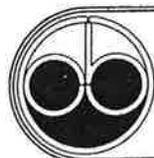


The Kirkland Children's School

TRAFFIC IMPACT ANALYSIS

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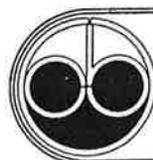
The Kirkland Children's School

TRAFFIC IMPACT ANALYSIS

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Continuation

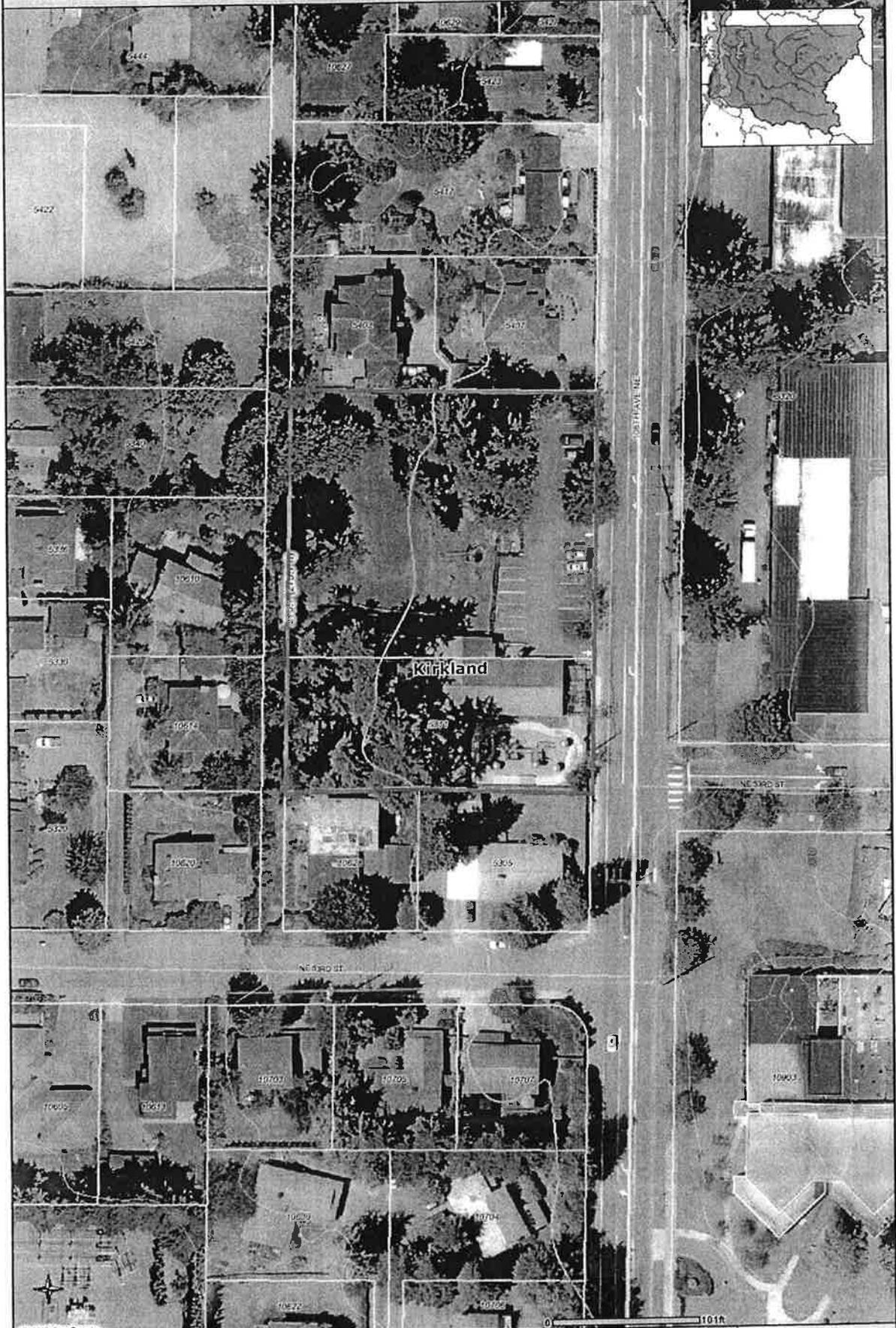
LOS Comps. A.M. Peak, Future With/	@ 108 <sup>th</sup> Ave. NE/NE 53 <sup>rd</sup> St.	EB	40.
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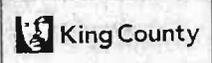
# KIRKLAND CHILDREN'S SCHOOL



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Date: 2/15/2011 Source: King County iMAP - Property Information (<http://www.metrokc.gov/GIS/IMAP>)



## Land Use: 565 Day Care Center

### Description

A day care center is a free-standing facility where care for pre-school aged children is provided, normally during the daytime hours. Day care facilities generally include classrooms, offices, eating areas and playgrounds. Some centers also provide after-school care for children.

### Additional Data

Peak hours of the generator—

The weekday a.m. and p.m. peak hours of the generator typically coincided with the peak hours of the adjacent street traffic.

The sites were surveyed from the mid-1980s to the 2000s throughout the United States.

### Source Numbers

169, 208, 216, 253, 335, 336, 337, 355, 418, 423, 536, 550, 562, 583

# Day Care Center (565)

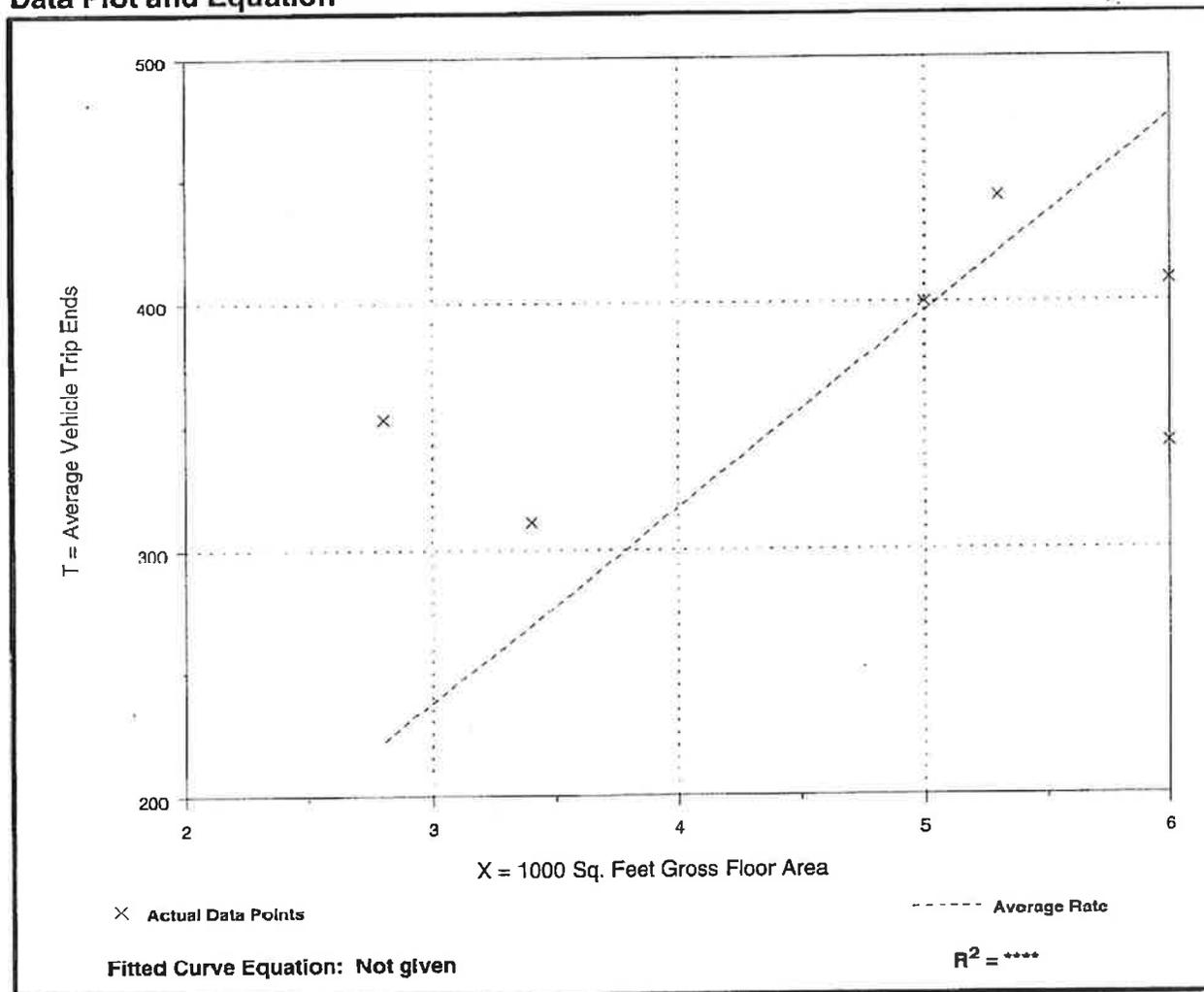
**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area**  
On a: **Weekday**

Number of Studies: 6  
Average 1000 Sq. Feet GFA: 5  
Directional Distribution: 50% entering, 50% exiting

### Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
79.26	57.17 - 126.07	21.03

### Data Plot and Equation



# Day Care Center (565)

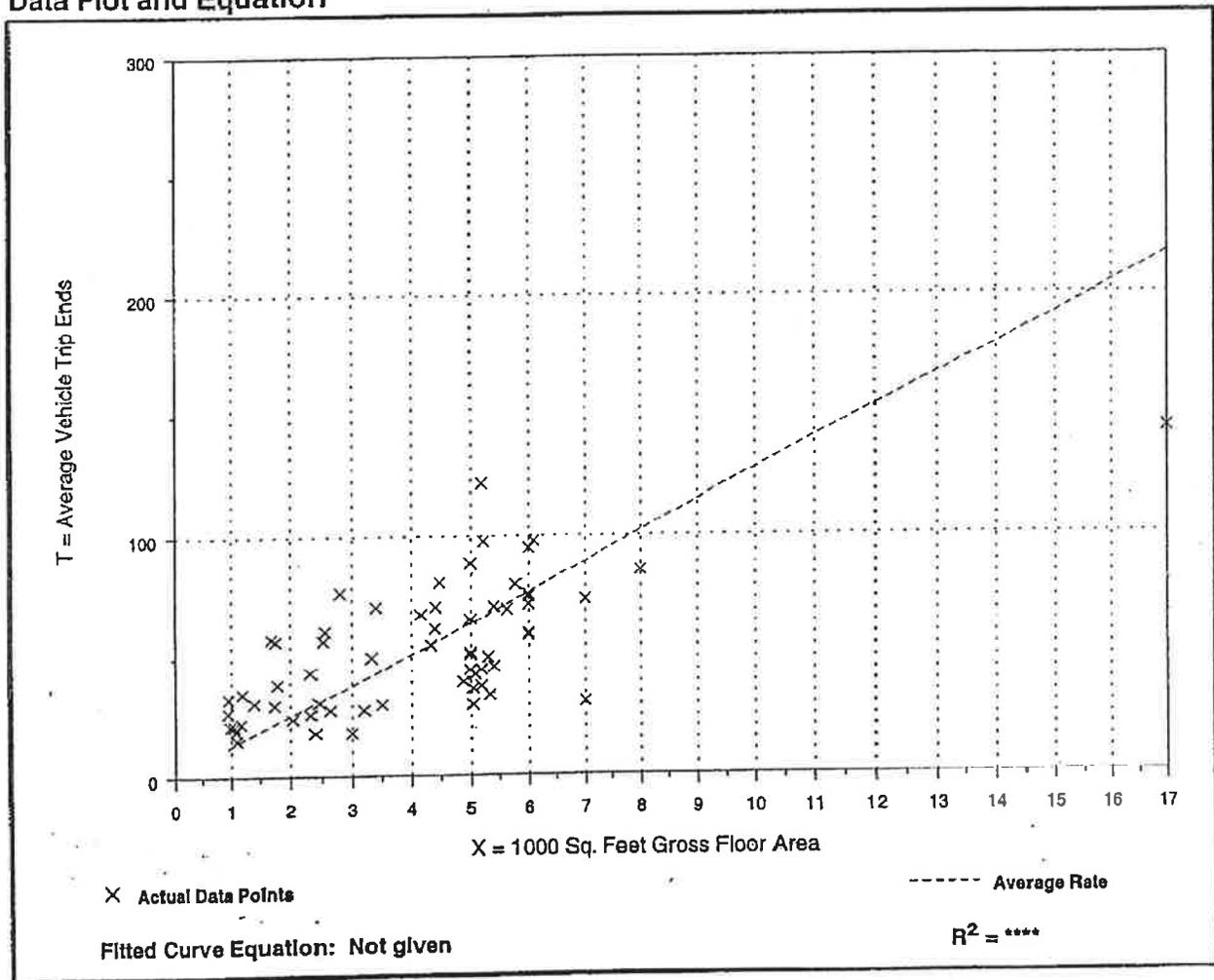
**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

Number of Studies: 62  
 Average 1000 Sq. Feet GFA: 4  
 Directional Distribution: 53% entering, 47% exiting

### Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
12.79	4.43 - 34.92	6.49

### Data Plot and Equation



# Day Care Center (565)

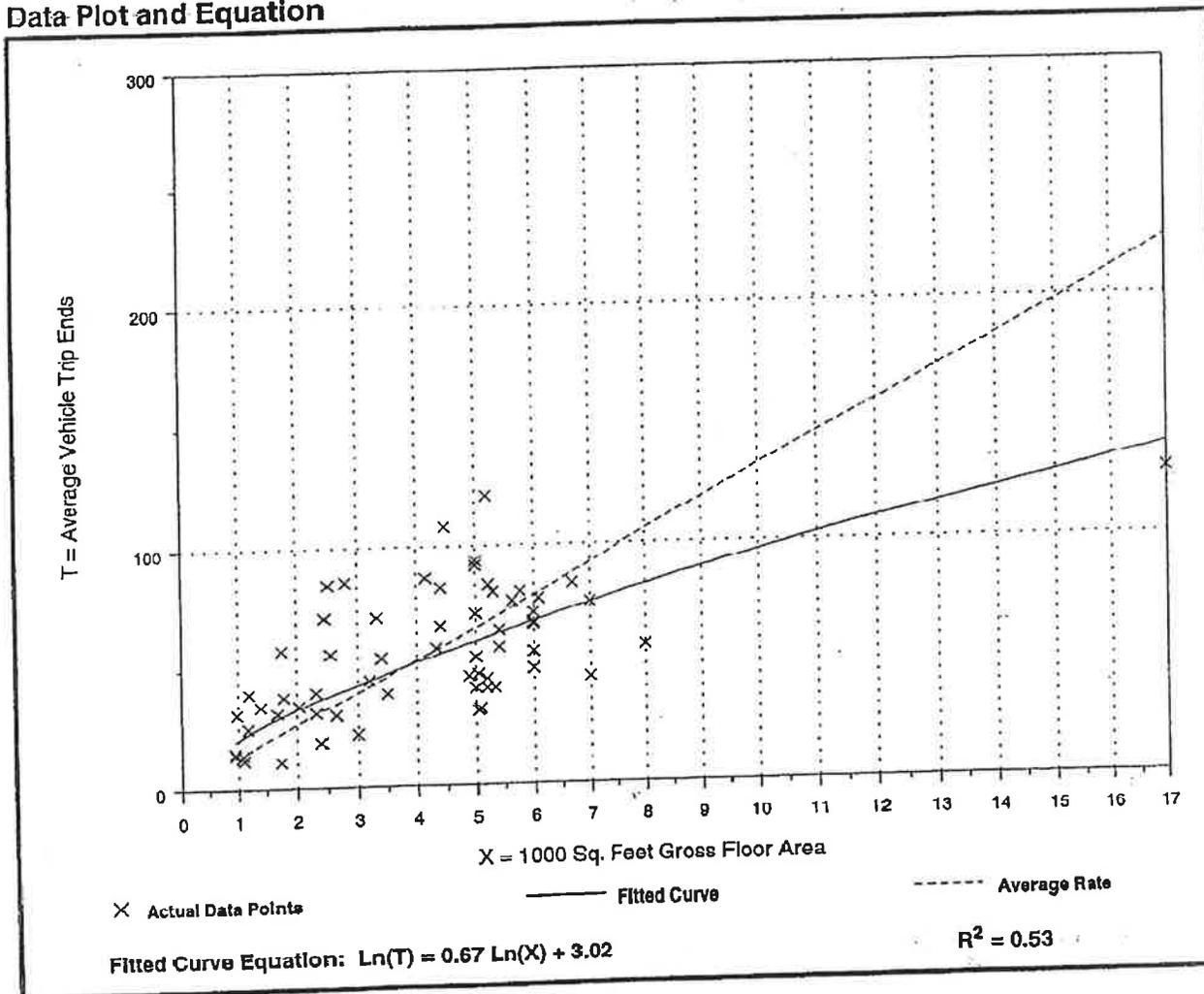
**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

Number of Studies: 63  
 Average 1000 Sq. Feet GFA: 4  
 Directional Distribution: 47% entering, 53% exiting

### Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
13.18	6.15 - 33.66	6.86

### Data Plot and Equation



# TRAFFIC VOLUME SUMMARY

PROJECT Kirkland Children's School DATE 1/30/12 DAY Monday  
 INTERSECTION OF: 108th Ave NE AND NE53rd Street  
 (N-S Offset ~ 40 feet)  
 TIME 6:30 AM TO 8:30 AM P = PEAK HOUR

TIME	Eastbound			Westbound			Northbound			Southbound			15 mi- Total
	L	S	R	L	S	R	L	S	R	L	S	R	
630-645	0		0	2		3	0	8	0	2	42	0	57
645-700	1		1	4		4	0	11	0	4	47	0	72
700-715	1		4	7		7	0	30	2	5	84	1	141
715-730	1		1	9		8	0	44	3	6	113	0	185
730-745	1		4	9		15	1	60	9	19	172	1	291
745-800	2		4	11		16	0	72	7	21	186	1	320
800-815	0		5	31		18	0	112	5	9	150	0	330
815-830	2		5	21		22	0	83	6	12	172	1	324
Metro-Total								13			13		
HV-2ax								2			1		
3ax											1		
School Bus								3			3		
P 730-830	5		18	72		71	1	327	27	61	680	3	
TOTALS													
% of TOTAL													

# TRAFFIC VOLUME SUMMARY

PROJECT Kirkland Childrens School DATE 1/30/12 DAY Monday  
 INTERSECTION OF: 108th Ave NE AND Site Driveways - One Way Pair  
 TIME 6:30 AM TO 8:30 AM P = PEAK HOUR

TIME	Eastbound			Westbound			Northbound			Southbound			15 mi- Tot
	L	S	R	L	S	R	L	S	R	L	S	R	
630-700	0		1				1	9			43	4	58
700-715	1		2				0	29			81	0	113
715-730	0		0				1	42			110	2	155
730-745	2		1				0	58			168	5	234
745-800	2		3				1	69			179	4	258
800-815	3		5				2	107			138	7	262
815-830	7		5				2	76			155	8	253
Metro - 2hr								13			13		
School Buses								3			3		
HV 2ax								2					
3ax											1		
P 730-830	14		14				5	310			640	24	
TOTALS													
% of TOTAL													



# TRAFFIC VOLUME SUMMARY

PROJECT Kirkland Children's School DATE 1/31/12 DAY Tue  
 INTERSECTION OF: 108th Ave NE AND Northwest University - Main Driveway  
 TIME 6:45 AM TO 8:30 AM P = PEAK HOUR

TIME	Eastbound			Westbound			Northbound			Southbound			15 mi- Totals
	L	S	R	L	S	R	L	S	R	L	S	R	
645-700				0		1		21	1	3	71		97
700-715				0		0		25	0	4	76		105
715-730				2		4		42	2	4	142		196
730-745				1		2		33	3	7	183		229
745-800				0		3		44	8	11	238	P	304
800-815				2		5		85	5	6	199		302
815-830				1		5		65	6	6	141		224
P 730-830				4		15		227	22	30	761		
Metro (730-830)								7			7		
HV-2ax								2			2		
Peds					2			3			5		
<b>TOTALS</b>													
<b>% of TOTAL</b>													



# TRAFFIC VOLUME SUMMARY

PROJECT Kirkland Children's School DATE January 27, 2012 DAY Friday  
 INTERSECTION OF: 108th Ave NE AND Northwest University - Main Drive  
NE 55th St - offset ~90ft  
 TIME 3:45 PM TO 5:45 PM P = PEAK HOUR

TIME	Eastbound NE 55th St			Westbound NU Main Dr.			Northbound			Southbound			15 mi- Total
	L	S	R	L	S	R	L	S	R	L	S	R	
345 - 400	1	0	3	7	0	6	2	103	4	6	101	2	231
400 - 415	2		3	7		13	3	143	4	5	81	1	262
415 - 430	1		1	2		10	2	129	4	4	71	3	225
430 - 445	3		5	10		8	4	151	4	2	73	0	261
445 - 500	2		1	6		9	4	142	4	9	77	0	255
500 - 515	0		1	5		11	5	174	7	4	68	3	278
515 - 530	1		4	4		12	4	177	5	6	82	0	291
530 - 545	1	✓	3	4	✓	11	4	150	5	5	75	1	255
Metro #255, 540								17			14		
School Bus								2			2		
2ax HV								5			3		
P 430-530	6	0	11	25		40	17	644	20	21	302	3	
PHP								0.91			0.92		
TOTALS													
% of TOTAL													



Prepared for: **Christopher Brown & Associates**  
**Traffic Count Consultants, Inc.**

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WBE/DBE

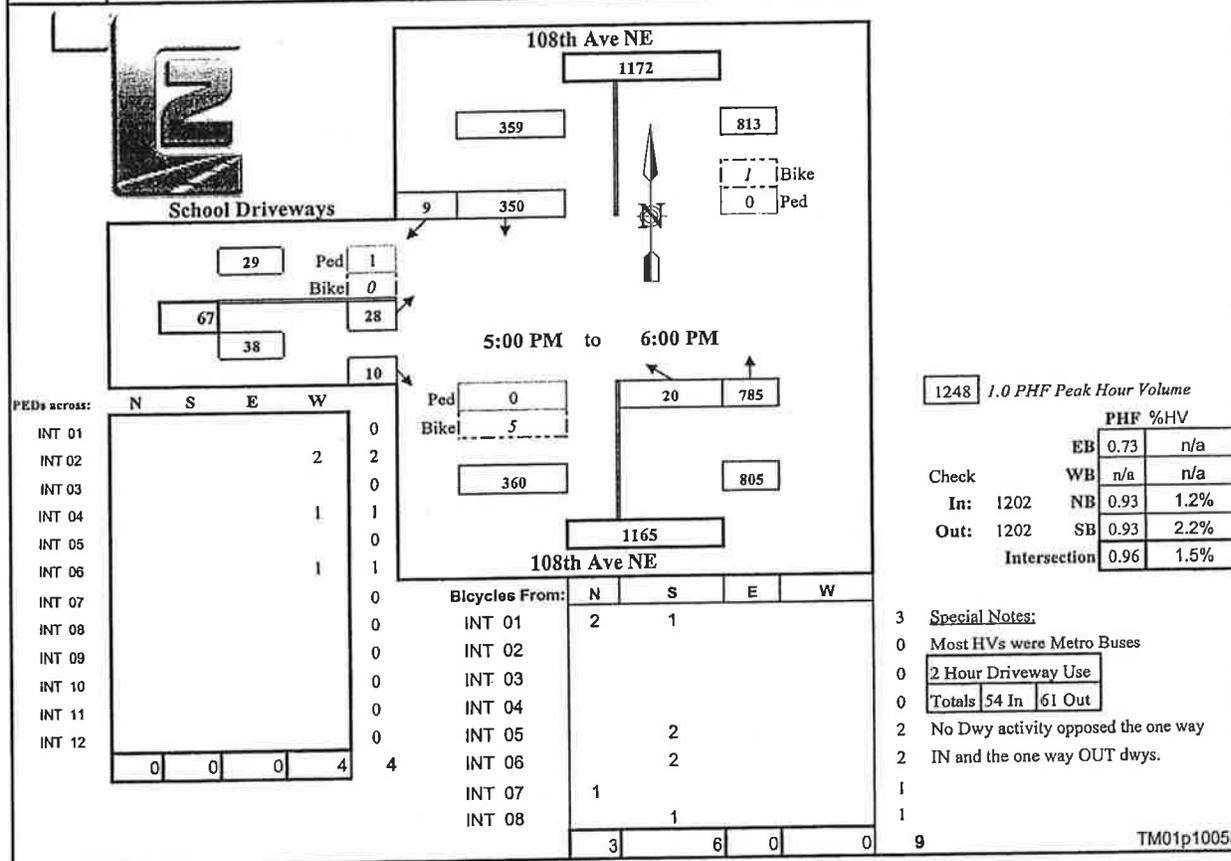
Intersection: Kirkland Children's School  
 Location: Kirkland

Date of Count: Tues 8-3-10  
 Checked By: JP

Time Interval Ending at	From North on (SB) 108th Ave NE				From South on (NB) 108th Ave NE				From East on (WB) 0				From West on (EB) School Driveways				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	3	0	81	0	4	4	138	0	0	0	0	0	0	1	0	1	225
4:30 P	2	0	83	6	3	3	155	0	0	0	0	0	0	9	0	3	259
4:45 P	0	0	83	2	5	3	175	0	0	0	0	0	0	5	0	1	278
5:00 P	4	0	83	4	4	3	182	0	0	0	0	0	0	5	0	2	302
5:15 P	1	0	96	1	2	4	194	0	0	0	0	0	0	5	0	3	309
5:30 P	3	0	90	4	2	9	197	0	0	0	0	0	0	6	0	3	279
5:45 P	1	0	78	3	3	2	183	0	0	0	0	0	0	10	0	3	312
6:00 P	3	0	86	1	3	5	211	0	0	0	0	0	0	7	0	2	0
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	17	0	680	21	26	33	1435	0	0	0	0	0	0	46	0	15	2230
Peak Hour: 5:00 PM to 6:00 PM																	

Total	8	0	350	9	10	20	785	0	0	0	0	0	0	28	0	10	1202
Approach	359				805				0				38				1202
%HV	2.2%				1.2%				n/a				n/a				1.5%
PHF	0.93				0.93				n/a				0.73				0.96





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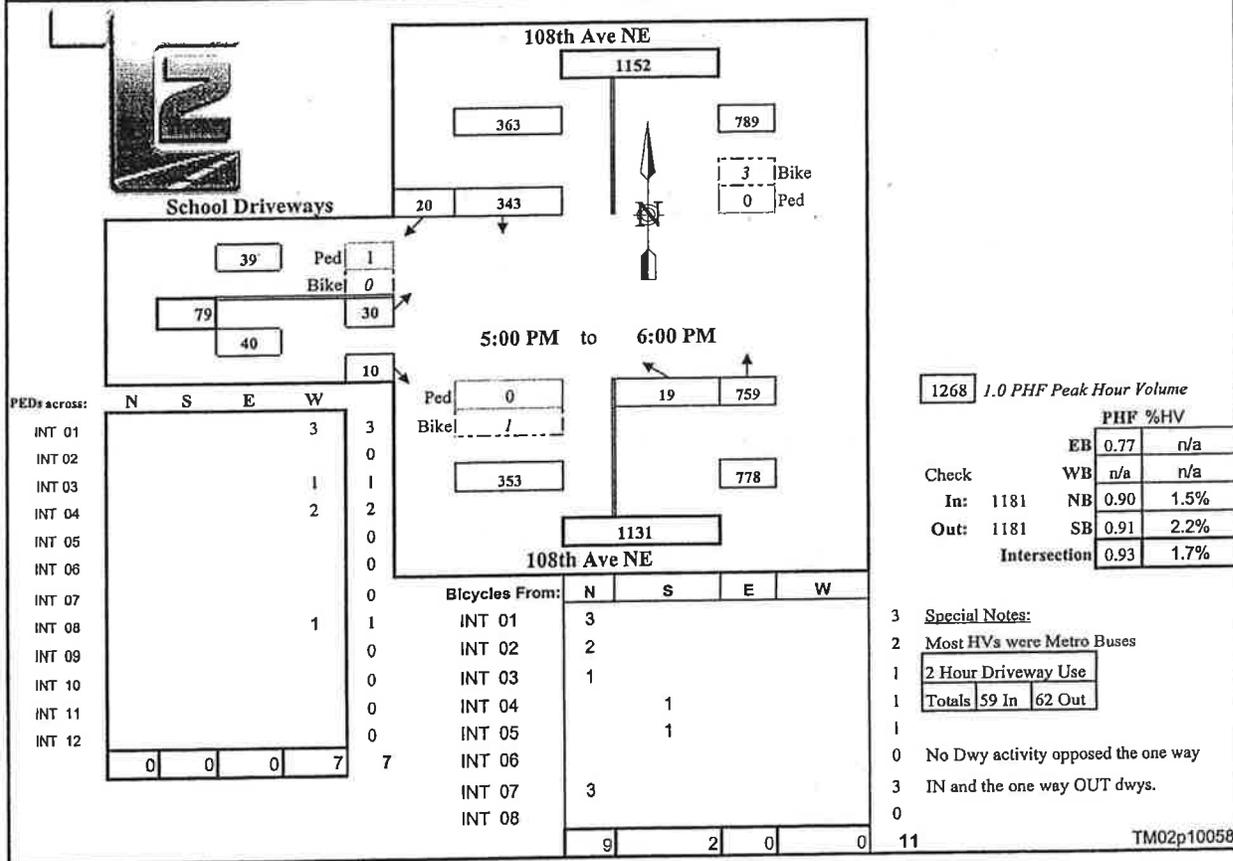
WBE/DBE

Intersection: Kirkland Children's School  
 Location: Kirkland

Date of Count: Weds 8-4-10  
 Checked By: JP

Time Interval Ending at	From North on (SB) 108th Ave NE				From South on (NB) 108th Ave NE				From East on (WB) 0				From West on (EB) School Driveways				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	1	0	88	4	4	1	146	0	0	0	0	0	0	2	0	0	241
4:30 P	2	0	86	1	6	8	158	0	0	0	0	0	0	5	0	4	262
4:45 P	3	0	74	2	2	2	180	0	0	0	0	0	0	6	0	1	265
5:00 P	3	0	82	1	3	1	163	0	0	0	0	0	0	3	0	1	251
5:15 P	2	0	76	4	4	4	178	0	0	0	0	0	0	5	0	1	268
5:30 P	2	0	85	7	1	6	196	0	0	0	0	0	0	7	0	3	304
5:45 P	2	0	89	2	5	7	208	0	0	0	0	0	0	9	0	2	317
6:00 P	2	0	93	7	2	2	177	0	0	0	0	0	0	9	0	4	292
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	17	0	673	28	27	31	1406	0	0	0	0	0	0	0	46	0	16	2200
Peak Hour: 5:00 PM to 6:00 PM																		
Total	8	0	343	20	12	19	759	0	0	0	0	0	0	0	30	0	10	1181
Approach	363				778				0				40				1181	
%HV	2.2%				1.5%				n/a				n/a				1.7%	
PHF	0.91				0.90				n/a				0.77				0.93	





Prepared for: **Christopher Brown & Associates**  
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WBE/DBE

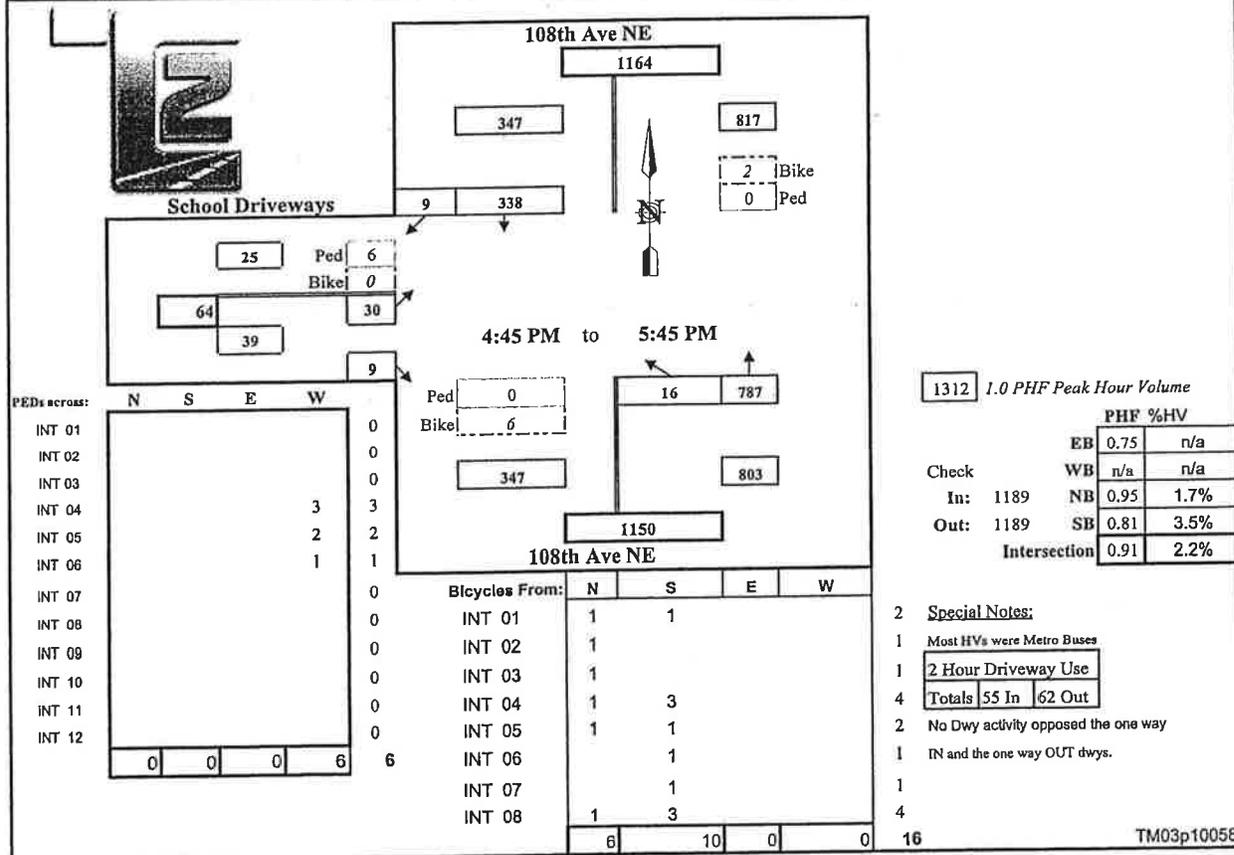
Intersection: Kirkland Children's School  
 Location: Kirkland

Date of Count: Thurs 8-5-10  
 Checked By: JP

Time Interval Ending at	From North on (SB) 108th Ave NE				From South on (NB) 108th Ave NE				From East on (WB) 0				From West on (EB) School Driveways				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	82	2	4	0	143	0	0	0	0	0	0	2	0	0	229
4:30 P	3	0	97	4	5	6	186	0	0	0	0	0	0	3	0	0	296
4:45 P	1	0	87	4	2	7	147	0	0	0	0	0	0	8	0	4	257
5:00 P	3	0	76	1	2	4	179	0	0	0	0	0	0	7	0	2	269
5:15 P	3	0	81	1	5	4	199	0	0	0	0	0	0	6	0	1	292
5:30 P	5	0	103	4	3	4	207	0	0	0	0	0	0	7	0	3	328
5:45 P	1	0	78	3	4	4	202	0	0	0	0	0	0	10	0	3	300
6:00 P	2	0	74	4	3	3	168	0	0	0	0	0	0	6	0	0	255
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Survey	18	0	678	23	28	32	1431	0	0	0	0	0	0	49	0	13	2226
Peak Hour: 4:45 PM to 5:45 PM																	

Total	12	0	338	9	14	16	787	0	0	0	0	0	0	30	0	9	1189
Approach	347				803				0				39				1189
%HV	3.5%				1.7%				n/a				n/a				2.2%
PHF	0.81				0.95				n/a				0.75				0.91



TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#1 AM Existing			
Agency/Co				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	AM Peak							
Project Description Kirkland Children's School LOS (IS#1AMEX)								
East/West Street: NE 53rd Street (EB)				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	1	349	0	0	680	3		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	1	379	0	0	739	3		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane -- 0							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	5	0	18		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	5	0	19		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	1						24	
C (m) (vph)	874						358	
v/c	0.00						0.07	
95% queue length	0.00						0.21	
Control Delay	9.1						15.8	
LOS	A						C	
Approach Delay	--	--					15.8	
Approach LOS	--	--					C	

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#2 AM Existing		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Existing		
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#2AMEX)</i>								
East/West Street: <i>NE 53rd Street WB</i>					North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>					Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	327	27	61	611	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	355	29	66	664	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane - /							
RT Channelized			0				0	
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	71	0	72	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	77	0	78	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		66	77		78			
C (m) (vph)		1186	325		680			
v/c		0.06	0.24		0.11			
95% queue length		0.18	0.91		0.39			
Control Delay		8.2	19.5		11.0			
LOS		A	C		B			
Approach Delay	--	--	15.2					
Approach LOS	--	--	C					

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#3 AM Existing			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#3AMEX)</i>								
East/West Street: <i>Site Exit</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	398	0	0	658	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	432	0	0	715	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane -- 2							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	14	0	14		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	15	0	15		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	0						30	
C (m) (vph)	895						425	
v/c	0.00						0.07	
95% queue length	0.00						0.23	
Control Delay	9.0						14.1	
LOS	A						B	
Approach Delay	--	--					14.1	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#4 AM Existing		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Existing		
Analysis Time Period	AM Peak							
<b>Project Description</b> Kirkland Children's School LOS (IS#4AMEX)								
East/West Street: Site Entry					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>		Northbound			Southbound			
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	5	407	0	0	658	24		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	5	442	0	0	715	26		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane - 2							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>		Westbound			Eastbound			
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	0	0	0		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	5						0	
C (m) (vph)	875							
v/c	0.01							
95% queue length	0.02							
Control Delay	9.1							
LOS	A							
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#5 AM Existing			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#5AMEX)</i>								
East/West Street: <i>NE 55th Street</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	4	403	0	0	663	1		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	4	438	0	0	720	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane -- /							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	3	0	19		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	3	0	20		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	4						23	
C (m) (vph)	890						418	
v/c	0.00						0.06	
95% queue length	0.01						0.17	
Control Delay	9.1						14.1	
LOS	A						B	
Approach Delay	--	--					14.1	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#6 AM Existing			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#6AMEX)</i>								
East/West Street: <i>Northwest University</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs) <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	384	22	30	660	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	417	23	32	717	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane - 2							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	4	0	15	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	4	0	16	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		32	4		16			
C (m) (vph)		1131	384		631			
v/c		0.03	0.01		0.03			
95% queue length		0.09	0.03		0.08			
Control Delay		8.3	14.5		10.9			
LOS		A	B		B			
Approach Delay	--	--	11.6					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#1 PM Existing			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	PM Peak							
Project Description: Kirkland Children's School LOS (IS#1PMEX)								
East/West Street: NE 53rd Street (EB)				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	3	622	0	0	290	8		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	3	676	0	0	315	8		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	5	0	18		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	5	0	19		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	3						24	
C (m) (vph)	1248						537	
v/c	0.00						0.04	
95% queue length	0.01						0.14	
Control Delay	7.9						12.0	
LOS	A						B	
Approach Delay	--	--					12.0	
Approach LOS	--	--					B	

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#2 PM Existing			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	PM Peak							
Project Description: Kirkland Children's School LOS (IS#2PMEX)								
East/West Street: NE 53rd Street WB				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	597	30	66	263	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	648	32	71	285	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	35	0	69	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	38	0	74	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		71	38		74			
C (m) (vph)		922	355		464			
v/c		0.08	0.11		0.16			
95% queue length		0.25	0.36		0.56			
Control Delay		9.2	16.4		14.2			
LOS		A	C		B			
Approach Delay	--	--	14.9					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#3 PM Existing		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Existing		
Analysis Time Period	PM Peak							
Project Description Kirkland Children's School LOS (IS#3PMEX)								
East/West Street: Site Exit					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
<b>Movement</b>	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	666	0	0	315	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	723	0	0	342	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	1	1	0	0	1	0		
Configuration	L	T					TR	
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
<b>Movement</b>	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	14	0	14		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	15	0	15		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
<b>Approach</b>	NB	SB	Westbound			Eastbound		
<b>Movement</b>	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	0						30	
C (m) (vph)	1228						533	
v/c	0.00						0.06	
95% queue length	0.00						0.18	
Control Delay	7.9						12.2	
LOS	A						B	
Approach Delay	--	--					12.2	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#4 PM Existing			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Existing			
Analysis Time Period	PM Peak							
Project Description: Kirkland Children's School LOS (IS#4PMEX)								
East/West Street: Site Entry				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	17	675	0	0	315			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	18	733	0	0	342	26		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	0	0	0		
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	0	0	0	1	0		
Configuration					LTR			
Delay, Queue Length, and Level of Service								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	18						0	
C (m) (vph)	1202							
v/c	0.01							
95% queue length	0.05							
Control Delay	8.0							
LOS	A							
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY								
General Information					Site Information			
Analyst	MJJ				Intersection	#5 PM Existing		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Existing		
Analysis Time Period	PM Peak							
Project Description: <i>Kirkland Children's School LOS (IS#5PMEX)</i>								
East/West Street: <i>NE 55th Street</i>					North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>					Study Period (hrs): <i>0.25</i>			
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	17	658	0	0	324	3		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	18	715	0	0	352	3		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T					TR	
Upstream Signal		0			0			
Minor Street	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	6	0	11		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	6	0	11		
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	0	0	0	1	0		
Configuration					LTR			
Delay, Queue Length, and Level of Service								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	18						17	
C (m) (vph)	1215						518	
v/c	0.01						0.03	
95% queue length	0.05						0.10	
Control Delay	8.0						12.2	
LOS	A						B	
Approach Delay	--	--					12.2	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#6 PM Existing		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Existing		
Analysis Time Period	PM Peak						
Project Description Kirkland Children's School LOS (IS#6PMEX)							
East/West Street: Northwest University				North/South Street: 108th Ave. NE			
Intersection Orientation: North-South				Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	644	20	21	302	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	699	21	22	328	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0				0
Lanes	0	1	0	1	1		0
Configuration			TR	L	T		
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	25	0	40	0	0	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	27	0	43	0	0	0	
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	1	0	1	0	0		0
Configuration	L		R				
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11 12
Lane Configuration		L	L		R		
v (vph)		22	27		43		
C (m) (vph)		891	425		437		
v/c		0.02	0.06		0.10		
95% queue length		0.08	0.20		0.33		
Control Delay		9.1	14.0		14.1		
LOS		A	B		B		
Approach Delay	--	--	14.1				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#1 AM w/o		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/o		
Analysis Time Period	AM Peak						
Project Description <i>Kirkland Children's School LOS (IS#1AMWO)</i>							
East/West Street: <i>NE 53rd Street (EB)</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	1	381	0	0	703	3	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	1	414	0	0	764	3	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	<i>Two Way Left Turn Lane</i>						
RT Channelized			0			0	
Lanes	1	1	0	0	1	0	
Configuration	L	T				TR	
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	0	0	0	5	0	18	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	0	0	5	0	19	
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	0	0	0	1	0	
Configuration					LTR		
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L						LTR
v (vph)	1						24
C (m) (vph)	856						341
v/c	0.00						0.07
95% queue length	0.00						0.23
Control Delay	9.2						16.4
LOS	A						C
Approach Delay	--	--					16.4
Approach LOS	--	--					C

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#2 AM w/o		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/o		
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#2AMWO)</i>								
East/West Street: <i>NE 53rd Street WB</i>					North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>					Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	327	59	103	611	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	355	64	111	664	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	95	0	118	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	103	0	128	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		111	103		128			
C (m) (vph)		1151	285		665			
v/c		0.10	0.36		0.19			
95% queue length		0.32	1.59		0.71			
Control Delay		8.5	24.6		11.7			
LOS		A	C		B			
Approach Delay	--	--	17.5					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#3 AM w/o			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/o			
Analysis Time Period	AM Peak							
Project Description Kirkland Children's School LOS (IS#3AMWO)								
East/West Street: Site Exit				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	445	0	0	700	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	483	0	0	760	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	14	0	14		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	15	0	15		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	0						30	
C (m) (vph)	861						400	
v/c	0.00						0.08	
95% queue length	0.00						0.24	
Control Delay	9.2						14.7	
LOS	A						B	
Approach Delay	--	--					14.7	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#4 AM w/o		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/o		
Analysis Time Period	AM Peak							
Project Description Kirkland Children's School LOS (IS#4AMWO)								
East/West Street: Site Entry					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	5	454	0	0	700	24		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	5	493	0	0	760	26		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	1	1	0	0	1	0		
Configuration	L	T					TR	
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	0	0	0		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	5						0	
C (m) (vph)	842							
v/c	0.01							
95% queue length	0.02							
Control Delay	9.3							
LOS	A							
Approach Delay	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#5 AM w/o			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/o			
Analysis Time Period	AM Peak			Project Description Kirkland Children's School LOS (IS#5AMWO)				
East/West Street: NE 55th Street				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	4	450	0	0	705	1		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	4	489	0	0	766	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	1	1	0	0	1	0		
Configuration	L	T					TR	
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	3	0	19		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	3	0	20		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	4						23	
C (m) (vph)	856						393	
v/c	0.00						0.06	
95% queue length	0.01						0.19	
Control Delay	9.2						14.7	
LOS	A						B	
Approach Delay	--	--					14.7	
Approach LOS	--	--					B	

TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#6 AM w/o		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/o		
Analysis Time Period	AM Peak						
Project Description <i>Kirkland Children's School LOS (IS#6AMWO)</i>							
East/West Street: <i>Northwest University</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	431	22	30	702	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	468	23	32	763	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0				0
Lanes	0	1	0	1	1	0	
Configuration			TR	L	T		
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	4	0	15	0	0	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	4	0	16	0	0	0	
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	1	0	1	0	0	0	
Configuration	L		R				
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		L	L		R		
v (vph)		32	4		16		
C (m) (vph)		1083	361		590		
v/c		0.03	0.01		0.03		
95% queue length		0.09	0.03		0.08		
Control Delay		8.4	15.1		11.3		
LOS		A	C		B		
Approach Delay	--	--	12.0				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#1 PM w/o			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/o			
Analysis Time Period	PM Peak			Project Description Kirkland Children's School LOS (IS#1PMWO)				
East/West Street: NE 53rd Street (EB)				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	3	622	0	0	290	8		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	3	676	0	0	315	8		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	5	0	6		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	5	0	6		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	3						11	
C (m) (vph)	1248						411	
v/c	0.00						0.03	
95% queue length	0.01						0.08	
Control Delay	7.9						14.0	
LOS	A						B	
Approach Delay	--	--					14.0	
Approach LOS	--	--					B	

TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#2 PM w/o		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/o		
Analysis Time Period	PM Peak						
Project Description <i>Kirkland Children's School LOS (IS#2PMWO)</i>							
East/West Street: <i>NE 53rd Street WB</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	597	30	66	263	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	648	32	71	285	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0				0
Lanes	0	1	0	1	1		0
Configuration			TR	L	T		
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	35	0	70	0	0	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	38	0	76	0	0	0	
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	1	0	1	0	0		0
Configuration	L		R				
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		L	L		R		
v (vph)		71	38		76		
C (m) (vph)		922	355		464		
v/c		0.08	0.11		0.16		
95% queue length		0.25	0.36		0.58		
Control Delay		9.2	16.4		14.3		
LOS		A	C		B		
Approach Delay	--	--	15.0-				
Approach LOS	--	--	B				

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#3 PM w/o			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/o			
Analysis Time Period	PM Peak							
Project Description <i>Kirkland Children's School LOS (IS#3PMWO)</i>								
East/West Street: <i>Site Exit</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	667	0	0	315	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	724	0	0	342	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	26	0	14		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	28	0	15		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	0						43	
C (m) (vph)	1228						496	
v/c	0.00						0.09	
95% queue length	0.00						0.28	
Control Delay	7.9						12.9	
LOS	A						B	
Approach Delay	--	--					12.9	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#4 PM w/o		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/o		
Analysis Time Period	PM Peak						
Project Description <i>Kirkland Children's School LOS (IS#4PMWO)</i>							
East/West Street: <i>Site Entry</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	17	676	0	0	315	20	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	18	734	0	0	342	21	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	1	1	0	0	1	0	
Configuration	L	T				TR	
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	0	0	0	0	0	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	0	0	0	0	0	
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	0	0	0	1	0	
Configuration					LTR		
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11 12
Lane Configuration	L						LTR
v (vph)	18						0
C (m) (vph)	1207						
v/c	0.01						
95% queue length	0.05						
Control Delay	8.0						
LOS	A						
Approach Delay	--	--					
Approach LOS	--	--					

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#5 PM w/o			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/o			
Analysis Time Period	PM Peak							
Project Description: Kirkland Children's School LOS (IS#5PMWO)								
East/West Street: NE 55th Street				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	17	659	0	0	324	3		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	18	716	0	0	352	3		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	6	0	11		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	6	0	11		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	18						17	
C (m) (vph)	1215						518	
v/c	0.01						0.03	
95% queue length	0.05						0.10	
Control Delay	8.0						12.2	
LOS	A						B	
Approach Delay	--	--					12.2	
Approach LOS	--	--					B	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#6 PM w/o		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/o		
Analysis Time Period	PM Peak							
Project Description Kirkland Children's School LOS (IS#6PMWO)								
East/West Street: Northwest University					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	645	20	21	302	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	701	21	22	328	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	25	0	40	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	27	0	43	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		22	27		43			
C (m) (vph)		889	424		436			
v/c		0.02	0.06		0.10			
95% queue length		0.08	0.20		0.33			
Control Delay		9.2	14.1		14.2			
LOS		A	B		B			
Approach Delay	--	--	14.1					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	MJJ			Intersection	#1 AM w/p			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/p			
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#1AMWP)</i>								
East/West Street: <i>NE 53rd Street (EB)</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	1	384	0	0	711	3		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	1	417	0	0	772	3		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
Minor Street	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	5	0	18		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	5	0	19		
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	0	0	0	1	0		
Configuration					LTR			
Delay, Queue Length, and Level of Service								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	1						24	
C (m) (vph)	850						337	
v/c	0.00						0.07	
95% queue length	0.00						0.23	
Control Delay	9.2						16.5	
LOS	A						C	
Approach Delay	--	--					16.5	
Approach LOS	--	--					C	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#2 AM w/p			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/p			
Analysis Time Period	AM Peak							
Project Description <i>Kirkland Children's School LOS (IS#2AMWP)</i>								
East/West Street: <i>NE 53rd Street WB</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	330	59	103	619	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	358	64	111	672	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	95	0	118	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	103	0	128	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		111	103		128			
C (m) (vph)		1148	283		663			
v/c		0.10	0.36		0.19			
95% queue length		0.32	1.60		0.71			
Control Delay		8.5	24.8		11.7			
LOS		A	C		B			
Approach Delay	--	--	17.6					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#3 AM w/p			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/p			
Analysis Time Period	AM Peak							
Project Description Kirkland Children's School LOS (IS#3AMWP)								
East/West Street: Site Exit				North/South Street: 108th Ave. NE				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	448	0	0	700	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	486	0	0	760	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T					TR	
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	22	0	22		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	23	0	23		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	0						46	
C (m) (vph)	861						400	
v/c	0.00						0.12	
95% queue length	0.00						0.39	
Control Delay	9.2						15.2	
LOS	A						C	
Approach Delay	--	--					15.2	
Approach LOS	--	--					C	

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#4 AM w/p		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/p		
Analysis Time Period	AM Peak							
Project Description Kirkland Children's School LOS (IS#4AMWP)								
East/West Street: Site Entry					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	8	462	0	0	700	40		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	8	502	0	0	760	43		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	0	0	0		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	8						0	
C (m) (vph)	830							
v/c	0.01							
95% queue length	0.03							
Control Delay	9.4							
LOS	A							
Approach Delay	--	--						
Approach LOS	--	--						

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#5 AM w/p		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/p		
Analysis Time Period	AM Peak							
Project Description: Kirkland Children's School LOS (IS#5AMWP)								
East/West Street: NE 55th Street					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>		Northbound			Southbound			
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	4	458	0	0	721	1		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	4	497	0	0	783	1		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L	T				TR		
Upstream Signal		0			0			
<b>Minor Street</b>		Westbound			Eastbound			
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	3	0	19		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	3	0	20		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	4						23	
C (m) (vph)	843						384	
v/c	0.00						0.06	
95% queue length	0.01						0.19	
Control Delay	9.3						15.0-	
LOS	A						B	
Approach Delay	--	--					15.0-	
Approach LOS	--	--					B	

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Version 4.1c

TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#6 AM w/p		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/p		
Analysis Time Period	AM Peak				Project Description Kirkland Children's School LOS (IS#6AMWP)			
East/West Street: Northwest University					North/South Street: 108th Ave. NE			
Intersection Orientation: North-South					Study Period (hrs): 0.25			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	439	22	30	718	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	477	23	32	780	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	4	0	15	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	4	0	16	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		32	4		16			
C (m) (vph)		1075	354		584			
v/c		0.03	0.01		0.03			
95% queue length		0.09	0.03		0.08			
Control Delay		8.5	15.3		11.3			
LOS		A	C		B			
Approach Delay	--	--	12.1					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	MJJ			Intersection	#1 PM w/p		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/p		
Analysis Time Period	PM Peak						
Project Description <i>Kirkland Children's School LOS (IS#1PMWP)</i>							
East/West Street: <i>NE 53rd Street (EB)</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	3	626	0	0	293	8	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	3	680	0	0	318	8	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	<i>Two Way Left Turn Lane</i>						
RT Channelized			0			0	
Lanes	1	1	0	0	1	0	
Configuration	L	T				TR	
Upstream Signal		0			0		
Minor Street	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	0	0	0	5	0	6	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	0	0	5	0	6	
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	0	0	0	1	0	
Configuration					LTR		
Delay, Queue Length, and Level of Service							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L						LTR
v (vph)	3						11
C (m) (vph)	1245						408
v/c	0.00						0.03
95% queue length	0.01						0.08
Control Delay	7.9						14.1
LOS	A						B
Approach Delay	--	--					14.1
Approach LOS	--	--					B

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#2 PM w/p			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/p			
Analysis Time Period	PM Peak							
Project Description <i>Kirkland Children's School LOS (IS#2PMWP)</i>								
East/West Street: <i>NE 53rd Street WB</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	601	30	66	266	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	653	32	71	289	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	35	0	70	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	38	0	76	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		71	38		76			
C (m) (vph)		918	353		461			
v/c		0.08	0.11		0.16			
95% queue length		0.25	0.36		0.59			
Control Delay		9.3	16.4		14.3			
LOS		A	C		B			
Approach Delay	--	--	15.0+					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>					<b>Site Information</b>			
Analyst	MJJ				Intersection	#3 PM w/p		
Agency/Co.					Jurisdiction	Kirkland		
Date Performed	2/2/2012				Analysis Year	Future w/p		
Analysis Time Period	PM Peak							
Project Description <i>Kirkland Children's School LOS (IS#3PMWP)</i>								
East/West Street: <i>Site Exit</i>					North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>					Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	671	0	0	315	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	729	0	0	342	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Two Way Left Turn Lane							
RT Channelized			0				0	
Lanes	1	1	0	0	1	0		
Configuration	L	T					TR	
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	33	0	17		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	0	0	35	0	18		
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	0	0	0	1	0		
Configuration					LTR			
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (vph)	0						53	
C (m) (vph)	1228						492	
v/c	0.00						0.11	
95% queue length	0.00						0.36	
Control Delay	7.9						13.2	
LOS	A						B	
Approach Delay	--	--					13.2	
Approach LOS	--	--					B	

TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#4 PM w/p		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/p		
Analysis Time Period	PM Peak						
Project Description <i>Kirkland Children's School LOS (IS#4PMWP)</i>							
East/West Street: <i>Site Entry</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	21	683	0	0	315	25	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	22	742	0	0	342	27	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	<i>Two Way Left Turn Lane</i>						
RT Channelized			0				0
Lanes	1	1	0	0	1	0	
Configuration	L	T					TR
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	0	0	0	0	0	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	0	0	0	0	0	
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	0	0	0	1	0	
Configuration					LTR		
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11 12
Lane Configuration	L						LTR
v (vph)	22						0
C (m) (vph)	1201						
v/c	0.02						
95% queue length	0.06						
Control Delay	8.1						
LOS	A						
Approach Delay	--	--					
Approach LOS	--	--					

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TWO-WAY STOP CONTROL SUMMARY							
<b>General Information</b>				<b>Site Information</b>			
Analyst	MJJ			Intersection	#5 PM w/p		
Agency/Co.				Jurisdiction	Kirkland		
Date Performed	2/2/2012			Analysis Year	Future w/p		
Analysis Time Period	PM Peak						
Project Description <i>Kirkland Children's School LOS (IS#5PMWP)</i>							
East/West Street: <i>NE 55th Street</i>				North/South Street: <i>108th Ave. NE</i>			
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>			
<b>Vehicle Volumes and Adjustments</b>							
<b>Major Street</b>	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	17	666	0	0	329	3	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	18	723	0	0	357	3	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Two Way Left Turn Lane						
RT Channelized			0			0	
Lanes	1	1	0	0	1	0	
Configuration	L	T				TR	
Upstream Signal		0			0		
<b>Minor Street</b>	Westbound			Eastbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	0	0	0	6	0	11	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR	0	0	0	6	0	11	
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	0	0	0	1	0	
Configuration					LTR		
<b>Delay, Queue Length, and Level of Service</b>							
Approach	NB	SB	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L						LTR
v (vph)	18						17
C (m) (vph)	1210						515
v/c	0.01						0.03
95% queue length	0.05						0.10
Control Delay	8.0						12.2
LOS	A						B
Approach Delay	--	--					12.2
Approach LOS	--	--					B

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TWO-WAY STOP CONTROL SUMMARY								
<b>General Information</b>				<b>Site Information</b>				
Analyst	MJJ			Intersection	#6 PM w/p			
Agency/Co.				Jurisdiction	Kirkland			
Date Performed	2/2/2012			Analysis Year	Future w/p			
Analysis Time Period	PM Peak							
Project Description <i>Kirkland Children's School LOS (IS#6PMWP)</i>								
East/West Street: <i>Northwest University</i>				North/South Street: <i>108th Ave. NE</i>				
Intersection Orientation: <i>North-South</i>				Study Period (hrs): <i>0.25</i>				
<b>Vehicle Volumes and Adjustments</b>								
<b>Major Street</b>	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	652	20	21	307	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	0	708	21	22	333	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	<i>Two Way Left Turn Lane</i>							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
<b>Minor Street</b>	Westbound			Eastbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	25	0	40	0	0	0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR	27	0	43	0	0	0		
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	1	0	1	0	0	0		
Configuration	L		R					
<b>Delay, Queue Length, and Level of Service</b>								
Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (vph)		22	27		43			
C (m) (vph)		884	421		432			
v/c		0.02	0.06		0.10			
95% queue length		0.08	0.20		0.33			
Control Delay		9.2	14.1		14.3			
LOS		A	B		B			
Approach Delay	--	--	14.2					
Approach LOS	--	--	B					

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**Figure 5 Worksheet for Determining Intersection Proportional Share<sup>1</sup>**

Project Name Kirkland Children's School  
 Major Street 108<sup>th</sup> Ave NE number of lanes\*  1  >1  
 Minor Street NE 53<sup>rd</sup> Street number of lanes\*  1  >1

**1. DAILY, PROJECT TRAFFIC VOLUME ENTERING THE INTERSECTION**

$V_1 = \frac{\text{Major Street volume (total of both approaches)}}{\text{Divide by 2}} = \frac{34}{2}$

$V_2 = \frac{\text{Major Street volume (total of both approaches)}}{\text{Divide by 2}} = \frac{0}{2}$

**2. DETERMINE GEOMETRIC FACTORS**

If the number of lanes on the Major Street = 1, then  $f_1 = 0.833, f_2 = 1.0$   
 If the number of lanes on the Major Street = 2, then  $f_1 = 1.0, f_2 = 1.33$   
 Otherwise,  $f_1$  and  $f_2 = 1.0$

$f_1 = 0.833$        $f_2 = 1$

**3. CALCULATE BASE PERCENTAGES**

$P_1 = (V_1 / 10,000) \times f_1 = (34 / 10,000) \times 0.833 = 0.003$

$P_2 = (V_2 / 5,000) \times f_2 = (0 / 5,000) \times 1 = 0$

$P_3 = (V_1 / 15,000) \times f_1 = (34 / 15,000) \times 0.833 = 0.003$

$P_4 = (V_2 / 2,500) \times f_2 = (0 / 2,500) \times 1 = 0$

**4. CALCULATE PROPORTIONAL SHARE\*\***

$S_1 = (P_1 + P_2) / 2 = (0.003 + 0) / 2 = 0.001$

$S_2 = (P_3 + P_4) / 2 = (0.003 + 0) / 2 = 0.001$

Intersection proportional share = maximum of  $S_1$  and  $S_2 =$

0.001

*Not significant*

\*\* An Excel spreadsheet is available for making the calculation. Contact the City Transportation Engineer for a copy.

\*Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.