

APPENDIX A
Vehicle Occupancy

Table A-1
The Lab School of Washington
Vehicle Occupancy Counts - Front Door
Wednesday, October 19, 2005

Time	Drop-Off						Total Vehicles	Total Passengers	Pick-Up						Total Vehicles	Total Passengers
	1	2	3	4	5	6			1	2	3	4	5	6		
Morning Peak																
7:00-7:15	11	0	0	0	0	0	11	11	0	0	0	0	0	0	0	0
7:15-7:30	22	2	0	0	0	0	24	26	0	0	0	0	0	0	0	0
7:30-7:45	5	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0
7:45-8:00	10	5	1	0	0	0	16	23	0	0	0	0	0	0	0	0
8:00-8:15	26	6	3	0	0	0	35	47	0	0	0	0	0	0	0	0
8:15-8:30	56	10	0	0	0	0	66	76	0	0	0	0	0	0	0	0
8:30-8:45	14	1	0	0	0	0	15	16	0	0	0	0	0	0	0	0
8:45-9:00	5	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0
9:00-9:15	1	1	0	0	0	0	2	3	0	0	0	0	0	0	0	0
9:15-9:30	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	151	25	4	0	0		180	213	0	0	0	0	0		0	0
	84%	14%	2%	0%	0%			1.18								
Afternoon Peak																
2:00-2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15-2:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3
2:30-2:45	0	0	0	0	0	0	0	0	3	2	0	0	0	0	5	7
2:45-3:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	7
3:00-3:15	0	0	0	0	0	0	0	0	31	5	0	0	0	0	36	41
3:15-3:30	0	0	0	0	0	0	0	0	25	8	1	0	0	0	34	44
3:30-3:45	0	0	0	0	0	0	0	0	21	2	2	0	0	1	26	37
3:45-4:00	0	0	0	0	0	0	0	0	5	2	0	0	0	1	8	15
4:00-4:15	0	0	0	0	0	0	0	0	8	2	0	0	0	0	10	12
4:15-4:30	0	0	0	0	0	0	0	0	7	3	0	0	0	0	10	13
4:30-4:45	0	0	0	0	0	0	0	0	8	1	0	0	0	1	10	16
4:45-5:00	0	0	0	0	0	0	0	0	10	6	0	0	0	0	16	22
5:00-5:15	0	0	0	0	0	0	0	0	6	1	0	0	0	0	7	8
5:15-5:30	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	7
5:30-5:45	0	0	0	0	0	0	0	0	13	1	0	0	0	0	14	15
5:45-6:00	0	0	0	0	0	0	0	0	6	2	0	0	0	0	8	10
6:00-6:15	0	0	0	0	0	0	0	0	8	4	1	0	0	1	14	25
6:15-6:30	0	0	0	0	0	0	0	0	9	1	1	0	0	0	11	14
6:30-6:45	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4	5
6:45-7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	0		0	0	181	41	5	0	0		231	302
									78%	18%	2%	0%	0%			1.31

Table A-2
The Lab School of Washington
Bus Occupancy Counts - Front Door
Wednesday, October 19, 2005

Time	Drop-Off																Total Vehicles	Total Passengers	Pick-Up										Total Vehicles	Total Passengers	
	1	2	3	4	5	Number of Passengers				10	11	12	13	14	19	39			1	2	Number of Passengers				8	9	11	13			14
Morning Peak																															
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	39	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	4	26	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	4	20	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	3	1	1	0	0	1	2	0	0	0	0	0	0	0	0	0	8	36	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	7	3	1	1	1	1	3	0	2	0	0	0	0	0	0	21	129 6.14	0	1	0	0	0	0	0	0	0	0	0	1	2
Afternoon Peak																															
2:00-2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15-2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30-2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	39	0	0	0	0	0	0	0	0	0	0	0	0
2:45-3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	39	0	0	0	0	0	0	0	0	0	0	0	0
3:00-3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	1	0	8	41
3:15-3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	1	1	0	0	1	0	1	10	47
3:30-3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45-4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00-4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15-4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30-4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45-5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00-5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15-5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30-5:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45-6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00-6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	19	0	0	0	0	0	0	0	0	0	0	0	0
6:15-6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30-6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45-7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4	106	2	1	5	1	2	0	0	1	1	0	16	88 5.50	

APPENDIX B
DDOT Letter

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF TRANSPORTATION



Office of Public Space
Management Administration

TO: Allison C. Prince
FROM: Lars Etzkorn, Associate Director
District Department of Transportation
RE: The Lab School
DATE: 18 February 2005

ONE PAGE FAXED TO 202/663-8007

The District Department of Transportation (DDOT) has reviewed the proposed location and layout for approximately 50 angled parking spaces along lower Whitehaven Parkway, NW, for The Lab School. The school has incorporated certain changes requested by DDOT into the plan and DDOT finds that, from a technical standpoint only, the proposed spaces are acceptable. We understand The Lab School will request permission from the Board of Zoning Adjustment (BZA) to use these spaces to satisfy a portion of the parking requirement associated with the school. DDOT reserves the right to comment on such an application when it is filed and, by noting that the proposed location and layout plan meet DDOT design requirements, does not waive its right to comment on the BZA application. Furthermore, design changes may be necessary to take into account any changed conditions or new information.

APPENDIX C
Traffic Counts and Trip Generation

Table C-1
The Lab School of Washington
182 Staff, 330 Students, Current Parking Plan
Trip Generation Analysis
Wednesday, October 19, 2005

	<u>Reservoir Road Driveway</u>			<u>Off-site Locations</u>			In	Total Out	Subtotal
	In	Out	Subtotal	In	Out	Subtotal			
<u>Morning Period</u>									
7:00-7:15	13	10	23	7	-	7	20	10	30
7:15-7:30	31	23	54	4	-	4	35	23	58
7:30-7:45	11	10	21	11	-	11	22	10	32
7:45-8:00	22	17	39	18	-	18	40	17	57
8:00-8:15	37	29	66	19	-	19	56	29	85
8:15-8:30	54	32	86	19	-	19	73	32	105
8:30-8:45	23	23	46	4	-	4	27	23	50
8:45-9:00	8	8	16	2	-	2	10	8	18
Total	199	152	351	84	-	84	283	152	435
Peak Hour									
7:45-8:45	136	101	237	60	-	60	196	101	297
<u>Afternoon Period</u>									
2:00-2:15	5	7	12	-	5	5	5	12	17
2:15-2:30	1	9	10	-	6	6	1	15	16
2:30-2:45	4	9	13	-	4	4	4	13	17
2:45-3:00	10	3	13	-	4	4	10	7	17
3:00-3:15	3	3	6	-	18	18	3	21	24
3:15-3:30	25	41	66	-	8	8	25	49	74
3:30-3:45	19	23	42	-	6	6	19	29	48
3:45-4:00	13	12	25	-	6	6	13	18	31
4:00-4:15	8	13	21	-	-	-	8	13	21
4:15-4:30	18	16	34	-	4	4	18	20	38
4:30-4:45	11	14	25	-	3	3	11	17	28
4:45-5:00	13	19	32	-	2	2	13	21	34
Total	130	169	299	-	66	66	130	235	365
Peak Hour									
3:15-4:15	65	89	154	-	20	20	65	109	174
Street Peak Hour									
4:00-5:00	50	62	112	0	9	9	50	71	121

The Lab School of Washington
Trip Generation Comparison¹

Condition	Land Use Code	Amount	Units	AM Peak Hour			School PM Peak Hour			Commuter PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Approved Conditions		95	Staff	103	52	155	34	57	91	26	37	63
Proposed Conditions		<u>182</u>	Staff	<u>196</u>	<u>101</u>	<u>297</u>	<u>65</u>	<u>109</u>	<u>174</u>	<u>50</u>	<u>71</u>	<u>121</u>
Difference		87		93	49	142	31	52	83	24	34	58

Notes: (1) Peak Hour trips based on Trip Generation, Seventh Edition rates.

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Friends of SLPatrick		DATE: 11/16/2004		SOUTHBOUND ROAD: MacArthur Boulevard		MacArthur Boulevard															
W & A JOB NO.: 2608		DAY: Tuesday		NORTHBOUND ROAD: MacArthur Boulevard		MacArthur Boulevard															
INTERSECTION: MacArthur Blvd & Whitehaven Pkwy.		WEATHER: Clear		WESTBOUND ROAD: Whitehaven Parkway		Whitehaven Parkway															
LOCATION: Washington, DC		COUNTED BY: Bob		EASTBOUND ROAD: 0		0															
		INPUTED BY: again																			
Time Period	Turning Movements																Total	PHF	Time Period		
	Southbound MacArthur Boulevard				Westbound Whitehaven Parkway				Northbound MacArthur Boulevard				Eastbound 0							North & South	East & West
	1 Right	2 Thru	3 Left	Total	4 Right	5 Thru	6 Left	Total	7 Right	8 Thru	9 Left	Total	10 Right	11 Thru	12 Left	Total					
6:00-6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6:00-6:15
6:15-6:30	0	61	2	63	1	0	0	1	0	81	0	81	0	0	0	0	144	1	145	6:15-6:30	
6:30-6:45	0	136	5	141	0	0	0	0	1	78	0	79	0	0	0	0	220	0	220	6:30-6:45	
6:45-7:00	0	157	9	166	4	0	0	4	5	103	0	108	0	0	0	0	274	4	278	6:45-7:00	
7:00-7:15	0	217	10	227	1	0	1	2	4	138	0	142	0	0	0	0	369	2	371	7:00-7:15	
7:15-7:30	0	255	19	274	5	0	2	7	11	135	0	146	0	0	0	0	420	7	427	7:15-7:30	
7:30-7:45	0	361	35	396	10	0	4	14	18	128	0	144	0	0	0	0	540	14	554	7:30-7:45	
7:45-8:00	0	430	38	468	24	0	11	35	14	158	0	172	0	0	0	0	640	35	675	7:45-8:00	
8:00-8:15	0	394	30	424	26	0	22	48	19	205	0	224	0	0	0	0	648	48	696	8:00-8:15	
8:15-8:30	0	496	56	552	15	0	8	23	9	182	0	191	0	0	0	0	743	23	766	8:15-8:30	
8:30-8:45	0	465	42	507	7	0	6	13	10	201	0	211	0	0	0	0	718	13	731	8:30-8:45	
8:45-9:00	0	412	43	455	8	0	0	8	10	181	0	171	0	0	0	0	626	8	634	8:45-9:00	
9:00-9:15	0	121	6	127	7	0	2	9	4	123	0	127	0	0	0	0	254	9	263	9:00-9:15	
9:15-9:30	0	128	7	135	4	0	1	5	3	125	0	128	0	0	0	0	263	5	268	9:15-9:30	
9:30-9:45	0	146	16	162	11	0	3	14	1	131	0	132	0	0	0	0	294	14	308	9:30-9:45	
9:45-10:00	0	166	18	184	19	0	15	34	5	154	0	159	0	0	0	0	343	34	377	9:45-10:00	
10:00-10:15	0	232	18	250	41	0	9	50	7	192	0	199	0	0	0	0	449	50	499	10:00-10:15	
10:15-10:30	0	253	13	266	45	0	13	58	11	207	0	218	0	0	0	0	484	58	542	10:15-10:30	
10:30-10:45	0	224	14	238	24	0	11	35	11	230	0	241	0	0	0	0	479	35	514	10:30-10:45	
10:45-11:00	0	187	13	200	22	0	10	32	4	184	0	188	0	0	0	0	388	32	420	10:45-11:00	
11:00-11:15	0	187	13	200	30	0	10	40	3	184	0	187	0	0	0	0	387	40	427	11:00-11:15	
11:15-11:30	0	198	7	205	24	0	18	42	7	183	0	190	0	0	0	0	395	42	437	11:15-11:30	
11:30-11:45	0	161	10	171	9	0	15	24	1	205	0	206	0	0	0	0	377	24	401	11:30-11:45	
11:45-12:00	0	224	7	231	11	0	13	24	7	189	0	196	0	0	0	0	427	24	451	11:45-12:00	
12:00-12:15	0	253	5	258	21	0	11	32	7	229	0	236	0	0	0	0	494	32	526	12:00-12:15	
12:15-12:30	0	212	14	226	19	0	11	30	6	266	0	272	0	0	0	0	498	30	528	12:15-12:30	
12:30-12:45	0	189	5	194	30	0	8	38	4	226	0	230	0	0	0	0	424	38	462	12:30-12:45	
12:45-1:00	0	156	12	168	16	0	12	28	3	236	0	239	0	0	0	0	407	28	435	12:45-1:00	
6:00-6:15	0	208	6	214	16	0	11	27	3	279	0	282	0	0	0	0	496	27	523	6:00-6:15	
6:15-6:30	0	220	9	229	16	0	8	24	3	255	0	258	0	0	0	0	487	24	511	6:15-6:30	
6:30-6:45	0	253	9	262	14	0	14	28	4	239	0	243	0	0	0	0	505	28	533	6:30-6:45	
6:45-7:00	0	186	10	196	14	0	5	19	4	200	0	204	0	0	0	0	400	19	419	6:45-7:00	
7 Hour Totals	0	7,288	501	7,789	494	0	254	748	197	5,607	0	5,804	0	0	0	0	13,593	748	14,341		
1 Hour Totals	0	354	16	370	5	0	0	5	6	262	0	268	0	0	0	0	638	5	643	0.58 6:00-7:00	
6:00-7:00	0	571	26	597	6	0	1	7	10	400	0	410	0	0	0	0	1,007	7	1,014	0.88 6:15-7:15	
6:15-7:15	0	765	43	808	10	0	3	13	21	454	0	475	0	0	0	0	1,283	13	1,296	0.76 6:30-7:30	
6:30-7:30	0	990	73	1,063	20	0	7	27	38	504	0	540	0	0	0	0	1,603	27	1,630	0.74 6:45-7:45	
6:45-7:45	0	1,263	102	1,365	40	0	18	58	45	559	0	604	0	0	0	0	1,969	58	2,027	0.75 7:00-8:00	
7:00-8:00	0	1,440	122	1,562	65	0	39	104	60	626	0	686	0	0	0	0	2,248	104	2,352	0.84 7:15-8:15	
7:15-8:15	0	1,681	159	1,840	75	0	45	120	58	673	0	731	0	0	0	0	2,571	120	2,691	0.88 7:30-8:30	
7:30-8:30	0	1,785	166	1,951	72	0	47	119	52	746	0	798	0	0	0	0	2,749	119	2,868	0.94 7:45-8:45	
7:45-8:45	0	1,767	171	1,938	56	0	36	92	48	749	0	797	0	0	0	0	2,735	92	2,827	0.92 8:00-9:00	
8:00-9:00	0	561	47	608	41	0	21	62	13	533	0	546	0	0	0	0	1,154	62	1,216	0.81 2:00-3:00	
2:00-3:00	0	872	59	931	75	0	28	103	16	602	0	618	0	0	0	0	1,349	103	1,452	0.73 2:15-3:15	
2:15-3:15	0	797	65	862	116	0	40	156	24	684	0	708	0	0	0	0	1,570	156	1,726	0.80 2:30-3:30	
2:30-3:30	0	875	63	938	129	0	48	177	34	783	0	817	0	0	0	0	1,755	177	1,932	0.89 2:45-3:45	
2:45-3:45	0	896	58	954	132	0	43	175	33	813	0	846	0	0	0	0	1,800	175	1,975	0.91 3:00-4:00	
3:00-4:00	0	851	53	904	121	0	44	165	29	805	0	834	0	0	0	0	1,738	165	1,903	0.88 3:15-4:15	
3:15-4:15	0	796	47	843	100	0	49	149	25	781	0	806	0	0	0	0	1,649	149	1,798	0.87 3:30-4:30	
3:30-4:30	0	733	43	776	85	0	53	138	15	756	0	771	0	0	0	0	1,547	138	1,685	0.96 3:45-4:45	
3:45-4:45	0	770	37	807	74	0	56	130	18	761	0	779	0	0	0	0	1,586	130	1,716	0.95 4:00-5:00	
4:00-5:00	0	836	29	865	65	0	57	122	22	806	0	828	0	0	0	0	1,693	122	1,815	0.86 4:15-5:15	
4:15-5:15	0	850	36	886	60	0	50	110	21	889	0	910	0	0	0	0	1,796	110	1,906	0.90 4:30-5:30	
4:30-5:30	0	878	31	909	81	0	43	124	24	910	0	934	0	0	0	0	1,843	124	1,967	0.93 4:45-5:45	
4:45-5:45	0	810	36	846	86	0	42	128	20	957	0	977	0	0	0	0	1,823	128	1,951	0.92 5:00-6:00	
5:00-6:00	0	765	37	802	81	0	42	123	16	1,007	0	1,023	0	0	0	0	1,825	123	1,948	0.92 5:15-6:15	
5:15-6:15	0	773	32	805	78	0	39	117	13	996	0	1,009	0	0	0	0	1,814	117	1,931	0.92 5:30-6:30	
5:30-6:30	0	837	36	873	62	0	45	107	13	1,009	0	1,022	0	0	0	0	1,895	107	2,002	0.94 5:45-6:45	
5:45-6:45	0	867	34	901	60	0	38	98	14	973	0	987	0	0	0	0	1,888	98	1,986	0.93 6:00-7:00	
6:00-7:00																					
AM Peak 7:45-8:45	0	1,785	166	1,951	72	0	47	119	52	746	0	798	0	0	0	0	2,749	119	2,868	0.94 7:45-8:45	
PM Peak 5:45-6:45	0	837	36	873	62	0	45	107	13	1,009	0	1,022	0	0	0	0	1,895	107	2,002	0.94 5:45-6:45	

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT:		Friends of SLPatrick		DATE:		11/16/2004		SOUTHBOUND ROAD:		School Driveway										
W & A JOB NO.:		2506		DAY:		Tuesday		NORTHBOUND ROAD:		MacArthur Boulevard										
INTERSECTION:		MacArthur Blvd & Reservoir Rd		WEATHER:		Clear		WESTBOUND ROAD:		Reservoir Road										
LOCATION:		Washington, DC		COUNTED BY:		Ronaldo & Lucia		EASTBOUND ROAD:		MacArthur Boulevard										
				INPUTED BY:		agan														
Time Period	Turning Movements																Total	PHF	Time Period	
	Southbound School Driveway				Westbound Reservoir Road				Northbound MacArthur Boulevard				Eastbound MacArthur Boulevard							
	1 Right	2 Thru	3 Left	Total	4 Right	5 Thru	6 Left	Total	7 Right	8 Thru	9 Left	Total	10 Right	11 Thru	12 Left	Total				
6:00-6:15	0	0	0	0	0	32	0	32	1	0	38	39	30	25	2	57	39	89	128	6:00-6:15
6:15-6:30	0	0	0	0	0	27	0	27	0	1	47	48	29	38	0	67	48	94	142	6:15-6:30
6:30-6:45	0	1	0	1	0	21	0	21	0	1	54	55	48	89	1	136	56	159	215	6:30-6:45
6:45-7:00	2	0	0	2	0	22	0	22	1	1	94	96	70	90	1	161	98	183	281	6:45-7:00
7:00-7:15	6	1	2	9	4	41	0	45	2	2	96	100	127	98	7	232	109	277	386	7:00-7:15
7:15-7:30	4	2	1	7	3	48	0	51	1	0	109	110	161	130	7	298	117	349	466	7:15-7:30
7:30-7:45	3	1	1	5	0	45	0	45	2	3	99	104	206	143	8	357	109	402	511	7:30-7:45
7:45-8:00	10	2	4	16	6	51	0	57	1	2	120	123	240	183	22	445	139	502	641	7:45-8:00
8:00-8:15	29	6	7	42	12	75	0	87	1	2	134	137	237	173	30	440	179	527	706	8:00-8:15
8:15-8:30	21	10	8	39	16	72	0	88	2	8	117	127	298	199	37	534	166	622	788	8:15-8:30
8:30-8:45	19	9	4	32	3	92	0	95	1	1	121	123	280	207	13	500	155	595	750	8:30-8:45
8:45-9:00	6	0	1	7	4	40	0	44	2	0	115	117	252	196	4	452	124	496	620	8:45-9:00
9:00-9:15	4	1	1	6	2	83	0	85	3	1	78	82	81	74	3	158	88	243	331	9:00-9:15
9:15-9:30	5	1	1	7	6	81	0	87	1	0	67	68	70	62	1	133	75	220	295	9:15-9:30
9:30-9:45	5	2	0	7	1	79	0	80	2	1	49	52	99	62	1	162	59	242	301	9:30-9:45
9:45-10:00	2	2	0	4	3	106	0	109	1	1	77	79	120	77	5	202	83	311	394	9:45-10:00
10:00-10:15	7	2	4	13	5	101	0	106	5	9	98	112	144	82	12	238	125	344	469	10:00-10:15
10:15-10:30	38	7	7	52	13	96	0	109	7	6	101	114	180	91	15	286	166	395	561	10:15-10:30
10:30-10:45	19	0	2	21	2	118	0	120	1	1	114	116	142	77	12	231	137	351	488	10:30-10:45
10:45-11:00	11	1	0	12	3	105	0	108	1	1	88	70	121	72	3	196	82	304	386	10:45-11:00
11:00-11:15	9	1	1	11	1	99	0	100	4	2	88	94	130	72	2	204	105	304	409	11:00-11:15
11:15-11:30	11	1	0	12	4	97	0	101	1	1	85	87	133	71	10	214	99	315	414	11:15-11:30
11:30-11:45	10	2	0	12	3	125	0	128	1	0	68	69	105	59	7	171	81	299	380	11:30-11:45
11:45-12:00	10	2	2	14	7	108	0	115	4	1	87	92	143	64	17	224	106	339	445	11:45-12:00
12:00-12:15	19	4	5	28	7	120	0	127	7	1	84	92	143	87	22	252	120	379	499	12:00-12:15
12:15-12:30	11	3	3	17	4	139	0	143	1	2	98	101	148	57	14	219	118	362	480	12:15-12:30
12:30-12:45	20	2	2	24	6	132	0	138	2	3	85	90	119	60	9	188	114	326	440	12:30-12:45
12:45-1:00	4	2	3	9	2	143	0	145	0	2	112	114	96	51	4	153	123	298	421	12:45-1:00
1:00-1:15	8	1	3	12	3	144	0	147	2	1	117	120	122	72	4	198	132	345	477	1:00-1:15
1:15-1:30	7	0	4	11	5	136	0	141	1	3	119	123	148	75	5	228	134	369	503	1:15-1:30
1:30-1:45	18	1	3	22	2	118	0	120	0	2	88	90	139	107	3	249	112	389	481	1:30-1:45
1:45-2:00	4	3	1	8	2	122	0	124	2	1	111	114	120	64	1	185	122	309	431	1:45-2:00
7 Hour Totals	322	70	70	462	129	2,818	0	2,947	60	60	2,938	3,058	4,483	3,007	282	7,772	3,520	10,719	14,239	
1 Hour Totals																				
6:00-7:00	2	1	0	3	0	102	0	102	2	3	233	238	177	242	4	423	241	525	766	0.68 6:00-7:00
6:15-7:15	8	2	2	12	4	111	0	115	3	5	291	299	274	315	9	598	311	713	1,024	0.66 6:15-7:15
6:30-7:30	12	4	3	19	7	132	0	139	4	4	353	361	406	407	16	829	380	968	1,348	0.72 6:30-7:30
6:45-7:45	15	4	4	23	7	156	0	163	6	6	398	410	564	461	23	1,048	433	1,211	1,644	0.80 6:45-7:45
7:00-8:00	23	6	8	37	13	185	0	198	6	7	424	437	734	554	44	1,332	474	1,530	2,004	0.78 7:00-8:00
7:15-8:15	46	11	13	70	21	219	0	240	5	7	462	474	844	629	67	1,540	544	1,780	2,324	0.82 7:15-8:15
7:30-8:30	63	19	20	102	34	243	0	277	6	15	470	491	981	698	97	1,776	593	2,053	2,646	0.84 7:30-8:30
7:45-8:45	79	27	23	129	37	290	0	327	5	13	492	510	1,055	762	102	1,919	639	2,246	2,885	0.92 7:45-8:45
8:00-9:00	75	25	20	120	35	279	0	314	6	11	487	504	1,067	775	84	1,926	624	2,240	2,864	0.91 8:00-9:00
9:00-10:00	16	6	2	24	12	349	0	361	7	3	271	281	370	275	10	655	305	1,016	1,321	0.84 9:00-10:00
10:00-11:00	19	7	5	31	15	367	0	382	9	11	291	311	433	283	19	735	342	1,117	1,459	0.78 10:00-11:00
11:00-12:00	52	13	11	76	22	382	0	404	15	17	325	357	543	312	33	888	433	1,292	1,725	0.77 11:00-12:00
12:00-1:00	66	11	13	90	23	421	0	444	14	17	390	421	586	327	44	957	511	1,401	1,912	0.85 12:00-1:00
1:00-2:00	75	10	13	98	23	420	0	443	14	17	381	412	587	322	42	951	510	1,394	1,904	0.85 1:00-2:00
2:00-3:00	77	9	10	96	19	418	0	437	13	10	371	394	573	312	32	917	490	1,354	1,844	0.82 2:00-3:00
3:00-4:00	50	3	3	56	10	419	0	429	7	5	355	367	526	292	27	845	423	1,274	1,697	0.87 3:00-4:00
4:00-5:00	41	5	1	47	11	426	0	437	7	4	309	320	489	274	22	785	367	1,222	1,589	0.96 4:00-5:00
5:00-6:00	40	6	3	49	15	429	0	444	10	4	328	342	511	266	36	813	391	1,257	1,648	0.93 5:00-6:00
6:00-7:00	50	9	7	66	21	450	0	471	13	3	324	340	524	281	56	861	406	1,332	1,738	0.87 6:00-7:00
7:00-8:00	50	11	10	71	21	482	0	513	13	4	337	354	539	267	60	866	425	1,379	1,804	0.90 7:00-8:00
8:00-9:00	60	11	12	83	24	499	0	523	14	7	354	375	553	268	62	883	458	1,406	1,864	0.93 8:00-9:00
9:00-10:00	54	11	13	78	19	534	0	553	10	8	379	397	508	255	49	812	475	1,365	1,840	0.92 9:00-10:00
10:00-11:00	43	8	11	62	15	558	0	573	5	8	412	425	487	240	31	758	487	1,331	1,818	0.95 10:00-11:00
11:00-12:00	39	5	12	56	16	555	0	571	5	9	433	447	487	258	22	787	503	1,338	1,841	0.92 11:00-12:00
12:00-1:00	37	4	13	54	12	541	0	553	3	8	436	447	507	305	16	828	501	1,381	1,882	0.94 12:00-1:00
6:00-7:00	37	5	11	53	12	520	0	532	5	7	435	447	529	318	13	860	500	1,392	1,892	0.94 6:00-7:00
AM Peak 7:45-8:45	79	27	23	129	37	290	0	327	5	13	492	510	1,055	762	102	1,919	639	2,246	2,885	0.92 7:45-8:45
PM Peak 6:00-7:00	37	5	11	53	12	520	0	532	5	7	435	447	529	318	13	860	500	1,392	1,892	0.94 6:00-7:00

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT:	Lab School of Washington				DATE:	10/19/2005					
W & A JOB NO.:	2063				DAY:	Wednesday					
LOCATION:	Washington, D.C.				WEATHER:	Cold					
JURISDICTION:	Whitehaven Parkway				COUNTED BY:	Ronaldo & Jorge					
					INPUT BY:	agan					
Passengers Time	Washington, D.C.								Total Vehicles	Total Passengers	Time
	Number of Passengers										
	1	2	3	4	5	6	7	8+			
AM											
7:00-7:15	0	0	0	0	0	0	0	0	0	0	7:00-7:15
7:15-7:30	2	0	0	0	0	0	0	0	2	2	7:15-7:30
7:30-7:45	1	0	0	0	0	0	0	0	1	1	7:30-7:45
7:45-8:00	0	1	0	0	0	0	0	0	1	2	7:45-8:00
8:00-8:15	3	1	2	0	0	0	0	0	6	11	8:00-8:15
8:15-8:30	18	8	0	0	0	0	0	0	26	34	8:15-8:30
8:30-8:45	2	0	0	0	0	0	0	0	2	2	8:30-8:45
8:45-9:00	1	0	0	0	0	0	0	0	1	1	8:45-9:00
9:00-9:15	0	1	0	0	0	0	0	0	1	2	9:00-9:15
9:15-9:30	0	0	0	0	0	0	0	0	0	0	9:15-9:30
9:30-9:45	0	0	0	0	0	0	0	0	0	0	9:30-9:45
9:45-10:00	0	0	0	0	0	0	0	0	0	0	9:45-10:00
AM Peak 7:45-8:45	23	10	2	0	0	0	0	0	35	49	7:45-8:45
PM											
2:00-2:15	0	0	0	0	0	0	0	0	0	0	2:00-2:15
2:15-2:30	3	0	0	0	0	0	0	0	3	3	2:15-2:30
2:30-2:45	1	0	0	0	0	0	0	0	1	1	2:30-2:45
2:45-3:00	7	0	0	0	0	0	0	0	7	7	2:45-3:00
3:00-3:15	8	1	0	0	0	0	0	0	9	10	3:00-3:15
3:15-3:30	9	4	0	0	0	0	0	0	13	17	3:15-3:30
3:30-3:45	2	0	1	0	0	0	0	0	3	5	3:30-3:45
3:45-4:00	2	2	0	0	0	0	0	0	4	6	3:45-4:00
4:00-4:15	3	1	0	0	0	0	0	0	4	5	4:00-4:15
4:15-4:30	2	2	0	0	0	0	0	0	4	6	4:15-4:30
4:30-4:45	1	1	0	0	0	0	0	0	2	3	4:30-4:45
4:45-5:00	2	1	0	0	0	0	0	0	3	4	4:45-5:00
5:00-5:15	3	1	0	0	0	0	0	0	4	5	5:00-5:15
5:15-5:30	2	0	0	0	0	0	0	0	2	2	5:15-5:30
5:30-5:45	1	0	0	0	0	0	0	0	1	1	5:30-5:45
5:45-6:00	3	0	0	0	0	0	0	0	3	3	5:45-6:00
6:00-6:15	2	0	1	0	0	0	0	0	3	5	6:00-6:15
6:15-6:30	3	1	0	0	0	0	0	0	4	5	6:15-6:30
6:30-6:45	2	0	0	0	0	0	0	0	2	2	6:30-6:45
6:45-7:00	0	0	0	0	0	0	0	0	0	0	6:45-7:00
PM Peak 2:45-3:45	26	5	1	0	0	0	0	0	32	39	2:45-3:45

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Lab School of Washington		DATE: 10/19/2005	
W & A JOB NO.: 2063		DAY: Wednesday	
LOCATION: Washington, D.C.		WEATHER: Clear	
JURISDICTION:		COUNTED BY: Luz, Mark	
		INPUTED BY: agan	

Passengers Time	Washington, D.C.								Total Vehicles	Total Passengers	Time
	Number of Passengers										
	1	2	3	4	5	6	7	8+			
AM											
7:00-7:15	11	0	0	0	0	0	0	0	11	11	7:00-7:15
7:15-7:30	20	2	0	0	0	0	0	0	22	24	7:15-7:30
7:30-7:45	4	0	0	0	0	0	0	0	4	4	7:30-7:45
7:45-8:00	10	4	1	0	0	0	0	0	15	21	7:45-8:00
8:00-8:15	23	5	1	0	0	0	0	0	29	36	8:00-8:15
8:15-8:30	38	2	0	0	0	0	0	0	40	42	8:15-8:30
8:30-8:45	12	1	0	0	0	0	0	0	13	14	8:30-8:45
8:45-9:00	4	0	0	0	0	0	0	0	4	4	8:45-9:00
9:00-9:15	1	0	0	0	0	0	0	0	1	1	9:00-9:15
9:15-9:30	1	0	0	0	0	0	0	0	1	1	9:15-9:30
9:30-9:45	0	0	0	0	0	0	0	0	0	0	9:30-9:45
9:45-10:00	0	0	0	0	0	0	0	0	0	0	9:45-10:00
AM Peak 7:45-8:45	83	12	2	0	0	0	0	0	97	113	7:45-8:45
PM											
2:00-2:15	0	0	0	0	0	0	0	0	0	0	2:00-2:15
2:15-2:30	0	0	0	0	0	0	0	0	0	0	2:15-2:30
2:30-2:45	2	2	0	0	0	0	0	0	4	6	2:30-2:45
2:45-3:00	0	0	0	0	0	0	0	0	0	0	2:45-3:00
3:00-3:15	23	4	0	0	0	0	0	0	27	31	3:00-3:15
3:15-3:30	16	4	1	0	0	0	0	0	21	27	3:15-3:30
3:30-3:45	19	2	1	0	0	1	0	0	23	32	3:30-3:45
3:45-4:00	3	0	0	0	0	1	0	0	4	9	3:45-4:00
4:00-4:15	5	1	0	0	0	0	0	0	6	7	4:00-4:15
4:15-4:30	5	1	0	0	0	0	0	0	6	7	4:15-4:30
4:30-4:45	7	0	0	0	0	1	0	0	8	13	4:30-4:45
4:45-5:00	8	5	0	0	0	0	0	0	13	18	4:45-5:00
5:00-5:15	3	0	0	0	0	0	0	0	3	3	5:00-5:15
5:15-5:30	5	0	0	0	0	0	0	0	5	5	5:15-5:30
5:30-5:45	12	1	0	0	0	0	0	0	13	14	5:30-5:45
5:45-6:00	3	2	0	0	0	0	0	0	5	7	5:45-6:00
6:00-6:15	6	4	0	0	0	1	0	0	11	20	6:00-6:15
6:15-6:30	6	0	1	0	0	0	0	0	7	9	6:15-6:30
6:30-6:45	1	1	0	0	0	0	0	0	2	3	6:30-6:45
6:45-7:00	1	0	0	0	0	0	0	0	1	1	6:45-7:00
PM Peak 3:00-4:00	61	10	2	0	0	2	0	0	75	99	3:00-4:00

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Friends of St.Patrick		DATE: 11/16/2004		SOUTHBOUND ROAD: MacArthur Boulevard																	
W & A JOB NO.: 2603		DAY: Tuesday		NORTHBOUND ROAD: MacArthur Boulevard																	
INTERSECTION: MacArthur Blvd & Reservoir Rd.		WEATHER: Clear		WESTBOUND ROAD: x																	
LOCATION: Washington.DC		COUNTED BY: Ruitons		EASTBOUND ROAD: Reservoir Road																	
		INPUTED BY: again																			
Time Period	Turning Movements																Total	PHF	Time Period		
	Southbound MacArthur Boulevard				Westbound x				Northbound MacArthur Boulevard				Eastbound Reservoir Road							North & South	East & West
	1 Right	2 Thru	3 Left	Total	4 Right	5 Thru	6 Left	Total	7 Right	8 Thru	9 Left	Total	10 Right	11 Thru	12 Left	Total					
6:00-6:15	1	29	0	30	0	0	0	0	0	72	1	73	32	0	1	33	103	33	136	6:00-6:15	
6:15-6:30	2	35	0	37	0	0	0	0	0	84	1	85	39	0	2	41	122	41	163	6:15-6:30	
6:30-6:45	0	60	0	60	0	0	0	0	0	73	5	78	67	0	3	70	138	70	208	6:30-6:45	
6:45-7:00	1	85	0	86	0	0	0	0	0	119	2	121	74	0	4	78	207	78	285	6:45-7:00	
7:00-7:15	4	136	0	140	0	0	0	0	0	137	3	140	75	0	6	81	280	81	361	7:00-7:15	
7:15-7:30	2	200	0	202	0	0	0	0	0	148	5	153	84	0	7	91	355	91	446	7:15-7:30	
7:30-7:45	1	261	0	262	0	0	0	0	0	154	3	157	133	0	8	141	419	141	560	7:30-7:45	
7:45-8:00	4	301	0	305	0	0	0	0	0	195	5	200	131	0	9	140	505	140	645	7:45-8:00	
8:00-8:15	1	295	0	296	0	0	0	0	0	247	6	253	112	0	18	130	549	130	679	8:00-8:15	
8:15-8:30	1	361	0	362	0	0	0	0	0	237	9	246	151	0	13	164	608	164	772	8:15-8:30	
8:30-8:45	4	350	0	354	0	0	0	0	0	229	2	231	145	0	25	170	585	170	755	8:30-8:45	
8:45-9:00	9	299	0	308	0	0	0	0	0	179	3	182	148	0	10	158	490	158	648	8:45-9:00	
2:00-2:15	4	102	0	106	0	0	0	0	0	128	36	164	26	0	7	33	270	33	303	2:00-2:15	
2:15-2:30	6	106	0	112	0	0	0	0	0	106	30	136	23	0	6	29	248	29	277	2:15-2:30	
2:30-2:45	12	154	0	166	0	0	0	0	0	116	35	151	20	0	5	25	317	25	342	2:30-2:45	
2:45-3:00	22	216	0	238	0	0	0	0	0	154	54	208	8	0	18	26	446	26	472	2:45-3:00	
3:00-3:15	10	236	0	246	0	0	0	0	0	199	55	254	4	0	13	17	500	17	517	3:00-3:15	
3:15-3:30	10	250	0	260	0	0	0	0	0	209	75	284	5	0	5	10	544	10	554	3:15-3:30	
3:30-3:45	9	211	0	220	0	0	0	0	0	172	74	246	2	0	5	7	466	7	473	3:30-3:45	
3:45-4:00	8	182	0	190	0	0	0	0	0	150	59	209	7	0	1	8	399	8	407	3:45-4:00	
4:00-4:15	12	197	0	209	0	0	0	0	0	154	50	204	6	0	5	11	413	11	424	4:00-4:15	
4:15-4:30	6	169	0	175	0	0	0	0	0	149	69	218	6	0	1	7	393	7	400	4:15-4:30	
4:30-4:45	12	172	0	184	0	0	0	0	0	143	80	223	5	0	4	9	407	9	416	4:30-4:45	
4:45-5:00	7	235	0	242	0	0	0	0	0	157	70	227	5	0	4	9	469	9	478	4:45-5:00	
5:00-5:15	4	237	0	241	0	0	0	0	0	170	92	262	3	0	3	6	503	6	509	5:00-5:15	
5:15-5:30	10	208	0	218	0	0	0	0	0	200	80	280	2	0	6	8	498	8	506	5:15-5:30	
5:30-5:45	5	171	0	176	0	0	0	0	0	175	92	267	2	0	8	10	443	10	453	5:30-5:45	
5:45-6:00	12	186	0	198	0	0	0	0	0	202	67	269	3	0	4	7	467	7	474	5:45-6:00	
6:00-6:15	12	201	0	213	0	0	0	0	0	215	77	292	2	0	1	3	505	3	508	6:00-6:15	
6:15-6:30	8	241	0	249	0	0	0	0	0	214	82	296	3	0	2	5	545	5	550	6:15-6:30	
6:30-6:45	6	249	0	255	0	0	0	0	0	179	68	247	2	0	0	2	502	2	504	6:30-6:45	
6:45-7:00	11	165	0	176	0	0	0	0	0	183	51	234	3	0	5	8	410	8	418	6:45-7:00	
7 Hour Totals	216	6,300	0	6,516	0	0	0	0	0	5,249	1,341	6,590	1,328	0	209	1,537	13,106	1,537	14,643		
1 Hour Totals																					
6:00-7:00	4	209	0	213	0	0	0	0	0	348	9	357	212	0	10	222	570	222	792	0.89 6:00-7:00	
6:15-7:15	7	316	0	323	0	0	0	0	0	413	11	424	255	0	15	270	747	270	1,017	0.70 6:15-7:15	
6:30-7:30	7	481	0	488	0	0	0	0	0	477	15	492	300	0	20	320	980	320	1,300	0.73 6:30-7:30	
6:45-7:45	8	682	0	690	0	0	0	0	0	558	13	571	366	0	25	391	1,261	391	1,652	0.74 6:45-7:45	
7:00-8:00	11	898	0	909	0	0	0	0	0	834	16	850	423	0	30	453	1,559	453	2,012	0.78 7:00-8:00	
7:15-8:15	8	1,057	0	1,065	0	0	0	0	0	744	19	763	460	0	42	502	1,828	502	2,330	0.86 7:15-8:15	
7:30-8:30	7	1,218	0	1,225	0	0	0	0	0	833	23	856	527	0	48	575	2,081	575	2,656	0.86 7:30-8:30	
7:45-8:45	10	1,307	0	1,317	0	0	0	0	0	908	22	930	539	0	65	604	2,247	604	2,851	0.92 7:45-8:45	
8:00-9:00	15	1,305	0	1,320	0	0	0	0	0	892	20	912	556	0	66	622	2,232	622	2,854	0.92 8:00-9:00	
2:00-3:00	44	578	0	622	0	0	0	0	0	504	155	659	77	0	36	113	1,281	113	1,394	0.74 2:00-3:00	
2:15-3:15	50	712	0	762	0	0	0	0	0	575	174	749	55	0	42	97	1,511	97	1,608	0.78 2:15-3:15	
2:30-3:30	54	856	0	910	0	0	0	0	0	678	219	897	37	0	41	78	1,807	78	1,885	0.85 2:30-3:30	
2:45-3:45	51	913	0	964	0	0	0	0	0	734	258	992	19	0	41	60	1,956	60	2,016	0.91 2:45-3:45	
3:00-4:00	37	879	0	916	0	0	0	0	0	730	263	993	18	0	24	42	1,908	42	1,951	0.88 3:00-4:00	
3:15-4:15	39	840	0	879	0	0	0	0	0	685	258	943	20	0	16	38	1,822	38	1,860	0.84 3:15-4:15	
3:30-4:30	35	759	0	794	0	0	0	0	0	625	252	877	21	0	12	33	1,671	33	1,704	0.90 3:30-4:30	
3:45-4:45	38	720	0	759	0	0	0	0	0	596	258	854	24	0	11	35	1,612	35	1,647	0.97 3:45-4:45	
4:00-5:00	37	773	0	810	0	0	0	0	0	603	269	872	22	0	14	36	1,682	36	1,718	0.90 4:00-5:00	
4:15-5:15	29	813	0	842	0	0	0	0	0	619	311	930	19	0	12	31	1,772	31	1,803	0.89 4:15-5:15	
4:30-5:30	33	852	0	885	0	0	0	0	0	670	322	992	15	0	17	32	1,877	32	1,909	0.84 4:30-5:30	
4:45-5:45	26	851	0	877	0	0	0	0	0	702	334	1,036	12	0	21	33	1,913	33	1,946	0.96 4:45-5:45	
5:00-6:00	31	802	0	833	0	0	0	0	0	747	331	1,078	10	0	21	31	1,911	31	1,942	0.95 5:00-6:00	
5:15-6:15	39	766	0	805	0	0	0	0	0	792	316	1,108	9	0	19	28	1,913	28	1,941	0.96 5:15-6:15	
5:30-6:30	37	799	0	836	0	0	0	0	0	806	318	1,124	10	0	15	25	1,960	25	1,985	0.90 5:30-6:30	
5:45-6:45	38	877	0	915	0	0	0	0	0	810	294	1,104	10	0	7	17	2,019	17	2,036	0.93 5:45-6:45	
6:00-7:00	37	856	0	893	0	0	0	0	0	791	278	1,069	10	0	8	18	1,962	18	1,980	0.90 6:00-7:00	
AM Peak 8:00-9:00	15	1,305	0	1,320	0	0	0	0	0	892	20	912	556	0	66	622	2,232	622	2,854	0.92 AM Peak 8:00-9:00	
PM Peak 5:45-6:45	38	877	0	915	0	0	0	0	0	810	294	1,104	10	0	7	17	2,019	17	2,036	0.93 PM Peak 5:45-6:45	

APPENDIX D
Level of Service Analysis

HCS2000: Signalized Intersections Release 4.1e

Analyst: MTH
 Agency: Wells & Associates
 Date: 11/2/05
 Period: AM Peak Hour
 Project ID: 3005 Lab School of Washington
 E/W St: Reservoir Road

Inter.: MacArthur Blvd & Reservoir Rd
 Area Type: All other areas
 Jurisd: Washington DC
 Year : 2005
 N/S St: MacArthur Boulevard

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	0	1	0
LGConfig		LTR	R		TR		L	LTR			LTR	
Volume	89	634	867		286	27	477	20	25	28	19	54
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	P				NB Left	P		
Thru	P				Thru	P		
Right	P				Right	P		
Peds					Peds			
WB Left					SB Left		P	
Thru	P				Thru		P	
Right	P				Right		P	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	45.0				17.0	6.0		
Yellow	3.0				3.0	3.0		
All Red	1.0				1.0	1.0		

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	953	1694	0.84	0.56	23.5	C	50.2	D
R	890	1583	1.08	0.56	72.4	E		
Westbound								
TR	829	1473	0.42	0.56	11.6	B	11.6	B
Northbound								
L	376	1770	1.41	0.21	231.0	F		
LTR	363	1706	0.14	0.21	26.3	C	213.4	F
Southbound								
LTR	128	1704	0.88	0.08	88.1	F	88.1	F

Intersection Delay = 80.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: MTH
 Agency: Wells & Associates
 Date: 11/2/2005
 Period: PM Peak Hour
 Project ID: 3005 Lab School
 E/W St: Reservoir Road

Inter.: MacArthur Blvd & Reservoir Rd
 Area Type: All other areas
 Jurisd: Washington DC
 Year : 2005
 N/S St: MacArthur Boulevard

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	0	1	0
LGConfig		LTR	R		TR		L	LTR			LTR	
Volume	44	255	637		400	10	357	6	7	9	8	62
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4	5	6	7	8
EB	Left	P				NB	Left	P	
	Thru	P					Thru	P	
	Right	P					Right	P	
	Peds						Peds		
WB	Left					SB	Left		P
	Thru	P					Thru		P
	Right	P					Right		P
	Peds						Peds		
NB	Right					EB	Right		
SB	Right					WB	Right		
Green		40.0					20.0	8.0	
Yellow		3.0					3.0	3.0	
All Red		1.0					1.0	1.0	

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	834	1668	0.40	0.50	13.9	B	26.7	C
R	792	1583	0.89	0.50	32.7	C		
Westbound								
TR	743	1485	0.61	0.50	18.2	B	18.2	B
Northbound								
L	443	1770	0.90	0.25	52.4	D		
LTR	429	1714	0.03	0.25	22.9	C	51.3	D
Southbound								
LTR	166	1656	0.53	0.10	45.8	D	45.8	D

Intersection Delay = 30.7 (sec/veh) Intersection LOS = C

Existing Conditions
30: Reservoir Road (east) & Lab School

AM Peak Period
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↖		↖	↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00			0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.98		1.00	1.00			0.92	
Flt Protected		0.99	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (prot)		1757	1478		1826		1681	1684			1678	
Flt Permitted		0.87	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (perm)		1536	1478		1826		1681	1684			1678	
Volume (vph)	102	762	1134	0	290	37	492	13	5	23	27	79
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	828	1233	0	315	40	535	14	5	25	29	86
RTOR Reduction (vph)	0	0	461	0	4	0	0	1	0	0	59	0
Lane Group Flow (vph)	0	939	772	0	351	0	278	275	0	0	81	0
Confl. Peds. (#/hr)	6		10	10		6	1		16	16		1
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		52.7	52.7		52.7		18.5	18.5			9.8	
Effective Green, g (s)		53.7	53.7		53.7		21.5	21.5			12.8	
Actuated g/C Ratio		0.54	0.54		0.54		0.22	0.22			0.13	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		825	794		981		361	362			215	
v/s Ratio Prot					0.19		c0.17	0.16			c0.05	
v/s Ratio Perm		c0.61	0.52									
v/c Ratio		1.14	0.97		0.36		0.77	0.76			0.38	
Uniform Delay, d1		23.2	22.4		13.3		36.9	36.8			39.9	
Progression Factor		1.08	2.21		1.00		1.00	1.00			1.00	
Incremental Delay, d2		69.6	16.0		1.0		9.7	9.1			1.1	
Delay (s)		94.5	65.6		14.3		46.7	45.9			41.0	
Level of Service		F	E		B		D	D			D	
Approach Delay (s)		78.1			14.3			46.3			41.0	
Approach LOS		E			B			D			D	
Intersection Summary												
HCM Average Control Delay		64.0					HCM Level of Service		E			
HCM Volume to Capacity ratio		0.94										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		117.5%					ICU Level of Service		H			
Analysis Period (min)		15										
c Critical Lane Group												

Existing Conditions
32: MacArthur Boulevard & Whitehaven Parkway

AM Peak Period
11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	166	1785	809	52	47	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	180	1940	879	57	51	78
Pedestrians		10			40	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			3	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.80	
vC, conflicting volume	976				2279	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	976				2350	518
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	73				0	84
cM capacity (veh/h)	679				17	482

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	827	1293	586	350	129
Volume Left	180	0	0	0	51
Volume Right	0	0	0	57	78
cSH	679	1700	1700	1700	41
Volume to Capacity	0.27	0.76	0.34	0.21	3.17
Queue Length 95th (ft)	27	0	0	0	Err
Control Delay (s)	6.8	0.0	0.0	0.0	Err
Lane LOS	A				F
Approach Delay (s)	2.6		0.0		Err
Approach LOS					F

Intersection Summary					
Average Delay		407.7			
Intersection Capacity Utilization		97.6%	ICU Level of Service	F	
Analysis Period (min)		15			

Existing Conditions

AM Peak Period

33: MacArthur Blvd & Reservoir Road (west)

11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3531		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3531		263	3539	1770	1583
Volume (vph)	1305	15	20	861	66	646
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1418	16	22	936	72	702
RTOR Reduction (vph)	1	0	0	0	0	58
Lane Group Flow (vph)	1433	0	22	936	72	644
Confl. Peds. (#/hr)		7	7		18	
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	70.0		70.0	70.0	19.0	19.0
Effective Green, g (s)	71.0		71.0	71.0	21.0	21.0
Actuated g/C Ratio	0.71		0.71	0.71	0.21	0.21
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2507		187	2513	372	332
v/s Ratio Prot	c0.41			0.26	0.04	c0.41
v/s Ratio Perm			0.08			
v/c Ratio	0.57		0.12	0.37	0.19	1.94
Uniform Delay, d1	7.1		4.6	5.7	32.5	39.5
Progression Factor	1.00		1.11	1.49	1.00	1.00
Incremental Delay, d2	1.0		1.1	0.4	0.3	433.2
Delay (s)	8.0		6.2	8.9	32.8	472.7
Level of Service	A		A	A	C	F
Approach Delay (s)	8.0			8.8	431.8	
Approach LOS	A			A	F	
Intersection Summary						
HCM Average Control Delay		111.9		HCM Level of Service		F
HCM Volume to Capacity ratio		0.88				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)	8.0	
Intersection Capacity Utilization		83.2%		ICU Level of Service	E	
Analysis Period (min)		15				
c Critical Lane Group						

Existing Conditions
30: Reservoir Road (east) & Lab School

PM School Peak Period
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	0.99			0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.99		1.00	0.99			0.90	
Flt Protected		0.99	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (prot)		1755	1478		1841		1681	1667			1648	
Flt Permitted		0.91	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (perm)		1599	1478		1841		1681	1667			1648	
Volume (vph)	44	327	585	0	421	23	390	17	14	13	11	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	355	636	0	458	25	424	18	15	14	12	72
RTOR Reduction (vph)	0	0	277	0	1	0	0	3	0	0	65	0
Lane Group Flow (vph)	0	403	359	0	482	0	236	218	0	0	33	0
Confl. Peds. (#/hr)	19		11	11		19	1		24	24		1
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		55.5	55.5		55.5		18.6	18.6			6.9	
Effective Green, g (s)		56.5	56.5		56.5		21.6	21.6			9.9	
Actuated g/C Ratio		0.56	0.56		0.56		0.22	0.22			0.10	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		903	835		1040		363	360			163	
v/s Ratio Prot					c0.26		c0.14	0.13			c0.02	
v/s Ratio Perm		0.25	0.24									
v/c Ratio		0.45	0.43		0.46		0.65	0.61			0.20	
Uniform Delay, d1		12.7	12.5		12.8		35.8	35.4			41.4	
Progression Factor		0.91	1.03		0.51		1.00	1.00			1.00	
Incremental Delay, d2		1.5	1.6		1.1		4.1	2.9			0.6	
Delay (s)		13.0	14.4		7.7		39.9	38.2			42.0	
Level of Service		B	B		A		D	D			D	
Approach Delay (s)		13.9			7.7			39.1			42.0	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM Average Control Delay		19.3					HCM Level of Service		B			
HCM Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		84.0%					ICU Level of Service		E			
Analysis Period (min)		15										
c Critical Lane Group												

Existing Conditions

PM School Peak Period

32: MacArthur Boulevard & Whitehaven Parkway

11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	63	875	783	34	48	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	951	851	37	52	140
Pedestrians		3			27	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			2	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.93	
vC, conflicting volume	915				1509	474
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915				1471	474
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				46	73
cM capacity (veh/h)	724				97	523

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	386	634	567	321	192
Volume Left	68	0	0	0	52
Volume Right	0	0	0	37	140
cSH	724	1700	1700	1700	239
Volume to Capacity	0.09	0.37	0.33	0.19	0.81
Queue Length 95th (ft)	8	0	0	0	152
Control Delay (s)	2.9	0.0	0.0	0.0	62.4
Lane LOS	A				F
Approach Delay (s)	1.1		0.0		62.4
Approach LOS					F

Intersection Summary					
Average Delay		6.2			
Intersection Capacity Utilization		69.9%	ICU Level of Service	C	
Analysis Period (min)		15			

Existing Conditions
33: MacArthur Blvd & Reservoir Road (west)

PM School Peak Period
11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3499		1754	3539	1770	1583
Flt Permitted	1.00		0.26	1.00	0.95	1.00
Satd. Flow (perm)	3499		484	3539	1770	1583
Volume (vph)	913	51	258	734	41	19
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	992	55	280	798	45	21
RTOR Reduction (vph)	3	0	0	0	0	19
Lane Group Flow (vph)	1044	0	280	798	45	2
Confl. Peds. (#/hr)		10	10		5	1
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	82.0		82.0	82.0	7.0	7.0
Effective Green, g (s)	83.0		83.0	83.0	9.0	9.0
Actuated g/C Ratio	0.83		0.83	0.83	0.09	0.09
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2904		402	2937	159	142
v/s Ratio Prot	0.30			0.23	c0.03	0.00
v/s Ratio Perm			c0.58			
v/c Ratio	0.36		0.70	0.27	0.28	0.01
Uniform Delay, d1	2.1		3.4	1.9	42.5	41.5
Progression Factor	1.00		1.04	0.40	1.00	1.00
Incremental Delay, d2	0.3		8.9	0.2	1.0	0.0
Delay (s)	2.4		12.5	1.0	43.5	41.5
Level of Service	A		B	A	D	D
Approach Delay (s)	2.4			4.0	42.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay		4.4		HCM Level of Service		A
HCM Volume to Capacity ratio		0.66				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		57.2%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Existing Conditions
30: Reservoir Road (east) & Lab School

PM Commuter Peak Period

11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	1.00			0.91	
Flt Protected		1.00	1.00		1.00		0.95	0.95			0.99	
Satd. Flow (prot)		1759	1477		1854		1681	1681			1669	
Flt Permitted		0.98	1.00		1.00		0.95	0.95			0.99	
Satd. Flow (perm)		1719	1477		1854		1681	1681			1669	
Volume (vph)	13	318	551	0	520	12	435	7	5	11	5	37
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	346	599	0	565	13	473	8	5	12	5	40
RTOR Reduction (vph)	0	0	258	0	0	0	0	1	0	0	36	0
Lane Group Flow (vph)	0	369	332	0	578	0	249	236	0	0	21	0
Confl. Peds. (#/hr)	15		11	11		15			20	20		
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		55.2	55.2		55.2		19.5	19.5			6.3	
Effective Green, g (s)		56.2	56.2		56.2		22.5	22.5			9.3	
Actuated g/C Ratio		0.56	0.56		0.56		0.22	0.22			0.09	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		966	830		1042		378	378			155	
v/s Ratio Prot					c0.31		c0.15	0.14			c0.01	
v/s Ratio Perm		0.21	0.22									
v/c Ratio		0.38	0.40		0.55		0.66	0.62			0.13	
Uniform Delay, d1		12.2	12.4		13.9		35.3	34.9			41.7	
Progression Factor		0.92	0.99		0.70		1.00	1.00			1.00	
Incremental Delay, d2		1.1	1.4		1.2		4.1	3.2			0.4	
Delay (s)		12.3	13.7		11.0		39.4	38.2			42.0	
Level of Service		B	B		B		D	D			D	
Approach Delay (s)		13.1			11.0			38.8			42.0	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM Average Control Delay			19.3			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			65.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Existing Conditions
32: MacArthur Boulevard & Whitehaven Parkway

PM Commuter Peak Period
11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	36	837	979	13	45	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	910	1064	14	49	67
Pedestrians		7			23	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			2	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.95	
vC, conflicting volume	1101				1627	569
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1101				1607	569
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				41	85
cM capacity (veh/h)	618				83	454

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	342	607	709	369	116
Volume Left	39	0	0	0	49
Volume Right	0	0	0	14	67
cSH	618	1700	1700	1700	158
Volume to Capacity	0.06	0.36	0.42	0.22	0.73
Queue Length 95th (ft)	5	0	0	0	112
Control Delay (s)	2.0	0.0	0.0	0.0	73.4
Lane LOS	A				F
Approach Delay (s)	0.7		0.0		73.4
Approach LOS					F

Intersection Summary					
Average Delay		4.3			
Intersection Capacity Utilization		64.3%	ICU Level of Service		C
Analysis Period (min)		15			

Existing Conditions
33: MacArthur Blvd & Reservoir Road (west)

PM Commuter Peak Period
11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3511		1758	3539	1770	1583
Flt Permitted	1.00		0.28	1.00	0.95	1.00
Satd. Flow (perm)	3511		524	3539	1770	1583
Volume (vph)	877	38	294	746	7	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	953	41	320	811	8	11
RTOR Reduction (vph)	2	0	0	0	0	10
Lane Group Flow (vph)	992	0	320	811	8	1
Confl. Peds. (#/hr)		6	6		1	2
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	85.4		85.4	85.4	3.6	3.6
Effective Green, g (s)	86.4		86.4	86.4	5.6	5.6
Actuated g/C Ratio	0.86		0.86	0.86	0.06	0.06
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3034		453	3058	99	89
v/s Ratio Prot	0.28			0.23	c0.00	0.00
v/s Ratio Perm			c0.61			
v/c Ratio	0.33		0.71	0.27	0.08	0.01
Uniform Delay, d1	1.3		2.4	1.2	44.8	44.6
Progression Factor	1.00		1.37	0.32	1.00	1.00
Incremental Delay, d2	0.3		7.7	0.2	0.4	0.0
Delay (s)	1.6		10.9	0.6	45.1	44.6
Level of Service	A		B	A	D	D
Approach Delay (s)	1.6			3.5	44.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay		3.0		HCM Level of Service		A
HCM Volume to Capacity ratio		0.67				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		57.9%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Total Future Conditions
30: Reservoir Road (east) & Lab School

AM Peak Hour
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00			0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.99		1.00	1.00			0.92	
Flt Protected		0.99	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (prot)		1757	1478		1827		1681	1684			1678	
Flt Permitted		0.86	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (perm)		1517	1478		1827		1681	1684			1678	
Volume (vph)	102	762	1134	0	302	37	492	13	5	23	27	79
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	828	1233	0	328	40	535	14	5	25	29	86
RTOR Reduction (vph)	0	0	461	0	4	0	0	1	0	0	59	0
Lane Group Flow (vph)	0	939	772	0	364	0	278	275	0	0	81	0
Confl. Peds. (#/hr)	6		10	10		6	1		16	16		1
Turn Type	Perm		Perm				Split				Split	
Protected Phases	2				6		4		4		8	
Permitted Phases	2		2								8	
Actuated Green, G (s)	52.7		52.7		52.7		18.5		18.5		9.8	
Effective Green, g (s)	53.7		53.7		53.7		21.5		21.5		12.8	
Actuated g/C Ratio	0.54		0.54		0.54		0.22		0.22		0.13	
Clearance Time (s)	5.0		5.0		5.0		7.0		7.0		7.0	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	815		794		981		361		362		215	
v/s Ratio Prot					0.20		c0.17		0.16		c0.05	
v/s Ratio Perm	c0.62		0.52									
v/c Ratio	1.15		0.97		0.37		0.77		0.76		0.38	
Uniform Delay, d1	23.2		22.4		13.4		36.9		36.8		39.9	
Progression Factor	1.08		2.23		1.00		1.00		1.00		1.00	
Incremental Delay, d2	75.2		15.6		1.1		9.7		9.1		1.1	
Delay (s)	100.2		65.7		14.5		46.7		45.9		41.0	
Level of Service	F		E		B		D		D		D	
Approach Delay (s)	80.6				14.5				46.3		41.0	
Approach LOS	F				B				D		D	
Intersection Summary												
HCM Average Control Delay			65.5		HCM Level of Service				E			
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			118.1%		ICU Level of Service				H			
Analysis Period (min)			15									
c Critical Lane Group												

Total Future Conditions
32: MacArthur Boulevard & Whitehaven Parkway

AM Peak Hour
11/8/2005

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	194	1785	809	64	47	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	211	1940	879	70	51	78
Pedestrians		10			40	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			3	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.80	
vC, conflicting volume	989				2346	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	989				2435	524
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	69				0	84
cM capacity (veh/h)	671				14	477
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	858	1293	586	363	129	
Volume Left	211	0	0	0	51	
Volume Right	0	0	0	70	78	
cSH	671	1700	1700	1700	34	
Volume to Capacity	0.31	0.76	0.34	0.21	3.85	
Queue Length 95th (ft)	34	0	0	0	Err	
Control Delay (s)	8.0	0.0	0.0	0.0	Err	
Lane LOS	A				F	
Approach Delay (s)	3.2		0.0		Err	
Approach LOS					F	
Intersection Summary						
Average Delay			402.6			
Intersection Capacity Utilization			98.9%	ICU Level of Service	F	
Analysis Period (min)			15			

Total Future Conditions
33: MacArthur Blvd & Reservoir Road (west)

AM Peak Hour
11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3531		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3531		263	3539	1770	1583
Volume (vph)	1305	15	20	861	52	660
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1418	16	22	936	57	717
RTOR Reduction (vph)	1	0	0	0	0	58
Lane Group Flow (vph)	1433	0	22	936	57	659
Confl. Peds. (#/hr)		7	7		18	
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	70.0		70.0	70.0	19.0	19.0
Effective Green, g (s)	71.0		71.0	71.0	21.0	21.0
Actuated g/C Ratio	0.71		0.71	0.71	0.21	0.21
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2507		187	2513	372	332
v/s Ratio Prot	c0.41			0.26	0.03	c0.42
v/s Ratio Perm			0.08			
v/c Ratio	0.57		0.12	0.37	0.15	1.98
Uniform Delay, d1	7.1		4.6	5.7	32.2	39.5
Progression Factor	1.00		1.09	1.47	1.00	1.00
Incremental Delay, d2	1.0		1.1	0.4	0.2	453.3
Delay (s)	8.0		6.1	8.8	32.4	492.8
Level of Service	A		A	A	C	F
Approach Delay (s)	8.0			8.7	458.9	
Approach LOS	A			A	F	
Intersection Summary						
HCM Average Control Delay		118.4		HCM Level of Service		F
HCM Volume to Capacity ratio		0.89				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)	8.0	
Intersection Capacity Utilization		84.1%		ICU Level of Service	E	
Analysis Period (min)		15				
c Critical Lane Group						

Total Future Conditions
30: Reservoir Road (east) & Lab School

PM School Peak Hour
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	0.99			0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.99		1.00	0.99			0.90	
Flt Protected		0.99	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (prot)		1755	1478		1841		1681	1667			1648	
Flt Permitted		0.91	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (perm)		1598	1478		1841		1681	1667			1648	
Volume (vph)	44	323	585	0	421	23	390	17	14	13	11	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	351	636	0	458	25	424	18	15	14	12	72
RTOR Reduction (vph)	0	0	277	0	1	0	0	3	0	0	65	0
Lane Group Flow (vph)	0	399	359	0	482	0	236	218	0	0	33	0
Confl. Peds. (#/hr)	19		11	11		19	1		24	24		1
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		55.5	55.5		55.5		18.6	18.6			6.9	
Effective Green, g (s)		56.5	56.5		56.5		21.6	21.6			9.9	
Actuated g/C Ratio		0.56	0.56		0.56		0.22	0.22			0.10	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		903	835		1040		363	360			163	
v/s Ratio Prot					c0.26		c0.14	0.13			c0.02	
v/s Ratio Perm		0.25	0.24									
v/c Ratio		0.44	0.43		0.46		0.65	0.61			0.20	
Uniform Delay, d1		12.6	12.5		12.8		35.8	35.4			41.4	
Progression Factor		0.91	1.04		0.51		1.00	1.00			1.00	
Incremental Delay, d2		1.5	1.6		1.1		4.1	2.9			0.6	
Delay (s)		12.9	14.5		7.7		39.9	38.2			42.0	
Level of Service		B	B		A		D	D			D	
Approach Delay (s)		13.9			7.7			39.1			42.0	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM Average Control Delay			19.3			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			83.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Total Future Conditions
32: MacArthur Boulevard & Whitehaven Parkway

PM School Peak Hour
11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	63	875	783	34	53	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	951	851	37	58	149
Pedestrians		3			27	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			2	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.93	
vC, conflicting volume	915				1509	474
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915				1472	474
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				41	72
cM capacity (veh/h)	724				97	523
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	386	634	567	321	207	
Volume Left	68	0	0	0	58	
Volume Right	0	0	0	37	149	
cSH	724	1700	1700	1700	235	
Volume to Capacity	0.09	0.37	0.33	0.19	0.88	
Queue Length 95th (ft)	8	0	0	0	180	
Control Delay (s)	2.9	0.0	0.0	0.0	75.6	
Lane LOS	A				F	
Approach Delay (s)	1.1		0.0		75.6	
Approach LOS					F	
Intersection Summary						
Average Delay			7.9			
Intersection Capacity Utilization			70.6%		ICU Level of Service	C
Analysis Period (min)			15			

Total Future Conditions
33: MacArthur Blvd & Reservoir Road (west)

PM School Peak Hour
11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505		1754	3539	1770	1583
Flt Permitted	1.00		0.26	1.00	0.95	1.00
Satd. Flow (perm)	3505		488	3539	1770	1583
Volume (vph)	913	43	266	734	41	19
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	992	47	289	798	45	21
RTOR Reduction (vph)	3	0	0	0	0	19
Lane Group Flow (vph)	1036	0	289	798	45	2
Confl. Peds. (#/hr)		10	10		5	1
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	82.0		82.0	82.0	7.0	7.0
Effective Green, g (s)	83.0		83.0	83.0	9.0	9.0
Actuated g/C Ratio	0.83		0.83	0.83	0.09	0.09
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2909		405	2937	159	142
v/s Ratio Prot	0.30			0.23	c0.03	0.00
v/s Ratio Perm			c0.59			
v/c Ratio	0.36		0.71	0.27	0.28	0.01
Uniform Delay, d1	2.1		3.5	1.9	42.5	41.5
Progression Factor	1.00		1.05	0.40	1.00	1.00
Incremental Delay, d2	0.3		9.6	0.2	1.0	0.0
Delay (s)	2.4		13.3	1.0	43.5	41.5
Level of Service	A		B	A	D	D
Approach Delay (s)	2.4			4.2	42.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay		4.5		HCM Level of Service		A
HCM Volume to Capacity ratio		0.67				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		57.4%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Total Future Conditions
30: Reservoir Road (east) & Lab School

PM Commuter Peak Hour
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗		↖		↖	↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	1.00			0.91	
Flt Protected		1.00	1.00		1.00		0.95	0.95			0.99	
Satd. Flow (prot)		1759	1477		1854		1681	1681			1669	
Flt Permitted		0.98	1.00		1.00		0.95	0.95			0.99	
Satd. Flow (perm)		1719	1477		1854		1681	1681			1669	
Volume (vph)	13	318	551	0	520	12	435	7	5	11	5	37
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	346	599	0	565	13	473	8	5	12	5	40
RTOR Reduction (vph)	0	0	258	0	0	0	0	1	0	0	36	0
Lane Group Flow (vph)	0	369	332	0	578	0	249	236	0	0	21	0
Confl. Peds. (#/hr)	15		11	11		15			20	20		
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		55.2	55.2		55.2		19.5	19.5			6.3	
Effective Green, g (s)		56.2	56.2		56.2		22.5	22.5			9.3	
Actuated g/C Ratio		0.56	0.56		0.56		0.22	0.22			0.09	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		966	830		1042		378	378			155	
v/s Ratio Prot					c0.31		c0.15	0.14			c0.01	
v/s Ratio Perm		0.21	0.22									
v/c Ratio		0.38	0.40		0.55		0.66	0.62			0.13	
Uniform Delay, d1		12.2	12.4		13.9		35.3	34.9			41.7	
Progression Factor		0.92	0.99		0.70		1.00	1.00			1.00	
Incremental Delay, d2		1.1	1.4		1.2		4.1	3.2			0.4	
Delay (s)		12.3	13.6		11.0		39.4	38.2			42.0	
Level of Service		B	B		B		D	D			D	
Approach Delay (s)		13.1			11.0			38.8			42.0	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM Average Control Delay		19.3					HCM Level of Service		B			
HCM Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		65.1%					ICU Level of Service		C			
Analysis Period (min)		15										
c Critical Lane Group												

Total Future Conditions

PM Commuter Peak Hour

32: MacArthur Boulevard & Whitehaven Parkway

11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	36	837	979	13	45	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	910	1064	14	49	71
Pedestrians		7			23	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			2	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.95	
vC, conflicting volume	1101				1627	569
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1101				1607	569
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				41	84
cM capacity (veh/h)	618				83	454

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	342	607	709	369	120
Volume Left	39	0	0	0	49
Volume Right	0	0	0	14	71
cSH	618	1700	1700	1700	161
Volume to Capacity	0.06	0.36	0.42	0.22	0.74
Queue Length 95th (ft)	5	0	0	0	115
Control Delay (s)	2.0	0.0	0.0	0.0	73.4
Lane LOS	A				F
Approach Delay (s)	0.7		0.0		73.4
Approach LOS					F

Intersection Summary					
Average Delay		4.4			
Intersection Capacity Utilization		64.5%		ICU Level of Service	C
Analysis Period (min)		15			

Total Future Conditions

PM Commuter Peak Hour

33: MacArthur Blvd & Reservoir Road (west)

11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3513		1758	3539	1770	1583
Flt Permitted	1.00		0.28	1.00	0.95	1.00
Satd. Flow (perm)	3513		526	3539	1770	1583
Volume (vph)	877	35	297	746	7	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	953	38	323	811	8	11
RTOR Reduction (vph)	2	0	0	0	0	10
Lane Group Flow (vph)	989	0	323	811	8	1
Confl. Peds. (#/hr)		6	6		1	2
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	85.4		85.4	85.4	3.6	3.6
Effective Green, g (s)	86.4		86.4	86.4	5.6	5.6
Actuated g/C Ratio	0.86		0.86	0.86	0.06	0.06
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3035		454	3058	99	89
v/s Ratio Prot	0.28			0.23	c0.00	0.00
v/s Ratio Perm			c0.61			
v/c Ratio	0.33		0.71	0.27	0.08	0.01
Uniform Delay, d1	1.3		2.4	1.2	44.8	44.6
Progression Factor	1.00		1.39	0.32	1.00	1.00
Incremental Delay, d2	0.3		7.8	0.2	0.4	0.0
Delay (s)	1.6		11.2	0.6	45.1	44.6
Level of Service	A		B	A	D	D
Approach Delay (s)	1.6			3.6	44.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay		3.0		HCM Level of Service		A
HCM Volume to Capacity ratio		0.67				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		58.0%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Capped Conditions
30: Reservoir Road (east) & Lab School

AM Peak Period
11/8/2005

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↖		↖	↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00			0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.98		1.00	1.00			0.92	
Flt Protected		0.99	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (prot)		1757	1478		1825		1681	1684			1678	
Flt Permitted		0.88	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (perm)		1553	1478		1825		1681	1684			1678	
Volume (vph)	102	762	1126	0	281	37	478	13	5	23	27	79
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	828	1224	0	305	40	520	14	5	25	29	86
RTOR Reduction (vph)	0	0	459	0	4	0	0	1	0	0	59	0
Lane Group Flow (vph)	0	939	765	0	341	0	271	267	0	0	81	0
Confl. Peds. (#/hr)	6		10	10		6	1		16	16		1
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		52.9	52.9		52.9		18.3	18.3			9.8	
Effective Green, g (s)		53.9	53.9		53.9		21.3	21.3			12.8	
Actuated g/C Ratio		0.54	0.54		0.54		0.21	0.21			0.13	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		837	797		984		358	359			215	
v/s Ratio Prot					0.19		c0.16	0.16			c0.05	
v/s Ratio Perm		c0.60	0.52									
v/c Ratio		1.12	0.96		0.35		0.76	0.74			0.38	
Uniform Delay, d1		23.0	22.0		13.1		36.9	36.8			39.9	
Progression Factor		1.08	2.23		1.00		1.00	1.00			1.00	
Incremental Delay, d2		63.4	14.8		1.0		8.8	8.1			1.1	
Delay (s)		88.3	63.8		14.0		45.8	44.9			41.0	
Level of Service		F	E		B		D	D			D	
Approach Delay (s)		74.4			14.0			45.3			41.0	
Approach LOS		E			B			D			D	
Intersection Summary												
HCM Average Control Delay		61.5				HCM Level of Service		E				
HCM Volume to Capacity ratio		0.92										
Actuated Cycle Length (s)		100.0				Sum of lost time (s)		12.0				
Intersection Capacity Utilization		116.5%				ICU Level of Service		H				
Analysis Period (min)		15										
c Critical Lane Group												

Capped Conditions
32: MacArthur Boulevard & Whitehaven Parkway

AM Peak Period
11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	165	1785	787	51	45	69
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	1940	855	55	49	75
Pedestrians		10			40	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			3	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.81	
vC, conflicting volume	951				2252	505
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	951				2312	505
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	74				0	85
cM capacity (veh/h)	694				18	491
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	826	1293	570	341	124	
Volume Left	179	0	0	0	49	
Volume Right	0	0	0	55	75	
cSH	694	1700	1700	1700	44	
Volume to Capacity	0.26	0.76	0.34	0.20	2.80	
Queue Length 95th (ft)	26	0	0	0	336	
Control Delay (s)	6.5	0.0	0.0	0.0	1010.0	
Lane LOS	A				F	
Approach Delay (s)	2.5		0.0		1010.0	
Approach LOS					F	
Intersection Summary						
Average Delay		41.4				
Intersection Capacity Utilization		96.8%		ICU Level of Service	F	
Analysis Period (min)		15				

Capped Conditions
33: MacArthur Blvd & Reservoir Road (west)

AM Peak Period
11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3535		1770	3539	1770	1583
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	3535		281	3539	1770	1583
Volume (vph)	1270	8	20	839	42	646
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1380	9	22	912	46	702
RTOR Reduction (vph)	1	0	0	0	0	63
Lane Group Flow (vph)	1388	0	22	912	46	639
Confl. Peds. (#/hr)		7	7		18	
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	70.0		70.0	70.0	19.0	19.0
Effective Green, g (s)	71.0		71.0	71.0	21.0	21.0
Actuated g/C Ratio	0.71		0.71	0.71	0.21	0.21
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2510		200	2513	372	332
v/s Ratio Prot	c0.39			0.26	0.03	c0.40
v/s Ratio Perm			0.08			
v/c Ratio	0.55		0.11	0.36	0.12	1.92
Uniform Delay, d1	6.9		4.6	5.7	32.0	39.5
Progression Factor	1.00		1.10	1.49	1.00	1.00
Incremental Delay, d2	0.9		0.9	0.3	0.2	426.8
Delay (s)	7.8		6.0	8.8	32.2	466.3
Level of Service	A		A	A	C	F
Approach Delay (s)	7.8			8.7	439.6	
Approach LOS	A			A	F	
Intersection Summary						
HCM Average Control Delay		113.3		HCM Level of Service		F
HCM Volume to Capacity ratio		0.87				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)	8.0	
Intersection Capacity Utilization		82.0%		ICU Level of Service	E	
Analysis Period (min)		15				
c Critical Lane Group						

Capped Conditions
30: Reservoir Road (east) & Lab School

PM School Peak Period
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↖		↖	↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	0.99			0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.99		1.00	0.99			0.90	
Flt Protected		0.99	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (prot)		1755	1478		1841		1681	1667			1648	
Flt Permitted		0.91	1.00		1.00		0.95	0.96			0.99	
Satd. Flow (perm)		1600	1478		1841		1681	1667			1648	
Volume (vph)	44	327	577	0	418	23	386	17	14	13	11	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	355	627	0	454	25	420	18	15	14	12	72
RTOR Reduction (vph)	0	0	272	0	1	0	0	3	0	0	65	0
Lane Group Flow (vph)	0	403	355	0	478	0	234	216	0	0	33	0
Confl. Peds. (#/hr)	19		11	11		19	1		24	24		1
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		55.6	55.6		55.6		18.5	18.5			6.9	
Effective Green, g (s)		56.6	56.6		56.6		21.5	21.5			9.9	
Actuated g/C Ratio		0.57	0.57		0.57		0.22	0.22			0.10	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		906	837		1042		361	358			163	
v/s Ratio Prot					c0.26		c0.14	0.13			c0.02	
v/s Ratio Perm		0.25	0.24									
v/c Ratio		0.44	0.42		0.46		0.65	0.60			0.20	
Uniform Delay, d1		12.6	12.4		12.7		35.8	35.4			41.4	
Progression Factor		0.90	1.03		0.51		1.00	1.00			1.00	
Incremental Delay, d2		1.5	1.5		1.1		4.0	2.9			0.6	
Delay (s)		12.9	14.3		7.6		39.8	38.3			42.0	
Level of Service		B	B		A		D	D			D	
Approach Delay (s)		13.7			7.6			39.0			42.0	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM Average Control Delay		19.2										
HCM Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		83.6%										
Analysis Period (min)		15										
c Critical Lane Group												

Capped Conditions
32: MacArthur Boulevard & Whitehaven Parkway

PM School Peak Period
11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	53	875	777	33	47	128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	58	951	845	36	51	139
Pedestrians		3			27	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			2	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.93	
vC, conflicting volume	907				1480	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	907				1441	470
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				51	74
cM capacity (veh/h)	729				103	526

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	375	634	563	317	190
Volume Left	58	0	0	0	51
Volume Right	0	0	0	36	139
cSH	729	1700	1700	1700	251
Volume to Capacity	0.08	0.37	0.33	0.19	0.76
Queue Length 95th (ft)	6	0	0	0	137
Control Delay (s)	2.4	0.0	0.0	0.0	53.7
Lane LOS	A				F
Approach Delay (s)	0.9		0.0		53.7
Approach LOS					F

Intersection Summary					
Average Delay		5.4			
Intersection Capacity Utilization		69.3%		ICU Level of Service	C
Analysis Period (min)		15			

Capped Conditions

PM School Peak Period

33: MacArthur Blvd & Reservoir Road (west)

11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3501		1754	3539	1770	1583
Flt Permitted	1.00		0.26	1.00	0.95	1.00
Satd. Flow (perm)	3501		486	3539	1770	1583
Volume (vph)	911	49	258	710	41	19
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	990	53	280	772	45	21
RTOR Reduction (vph)	3	0	0	0	0	19
Lane Group Flow (vph)	1040	0	280	772	45	2
Confl. Peds. (#/hr)		10	10		5	1
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	82.0		82.0	82.0	7.0	7.0
Effective Green, g (s)	83.0		83.0	83.0	9.0	9.0
Actuated g/C Ratio	0.83		0.83	0.83	0.09	0.09
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2906		403	2937	159	142
v/s Ratio Prot	0.30			0.22	c0.03	0.00
v/s Ratio Perm			c0.58			
v/c Ratio	0.36		0.69	0.26	0.28	0.01
Uniform Delay, d1	2.1		3.4	1.8	42.5	41.5
Progression Factor	1.00		1.07	0.39	1.00	1.00
Incremental Delay, d2	0.3		8.8	0.2	1.0	0.0
Delay (s)	2.4		12.5	0.9	43.5	41.5
Level of Service	A		B	A	D	D
Approach Delay (s)	2.4			4.0	42.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay		4.4		HCM Level of Service		A
HCM Volume to Capacity ratio		0.65				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		57.1%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Capped Conditions
30: Reservoir Road (east) & Lab School

Commuter PM Peak Period
11/8/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95	0.95		1.00		0.95	0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	1.00			0.91	
Flt Protected		1.00	1.00		1.00		0.95	0.95			0.99	
Satd. Flow (prot)		1759	1477		1854		1681	1681			1669	
Flt Permitted		0.98	1.00		1.00		0.95	0.95			0.99	
Satd. Flow (perm)		1719	1477		1854		1681	1681			1669	
Volume (vph)	13	318	546	0	517	12	431	7	5	11	5	37
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	346	593	0	562	13	468	8	5	12	5	40
RTOR Reduction (vph)	0	0	255	0	0	0	0	1	0	0	36	0
Lane Group Flow (vph)	0	369	329	0	575	0	246	234	0	0	21	0
Confl. Peds. (#/hr)	15		11	11		15			20	20		
Turn Type	Perm		Perm				Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2									
Actuated Green, G (s)		55.4	55.4		55.4		19.3	19.3			6.3	
Effective Green, g (s)		56.4	56.4		56.4		22.3	22.3			9.3	
Actuated g/C Ratio		0.56	0.56		0.56		0.22	0.22			0.09	
Clearance Time (s)		5.0	5.0		5.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		970	833		1046		375	375			155	
v/s Ratio Prot					c0.31		c0.15	0.14			c0.01	
v/s Ratio Perm		0.21	0.22									
v/c Ratio		0.38	0.40		0.55		0.66	0.62			0.13	
Uniform Delay, d1		12.1	12.2		13.8		35.4	35.1			41.7	
Progression Factor		0.92	0.99		0.70		1.00	1.00			1.00	
Incremental Delay, d2		1.1	1.4		1.2		4.1	3.2			0.4	
Delay (s)		12.2	13.5		10.9		39.5	38.3			42.0	
Level of Service		B	B		B		D	D			D	
Approach Delay (s)		13.0			10.9			38.9			42.0	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM Average Control Delay		19.2				HCM Level of Service		B				
HCM Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		100.0				Sum of lost time (s)		12.0				
Intersection Capacity Utilization		64.9%				ICU Level of Service		C				
Analysis Period (min)		15										
c Critical Lane Group												

Capped Conditions
32: MacArthur Boulevard & Whitehaven Parkway

Commuter PM Peak Period
11/8/2005



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	837	973	12	45	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	910	1058	13	49	66
Pedestrians		7			23	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			2	
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		137	301			
pX, platoon unblocked					0.95	
vC, conflicting volume	1094				1618	565
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1094				1598	565
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				42	85
cM capacity (veh/h)	622				85	456

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	341	607	705	366	115
Volume Left	38	0	0	0	49
Volume Right	0	0	0	13	66
cSH	622	1700	1700	1700	160
Volume to Capacity	0.06	0.36	0.41	0.22	0.72
Queue Length 95th (ft)	5	0	0	0	109
Control Delay (s)	2.0	0.0	0.0	0.0	70.9
Lane LOS	A				F
Approach Delay (s)	0.7		0.0		70.9
Approach LOS					F

Intersection Summary					
Average Delay		4.1			
Intersection Capacity Utilization		63.5%		ICU Level of Service	B
Analysis Period (min)		15			

Capped Conditions

Commuter PM Peak Period

33: MacArthur Blvd & Reservoir Road (west)

11/8/2005

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		0.99	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3512		1758	3539	1770	1583
Flt Permitted	1.00		0.29	1.00	0.95	1.00
Satd. Flow (perm)	3512		531	3539	1770	1583
Volume (vph)	868	36	294	724	1	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	943	39	320	787	1	11
RTOR Reduction (vph)	2	0	0	0	0	10
Lane Group Flow (vph)	980	0	320	787	1	1
Confl. Peds. (#/hr)		6	6		1	2
Turn Type			Perm			Prot
Protected Phases	6			2	8	8
Permitted Phases			2	2		
Actuated Green, G (s)	85.4		85.4	85.4	3.6	3.6
Effective Green, g (s)	86.4		86.4	86.4	5.6	5.6
Actuated g/C Ratio	0.86		0.86	0.86	0.06	0.06
Clearance Time (s)	5.0		5.0	5.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3034		459	3058	99	89
v/s Ratio Prot	0.28			0.22	c0.00	0.00
v/s Ratio Perm			c0.60			
v/c Ratio	0.32		0.70	0.26	0.01	0.01
Uniform Delay, d1	1.3		2.3	1.2	44.6	44.6
Progression Factor	1.00		1.37	0.32	1.00	1.00
Incremental Delay, d2	0.3		7.3	0.2	0.0	0.0
Delay (s)	1.6		10.5	0.6	44.6	44.6
Level of Service	A		B	A	D	D
Approach Delay (s)	1.6			3.4	44.6	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay		2.8		HCM Level of Service		A
HCM Volume to Capacity ratio		0.66				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		57.6%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

I

LSW Faculty Shuttle Schedule

Monday October 3
To
Friday October 7

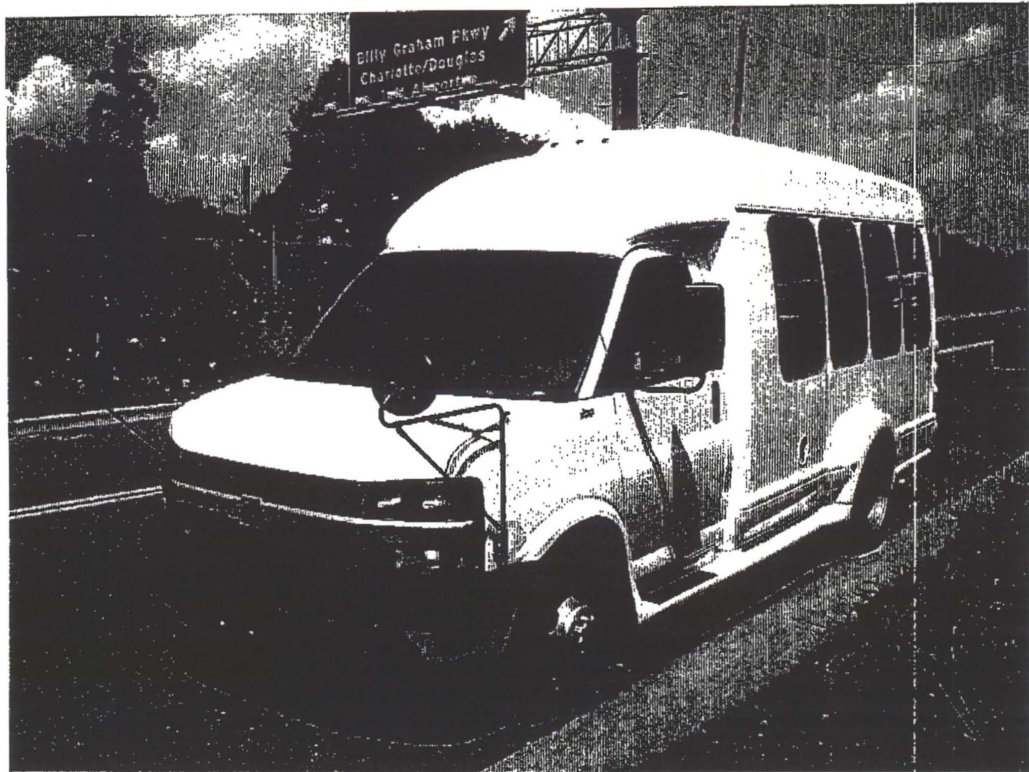
Tenley Metro 7:30 AM
AU 7:40 AM

Tenley Metro 8:00 AM
AU 8:10 AM

Return Shuttle Leaves LSW to AU & Tenley
From the Castle
at
12:30 PM
4:00 PM
5:00 PM

WELCOME ABOARD !

(AU pick up point is Roper Hall)
Second Week- We may adjust schedule to better meet your needs.



J

**Outline of Testimony of
Sally L. Smith,
Founder and Director of The Lab School of Washington**

- I. Introduction and General Description of The Lab School of Washington**
- II. The Lab School's Educational Philosophy and Special Needs of the Students**
- III. Need for Relief**
- IV. Conclusion**

Outline of Testimony of
Allyn Kilsheimer, KCE Structural Engineers,
Project Engineer

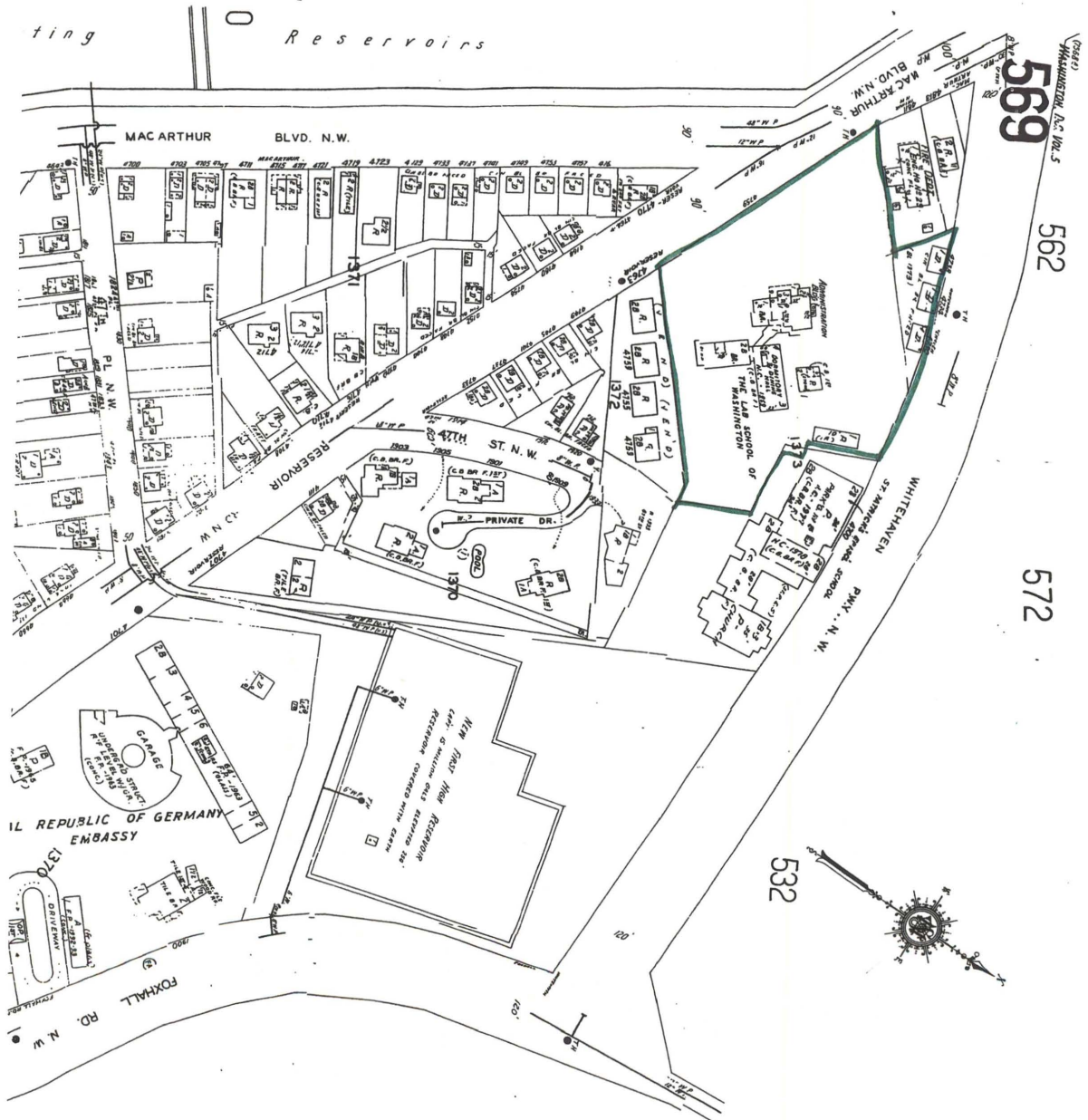
- I. Introduction
- II. Brief Overview of the Proposed Angled Parking Spaces
- III. Community Outreach
- IV. Compliance with the Special Exception Requirements
- V. Conclusion

Outline of Testimony of Martin J. Wells, P.E.
Wells & Associates
Traffic Consultants

- I. Introduction
- II. Area Transportation System
- III. Description of Proposed Angled Parking Spaces
- IV. Assessment of Traffic Conditions
- V. Conclusion

K





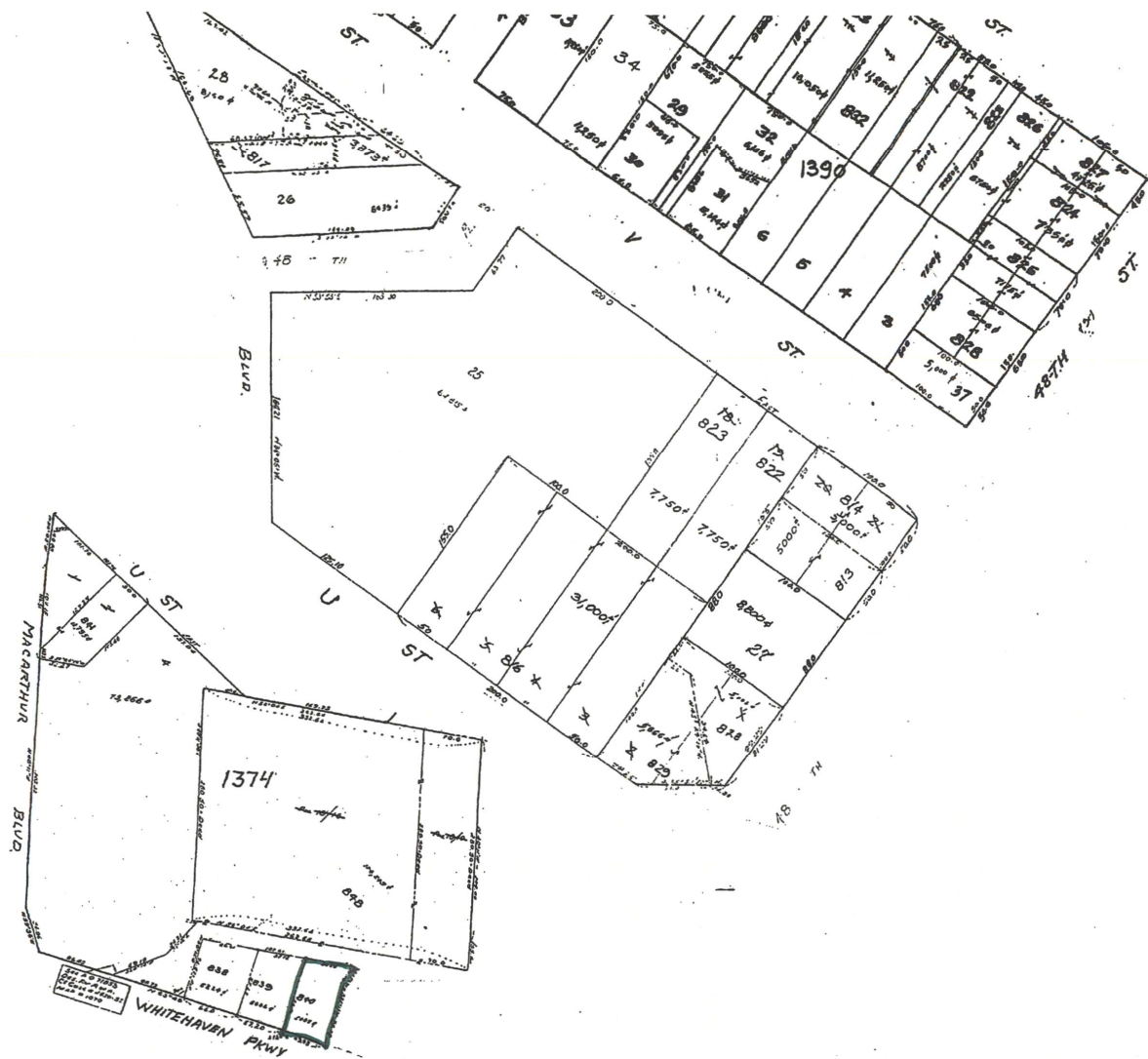
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