CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:4, Washington Blvd. & Marengo Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	823	62	0
EASTBOUND	53	867	0	0
NORTHBOUND	37	31	8	30
SOUTHBOUND	80	0	91	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	1600	N/A	1600	N/A	1600	N/A
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.276	0.276	N/A	N/A
EASTBOUND	0.033	N/A	0.271	N/A	N/A	N/A
NORTHBOUND	0.023	N/A	0.019	N/A	0.005	N/A
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.107

EAST-WEST CRITICAL V/C RATIO 0.309
NORTH-SOUTH CRITICAL V/C RATIO 0.130
CLEARANCE INTERVAL 0.100

ICU VALUE 0.539

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 13
1/31/2008 5:46:32 PM

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JL	Intersection	5
Agency/Co.	Crain & Associates	Jurisdiction	City of Pasadena
Date Performed	1/25/2008	Analysis Year	2008
Analysis Time Period	AM Peak Hour		

Project Description: *Existing Traffic Conditions*

East/West Street: *Washington Blvd.* | North/South Street: *Garfield Ave.*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	64	641	27	26	919	123
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	64	641	27	26	919	123
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10	5	16	29	5	66
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	5	16	29	5	66
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT		LTR			LTR	
v (veh/h)	64	26		31			100	
C (m) (veh/h)	748	931		177			216	
v/c	0.09	0.03		0.18			0.46	
95% queue length	0.28	0.09		0.63			2.48	
Control Delay (s/veh)	10.3	9.0		29.6			35.8	
LOS	B	A		D			E	
Approach Delay (s/veh)	--	--	29.6			35.8		
Approach LOS	--	--	D			E		

Copyright © 2005 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JL	Intersection	5
Agency/Co.	Crain & Associates	Jurisdiction	City of Pasadena
Date Performed	1/31/2008	Analysis Year	2022
Analysis Time Period	AM Peak Hour		

Project Description: *Future Without Project Traffic Conditions*

East/West Street: *Washington Blvd.* | North/South Street: *Garfield Ave.*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	79	792	33	32	1134	153
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	79	792	33	32	1134	153
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	12	6	20	42	6	83
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	12	6	20	42	6	83
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT		LTR			LTR	
v (veh/h)	79	32		38			131	
C (m) (veh/h)	633	816		100			115	
v/c	0.12	0.04		0.38			1.14	
95% queue length	0.43	0.12		1.74			18.58	
Control Delay (s/veh)	11.5	9.6		62.6			444.1	
LOS	B	A		F			F	
Approach Delay (s/veh)	--	--	62.6			444.1		
Approach LOS	--	--	F			F		

Copyright © 2005 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JL	Intersection	5
Agency/Co.	Crain & Associates	Jurisdiction	City of Pasadena
Date Performed	1/31/2008	Analysis Year	2022
Analysis Time Period	AM Peak Hour		

Project Description: *Future With Project Traffic Conditions*

East/West Street: *Washington Blvd.* | North/South Street: *Garfield Ave.*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	91	792	33	32	1134	179
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	91	792	33	32	1134	179
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	12	7	20	43	6	93
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	12	7	20	43	6	93
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT		LTR			LTR	
v (veh/h)	91	32		39			142	
C (m) (veh/h)	617	818		86			106	
v/c	0.15	0.04		0.45			1.34	
95% queue length	0.52	0.12		2.27			26.15	
Control Delay (s/veh)	11.8	9.6		80.4			763.3	
LOS	B	A		F			F	
Approach Delay (s/veh)	--	--	80.4			763.3		
Approach LOS	--	--	F			F		

Copyright © 2005 University of Florida, All Rights Reserved

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:5, Washington Blvd. & Garfield Ave.
DATE: 2/1/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT + MITIGATION

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	32	1134	179	0
EASTBOUND	91	792	33	0
NORTHBOUND	12	7	20	0
SOUTHBOUND	43	6	93	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	1	0	1	0	0	2
EASTBOUND	0	1	0	1	0	0	2
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	1600	N/A	1600	N/A	N/A
EASTBOUND	N/A	1600	N/A	1600	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	0.420	N/A	0.420	N/A	N/A
EASTBOUND	N/A	0.286	N/A	0.286	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.024
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.089

EAST-WEST CRITICAL V/C RATIO 0.477
NORTH-SOUTH CRITICAL V/C RATIO 0.096
CLEARANCE INTERVAL 0.100

ICU VALUE 0.673

LEVEL OF SERVICE ..... B

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 14
2/1/2008 9:17:24 AM

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JL	Intersection	5
Agency/Co.	Crain & Associates	Jurisdiction	City of Pasadena
Date Performed	1/25/2008	Analysis Year	2008
Analysis Time Period	School PM Peak Hour		

Project Description *Existing Traffic Conditions*

East/West Street: *Washington Blvd.* | North/South Street: *Garfield Ave.*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	42	727	25	21	619	92
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	42	727	25	21	619	92
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	3	12	17	25	4	44
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	3	12	17	25	4	44
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT		LTR			LTR	
v (veh/h)	42	21		32			73	
C (m) (veh/h)	898	867		192			243	
v/c	0.05	0.02		0.17			0.30	
95% queue length	0.15	0.07		0.60			1.27	
Control Delay (s/veh)	9.2	9.3		27.5			26.1	
LOS	A	A		D			D	
Approach Delay (s/veh)	--	--	27.5			26.1		
Approach LOS	--	--	D			D		

Copyright © 2005 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JL	Intersection	5
Agency/Co.	Crain & Associates	Jurisdiction	City of Pasadena
Date Performed	1/31/2008	Analysis Year	2022
Analysis Time Period	School PM Peak Hour		

Project Description: *Future Without Project Traffic Conditions*

East/West Street: *Washington Blvd.* | North/South Street: *Garfield Ave.*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	54	914	31	26	777	118
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	54	914	31	26	777	118
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	4	15	21	34	5	55
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	4	15	21	34	5	55
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT		LTR			LTR	
v (veh/h)	54	26		40			94	
C (m) (veh/h)	794	754		116			148	
v/c	0.07	0.03		0.34			0.64	
95% queue length	0.22	0.11		1.52			4.48	
Control Delay (s/veh)	9.9	9.9		52.1			69.2	
LOS	A	A		F			F	
Approach Delay (s/veh)	--	--	52.1			69.2		
Approach LOS	--	--	F			F		

Copyright © 2005 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JL	Intersection	5
Agency/Co.	Crain & Associates	Jurisdiction	City of Pasadena
Date Performed	1/31/2008	Analysis Year	2022
Analysis Time Period	School PM Peak Hour		

Project Description: *Future With Project Traffic Conditions*

East/West Street: *Washington Blvd.* | North/South Street: *Garfield Ave.*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	61	914	31	26	777	133
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	61	914	31	26	777	133
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration	LT		TR	LT		TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	4	15	21	35	5	63
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	4	15	21	35	5	63
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LT		LTR			LTR	
v (veh/h)	61	26		40			103	
C (m) (veh/h)	785	755		109			147	
v/c	0.08	0.03		0.37			0.70	
95% queue length	0.25	0.11		1.66			5.60	
Control Delay (s/veh)	10.0	9.9		56.9			81.7	
LOS	A	A		F			F	
Approach Delay (s/veh)	--	--	56.9			81.7		
Approach LOS	--	--	F			F		

Copyright © 2005 University of Florida, All Rights Reserved

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:5, Washington Blvd. & Garfield Ave.
DATE: 2/1/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT + MITIGATION

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED
WESTBOUND	26	777	133	0
EASTBOUND	61	914	31	0
NORTHBOUND	4	15	21	0
SOUTHBOUND	35	5	63	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	1	0	1	0	0	2
EASTBOUND	0	1	0	1	0	0	2
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	1600	N/A	1600	N/A	N/A
EASTBOUND	N/A	1600	N/A	1600	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	0.292	N/A	0.292	N/A	N/A
EASTBOUND	N/A	0.314	N/A	0.314	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.025
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.064

EAST-WEST CRITICAL V/C RATIO 0.331
NORTH-SOUTH CRITICAL V/C RATIO 0.067
CLEARANCE INTERVAL 0.100

ICU VALUE 0.498

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 15
2/1/2008 9:17:24 AM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:6, Washington Blvd. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: EXISTING (2008)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	69	927	99	0
EASTBOUND	68	549	89	0
NORTHBOUND	84	224	0	40
SOUTHBOUND	111	542	68	34

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	1	0	1	1	0	0	3
EASTBOUND	1	0	1	1	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	1	0	1	0	1	0	3

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	1700	N/A	1700	1700	N/A	N/A
EASTBOUND	1700	N/A	1700	1700	N/A	N/A
NORTHBOUND	1700	N/A	1700	N/A	1700	N/A
SOUTHBOUND	1700	N/A	1700	N/A	1700	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	0.041	N/A	0.302	0.302	N/A	N/A
EASTBOUND	0.040	N/A	0.188	0.188	N/A	N/A
NORTHBOUND	0.049	N/A	0.132	N/A	0.000	N/A
SOUTHBOUND	0.065	N/A	0.319	N/A	0.040	N/A

EAST-WEST CRITICAL V/C RATIO 0.342
NORTH-SOUTH CRITICAL V/C RATIO 0.368
CLEARANCE INTERVAL 0.100

ICU VALUE 0.810

LEVEL OF SERVICE ..... D

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 14
1/31/2008 5:46:32 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:6, Washington Blvd. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITHOUT PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	87	1144	122	0
EASTBOUND	84	679	117	0
NORTHBOUND	104	276	0	49
SOUTHBOUND	137	668	84	42

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	1	0	1	1	0	0	3
EASTBOUND	1	0	1	1	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	1	0	1	0	1	0	3

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	1700	N/A	1700	1700	N/A	N/A
EASTBOUND	1700	N/A	1700	1700	N/A	N/A
NORTHBOUND	1700	N/A	1700	N/A	1700	N/A
SOUTHBOUND	1700	N/A	1700	N/A	1700	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	0.051	N/A	0.372	0.372	N/A	N/A
EASTBOUND	0.049	N/A	0.234	0.234	N/A	N/A
NORTHBOUND	0.061	N/A	0.162	N/A	0.000	N/A
SOUTHBOUND	0.081	N/A	0.393	N/A	0.049	N/A

EAST-WEST CRITICAL V/C RATIO 0.422
NORTH-SOUTH CRITICAL V/C RATIO 0.454
CLEARANCE INTERVAL 0.100

ICU VALUE 0.976

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 15
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:6, Washington Blvd. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	87	1154	122	0
EASTBOUND	84	679	118	0
NORTHBOUND	120	281	0	49
SOUTHBOUND	146	685	84	42

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	1	0	1	1	0	0	3
EASTBOUND	1	0	1	1	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	1	0	1	0	1	0	3

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	1700	N/A	1700	1700	N/A	N/A
EASTBOUND	1700	N/A	1700	1700	N/A	N/A
NORTHBOUND	1700	N/A	1700	N/A	1700	N/A
SOUTHBOUND	1700	N/A	1700	N/A	1700	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	0.051	N/A	0.375	0.375	N/A	N/A
EASTBOUND	0.049	N/A	0.234	0.234	N/A	N/A
NORTHBOUND	0.071	N/A	0.165	N/A	0.000	N/A
SOUTHBOUND	0.086	N/A	0.403	N/A	0.049	N/A

EAST-WEST CRITICAL V/C RATIO 0.425
NORTH-SOUTH CRITICAL V/C RATIO 0.474
CLEARANCE INTERVAL 0.100

ICU VALUE 0.998

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 16
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:6, Washington Blvd. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: EXISTING (2008)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	90	548	90	0
EASTBOUND	66	571	104	0
NORTHBOUND	108	381	2	45
SOUTHBOUND	96	399	1	54

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	1	0	1	1	0	0	3
EASTBOUND	1	0	1	1	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	1	0	1	0	1	0	3

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	1700	N/A	1700	1700	N/A	N/A
EASTBOUND	1700	N/A	1700	1700	N/A	N/A
NORTHBOUND	1700	N/A	1700	N/A	1700	N/A
SOUTHBOUND	1700	N/A	1700	N/A	1700	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	0.053	N/A	0.188	0.188	N/A	N/A
EASTBOUND	0.039	N/A	0.199	0.199	N/A	N/A
NORTHBOUND	0.064	N/A	0.224	N/A	0.001	N/A
SOUTHBOUND	0.056	N/A	0.235	N/A	0.001	N/A

EAST-WEST CRITICAL V/C RATIO 0.252
NORTH-SOUTH CRITICAL V/C RATIO 0.298
CLEARANCE INTERVAL 0.100

ICU VALUE 0.650

LEVEL OF SERVICE ..... B

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 17
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:6, Washington Blvd. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITHOUT PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	116	691	113	0
EASTBOUND	81	721	131	0
NORTHBOUND	138	469	7	58
SOUTHBOUND	121	491	0	68

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	1	0	1	1	0	0	3
EASTBOUND	1	0	1	1	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	1	0	1	0	1	0	3

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	1700	N/A	1700	1700	N/A	N/A
EASTBOUND	1700	N/A	1700	1700	N/A	N/A
NORTHBOUND	1700	N/A	1700	N/A	1700	N/A
SOUTHBOUND	1700	N/A	1700	N/A	1700	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	0.068	N/A	0.236	0.236	N/A	N/A
EASTBOUND	0.048	N/A	0.251	0.251	N/A	N/A
NORTHBOUND	0.081	N/A	0.276	N/A	0.004	N/A
SOUTHBOUND	0.071	N/A	0.289	N/A	0.000	N/A

EAST-WEST CRITICAL V/C RATIO 0.319
NORTH-SOUTH CRITICAL V/C RATIO 0.370
CLEARANCE INTERVAL 0.100

ICU VALUE 0.789

LEVEL OF SERVICE C

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 18
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:6, Washington Blvd. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED
WESTBOUND	116	697	113	0
EASTBOUND	81	721	132	0
NORTHBOUND	147	472	7	58
SOUTHBOUND	128	504	0	68

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	1	0	1	1	0	0	3
EASTBOUND	1	0	1	1	0	0	3
NORTHBOUND	1	0	1	0	1	0	3
SOUTHBOUND	1	0	1	0	1	0	3

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	1700	N/A	1700	1700	N/A	N/A
EASTBOUND	1700	N/A	1700	1700	N/A	N/A
NORTHBOUND	1700	N/A	1700	N/A	1700	N/A
SOUTHBOUND	1700	N/A	1700	N/A	1700	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	0.068	N/A	0.238	0.238	N/A	N/A
EASTBOUND	0.048	N/A	0.251	0.251	N/A	N/A
NORTHBOUND	0.086	N/A	0.278	N/A	0.004	N/A
SOUTHBOUND	0.075	N/A	0.296	N/A	0.000	N/A

EAST-WEST CRITICAL V/C RATIO 0.319
NORTH-SOUTH CRITICAL V/C RATIO 0.383
CLEARANCE INTERVAL 0.100

ICU VALUE 0.802

LEVEL OF SERVICE ..... D

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 19
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:7, Washington Blvd. & El Molino Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: EXISTING (2008)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	924	27	0
EASTBOUND	23	706	0	0
NORTHBOUND	36	51	41	0
SOUTHBOUND	125	0	106	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.298	0.298	N/A	N/A
EASTBOUND	0.014	N/A	0.221	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.080
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.144

EAST-WEST CRITICAL V/C RATIO 0.312
NORTH-SOUTH CRITICAL V/C RATIO 0.224
CLEARANCE INTERVAL 0.100

ICU VALUE 0.636

LEVEL OF SERVICE ..... B

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 20
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:7, Washington Blvd. & El Molino Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITHOUT PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	1142	33	0
EASTBOUND	29	874	0	0
NORTHBOUND	44	63	51	0
SOUTHBOUND	155	0	133	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.368	0.368	N/A	N/A
EASTBOUND	0.018	N/A	0.273	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.099
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.180

EAST-WEST CRITICAL V/C RATIO 0.386
NORTH-SOUTH CRITICAL V/C RATIO 0.279
CLEARANCE INTERVAL 0.100

ICU VALUE 0.764

LEVEL OF SERVICE C

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 21
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:7, Washington Blvd. & El Molino Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	1152	33	0
EASTBOUND	29	883	0	0
NORTHBOUND	44	63	51	0
SOUTHBOUND	155	0	133	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.370	0.370	N/A	N/A
EASTBOUND	0.018	N/A	0.276	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.099
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.180

EAST-WEST CRITICAL V/C RATIO 0.388
NORTH-SOUTH CRITICAL V/C RATIO 0.279
CLEARANCE INTERVAL 0.100

ICU VALUE 0.767

LEVEL OF SERVICE C

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 22
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:7, Washington Blvd. & El Molino Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: EXISTING (2008)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	627	45	0
EASTBOUND	29	706	0	0
NORTHBOUND	44	95	46	0
SOUTHBOUND	61	0	40	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.210	0.210	N/A	N/A
EASTBOUND	0.018	N/A	0.221	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.116
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.063

EAST-WEST CRITICAL V/C RATIO 0.228
NORTH-SOUTH CRITICAL V/C RATIO 0.179
CLEARANCE INTERVAL 0.100

ICU VALUE 0.507

LEVEL OF SERVICE ..... A

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 23
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:7, Washington Blvd. & El Molino Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITHOUT PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	795	57	0
EASTBOUND	38	897	0	0
NORTHBOUND	54	117	58	0
SOUTHBOUND	76	0	50	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.266	0.266	N/A	N/A
EASTBOUND	0.024	N/A	0.280	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.143
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.079

EAST-WEST CRITICAL V/C RATIO 0.290
NORTH-SOUTH CRITICAL V/C RATIO 0.222
CLEARANCE INTERVAL 0.100

ICU VALUE 0.612

LEVEL OF SERVICE ..... B

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 24
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:7, Washington Blvd. & El Molino Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	0	801	57	0
EASTBOUND	38	904	0	0
NORTHBOUND	54	117	58	0
SOUTHBOUND	76	0	50	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	1	1	0	0	2
EASTBOUND	1	0	2	0	0	0	3
NORTHBOUND	0	0	0	0	0	1	1
SOUTHBOUND	0	0	0	0	0	1	1

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	1600	1600	N/A	N/A
EASTBOUND	1600	N/A	3200	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	1600
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	1600

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	0.268	0.268	N/A	N/A
EASTBOUND	0.024	N/A	0.282	N/A	N/A	N/A
NORTHBOUND	N/A	N/A	N/A	N/A	N/A	0.143
SOUTHBOUND	N/A	N/A	N/A	N/A	N/A	0.079

EAST-WEST CRITICAL V/C RATIO 0.292
NORTH-SOUTH CRITICAL V/C RATIO 0.222
CLEARANCE INTERVAL 0.100

ICU VALUE 0.614

LEVEL OF SERVICE ..... B

Capacity used for through lanes, first RT and LT lanes = 1600.

Northbound and Southbound approaches have opposed signal phases.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 25
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:8, Mountain St. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: EXISTING (2008)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED
WESTBOUND	28	212	30	0
EASTBOUND	28	217	55	0
NORTHBOUND	50	278	24	0
SOUTHBOUND	79	612	49	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	0	0	0	1	1
EASTBOUND	0	0	0	0	0	1	1
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	1700
EASTBOUND	N/A	N/A	N/A	N/A	N/A	1700
NORTHBOUND	1700	N/A	N/A	1700	N/A	N/A
SOUTHBOUND	1700	N/A	N/A	1700	N/A	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	0.159
EASTBOUND	N/A	N/A	N/A	N/A	N/A	0.176
NORTHBOUND	0.029	N/A	N/A	0.178	N/A	N/A
SOUTHBOUND	0.046	N/A	N/A	0.389	N/A	N/A

EAST-WEST CRITICAL V/C RATIO 0.193
NORTH-SOUTH CRITICAL V/C RATIO 0.418
CLEARANCE INTERVAL 0.100

ICU VALUE 0.711

LEVEL OF SERVICE C

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 26
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:8, Mountain St. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITHOUT PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	34	262	37	0
EASTBOUND	34	267	68	0
NORTHBOUND	62	342	30	0
SOUTHBOUND	97	764	61	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	0	0	0	1	1
EASTBOUND	0	0	0	0	0	1	1
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	1700
EASTBOUND	N/A	N/A	N/A	N/A	N/A	1700
NORTHBOUND	1700	N/A	N/A	1700	N/A	N/A
SOUTHBOUND	1700	N/A	N/A	1700	N/A	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	0.196
EASTBOUND	N/A	N/A	N/A	N/A	N/A	0.217
NORTHBOUND	0.036	N/A	N/A	0.219	N/A	N/A
SOUTHBOUND	0.057	N/A	N/A	0.485	N/A	N/A

EAST-WEST CRITICAL V/C RATIO 0.237
NORTH-SOUTH CRITICAL V/C RATIO 0.522
CLEARANCE INTERVAL 0.100

ICU VALUE 0.859

LEVEL OF SERVICE ..... D

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 27
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:8, Mountain St. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: AM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	34	262	40	0
EASTBOUND	35	267	68	0
NORTHBOUND	62	359	30	0
SOUTHBOUND	100	778	62	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	0	0	0	1	1
EASTBOUND	0	0	0	0	0	1	1
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	1700
EASTBOUND	N/A	N/A	N/A	N/A	N/A	1700
NORTHBOUND	1700	N/A	N/A	1700	N/A	N/A
SOUTHBOUND	1700	N/A	N/A	1700	N/A	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	0.198
EASTBOUND	N/A	N/A	N/A	N/A	N/A	0.218
NORTHBOUND	0.036	N/A	N/A	0.229	N/A	N/A
SOUTHBOUND	0.059	N/A	N/A	0.494	N/A	N/A

EAST-WEST CRITICAL V/C RATIO 0.238
NORTH-SOUTH CRITICAL V/C RATIO 0.531
CLEARANCE INTERVAL 0.100

ICU VALUE 0.868

LEVEL OF SERVICE ..... D

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 28
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:8, Mountain St. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: EXISTING (2008)

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	42	224	53	0
EASTBOUND	32	357	59	0
NORTHBOUND	74	526	50	0
SOUTHBOUND	55	499	36	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	0	0	0	1	1
EASTBOUND	0	0	0	0	0	1	1
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	1700
EASTBOUND	N/A	N/A	N/A	N/A	N/A	1700
NORTHBOUND	1700	N/A	N/A	1700	N/A	N/A
SOUTHBOUND	1700	N/A	N/A	1700	N/A	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	0.188
EASTBOUND	N/A	N/A	N/A	N/A	N/A	0.264
NORTHBOUND	0.044	N/A	N/A	0.339	N/A	N/A
SOUTHBOUND	0.032	N/A	N/A	0.315	N/A	N/A

EAST-WEST CRITICAL V/C RATIO 0.288
NORTH-SOUTH CRITICAL V/C RATIO 0.371
CLEARANCE INTERVAL 0.100

ICU VALUE 0.759

LEVEL OF SERVICE C

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 29
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:8, Mountain St. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITHOUT PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	52	280	65	0
EASTBOUND	40	445	73	0
NORTHBOUND	91	662	62	0
SOUTHBOUND	68	623	44	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	0	0	0	1	1
EASTBOUND	0	0	0	0	0	1	1
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	1700
EASTBOUND	N/A	N/A	N/A	N/A	N/A	1700
NORTHBOUND	1700	N/A	N/A	1700	N/A	N/A
SOUTHBOUND	1700	N/A	N/A	1700	N/A	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	0.234
EASTBOUND	N/A	N/A	N/A	N/A	N/A	0.328
NORTHBOUND	0.054	N/A	N/A	0.426	N/A	N/A
SOUTHBOUND	0.040	N/A	N/A	0.392	N/A	N/A

EAST-WEST CRITICAL V/C RATIO 0.359
NORTH-SOUTH CRITICAL V/C RATIO 0.466
CLEARANCE INTERVAL 0.100

ICU VALUE 0.925

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 30
1/31/2008 5:46:33 PM

CRAIN & ASSOCIATES
ICU CALCULATIONS

INTERSECTION:8, Mountain St. & Los Robles Ave.
DATE: 1/31/2008 INITIALS: CB PERIOD: SCHOOL PM PEAK HOUR
CASE: FUTURE (2022) WITH PROJECT

** INPUT VOLUMES **

APPROACH	LEFT	THROUGH	** RIGHT TURNS MIN ON GREEN	MAX ON RED **
WESTBOUND	52	280	66	0
EASTBOUND	41	445	73	0
NORTHBOUND	91	672	62	0
SOUTHBOUND	70	634	45	0

** NUMBER OF LANES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED	TOTAL LANES
WESTBOUND	0	0	0	0	0	1	1
EASTBOUND	0	0	0	0	0	1	1
NORTHBOUND	1	0	0	1	0	0	2
SOUTHBOUND	1	0	0	1	0	0	2

** ASSIGNED CAPACITIES **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	1700
EASTBOUND	N/A	N/A	N/A	N/A	N/A	1700
NORTHBOUND	1700	N/A	N/A	1700	N/A	N/A
SOUTHBOUND	1700	N/A	N/A	1700	N/A	N/A

** ASSIGNED V/C RATIOS **

APPROACH	LEFT ONLY	LEFT SHARED	THROUGH ONLY	RIGHT SHARED	RIGHT ONLY	L/T/R SHARED
WESTBOUND	N/A	N/A	N/A	N/A	N/A	0.234
EASTBOUND	N/A	N/A	N/A	N/A	N/A	0.329
NORTHBOUND	0.054	N/A	N/A	0.432	N/A	N/A
SOUTHBOUND	0.041	N/A	N/A	0.399	N/A	N/A

EAST-WEST CRITICAL V/C RATIO 0.359
NORTH-SOUTH CRITICAL V/C RATIO 0.473
CLEARANCE INTERVAL 0.100

ICU VALUE 0.932

LEVEL OF SERVICE ..... E

Capacity used for through lanes, first RT and LT lanes = 1700.

File: I:\Crain Projects\Active Projects\Pasadena Christian School\Data\ICAP7\Total PCS 2-08.xls, Worksheet: SortedTotal, Row: 31
1/31/2008 5:46:33 PM