TECHNICAL APPENDIX

Board of Zoning Adjustment
District of Columbia
CASE NO.16556
EXHIBIT NO.96A3

Intersection Traffic Volume Counts and Peak Hour Volume

AM
PEAK HOUR

JOB NAME:	Jewish Primary Day School	**COUNTED BY:**	Lisa & Raynette's Sister
PROJECT NO.	1720-001	**DAY & DATE:**	01/13/2000
LOCATION:	16th Street/Jonquil Street	**INTERVAL:**	15 minutes
CITY/COUNTY:	Washington, D.C.	**STATE:** DC	**WEATHER:** fair, cool

NB. APPROACH: 16th Street
SB. APPROACH: 16th Street
EB. APPROACH: Jonquil Street
WB. APPROACH: Jonquil Street

COUNTS

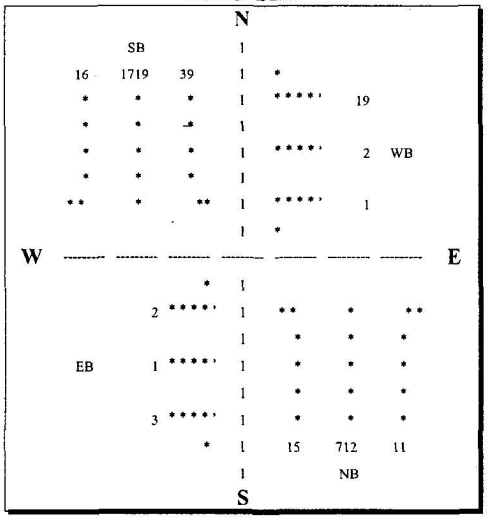
AM	Southbound			Westbound			Northbound			Eastbound			TOTAL HOURLY			AM
	R	T	L	R	T	L	R	T	L	R	T	L	VEH.	TOTAL	PHF	
MOVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12				
07:30 AM - 07:45 AM	0	490	4	2	0	1	2	165	2	0	0	0	666	2686	0.98	07:30 AM - 07:45 AM
07:45 AM - 08:00 AM	0	497	0	1	0	0	2	179	3	2	0	0	684	2656	0.97	07:45 AM - 08:00 AM
08:00 AM - 08:15 AM	6	478	0	3	0	1	2	168	3	1	0	1	663	2540	0.94	08:00 AM - 08:15 AM
08:15 AM - 08:30 AM	8	445	10	5	0	0	2	196	6	1	0	0	673	2460	0.91	08:15 AM - 08:30 AM
08:30 AM - 08:45 AM	2	412	25	6	1	0	5	182	3	0	0	0	636	2262	0.89	08:30 AM - 08:45 AM
08:45 AM - 09:00 AM	0	384	4	5	1	0	2	166	3	1	1	1	568	1626	0.70	08:45 AM - 09:00 AM
09:00 AM - 09:15 AM	0	410	0	1	0	1	2	165	2	0	1	1	583	1058	0.45	09:00 AM - 09:15 AM
09:15 AM - 09:30 AM	3	325	0	0	2	1	0	136	3	3	1	1	475	475	0.25	09:15 AM - 09:30 AM
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	09:30 AM - 09:45 AM
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	09:45 AM - 10:00 AM
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	10:00 AM - 10:15 AM
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	10:15 AM - 10:30 AM
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	10:30 AM - 10:45 AM
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			10:45 AM - 11:00 AM
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			11:00 AM - 11:15 AM
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			11:15 AM - 11:30 AM
AM TOTAL	**19**	**3441**	**43**	**23**	**4**	**4**	**17**	**1357**	**25**	**8**	**3**	**4**	**4948**	**2686**		**AM TOTAL**

PEAK HOUR VOLUMES

AM	Southbound			Westbound			Northbound			Eastbound			TOTAL HOURLY			AM
	R	T	L	R	T	L	R	T	L	R	T	L	VEH.	TOTAL	PHF	
MOVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12				
08:00 AM - 08:15 AM	6	478	0	3	0	1	2	168	3	1	0	1	663	---	---	08:00 AM - 08:15 AM
08:15 AM - 08:30 AM	8	445	10	5	0	0	2	196	6	1	0	0	673	---	---	08:15 AM - 08:30 AM
08:30 AM - 08:45 AM	2	412	25	6	1	0	5	182	3	0	0	0	636	---	---	08:30 AM - 08:45 AM
08:45 AM - 09:00 AM	0	384	4	5	1	0	2	166	3	1	1	1	568	---	---	08:45 AM - 09:00 AM
TOTAL	**16**	**1719**	**39**	**19**	**2**	**1**	**11**	**712**	**15**	**3**	**1**	**2**	**2540**	**0**		**AM TOTAL**

AM Peak Volumes

DIAGRAM



APPROACH/DEPARTURE VOLUMES

SB	
APPROACH:	1774
DEPART:	1723
WB	
APPROACH:	22
DEPART:	33
NB	
APPROACH:	738
DEPART:	733
EB	
APPROACH:	6
DEPART:	51

Intersection Traffic Volume Counts and Peak Hour Volume

PM

PEAK HOUR

JOB NAME:	Jewish Primary Day School	**COUNTED BY:**	Lisa & Raynette's Sister
PROJECT NO.	1720-001	**DAY & DATE:**	01/13/2000
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CITY/COUNTY:	Washington, D.C.	**STATE:** DC	**WEATHER:** fair, cool

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COUNTS

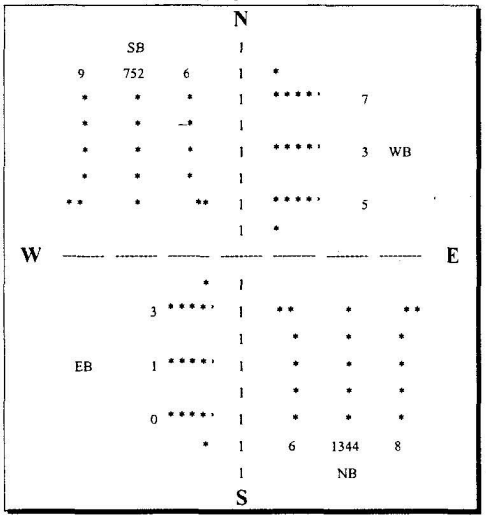
PM	Southbound			Westbound			Northbound			Eastbound			TOTAL VEH.	HOURLY TOTAL	PHF	PM
	R	T	L	R	T	L	R	T	L	R	T	L				
MVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12				
02:30 PM - 02:45 PM	2	201	0	0	0	0	1	286	0	0	0	0	490	2086	0.92	02:30 PM - 02:45 PM
02:45 PM - 03:00 PM	3	227	1	1	2	2	2	328	1	0	0	1	568	2144	0.94	02:45 PM - 03:00 PM
03:00 PM - 03:15 PM	1	169	2	4	1	0	1	302	5	0	1	1	487	2097	0.96	03:00 PM - 03:15 PM
03:15 PM - 03:30 PM	3	179	3	2	0	2	4	348	0	0	0	0	541	1610	0.73	03:15 PM - 03:30 PM
03:30 PM - 03:45 PM	2	177	0	0	0	1	1	366	0	0	0	1	548	1069	0.49	03:30 PM - 03:45 PM
03:45 PM - 04:00 PM	0	143	1	3	0	0	1	370	3	0	0	0	521	521	0.25	03:45 PM - 04:00 PM
04:00 PM - 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:00 PM - 04:15 PM
04:15 PM - 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:15 PM - 04:30 PM
04:30 PM - 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:30 PM - 04:45 PM
04:45 PM - 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:45 PM - 05:00 PM
05:00 PM - 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	05:00 PM - 05:15 PM
05:15 PM - 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	05:15 PM - 05:30 PM
05:30 PM - 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	05:30 PM - 05:45 PM
05:45 PM - 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			05:45 PM - 06:00 PM
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			06:00 PM - 06:15 PM
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			06:15 PM - 06:30 PM
PM TOTAL	**11**	**1096**	**7**	**10**	**3**	**5**	**10**	**2000**	**9**	**0**	**1**	**3**	**3155**	**2144**		**PM TOTAL**

PEAK HOUR VOLUMES

PM	Southbound			Westbound			Northbound			Eastbound			TOTAL VEH.	HOURLY TOTAL	PHF	PM
	R	T	L	R	T	L	R	T	L	R	T	L				
MVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12				
02:45 PM - 03:00 PM	3	227	1	1	2	2	2	328	1	0	0	1	568	---	---	02:45 PM - 03:00 PM
03:00 PM - 03:15 PM	1	169	2	4	1	0	1	302	5	0	1	1	487	---	---	03:00 PM - 03:15 PM
03:15 PM - 03:30 PM	3	179	3	2	0	2	4	348	0	0	0	0	541	---	---	03:15 PM - 03:30 PM
03:30 PM - 03:45 PM	2	177	0	0	0	1	1	366	0	0	0	1	548	---	---	03:30 PM - 03:45 PM
TOTAL	**9**	**752**	**6**	**7**	**3**	**5**	**8**	**1344**	**6**	**0**	**1**	**3**	**2144**	**0**		**PM TOTAL**

PM Peak Volumes

DIAGRAM



APPROACH/DEPARTURE VOLUMES

SB	
APPROACH:	767
DEPART:	757
WB	
APPROACH:	15
DEPART:	18
NB	
APPROACH:	1358
DEPART:	1354
EB	
APPROACH:	4
DEPART:	15

Intersection Traffic Volume Counts and Peak Hour Volume

AM

PEAK HOUR

JOB NAME:	Jewish Primary Day School	**COUNTED BY:**	Mike Weil
PROJECT NO.	1720-001	**DAY & DATE:**	01/13/2000
LOCATION:	16th Street/Juniper Street	**INTERVAL:**	15 minutes
CITY/COUNTY:	Washington, D.C.	**STATE:** DC	**WEATHER:** fair, cool

NB. APPROACH: 16th Street
SB. APPROACH: 16th Street
EB. APPROACH: Juniper Street
WB. APPROACH: Juniper Street

COUNTS

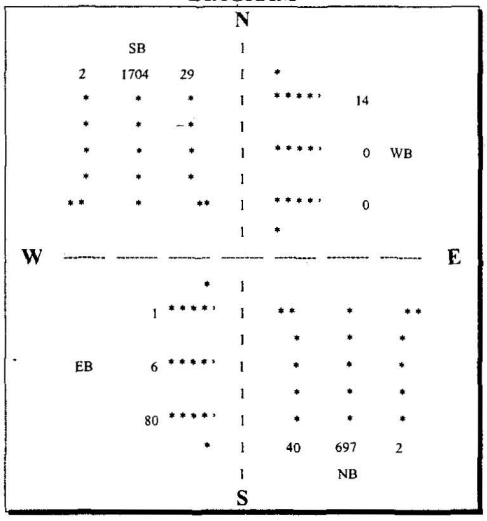
AM	Southbound			Westbound			Northbound			Eastbound			TOTAL	HOURLY		AM
	R	T	L	R	T	L	R	T	L	R	T	L	VEH.	TOTAL	PHF	
MOVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12				
07:30 AM - 07:45 AM	0	490	0	1	0	2	0	164	19	34	0	0	710	2806	0.98	07:30 AM - 07:45 AM
07:45 AM - 08:00 AM	0	497	1	0	1	0	0	179	10	26	0	0	714	2721	0.95	07:45 AM - 08:00 AM
08:00 AM - 08:15 AM	0	478	2	3	0	0	0	165	18	24	3	0	693	2575	0.93	08:00 AM - 08:15 AM
08:15 AM - 08:30 AM	0	445	13	5	0	0	1	191	12	22	0	0	689	2493	0.90	08:15 AM - 08:30 AM
08:30 AM - 08:45 AM	1	400	11	5	0	0	0	177	7	22	2	0	625	2294	0.92	08:30 AM - 08:45 AM
08:45 AM - 09:00 AM	1	381	3	1	0	0	1	164	3	12	1	1	568	1669	0.68	08:45 AM - 09:00 AM
09:00 AM - 09:15 AM	1	406	4	2	1	1	1	163	11	21	0	0	611	1101	0.45	09:00 AM - 09:15 AM
09:15 AM - 09:30 AM	0	323	2	0	0	3	0	136	12	14	0	0	490	490	0.25	09:15 AM - 09:30 AM
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	09:30 AM - 09:45 AM
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	09:45 AM - 10:00 AM
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	10:00 AM - 10:15 AM
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	10:15 AM - 10:30 AM
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	10:30 AM - 10:45 AM
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			10:45 AM - 11:00 AM
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			11:00 AM - 11:15 AM
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			11:15 AM - 11:30 AM
AM TOTAL	**3**	**3420**	**36**	**17**	**2**	**6**	**3**	**1339**	**92**	**175**	**6**	**1**	**5100**	**2806**		**AM TOTAL**

PEAK HOUR VOLUMES

AM	Southbound			Westbound			Northbound			Eastbound			TOTAL	HOURLY		AM
	R	T	L	R	T	L	R	T	L	R	T	L	VEH.	TOTAL	PHF	
MOVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12				
08:00 AM - 08:15 AM	0	478	2	3	0	0	0	165	18	24	3	0	693	---	---	08:00 AM - 08:15 AM
08:15 AM - 08:30 AM	0	445	13	5	0	0	1	191	12	22	0	0	689	---	---	08:15 AM - 08:30 AM
08:30 AM - 08:45 AM	1	400	11	5	0	0	0	177	7	22	2	0	625	---	---	08:30 AM - 08:45 AM
08:45 AM - 09:00 AM	1	381	3	1	0	0	1	164	3	12	1	1	568	---	---	08:45 AM - 09:00 AM
TOTAL	**2**	**1704**	**29**	**14**	**0**	**0**	**2**	**697**	**40**	**80**	**6**	**1**	**2575**	**0**		**AM TOTAL**

AM Peak Volumes

DIAGRAM



APPROACH/DEPARTURE VOLUMES

SB	
APPROACH:	1735
DEPART:	*1784*
WB	
APPROACH:	14
DEPART:	42
NB	
APPROACH:	739
DEPART:	712
EB	
APPROACH:	87
DEPART:	37

Intersection Traffic Volume Counts and Peak Hour Volume

PM

PEAK HOUR

JOB NAME:	Jewish Primary Day School	**COUNTED BY:**	Mike Weil
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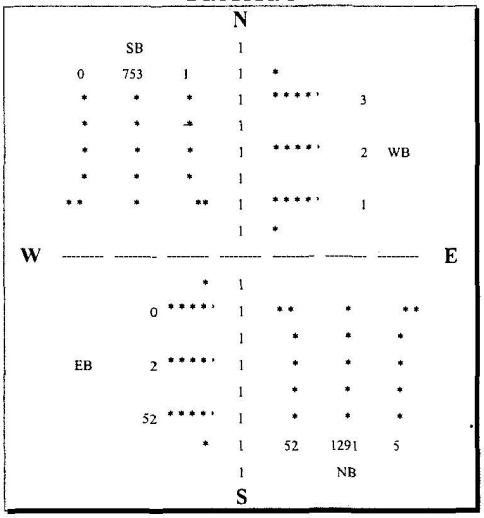
PM	Southbound			Westbound			Northbound			Eastbound			TOTAL HOURLY			PM		
	R	T	L	R	T	L	R	T	L	R	T	L	VEH.	TOTAL	PHF			
MOVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12						
02:30 PM - 02:45 PM	0	189	0	0	0	0	0	286	17	8	0	0	500	2101	0.91	02:30 PM	-	02:45 PM
02:45 PM - 03:00 PM	0	226	1	1	1	0	1	318	20	10	0	0	578	2162	0.94	02:45 PM	-	03:00 PM
03:00 PM - 03:15 PM	0	171	0	1	0	1	0	290	5	11	0	0	479	2150	0.95	03:00 PM	-	03:15 PM
03:15 PM - 03:30 PM	0	179	0	1	1	0	4	336	10	12	1	0	544	1671	0.74	03:15 PM	-	03:30 PM
03:30 PM - 03:45 PM	0	177	0	0	0	0	0	347	17	19	1	0	561	1127	0.50	03:30 PM	-	03:45 PM
03:45 PM - 04:00 PM	0	177	3	2	1	0	0	356	11	14	1	1	566	566	0.25	03:45 PM	-	04:00 PM
04:00 PM - 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:00 PM	-	04:15 PM
04:15 PM - 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:15 PM	-	04:30 PM
04:30 PM - 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:30 PM	-	04:45 PM
04:45 PM - 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	04:45 PM	-	05:00 PM
05:00 PM - 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	05:00 PM	-	05:15 PM
05:15 PM - 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	05:15 PM	-	05:30 PM
05:30 PM - 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NA	05:30 PM	-	05:45 PM
05:45 PM - 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			05:45 PM	-	06:00 PM
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			06:00 PM	-	06:15 PM
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			06:15 PM	-	06:30 PM
PM TOTAL	**0**	**1119**	**4**	**5**	**3**	**1**	**5**	**1933**	**80**	**74**	**3**	**1**	**3228**	**2162**		**PM TOTAL**		

PEAK HOUR VOLUMES

PM	Southbound			Westbound			Northbound			Eastbound			TOTAL HOURLY			PM		
	R	T	L	R	T	L	R	T	L	R	T	L	VEH.	TOTAL	PHF			
MOVEMENT #	1	2	3	4	5	6	7	8	9	10	11	12						
02:45 PM - 03:00 PM	0	226	1	1	1	0	1	318	20	10	0	0	578	---	---	02:45 PM	-	03:00 PM
03:00 PM - 03:15 PM	0	171	0	1	0	1	0	290	5	11	0	0	479	---	---	03:00 PM	-	03:15 PM
03:15 PM - 03:30 PM	0	179	0	1	1	0	4	336	10	12	1	0	544	---	---	03:15 PM	-	03:30 PM
03:30 PM - 03:45 PM	0	177	0	0	0	0	0	347	17	19	1	0	561	---	---	03:30 PM	-	03:45 PM
TOTAL	**0**	**753**	**1**	**3**	**2**	**1**	**5**	**1291**	**52**	**52**	**2**	**0**	**2162**	**0**		**PM TOTAL**		

PM Peak Volumes

DIAGRAM



APPROACH/DEPARTURE VOLUMES

SB	
APPROACH:	754
DEPART:	806
WB	
APPROACH:	6
DEPART:	54
NB	
APPROACH:	1348
DEPART:	1294
EB	
APPROACH:	54
DEPART:	8

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Jonquil Street
Count Date: 01/13/00
Time Period: AM Existing

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	17	702	16	43	1719	18	2	10	54	2	1	3
HFR:	19	780	18	48	1910	20	2	11	60	2	1	3
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:

Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3		
	L	T	R	L	T	R	L	T	R
	Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	399	965
Potential Capacity	606	259
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	606	259
Probability of Queue free St.	0.90	0.99

Step 2: LT from Major St.	4	1
Conflicting Flows	798	1930
Potential Capacity	833	309
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	833	309
Probability of Queue free St.	0.94	0.94

Step 3: TH from Minor St.	8	11
Conflicting Flows	2852	2851

Potential Capacity	17	17
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.89	0.89
Movement Capacity	15	15
Probability of Queue free St.	0.27	0.93

Step 4: LT from Minor St.	7	10
Conflicting Flows	1878	2449
Potential Capacity	45	16
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.82	0.24
Maj. L, Min T Adj. Imp Factor.	0.86	0.38
Cap. Adj. factor due to Impeding mvmnt	0.85	0.34
Movement Capacity	38	6

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	2	11	60	2	1	3
Movement Capacity	38	15	606	6	15	259
Shared Lane Capacity	83			14		

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	19	48	73			7		
C m(vph)	309	833	83			14		
v/c	0.06	0.06	0.88			0.48		
95% queue length								
Control Delay	17.4	9.6	156.3			414.8		
LOS	C	A	F			F		
Approach Delay				156.3			414.8	
Approach LOS				F			F	

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Jonquil Street
Count Date: 01/13/00
Time Period: PM Existing

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	8	1332	9	8	752	23	5	5	10	3	1	0
HFR:	9	1480	10	9	836	26	6	6	11	3	1	0
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:

Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	745	431
Potential Capacity	361	578
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	361	578
Probability of Queue free St.	0.97	1.00

Step 2: LT from Major St.	4	1
Conflicting Flows	1490	861
Potential Capacity	457	789
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	457	789
Probability of Queue free St.	0.98	0.99

Step 3: TH from Minor St.	8	11
Conflicting Flows	2382	2374

Potential Capacity	35	35
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.97	0.97
Movement Capacity	34	34
Probability of Queue free St.	0.84	0.97

Step 4: LT from Minor St.	7	10
Conflicting Flows	1939	1627
Potential Capacity	40	69
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.94	0.81
Maj. L, Min T Adj. Imp Factor.	0.95	0.85
Cap. Adj. factor due to Impeding mvmnt	0.95	0.83
Movement Capacity	38	57

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	6	6	11	3	1	0
Movement Capacity	38	34	361	57	34	578
Shared Lane Capacity	65			49		

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	9	9	22			4		
C m(vph)	789	457	65			49		
v/c	0.01	0.02	0.34			0.09		
95% queue length								
Control Delay	9.6	13.0	86.3			85.8		
LOS	A	B	F			F		
Approach Delay				86.3			85.8	
Approach LOS				F			F	

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Juniper Street
Count Date: 01/13/00
Time Period: AM Existing

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	51	719	2	29	1691	4	0	0	14	2	8	98
HFR:	57	799	2	32	1879	4	0	0	16	2	9	109
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:

Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3		
	L	T	R	L	T	R	L	T	R
	Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	401	942
Potential Capacity	605	268
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	605	268
Probability of Queue free St.	0.97	0.59

Step 2: LT from Major St.	4	1
Conflicting Flows	801	1883
Potential Capacity	831	323
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	831	323
Probability of Queue free St.	0.96	0.82

Step 3: TH from Minor St.	8	11
Conflicting Flows	2861	2860

Potential Capacity	17	17
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.79	0.79
Movement Capacity	14	14
Probability of Queue free St.	1.00	0.34

Step 4: LT from Minor St.	7	10

Conflicting Flows	1922	2458
Potential Capacity	41	16
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.27	0.79
Maj. L, Min T Adj. Imp Factor.	0.41	0.84
Cap. Adj. factor due to Impeding mvmnt	0.24	0.82
Movement Capacity	10	13

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	0	0	16	2	9	109
Movement Capacity	10	14	605	13	14	268
Shared Lane Capacity	605			97		

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	57	32	16			120		
C m(vph)	323	831	605			97		
v/c	0.18	0.04	0.03			1.23		
95% queue length								
Control Delay	18.5	9.5	11.1			246.4		
LOS	C	A	B			F		
Approach Delay				11.1			246.4	
Approach LOS				B			F	

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Juniper Street
Count Date: 01/13/00
Time Period: PM Existing

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	52	1346	5	1	756	0	1	2	3	0	2	52
HFR:	58	1496	6	1	840	0	1	2	3	0	2	58
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:
Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	751	420
Potential Capacity	358	588
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	358	588
Probability of Queue free St.	0.99	0.90

Step 2: LT from Major St.	4	1
Conflicting Flows	1501	840
Potential Capacity	452	804
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	452	804
Probability of Queue free St.	1.00	0.93

Step 3: TH from Minor St.	8	11
Conflicting Flows	2456	2459

Potential Capacity	31	31
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.93	0.93
Movement Capacity	29	29
Probability of Queue free St.	0.92	0.92

Step 4: LT from Minor St.	7	10
Conflicting Flows	2037	1707
Potential Capacity	34	60
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.85	0.85
Maj. L, Min T Adj. Imp Factor.	0.89	0.89
Cap. Adj. factor due to Impeding mvmnt	0.80	0.88
Movement Capacity	27	53

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	1	2	3	0	2	58
Movement Capacity	27	29	358	53	29	588
Shared Lane Capacity	52		342			

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	58	1	7			60		
C m(vph)	804	452	52			342		
v/c	0.07	0.00	0.13			0.18		
95% queue length								
Control Delay	9.8	13.0	83.5			17.8		
LOS	A	B	F			C		
Approach Delay				83.5			17.8	
Approach LOS				F			C	

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Jonquil Street
Count Date: 01/13/00
Time Period: AM Future

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	17	730	44	43	1759	18	2	10	54	2	1	43
HFR:	19	811	49	48	1954	20	2	11	60	2	1	48
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:

Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	430	987
Potential Capacity	579	250
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	579	250
Probability of Queue free St.	0.90	0.81

Step 2: LT from Major St.	4	1
Conflicting Flows	860	1974
Potential Capacity	790	297
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	790	297
Probability of Queue free St.	0.94	0.94

Step 3: TH from Minor St.	8	11
Conflicting Flows	2943	2958

Potential Capacity	15	15
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.88	0.88
Movement Capacity	13	13
Probability of Queue free St.	0.16	0.91

Step 4: LT from Minor St.	7	10

Conflicting Flows	1947	2509
Potential Capacity	40	15
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.80	0.14
Maj. L, Min T Adj. Imp Factor.	0.85	0.27
Cap. Adj. factor due to Impeding mvmnt	0.69	0.24
Movement Capacity	27	4

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	2	11	60	2	1	48
Movement Capacity	27	13	579	4	13	250
Shared Lane Capacity	72			57		

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	19	48	73			51		
C m(vph)	297	790	72			57		
v/c	0.06	0.06	1.02			0.89		
95% queue length								
Control Delay	17.9	9.8	212.9			204.3		
LOS	C	A	F			F		
Approach Delay			212.9			204.3		
Approach LOS			F			F		

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Jonquil Street
Count Date: 01/13/00
Time Period: PM Future

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	8	1347	24	8	774	23	5	5	10	3	1	22
HFR:	9	1497	27	9	860	26	6	6	11	3	1	24
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:
Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	762	443
Potential Capacity	352	568
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	352	568
Probability of Queue free St.	0.97	0.96

Step 2: LT from Major St.	4	1
Conflicting Flows	1523	886
Potential Capacity	444	773
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	444	773
Probability of Queue free St.	0.98	0.99

Step 3: TH from Minor St.	8	11
Conflicting Flows	2431	2432

Potential Capacity	32	32
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.97	0.97
Movement Capacity	31	31
Probability of Queue free St.	0.82	0.96

Step 4: LT from Minor St.	7	10
Conflicting Flows	1976	1659
Potential Capacity	38	65
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.93	0.80
Maj. L, Min T Adj. Imp Factor.	0.95	0.84
Cap. Adj. factor due to Impeding mvmnt	0.91	0.82
Movement Capacity	34	53

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	6	6	11	3	1	24
Movement Capacity	34	31	352	53	31	568
Shared Lane Capacity	60		205			

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	9	9	22		29			
C m(vph)	773	444	60		205			
v/c	0.01	0.02	0.37		0.14			
95% queue length								
Control Delay	9.7	13.3	97.0		25.4			
LOS	A	B	F		D			
Approach Delay			97.0		25.4			
Approach LOS			F		D			

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Juniper Street
Count Date: 01/13/00
Time Period: AM Future

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	51	747	2	29	1731	44	0	0	42	2	8	98
HFR:	57	830	2	32	1923	49	0	0	47	2	9	109
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:

Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	416	986
Potential Capacity	591	250
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	591	250
Probability of Queue free St.	0.92	0.57

Step 2: LT from Major St.	4	1
Conflicting Flows	832	1972
Potential Capacity	809	298
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	809	298
Probability of Queue free St.	0.96	0.81

Step 3: TH from Minor St.	8	11
Conflicting Flows	2981	2958

Potential Capacity	14	15
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.78	0.78
Movement Capacity	11	11
Probability of Queue free St.	1.00	0.22

Step 4: LT from Minor St.	7	10
Conflicting Flows	1975	2541
Potential Capacity	38	14
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.17	0.78
Maj. L, Min T Adj. Imp Factor.	0.31	0.83
Cap. Adj. factor due to Impeding mvmnt	0.17	0.76
Movement Capacity	7	11

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	0	0	47	2	9	109
Movement Capacity	7	11	591	11	11	250
Shared Lane Capacity	591			85		

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	57	32	47			120		
C m(vph)	298	809	591			85		
v/c	0.19	0.04	0.08			1.42		
95% queue length								
Control Delay	19.9	9.6	11.6			332.1		
LOS	C	A	B			F		
Approach Delay				11.6			332.1	
Approach LOS				B			F	

HCS: Unsignalized Intersections Release 3.1b

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: MWW
Intersection: 16th Street/Juniper Street
Count Date: 01/13/00
Time Period: PM Future

Intersection Orientation: North-South Major St.

Vehicle Volume Data:

Movements:	1	2	3	4	5	6	7	8	9	10	11	12
Volume:	52	1361	5	1	778	22	1	2	18	0	2	52
HFR:	58	1512	6	1	864	24	1	2	20	0	2	58
PHF:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHV:	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pedestrian Volume Data:

Movements:

Flow:
Lane width:
Walk speed:
% Blockage:

Median Type: None
# of vehicles: 0

Flared approach Movements:

# of vehicles: Eastbound 0
# of vehicles: Westbound 0

Lane usage for movements 1,2&3 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 4,5&6 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	N	N	N	Y	N	N	Y	Y

Channelized: N
Grade: 0.00

Lane usage for movements 7,8&9 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Lane usage for movements 10,11&12 approach:

	Lane 1			Lane 2			Lane 3	
L	T	R	L	T	R	L	T	R
Y	Y	Y	N	N	N	N	N	N

Channelized: N
Grade: 0.00

Data for Computing Effect of Delay to Major Street Vehicles:

	Northbound	Southbound
Shared ln volume, major th vehicles:	0	0
Shared ln volume, major rt vehicles:	0	0
Sat flow rate, major th vehicles:	1700	1700
Sat flow rate, major rt vehicles:	1700	1700
Number of major street through lanes:	2	2

Length of study period, hrs: 0.25

Worksheet 4 Critical Gap and Follow-up time calculation.

Critical Gap Calculations:

Movement	1	4	7	8	9	10	11	12
t c,base	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9
t c,hv	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c,g			0.2	0.2	0.1	0.2	0.2	0.1
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t 3,lt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t c,T:								
1 stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t c								
1 stage	4.1	4.1	7.5	6.5	6.9	7.5	6.5	6.9

Follow Up Time Calculations:

Movement	1	4	7	8	9	10	11	12
t f,base	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3
t f,HV	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
P hv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
t f	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.3

Worksheet 6 Impedance and capacity equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	759	444
Potential Capacity	354	567
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	354	567
Probability of Queue free St.	0.94	0.90

Step 2: LT from Major St.	4	1
Conflicting Flows	1518	889
Potential Capacity	446	771
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	446	771
Probability of Queue free St.	1.00	0.93

Step 3: TH from Minor St.	8	11
Conflicting Flows	2522	2512

Potential Capacity	28	29
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	0.92	0.92
Movement Capacity	26	26
Probability of Queue free St.	0.91	0.92

Step 4: LT from Minor St.	7	10
Conflicting Flows	2066	1752
Potential Capacity	32	56
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor	0.85	0.84
Maj. L, Min T Adj. Imp Factor.	0.88	0.88
Cap. Adj. factor due to Impeding mvmnt	0.79	0.83
Movement Capacity	26	46

Worksheet 8 Shared Lane Calculations

Shared Lane Calculations

Movement	7	8	9	10	11	12
v(vph)	1	2	20	0	2	58
Movement Capacity	26	26	354	46	26	567
Shared Lane Capacity	126			323		

Worksheet 10 delay,queue length, and LOS

Movement	1	4	7	8	9	10	11	12
v(vph)	58	1	23			60		
C m(vph)	771	446	126			323		
v/c	0.07	0.00	0.19			0.19		
95% queue length								
Control Delay	10.0	13.1	40.0			18.7		
LOS	B	B	E			C		
Approach Delay				40.0			18.7	
Approach LOS				E			C	

ANTHONY A. WILLIAMS
MAYOR

Dr. Richard Scaldini
President and CEO
Jewish Primary Day School of the Nation's Capitol
1625 Massachusetts Avenue, NW
Washington, D.C. 20036

Dear Dr. Scaldini:

Thank you for keeping my office updated on the issue of the relocation of the Jewish Primary Day School (JPDS). I also appreciate the fact that your group is willing to work with both my Executive Office and the Department of Planning so that we can resolve this matter in a manner that satisfies all affected parties.

As Mayor, I would like to add my strongest support to your efforts to remain in the District of Columbia. JPDS is one of many institutions, both secular and non-secular, that play a vital role in preserving the cultural diversity that comprise the District environment and contributes to the vibrant and diverse society in the District. As the District's only remaining Jewish day school, the Office of the Mayor is committed to keeping this vital link to Jewish heritage in the District. Please continue to work with my office to find an amicable solution to the challenges of securing interim and permanent space in the District.

Sincerely,

Anthony A. Williams
Mayor

AAW/jlw