AVE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	38		113	143	54	140	99	280			746	45
% Heavy Veh	5		5	5	5	5	5	5			5	5
PHF	0.92		0.92	0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol	10		31	39	15	38	27	76			203	12
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig		LR			LTR		L	T			TR	
Lane Width		15.0			15.0		12.0	12.0			12.0	
RTOR Vol			0			0						0
Adj Flow		164			366		108	304			860	
%InSharedLn												
Prop LTs		0.250			0.423		1.000	0.000			0.000	
Prop RTs		0.750			0.415			0.000			0.057	
Peds Bikes		25	0		25	0					25	0
Buses		0			0		0	0			0	
%InProtPhase							0.0					
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0			0.0	
Arriv. Type		3			3		3	3			3	
Unit Ext.		3.0			3.0		3.0	3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0			2.0	
Ext of g		2.0			2.0		2.0	2.0			2.0	
Ped Min g		3.4			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 26PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	0	0	0	2	1	1	2	0
LGConfig	LTR						T R			L T		
Volume	15	64	38				400	289		328	783	
Lane Width	15.0						12.0	12.0		12.0	12.0	
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left			
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
WB Left					SB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				40.0	15.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	507	1689	0.25	0.30	26.8	C	26.8	C
Westbound								
Northbound								
T	1240	3101	0.35	0.40	21.1	C	22.8	C
R	536	1341	0.59	0.40	25.2	C		
Southbound								
L	598	1530	0.60	0.60	18.8	B		
T	1861	3101	0.46	0.60	11.2	B	13.5	B

Intersection Delay = 17.6 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 26PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	15	64	38				400	289		328	783	
% Heavy Veh	5	5	5				5	5		5	5	
PHF	0.92	0.92	0.92				0.92	0.92		0.92	0.92	
PK 15 Vol	4	17	10				109	79		89	213	
Hi Ln Vol												
% Grade		0					0				0	
Ideal Sat		1900					1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	0	0	0	2	1	1	2	0
LGConfig		LTR						T	R	L	T	
Lane Width		15.0					12.0	12.0		12.0	12.0	
RTOR Vol			0					0				
Adj Flow		127					435	314		357	851	
%InSharedLn												
Prop LTs		0.126					0.000			1.000	0.000	
Prop RTs		0.323					0.000	1.000		0.000		
Peds Bikes	25	0		0			25	0		0	0	
Buses	0						0	0		0	0	
%InProtPhase										0.0		
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0					0.0	0.0		0.0	0.0	
Arriv. Type		3					3	3		3	3	
Unit Ext.		3.0					3.0	3.0		3.0	3.0	
I Factor		1.000					1.000			1.000		
Lost Time		2.0					2.0	2.0		2.0	2.0	
Ext of g		2.0					2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.2		3.4					

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 26SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	0	0	0	2	1	1	2	0
LGConfig	LTR						T R			L T		
Volume	12	51	31				327	354		369	594	
Lane Width	15.0						12.0	12.0		12.0	12.0	
RTOR Vol	0						0					

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left			
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
WB Left					SB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				40.0	15.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 506 1686 0.20 0.30 26.3 C 26.3 C

Westbound

Northbound

T 1240 3101 0.29 0.40 20.5 C 25.4 C
 R 536 1341 0.72 0.40 29.9 C

Southbound

L 636 1528 0.63 0.60 18.4 B
 T 1861 3101 0.35 0.60 10.2 B 13.3 B

Intersection Delay = 18.7 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 26SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HUDSON STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	12	51	31				327	354		369	594	
% Heavy Veh	5	5	5				5	5		5	5	
PHF	0.92	0.92	0.92				0.92	0.92		0.92	0.92	
PK 15 Vol	3	14	8				89	96		100	161	
Hi Ln Vol												
% Grade		0					0				0	
Ideal Sat		1900					1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	0	0	0	2	1	1	2	0
LGConfig		LTR						T	R	L	T	
Lane Width		15.0					12.0	12.0		12.0	12.0	
RTOR Vol			0					0				
Adj Flow		102					355	385		401	646	
%InSharedLn												
Prop LTs		0.127					0.000			1.000	0.000	
Prop RTs		0.333					0.000	1.000		0.000		
Peds Bikes	25	0		0			25	0		0	0	
Buses	0						0	0		0	0	
%InProtPhase										0.0		
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0					0.0	0.0		0.0	0.0	
Arriv. Type		3					3	3		3	3	
Unit Ext.		3.0					3.0	3.0		3.0	3.0	
I Factor		1.000					1.000			1.000		
Lost Time		2.0					2.0	2.0		2.0	2.0	
Ext of g		2.0					2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.2		3.4					

Analyst: JCE Inter.: 27PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PROSPECT STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	2	0	1	2	1
LGConfig	LTR			L	TR		L	TR		L	T	R
Volume	13	393	54	482	502	212	119	498	347	374	510	58
Lane Width	12.0			12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds	X	X			Peds	X	X	X
WB Left	A	A			SB Left		A	A
Thru	A	A			Thru		A	A
Right	A	A			Right		A	A
Peds	X	X			Peds	X	X	X
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	10.0			8.0	20.0	12.0	
Yellow	3.0	3.0			3.0	3.0	3.0	
All Red	2.0	2.0			2.0	2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 678 2710 0.74 0.25 38.7 D 38.7 D

Westbound

L 360 1534 1.46 0.40 256.6 F
 TR 1179 2947 0.66 0.40 25.8 C 118.8 F

Northbound

L 216 1534 0.60 0.33 29.9 C
 TR 951 2883 0.97 0.33 54.1 D 51.1 D

Southbound

L 334 1539 1.22 0.37 161.0 F
 T 1147 3101 0.48 0.37 24.5 C 78.5 E
 R 502 1356 0.13 0.37 20.9 C

Intersection Delay = 79.5 (sec/veh) Intersection LOS = E

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 27PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PROSPECT STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	13	393	54	482	502	212	119	498	347	374	510	58
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	4	107	15	131	136	58	32	135	94	102	139	16
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900		1900	1900		1900	1900		1900	1900	1900
ParkExist												
NumPark												
No. Lanes	0	2	0	1	2	0	1	2	0	1	2	1
LGConfig		LTR		L	TR		L	TR		L	T	R
Lane Width		12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0
Adj Flow		500		524	776		129	918		407	554	63
%InSharedLn												
Prop LTs		0.028		1.000	0.000		1.000	0.000		1.000	0.000	
Prop RTs		0.118		0.296			0.411			0.000	1.000	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0	0		0	0		0	0	0
%InProtPhase				0.0			0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Arriv. Type		3		3	3		3	3		3	3	3
Unit Ext.		3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ext of g		2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 27SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PROSPECT STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	1	2	0	1	2	1
LGConfig	LTR			L	TR		L	TR		L	T	R
Volume	11	327	44	454	398	175	96	521	278	283	391	47
Lane Width	12.0			12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A	A	
Right	A				Right	A	A	
Peds	X	X			Peds	X	X	X
WB Left	A	A			SB Left		A	A
Thru	A	A			Thru		A	A
Right	A	A			Right		A	A
Peds	X	X			Peds	X	X	X
NB Right					EB Right			
SB Right					WB Right			
Green	20.0	15.0			10.0	20.0	10.0	
Yellow	3.0	3.0			3.0	3.0	3.0	
All Red	2.0	2.0			2.0	2.0	2.0	

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 562 2812 0.74 0.20 42.7 D 42.7 D

Westbound

L 421 1532 1.17 0.40 134.9 F
 TR 1177 2942 0.53 0.40 23.3 C 72.6 E

Northbound

L 282 1531 0.37 0.35 24.0 C
 TR 1021 2917 0.85 0.35 37.0 D 35.6 D

Southbound

L 326 1538 0.94 0.35 72.6 E
 T 1085 3101 0.39 0.35 24.7 C 43.3 D
 R 474 1355 0.11 0.35 22.1 C

Intersection Delay = 50.9 (sec/veh) Intersection LOS = D

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 27SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: PROSPECT STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	11	327	44	454	398	175	96	521	278	283	391	47
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	3	89	12	123	108	48	26	142	76	77	106	13
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900		1900	1900		1900	1900		1900	1900	1900
ParkExist												
NumPark												
No. Lanes	0	2	0	1	2	0	1	2	0	1	2	1
LGConfig		LTR		L	TR		L	TR		L	TR	
Lane Width		12.0		12.0	12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			0			0			0			0
Adj Flow		415		493	623		104	868		308	425	51
%InSharedLn												
Prop LTs		0.029		1.000	0.000		1.000	0.000		1.000	0.000	
Prop RTs		0.116		0.305			0.348			0.000	1.000	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses		0		0	0		0	0		0	0	0
%InProtPhase				0.0			0.0			0.0		
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Arriv. Type		3		3	3		3	3		3	3	3
Unit Ext.		3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ext of g		2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 28PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	92	83	39	46	28	64	42	808	156	224	784	45
Lane Width	15.0			15.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	379	1363	0.61	0.28	31.2	C	31.2	C
Westbound								
LTR	384	1384	0.39	0.28	27.0	C	27.0	C
Northbound								
L	412	1539	0.11	0.61	14.1	B		
TR	1339	3012	0.78	0.44	24.4	C	24.0	C
Southbound								
L	370	1541	0.66	0.61	31.2	C		
TR	1365	3071	0.66	0.44	20.8	C	23.1	C

Intersection Delay = 24.4 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 28PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	92	83	39	46	28	64	42	808	156	224	784	45
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	25	23	11	12	8	17	11	220	42	61	213	12
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig		LTR			LTR		L	TR		L	TR	
Lane Width		15.0			15.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0
Adj Flow		232			150		46	1048		243	901	
%InSharedLn												
Prop LTs		0.431			0.333		1.000	0.000		1.000	0.000	
Prop RTs		0.181			0.467			0.162			0.054	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0		0	0		0	0	
%InProtPhase							0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0		0.0	0.0	
Arriv. Type		3			3		3	3		3	3	
Unit Ext.		3.0			3.0		3.0	3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Ext of g		2.0			2.0		2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 28SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	74	66	31	36	22	51	34	769	125	179	678	36
Lane Width	15.0			15.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0		10.0	
Yellow	3.0				3.0		3.0	
All Red	2.0				2.0		2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	397	1428	0.47	0.28	27.9	C	27.9	C
Westbound								
LTR	395	1423	0.30	0.28	26.0	C	26.0	C
Northbound								
L	452	1538	0.08	0.61	11.9	B		
TR	1344	3024	0.72	0.44	22.4	C	22.0	C
Southbound								
L	391	1540	0.50	0.61	23.7	C		
TR	1366	3073	0.57	0.44	19.1	B	20.1	C

Intersection Delay = 21.9 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 28SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	74	66	31	36	22	51	34	769	125	179	678	36
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	20	18	8	10	6	14	9	209	34	49	184	10
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig		LTR			LTR		L	TR		L	TR	
Lane Width		15.0			15.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0
Adj Flow		186			118		37	972		195	776	
%InSharedLn												
Prop LTs		0.430			0.331		1.000	0.000		1.000	0.000	
Prop RTs		0.183			0.466			0.140			0.050	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses		0			0		0	0		0	0	
%InProtPhase							0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0		0.0	0.0	
Arriv. Type		3			3		3	3		3	3	
Unit Ext.		3.0			3.0		3.0	3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Ext of g		2.0			2.0		2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 29PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig				LTR			L	T		TR		
Volume				33	21	30	28	903		858		22
Lane Width				15.0			12.0	12.0		12.0		
RTOR Vol							0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds	X				Peds	X	X	
WB Left	A				SB Left			
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0		10.0	
Yellow	3.0				3.0		3.0	
All Red	2.0				2.0		2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LTR 460 1656 0.20 0.28 25.1 C 25.1 C

Northbound

L 395 1540 0.08 0.61 14.5 B
 T 1895 3101 0.52 0.61 10.2 B 10.3 B

Southbound

TR 1372 3087 0.70 0.44 21.7 C 21.7 C

Intersection Delay = 16.3 (sec/veh) Intersection LOS = B

Phone: Fax:
E-Mail:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 29PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				33	21	30	28	903			858	22
% Heavy Veh				5	5	5	5	5			5	5
PHF				0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol				9	6	8	8	245			233	6
Hi Ln Vol												
% Grade					0			0			0	
Ideal Sat					1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig					LTR		L	T			TR	
Lane Width					15.0		12.0	12.0			12.0	
RTOR Vol						0						0
Adj Flow					92		30	982			957	
%InSharedLn												
Prop LTs					0.391		1.000	0.000			0.000	
Prop RTs					0.359			0.000			0.025	
Peds Bikes	0			25	0					25	0	
Buses				0			0	0		0		
%InProtPhase							0.0					
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0		0.0	0.0			0.0	
Arriv. Type					3		3	3			3	
Unit Ext.					3.0		3.0	3.0			3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0		2.0	2.0			2.0	
Ext of g					2.0		2.0	2.0			2.0	
Ped Min g		3.2			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 29SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig				LTR			L	T		TR		
Volume				26	17	24	22	846		738	18	
Lane Width				15.0			12.0	12.0		12.0		
RTOR Vol						0						0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A	A	
Right					Right			
Peds	X				Peds	X	X	
WB Left	A				SB Left			
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LTR 460 1655 0.16 0.28 24.7 C 24.7 C

Northbound

L 436 1538 0.06 0.61 12.2 B
 T 1895 3101 0.49 0.61 9.9 A 9.9 A

Southbound

TR 1372 3087 0.60 0.44 19.7 B 19.7 B

Intersection Delay = 14.9 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 29SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				26	17	24	22	846			738	18
% Heavy Veh				5	5	5	5	5			5	5
PHF				0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol				7	5	7	6	230			201	5
Hi Ln Vol												
% Grade					0			0			0	
Ideal Sat					1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig					LTR		L	T			TR	
Lane Width					15.0		12.0	12.0			12.0	
RTOR Vol						0						0
Adj Flow					72		24	920			822	
%InSharedLn												
Prop LTs					0.389		1.000	0.000			0.000	
Prop RTs					0.361			0.000			0.024	
Peds Bikes	0				25	0					25	0
Buses					0		0	0			0	
%InProtPhase							0.0					
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0		0.0	0.0			0.0	
Arriv. Type					3		3	3			3	
Unit Ext.					3.0		3.0	3.0			3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0		2.0	2.0			2.0	
Ext of g					2.0		2.0	2.0			2.0	
Ped Min g		3.2			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 30PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig	LR			LTR			L	T		TR		
Volume	74		103	84	40	160	38	730		914	41	
Lane Width		15.0			15.0		12.0	12.0		12.0		
RTOR Vol			0			0						0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds		X			Peds	X	X	
WB Left		A			SB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X			Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 307 1104 0.63 0.28 32.4 C 32.4 C

Westbound

LTR 443 1593 0.70 0.28 33.8 C 33.8 C

Northbound

L 373 1541 0.11 0.61 16.5 B
 T 1895 3101 0.42 0.61 9.3 A 9.6 A

Southbound

TR 1368 3077 0.76 0.44 23.5 C 23.5 C

Intersection Delay = 20.7 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 30PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	74		103	84	40	160	38	730			914	41
% Heavy Veh	5		5	5	5	5	5	5			5	5
PHF	0.92		0.92	0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol	20		28	23	11	43	10	198			248	11
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig		LR			LTR		L	T			TR	
Lane Width		15.0			15.0		12.0	12.0			12.0	
RTOR Vol			0			0						0
Adj Flow		192			308		41	793			1038	
%InSharedLn												
Prop LTs		0.417			0.295		1.000	0.000			0.000	
Prop RTs		0.583			0.565			0.000			0.043	
Peds Bikes	25	0		25	0					25	0	
Buses		0			0		0	0			0	
%InProtPhase							0.0					
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0			0.0	
Arriv. Type		3			3		3	3			3	
Unit Ext.		3.0			3.0		3.0	3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0			2.0	
Ext of g		2.0			2.0		2.0	2.0			2.0	
Ped Min g		3.4			3.4						3.4	

Analyst: JCE Inter.: 30SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig	LR			LTR			L	T		TR		
Volume	59		82	67	32	128	31	708		783	33	
Lane Width	15.0			15.0			12.0	12.0		12.0		
RTOR Vol	0			0						0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds		X			Peds	X	X	
WB Left		A			SB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds		X			Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 340 1225 0.45 0.28 27.8 C 27.8 C

Westbound

LTR 443 1594 0.56 0.28 29.3 C 29.3 C

Northbound

L 416 1539 0.08 0.61 13.5 B
 T 1895 3101 0.41 0.61 9.2 A 9.4 A

Southbound

TR 1368 3078 0.65 0.44 20.6 C 20.6 C

Intersection Delay = 17.8 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 30SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	59		82	67	32	128	31	708			783	33
% Heavy Veh	5		5	5	5	5	5	5			5	5
PHF	0.92		0.92	0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol	16		22	18	9	35	8	192			213	9
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	1	2	0	0	2	0
LGConfig		LR			LTR		L	T			TR	
Lane Width		15.0			15.0		12.0	12.0			12.0	
RTOR Vol			0			0						0
Adj Flow		153			247		34	770			887	
%InSharedLn												
Prop LTs		0.418			0.296		1.000	0.000			0.000	
Prop RTs		0.582			0.563			0.000			0.041	
Peds Bikes	25		0	25		0				25		0
Buses		0			0		0	0			0	
%InProtPhase							0.0					
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0			0.0	
Arriv. Type		3			3		3	3			3	
Unit Ext.		3.0			3.0		3.0	3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0			2.0	
Ext of g		2.0			2.0		2.0	2.0			2.0	
Ped Min g		3.4			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 31PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	2	0	1	2	0
LGConfig					LR			TR		L	T	
Volume				80		125	571	72		145	685	
Lane Width					15.0		12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X	X	
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LR 441 1586 0.51 0.28 28.3 C 28.3 C

Northbound

TR 1351 3039 0.52 0.44 18.4 B 18.4 B

Southbound

L 480 1536 0.33 0.61 14.0 B
 T 1895 3101 0.39 0.61 9.1 A 10.0- A

Intersection Delay = 15.4 (sec/veh) Intersection LOS = B

Phone: Fax:
E-Mail:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 31PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
Volume				80		125		571	72		145	685	
% Heavy Veh				5		5		5	5		5	5	
PHF				0.92		0.92		0.92	0.92		0.92	0.92	
PK 15 Vol				22		34		155	20		39	186	
Hi Ln Vol													
% Grade					0			0				0	
Ideal Sat					1900			1900			1900	1900	
ParkExist													
NumPark													
No. Lanes	0	0	0	0	0	0	0	2	0		1	2	0
LGConfig					LR			TR			L	T	
Lane Width					15.0			12.0			12.0	12.0	
RTOR Vol						0			0				
Adj Flow					223			699			158	745	
%InSharedLn													
Prop LTs						0.390			0.000		1.000	0.000	
Prop RTs					0.610			0.112				0.000	
Peds Bikes	0				25	0		25	0				
Buses					0			0			0	0	
%InProtPhase											0.0		
Duration	0.25			Area Type: CBD or Similar									

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0			0.0			0.0	0.0
Arriv. Type					3			3			3	3
Unit Ext.					3.0			3.0			3.0	3.0
I Factor					1.000			1.000				1.000
Lost Time					2.0			2.0			2.0	2.0
Ext of g					2.0			2.0			2.0	2.0
Ped Min g		3.2			3.4			3.4				

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 31SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	2	0	1	2	0
LGConfig					LR			TR		L	T	
Volume				64		100	580	58		116	600	
Lane Width					15.0		12.0			12.0	12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X	X	
WB Left		A			SB Left	A	A	
Thru					Thru	A	A	
Right		A			Right			
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay LOS		Approach Delay LOS	
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Eastbound

Westbound

LR 441 1586 0.41 0.28 27.1 C 27.1 C

Northbound

TR 1356 3051 0.51 0.44 18.3 B 18.3 B

Southbound

L 482 1536 0.26 0.61 12.9 B
 T 1895 3101 0.34 0.61 8.7 A 9.4 A

Intersection Delay = 15.1 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 31SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				64		100		580	58		116	600
% Heavy Veh				5		5		5	5		5	5
PHF				0.92		0.92		0.92	0.92		0.92	0.92
PK 15 Vol				17		27		158	16		32	163
Hi Ln Vol												
% Grade					0			0				0
Ideal Sat					1900			1900			1900	1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	2	0	1	2	0
LGConfig					LR			TR		L	T	
Lane Width					15.0			12.0		12.0	12.0	
RTOR Vol						0			0			
Adj Flow					179			693		126	652	
%InSharedLn												
Prop LTs					0.391			0.000		1.000	0.000	
Prop RTs					0.609			0.091			0.000	
Peds Bikes	0			25	0		25	0		0	0	
Buses					0			0			0	
%InProtPhase											0.0	
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0			0.0		0.0	0.0	
Arriv. Type					3			3		3	3	
Unit Ext.					3.0			3.0		3.0	3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0			2.0		2.0	2.0	
Ext of g					2.0			2.0		2.0	2.0	
Ped Min g		3.2			3.4			3.4				

Analyst: Inter.: 32PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	14	58	63	47	57	110	71	512	54	92	590	19
Lane Width	15.0			15.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	441	1587	0.33	0.28	26.3	C	26.3	C
Westbound								
LTR	411	1479	0.57	0.28	29.7	C	29.7	C
Northbound								
L	494	1536	0.16	0.61	11.3	B		
TR	1355	3048	0.45	0.44	17.6	B	16.9	B
Southbound								
L	512	1535	0.20	0.61	11.1	B		
TR	1370	3083	0.48	0.44	18.0	B	17.1	B

Intersection Delay = 19.4 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst:

Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 32PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	14	58	63	47	57	110	71	512	54	92	590	19
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	4	16	17	13	15	30	19	139	15	25	160	5
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig		LTR			LTR		L	TR		L	TR	
Lane Width		15.0			15.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0
Adj Flow		146			233		77	616		100	662	
%InSharedLn												
Prop LTs		0.103			0.219		1.000	0.000		1.000	0.000	
Prop RTs		0.466			0.515			0.096			0.032	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses		0			0		0	0		0	0	
%InProtPhase							0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0		0.0	0.0	
Arriv. Type		3			3		3	3		3	3	
Unit Ext.		3.0			3.0		3.0	3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Ext of g		2.0			2.0		2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 32SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: RIVERDALE AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	11	47	50	37	46	88	57	533	43	74	523	15
Lane Width	15.0			15.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				40.0	10.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	444	1599	0.26	0.28	25.6	C	25.6	C
Westbound								
LTR	417	1500	0.45	0.28	27.6	C	27.6	C
Northbound								
L	525	1534	0.12	0.61	10.0-	A		
TR	1360	3059	0.46	0.44	17.7	B	17.0	B
Southbound								
L	508	1535	0.16	0.61	10.8	B		
TR	1372	3086	0.43	0.44	17.3	B	16.6	B

Intersection Delay = 18.6 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 32SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: RIVERDALE AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	11	47	50	37	46	88	57	533	43	74	523	15
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	3	13	14	10	12	24	15	145	12	20	142	4
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	0
LGConfig		LTR			LTR		L	TR		L	TR	
Lane Width		15.0			15.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0
Adj Flow		117			186		62	626		80	584	
%InSharedLn												
Prop LTs		0.103			0.215		1.000	0.000		1.000	0.000	
Prop RTs		0.462			0.516			0.075			0.027	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0			0	0		0	0	
%InProtPhase							0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0		0.0	0.0	
Arriv. Type		3			3		3	3		3	3	
Unit Ext.		3.0			3.0		3.0	3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Ext of g		2.0			2.0		2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 33PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	72	144	82	130	78	27	15	385	52	25	334	58
Lane Width	15.0			15.0			12.0			12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X	X			Peds	X		
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	20.0			40.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 417 1667 0.78 0.25 43.9 D 43.9 D

Westbound

LTR 333 1667 0.77 0.20 48.0 D 48.0 D

Northbound

LTR 626 1565 0.78 0.40 32.7 C 32.7 C

Southbound

LTR 609 1522 0.74 0.40 30.6 C 30.6 C

Intersection Delay = 37.0 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 33PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	72	144	82	130	78	27	15	385	52	25	334	58
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	20	39	22	35	21	7	4	105	14	7	91	16
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow		324			255			491			453	
%InSharedLn												
Prop LTs		0.241			0.553			0.033			0.060	
Prop RTs		0.275			0.114			0.116			0.139	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 33SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	58	115	65	129	63	21	12	417	42	20	260	47
Lane Width	15.0			15.0			12.0			12.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X	X			Peds	X		
WB Left		A			SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	20.0			40.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 417 1666 0.62 0.25 36.1 D 36.1 D

Westbound

LTR 332 1660 0.70 0.20 43.4 D 43.4 D

Northbound

LTR 634 1584 0.81 0.40 34.2 C 34.2 C

Southbound

LTR 608 1519 0.59 0.40 25.0 C 25.0 C

Intersection Delay = 33.7 (sec/veh) Intersection LOS = C

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 33SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VARK STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	58	115	65	129	63	21	12	417	42	20	260	47
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	16	31	18	35	17	6	3	113	11	5	71	13
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			12.0			12.0	
RTOR Vol			0			0			0			0
Adj Flow		259			231			512			356	
%InSharedLn												
Prop LTs		0.243			0.606			0.025			0.062	
Prop RTs		0.274			0.100			0.090			0.143	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

Analyst: JCE Inter.: 34PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig	LR			LTR			LT			TR		
Volume	32		31	17	63	210	50	415		475	69	
Lane Width	15.0			15.0			12.0			12.0		
RTOR Vol	0			0						0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru					Thru	A		
Right	A				Right			
Peds	X				Peds	X		
WB Left	A				SB Left			
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				50.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 430 1291 0.16 0.33 21.3 C 21.3 C

Westbound

LTR 521 1564 0.60 0.33 27.0 C 27.0 C

Northbound

LT 810 1458 0.62 0.56 15.1 B 15.1 B

Southbound

TR 887 1596 0.67 0.56 16.0 B 16.0 B

Intersection Delay = 18.3 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 34PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	32		31	17	63	210	50	415			475	69
% Heavy Veh	5		5	5	5	5	5	5			5	5
PHF	0.92		0.92	0.92	0.92	0.92	0.92	0.92			0.92	0.92
PK 15 Vol	9		8	5	17	57	14	113			129	19
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig		LR			LTR			LT			TR	
Lane Width		15.0			15.0			12.0			12.0	
RTOR Vol			0			0						0
Adj Flow		69			314			505			591	
%InSharedLn												
Prop LTs		0.507			0.057			0.107			0.000	
Prop RTs		0.493			0.726			0.000			0.127	
Peds Bikes	25	0		25	0					25	0	
Buses	0			0				0		0		
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 34SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig	LR			LTR			LT			TR		
Volume	25		25	14	50	168	40	441		398	55	
Lane Width	15.0			15.0			12.0			12.0		
RTOR Vol	0			0						0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru					Thru	A		
Right	A				Right			
Peds	X				Peds	X		
WB Left	A				SB Left			
Thru	A				Thru	A		
Right	A				Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				50.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 440 1319 0.12 0.33 21.0 C 21.0 C

Westbound

LTR 521 1564 0.48 0.33 24.6 C 24.6 C

Northbound

LT 844 1519 0.62 0.56 14.9 B 14.9 B

Southbound

TR 887 1597 0.56 0.56 13.6 B 13.6 B

Intersection Delay = 16.5 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 34SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: HERRIOT STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	25		25	14	50	168	40	441		398	55	
% Heavy Veh	5		5	5	5	5	5	5		5	5	
PHF	0.92		0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	
PK 15 Vol	7		7	4	14	46	11	120		108	15	
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	1	0	0	1	0	0	1	0
LGConfig		LR			LTR			LT			TR	
Lane Width		15.0			15.0			12.0			12.0	
RTOR Vol			0			0						0
Adj Flow		54			252			522			493	
%InSharedLn												
Prop LTs		0.500			0.060			0.082			0.000	
Prop RTs		0.500			0.726			0.000			0.122	
Peds Bikes	25		0	25		0				25		0
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4						3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 35PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: BRIGHT PLACE N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				40		36	787	31		4	626	
Lane Width					15.0		12.0				12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X		
WB Left		A			SB Left	A		
Thru					Thru	A		
Right		A			Right			
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				50.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LR 535 1604 0.15 0.33 21.2 C 21.2 C

Northbound

TR 899 1619 0.99 0.56 46.9 D 46.9 D

Southbound

LT 901 1622 0.76 0.56 19.2 B 19.2 B

Intersection Delay = 34.2 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 35PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: BRIGHT PLACE N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				40		36		787	31		4	626
% Heavy Veh				5		5		5	5		5	5
PHF				0.92		0.92		0.92	0.92		0.92	0.92
PK 15 Vol				11		10		214	8		1	170
Hi Ln Vol												
% Grade					0			0				0
Ideal Sat					1900			1900				1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Lane Width					15.0			12.0			12.0	
RTOR Vol						0			0			
Adj Flow					82			889			684	
%InSharedLn												
Prop LTs					0.524			0.000			0.006	
Prop RTs					0.476			0.038			0.000	
Peds Bikes	0			25		0	25		0			
Buses					0			0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0			0.0			0.0	
Arriv. Type					3			3			3	
Unit Ext.					3.0			3.0			3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0			2.0			2.0	
Ext of g					2.0			2.0			2.0	
Ped Min g		3.2			3.4			3.4				

Analyst: JCE Inter.: 35SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: BRIGHT PLACE N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				32		29	738	25		3	518	
Lane Width					15.0		12.0				12.0	
RTOR Vol						0		0				

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X		
WB Left		A			SB Left	A		
Thru					Thru	A		
Right		A			Right			
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				50.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

LR 535 1604 0.13 0.33 21.0 C 21.0 C

Northbound

TR 900 1620 0.92 0.56 32.7 C 32.7 C

Southbound

LT 902 1624 0.63 0.56 15.0 B 15.0 B

Intersection Delay = 25.3 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 35SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: BRIGHT PLACE N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				32		29		738	25		3	518
% Heavy Veh				5		5		5	5		5	5
PHF				0.92		0.92		0.92	0.92		0.92	0.92
PK 15 Vol				9		8		201	7		1	141
Hi Ln Vol												
% Grade					0			0				0
Ideal Sat					1900			1900				1900
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Lane Width					15.0			12.0			12.0	
RTOR Vol						0			0			
Adj Flow					67			829			566	
%InSharedLn												
Prop LTs					0.522			0.000			0.005	
Prop RTs					0.478			0.033			0.000	
Peds Bikes	0			25		0	25		0			
Buses					0			0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet					0.0			0.0			0.0	
Arriv. Type					3			3			3	
Unit Ext.					3.0			3.0			3.0	
I Factor					1.000			1.000			1.000	
Lost Time					2.0			2.0			2.0	
Ext of g					2.0			2.0			2.0	
Ped Min g		3.2			3.4			3.4				

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 36PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig							L	T			TR	
Volume							216	743			623	156
Lane Width							12.0	12.0			12.0	
RTOR Vol												0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A		
Right					Right			
Peds					Peds	X	X	
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green						55.0	25.0	
Yellow						3.0	3.0	
All Red						2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

Northbound

L	770	1536	0.31	0.94	3.5	A		
T	995	1629	0.81	0.61	18.7	B	15.3	B

Southbound

TR	961	1572	0.88	0.61	24.4	C	24.4	C
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Intersection Delay = 19.4 (sec/veh) Intersection LOS = B

Analyst: JCE Inter.: 36SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig							L	T			TR	
Volume							173	703			516	125
Lane Width							12.0	12.0			12.0	
RTOR Vol												0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A	A	
Thru					Thru	A		
Right					Right			
Peds					Peds	X	X	
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green						55.0	25.0	
Yellow						3.0	3.0	
All Red						2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

Northbound

L	826	1533	0.23	0.94	2.2	A		
T	995	1629	0.77	0.61	16.5	B	13.7	B

Southbound

TR	961	1573	0.73	0.61	15.0	B	15.0	B
----	-----	------	------	------	------	---	------	---

Intersection Delay = 14.2 (sec/veh) Intersection LOS = B

Phone: Fax:
E-Mail:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 36SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LUDLOW STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume							173	703			516	125
% Heavy Veh							5	5			5	5
PHF							0.92	0.92			0.92	0.92
PK 15 Vol							47	191			140	34
Hi Ln Vol												
% Grade								0			0	
Ideal Sat							1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig							L	T			TR	
Lane Width							12.0	12.0			12.0	
RTOR Vol												0
Adj Flow							188	764			697	
%InSharedLn												
Prop LTs							1.000	0.000			0.000	
Prop RTs								0.000			0.195	
Peds Bikes											50	0
Buses							0	0			0	
%InProtPhase							0.0					
Duration	0.25											
Area Type: CBD or Similar												

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet							0.0	0.0			0.0	
Arriv. Type							3	3			3	
Unit Ext.							3.0	3.0			3.0	
I Factor								1.000			1.000	
Lost Time							2.0	2.0			2.0	
Ext of g							2.0	2.0			2.0	
Ped Min g											3.5	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 37PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MCLEAN AVENUE N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				175		414		411	54	387	516	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right	A		
Green	20.0					15.0	40.0	
Yellow	3.0					3.0	3.0	
All Red	2.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	344	1547	0.55	0.22	33.0	C	29.2	C
R	581	1307	0.77	0.44	27.7	C		

Northbound

TR	710	1598	0.71	0.44	23.7	C	23.7	C
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Southbound

L	485	1535	0.87	0.67	26.4	C		
T	1086	1629	0.52	0.67	8.1	A	15.9	B

Intersection Delay = 21.8 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 37PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MCLEAN AVENUE N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				175		414		411	54		387	516
% Heavy Veh				5		5		5	5		5	5
PHF				0.92		0.92		0.92	0.92		0.92	0.92
PK 15 Vol				48		112		112	15		105	140
Hi Ln Vol												
% Grade					0			0				0
Ideal Sat				1900		1900		1900			1900	1900
ParkExist												
NumPark												
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L		T
Lane Width				12.0		12.0		12.0		12.0		12.0
RTOR Vol						0			0			
Adj Flow				190		450		506			421	561
%InSharedLn												
Prop LTs								0.000		1.000	0.000	
Prop RTs						1.000		0.117			0.000	
Peds Bikes	0				25	0		25	0			
Buses				0		0		0		0	0	
%InProtPhase						0.0				0.0		
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet				0.0		0.0		0.0		0.0	0.0	
Arriv. Type				3		3		3		3	3	
Unit Ext.				3.0		3.0		3.0		3.0	3.0	
I Factor					1.000			1.000			1.000	
Lost Time				2.0		2.0		2.0		2.0	2.0	
Ext of g				2.0		2.0		2.0		2.0	2.0	
Ped Min g		3.2			3.4			3.4				

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 37SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MCLEAN AVENUE N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L	T	
Volume				140		387		382	43	318	423	
Lane Width				12.0		12.0		12.0		12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru					Thru	A	A	
Right	A				Right			
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right	A		
Green	25.0					10.0	40.0	
Yellow	3.0					3.0	3.0	
All Red	2.0					2.0	2.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	430	1547	0.35	0.28	26.5	C	25.1	C
R	588	1322	0.72	0.44	24.5	C		

Northbound

TR	712	1602	0.65	0.44	21.6	C	21.6	C
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Southbound

L	419	1533	0.83	0.61	31.7	C		
T	995	1629	0.46	0.61	9.8	A	19.2	B

Intersection Delay = 21.6 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 37SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: MCLEAN AVENUE N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume				140		387		382	43		318	423
% Heavy Veh				5		5		5	5		5	5
PHF				0.92		0.92		0.92	0.92		0.92	0.92
PK 15 Vol				38		105		104	12		86	115
Hi Ln Vol												
% Grade					0			0				0
Ideal Sat				1900		1900		1900			1900	1900
ParkExist												
NumPark												
No. Lanes	0	0	0	1	0	1	0	1	0	1	1	0
LGConfig				L		R		TR		L		T
Lane Width				12.0		12.0		12.0		12.0		12.0
RTOR Vol						0			0			
Adj Flow				152		421		462			346	460
%InSharedLn												
Prop LTs								0.000		1.000	0.000	
Prop RTs						1.000		0.102			0.000	
Peds Bikes	0				25	0		25	0			
Buses				0		0		0		0		0
%InProtPhase						0.0					0.0	
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet				0.0		0.0		0.0		0.0	0.0	
Arriv. Type				3		3		3		3	3	
Unit Ext.				3.0		3.0		3.0		3.0	3.0	
I Factor					1.000			1.000			1.000	
Lost Time				2.0		2.0		2.0		2.0	2.0	
Ext of g				2.0		2.0		2.0		2.0	2.0	
Ped Min g		3.2			3.4			3.4				

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 38PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	1	0	1	1	0
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	58	163	42	87	211	60	84	371	57	48	342	64
Lane Width	15.0			15.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				10.0	35.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	469	1406	0.61	0.33	27.4	C	27.4	C
Westbound								
LTR	465	1394	0.84	0.33	40.3	D	40.3	D
Northbound								
L	370	1532	0.25	0.56	11.8	B		
TR	618	1589	0.75	0.39	28.9	C	26.1	C
Southbound								
L	355	1532	0.15	0.56	11.6	B		
TR	615	1582	0.72	0.39	27.4	C	25.7	C

Intersection Delay = 29.4 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 38PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	58	163	42	87	211	60	84	371	57	48	342	64
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	16	44	11	24	57	16	23	101	15	13	93	17
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	1	1	0	1	1	0
LGConfig		LTR			LTR		L	TR		L	TR	
Lane Width		15.0			15.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0
Adj Flow		286			389		91	465		52	442	
%InSharedLn												
Prop LTs		0.220			0.244		1.000	0.000		1.000	0.000	
Prop RTs		0.161			0.167			0.133			0.158	
Peds Bikes	25		0	25		0	25		0	25		0
Buses		0			0		0	0		0	0	
%InProtPhase							0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0		0.0	0.0	
Arriv. Type		3			3		3	3		3	3	
Unit Ext.		3.0			3.0		3.0	3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Ext of g		2.0			2.0		2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

Analyst: JCE Inter.: 38SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	1	0	1	1	0
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	47	131	34	70	169	48	67	350	46	38	283	51
Lane Width	15.0			15.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds	X				Peds	X	X	
WB Left	A				SB Left	A	A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds	X				Peds	X	X	
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				10.0	35.0		
Yellow	3.0				3.0	3.0		
All Red	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	501	1504	0.46	0.33	24.3	C	24.3	C
Westbound								
LTR	497	1492	0.63	0.33	27.8	C	27.8	C
Northbound								
L	424	1529	0.17	0.56	10.7	B		
TR	620	1594	0.69	0.39	26.4	C	24.1	C
Southbound								
L	378	1531	0.11	0.56	11.0	B		
TR	616	1584	0.59	0.39	23.3	C	22.0	C

Intersection Delay = 24.4 (sec/veh) Intersection LOS = C

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 38SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: RADFORD STREET N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	47	131	34	70	169	48	67	350	46	38	283	51
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	13	36	9	19	46	13	18	95	12	10	77	14
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat		1900			1900		1900	1900		1900	1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	1	1	0	1	1	0
LGConfig		LTR			LTR		L	TR		L	TR	
Lane Width		15.0			15.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0
Adj Flow		230			312		73	430		41	363	
%InSharedLn												
Prop LTs		0.222			0.244		1.000	0.000		1.000	0.000	
Prop RTs		0.161			0.167			0.116			0.152	
Peds Bikes	25	0		25	0		25	0		25	0	
Buses	0			0			0	0		0	0	
%InProtPhase							0.0			0.0		
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0		0.0	0.0		0.0	0.0	
Arriv. Type		3			3		3	3		3	3	
Unit Ext.		3.0			3.0		3.0	3.0		3.0	3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0		2.0	2.0		2.0	2.0	
Ext of g		2.0			2.0		2.0	2.0		2.0	2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 39PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig	LR						L	T		TR		
Volume	198		180				101	522		378	91	
Lane Width	15.0						12.0	12.0		12.0		
RTOR Vol	0									0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru					Thru	A		
Right	A				Right			
Peds	X				Peds	X		
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds	X				Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				35.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 574 1606 0.72 0.36 23.7 C 23.7 C

Westbound

Northbound

L 289 578 0.38 0.50 11.6 B
 T 815 1629 0.70 0.50 16.0 B 15.3 B

Southbound

TR 789 1578 0.65 0.50 14.8 B 14.8 B

Intersection Delay = 17.3 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 39PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	198		180				101	522			378	91
% Heavy Veh	5		5				5	5			5	5
PHF	0.92		0.92				0.92	0.92			0.92	0.92
PK 15 Vol	54		49				27	142			103	25
Hi Ln Vol												
% Grade		0						0			0	
Ideal Sat		1900					1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig		LR					L	T			TR	
Lane Width		15.0					12.0	12.0			12.0	
RTOR Vol			0									0
Adj Flow		411					110	567			510	
%InSharedLn												
Prop LTs		0.523					1.000	0.000			0.000	
Prop RTs		0.477						0.000			0.194	
Peds Bikes	25		0	0						25		0
Buses		0					0	0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0					0.0	0.0			0.0	
Arriv. Type		3					3	3			3	
Unit Ext.		3.0					3.0	3.0			3.0	
I Factor		1.000						1.000			1.000	
Lost Time		2.0					2.0	2.0			2.0	
Ext of g		2.0					2.0	2.0			2.0	
Ped Min g		3.3			3.2						3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 39SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: S. BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig	LR						L	T		TR		
Volume	159		144				81	471		312	73	
Lane Width	15.0						12.0	12.0		12.0		
RTOR Vol	0									0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru					Thru	A		
Right		A			Right			
Peds		X			Peds	X		
WB Left					SB Left			
Thru					Thru	A		
Right					Right	A		
Peds		X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				35.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 70.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 574 1606 0.57 0.36 19.6 B 19.6 B

Westbound

Northbound

L 337 673 0.26 0.50 10.5 B
 T 815 1629 0.63 0.50 14.3 B 13.7 B

Southbound

TR 790 1580 0.53 0.50 12.6 B 12.6 B

Intersection Delay = 14.8 (sec/veh) Intersection LOS = B

Phone:
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Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 39SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: VALENTINE LANE N/S St: S. BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	159		144				81	471			312	73
% Heavy Veh	5		5				5	5			5	5
PHF	0.92		0.92				0.92	0.92			0.92	0.92
PK 15 Vol	43		39				22	128			85	20
Hi Ln Vol												
% Grade		0						0			0	
Ideal Sat		1900					1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	1	1	0	0	1	0
LGConfig		LR					L	T			TR	
Lane Width		15.0					12.0	12.0			12.0	
RTOR Vol			0									0
Adj Flow		330					88	512			418	
%InSharedLn												
Prop LTs		0.524					1.000	0.000			0.000	
Prop RTs		0.476						0.000			0.189	
Peds Bikes	25	0		0						25	0	
Buses	0						0	0		0		
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0					0.0	0.0			0.0	
Arriv. Type		3					3	3			3	
Unit Ext.		3.0					3.0	3.0			3.0	
I Factor		1.000						1.000			1.000	
Lost Time		2.0					2.0	2.0			2.0	
Ext of g		2.0					2.0	2.0			2.0	
Ped Min g		3.3			3.2						3.3	

Analyst: Inter.: 40PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (WEST)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L	LR	R
Volume	230	1651			1069	140				129		287
Lane Width	12.0	12.0			12.0	12.0				12.0	12.0	12.0
RTOR Vol						0						0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		A			Thru			
Right					Right			
Peds		X	X		Peds	X		
WB Left					SB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds		X	X		Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		50.0	10.0			25.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	348	1542	0.72	0.65	37.7	D		
T	2016	3101	0.89	0.65	20.0-	B	22.1	C
Westbound								
T	1551	3101	0.75	0.50	22.1	C	21.2	C
R	675	1350	0.23	0.50	14.3	B		
Northbound								
Southbound								
L	387	1547	0.27	0.25	30.6	C		
LR	347	1388	0.33	0.25	31.2	C	36.2	D
R	329	1315	0.71	0.25	41.2	D		
Intersection Delay = 23.5 (sec/veh)					Intersection LOS = C			

Phone: Fax:
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OPERATIONAL ANALYSIS

Analyst:
Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
Date Performed: 3/26/2007
Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
Intersection: 40PMBD
Area Type: CBD or Similar
Jurisdiction: W/ BALLPARK
Analysis Year: 2012 BUILD TRAFFIC VOLUMES
Project ID: 281
E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (WEST)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	230	1651			1069	140				129		287
% Heavy Veh	5	5			5	5				5		5
PHF	0.92	0.92			0.92	0.92				0.92		0.92
PK 15 Vol	62	449			290	38				35		78
Hi Ln Vol												
% Grade		0			0						0	
Ideal Sat	1900	1900			1900	1900				1900	1900	1900
ParkExist												
NumPark												
No. Lanes		1	2	0		0	2	1		0	0	0
LGConfig		L	T				T	R		L	LR	R
Lane Width	12.0	12.0			12.0	12.0				12.0	12.0	12.0
RTOR Vol						0						0
Adj Flow	250	1795			1162	152				105	113	234
%InSharedLn										25		25
Prop LTs	1.000	0.000			0.000						0.310	
Prop RTs		0.000			0.000	1.000					0.690	1.000
Peds Bikes					25	0		0			25	0
Buses	0	0			0	0				0	0	0
%InProtPhase	0.0											
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Arriv. Type	3	3			3	3				3	3	3
Unit Ext.	3.0	3.0			3.0	3.0				3.0	3.0	3.0
I Factor		1.000			1.000						1.000	
Lost Time	2.0	2.0			2.0	2.0				2.0	2.0	2.0
Ext of g	2.0	2.0			2.0	2.0				2.0	2.0	2.0
Ped Min g					3.4			3.2			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 40SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (WEST)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L	LR	R
Volume	184	1338			969	112				103		230
Lane Width	12.0	12.0			12.0	12.0				12.0	12.0	12.0
RTOR Vol						0						0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		A			Thru			
Right					Right			
Peds		X	X		Peds	X		
WB Left					SB Left	A		
Thru		A			Thru			
Right		A			Right	A		
Peds		X	X		Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		50.0	10.0			25.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	376	1541	0.53	0.65	25.8	C		
T	2016	3101	0.72	0.65	12.8	B	14.4	B
Westbound								
T	1551	3101	0.68	0.50	20.1	C	19.5	B
R	675	1350	0.18	0.50	13.9	B		
Northbound								
Southbound								
L	387	1547	0.22	0.25	30.0	C		
LR	347	1386	0.26	0.25	30.5	C	32.8	C
R	329	1315	0.57	0.25	35.2	D		
Intersection Delay = 18.4 (sec/veh)					Intersection LOS = B			

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 40SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (WEST)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	184	1338			969	112				103		230
% Heavy Veh	5	5			5	5				5		5
PHF	0.92	0.92			0.92	0.92				0.92		0.92
PK 15 Vol	50	364			263	30				28		62
Hi Ln Vol												
% Grade		0			0						0	
Ideal Sat	1900	1900			1900	1900				1900	1900	1900
ParkExist												
NumPark												
No. Lanes	1	2	0	0	2	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L	LR	R
Lane Width	12.0	12.0			12.0	12.0				12.0	12.0	12.0
RTOR Vol						0						0
Adj Flow	200	1454			1053	122				84	90	188
%InSharedLn										25		25
Prop LTs	1.000	0.000			0.000						0.311	
Prop RTs		0.000			0.000	1.000					0.694	1.000
Peds Bikes					25	0		0			25	0
Buses	0	0			0	0				0	0	0
%InProtPhase	0.0											
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Arriv. Type	3	3			3	3				3	3	3
Unit Ext.	3.0	3.0			3.0	3.0				3.0	3.0	3.0
I Factor		1.000			1.000						1.000	
Lost Time	2.0	2.0			2.0	2.0				2.0	2.0	2.0
Ext of g	2.0	2.0			2.0	2.0				2.0	2.0	2.0
Ped Min g					3.4			3.2			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 41PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (EAST)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	0	1	0
LGConfig	L	TR		L	TR		L	TR			LTR	
Volume	55	896	16	110	962	7	205	36	88	10	17	42
Lane Width	12.0	12.0		12.0	12.0		10.0	10.0			15.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	50.0	10.0			25.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	175	349	0.34	0.50	16.3	B		
TR	1546	3091	0.64	0.50	19.3	B	19.1	B
Westbound								
L	394	1541	0.30	0.65	17.5	B		
TR	2013	3097	0.52	0.65	9.5	A	10.3	B
Northbound								
L	268	1072	0.83	0.25	55.0+	E		
TR	633	2530	0.21	0.25	29.9	C	45.5	D
Southbound								
LTR	385	1540	0.19	0.25	29.8	C	29.8	C

Intersection Delay = 19.1 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 41PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (EAST)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	55	896	16	110	962	7	205	36	88	10	17	42
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	15	243	4	30	261	2	56	10	24	3	5	11
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat	1900	1900		1900	1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	0	1	2	0	0	1	0
LGConfig	L	TR		L	TR		L	TR			LTR	
Lane Width	12.0	12.0		12.0	12.0		10.0	10.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow	60	991		120	1054		223	135			75	
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000		1.000	0.000			0.147	
Prop RTs		0.017			0.008			0.711			0.613	
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0		0	0			0	
%InProtPhase				0.0								
Duration	0.25											
				Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Arriv. Type	3	3		3	3		3	3			3	
Unit Ext.	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Ext of g	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 41SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (EAST)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	0	1	2	0	0	1	0
LGConfig	L	TR		L	TR		L	TR			LTR	
Volume	44	734	13	88	883	6	164	29	70	10	14	34
Lane Width	12.0	12.0		12.0	12.0		10.0	10.0			15.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left		A	A		SB Left	A		
Thru		A	A		Thru	A		
Right		A	A		Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	50.0	10.0			25.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	199	397	0.24	0.50	14.8	B		
TR	1546	3091	0.53	0.50	17.3	B	17.1	B
Westbound								
L	452	1538	0.21	0.65	12.7	B		
TR	2013	3097	0.48	0.65	9.1	A	9.4	A
Northbound								
L	267	1068	0.67	0.25	40.0	D		
TR	634	2534	0.17	0.25	29.5	C	36.0	D
Southbound								
LTR	385	1540	0.16	0.25	29.5	C	29.5	C

Intersection Delay = 16.2 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 41SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: MIDLAND AVENUE (EAST)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	44	734	13	88	883	6	164	29	70	10	14	34
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	12	199	4	24	240	2	45	8	19	3	4	9
Hi Ln Vol												
% Grade		0			0			0			0	
Ideal Sat	1900	1900		1900	1900		1900	1900			1900	
ParkExist												
NumPark												
No. Lanes	1	2	0	1	2	0	1	2	0	0	1	0
LGConfig	L	TR		L	TR		L	TR			LTR	
Lane Width	12.0	12.0		12.0	12.0		10.0	10.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow	48	812		96	967		178	108			63	
%InSharedLn												
Prop LTs	1.000	0.000		1.000	0.000		1.000	0.000			0.175	
Prop RTs		0.017			0.007			0.704			0.587	
Peds Bikes		25	0		25	0		25	0		25	0
Buses	0	0		0	0		0	0			0	
%InProtPhase				0.0								
Duration	0.25											
				Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Arriv. Type	3	3		3	3		3	3			3	
Unit Ext.	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Ext of g	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 42PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SEMINARY AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	0	2	0	0	0	0	0	0	0
LGConfig	LT			TR						LR		
Volume	52	809			952	87				66		92
Lane Width	12.0			12.0						15.0		
RTOR Vol							0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left			
Thru	A	A			Thru			
Right					Right			
Peds	X	X			Peds	X		
WB Left					SB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	40.0	20.0			25.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT 1575 3091 0.59 0.65 10.6 B 10.6 B

Westbound

TR 1222 3054 0.92 0.40 40.4 D 40.4 D

Northbound

Southbound

LR 397 1589 0.43 0.25 32.3 C 32.3 C

Intersection Delay = 27.3 (sec/veh) Intersection LOS = C

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 42PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SEMINARY AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	52	809			952	87				66		92
% Heavy Veh	5	5			5	5				5		5
PHF	0.92	0.92			0.92	0.92				0.92		0.92
PK 15 Vol	14	220			259	24				18		25
Hi Ln Vol												
% Grade		0			0						0	
Ideal Sat		1900			1900						1900	
ParkExist												
NumPark												
No. Lanes	0	2	0	0	2	0	0	0	0	0	0	0
LGConfig		LT			TR						LR	
Lane Width		12.0			12.0						15.0	
RTOR Vol						0						0
Adj Flow		936			1130						172	
%InSharedLn												
Prop LTs		0.061			0.000						0.419	
Prop RTs		0.000			0.084						0.581	
Peds Bikes					25	0		0			25	0
Buses		0			0						0	
%InProtPhase	0.0											
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0						0.0	
Arriv. Type		3			3						3	
Unit Ext.		3.0			3.0						3.0	
I Factor		1.000			1.000						1.000	
Lost Time		2.0			2.0						2.0	
Ext of g		2.0			2.0						2.0	
Ped Min g					3.4			3.2			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 42SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SEMINARY AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	0	2	0	0	0	0	0	0	0
LGConfig	LT			TR						LR		
Volume	42	665			875	70				53		74
Lane Width	12.0			12.0						15.0		
RTOR Vol							0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left			
Thru	A	A			Thru			
Right					Right			
Peds	X	X			Peds	X		
WB Left					SB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	40.0	20.0			25.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LT 1666 3091 0.46 0.65 9.0 A 9.0 A

Westbound

TR 1224 3059 0.84 0.40 32.4 C 32.4 C

Northbound

Southbound

LR 397 1589 0.35 0.25 31.3 C 31.3 C

Intersection Delay = 23.0 (sec/veh) Intersection LOS = C

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 42SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: SEMINARY AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	42	665			875	70				53		74
% Heavy Veh	5	5			5	5				5		5
PHF	0.92	0.92			0.92	0.92				0.92		0.92
PK 15 Vol	11	181			238	19				14		20
Hi Ln Vol												
% Grade		0			0						0	
Ideal Sat		1900			1900						1900	
ParkExist												
NumPark												
No. Lanes	0	2	0	0	2	0	0	0	0	0	0	0
LGConfig		LT			TR						LR	
Lane Width		12.0			12.0						15.0	
RTOR Vol						0						0
Adj Flow		769			1027						138	
%InSharedLn												
Prop LTs		0.060			0.000						0.420	
Prop RTs		0.000			0.074						0.580	
Peds Bikes					25	0		0			25	0
Buses		0			0						0	
%InProtPhase	0.0											
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0						0.0	
Arriv. Type		3			3						3	
Unit Ext.		3.0			3.0						3.0	
I Factor		1.000			1.000						1.000	
Lost Time		2.0			2.0						2.0	
Ext of g		2.0			2.0						2.0	
Ped Min g					3.4			3.2			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 43PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2006 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (SB)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig	TR			L	T					LTR		
Volume	637	226		276	672					138	159	308
Lane Width	12.0			12.0						12.0		
RTOR Vol	0									0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru		A			Thru			
Right		A			Right			
Peds	X	X			Peds	X		
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	35.0	55.0			35.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1164 2964 0.81 0.39 42.0 D 42.0 D

Westbound

L 485 1543 0.62 0.68 25.3 C
 T 2104 3101 0.35 0.68 9.6 A 14.1 B

Northbound

Southbound

LTR 697 2788 0.94 0.25 73.0 E 73.0 E

Intersection Delay = 38.9 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2006
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 43PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (SB)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume		637	226	276	672					138	159	308
% Heavy Veh		5	5	5	5					5	5	5
PHF		0.92	0.92	0.92	0.92					0.92	0.92	0.92
PK 15 Vol		173	61	75	183					37	43	84
Hi Ln Vol												
% Grade		0			0					0		
Ideal Sat		1900		1900	1900					1900		
ParkExist												
NumPark												
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T					LTR		
Lane Width		12.0		12.0	12.0					12.0		
RTOR Vol			0									0
Adj Flow		938		300	730					658		
%InSharedLn												
Prop LTs		0.000		1.000	0.000					0.228		
Prop RTs		0.262		0.000						0.509		
Peds Bikes		25	0				0			25	0	
Buses		0		0	0					0		
%InProtPhase				0.0								
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0					0.0		
Arriv. Type		3		3	3					3		
Unit Ext.		3.0		3.0	3.0					3.0		
I Factor		1.000			1.000					1.000		
Lost Time		2.0		2.0	2.0					2.0		
Ext of g		2.0		2.0	2.0					2.0		
Ped Min g		3.5						3.2		3.5		

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 43SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (SB)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig	TR			L	T					LTR		
Volume	519	189		220	595					110	127	302
Lane Width	12.0			12.0	12.0				12.0			
RTOR Vol	0									0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru		A			Thru			
Right		A			Right			
Peds	X	X			Peds	X		
WB Left	A	A			SB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	35.0	55.0			35.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

TR 1164 2962 0.66 0.39 36.3 D 36.3 D

Westbound

L 534 1542 0.45 0.68 12.8 B
 T 2104 3101 0.31 0.68 9.2 A 10.2 B

Northbound

Southbound

LTR 691 2764 0.85 0.25 59.7 E 59.7 E

Intersection Delay = 32.1 (sec/veh) Intersection LOS = C

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 43SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (SB)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume		519	189	220	595					110	127	302
% Heavy Veh		5	5	5	5					5	5	5
PHF		0.92	0.92	0.92	0.92					0.92	0.92	0.92
PK 15 Vol		141	51	60	162					30	35	82
Hi Ln Vol												
% Grade		0			0					0		
Ideal Sat		1900		1900	1900					1900		
ParkExist												
NumPark												
No. Lanes	0	2	0	1	2	0	0	0	0	0	2	0
LGConfig		TR		L	T					LTR		
Lane Width		12.0		12.0	12.0					12.0		
RTOR Vol			0									0
Adj Flow		769		239	647					586		
%InSharedLn												
Prop LTs		0.000		1.000	0.000					0.205		
Prop RTs		0.267			0.000					0.560		
Peds Bikes		25	0				0			25	0	
Buses		0		0	0					0		
%InProtPhase				0.0								
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0		0.0	0.0						0.0	
Arriv. Type		3		3	3					3		
Unit Ext.		3.0		3.0	3.0					3.0		
I Factor		1.000			1.000					1.000		
Lost Time		2.0		2.0	2.0					2.0		
Ext of g		2.0		2.0	2.0					2.0		
Ped Min g		3.5						3.2		3.5		

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 44PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (NB)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	2	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Volume	298	477			472	371	476	180	217			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds		X			Peds	X		
WB Left					SB Left			
Thru				A	Thru			
Right				A	Right			
Peds		X		X	Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		35.0	55.0			35.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	627	1540	0.52	0.68	11.3	B		
T	2104	3101	0.25	0.68	8.7	A	9.7	A
Westbound								
T	1218	3101	0.42	0.39	31.2	C	36.3	D
R	533	1358	0.76	0.39	42.8	D		
Northbound								
LT	748	2992	0.95	0.25	73.8	E	69.0	E
R	336	1343	0.70	0.25	54.2	D		
Southbound								

Intersection Delay = 39.5 (sec/veh) Intersection LOS = D

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 44PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (NB)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	298	477		472	371		476	180	217			
% Heavy Veh	5	5		5	5		5	5	5			
PHF	0.92	0.92		0.92	0.92		0.92	0.92	0.92			
PK 15 Vol	81	130		128	101		129	49	59			
Hi Ln Vol												
% Grade		0		0			0					
Ideal Sat	1900	1900		1900	1900		1900	1900				
ParkExist												
NumPark												
No. Lanes	1	2	0	0	2	1	0	2	1	0	0	0
LGConfig	L	T		T	R		LT	R				
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0				
RTOR Vol					0			0				
Adj Flow	324	518		513	403		713	236				
%InSharedLn												
Prop LTs	1.000	0.000		0.000			0.725					
Prop RTs		0.000		0.000	1.000		0.000	1.000				
Peds Bikes				25	0		25	0		0		
Buses	0	0		0	0		0	0				
%InProtPhase	0.0											
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0		0.0	0.0		0.0	0.0				
Arriv. Type	3	3		3	3		3	3				
Unit Ext.	3.0	3.0		3.0	3.0		3.0	3.0				
I Factor		1.000		1.000			1.000					
Lost Time	2.0	2.0		2.0	2.0		2.0	2.0				
Ext of g	2.0	2.0		2.0	2.0		2.0	2.0				
Ped Min g				3.5			3.5			3.2		

Analyst: JCE Inter.: 44SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (NB)

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	2	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Volume	248	382			382	297	434	144	174			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds		X			Peds	X		
WB Left					SB Left			
Thru				A	Thru			
Right				A	Right			
Peds		X		X	Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green		35.0	55.0			35.0		
Yellow		3.0	3.0			3.0		
All Red		2.0	2.0			2.0		

Cycle Length: 140.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	670	1538	0.40	0.68	9.9	A		
T	2104	3101	0.20	0.68	8.4	A	9.0	A
Westbound								
T	1218	3101	0.34	0.39	30.0	C	32.5	C
R	533	1358	0.61	0.39	35.8	D		
Northbound								
LT	747	2989	0.84	0.25	58.5	E	56.1	E
R	336	1343	0.56	0.25	48.0	D		
Southbound								

Intersection Delay = 33.9 (sec/veh) Intersection LOS = C

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 44SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: YONKERS AVENUE N/S St: CENTRAL PARK AVENUE (NB)

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	248	382			382	297	434	144	174			
% Heavy Veh	5	5			5	5	5	5	5			
PHF	0.92	0.92			0.92	0.92	0.92	0.92	0.92			
PK 15 Vol	67	104			104	81	118	39	47			
Hi Ln Vol												
% Grade		0			0			0				
Ideal Sat	1900	1900			1900	1900		1900	1900			
ParkExist												
NumPark												
No. Lanes	1	2	0	0	2	1	0	2	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						0			0			
Adj Flow	270	415			415	323		629	189			
%InSharedLn												
Prop LTs	1.000	0.000			0.000			0.750				
Prop RTs		0.000			0.000	1.000		0.000	1.000			
Peds Bikes					25	0		25	0	0		
Buses	0	0			0	0		0	0			
%InProtPhase	0.0											
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet	0.0	0.0			0.0	0.0		0.0	0.0			
Arriv. Type	3	3			3	3		3	3			
Unit Ext.	3.0	3.0			3.0	3.0		3.0	3.0			
I Factor		1.000			1.000			1.000				
Lost Time	2.0	2.0			2.0	2.0		2.0	2.0			
Ext of g	2.0	2.0			2.0	2.0		2.0	2.0			
Ped Min g					3.5			3.5			3.2	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 45PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	14	19	34	25	34	39	59	335	20	24	347	33
Lane Width	15.0			15.0			15.0			15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left		P			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 505 1514 0.14 0.33 14.6 B 14.6 B

Westbound

LTR 540 1620 0.20 0.33 15.1 B 15.1 B

Northbound

LTR 794 1588 0.57 0.50 13.4 B 13.4 B

Southbound

LTR 853 1706 0.51 0.50 12.3 B 12.3 B

Intersection Delay = 13.2 (sec/veh) Intersection LOS = B

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 45PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	14	19	34	25	34	39	59	335	20	24	347	33
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	4	5	9	7	9	11	16	91	5	7	94	9
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			15.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow		73			106			450			439	
%InSharedLn												
Prop LTs		0.205			0.255			0.142			0.059	
Prop RTs		0.507			0.396			0.049			0.082	
Peds Bikes		25			25			25			25	
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.3			3.3			3.3			3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 45SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	11	15	27	20	27	31	47	294	16	20	354	26
Lane Width	15.0			15.0			15.0			15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left		P			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 507 1522 0.11 0.33 14.3 B 14.3 B

Westbound

LTR 544 1631 0.16 0.33 14.7 B 14.7 B

Northbound

LTR 808 1615 0.48 0.50 11.9 B 11.9 B

Southbound

LTR 864 1728 0.50 0.50 12.1 B 12.1 B

Intersection Delay = 12.4 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 45SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	11	15	27	20	27	31	47	294	16	20	354	26
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	3	4	7	5	7	8	13	80	4	5	96	7
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			15.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow		57			85			388			435	
%InSharedLn												
Prop LTs		0.211			0.259			0.131			0.051	
Prop RTs		0.509			0.400			0.044			0.064	
Peds Bikes		25			25			25			25	
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.3			3.3			3.3			3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 46PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	19	55	18	29	12	17	3	442	32	31	426	8
Lane Width	15.0			15.0			15.0			15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left		P			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 528 1583 0.19 0.33 15.0 B 15.0 B

Westbound

LTR 505 1514 0.12 0.33 14.4 B 14.4 B

Northbound

LTR 886 1771 0.58 0.50 13.4 B 13.4 B

Southbound

LTR 848 1696 0.60 0.50 13.8 B 13.8 B

Intersection Delay = 13.8 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 46PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	19	55	18	29	12	17	3	442	32	31	426	8
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	5	15	5	8	3	5	1	120	9	8	116	2
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			15.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow		101			63			518			506	
%InSharedLn												
Prop LTs		0.208			0.508			0.006			0.067	
Prop RTs		0.198			0.286			0.068			0.018	
Peds Bikes		25			25			25			25	
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.3			3.3			3.3			3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 46SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: WARBURTON AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	15	44	14	23	9	14	3	380	25	25	418	7
Lane Width	15.0			15.0			15.0			15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left		P			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 532 1597 0.15 0.33 14.6 B 14.6 B

Westbound

LTR 515 1545 0.10 0.33 14.2 B 14.2 B

Northbound

LTR 886 1772 0.50 0.50 12.0 B 12.0 B

Southbound

LTR 863 1725 0.57 0.50 13.2 B 13.2 B

Intersection Delay = 12.8 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 46SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: WARBURTON AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	15	44	14	23	9	14	3	380	25	25	418	7
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	4	12	4	6	3	4	1	103	7	7	114	2
Hi Ln Vol												
% Grade		8			-6			0			0	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			15.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow		79			50			443			489	
%InSharedLn												
Prop LTs		0.203			0.500			0.007			0.055	
Prop RTs		0.190			0.300			0.061			0.016	
Peds Bikes		25			25			25			25	
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.3			3.3			3.3			3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 47PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: NORTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	19	71	7	23	130	40	27	436	28	34	462	48
Lane Width	15.0			15.0			15.0			15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left		P			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				45.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 492 1573 0.22 0.31 21.3 C 21.3 C

Westbound

LTR 538 1723 0.39 0.31 23.6 C 23.6 C

Northbound

LTR 936 1664 0.57 0.56 13.8 B 13.8 B

Southbound

LTR 964 1713 0.61 0.56 14.6 B 14.6 B

Intersection Delay = 16.1 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 47PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: NORTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	19	71	7	23	130	40	27	436	28	34	462	48
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	5	19	2	6	35	11	7	118	8	9	126	13
Hi Ln Vol												
% Grade		8			-6			4			-4	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			15.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow		106			209			533			591	
%InSharedLn												
Prop LTs		0.198			0.120			0.054			0.063	
Prop RTs		0.075			0.206			0.056			0.088	
Peds Bikes		25			25			25			25	
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

Analyst: JCE Inter.: 47SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: NORTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	15	57	6	19	104	32	21	391	22	27	470	38
Lane Width	15.0			15.0			15.0			15.0		
RTOR Vol	0			0			0			0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left		P			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.0				45.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 499 1597 0.17 0.31 20.7 C 20.7 C

Westbound

LTR 540 1729 0.31 0.31 22.5 C 22.5 C

Northbound

LTR 945 1680 0.50 0.56 12.5 B 12.5 B

Southbound

LTR 983 1748 0.59 0.56 14.1 B 14.1 B

Intersection Delay = 15.0 (sec/veh) Intersection LOS = B

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 47SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: GLENWOOD AVENUE N/S St: NORTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	15	57	6	19	104	32	21	391	22	27	470	38
% Heavy Veh	5	5	5	5	5	5	5	5	5	5	5	5
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PK 15 Vol	4	15	2	5	28	9	6	106	6	7	128	10
Hi Ln Vol												
% Grade		8			-6			4			-4	
Ideal Sat		1900			1900			1900			1900	
ParkExist												
NumPark												
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Lane Width		15.0			15.0			15.0			15.0	
RTOR Vol			0			0			0			0
Adj Flow		85			169			472			581	
%InSharedLn												
Prop LTs		0.188			0.124			0.049			0.050	
Prop RTs		0.082			0.207			0.051			0.071	
Peds Bikes		25			25			25			25	
Buses		0			0			0			0	
%InProtPhase												
Duration	0.25	Area Type: CBD or Similar										

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0			0.0			0.0			0.0	
Arriv. Type		3			3			3			3	
Unit Ext.		3.0			3.0			3.0			3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0			2.0			2.0			2.0	
Ext of g		2.0			2.0			2.0			2.0	
Ped Min g		3.4			3.4			3.4			3.4	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 48PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: NORTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig	LR						LT			TR		
Volume	85		33				46	465		524	48	
Lane Width	15.0						12.0			15.0		
RTOR Vol	0									0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru					Thru	P		
Right		P			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 532 1597 0.24 0.33 15.6 B 15.6 B

Westbound

Northbound

LT 739 1478 0.75 0.50 18.9 B 18.9 B

Southbound

TR 886 1771 0.70 0.50 16.2 B 16.2 B

Intersection Delay = 17.3 (sec/veh) Intersection LOS = B

Phone:
E-Mail:

Fax:

OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 48PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: NORTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	85		33				46	465			524	48
% Heavy Veh	5		5				5	5			5	5
PHF	0.92		0.92				0.92	0.92			0.92	0.92
PK 15 Vol	23		9				12	126			142	13
Hi Ln Vol												
% Grade		8						0			0	
Ideal Sat		1900						1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig			LR						LT			TR
Lane Width		15.0						12.0			15.0	
RTOR Vol			0									0
Adj Flow		128						555			622	
%InSharedLn												
Prop LTs			0.719						0.090			0.000
Prop RTs		0.281						0.000			0.084	
Peds Bikes		25			0						25	
Buses		0						0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0						0.0			0.0	
Arriv. Type		3						3			3	
Unit Ext.		3.0						3.0			3.0	
I Factor		1.000						1.000			1.000	
Lost Time		2.0						2.0			2.0	
Ext of g		2.0						2.0			2.0	
Ped Min g		3.3			3.2						3.3	

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 48SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: NORTH BROADWAY

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig	LR						LT			TR		
Volume	68		26				36	414		520	38	
Lane Width	15.0						12.0			15.0		
RTOR Vol	0									0		

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P		
Thru					Thru	P		
Right		P			Right			
Peds					Peds			
WB Left					SB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				30.0			
Yellow	3.0				3.0			
All Red	2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LR 533 1598 0.19 0.33 15.0 B 15.0 B

Westbound

Northbound

LT 756 1512 0.65 0.50 15.3 B 15.3 B

Southbound

TR 888 1775 0.68 0.50 15.6 B 15.6 B

Intersection Delay = 15.5 (sec/veh) Intersection LOS = B

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 48SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAMARTINE AVENUE N/S St: NORTH BROADWAY

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	68		26				36	414			520	38
% Heavy Veh	5		5				5	5			5	5
PHF	0.92		0.92				0.92	0.92			0.92	0.92
PK 15 Vol	18		7				10	112			141	10
Hi Ln Vol												
% Grade		8						0			0	
Ideal Sat		1900						1900			1900	
ParkExist												
NumPark												
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig		LR						LT			TR	
Lane Width		15.0						12.0			15.0	
RTOR Vol			0									0
Adj Flow		102						489			606	
%InSharedLn												
Prop LTs			0.725						0.080			0.000
Prop RTs		0.275						0.000			0.068	
Peds Bikes		25			0						25	
Buses		0						0			0	
%InProtPhase												
Duration	0.25			Area Type: CBD or Similar								

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0						0.0			0.0	
Arriv. Type		3						3			3	
Unit Ext.		3.0						3.0			3.0	
I Factor		1.000						1.000			1.000	
Lost Time		2.0						2.0			2.0	
Ext of g		2.0						2.0			2.0	
Ped Min g		3.3			3.2						3.3	

Analyst: JCE Inter.: 49PMBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: WEEKDAY PEAK PM HIGHWAY HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAKE AVENUE N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	0	1	0	1	1	0	2	0
LGConfig		LT	R	L		R		T	R		LT	
Volume	4	32	17	249		80	597	311		57	694	
Lane Width		12.0	12.0	12.0		12.0	12.0	12.0			10.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left	A				SB Left	A		
Thru					Thru	A		
Right	A				Right			
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	20.0	10.0			45.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	182	1634	0.21	0.11	37.0	D	36.8	D
R	146	1317	0.12	0.11	36.4	D		
Westbound								
L	333	1498	0.81	0.22	47.5	D	43.2	D
R	290	1307	0.30	0.22	29.8	C		
Northbound								
T	815	1629	0.80	0.50	24.2	C	21.3	C
R	675	1350	0.50	0.50	15.6	B		
Southbound								
LT	1080	2159	0.76	0.50	21.2	C	21.2	C

Intersection Delay = 25.2 (sec/veh) Intersection LOS = C

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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 49PMBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAKE AVENUE N/S St: NEPPERHAN AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	4	32	17	249		80		597	311	57	694	
% Heavy Veh	5	5	5	5		5		5	5	5	5	
PHF	0.92	0.92	0.92	0.92		0.92		0.92	0.92	0.92	0.92	
PK 15 Vol	1	9	5	68		22		162	85	15	189	
Hi Ln Vol												
% Grade		-4			0			0			0	
Ideal Sat		1900	1900	1900		1900		1900	1900		1900	
ParkExist												
NumPark												
No. Lanes	0	1	1	1	0	1	0	1	1	0	2	0
LGConfig		LT	R	L		R		T	R		LT	
Lane Width		12.0	12.0	12.0		12.0		12.0	12.0		10.0	
RTOR Vol			0			0			0			
Adj Flow		39	18	271		87		649	338		816	
%InSharedLn												
Prop LTs		0.103						0.000			0.076	
Prop RTs		0.000	1.000			1.000		0.000	1.000		0.000	
Peds Bikes	25	0		25	0		25	0				
Buses	0	0		0	0		0	0			0	
%InProtPhase												
Duration	0.25											

Area Type: CBD or Similar

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0	0.0	0.0		0.0		0.0	0.0		0.0	
Arriv. Type		3	3	3		3		3	3		3	
Unit Ext.		3.0	3.0	3.0		3.0		3.0	3.0		3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0	2.0	2.0		2.0		2.0	2.0		2.0	
Ext of g		2.0	2.0	2.0		2.0		2.0	2.0		2.0	
Ped Min g		3.4			3.4			3.4				

HCS+: Signalized Intersections Release 5.2

Analyst: JCE Inter.: 49SATBD
 Agency: JOHN COLLINS ENGINEERS, P.C. Area Type: CBD or Similar
 Date: 3/26/2007 Jurisd: W/ BALLPARK
 Period: SATURDAY PEAK HOUR Year : 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAKE AVENUE N/S St: NEPPERHAN AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	0	1	0	1	1	0	2	0
LGConfig		LT	R	L		R		T	R		LT	
Volume	3	25	14	199		64		512	248	46	656	
Lane Width		12.0	12.0	12.0		12.0		12.0	12.0		10.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: CBD or Similar

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left			
Thru		A			Thru	A		
Right		A			Right	A		
Peds	X	X			Peds	X		
WB Left	A				SB Left	A		
Thru					Thru	A		
Right	A				Right			
Peds	X	X			Peds	X		
NB Right					EB Right			
SB Right					WB Right			
Green	25.0	15.0			35.0			
Yellow	3.0	3.0			3.0			
All Red	2.0	2.0			2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	273	1640	0.11	0.17	32.0	C	31.9	C
R	225	1348	0.07	0.17	31.7	C		
Westbound								
L	419	1507	0.52	0.28	28.5	C	27.7	C
R	367	1322	0.19	0.28	25.0	C		
Northbound								
T	634	1629	0.88	0.39	38.9	D	33.4	C
R	521	1340	0.52	0.39	22.0	C		
Southbound								
LT	824	2120	0.93	0.39	42.5	D	42.5	D

Intersection Delay = 36.1 (sec/veh) Intersection LOS = D

Phone:
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OPERATIONAL ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 3/26/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 49SATBD
 Area Type: CBD or Similar
 Jurisdiction: W/ BALLPARK
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 E/W St: LAKE AVENUE N/S St: NEPPERHAN AVENUE

VOLUME DATA

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	3	25	14	199		64		512	248	46	656	
% Heavy Veh	5	5	5	5		5		5	5	5	5	
PHF	0.92	0.92	0.92	0.92		0.92		0.92	0.92	0.92	0.92	
PK 15 Vol	1	7	4	54		17		139	67	12	178	
Hi Ln Vol												
% Grade		-4			0			0			0	
Ideal Sat		1900	1900	1900		1900		1900	1900		1900	
ParkExist												
NumPark												
No. Lanes	0	1	1	1	0	1	0	1	1	0	2	0
LGConfig		LT	R	L		R		T	R		LT	
Lane Width		12.0	12.0	12.0		12.0		12.0	12.0		10.0	
RTOR Vol			0			0			0			
Adj Flow		30	15	216		70		557	270		763	
%InSharedLn												
Prop LTs		0.100						0.000			0.066	
Prop RTs		0.000	1.000			1.000		0.000	1.000		0.000	
Peds Bikes		25	0		25	0		25	0			
Buses		0	0	0		0		0	0		0	
%InProtPhase												
Duration	0.25											

OPERATING PARAMETERS

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Init Unmet		0.0	0.0	0.0		0.0		0.0	0.0		0.0	
Arriv. Type		3	3	3		3		3	3		3	
Unit Ext.		3.0	3.0	3.0		3.0		3.0	3.0		3.0	
I Factor		1.000			1.000			1.000			1.000	
Lost Time		2.0	2.0	2.0		2.0		2.0	2.0		2.0	
Ext of g		2.0	2.0	2.0		2.0		2.0	2.0		2.0	
Ped Min g		3.4			3.4			3.4				

Phone: Fax:
 E-Mail:

-----ALL-WAY STOP CONTROL(AWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 4/19/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 50PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: PROSPECT STREET
 North/South Street: BUENA VISTA AVENUE

-----Worksheet 2 - Volume Adjustments and Site Characteristics-----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	0	0	48	0	313	0	80	111	436	111	0
% Thrus Left Lane												

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LR		TR		LT	
PHF			0.92		0.92		0.92	
Flow Rate			392		206		593	
% Heavy Veh			5		5		5	
No. Lanes				1		1		1
Opposing-Lanes				0		1		1
Conflicting-lanes				1		1		1
Geometry group				1		1		1
Duration, T	0.25 hrs.							

-----Worksheet 3 - Saturation Headway Adjustment Worksheet-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane			392		206		593	
Left-Turn			52		0		473	
Right-Turn			340		120		0	
Prop. Left-Turns			0.1		0.0		0.8	
Prop. Right-Turns			0.9		0.6		0.0	
Prop. Heavy Vehicle			0.0		0.0		0.0	
Geometry Group				1		1		1
Adjustments Exhibit 17-33:								
hLT-adj				0.2		0.2		0.2

hRT-adj	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7
hadj, computed	-0.4	-0.3	0.2

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate			392		206		593	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.35		0.18		0.53	
hd, final value			5.75		5.91		5.75	
x, final value			0.63		0.34		0.95	
Move-up time, m				2.0		2.0		2.0
Service Time			3.8		3.9		3.8	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate			392		206		593	
Service Time			3.8		3.9		3.8	
Utilization, x			0.63		0.34		0.95	
Dep. headway, hd			5.75		5.91		5.75	
Capacity			609		456		623	
Delay			17.91		11.90		47.89	
LOS			C		B		E	
Approach:								
Delay			17.91		11.90		47.89	
LOS			C		B		E	
Intersection Delay	31.80							
					Intersection LOS	D		

Phone:
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-----ALL-WAY STOP CONTROL(AWSC) ANALYSIS-----

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 4/19/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 50SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: PROSPECT STREET
 North/South Street: BUENA VISTA AVENUE

-----Worksheet 2 - Volume Adjustments and Site Characteristics-----

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	0	0	38	0	249	0	64	89	363	89	0
% Thrus Left Lane												

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			LR		TR		LT	
PHF			0.92		0.92		0.92	
Flow Rate			311		165		490	
% Heavy Veh			5		5		5	
No. Lanes				1		1		1
Opposing-Lanes				0		1		1
Conflicting-lanes				1		1		1
Geometry group				1		1		1
Duration, T	0.25 hrs.							

-----Worksheet 3 - Saturation Headway Adjustment Worksheet-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane			311		165		490	
Left-Turn			41		0		394	
Right-Turn			270		96		0	
Prop. Left-Turns			0.1		0.0		0.8	
Prop. Right-Turns			0.9		0.6		0.0	
Prop. Heavy Vehicle			0.0		0.0		0.0	
Geometry Group				1		1		1
Adjustments Exhibit 17-33:								
hLT-adj				0.2		0.2		0.2

hRT-adj	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7
hadj, computed	-0.4	-0.3	0.2

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate			311		165		490	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.28		0.15		0.44	
hd, final value			5.22		5.26		5.28	
x, final value			0.45		0.24		0.72	
Move-up time, m				2.0		2.0		2.0
Service Time			3.2		3.3		3.3	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate			311		165		490	
Service Time			3.2		3.3		3.3	
Utilization, x			0.45		0.24		0.72	
Dep. headway, hd			5.22		5.26		5.28	
Capacity			561		415		668	
Delay			12.44		9.92		20.59	
LOS			B		A		C	
Approach:								
Delay			12.44		9.92		20.59	
LOS			B		A		C	
Intersection Delay	16.14							
					Intersection LOS	C		

HCS+: Unsignalized Intersections Release 5.2

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 4/19/2007
 Analysis Time Period: WEEKDAY PEAK PM HIGHWAY HOUR
 Intersection: 51PMBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: PROSPECT STREET
 North/South Street: HAWTHORNE AVENUE

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	40	459	48	185	361	133	0	0	0	0	0	0
% Thrus Left Lane						0						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LT	TR	LTR		LTR	
PHF	0.92		0.92	0.92	1.00		1.00	
Flow Rate	593		201	536	0		0	
% Heavy Veh	5		5	5	0		0	
No. Lanes		1		2		1		1
Opposing-Lanes		2		1		1		1
Conflicting-lanes		1		1		2		2
Geometry group		4a		5		2		2
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	593		201	536	0		0	
Left-Turn	43		201	0	0		0	
Right-Turn	52		0	144	0		0	
Prop. Left-Turns	0.1		1.0	0.0	0.0		0.0	
Prop. Right-Turns	0.1		0.0	0.3	0.0		0.0	
Prop. Heavy Vehicle	0.0		0.0	0.0	0.0		0.0	
Geometry Group		4a		5		2		2
Adjustments Exhibit 17-33:								
hLT-adj		0.2		0.5		0.2		0.2

hRT-adj	-0.6	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	0.0	0.6	-0.1	0.0

-----Worksheet 4 - Departure Headway and Service Time-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	593		201	536	0		0	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.53		0.18	0.48	0.00		0.00	
hd, final value	4.68		5.50	4.80	6.50		6.50	
x, final value	0.77		0.31	0.72	0.00		0.00	
Move-up time, m		2.0		2.3		2.0		2.0
Service Time	2.7		3.2	2.5	4.5		4.5	

-----Worksheet 5 - Capacity and Level of Service-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	593		201	536	0		0	
Service Time	2.7		3.2	2.5	4.5		4.5	
Utilization, x	0.77		0.31	0.72	0.00		0.00	
Dep. headway, hd	4.68		5.50	4.80	6.50		6.50	
Capacity	767		451	748	0		0	
Delay	21.59		10.61	18.61	9.50		9.50	
LOS	C		B	C	A		A	
Approach:								
Delay		21.59		16.43		9.50		9.50
LOS		C		C		A		A
Intersection Delay	18.73				Intersection LOS	C		

HCS+: Unsignalized Intersections Release 5.2

Phone:
E-Mail:

Fax:

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: JCE
 Agency/Co.: JOHN COLLINS ENGINEERS, P.C.
 Date Performed: 4/19/2007
 Analysis Time Period: SATURDAY PEAK HOUR
 Intersection: 51SATBD
 Jurisdiction: W/ BALLPARK
 Units: U. S. Customary
 Analysis Year: 2012 BUILD TRAFFIC VOLUMES
 Project ID: 281
 East/West Street: PROSPECT STREET
 North/South Street: HAWTHORNE AVENUE

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	32	382	38	148	287	106	0	0	0	0	0	0
% Thrus Left Lane				0								

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LT	TR	LTR		LTR	
PHF	0.92		0.92	0.92	1.00		1.00	
Flow Rate	490		160	426	0		0	
% Heavy Veh	5		5	5	0		0	
No. Lanes	1		2		1		1	
Opposing-Lanes	2		1		1		1	
Conflicting-lanes	1		1		2		2	
Geometry group	4a		5		2		2	
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	490		160	426	0		0	
Left-Turn	34		160	0	0		0	
Right-Turn	41		0	115	0		0	
Prop. Left-Turns	0.1		1.0	0.0	0.0		0.0	
Prop. Right-Turns	0.1		0.0	0.3	0.0		0.0	
Prop. Heavy Vehicle	0.0		0.0	0.0	0.0		0.0	
Geometry Group	4a		5		2		2	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.5		0.2		0.2	

hRT-adj	-0.6	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	0.0	0.6	-0.1	0.0

-----Worksheet 4 - Departure Headway and Service Time-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	490		160	426	0		0	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.44		0.14	0.38	0.00		0.00	
hd, final value	4.58		5.42	4.72	6.08		6.08	
x, final value	0.62		0.24	0.56	0.00		0.00	
Move-up time, m		2.0		2.3		2.0		2.0
Service Time	2.6		3.1	2.4	4.1		4.1	

-----Worksheet 5 - Capacity and Level of Service-----

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	490		160	426	0		0	
Service Time	2.6		3.1	2.4	4.1		4.1	
Utilization, x	0.62		0.24	0.56	0.00		0.00	
Dep. headway, hd	4.58		5.42	4.72	6.08		6.08	
Capacity	740		410	676	0		0	
Delay	14.82		9.83	13.24	9.08		9.08	
LOS	B		A	B	A		A	
Approach:								
Delay		14.82		12.31		9.08		9.08
LOS		B		B		A		A
Intersection Delay	13.45				Intersection	LOS	B	