ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	DPA	Intersection	SW 176 St & SW 82 Ave
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	2015 without Project
Analysis Time Period	PM Peak Hour		

Project ID *Palmer Trinity Traffic Study - #04211*

East/West Street: *SW 176 Street* | North/South Street: *SW 82 Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	13	4	51	23	1
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	3	3	33	3	6	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.71		0.50		0.67		0.86	
Flow Rate (veh/h)	23		150		57		9	
% Heavy Vehicles	2		2		2		2	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.7		0.1		0.3	
Prop. Right-Turns	0.2		0.0		0.9		0.0	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		0.2		-0.5		0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.02		0.13		0.05		0.01	
hd, final value (s)	4.09		4.22		3.83		4.44	
x, final value	0.03		0.18		0.06		0.01	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	2.1		2.2		1.8		2.4	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	273		400		307		259	
Delay (s/veh)	7.20		8.12		7.08		7.49	
LOS	A		A		A		A	
Approach: Delay (s/veh)	7.20		8.12		7.08		7.49	
LOS	A		A		A		A	
Intersection Delay (s/veh)	7.76							
Intersection LOS	A							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	DPA	Intersection	SW 176 St & SW 82 Ave
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	2015 with Project
Analysis Time Period	PM Peak Hour		

Project ID *Palmer Trinity Traffic Study - #04211*

East/West Street: *SW 176 Street* | North/South Street: *SW 82 Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	12	4	41	22	1
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	3	3	27	3	6	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.71		0.50		0.67		0.86	
Flow Rate (veh/h)	21		128		48		9	
% Heavy Vehicles	2		2		2		2	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.6		0.1		0.3	
Prop. Right-Turns	0.2		0.0		0.8		0.0	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		0.2		-0.4		0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.02		0.11		0.04		0.01	
hd, final value (s)	4.04		4.19		3.79		4.38	
x, final value	0.02		0.15		0.05		0.01	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	2.0		2.2		1.8		2.4	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	271		378		298		259	
Delay (s/veh)	7.13		7.92		6.99		7.43	
LOS	A		A		A		A	
Approach: Delay (s/veh)	7.13		7.92		6.99		7.43	
LOS	A		A		A		A	
Intersection Delay (s/veh)	7.60							
Intersection LOS	A							

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SW 176 Street / SW 83 Avenue

AM Peak Hour

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DPA*	Intersection	*SW 176 St & SW 83 Ave*
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	*2010 Existing*
Analysis Time Period	*AM Peak Hour*		
Project Description	*Palmer Trinity Traffic Study - #04211*		
East/West Street:	*SW 176 Street*	North/South Street:	*SW 83 Avenue*
Intersection Orientation:	*East-West*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	7	2	25	1	0
Peak-Hour Factor, PHF	0.75	0.75	0.75	0.42	0.42	0.42
Hourly Flow Rate, HFR (veh/h)	0	9	2	59	2	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	1	28	3	5	0
Peak-Hour Factor, PHF	0.48	0.48	0.48	0.67	0.67	0.67
Hourly Flow Rate, HFR (veh/h)	0	2	58	4	7	0
Percent Heavy Vehicles	2	2	2	2	2	2
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	LTR	LTR		LTR			LTR	
v (veh/h)	0	59		60			11	
C (m) (veh/h)	1620	1608		1055			735	
v/c	0.00	0.04		0.06			0.01	
95% queue length	0.00	0.11		0.18			0.05	
Control Delay (s/veh)	7.2	7.3		8.6			10.0	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--	8.6			10.0		
Approach LOS	--	--	A			A		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DPA*	Intersection	*SW 176 St & SW 83 Ave*
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	*2015 wout Project*
Analysis Time Period	*AM Peak Hour*		
Project Description	*Palmer Trinity Traffic Study - #04211*		
East/West Street:	*SW 176 Street*	North/South Street:	*SW 83 Avenue*
Intersection Orientation:	*East-West*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	8	2	26	1	0
Peak-Hour Factor, PHF	0.75	0.75	0.75	0.42	0.42	0.42
Hourly Flow Rate, HFR (veh/h)	0	10	2	61	2	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	1	30	3	6	0
Peak-Hour Factor, PHF	0.48	0.48	0.48	0.67	0.67	0.67
Hourly Flow Rate, HFR (veh/h)	0	2	62	4	8	0
Percent Heavy Vehicles	2	2	2	2	2	2
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	LTR	LTR		LTR			LTR	
v (veh/h)	0	61		64			12	
C (m) (veh/h)	1620	1607		1054			727	
v/c	0.00	0.04		0.06			0.02	
95% queue length	0.00	0.12		0.19			0.05	
Control Delay (s/veh)	7.2	7.3		8.6			10.0	
LOS	A	A		A			B	
Approach Delay (s/veh)	--	--	8.6			10.0		
Approach LOS	--	--	A			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DPA*	Intersection	*SW 176 St & SW 83 Ave*
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	*2015 w Project*
Analysis Time Period	*AM Peak Hour*		

Project Description *Palmer Trinity Traffic Study - #04211*	
East/West Street: *SW 176 Street*	North/South Street: *SW 83 Avenue*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	8	2	22	1	0
Peak-Hour Factor, PHF	0.75	0.75	0.75	0.42	0.42	0.42
Hourly Flow Rate, HFR (veh/h)	0	10	2	52	2	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	1	25	3	6	0
Peak-Hour Factor, PHF	0.48	0.48	0.48	0.67	0.67	0.67
Hourly Flow Rate, HFR (veh/h)	0	2	52	4	8	0
Percent Heavy Vehicles	2	2	2	2	2	2
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	LTR	LTR		LTR			LTR	
v (veh/h)	0	52		54			12	
C (m) (veh/h)	1620	1607		1053			753	
v/c	0.00	0.03		0.05			0.02	
95% queue length	0.00	0.10		0.16			0.05	
Control Delay (s/veh)	7.2	7.3		8.6			9.9	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--	8.6			9.9		
Approach LOS	--	--	A			A		

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SW 176 Street / SW 83 Avenue

PM Peak Hour

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DPA*	Intersection	*SW 176 St & SW 83 Ave*
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	*2010 Existing*
Analysis Time Period	*PM Peak Hour*		

Project Description *Palmer Trinity Traffic Study - #04211*	
East/West Street: *SW 176 Street*	North/South Street: *SW 83 Avenue*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	4	0	14	7	0
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.66	0.66	0.66
Hourly Flow Rate, HFR (veh/h)	0	8	0	21	10	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	3	3	11	0	3	0
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.38	0.38	0.38
Hourly Flow Rate, HFR (veh/h)	4	4	18	0	7	0
Percent Heavy Vehicles	2	2	2	2	2	2
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	LTR	LTR		LTR			LTR	
v (veh/h)	0	21		26			7	
C (m) (veh/h)	1610	1612		1000			820	
v/c	0.00	0.01		0.03			0.01	
95% queue length	0.00	0.04		0.08			0.03	
Control Delay (s/veh)	7.2	7.3		8.7			9.4	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--	8.7			9.4		
Approach LOS	--	--	A			A		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DPA*	Intersection	*SW 176 St & SW 83 Ave*
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	*2015 without Project*
Analysis Time Period	*PM Peak Hour*		

Project Description	*Palmer Trinity Traffic Study - #04211*
East/West Street: *SW 176 Street*	North/South Street: *SW 83 Avenue*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	4	0	15	8	0
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.66	0.66	0.66
Hourly Flow Rate, HFR (veh/h)	0	8	0	22	12	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	3	3	12	0	3	0
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.38	0.38	0.38
Hourly Flow Rate, HFR (veh/h)	4	4	19	0	7	0
Percent Heavy Vehicles	2	2	2	2	2	2
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	LTR	LTR		LTR			LTR	
v (veh/h)	0	22		27			7	
C (m) (veh/h)	1607	1612		1000			816	
v/c	0.00	0.01		0.03			0.01	
95% queue length	0.00	0.04		0.08			0.03	
Control Delay (s/veh)	7.2	7.3		8.7			9.4	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--	8.7			9.4		
Approach LOS	--	--	A			A		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*DPA*	Intersection	*SW 176 St & SW 83 Ave*
Agency/Co.		Jurisdiction	
Date Performed		Analysis Year	*2015 with Project*
Analysis Time Period	*PM Peak Hour*		

Project Description	*Palmer Trinity Traffic Study - #04211*
East/West Street: *SW 176 Street*	North/South Street: *SW 83 Avenue*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	4	0	15		0
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.66	0.66	0.66
Hourly Flow Rate, HFR (veh/h)	0	8	0	22	10	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	3	3	11	0	3	0
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.38	0.38	0.38
Hourly Flow Rate, HFR (veh/h)	4	4	18	0	7	0
Percent Heavy Vehicles	2	2	2	2	2	2
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	LTR	LTR		LTR			LTR	
v (veh/h)	0	22		26			7	
C (m) (veh/h)	1610	1612		998			818	
v/c	0.00	0.01		0.03			0.01	
95% queue length	0.00	0.04		0.08			0.03	
Control Delay (s/veh)	7.2	7.3		8.7			9.4	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--	8.7			9.4		
Approach LOS	--	--	A			A		

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