

Level of Service E and F indicates unacceptable traffic service levels, delay times and queuing lengths for existing traffic controls and intersections/layout.

- Level of Service E traffic conditions are generally represented by long queue lengths (several hundred metres) and long delays of several signal cycles (10 or more minutes).
- The Concord Road sites will continue to operate at LOS C or better with spare capacity, even with Scenario 2 volumes. Albeit with increased queue lengths to 15 vehicles and increased side street delays.
- The future AM eastbound and reciprocal PM westbound volumes on Crane Street, Gipps Road and ultimately Parramatta Road exceed the practical intersection capacities at north/south cross roads without.
 - significant road widening and intersection upgrading and/or
 - an extension of the M4 Motorway to reduce existing by-pass (through) traffic volumes on these routes (i.e. to give some peak hour capacity back).

Count Number 6126 Ref : CBAY Lat/Long : S33 50 42.8 / E151 05 44.0 UBD 213 G-16
 Street NULLAWARRA AVENUE, CONCORD : From NORMAN STREET to HOSPITAL ROAD
 Location Between Wilga Street and Myall Street opposite House No 3, ELP PA87015

TOTAL COUNT MATRIX

Start Date 22-JUL-10
 Start Time 1400
 Duration 7 DAYS
 Interval 1 HOUR

Weekly 50th
 Weekly 85th
 Five Day Average
 Seven Day Average

	MON 26TH	TUE 27TH	WED 28TH	THU 29TH	FRI 30TH	SAT 31ST	SUN 1ST	Average
Midnight - 1am	15	14	17	20	17	54	92	33
1am - 2am	9	8	6	8	12	34	32	16
2am - 3am	5	4	4	13	12	13	21	10
3am - 4am	5	8	9	7	4	13	13	8
4am - 5am	7	10	11	12	14	13	13	11
5am - 6am	58	55	60	61	53	27	29	57
6am - 7am	223	226	207	207	206	107	65	1069
7am - 8am	484	542	505	529	457	139	86	2517
8am - 9am	674	645	669	689	605	230	153	3282
9am - 10am	408	401	470	448	458	326	258	2185
10am - 11am	327	349	322	341	357	410	372	1696
11am - Midday	310	348	302	328	321	446	384	1609
Midday - 1pm	287	304	289	318	348	407	368	1546
1pm - 2pm	316	336	317	341	364	431	337	1674
2pm - 3pm	348	337	363	358	355	405	343	1761
3pm - 4pm	357	419	353	403	426	438	358	1958
4pm - 5pm	364	362	365	343	415	386	340	1849
5pm - 6pm	354	388	368	417	426	371	273	1953
6pm - 7pm	313	344	294	342	394	316	248	1687
7pm - 8pm	166	226	213	277	261	182	118	1143
8pm - 9pm	147	139	143	180	159	135	114	768
9pm - 10pm	102	133	134	158	147	115	99	674
10pm - 11pm	70	81	109	91	151	158	86	502
11pm - Midnight	32	31	58	52	95	106	32	268
Total	5381	5710	5588	5943	6057	5262	4234	28679
								5735
								38175
								5453

Traffic Count Summary Report

Count Number 6126

Ref : CBAY

Lat/Long : S33 50 42.8 / E151 05 44.0

UBD 213 G-16

Street NULLAWARRA AVENUE, CONCORD : From HOSPITAL ROAD to NORMAN STREET : SOUTH BOUND

Location Between Wilga Street and Myall Street opposite House No 3, ELP PA87015

Carriageway

TOTAL COUNT MATRIX

Start Date 22-JUL-10

Start Time 1400

Duration 7 DAYS

Interval 1 HOUR

Weekly 50th Percentile Speed 58

Weekly 85th Percentile Speed 67

Five Day AADT 5174

Seven Day AADT 4864

	MON 26TH	TUE 27TH	WED 28TH	THU 29TH	FRI 30TH	SAT 31ST	SUN 1ST	5 Day Total	5 Day Average	Total	7 Day Average
Midnight - 1am	9	11	12	18	25	45	57	75	15	177	25
1am - 2am	4	4	1	5	5	30	30	19	4	79	11
2am - 3am	8	6	4	5	10	5	15	33	7	53	8
3am - 4am	7	8	10	9	6	8	6	40	8	54	8
4am - 5am	6	9	8	5	8	9	9	36	7	54	8
5am - 6am	44	44	37	39	37	26	16	201	40	243	35
6am - 7am	140	164	154	159	148	55	39	765	153	859	123
7am - 8am	254	276	240	238	240	127	79	1248	250	1454	208
8am - 9am	282	249	263	293	246	188	107	1333	267	1628	233
9am - 10am	270	285	272	283	257	240	164	1367	273	1771	253
10am - 11am	263	243	311	259	267	303	223	1343	269	1869	267
11am - Midday	245	260	268	286	296	340	259	1355	271	1954	279
Midday - 1pm	270	282	249	300	336	346	321	1437	287	2104	301
1pm - 2pm	273	312	264	275	311	339	331	1435	287	2105	301
2pm - 3pm	327	353	286	325	345	305	293	1636	327	2234	319
3pm - 4pm	399	430	416	458	445	357	297	2148	430	2802	400
4pm - 5pm	555	588	525	528	538	359	345	2734	547	3438	491
5pm - 6pm	624	618	557	603	615	399	364	3017	603	3780	540
6pm - 7pm	394	438	424	453	458	356	242	2167	433	2765	395
7pm - 8pm	209	224	254	284	261	216	138	1232	246	1586	227
8pm - 9pm	147	157	175	206	161	134	119	846	169	1099	157
9pm - 10pm	87	117	123	142	139	113	88	608	122	809	116
10pm - 11pm	94	96	109	129	122	100	96	550	110	746	107
11pm - Midnight	28	45	41	35	95	109	33	244	49	386	55
Total	4939	5219	5003	5337	5371	4509	3671	25869	5173	34049	4864

Count Number 6124

Ref : CBAY

Lat/Long : S33 51 27.9 / E151 05 42.7

UBD 233 G-5

Street WELLBANK STREET, CONCORD : From QUEEN STREET to IAN PARADE : EAST BOUND
Location Between Cross Street and Clarmont Avenue, House No. 108, opposite ELP RP26507

Carriageway

TOTAL COUNT MATRIX

Start Date 22-JUL-10
Start Time 1200
Duration 7 DAYS
Interval 1 HOUR

Weekly 50th Percentile Speed 45
Weekly 85th Percentile Speed 54
Five Day AADT 5065
Seven Day AADT 4760

	MON 26TH	TUE 27TH	WED 28TH	THU 29TH	FRI 30TH	SAT 31ST	SUN 1ST	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	15	10	12	20	14	29	32	71	14	132	19
1am - 2am	6	4	10	2	7	20	13	29	6	62	9
2am - 3am	3	3	6	6	5	10	14	23	5	47	7
3am - 4am	4	6	3	10	4	9	8	27	5	44	6
4am - 5am	11	8	9	10	9	7	5	47	9	59	8
5am - 6am	40	56	42	46	47	21	7	231	46	259	37
6am - 7am	184	204	209	199	173	76	31	969	194	1076	154
7am - 8am	335	353	346	360	349	128	46	1743	349	1917	274
8am - 9am	383	390	428	409	373	214	127	1981	396	2322	332
9am - 10am	260	286	307	294	273	265	165	1420	284	1850	264
10am - 11am	258	227	361	264	217	339	225	1327	265	1891	270
11am - Midday	238	246	307	212	257	411	295	1260	252	1966	281
Midday - 1pm	244	200	222	219	247	437	302	1132	226	1871	267
1pm - 2pm	244	203	230	202	231	387	286	1110	222	1783	255
2pm - 3pm	224	235	221	253	269	313	324	1202	240	1839	263
3pm - 4pm	362	375	366	349	372	388	261	1824	365	2473	353
4pm - 5pm	409	451	484	506	557	317	330	2387	477	3034	433
5pm - 6pm	580	644	545	572	627	382	275	2948	590	3605	515
6pm - 7pm	475	530	496	512	497	316	196	2510	502	3022	432
7pm - 8pm	236	246	253	211	295	224	121	1241	248	1586	227
8pm - 9pm	121	161	151	169	159	123	84	761	152	968	138
9pm - 10pm	88	119	102	111	112	109	59	532	106	700	100
10pm - 11pm	53	52	74	57	119	84	65	355	71	504	72
11pm - Midnight	16	29	45	39	68	72	39	197	39	308	44
Total	4769	5038	5207	5032	5281	4681	3310	25327	5065	33318	4759

Traffic Count Summary Report

Count Number 6124 Ref : CBAY
 Street WELLBANK STREET, CONCORD : From IAN PARADE to QUEEN STREET : WEST BOUND
 Location Between Cross Street and Clarmont Avenue, House No. 108, opposite ELP RP26507

Lat/Long : S33 51 27.9 / E151 05 42.7

UBD 233 G-5

Carriageway

Start Date 22-JUL-10
 Start Time 1200
 Duration 7 DAYS
 Interval 1 HOUR

Weekly 50th Percentile Speed 43
 Weekly 85th Percentile Speed 50
 Five Day AADT 5537
 Seven Day AADT 5229

TOTAL COUNT MATRIX

	MON 26TH	TUE 27TH	WED 28TH	THU 29TH	FRI 30TH	SAT 31ST	SUN 1ST	5 Day Total	5 Day Average	Total	7 Day Average
Midnight - 1am	16	21	25	19	29	45	59	110	22	214	31
1am - 2am	5	2	10	8	6	19	34	31	6	84	12
2am - 3am	4	4	4	8	6	16	15	26	5	57	8
3am - 4am	8	5	6	9	7	9	21	35	7	65	9
4am - 5am	12	11	8	12	18	8	15	61	12	84	12
5am - 6am	36	39	53	42	51	25	15	221	44	261	37
6am - 7am	126	165	131	143	160	58	37	725	145	820	117
7am - 8am	490	497	486	462	452	150	60	2387	477	2597	371
8am - 9am	623	575	627	595	560	252	117	2980	596	3349	478
9am - 10am	341	321	394	354	373	369	214	1783	357	2366	338
10am - 11am	270	249	303	271	302	390	287	1395	279	2072	296
11am - Midday	270	291	329	281	270	414	344	1441	288	2199	314
Midday - 1pm	267	245	257	282	298	427	361	1349	270	2137	305
1pm - 2pm	258	264	277	278	280	410	366	1357	271	2133	305
2pm - 3pm	341	321	339	339	360	395	321	1700	340	2416	345
3pm - 4pm	462	474	459	491	501	400	303	2387	477	3090	441
4pm - 5pm	449	456	510	479	483	394	287	2377	475	3058	437
5pm - 6pm	384	375	402	416	381	397	258	1958	392	2613	373
6pm - 7pm	282	345	372	293	403	267	212	1695	339	2174	311
7pm - 8pm	195	256	226	278	270	199	147	1225	245	1571	224
8pm - 9pm	140	197	185	169	159	126	115	850	170	1091	156
9pm - 10pm	133	148	143	157	170	132	74	751	150	957	137
10pm - 11pm	87	102	104	115	166	146	73	574	115	793	113
11pm - Midnight	38	39	48	39	104	105	28	268	54	401	57
Total	5237	5402	5698	5540	5809	5153	3763	27686	5537	36602	5228

Traffic Count Summary Report

Count Number 6125 Ref : CBAY Lat/Long : S33 51 18.3 / E151 05 37.9 UBD 233 F-4
 Street CORREYS AVENUE, STRATHFIELD : From CONCORD ROAD to MAJORS BAY ROAD : EAST BOUND
 Location Between Cumming Avenue and Flavell Street House No 107, ELP RP28221

Carriageway

TOTAL COUNT MATRIX

22-JUL-10
 1300
 7 DAYS
 1 HOUR

Weekly 50th Percentile Speed 48
 Weekly 85th Percentile Speed 57
 Five Day AADT 3047
 Seven Day AADT 2869

	MON 26TH	TUE 27TH	WED 28TH	THU 29TH	FRI 30TH	SAT 31ST	SUN 1ST	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	5	5	10	10	8	22	35	38	8	95	14
1am - 2am	3	4	5	2	3	13	20	17	3	50	7
2am - 3am	3	2	5	4	0	4	12	14	3	30	4
3am - 4am	2	4	1	0	1	3	2	8	2	13	2
4am - 5am	2	0	2	3	1	0	2	8	2	10	1
5am - 6am	15	14	15	8	8	8	5	60	12	73	10
6am - 7am	81	77	85	82	79	34	26	404	81	464	66
7am - 8am	142	155	140	161	136	48	27	734	147	809	116
8am - 9am	221	215	251	219	220	163	52	1126	225	1341	192
9am - 10am	161	144	178	161	180	165	91	824	165	1080	154
10am - 11am	138	140	186	143	158	219	113	765	153	1097	157
11am - Midday	148	141	168	138	135	227	188	730	146	1145	164
Midday - 1pm	145	157	142	152	168	287	194	764	153	1245	178
1pm - 2pm	148	130	143	149	157	238	181	727	145	1146	164
2pm - 3pm	155	189	152	183	178	220	133	857	171	1210	173
3pm - 4pm	248	180	252	300	287	245	158	1267	253	1670	239
4pm - 5pm	284	299	303	292	324	216	192	1502	300	1910	273
5pm - 6pm	394	382	373	402	426	206	155	1977	395	2338	334
6pm - 7pm	269	300	336	328	304	229	121	1537	307	1887	270
7pm - 8pm	130	146	134	170	171	169	72	751	150	992	142
8pm - 9pm	89	107	81	92	95	58	53	464	93	575	82
9pm - 10pm	66	59	62	68	60	50	25	315	63	390	56
10pm - 11pm	37	44	31	41	87	61	45	240	48	346	49
11pm - Midnight	14	17	26	14	36	42	19	107	21	168	24
Total	2900	2911	3081	3122	3222	2927	1921	15236	3047	20084	2869

Traffic Count Summary Report

Count Number 6125

Ref : CBAY

Lat/Long : S33 51 18.3 / E151 05 37.9

UBD 233 F-4

Street CORREYS AVENUE, STRATHFIELD : From MAJORS BAY ROAD to CONCORD ROAD : WEST BOUND

Location Between Cumming Avenue and Flavelle Street House No 107, ELP RP28221

Carriageway

TOTAL COUNT MATRIX

Start Date
Start Time
Duration
Interval

22-JUL-10
1300
7 DAYS
1 HOUR

Weekly 50th Percentile Speed
Weekly 85th Percentile Speed
Five Day AADT
Seven Day AADT

47
56
3634
3342

	MON 26TH	TUE 27TH	WED 28TH	THU 29TH	FRI 30TH	SAT 31ST	SUN 1ST	5 Day Total	5 Day Average	Total	7 Day Average
Midnight - 1am	5	2	8	6	8	21	26	29	6	76	11
1am - 2am	2	3	2	4	8	8	12	19	4	39	6
2am - 3am	3	3	3	1	3	10	6	13	3	29	4
3am - 4am	2	2	2	1	4	4	3	11	2	18	3
4am - 5am	8	2	8	5	9	5	6	32	6	43	6
5am - 6am	35	46	41	37	44	19	14	203	41	236	34
6am - 7am	104	109	93	99	115	43	18	520	104	581	83
7am - 8am	371	420	385	368	326	106	35	1870	374	2011	287
8am - 9am	567	504	568	543	463	161	93	2645	529	2899	414
9am - 10am	227	262	266	237	235	235	158	1227	245	1620	231
10am - 11am	154	157	198	182	164	279	170	855	171	1304	186
11am - Midday	148	169	192	167	179	277	221	855	171	1353	193
Midday - 1pm	170	146	151	143	168	248	219	778	156	1245	178
1pm - 2pm	160	159	167	162	165	246	178	813	163	1237	177
2pm - 3pm	238	182	191	221	215	231	149	1047	209	1427	204
3pm - 4pm	279	203	236	315	284	219	167	1367	273	1753	250
4pm - 5pm	271	258	252	310	321	237	155	1412	282	1804	258
5pm - 6pm	255	264	254	309	423	206	160	1505	301	1871	267
6pm - 7pm	212	235	249	239	289	189	134	1224	245	1547	221
7pm - 8pm	128	130	131	142	164	121	73	695	139	889	127
8pm - 9pm	83	89	70	67	78	63	50	387	77	500	71
9pm - 10pm	62	63	70	70	79	51	36	344	69	431	62
10pm - 11pm	17	42	31	45	70	51	38	205	41	294	42
11pm - Midnight	20	10	24	17	45	57	12	116	23	185	26
Total	3521	3460	3642	3690	3859	3087	2133	18172	3634	23392	3341

Traffic Count Summary Report

Count Number 5615 Ref : CBAY Lat/Long : S33 51 24.8 / E151 06 28.1 UBD 233 M-5
 Street IAN PARADE, CONCORD : From GREENLEES AVENUE to BREWER STREET : NORTH BOUND
 Location Between Empire Avenue and Freeman Place, in bus zone, on Bus Sign.

Carriageway

TOTAL COUNT MATRIX

Start Date 23-MAR-10
 Start Time 400
 Duration 7 DAYS
 Interval 1 HOUR

Weekly 50th Percentile Speed 55
 Weekly 85th Percentile Speed 63
 Five Day AADT 7280
 Seven Day AADT 7081

	MON 29TH	TUE 23RD/30TH	WED 24TH	THU 25TH	FRI 26TH	SAT 27TH	SUN 28TH	5 Day		7 Day	
								Total	Average	Total	Average
Midnight - 1am	41	28	39	48	55	154	159	211	42	524	75
1am - 2am	29	12	22	28	24	69	95	115	23	279	40
2am - 3am	10	6	10	16	19	48	53	61	12	162	23
3am - 4am	9	11	14	15	17	35	50	66	13	151	22
4am - 5am	16	12	8	22	21	28	35	79	16	142	20
5am - 6am	44	49	50	46	60	34	25	249	50	308	44
6am - 7am	197	221	199	221	211	135	74	1049	210	1258	180
7am - 8am	352	387	389	377	379	182	104	1884	377	2170	310
8am - 9am	514	488	478	532	508	290	213	2520	504	3023	432
9am - 10am	350	395	401	408	390	416	335	1944	389	2695	385
10am - 11am	322	342	343	348	378	493	402	1733	347	2628	375
11am - Midday	358	356	372	383	380	526	481	1849	370	2856	408
Midday - 1pm	353	330	365	372	418	565	507	1838	368	2910	416
1pm - 2pm	357	348	340	382	398	482	459	1825	365	2776	397
2pm - 3pm	351	409	412	414	456	470	429	2042	408	2941	420
3pm - 4pm	560	583	599	539	611	552	435	2892	578	3879	554
4pm - 5pm	527	570	556	529	614	478	423	2796	559	3697	528
5pm - 6pm	646	678	687	626	641	570	436	3278	656	4284	612
6pm - 7pm	550	673	669	649	640	488	380	3181	636	4049	578
7pm - 8pm	377	480	467	568	513	306	293	2405	481	3004	429
8pm - 9pm	270	303	342	355	300	215	218	1570	314	2003	286
9pm - 10pm	196	260	257	269	250	196	165	1232	246	1593	228
10pm - 11pm	153	159	184	189	260	200	132	945	189	1277	182
11pm - Midnight	85	97	110	120	224	231	92	636	127	959	137
Total	6667	7197	7313	7456	7767	7163	6005	36400	7280	49568	7081

Traffic Count Summary Report

Count Number 5615 Ref : CBAY Lat/Long : S33 51 24.8 / E151 06 28.1 UBD 233 M-5
 Street IAN PARADE, CONCORD : From BREWER STREET to GREENLEES AVENUE : SOUTH BOUND
 Location Between Empire Avenue and Freeman Place, in bus zone, on Bus Sign.

Carriageway

TOTAL COUNT MATRIX

Start Date 23-MAR-10
 Start Time 400
 Duration 7 DAYS
 Interval 1 HOUR

Weekly 50th Percentile Speed 50
 Weekly 85th Percentile Speed 58
 Five Day AADT 8076
 Seven Day AADT 7851

	MON 29TH	TUE 23RD/30TH	WED 24TH	THU 25TH	FRI 26TH	SAT 27TH	SUN 28TH	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	37	16	33	38	35	117	98	159	32	374	53
1am - 2am	12	12	25	20	22	60	90	91	18	241	34
2am - 3am	12	12	11	20	17	32	40	72	14	144	21
3am - 4am	17	11	11	14	18	32	42	71	14	145	21
4am - 5am	29	32	20	30	38	26	21	149	30	196	28
5am - 6am	98	95	107	104	110	55	36	514	103	605	86
6am - 7am	293	293	296	283	287	112	67	1452	290	1631	233
7am - 8am	606	649	673	644	597	272	143	3169	634	3584	512
8am - 9am	652	654	634	682	698	451	262	3320	664	4033	576
9am - 10am	481	513	508	560	579	558	416	2641	528	3615	516
10am - 11am	437	451	479	470	516	587	552	2353	471	3492	499
11am - Midday	440	380	450	432	454	636	571	2156	431	3363	480
Midday - 1pm	412	366	445	423	483	628	525	2129	426	3282	469
1pm - 2pm	380	411	420	397	449	536	517	2057	411	3110	444
2pm - 3pm	443	502	510	486	530	535	416	2471	494	3422	489
3pm - 4pm	519	533	579	507	576	542	403	2714	543	3659	523
4pm - 5pm	513	571	544	607	564	497	447	2799	560	3743	535
5pm - 6pm	595	603	618	612	649	550	472	3075	615	4097	585
6pm - 7pm	491	591	609	593	643	541	421	2927	585	3889	556
7pm - 8pm	326	408	463	453	510	399	394	2160	432	2953	422
8pm - 9pm	234	270	292	308	309	240	237	1413	283	1890	270
9pm - 10pm	180	196	251	266	247	223	171	1140	228	1534	219
10pm - 11pm	113	114	179	229	231	225	122	866	173	1213	173
11pm - Midnight	46	65	76	116	179	179	79	482	96	740	106
Total	7366	7748	8231	8294	8741	8033	6542	40380	8076	54955	7850

Count Number 5617

Ref : CBAY

Lat/Long : S33 51 38.8 / E151 06 24.0

UBD 233 L-7

BROUGHTON STREET, CONCORD : From PARRAMATTA ROAD to IAN PARADE : NORTH BOUND

Between Wallace Street and Crane Street, House No. 22 on sign post

Carriageway

TOTAL COUNT MATRIX

Start Date
23-MAR-10
Start Time
400
Duration
7 DAYS
Interval
1 HOUR

Weekly 50th Percentile Speed 48
Weekly 85th Percentile Speed 56
Five Day AADT 6579
Seven Day AADT 6409

	MON 29TH	TUE 23RD/30TH	WED 24TH	THU 25TH	FRI 26TH	SAT 27TH	SUN 28TH	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	44	27	41	49	52	163	166	213	43	542	77
1am - 2am	28	12	18	29	21	68	97	108	22	273	39
2am - 3am	11	6	10	13	16	50	59	56	11	165	24
3am - 4am	9	10	15	15	17	35	54	66	13	155	22
4am - 5am	16	14	6	21	23	27	32	80	16	139	20
5am - 6am	43	41	47	42	49	33	27	222	44	282	40
6am - 7am	163	174	160	178	165	121	60	840	168	1021	146
7am - 8am	245	291	294	269	271	140	84	1370	274	1594	228
8am - 9am	416	374	395	412	405	233	166	2002	400	2401	343
9am - 10am	307	361	350	357	326	351	275	1701	340	2327	332
10am - 11am	257	308	309	305	320	418	347	1499	300	2264	323
11am - Midday	327	327	341	359	350	458	421	1704	341	2583	369
Midday - 1pm	325	320	353	351	387	480	478	1736	347	2694	385
1pm - 2pm	322	322	328	348	382	428	435	1702	340	2565	366
2pm - 3pm	312	339	357	363	387	433	410	1758	352	2601	372
3pm - 4pm	537	549	553	507	590	484	403	2736	547	3623	518
4pm - 5pm	481	532	512	490	531	480	404	2546	509	3430	490
5pm - 6pm	599	607	623	585	575	519	380	2989	598	3888	555
6pm - 7pm	523	629	647	583	594	409	329	2976	595	3714	531
7pm - 8pm	351	454	442	530	465	279	278	2242	448	2799	400
8pm - 9pm	272	281	334	335	296	207	217	1518	304	1942	277
9pm - 10pm	198	271	242	293	226	187	174	1230	246	1591	227
10pm - 11pm	156	175	195	200	237	205	137	963	193	1305	186
11pm - Midnight	94	98	106	112	226	239	89	636	127	964	138
Total	6036	6522	6678	6746	6911	6447	5522	32893	6578	44862	6408

Count Number 5617 Ref : CBAY Lat/Long : S33 51 38.8 / E151 06 24.0 UBD 233 L-7
 Street BRIGHTON STREET, CONCORD : From IAN PARADE to PARRAMATTA ROAD : SOUTH BOUND
 Location Between Wallace Street and Crane Street, House No. 22 on sign post Carriageway

TOTAL COUNT MATRIX

Start Date 23-MAR-10
 Start Time 400
 Duration 7 DAYS
 Interval 1 HOUR

Weekly 50th Percentile Speed 45
 Weekly 85th Percentile Speed 56
 Five Day AADT 6860
 Seven Day AADT 6720

	MON 29TH	TUE 23RD / 30TH	WED 24TH	THU 25TH	FRI 26TH	SAT 27TH	SUN 28TH	5 Day Total	5 Day Average	Total	7 Day Average
Midnight - 1am	36	16	30	34	35	109	91	151	30	351	50
1am - 2am	12	9	23	19	21	58	80	84	17	222	32
2am - 3am	10	10	11	20	15	31	38	66	13	135	19
3am - 4am	14	10	6	11	15	30	39	56	11	125	18
4am - 5am	26	31	21	26	39	25	20	143	29	188	27
5am - 6am	99	92	104	107	103	60	35	505	101	600	86
6am - 7am	284	312	296	273	294	121	68	1459	292	1648	235
7am - 8am	535	546	582	547	514	266	124	2724	545	3114	445
8am - 9am	541	585	555	585	592	427	241	2858	572	3526	504
9am - 10am	433	453	463	484	489	493	414	2322	464	3229	461
10am - 11am	383	412	393	417	426	500	456	2031	406	2987	427
11am - Midday	379	324	376	385	387	529	493	1851	370	2873	410
Midday - 1pm	357	329	389	355	392	541	450	1822	364	2813	402
1pm - 2pm	325	354	362	372	369	428	435	1782	356	2645	378
2pm - 3pm	392	459	441	445	496	461	334	2233	447	3028	433
3pm - 4pm	435	444	464	424	481	456	366	2248	450	3070	439
4pm - 5pm	392	463	445	466	465	428	382	2231	446	3041	434
5pm - 6pm	441	465	473	489	517	486	416	2385	477	3287	470
6pm - 7pm	379	435	453	457	513	450	352	2237	447	3039	434
7pm - 8pm	266	334	374	353	408	324	325	1735	347	2384	341
8pm - 9pm	207	228	250	238	273	214	200	1196	239	1610	230
9pm - 10pm	142	162	219	215	208	186	164	946	189	1296	185
10pm - 11pm	104	108	168	202	198	214	121	780	156	1115	159
11pm - Midnight	44	70	68	109	166	186	73	457	91	716	102
Total	6236	6651	6966	7033	7416	7023	5717	34302	6860	47042	6720

Joray Enterprises Pty Ltd

ABN 80 061 513 933

Telephone and Fax : (02) 9624 5472

1 Ajax Place Blacktown, NSW 2148

Count Number J10-41

Client TRANSPORT & URBAN PLANNING

Count Date Thursday 22 July 2010

Location BURWOOD RD / BURTON ST

Suburb CONCORD

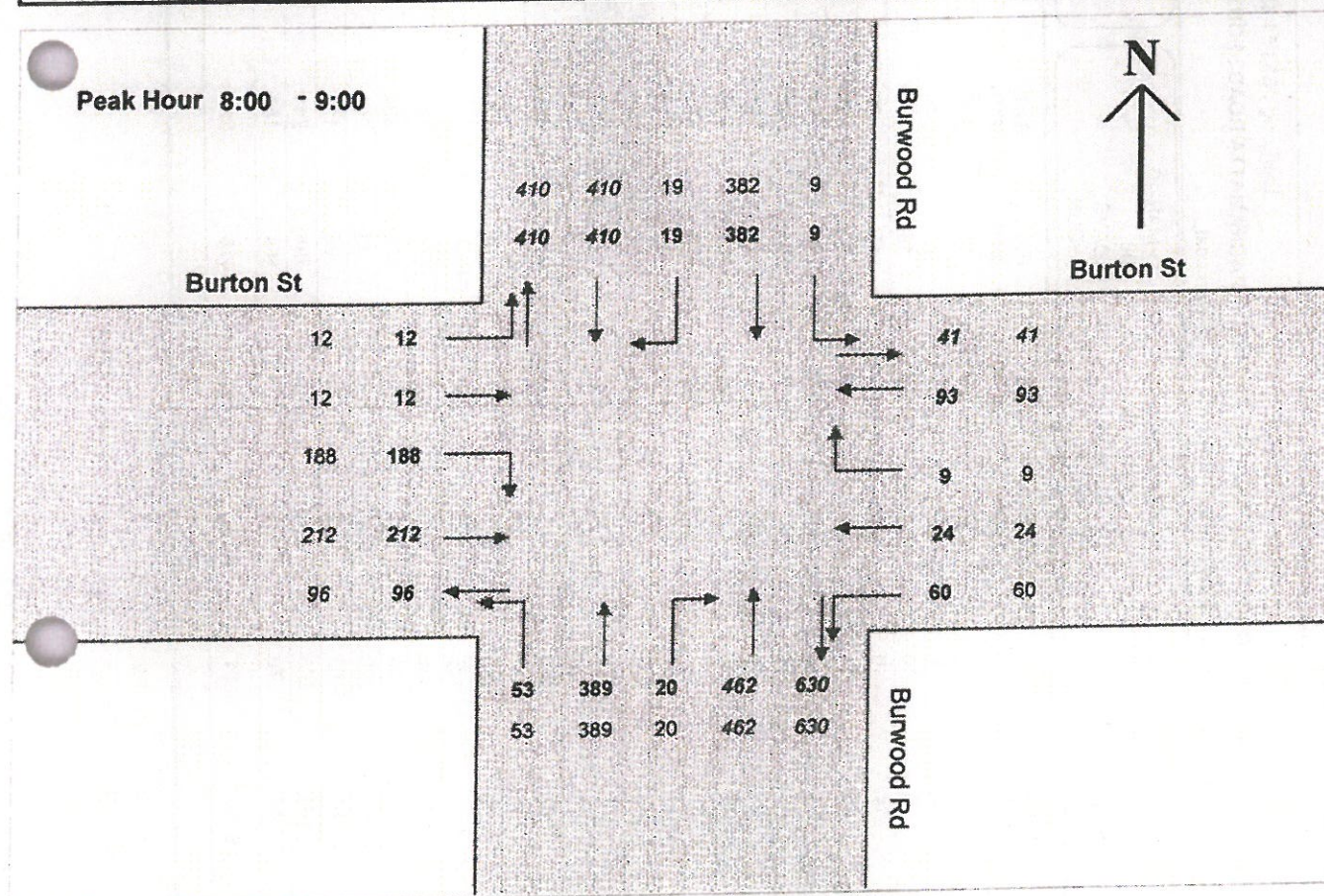
Weather Overcast

Job Number

Comments

	Burwood Rd			Burton St			Burwood Rd			Burton St			Total
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	9	382	19	60	24	9	53	389	20	12	12	188	1177
Total	9	382	19	60	24	9	53	389	20	12	12	188	1177

PEDESTRIAN	Burwood Rd		Burton St		Burwood Rd		Burton St		
All Pedestrians	2		56		3		34		95
Total	2		56		3		34		95



Joray Enterprises Pty Ltd

ABN 80 061 513 933

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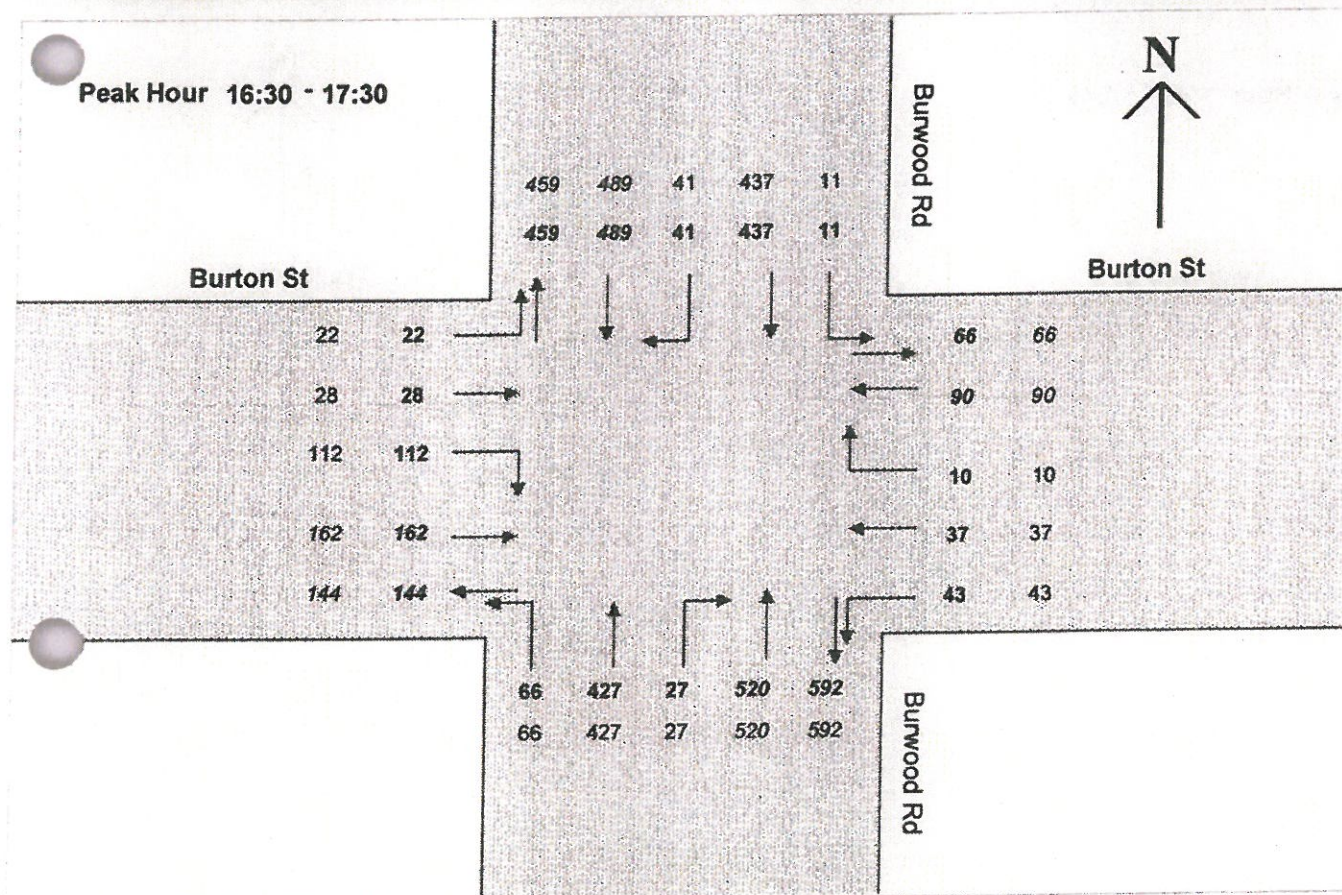
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-41	Client	TRANSPORT & URBAN PLANNING	Count Date	Thursday 22 July 2010
Location	BURWOOD RD / BURTON ST	Suburb	CONCORD	Job Number	
Weather	Overcast				

Comments

	Burwood Rd			Burton St			Burwood Rd			Burton St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	11	437	41	43	37	10	66	427	27	22	28	112	1261
Total	11	437	41	43	37	10	66	427	27	22	28	112	1261

PEDESTRIAN	Burwood Rd		Burton St		Burwood Rd		Burton St		
All Pedestrians	0		22		3		24		49
Total	0		22		3		24		49



Joray Enterprises Pty Ltd

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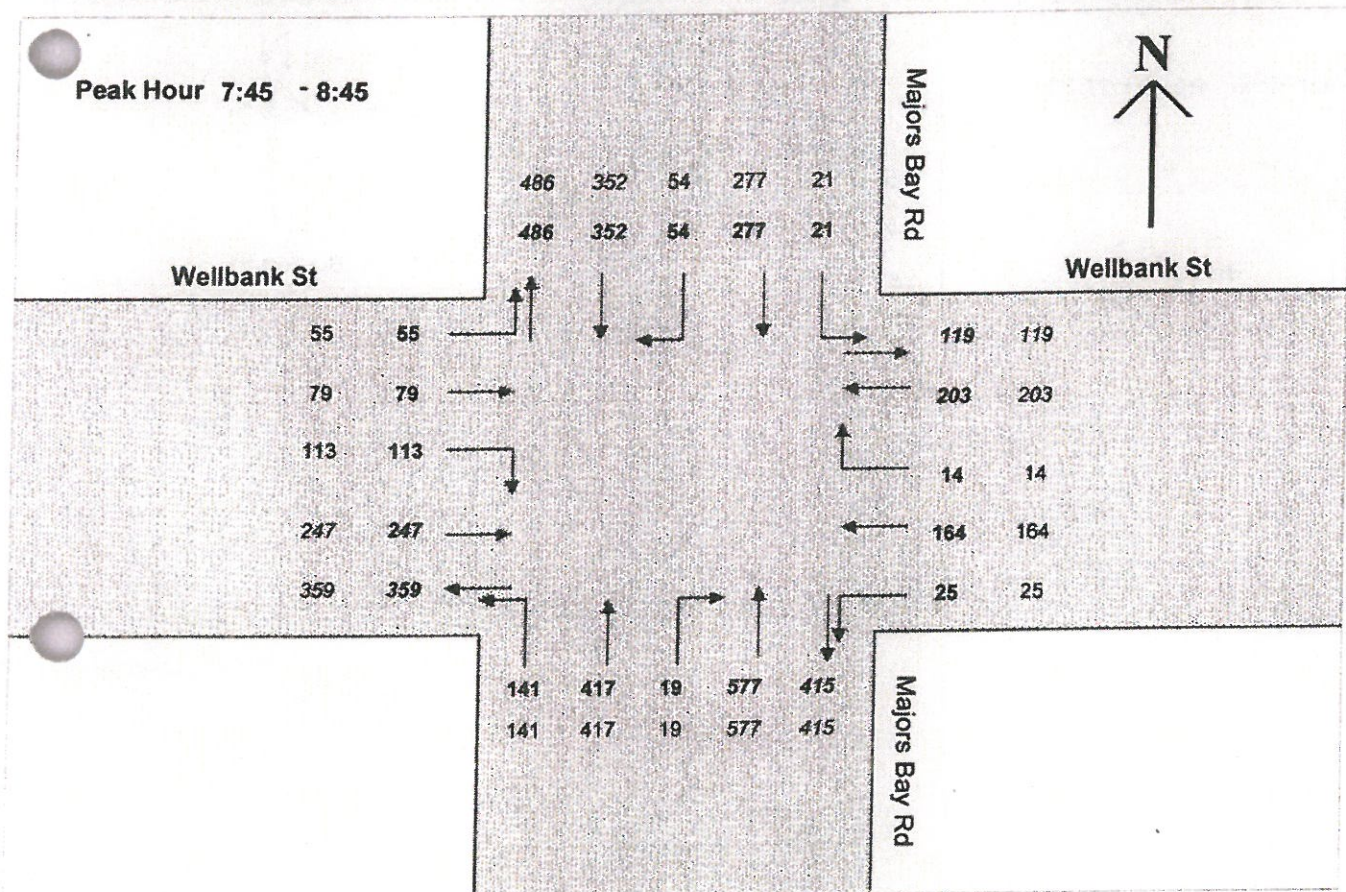
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-43	Client	TRANSPORT & URBAN PLANNING	Count Date	Wednesday 21 July 2010
Location	MAJORS BAY RD / WELLBANK ST			Suburb	CONCORD
Weather	Overcast			Job Number	

Comments

	Majors Bay Rd			Wellbank St			Majors Bay Rd			Wellbank St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	21	277	54	25	164	14	141	417	19	55	79	113	1379
Total	21	277	54	25	164	14	141	417	19	55	79	113	1379

PEDESTRIAN	Majors Bay Rd		Wellbank St		Majors Bay Rd		Wellbank St		
All Pedestrians	25		57		43		86		211
Total	25		57		43		86		211



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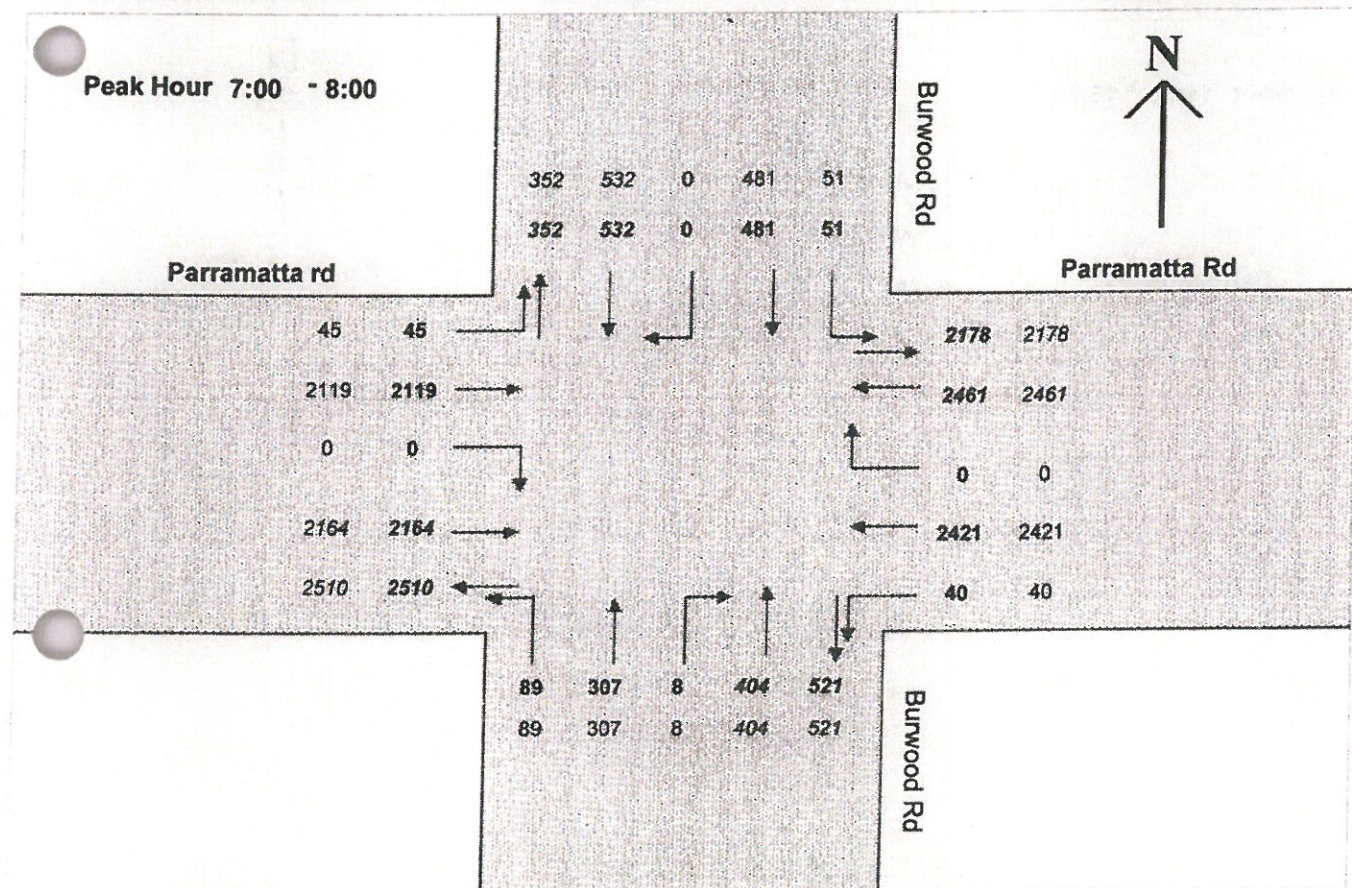
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-42	Client	TRANSPORT & URBAN PLANNING	Count Date	Thursday 22 July 2010
Location	BURWOOD RD / PARRAMATTA RD	Suburb	CONCORD	Job Number	
Weather	Overcast				

Comments

	Burwood Rd			Parramatta Rd			Burwood Rd			Parramatta rd			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	51	481	0	40	2421	0	89	307	8	45	2119	0	5561
Total	51	481	0	40	2421	0	89	307	8	45	2119	0	5561

PEDESTRIAN	Burwood Rd	Parramatta Rd	Burwood Rd	Parramatta rd	
All Pedestrians	11	33	12	18	74
Total	11	33	12	18	74



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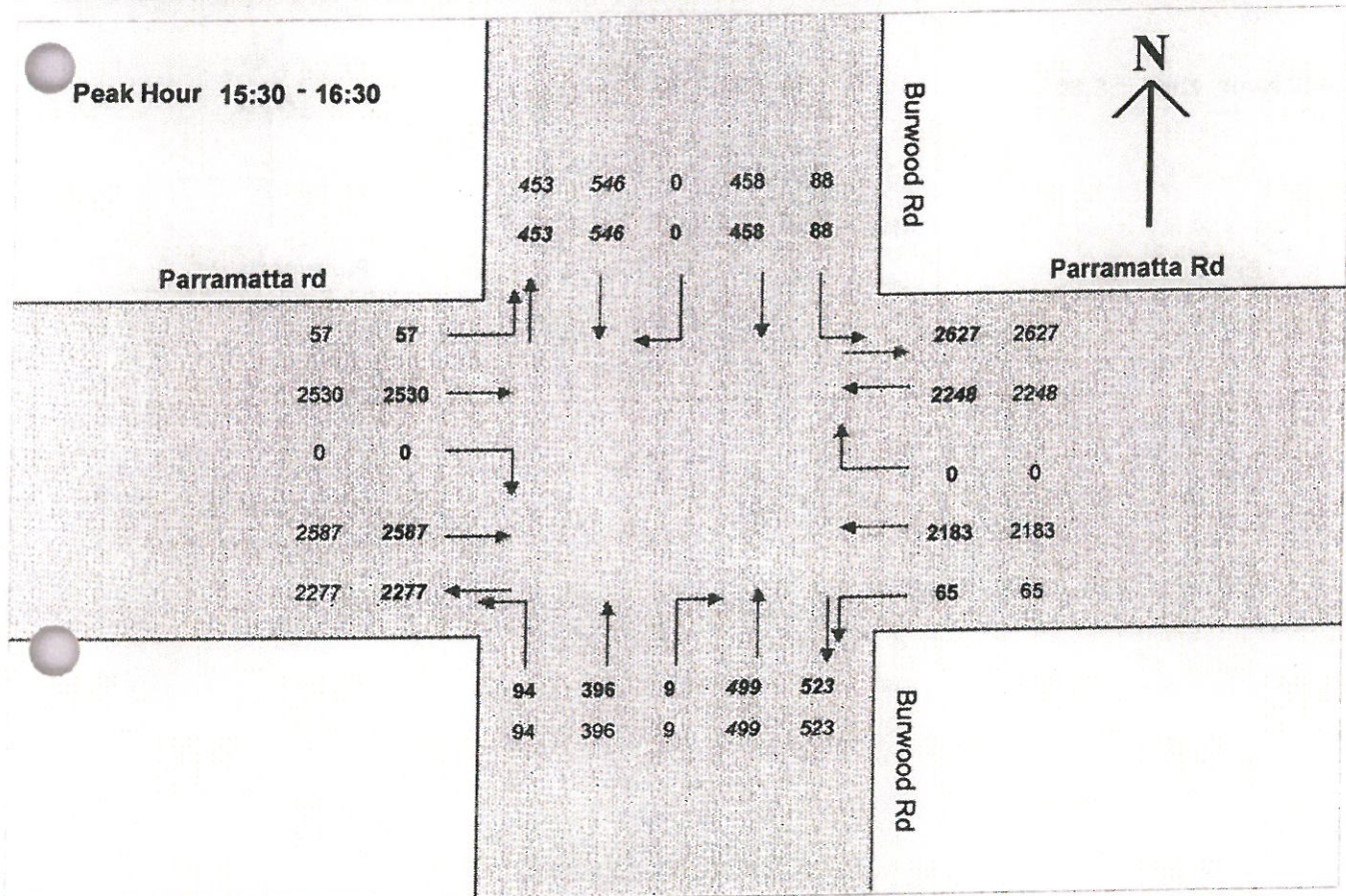
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-42	Client	TRANSPORT & URBAN PLANNING	Count Date	Thursday 22 July 2010
Location	BURWOOD RD / PARRAMATTA RD	Suburb	CONCORD	Job Number	
Weather	Overcast				

Comments

Vehicle Class	Burwood Rd			Parramatta Rd			Burwood Rd			Parramatta rd			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	88	458	0	65	2183	0	94	396	9	57	2530	0	5880
Total	88	458	0	65	2183	0	94	396	9	57	2530	0	5880

PEDESTRIAN	Burwood Rd		Parramatta Rd		Burwood Rd		Parramatta rd		Total
	L	T	L	T	L	T	L	T	
All Pedestrians	19		52		12		37		120
Total	19		52		12		37		120



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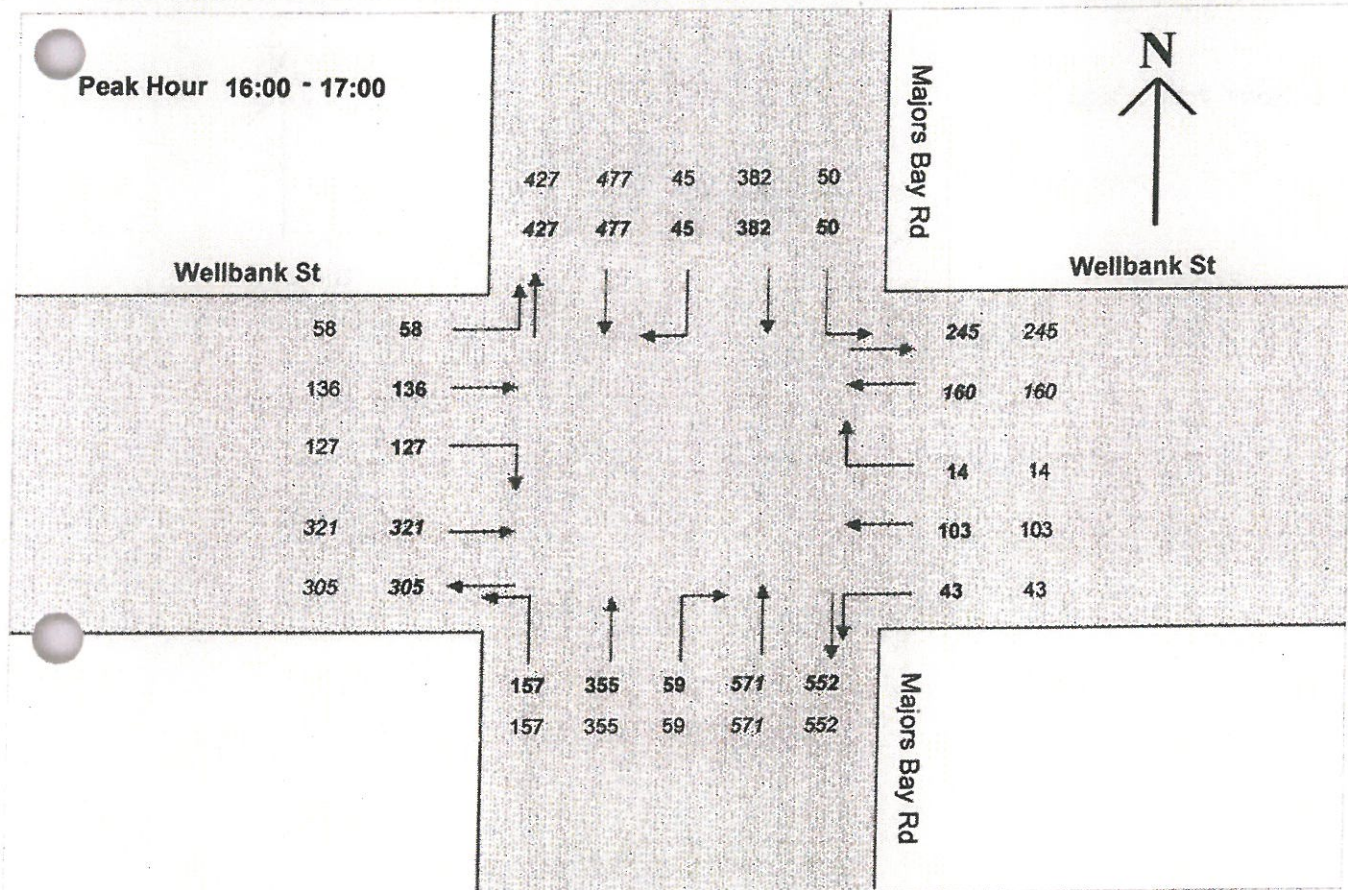
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-43	Client	TRANSPORT & URBAN PLANNING	Count Date	Wednesday 21 July 2010
Location	MAJORS BAY RD / WELLBANK ST			Suburb	CONCORD
Weather	Overcast			Job Number	

Comments

	Majors Bay Rd			Wellbank St			Majors Bay Rd			Wellbank St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	50	382	45	43	103	14	157	355	59	58	136	127	1529
Total	50	382	45	43	103	14	157	355	59	58	136	127	1529

PEDESTRIAN	Majors Bay Rd	Wellbank St	Majors Bay Rd	Wellbank St	
All Pedestrians	38	162	40	136	376
Total	38	162	40	136	376



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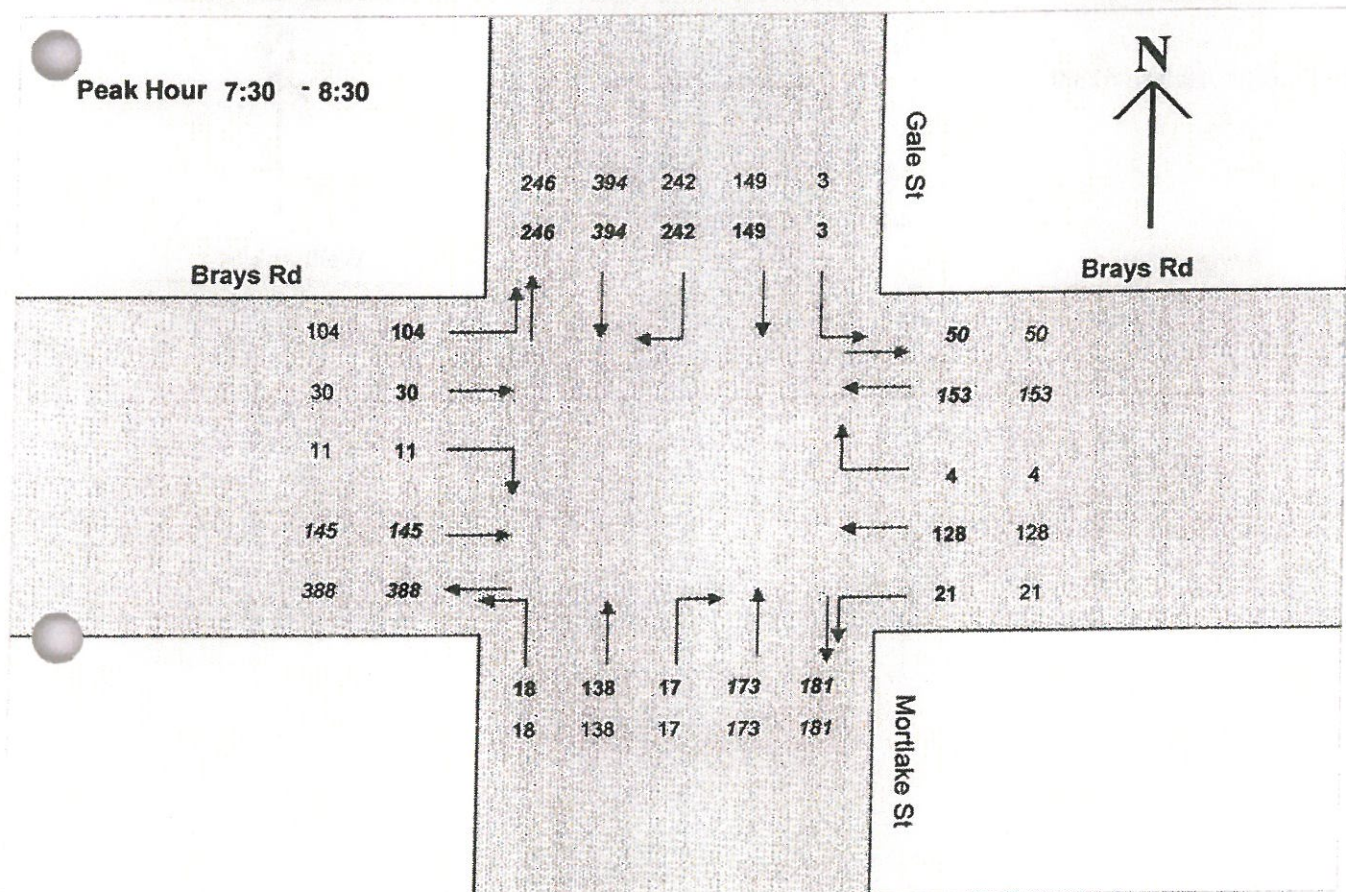
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-44	Client	TRANSPORT & URBAN PLANNING	Count Date	Wednesday 21 July 2010
Location	MORTLAKE ST / GALE ST / BRAYS RD	Suburb	CONCORD	Job Number	
Weather	Overcast				

Comments

	Gale St			Brays Rd			Mortlake St			Brays Rd			Total
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	3	149	242	21	128	4	18	138	17	104	30	11	865
Total	3	149	242	21	128	4	18	138	17	104	30	11	865

PEDESTRIAN	Gale St	Brays Rd	Mortlake St	Brays Rd	
All Pedestrians	32	8	8	9	57
Total	32	8	8	9	57



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1 Ajax Place Blacktown, NSW 2148

Count Number J10-44

Client TRANSPORT & URBAN PLANNING

Count Date Wednesday 21 July 2010

Location MORTLAKE ST / GALE ST / BRAYS RD

Suburb CONCORD

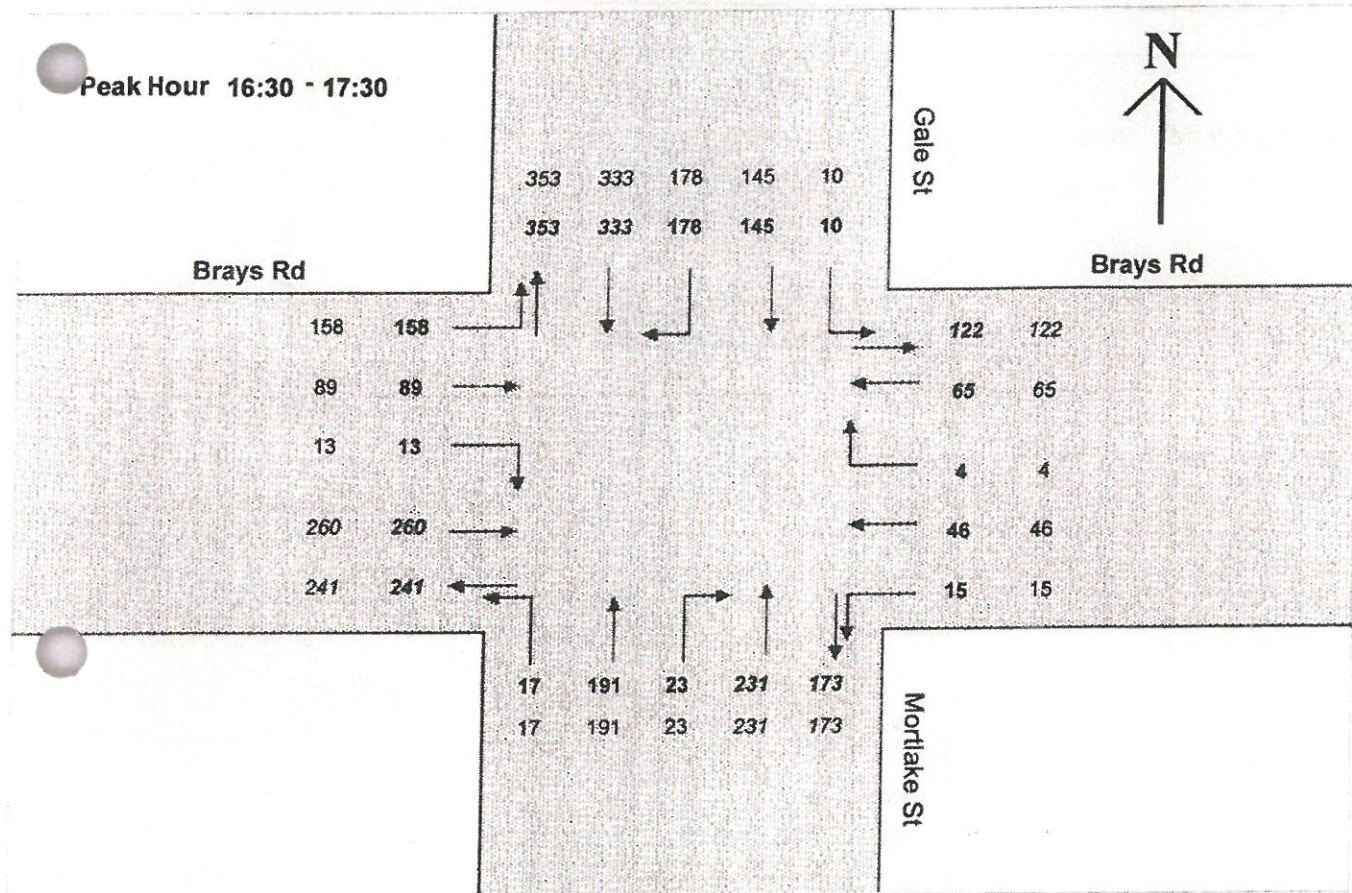
Weather Overcast

Job Number

Comments

Vehicle Class	Gale St			Brays Rd			Mortlake St			Brays Rd			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	10	145	178	15	46	4	17	191	23	158	89	13	889
Total	10	145	178	15	46	4	17	191	23	158	89	13	889

PEDESTRIAN	Gale St		Brays Rd		Mortlake St		Brays Rd		Total
All Pedestrians	22		0		1		13		36
Total	22		0		1		13		36



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1 Ajax Place Blacktown, NSW 2148

Count Number J10-45

Client TRANSPORT & URBAN PLANNING

Count Date Tuesday 20 July 2010

Location CONCORD RD / HOSPITAL RD

Suburb CONCORD

Weather Overcast

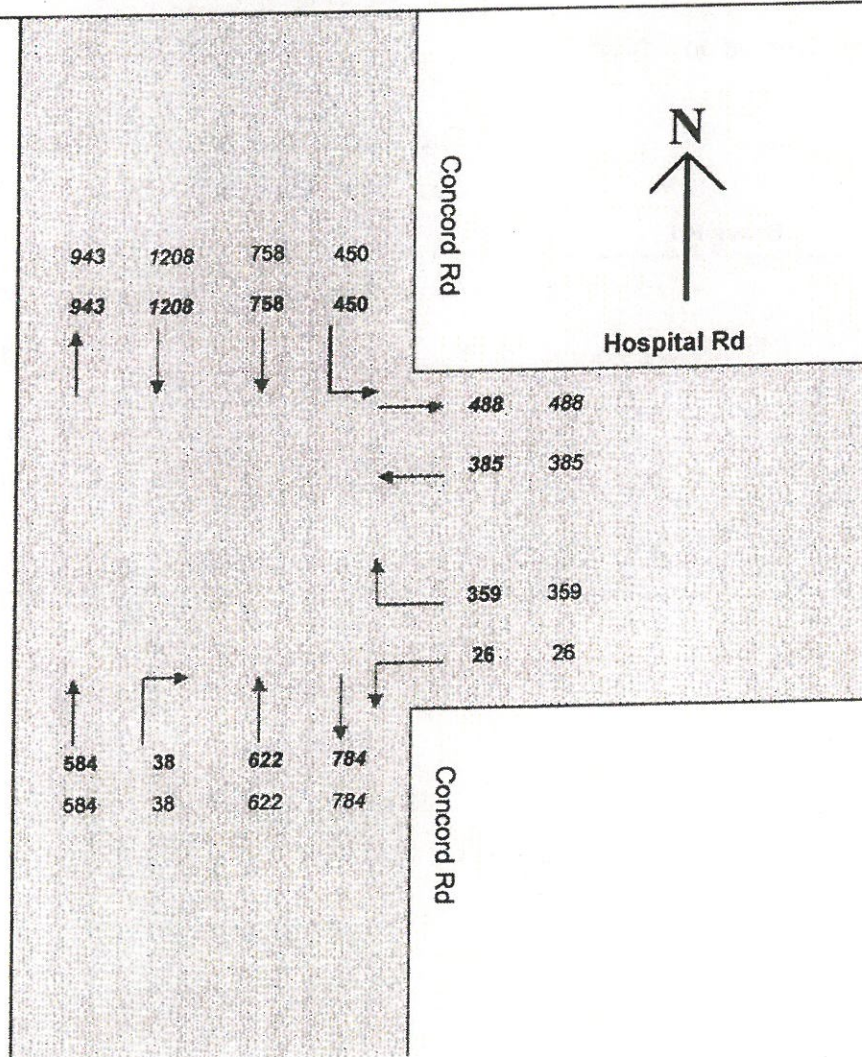
Job Number

Comments

VEHICLES	Concord Rd		Hospital Rd		Concord Rd		Total
	L	T	L	R	T	R	
All Vehicles	450	758	26	359	584	38	2215
Total	450	758	26	359	584	38	2215

PEDESTRIAN	Concord Rd	Hospital Rd	Concord Rd	Total
All Pedestrians	0	7	36	43
Total	0	7	36	43

Peak Hour 7:15 - 8:15



Joray Enterprises Pty Ltd

ABN 80 061 513 933

Telephone and Fax (02) : 9624 5472

1 Ajax Place Blacktown, NSW 2148

Count Number J10-45

Client TRANSPORT & URBAN PLANNING

Count Date Tuesday 20 July 2010

Location CONCORD RD / HOSPITAL RD

Suburb CONCORD

Weather Overcast

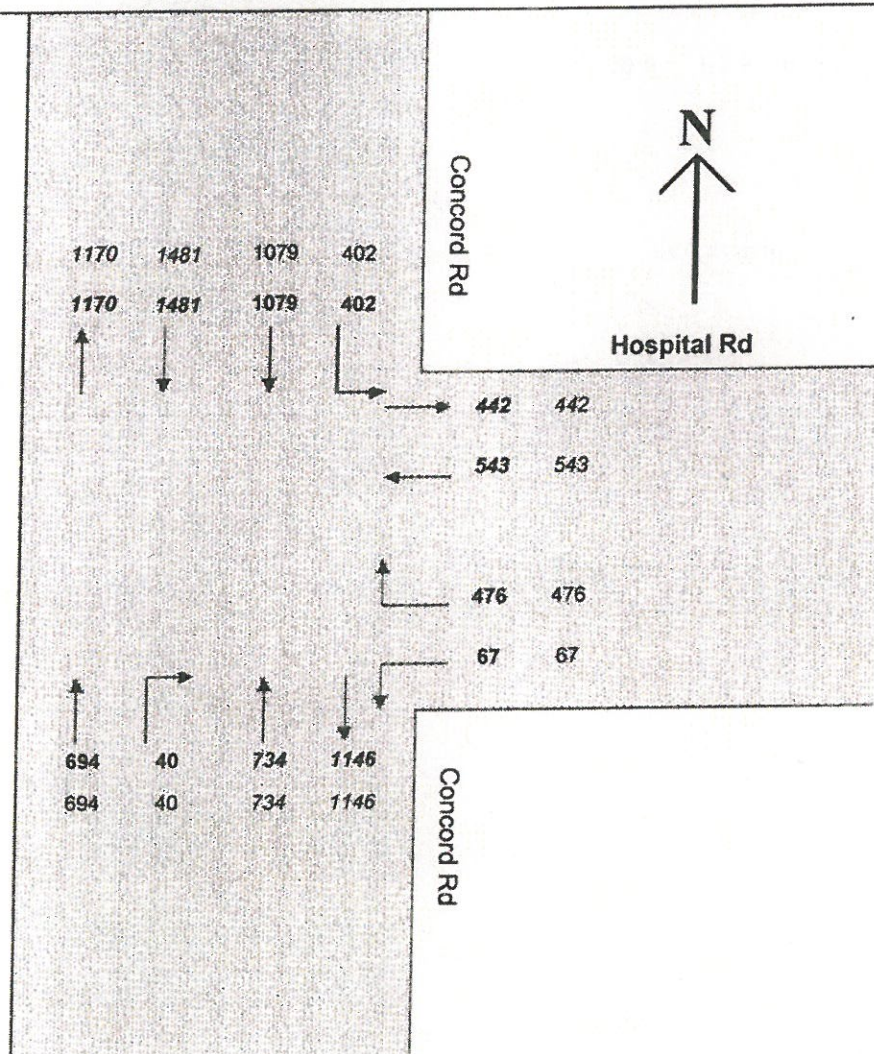
Job Number

Comments

	Concord Rd		Hospital Rd		Concord Rd		
VEHICLES	L	T	L	R	T	R	Total
All Vehicles	402	1079	67	476	694	40	2758
Total	402	1079	67	476	694	40	2758

PEDESTRIAN	Concord Rd	Hospital Rd	Concord Rd	Total
All Pedestrians	0	0	37	37
Total	0	0	37	37

Peak Hour 16:30 - 17:30



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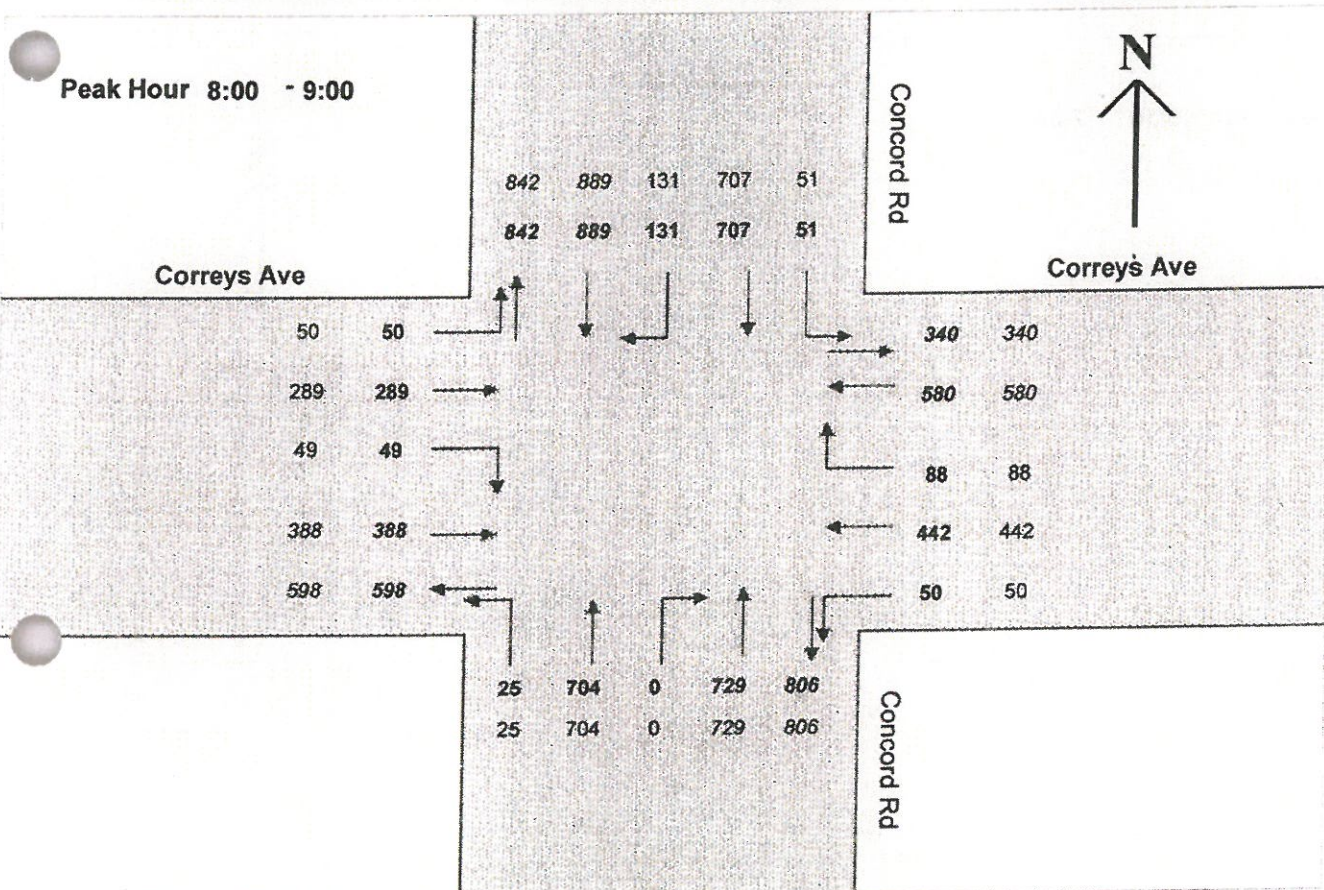
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-46	Client	TRANSPORT & URBAN PLANNING	Count Date	Tuesday 20 July 2010
Location	CONCORD RD / CORREYS AVE	Suburb	NORTH STRATHFIELD	Job Number	
Weather	Overcast				

Comments

Vehicle Class	Concord Rd			Correys Ave			Concord Rd			Correys Ave			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	51	707	131	50	442	88	25	704	0	50	289	49	2586
Total	51	707	131	50	442	88	25	704	0	50	289	49	2586

PEDESTRIAN	Concord Rd	Correys Ave	Concord Rd	Correys Ave	
All Pedestrians	20	11	90	56	177
Total	20	11	90	56	177



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ABN 80 061 513 933

Telephone and Fax : (02) 9624 5472

1 Ajax Place Blacktown, NSW 2148

Count Number J10-46

Client TRANSPORT & URBAN PLANNING

Count Date Tuesday 20 July 2010

Location CONCORD RD / CORREYS AVE

Suburb NORTH STRATHFIELD

Weather Overcast

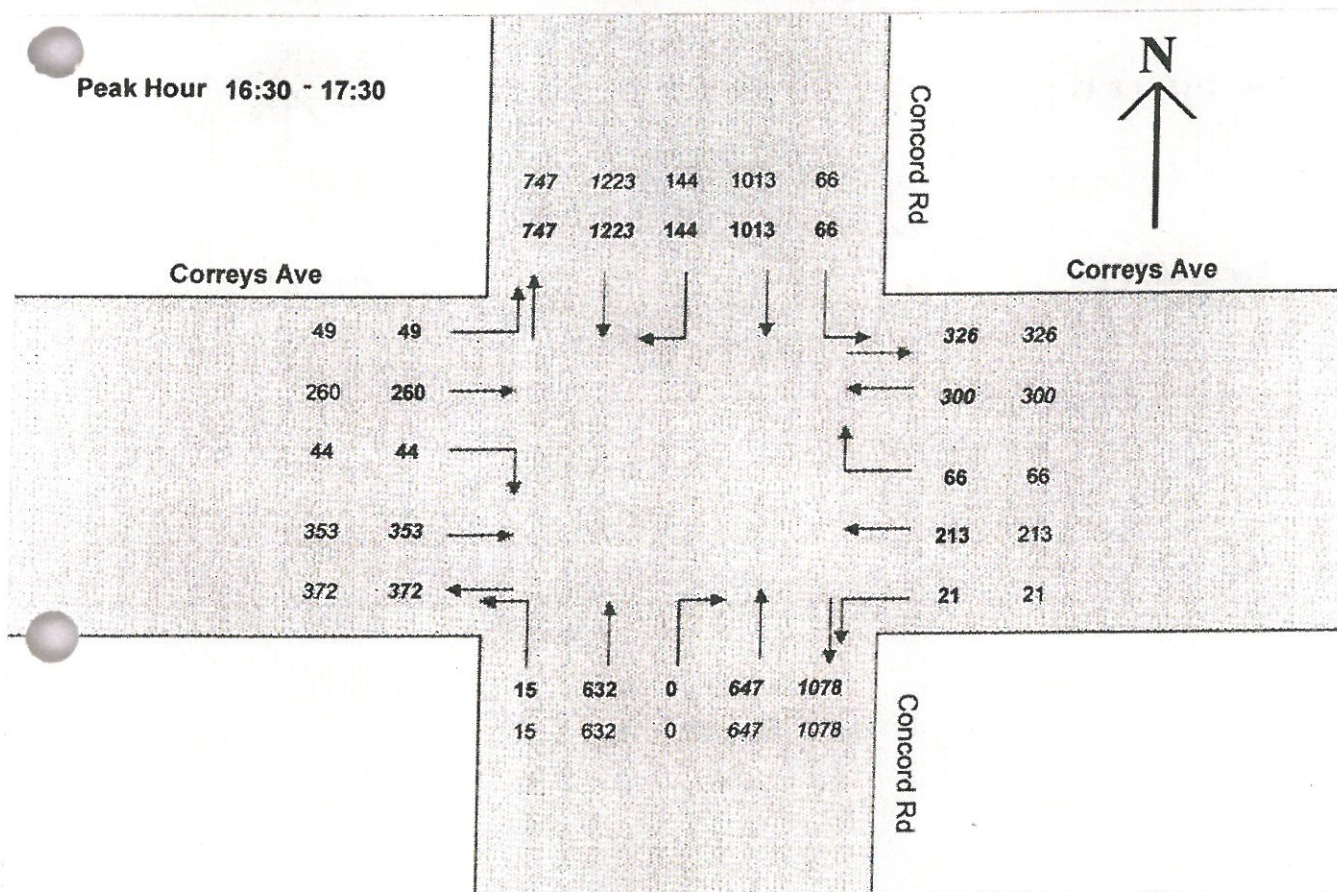
Job Number

Comments

	Concord Rd			Correys Ave			Concord Rd			Correys Ave			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	66	1013	144	21	213	66	15	632	0	49	260	44	2523
Total	66	1013	144	21	213	66	15	632	0	49	260	44	2523

PEDESTRIAN	Concord Rd		Correys Ave		Concord Rd		Correys Ave		
All Pedestrians	7		10		20		3		40
Total	7		10		20		3		40

Peak Hour 16:30 - 17:30



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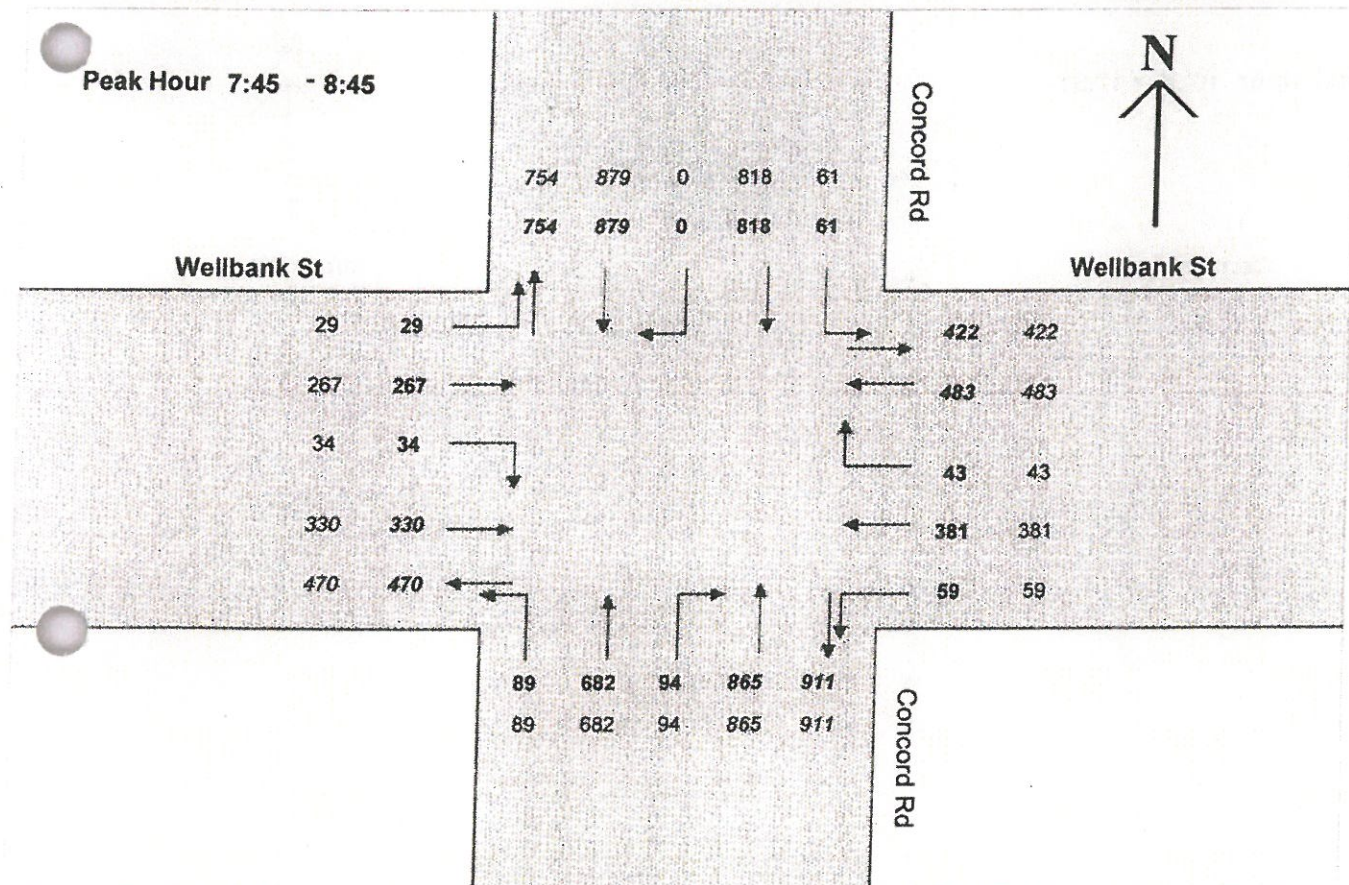
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-47	Client	TRANSPORT & URBAN PLANNING	Count Date	Tuesday 20 July 2010
Location	CONCORD RD / WELLBANK ST			Suburb	NORTH STRATHFIELD
Weather	Overcast			Job Number	

Comments

Vehicle Class	Concord Rd			Wellbank St			Concord Rd			Wellbank St			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	61	818	0	59	381	43	89	682	94	29	267	34	2557
Total	61	818	0	59	381	43	89	682	94	29	267	34	2557

PEDESTRIAN	Concord Rd	Wellbank St	Concord Rd	Wellbank St	
All Pedestrians	72	60	10	11	153
Total	72	60	10	11	153



Joray Enterprises Pty Ltd

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Count Number J10-47

Client TRANSPORT & URBAN PLANNING

Count Date Tuesday 20 July 2010

Location CONCORD RD / WELLBANK ST

Suburb NORTH STRATHFIELD

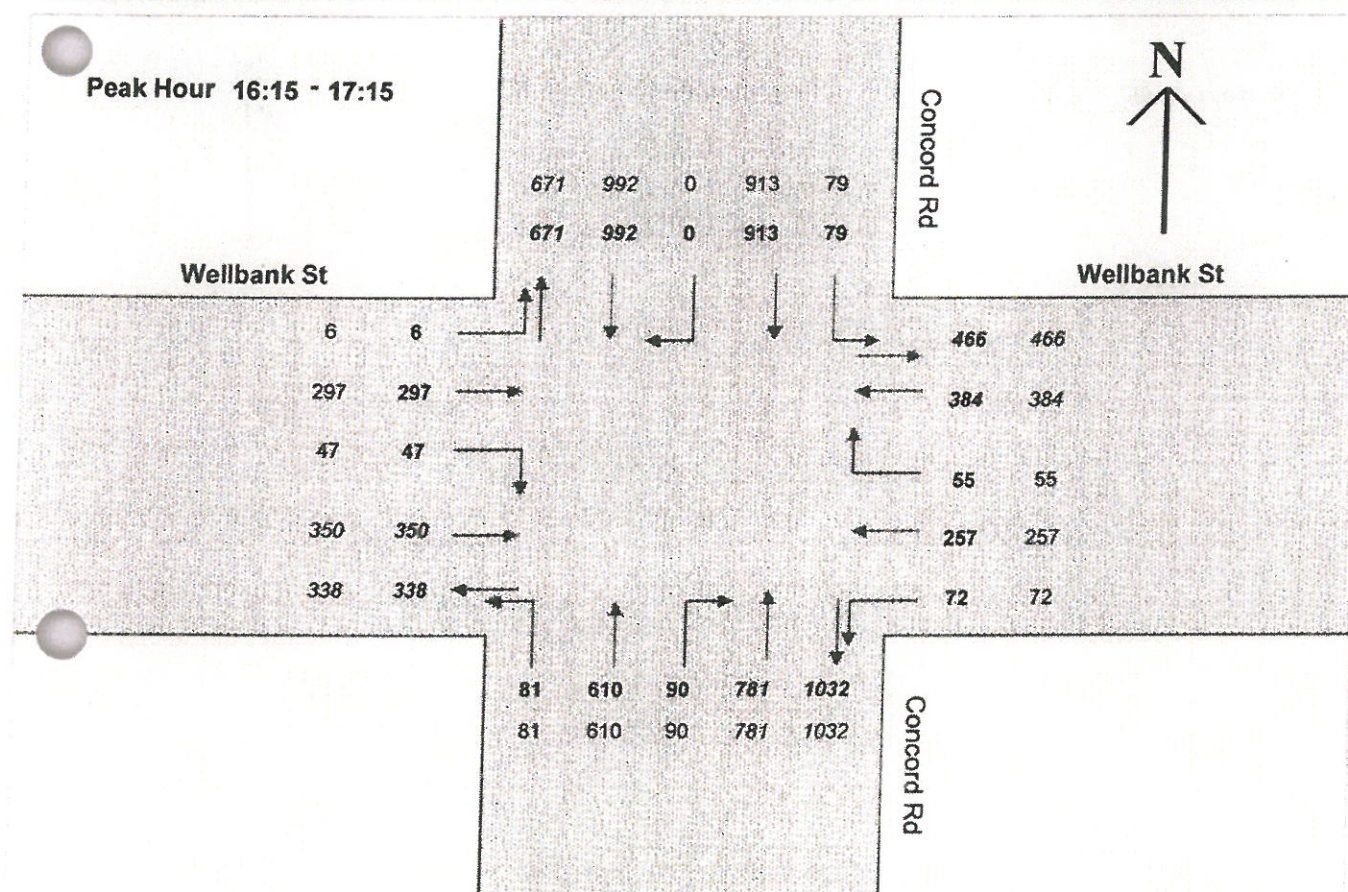
Weather Overcast

Job Number

Comments

Vehicle Class	Concord Rd			Wellbank St			Concord Rd			Wellbank St			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	79	913	0	72	257	55	81	610	90	6	297	47	2507
Total	79	913	0	72	257	55	81	610	90	6	297	47	2507

PEDESTRIAN	Concord Rd		Wellbank St		Concord Rd		Wellbank St		Total
	L	T	L	T	L	T	L	T	
All Pedestrians	63		50		11		17		141
Total	63		50		11		17		141



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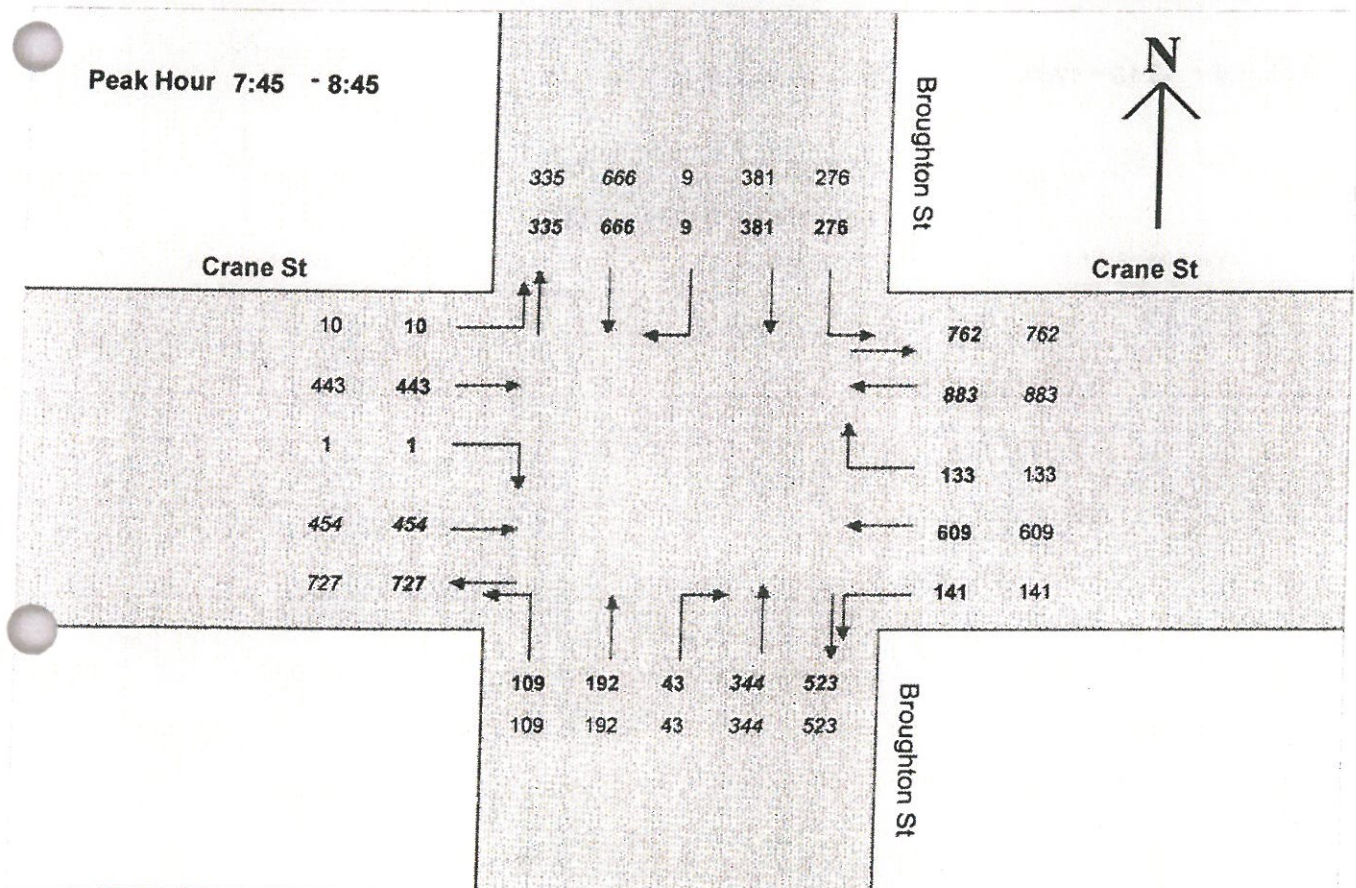
Count Number	J10-48	Client	TRANSPORT & URBAN PLANNING	Count Date	Wednesday 21 July 2010
Location	BROUGHTON ST / CRANE ST			Suburb	CONCORD
Weather	Overcast			Job Number	

Comments

	Broughton St			Crane St			Broughton St			Crane St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	276	381	9	141	609	133	109	192	43	10	443	1	2347
Total	276	381	9	141	609	133	109	192	43	10	443	1	2347

PEDESTRIAN	Broughton St		Crane St		Broughton St		Crane St		
All Pedestrians	6		13		13		0		32
Total	6		13		13		0		32

Peak Hour 7:45 - 8:45



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1 Ajax Place Blacktown, NSW 2148

Count Number J10-48

Client TRANSPORT & URBAN PLANNING

Count Date Wednesday 21 July 2010

Location BROUGHTON ST / CRANE ST

Suburb CONCORD

Weather Overcast

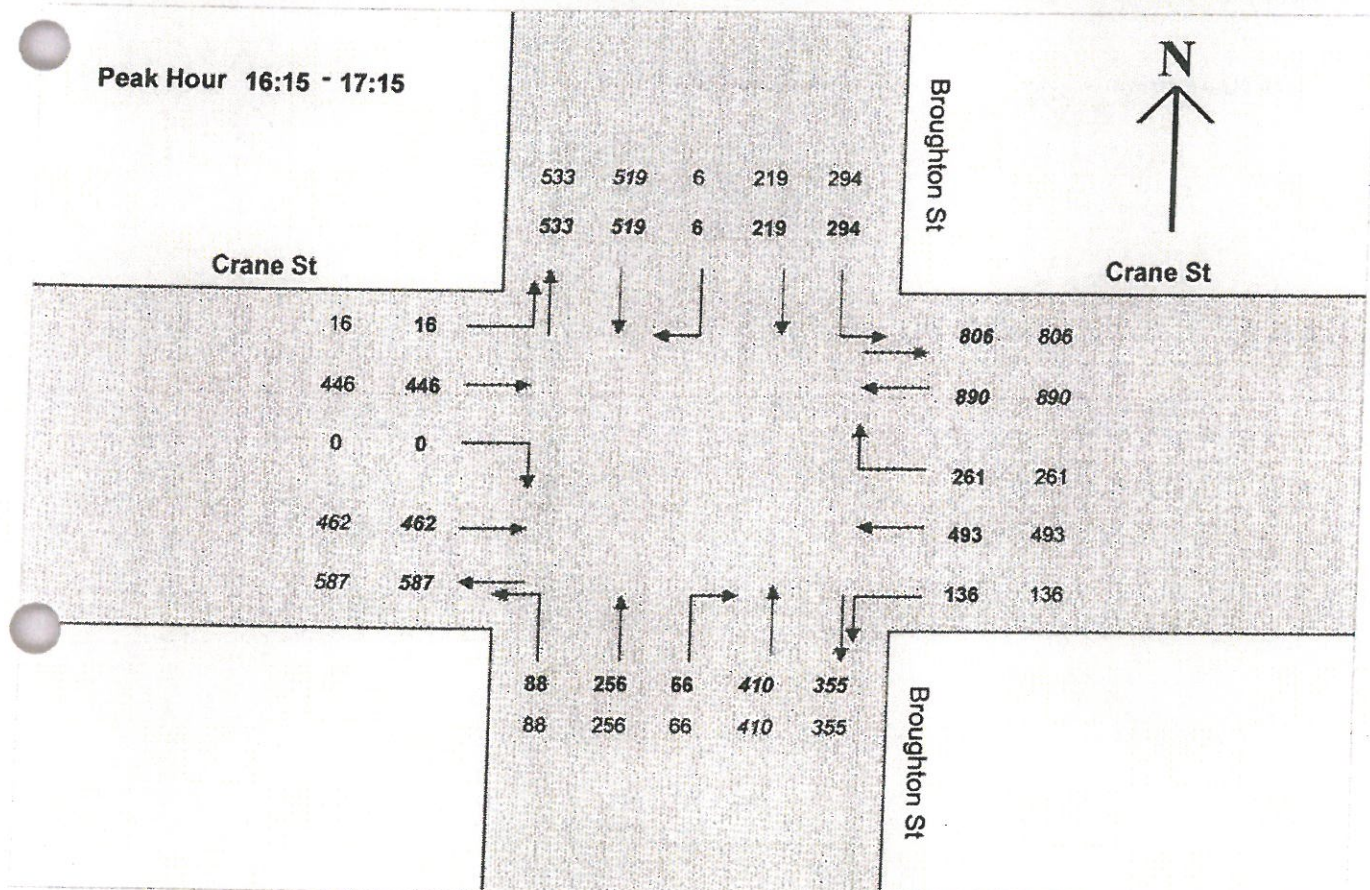
Job Number

Comments

Vehicle Class	Broughton St			Crane St			Broughton St			Crane St			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	294	219	6	136	493	261	88	256	66	16	446	0	2281
Total	294	219	6	136	493	261	88	256	66	16	446	0	2281

PEDESTRIAN	Broughton St	Crane St	Broughton St	Crane St	
All Pedestrians	3	6	11	0	20
Total	3	6	11	0	20

Peak Hour 16:15 - 17:15



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Count Number J10 - 49 Client TRANSPORT & URBAN PLANNING

Count Date Wednesday 21 July 2010

Location BROUGHTON ST / GIPPS ST

Suburb CONCORD

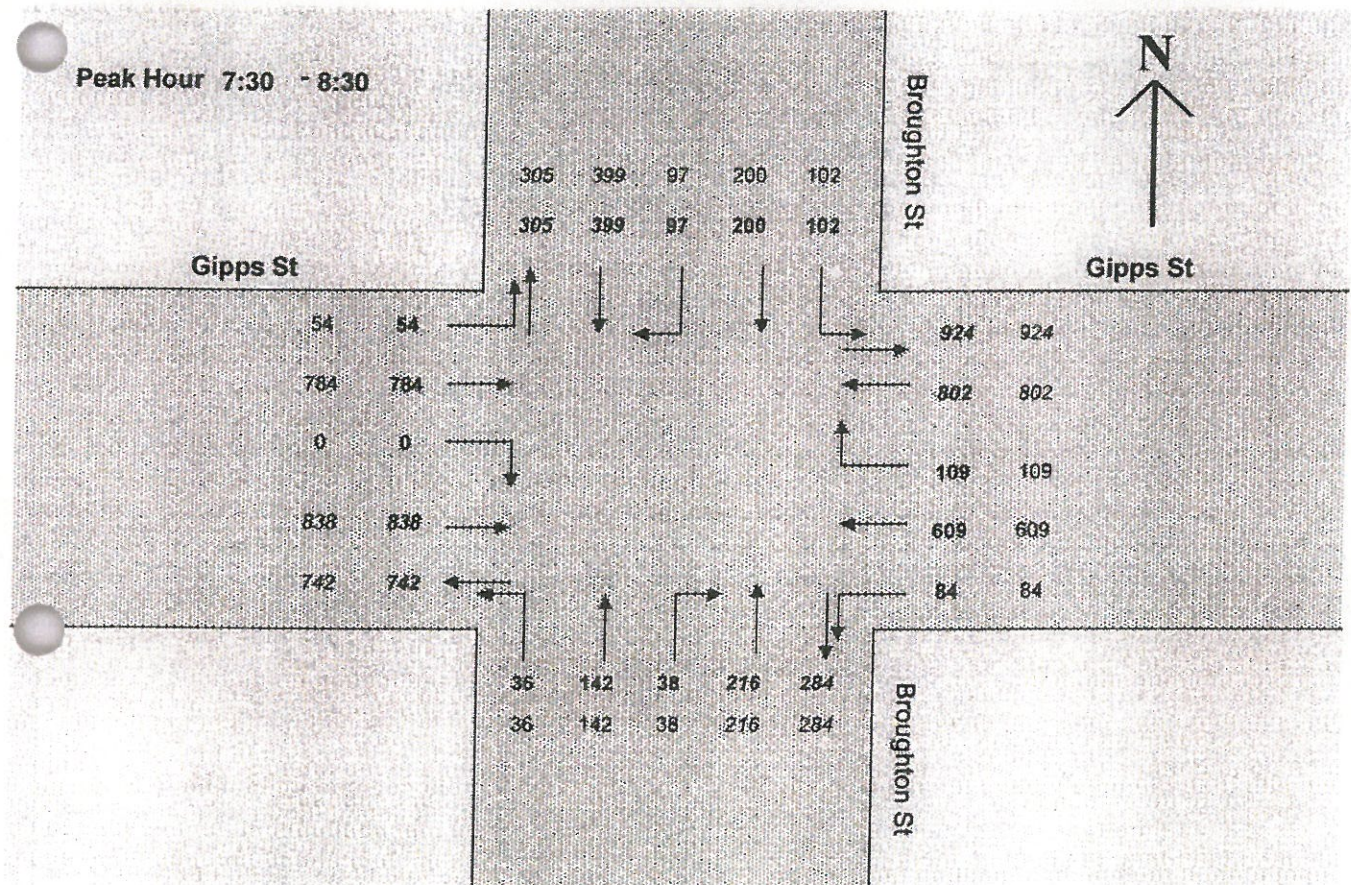
Weather Overcast

Job Number

Comments

	Broughton St			Gipps St			Broughton St			Gipps St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	102	200	97	84	609	109	36	142	38	54	784	0	2255
Total	102	200	97	84	609	109	36	142	38	54	784	0	2255

PEDESTRIAN	Broughton St		Gipps St		Broughton St		Gipps St		
All Pedestrians	17		19		16		20		72
Total	17		19		16		20		72



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Count Number J10 - 49

Client TRANSPORT & URBAN PLANNING

Count Date Wednesday 21 July 2010

Location BROUGHTON ST / GIPPS ST

Suburb CONCORD

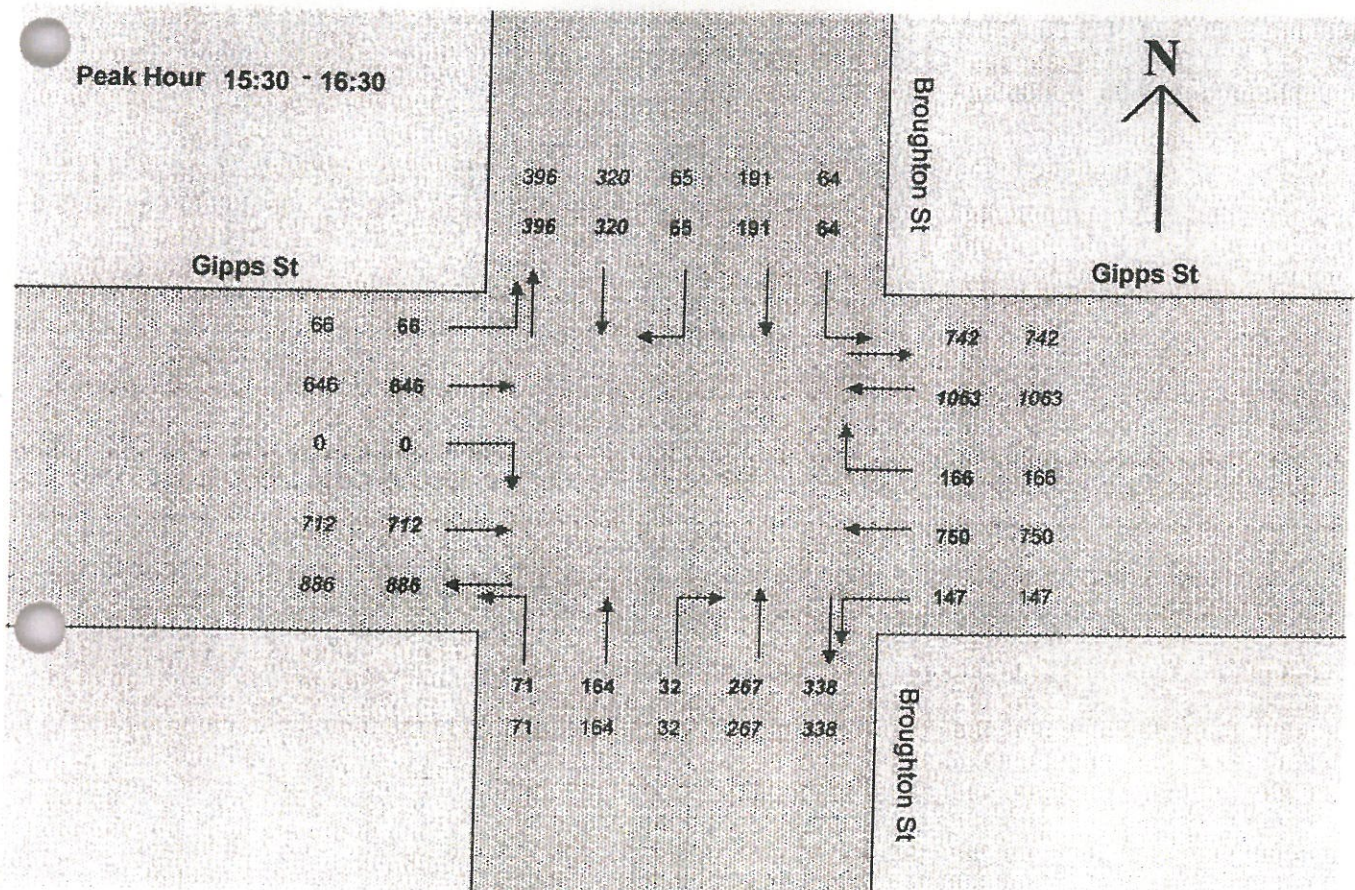
Weather Overcast

Job Number

Comments

	Broughton St			Gipps St			Broughton St			Gipps St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	64	191	65	147	750	166	71	164	32	66	646	0	2362
Total	64	191	65	147	750	166	71	164	32	66	646	0	2362

PEDESTRIAN	Broughton St	Gipps St	Broughton St	Gipps St	
All Pedestrians	20	11	17	25	73
Total	20	11	17	25	73



Joray Enterprises Pty Ltd

ABN 80 061 513 933

Telephone and Fax (02) 9624 5472

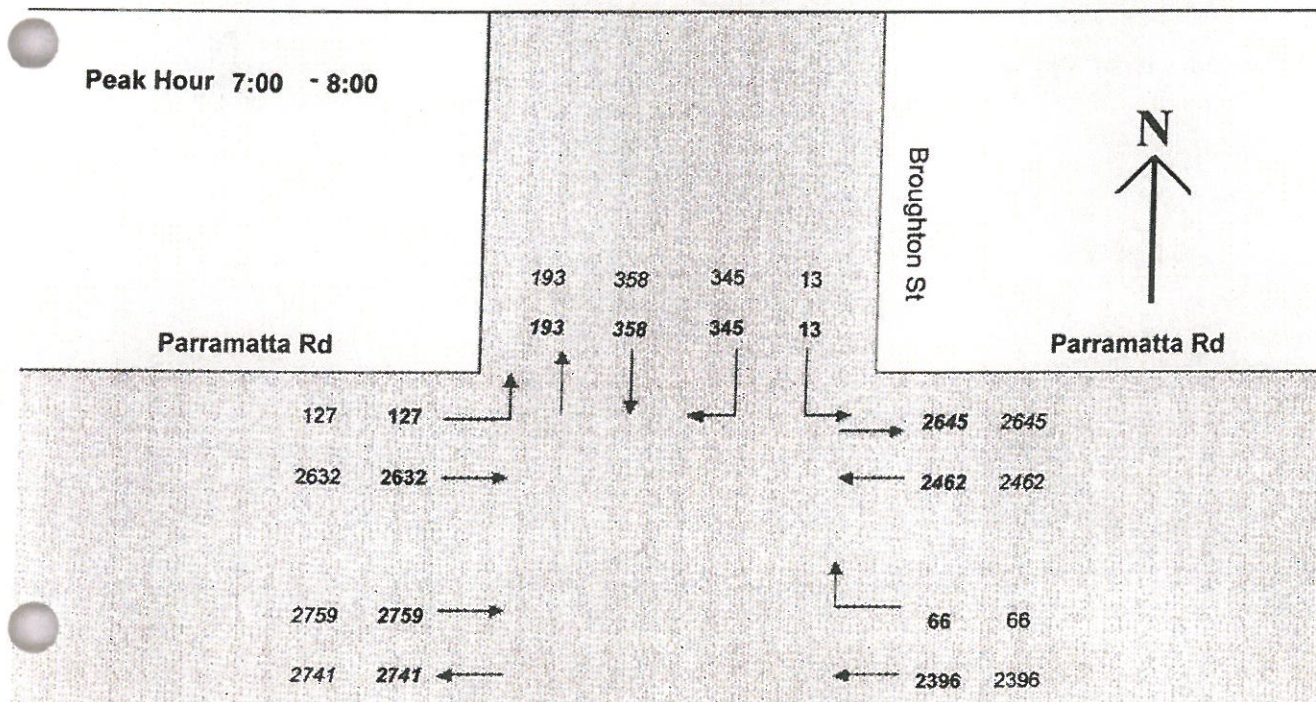
1 Ajax Place Blacktown, NSW 2148

Count Number	J10-50	Client	TRANSPORT & URBAN PLANNING	Count Date	Wednesday 21 July 2010
Location	BROUGHTON ST / PARRAMATTA RD			Suburb	CONCORD
Weather	Overcast			Job Number	

Comments

	Broughton St		Parramatta Rd		Parramatta Rd		
VEHICLES	L	R	T	R	L	T	Total
All Vehicles	13	345	2396	66	127	2632	5579
Total	13	345	2396	66	127	2632	5579

PEDESTRIAN	Broughton St	Parramatta Rd	Parramatta Rd	Total
All Pedestrians	1	0	0	1
Total	1	0	0	1



Joray Enterprises Pty Ltd

ABN 80 061 513 933

Telephone and Fax (02) 9624 5472

1 Ajax Place Blacktown, NSW 2148

Count Number J10-50

Client TRANSPORT & URBAN PLANNING

Count Date Wednesday 21 July 2010

Location BROUGHTON ST / PARRAMATTA RD

Suburb CONCORD

Weather Overcast

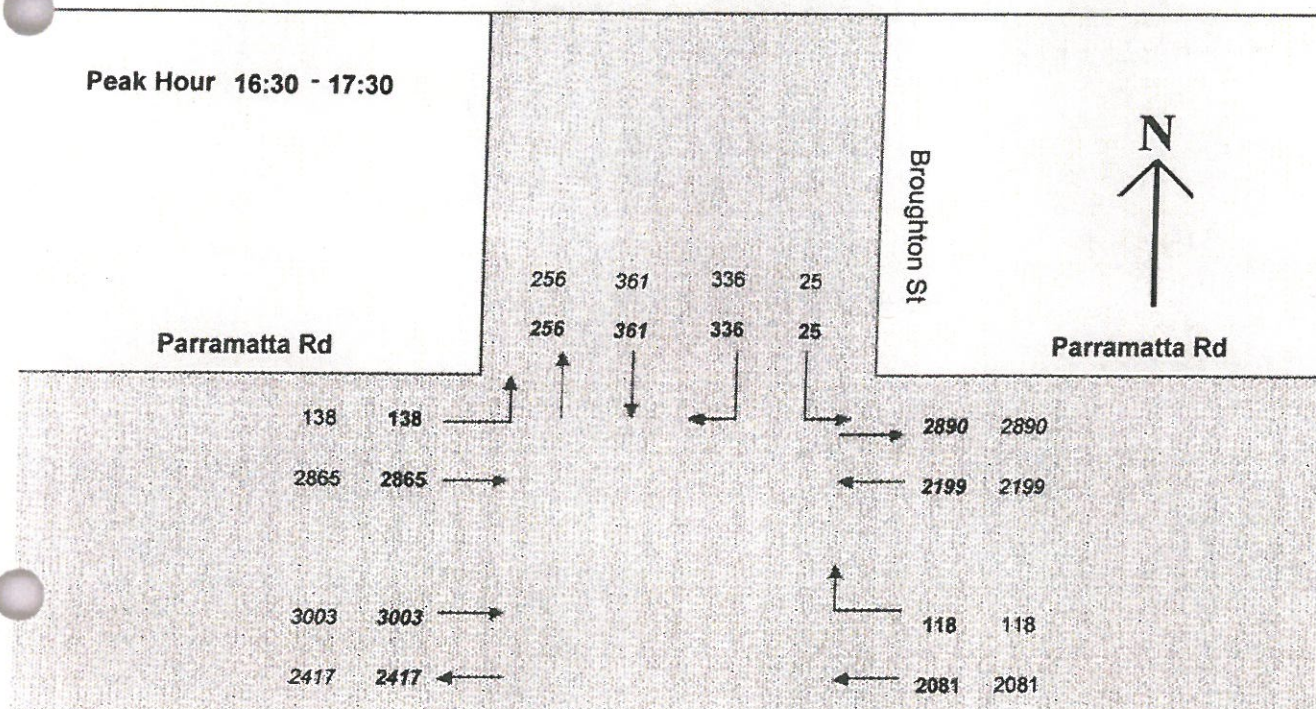
Job Number

Comments

VEHICLES	Broughton St		Parramatta Rd		Parramatta Rd		Total
	L	R	T	R	L	T	
All Vehicles	25	336	2081	118	138	2865	5563
Total	25	336	2081	118	138	2865	5563

PEDESTRIAN	Broughton St		Parramatta Rd		Parramatta Rd		Total
All Pedestrians	6		0		0		6
Total	6		0		0		6

Peak Hour 16:30 - 17:30



Joray Enterprises Pty Ltd

ABN 80 061 513 933

Telephone and Fax : (02) 9624 5472

1 Ajax Place Blacktown, NSW 2148

Count Number J10-51 Client TRANSPORT & URBAN PLANNING

Count Date Tuesday 27 July 2010

Location BURWOOD RD / CRANE ST

Suburb CONCORD

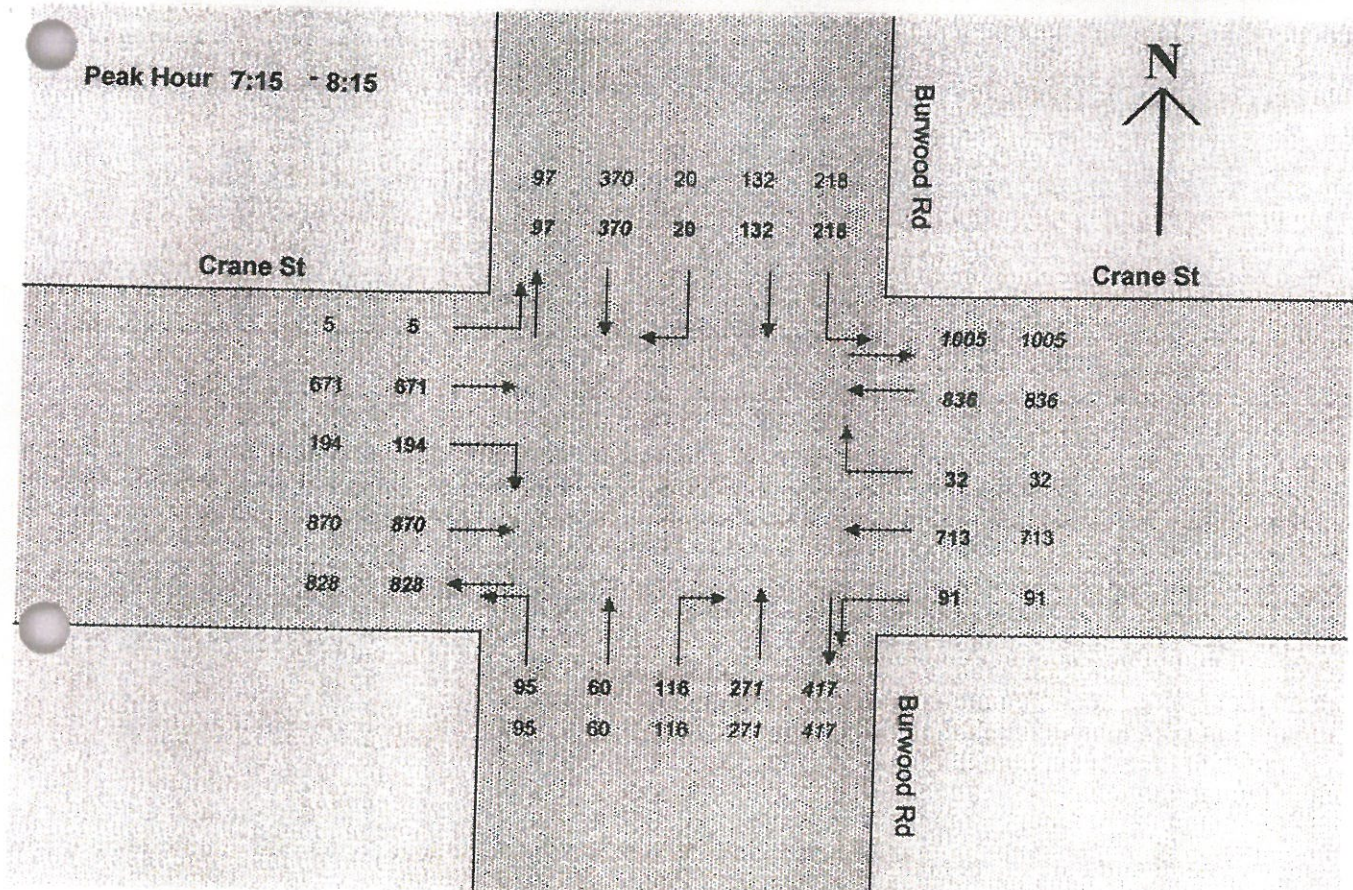
Weather Fine

Job Number

Comments

Vehicle Class	Burwood Rd			Crane St			Burwood Rd			Crane St			Total
	L	T	R	L	T	R	L	T	R	L	T	R	
All Vehicles	218	132	20	91	713	32	95	60	116	5	671	194	2347
Total	218	132	20	91	713	32	95	60	116	5	671	194	2347

PEDESTRIAN	Burwood Rd	Crane St	Burwood Rd	Crane St	
All Pedestrians	5	8	9	5	27
Total	5	8	9	5	27



Joray Enterprises Pty Ltd

ABN 80 061 513 933

Telephone and Fax : (02) 9624 5472

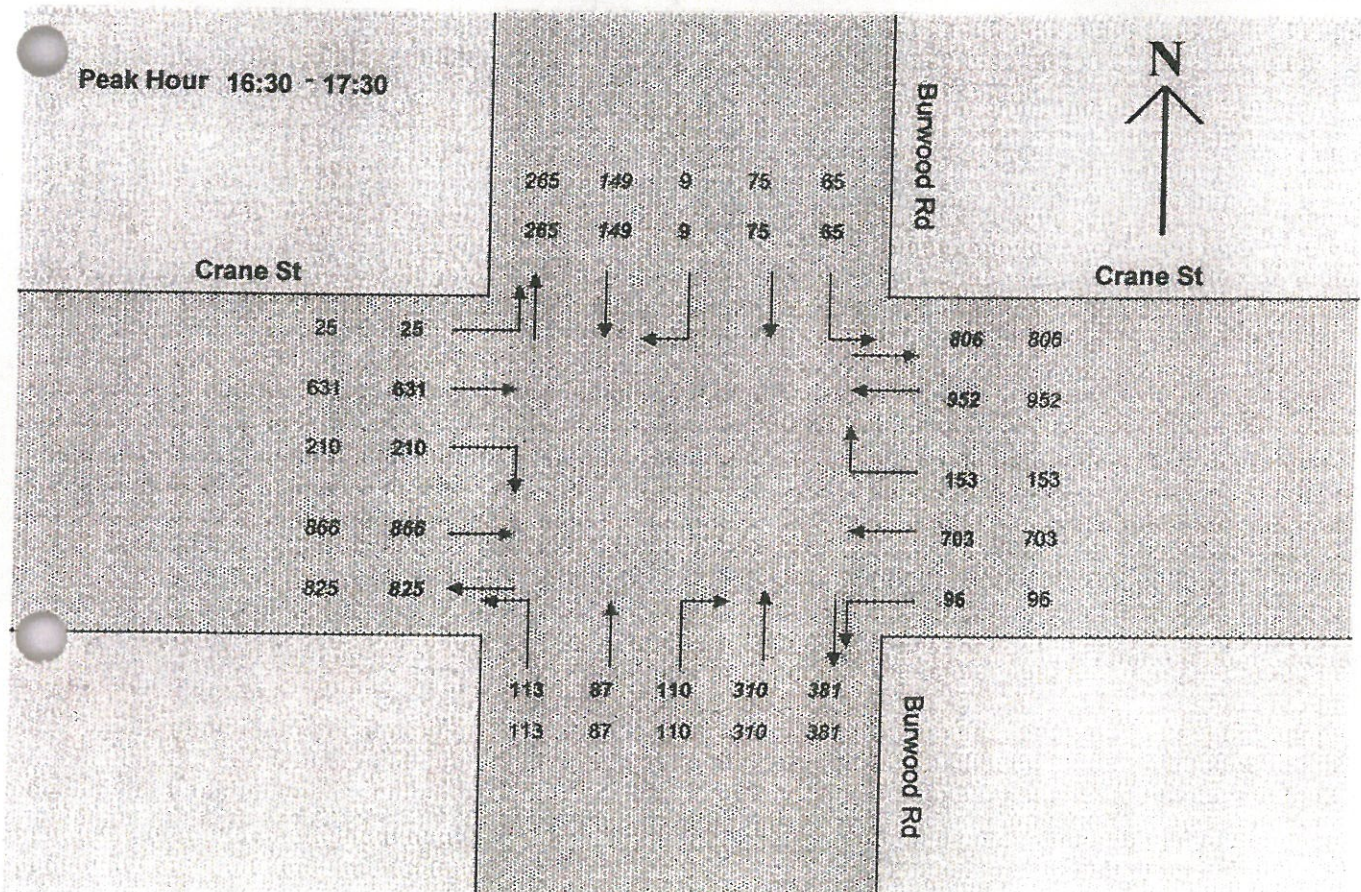
1 Ajax Place Blacktown, NSW 2148

Count Number	J10 -51	Client	TRANSPORT & URBAN PLANNING	Count Date	Tuesday 27 July 2010
Location	BURWOOD RD / CRANE ST	Suburb	CONCORD	Job Number	
Weather	Fine				

Comments

	Burwood Rd			Crane St			Burwood Rd			Crane St			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
All Vehicles	65	75	9	96	703	153	113	87	110	25	631	210	2277
Total	65	75	9	96	703	153	113	87	110	25	631	210	2277

PEDESTRIAN	Burwood Rd		Crane St		Burwood Rd		Crane St		
All Pedestrians	1		7		1		5		14
Total	1		7		1		5		14



Date in Service: 17/7/2006



LOCALITY SKETCH
NOT TO SCALE

NOTES

- 1. This site is SCATS linked.
- 2. C1 & C2 pads are to call & operate independently.
- 3. Special regulatory stop sign attached to posts 1 & 3.

PUBLIC UTILITY LEGEND	
HYDRANT	TELECOM PILLAR
STOP VALVE	ELECTRIC LIGHT POLE
GAS VALVE	TELEPHONE POLE
SEWER MANHOLE	TELEPHONE BOX
TELECOM PIT	ELECTRICITY PIT
DRAINAGE MANHOLE	BUS STOP
CENTRAL REGION	
FILE NO	93 TS154
IN OF SHEETS	1
Reg No	2059.093VV.2497
SCALE	1:200

POST CHART	
POST TYPE	LENGTH REMARKS
1	2.4.1 EXISTING
2	2.4.1 EXISTING
3	5.1.1.1
4	2.4.1 EXISTING
5	2.4.1 EXISTING
6	2.4.1 EXISTING
7	2.4.1 EXISTING
8	ESP

ROADS AND TRAFFIC AUTHORITY OF NSW
MUNICIPALITY OF CONCORD
GIPPS STREET
AND
BROUGHTON STREET
CONCORD

APPROVED
DATE 17/7/06
DATE 17/7/06

LAYOUT

DESIGN

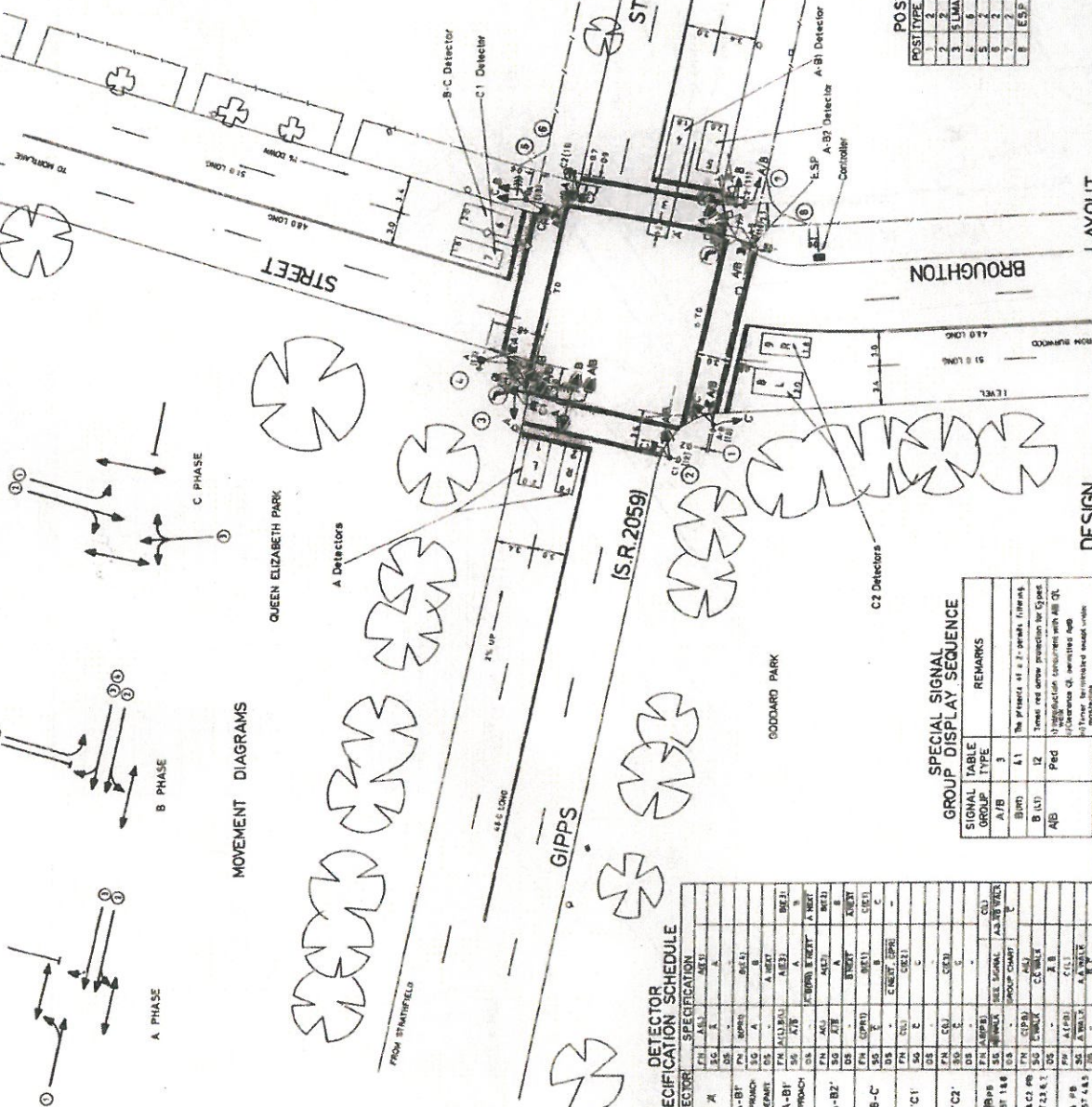
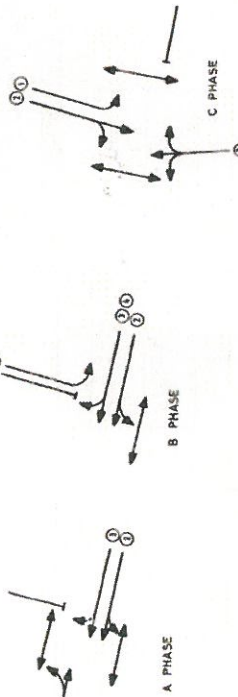
REFERENCE	PLANE	DATE	TIME
1	1	17/7/06	17:00
2	2	17/7/06	17:00
3	3	17/7/06	17:00
4	4	17/7/06	17:00
5	5	17/7/06	17:00
6	6	17/7/06	17:00
7	7	17/7/06	17:00
8	8	17/7/06	17:00
9	9	17/7/06	17:00
10	10	17/7/06	17:00
11	11	17/7/06	17:00
12	12	17/7/06	17:00

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE	
SIGNAL GROUP	REMARKS
A/B	1
B/C	2
A/B	3
B/C	4
A/B	5
B/C	6
A/B	7
B/C	8
A/B	9
B/C	10
A/B	11
B/C	12
A/B	13
B/C	14
A/B	15
B/C	16
A/B	17
B/C	18
A/B	19
B/C	20
A/B	21
B/C	22
A/B	23
B/C	24
A/B	25
B/C	26
A/B	27
B/C	28
A/B	29
B/C	30
A/B	31
B/C	32
A/B	33
B/C	34
A/B	35
B/C	36
A/B	37
B/C	38
A/B	39
B/C	40
A/B	41
B/C	42
A/B	43
B/C	44
A/B	45
B/C	46
A/B	47
B/C	48
A/B	49
B/C	50
A/B	51
B/C	52
A/B	53
B/C	54
A/B	55
B/C	56
A/B	57
B/C	58
A/B	59
B/C	60
A/B	61
B/C	62
A/B	63
B/C	64
A/B	65
B/C	66
A/B	67
B/C	68
A/B	69
B/C	70
A/B	71
B/C	72
A/B	73
B/C	74
A/B	75
B/C	76
A/B	77
B/C	78
A/B	79
B/C	80
A/B	81
B/C	82
A/B	83
B/C	84
A/B	85
B/C	86
A/B	87
B/C	88
A/B	89
B/C	90
A/B	91
B/C	92
A/B	93
B/C	94
A/B	95
B/C	96
A/B	97
B/C	98
A/B	99
B/C	100

DETECTOR SPECIFICATION SCHEDULE

DETECTOR	SPECIFICATION
A1	1.1.1.1
A2	1.1.1.2
A3	1.1.1.3
A4	1.1.1.4
A5	1.1.1.5
A6	1.1.1.6
A7	1.1.1.7
A8	1.1.1.8
A9	1.1.1.9
A10	1.1.1.10
A11	1.1.1.11
A12	1.1.1.12
A13	1.1.1.13
A14	1.1.1.14
A15	1.1.1.15
A16	1.1.1.16
A17	1.1.1.17
A18	1.1.1.18
A19	1.1.1.19
A20	1.1.1.20
A21	1.1.1.21
A22	1.1.1.22
A23	1.1.1.23
A24	1.1.1.24
A25	1.1.1.25
A26	1.1.1.26
A27	1.1.1.27
A28	1.1.1.28
A29	1.1.1.29
A30	1.1.1.30
A31	1.1.1.31
A32	1.1.1.32
A33	1.1.1.33
A34	1.1.1.34
A35	1.1.1.35
A36	1.1.1.36
A37	1.1.1.37
A38	1.1.1.38
A39	1.1.1.39
A40	1.1.1.40
A41	1.1.1.41
A42	1.1.1.42
A43	1.1.1.43
A44	1.1.1.44
A45	1.1.1.45
A46	1.1.1.46
A47	1.1.1.47
A48	1.1.1.48
A49	1.1.1.49
A50	1.1.1.50
A51	1.1.1.51
A52	1.1.1.52
A53	1.1.1.53
A54	1.1.1.54
A55	1.1.1.55
A56	1.1.1.56
A57	1.1.1.57
A58	1.1.1.58
A59	1.1.1.59
A60	1.1.1.60
A61	1.1.1.61
A62	1.1.1.62
A63	1.1.1.63
A64	1.1.1.64
A65	1.1.1.65
A66	1.1.1.66
A67	1.1.1.67
A68	1.1.1.68
A69	1.1.1.69
A70	1.1.1.70
A71	1.1.1.71
A72	1.1.1.72
A73	1.1.1.73
A74	1.1.1.74
A75	1.1.1.75
A76	1.1.1.76
A77	1.1.1.77
A78	1.1.1.78
A79	1.1.1.79
A80	1.1.1.80
A81	1.1.1.81
A82	1.1.1.82
A83	1.1.1.83
A84	1.1.1.84
A85	1.1.1.85
A86	1.1.1.86
A87	1.1.1.87
A88	1.1.1.88
A89	1.1.1.89
A90	1.1.1.90
A91	1.1.1.91
A92	1.1.1.92
A93	1.1.1.93
A94	1.1.1.94
A95	1.1.1.95
A96	1.1.1.96
A97	1.1.1.97
A98	1.1.1.98
A99	1.1.1.99
A100	1.1.1.100

MOVEMENT DIAGRAMS



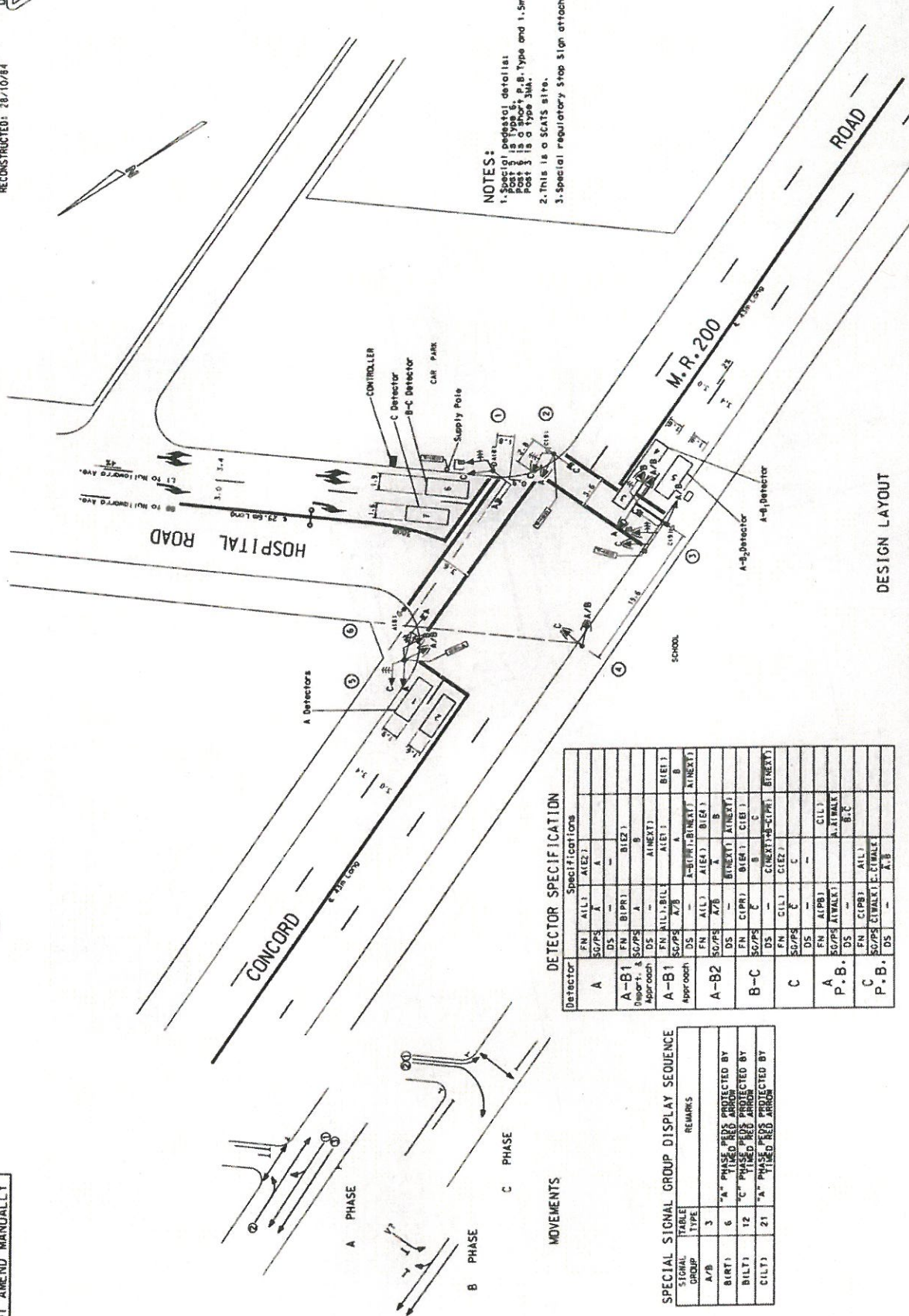
LAYOUT

DESIGN

REFERENCE	PLANE	DATE	TIME
1	1	17/7/06	17:00
2	2	17/7/06	17:00
3	3	17/7/06	17:00
4	4	17/7/06	17:00
5	5	17/7/06	17:00
6	6	17/7/06	17:00
7	7	17/7/06	17:00
8	8	17/7/06	17:00
9	9	17/7/06	17:00
10	10	17/7/06	17:00
11	11	17/7/06	17:00
12	12	17/7/06	17:00

SIGNAL GROUP	REMARKS
A/B	1
B/C	2
A/B	3
B/C	4
A/B	5
B/C	6
A/B	7
B/C	8
A/B	9
B/C	10
A/B	11
B/C	12
A/B	13
B/C	14
A/B	15
B/C	16
A/B	17
B/C	18
A/B	19
B/C	20
A/B	21
B/C	22
A/B	23
B/C	24
A/B	25
B/C	26
A/B	27
B/C	28
A/B	29
B/C	30
A/B	31
B/C	32
A/B	33
B/C	34
A/B	35
B/C	36
A/B	37
B/C	38
A/B	39
B/C	40
A/B	41
B/C	42
A/B	43
B/C	44
A/B	45
B/C	46
A/B	47
B/C	48
A/B	49
B/C	50
A/B	51
B/C	52
A/B	53
B/C	54
A/B	55
B/C	56
A/B	57
B/C	58
A/B	59
B/C	60
A/B	61
B/C	62
A/B	63
B/C	64
A/B	65
B/C	66
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B/C	70
A/B	71
B/C	72
A/B	73
B/C	74
A/B	75
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A/B	77
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B/C	82
A/B	83
B/C	84
A/B	85
B/C	86
A/B	87
B/C	88
A/B	89
B/C	90
A/B	91
B/C	92
A/B	93
B/C	94
A/B	95
B/C	96
A/B	97
B/C	98
A/B	99
B/C	100

DATE IN SERVICE : 05/12/73
RECONSTRUCTED: 28/10/84



NOTES:

1. Special pedestal
post 5 is type 6.
post 6 is a short P.B. type and 1.5m long.
post 7 is a type 3AA.

DETECTOR SPECIFICATION

Detector	Specifications			
	FN	AIL	ALCZ	
A	50/PS	A	A	
	DS	—	—	
A-B1	FN B1PR1	—	B1CZ	
Approach	50/PS	A	B	
	DS	—	—	
	ALNEX1	—	—	
A-B3	FN AL1, BIL	ALCZ	—	
Approach	50/PS	A/B	A	
	DS	—	—	
	ALNEX1	—	—	
A-B2	FN AL1	ALCZ	B1CZ	
Approach	50/PS	A/B	A	
	DS	—	—	
	ALNEX1	—	—	
B-C	FN C1PR1	B1CZ	C1CZ	
	50/PS	—	B	
	DS	—	C	
	ALNEX1	—	—	
C	FN C1L1	C1CZ	—	
	50/PS	C	—	
	DS	—	—	
	FN AL1PR1	—	C1L1	
A	50/PS	ALNEX1	—	
P.B.	DS	—	B-C	
	FN C1PR1	—	—	
C	50/PS	ALCZ	—	
	DS	—	—	
P.B.	50/PS	C1NEX1	C1NEX1	
	DS	—	—	

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

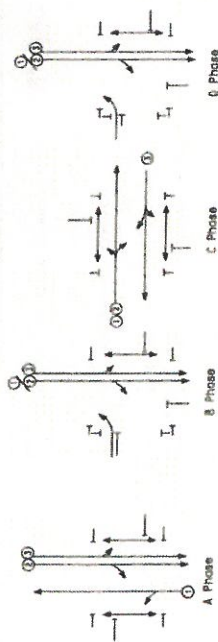
SIGNAL GROUP	TABLE TYPE	REMARKS
A/B	3	
B(RT)	6	"A" PHASE PDS PROTECTED BY TIMED RED ARROW
B(LT)	12	"C" PHASE PDS PROTECTED BY TIMED RED ARROW
C(LT)	21	"A" PHASE PDS PROTECTED BY

DESIGN LAYOUT

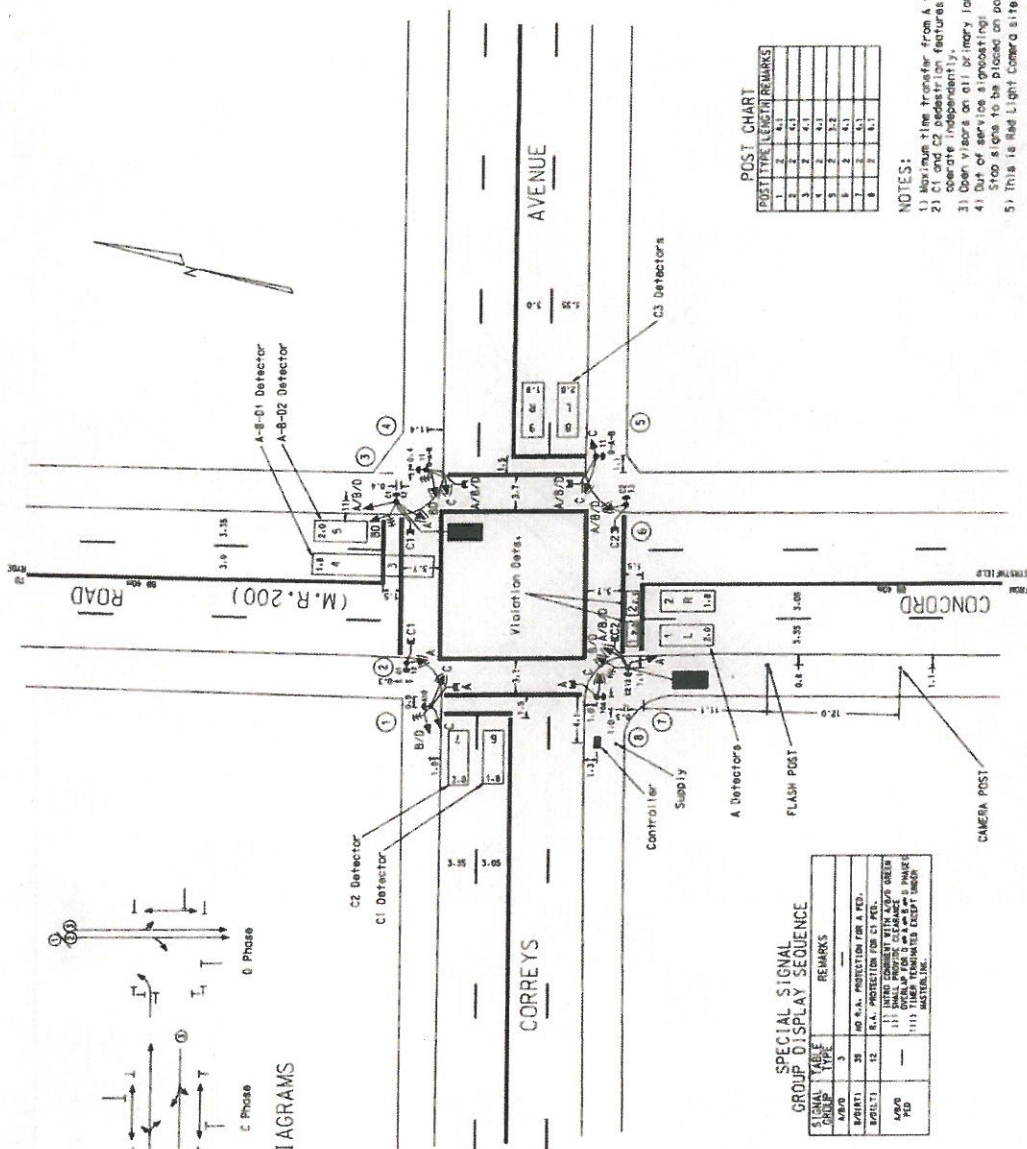
17.5.01 68
L. Issues:
Ref: 01/INTO CADU
4-CR-0107

Roads and Traffic Authority, N.S.W.		REGION: STONEY	BRANCH: CONSULTANT SERVICES
		CADD FILE: VV0128-1L.DGN	
		SCALE: 1:11200	15000
		FILE: 093 TS 110	1R
		REGION: CONCORD WEST	0200-093.VV-0128

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MOVEMENT DIAGRAMS



POST CHART

POST	TYPE	REMARKS
1	2	4.1
2	2	4.1
3	2	4.1
4	2	4.1
5	2	4.1
6	2	4.1
7	2	4.1
8	2	4.1

- NOTES:
- Maximum time transfer from A to B phase.
 - C1 and C2 pedestrian features are to call and operate independently.
 - Open visors on all of many lanterns.
 - Out of service signaling.
 - Stop signs to be placed on posts 1 & 5.
 - This is Red Light Camera site.

PUBLIC UTILITY LEGEND

SYMBOL	DESCRIPTION
○	WATER MAIN
□	SEWER MAIN
△	TELEPHONE
◇	TELEVISION
×	TELEPHONE
+	TELEVISION

ROADS & TRAFFIC AUTHORITY N.S.W.

FILE NO.	NO. OF SHEETS	SHEET NO.
93-15-121	6	6

SCALE: 1:200

REG. NO. 0200.093.VV.0125

DESIGN LAYOUT

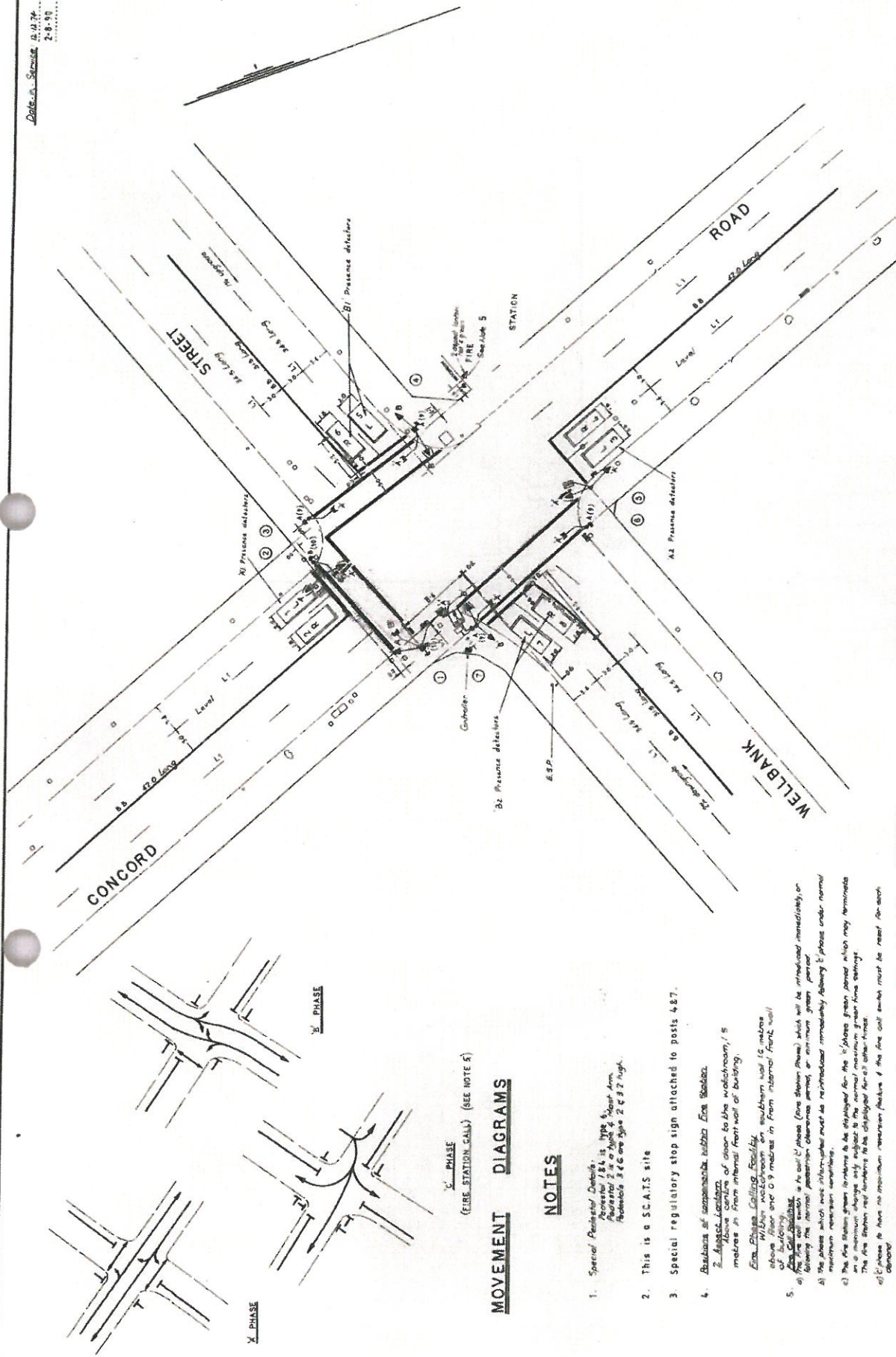
DETECTOR SPECIFICATION

Detector	PH	ALI	ALI1	ALI2	ALI3	ALI4	ALI5	ALI6	ALI7	ALI8	ALI9	ALI10	ALI11	ALI12	ALI13	ALI14	ALI15	ALI16	ALI17	ALI18	ALI19	ALI20	ALI21	ALI22	ALI23	ALI24	ALI25	ALI26	ALI27	ALI28	ALI29	ALI30	ALI31	ALI32	ALI33	ALI34	ALI35	ALI36	ALI37	ALI38	ALI39	ALI40	ALI41	ALI42	ALI43	ALI44	ALI45	ALI46	ALI47	ALI48	ALI49	ALI50	ALI51	ALI52	ALI53	ALI54	ALI55	ALI56	ALI57	ALI58	ALI59	ALI60	ALI61	ALI62	ALI63	ALI64	ALI65	ALI66	ALI67	ALI68	ALI69	ALI70	ALI71	ALI72	ALI73	ALI74	ALI75	ALI76	ALI77	ALI78	ALI79	ALI80	ALI81	ALI82	ALI83	ALI84	ALI85	ALI86	ALI87	ALI88	ALI89	ALI90	ALI91	ALI92	ALI93	ALI94	ALI95	ALI96	ALI97	ALI98	ALI99	ALI100
A	PH	ALI	ALI1	ALI2	ALI3	ALI4	ALI5	ALI6	ALI7	ALI8	ALI9	ALI10	ALI11	ALI12	ALI13	ALI14	ALI15	ALI16	ALI17	ALI18	ALI19	ALI20	ALI21	ALI22	ALI23	ALI24	ALI25	ALI26	ALI27	ALI28	ALI29	ALI30	ALI31	ALI32	ALI33	ALI34	ALI35	ALI36	ALI37	ALI38	ALI39	ALI40	ALI41	ALI42	ALI43	ALI44	ALI45	ALI46	ALI47	ALI48	ALI49	ALI50	ALI51	ALI52	ALI53	ALI54	ALI55	ALI56	ALI57	ALI58	ALI59	ALI60	ALI61	ALI62	ALI63	ALI64	ALI65	ALI66	ALI67	ALI68	ALI69	ALI70	ALI71	ALI72	ALI73	ALI74	ALI75	ALI76	ALI77	ALI78	ALI79	ALI80	ALI81	ALI82	ALI83	ALI84	ALI85	ALI86	ALI87	ALI88	ALI89	ALI90	ALI91	ALI92	ALI93	ALI94	ALI95	ALI96	ALI97	ALI98	ALI99	ALI100

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

Signal	Color	Time	Remarks
RED	RED	3	NO S.A. PROTECTION FOR A PH.
RED	RED	3	NO S.A. PROTECTION FOR C1 PH.
RED	RED	3	NO S.A. PROTECTION FOR C2 PH.
RED	RED	3	NO S.A. PROTECTION FOR C3 PH.
RED	RED	3	NO S.A. PROTECTION FOR C4 PH.
RED	RED	3	NO S.A. PROTECTION FOR C5 PH.
RED	RED	3	NO S.A. PROTECTION FOR C6 PH.
RED	RED	3	NO S.A. PROTECTION FOR C7 PH.
RED	RED	3	NO S.A. PROTECTION FOR C8 PH.
RED	RED	3	NO S.A. PROTECTION FOR C9 PH.
RED	RED	3	NO S.A. PROTECTION FOR C10 PH.
RED	RED	3	NO S.A. PROTECTION FOR C11 PH.
RED	RED	3	NO S.A. PROTECTION FOR C12 PH.
RED	RED	3	NO S.A. PROTECTION FOR C13 PH.
RED	RED	3	NO S.A. PROTECTION FOR C14 PH.
RED	RED	3	NO S.A. PROTECTION FOR C15 PH.
RED	RED	3	NO S.A. PROTECTION FOR C16 PH.
RED	RED	3	NO S.A. PROTECTION FOR C17 PH.
RED	RED	3	NO S.A. PROTECTION FOR C18 PH.
RED	RED	3	NO S.A. PROTECTION FOR C19 PH.
RED	RED	3	NO S.A. PROTECTION FOR C20 PH.
RED	RED	3	NO S.A. PROTECTION FOR C21 PH.
RED	RED	3	NO S.A. PROTECTION FOR C22 PH.
RED	RED	3	NO S.A. PROTECTION FOR C23 PH.
RED	RED	3	NO S.A. PROTECTION FOR C24 PH.
RED	RED	3	NO S.A. PROTECTION FOR C25 PH.
RED	RED	3	NO S.A. PROTECTION FOR C26 PH.
RED	RED	3	NO S.A. PROTECTION FOR C27 PH.
RED	RED	3	NO S.A. PROTECTION FOR C28 PH.
RED	RED	3	NO S.A. PROTECTION FOR C29 PH.
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RED	RED	3	NO S.A. PROTECTION FOR C98 PH.
RED	RED	3	NO S.A. PROTECTION FOR C99 PH.
RED	RED	3	NO S.A. PROTECTION FOR C100 PH.

1	10/12/93	...	...	...	...
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MOVEMENT

NOTES

- [illegible]

DESIGN

LAYOUT

[illegible]

NEWELL
 360 NEWELL ST
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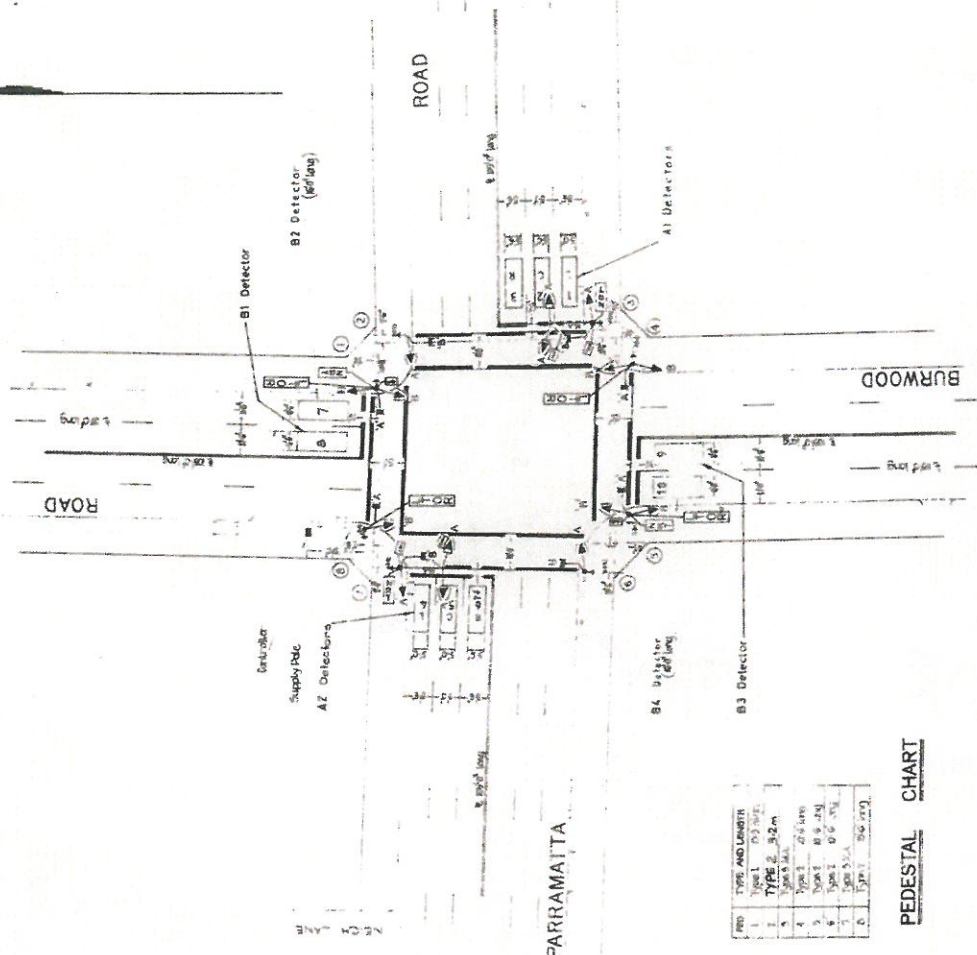
ROADS AND TRAFFIC AUTHORITY OF NSW		ROAD NO. 1200	
WELLBANK SILEMOND RD —NORTH—STRATHFIELD—		Station From 1200 to 1201 To 1202 From 1203 to 1204 To 1205 Checked Date 12/12/83	

DMR PLAN N°0200-093VV-0967 (Sht.1)

ISSUE. E



MOVEMENT



NOTES

1. All subelements are identical, but for details see Subelement C101.
2. Tops of "vertical" elements are to be mounted 10° (approx.) above pavement level.
3. Top of 3 aspect beacons on subelement 2, is mounted 15° above pavement level.
4. Special regulatory stop signs to be placed on paths 1 and 5.
5. This site is part of the SCAT system.

[illegible]

PRO	TYPE AND LENGTH	
1	Type 1	0.5 m
2	Type 2	3.2 m
3	Type 3	3.5 m
4	Type 4	2.5 m
5	Type 5	3.5 m
6	Type 6	0.6 m
7	Type 7	3.5 m
8	Type 8	3.5 m

PEDESTAL CHART

DESIGN LAYOUT

FILE NO 81 YS 109

PLAN N°0005-061-VV-0827

ROADS & TRAFFIC AUTHORITY

COMING 5

YAMAMATA & SUKWOOD: ROADS

GOALS

NEW YORK

COMING

GOOMPH

COMING

GOVERNMENT PRINTING OFFICE: 1967

COOLING SHEET

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1. **LEADS**
16000 pgs.
10/1/00

2. **COOMBS**
10/1/00

[illegible]

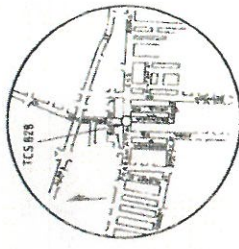
13345
SHEET 4

BOOKS

2000

[illegible]

Date in Service 21.3.74
 Reconstructed 17.4.75
 Reconstructed 2.8.90



LOCALITY SKETCH
 NOT TO SCALE

NOTES:

- 1 This is a SCATS site.
- 2 Audio Tactile pedestrian push buttons to be provided at both crossings
- 3 Special regulatory stop sign to be attached to post 1.
- 4 Co-ordination details
- 5 Maximum time transfer from A phase to B phase

Sequence A-B-D, R-A, D-D
 All Sequence A-B, R-B, follows introduction of D.
 Auto C 2 - allows filtering in A phase

SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TYPE	REMARKS
A/B/D	3	
B/D AT	6	TIMED RA PROTECTION FOR A PHASE
B/D LT	9	
C/LT	2.1	TIMED RA PROTECTION FOR A PHASE

DETECTOR SPECIFICATION SCHEDULE

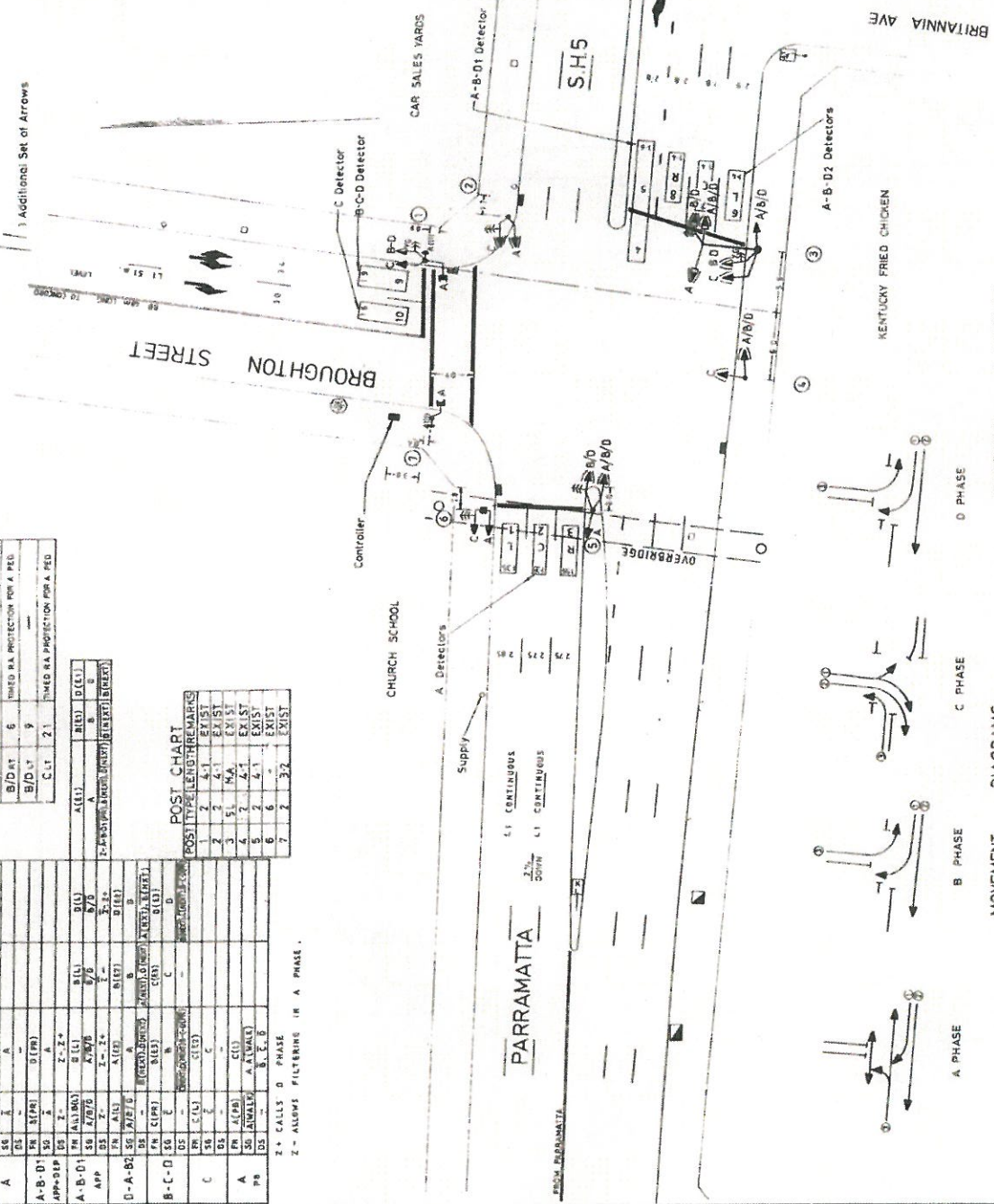
DETECTOR	TYPE	REMARKS
A	AL1	
A-B-D	AL1	
APP-SEP	AL1	
A-B-D	AL1	
APP	AL1	
D-A-B-D	AL1	
B-C-D	AL1	
C	AL1	
A	AL1	
P8	AL1	

POST CHART

POST TYPE	LENGTH	REMARKS
1	2.1	EXIST
2	2.1	EXIST
3	2.1	EXIST
4	2.1	EXIST
5	2.1	EXIST
6	2.1	EXIST
7	2.1	EXIST

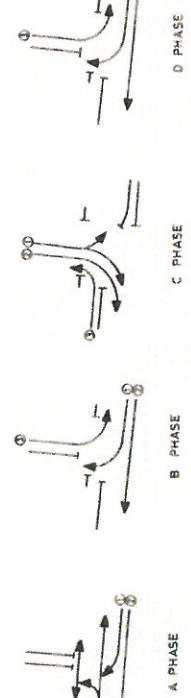
Z - CALLS D PHASE
 Z - ALLOWS FILTERING IN A PHASE

3 Additional Set of Arrows



DESIGN LAYOUT

MOVEMENT DIAGRAMS



PUBLIC UTILITY LEGEND

HYDRANT	1	TELEPHONE	2
STOP VALVE	3	WATER MAIN	4
SEWER	5	TELEVISION	6
POWER	7	TELEPHONE	8
TELEPHONE	9	TELEVISION	10

ROADS AND TRAFFIC AUTHORITY OF NSW
 MUNICIPALITY OF BURWOOD
 PARRAMATTA ROAD
 AND
 BROUGHTON STREET
 BURWOOD

APPROVED
 DIVISIONAL ENGINEER
 DATE

REFERENCE PLANS
 DATE JANUARY 1985
 DESIGNED
 CHECKED
 DRAWN

ISSUE 1/15
 15.11.88
 POST 6 DELIVERED
 LANTERNS ATTACHED
 PROTECTORS REMOVED
 FROM OVERBRIDGE
 POST 6 REINSTATED
 DISTRICT LOGIC
 MAN UPDATED
 3.4.90
 TPA 11/95
 POST 16 WAVE
 ISSUE 16 WAVE

ISSUE 1/15
 15.11.88
 POST 6 DELIVERED
 LANTERNS ATTACHED
 PROTECTORS REMOVED
 FROM OVERBRIDGE
 POST 6 REINSTATED
 DISTRICT LOGIC
 MAN UPDATED
 3.4.90
 TPA 11/95
 POST 16 WAVE
 ISSUE 16 WAVE

ISSUE 1/15
 15.11.88
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 ISSUE 16 WAVE

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 POST 6 REINSTATED
 DISTRICT LOGIC
 MAN UPDATED
 3.4.90
 TPA 11/95
 POST 16 WAVE
 ISSUE 16 WAVE

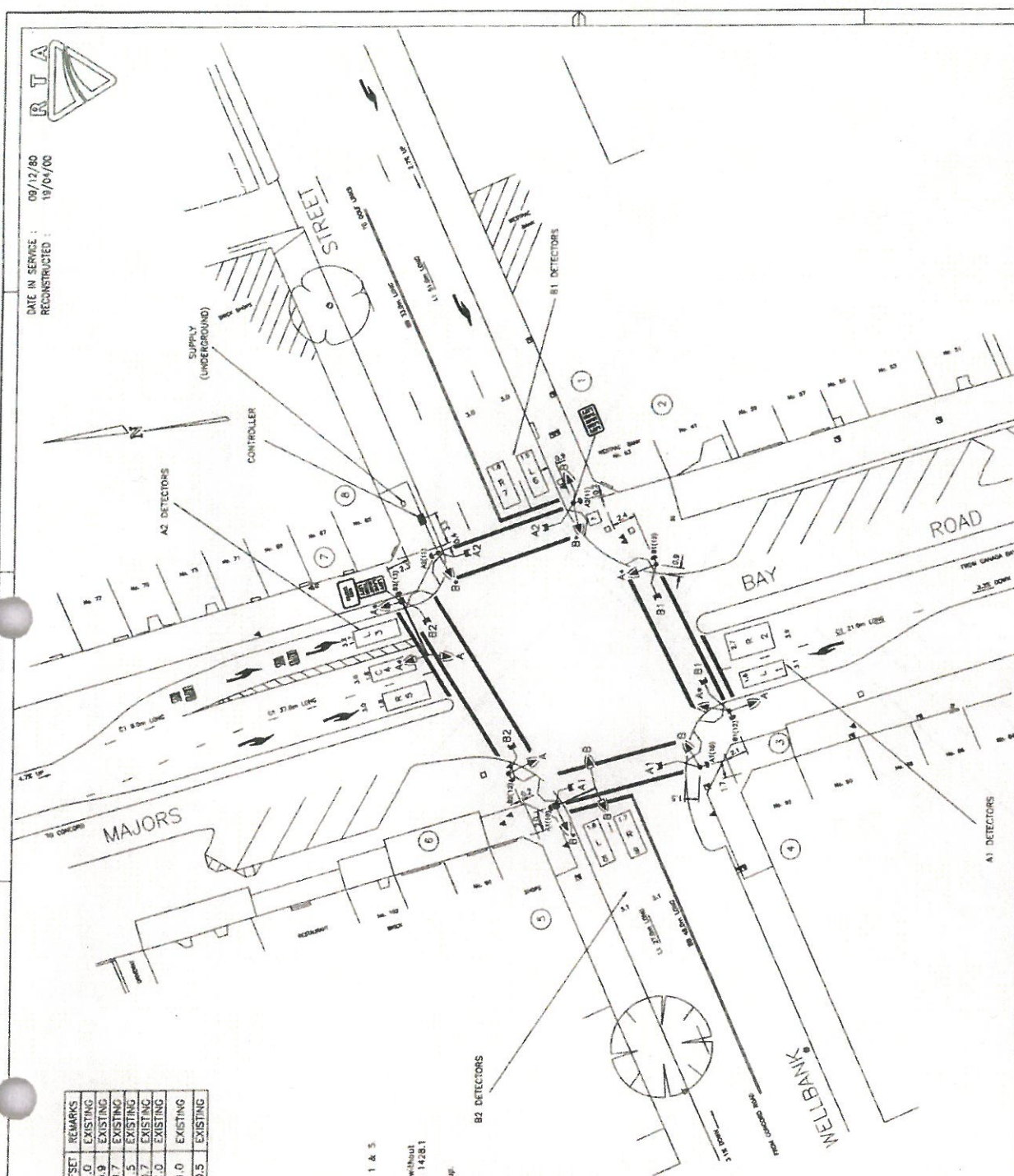
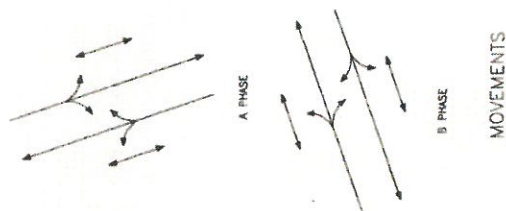
ISSUE 1/15
 15.11.88
 POST 6 DELIVERED
 LANTERNS ATTACHED
 PROTECTORS REMOVED
 FROM OVERBRIDGE
 POST 6 REINSTATED
 DISTRICT LOGIC
 MAN UPDATED
 3.4.90
 TPA 11/95
 POST 16 WAVE
 ISSUE 16 WAVE

0005.061.VV.0828

51506

POST	TYPE	LENGTH	OFFSET	REMARKS
1	2	4.1	1.0	EXISTING
2	2	4.1	0.9	EXISTING
3	2	4.1	0.7	EXISTING
4	2	4.1	1.5	EXISTING
5	3	-	0.7	EXISTING
6	2	4.1	1.0	EXISTING
7	9 (6.0M ARW)	-	1.0	EXISTING
8	2	4.1	0.5	EXISTING

1. This site is SCATS linked.
2. Special: regulatory Stop Sign (R1-202) placed on posts 1 & 3.
3. All push buttons are Audio-Tactile
4. All curb ramps constructed at all pedestrian crossings, without tactile ground surface indicator, in accordance with AS 1428.1 & AS 1428.4.
5. Lanterns modified with a tie wire to a separate signal group.



A ORIGINAL ISSUE
B WORK AS EXPECTED
DETAILS ADDED 18/10/00

[illegible]

APPROVED
TRANSPORT AND
TRAVEL PLANNING
OFFICE
NAME _____ POSITION DIRECTOR
DATE 11-1-00

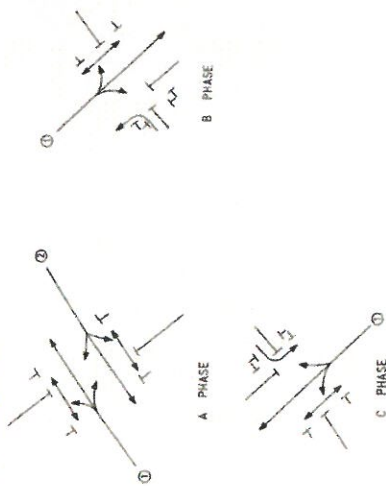
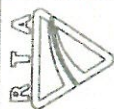
THIS DRAWING IS
RECOMMENDED FOR
ISSUANCE
DATE 11-1-00
NAME _____ POSITION DIRECTOR

Roads and Traffic Authority, N.S.W.
CONCORD COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF
MAJORS BAY ROAD &
WELLBANK STREET
CONCORD
DESIGN LAYOUT
105 No. 1772

DESIGN OFFICE PARAMOUNTA - DONEY TECHNICAL SERVICES
 ADD FILE: W1772_48.dgn

SCALE			DATE
TITLE	9.3 TS 103	SUPERVISOR DAVE TROUSE	BY
REGION	7000.093.W.1772		NO.
			4

DATE IN SERVICE : 28/10/75



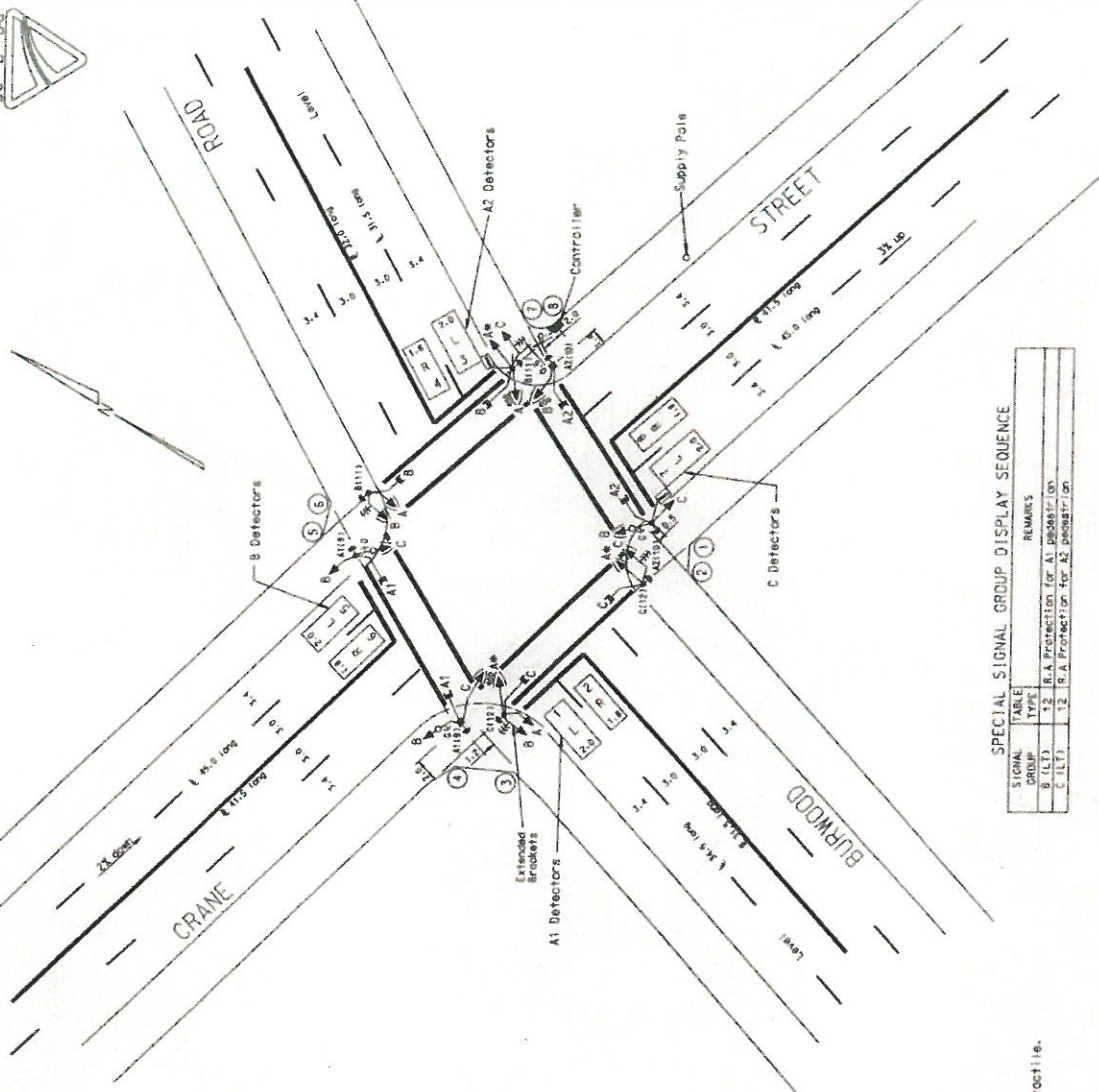
DIAGRAMS

DETECTOR SPECIFICATION

Detector	Species First Layer			
	FN 50PS	AIL A	AIL1 A	AIL2 A
A1	FN DS	AIL A	AIL1 A	AIL2 A
A2	FN DS	AIL A	AIL1 A	AIL2 A
B	FN 50PS	AIL B	AIL1 B	AIL2 B
C	FN 50PS	AIL C	AIL1 C	AIL2 C
A1	FN 50PS	AIL A	AIL1 A	AIL2 A
A2	FN 50PS	AIL A	AIL1 A	AIL2 A
B	FN 50PS	AIL B	AIL1 B	AIL2 B
C	FN 50PS	AIL C	AIL1 C	AIL2 C

NOTES

1. SPECIAL POST DETAILS
Post 1 is 4.1 long, type 2
Post 2 is 4.0 long, type 1
Post 4 & 8 is type 6.
2. All push buttons are audio tactile.



SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
B (LT)	12	R.A. Protection for AI DISSECTION
C (LT)	23	R.A. Protection for AI DISSECTION

[illegible]

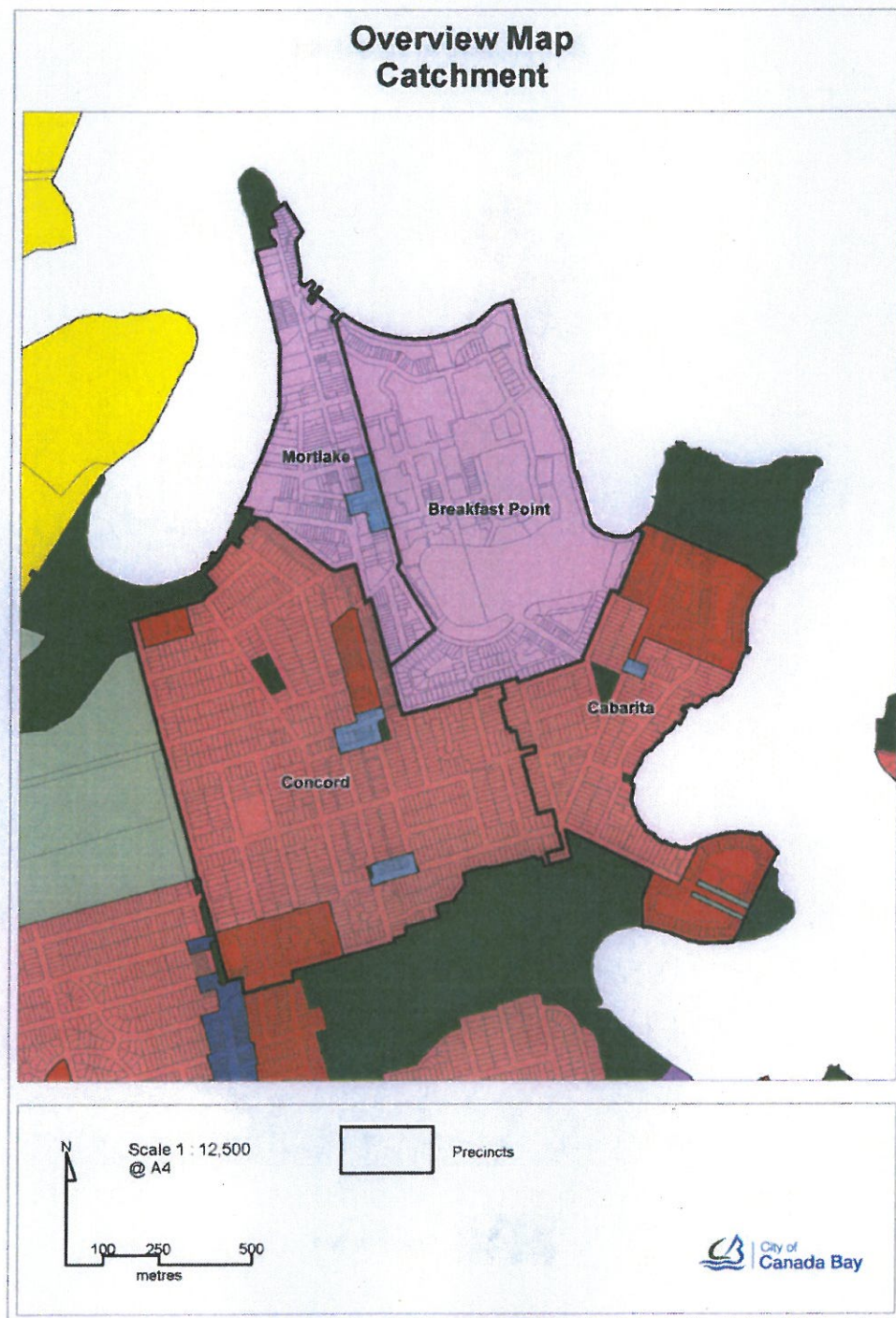
MORTLAKE
TRAFFIC
STUDY

MORTLAKE AND SURROUNDING CATCHMENT

MORTLAKE AND SURROUNDING CATCHMENT	1
Mortlake Traffic Study Area.....	3
1. Overview map.....	3
Mortlake Precinct	4
2. Mortlake Precinct map	4
3. Summary of existing and potential dwelling capacity within the Mortlake precinct.....	5
4. Existing dwelling capacity within the Mortlake precinct.....	5
5. Potential dwelling capacity within the Mortlake precinct.	6
Surrounding Catchment	13
6. FSR under the Canada Bay LEP within the catchment areas.....	13
7. Existing number of dwellings in catchment areas.....	13

MORTLAKE TRAFFIC STUDY AREA**OVERVIEW MAP**

Land use zoning maps for Mortlake, Breakfast Point, Cabarita and part of Concord.



MORTLAKE PRECINCT

MORTLAKE PRECINCT MAP
EXISTING DWELLINGS AND OPPORTUNITY SITES



3. Summary of existing and potential dwelling capacity within the Mortlake precinct.

Table 1: Summary

Location	Existing dwellings	Potential under CB LEP 08	Total
Mortlake	265 ₁	752 ₂	1,017

1. Includes sites that have been developed. Refer to Table 2 for detailed calculations.

2. Theoretical capacity of full development of remaining sites. Refer to Table 3 for detailed calculations.

4. Existing dwelling capacity within the Mortlake precinct.

Table 2: Existing dwellings

(Shown as items 1-15 on the map)

Item	Location	No. of dwellings
1	North/east dwellings Wangal Reserve	28
2	40 Hilly St	20
3	38 Hilly St	21
4	36 Hilly St	15
5	30 - 34 Hilly St	19
6	26 - 28 Hilly St	20
7	24 Hilly St	11
8	24 - 28 Bennett St (Lot 0 DP 59016)	10
9	81 Bertram St	37
10.	69 - 77 Bertram St	23
11.	65 Bertram St	5
12.	41 Bertram St	5
13.	1A Hilly St	15
14.	46 Tennyson Road	20
15.	20 Tennyson Road	16
Total Existing Dwellings		265

*Note: Figures exclude areas zoned B1 Neighbourhood shops

5. Potential dwelling capacity within the Mortlake precinct.

Table 3: Potential dwellings
(Shown as item 16 on the map)

Site	Site Area (m ²)	FSR	Potential GFA under Canada Bay LEP 2008	Scenario #1 +50%		Scenario #2 +100%		Scenario #3 +100% only to properties >3000m ²	
				FSR	Size GFA m ²	FSR	Size GFA m ²	FSR	Size GFA m ²
20 Hilly St	2,974	0.75:1	2231	1.125:1	2974	1.5:1	4461	0.75:1	2231
18 Hilly St	3,243	0.75:1	2432	1.125:1	3243	1.5:1	4865	1.5:1	4865
16 Hilly St	3,664	0.75:1	2748	1.125:1	3664	1.5:1	5496	1.5:1	5496
14A Hilly St	1,695	0.75:1	1271	1.125:1	1695	1.5:1	2543	0.75:1	1271
12 Hilly St	332	0.75:1	249	1.125:1	332	1.5:1	498	0.75:1	249
10 Hilly St	401	0.75:1	301	1.125:1	401	1.5:1	602	0.75:1	301
1B Northcote St	96	0.75:1	72	1.125:1	96	1.5:1	144	0.75:1	72
134 Tennyson Rd	878	0.75:1	659	1.125:1	878	1.5:1	1317	0.75:1	659
29 Hilly St	904	0.75:1	678	1.125:1	904	1.5:1	1356	0.75:1	678
27 Hilly St	450	0.75:1	338	1.125:1	450	1.5:1	675	0.75:1	338
130 Tennyson Rd	448	0.75:1	336	1.125:1	448	1.5:1	672	0.75:1	336
25 Hilly St	176	0.75:1	132	1.125:1	176	1.5:1	264	0.75:1	132
23 Hilly St	151	0.75:1	113	1.125:1	151	1.5:1	227	0.75:1	113
21 Hilly St	159	0.75:1	119	1.125:1	159	1.5:1	239	0.75:1	119
17 - 19 Hilly St	458	0.75:1	344	1.125:1	458	1.5:1	687	0.75:1	344
15 Hilly St	597	0.75:1	448	1.125:1	597	1.5:1	896	0.75:1	448
100 Tennyson Rd	4,353	0.75:1	3265	1.125:1	4353	1.5:1	6530	1.5:1	6530
128 Tennyson Rd	334	0.75:1	251	1.125:1	334	1.5:1	501	0.75:1	251
126 Tennyson Rd	388	0.75:1	291	1.125:1	388	1.5:1	582	0.75:1	291
124 Tennyson Rd	298	0.75:1	224	1.125:1	298	1.5:1	447	0.75:1	224
122 Tennyson Rd	254	0.75:1	191	1.125:1	254	1.5:1	381	0.75:1	191

Site	Site Area (m ²)	FSR	Size GFA m ² Canada Bay LEP 2008	Scenario 1 +50%		Scenario 2 +100%		Scenario 3 +100% only to properties >3000m ²	
				FSR	Size GFA m ²	FSR	Size GFA m ²	FSR	Size GFA m ²
118 Tennyson Rd	744	0.75:1	558	1.125:1	744	1.5:1	1116	0.75:1	558
1C Northcote St	71	0.75:1	53	1.125:1	71	1.5:1	107	0.75:1	53
1A Northcote St	142	0.75:1	107	1.125:1	142	1.5:1	213	0.75:1	107
1 Northcote St	2,402	0.75:1	1802	1.125:1	2402	1.5:1	3603	0.75:1	1802
20 Bennett St	1,404	0.75:1	1053	1.125:1	1404	1.5:1	2106	0.75:1	1053
1 - 9 Bennett St	1,518	0.75:1	1139	1.125:1	1518	1.5:1	2277	0.75:1	1139
8 Bennett St	2,242	0.75:1	1682	1.125:1	2242	1.5:1	3363	0.75:1	1682
4 Bennett St	2,325	0.75:1	1744	1.125:1	2325	1.5:1	3488	0.75:1	1744
2 Bennett St	1,167	0.75:1	875	1.125:1	1167	1.5:1	1751	0.75:1	875
46 Edwin St	620	0.75:1	465	1.125:1	620	1.5:1	930	0.75:1	465
44 Edwin St	602	0.75:1	452	1.125:1	602	1.5:1	903	0.75:1	452
42 Edwin St	629	0.75:1	472	1.125:1	629	1.5:1	944	0.75:1	472
40 Edwin St	889	0.75:1	667	1.125:1	889	1.5:1	1334	0.75:1	667
30 Edwin St	1,306	0.75:1	980	1.125:1	1306	1.5:1	1959	0.75:1	980
28 Edwin St	529	0.75:1	397	1.125:1	529	1.5:1	794	0.75:1	397
22 Edwin St	314	0.75:1	236	1.125:1	314	1.5:1	471	0.75:1	236
20 Edwin St	329	0.75:1	247	1.125:1	329	1.5:1	494	0.75:1	247
18 Edwin St	383	0.75:1	287	1.125:1	383	1.5:1	575	0.75:1	287
12 - 16 Edwin St	442	0.75:1		1.125:1	442	1.5:1	663	0.75:1	332
10 Edwin St	385	0.75:1	289	1.125:1	385	1.5:1	578	0.75:1	289
6 Edwin St	286	0.75:1	215	1.125:1	286	1.5:1	429	0.75:1	215
4 Edwin St	284	0.75:1	213	1.125:1	284	1.5:1	426	0.75:1	213
2 Edwin St	194	0.75:1	146	1.125:1	194	1.5:1	291	0.75:1	146
15 - 25 Bennett St	7,974	0.75:1	5981	1.125:1	7974	1.5:1	11961	1.5:1	11961

Owner: <<Enter Owner>>
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Site	Site Area (m ²)	FSR	Maximum GFA under Canada Bay LEP 2008	Scenario 1 +50%		Scenario 2 +100%		Scenario 3 +100% only to properties >3000m ²
				FSR	Size GFA m ²	FSR	Size GFA m ²	
31 Edwin St	447	0.75:1	335	1.125:1	447	1.5:1	671	0.75:1
29 Edwin St	452	0.75:1	339	1.125:1	452	1.5:1	678	0.75:1
27 Edwin St	376	0.75:1	282	1.125:1	376	1.5:1	564	0.75:1
25 Edwin St	416	0.75:1	312	1.125:1	416	1.5:1	624	0.75:1
23 Edwin St	381	0.75:1	286	1.125:1	381	1.5:1	572	0.75:1
21 Edwin St	354	0.75:1	266	1.125:1	354	1.5:1	531	0.75:1
21A Edwin St	158	0.75:1	119	1.125:1	158	1.5:1	237	0.75:1
13 Hilly St	671	0.75:1	503	1.125:1	671	1.5:1	1007	0.75:1
11 Hilly St	1,008	0.75:1	756	1.125:1	1008	1.5:1	1512	0.75:1
96 Tennyson Rd	658	0.75:1	494	1.125:1	658	1.5:1	987	0.75:1
92 Tennyson Rd	1,001	0.75:1	751	1.125:1	1001	1.5:1	1502	0.75:1
90 Tennyson Rd	1,650	0.75:1	1238	1.125:1	1650	1.5:1	2475	0.75:1
88 Tennyson Rd	993	0.75:1	745	1.125:1	993	1.5:1	1490	0.75:1
86 Tennyson Rd	664	0.75:1	498	1.125:1	664	1.5:1	996	0.75:1
82 Tennyson Rd	1,339	0.75:1	1004	1.125:1	1339	1.5:1	2009	0.75:1
80 Tennyson Rd	399	0.75:1	299	1.125:1	399	1.5:1	599	0.75:1
78 Tennyson Rd	545	0.75:1	409	1.125:1	545	1.5:1	818	0.75:1
7 Edwin St	448	0.75:1	336	1.125:1	448	1.5:1	672	0.75:1
1 Edwin St	638	0.75:1	479	1.125:1	638	1.5:1	957	0.75:1
17 McDonald St	311	0.75:1	233	1.125:1	311	1.5:1	467	0.75:1
13 McDonald St	722	0.75:1	542	1.125:1	722	1.5:1	1083	0.75:1
9 McDonald St	435	0.75:1	326	1.125:1	435	1.5:1	653	0.75:1
5 McDonald St	455	0.75:1	341	1.125:1	512	1.5:1	683	0.75:1
3 McDonald St	468	0.75:1	351	1.125:1	527	1.5:1	702	0.75:1

Site Address	Lot (m ²)	FSR	GFA under Canada Bay LEP 2008	Scenario 1 +50%		Scenario 2 +100%		Scenario 3 +100% only to properties >3000m ²	
				FSR	Size GFA m ²	FSR	Size GFA m ²	FSR	Size GFA m ²
26 McDonald St	477	0.75:1	358	1.125:1	537	1.5:1	716	0.75:1	358
24 McDonald St	141	0.75:1	106	1.125:1	159	1.5:1	212	0.75:1	106
22 McDonald St	142	0.75:1	107	1.125:1	160	1.5:1	213	0.75:1	107
20 McDonald St	284	0.75:1	213	1.125:1	320	1.5:1	426	0.75:1	213
12 McDonald St	426	0.75:1	320	1.125:1	479	1.5:1	639	0.75:1	320
4 McDonald St	368	0.75:1	276	1.125:1	414	1.5:1	552	0.75:1	276
2 McDonald St	332	0.75:1	249	1.125:1	374	1.5:1	498	0.75:1	249
44 Tennyson Rd	388	0.75:1	291	1.125:1	437	1.5:1	582	0.75:1	291
42 Tennyson Rd	364	0.75:1	273	1.125:1	410	1.5:1	546	0.75:1	273
40 Tennyson Rd	434	0.75:1	325	1.125:1	488	1.5:1	651	0.75:1	325
38 Tennyson Rd	1,142	0.75:1	857	1.125:1	1285	1.5:1	1713	0.75:1	857
36 Tennyson Rd	628	0.75:1	471	1.125:1	707	1.5:1	942	0.75:1	471
34 Tennyson Rd	421	0.75:1	316	1.125:1	474	1.5:1	632	0.75:1	316
30 Tennyson Rd	301	0.75:1	226	1.125:1	339	1.5:1	452	0.75:1	226
63 Bertram St	305	0.75:1	229	1.125:1	343	1.5:1	458	0.75:1	229
61 Bertram St	316	0.75:1	237	1.125:1	356	1.5:1	474	0.75:1	237
59 Bertram St	317	0.75:1	238	1.125:1	357	1.5:1	476	0.75:1	238
57 Bertram St	316	0.75:1	237	1.125:1	356	1.5:1	474	0.75:1	237
55 Bertram St	309	0.75:1	232	1.125:1	348	1.5:1	464	0.75:1	232
53 Bertram St	316	0.75:1	237	1.125:1	356	1.5:1	474	0.75:1	237
51 Bertram St	310	0.75:1	233	1.125:1	349	1.5:1	465	0.75:1	233
49 Bertram St	314	0.75:1	236	1.125:1	353	1.5:1	471	0.75:1	236
47 Bertram St	314	0.75:1	236	1.125:1	353	1.5:1	471	0.75:1	236
45 Bertram St	318	0.75:1	239	1.125:1	358	1.5:1	477	0.75:1	239

Owner: <<Enter Owner>>
Last Revised: 6/08/2010

Site	Area (m ²)	GFA under Canada Bay LEP 2008	Scenario #1 +50%		Scenario #2 +100%		Scenario #3 +100% only to properties >3000m ²	
			FSR	Size GFA m ²	FSR	Size GFA m ²	FSR	Size GFA m ²
39 Bertram St	151	0.75:1	1.125:1	170	1.5:1	227	0.75:1	113
37 Bertram St	156	0.75:1	1.125:1	176	1.5:1	234	0.75:1	117
35 Bertram St	318	0.75:1	1.125:1	358	1.5:1	477	0.75:1	239
33 Bertram St	152	0.75:1	1.125:1	171	1.5:1	228	0.75:1	114
31 Bertram St	148	0.75:1	1.125:1	167	1.5:1	222	0.75:1	111
29 Bertram St	132	0.75:1	1.125:1	149	1.5:1	198	0.75:1	99
48 Bertram St	585	0.75:1	1.125:1	658	1.5:1	878	0.75:1	439
46 Bertram St	267	0.75:1	1.125:1	300	1.5:1	401	0.75:1	200
44 Bertram St	301	0.75:1	1.125:1	339	1.5:1	452	0.75:1	226
42 Bertram St	334	0.75:1	1.125:1	376	1.5:1	501	0.75:1	251
40 Bertram St	322	0.75:1	1.125:1	362	1.5:1	483	0.75:1	242
38 Bertram St	342	0.75:1	1.125:1	385	1.5:1	513	0.75:1	257
36 Bertram St	333	0.75:1	1.125:1	375	1.5:1	500	0.75:1	250
34 Bertram St	331	0.75:1	1.125:1	372	1.5:1	497	0.75:1	248
32 Bertram St	334	0.75:1	1.125:1	376	1.5:1	501	0.75:1	251
30 Bertram St (Inc 11 Bertram Lane) (172+168)	340	0.75:1	1.125:1	383	1.5:1	510	0.75:1	255
28 Bertram St	339	0.75:1	1.125:1	381	1.5:1	509	0.75:1	255
26 Bertram St	330	0.75:1	1.125:1	371	1.5:1	495	0.75:1	248
22 Bertram St	670	0.75:1	1.125:1	754	1.5:1	1005	0.75:1	503
20 Bertram St	333	0.75:1	1.125:1	375	1.5:1	500	0.75:1	250
18 Bertram St	454	0.75:1	1.125:1	511	1.5:1	681	0.75:1	341
11 Bayard St	524	0.75:1	1.125:1	590	1.5:1	786	0.75:1	393
9 Bayard St	246	0.75:1	1.125:1	277	1.5:1	369	0.75:1	185

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Site	Site Area (m ²)	FSR	GFA under Canada Bay LEP 2008	Scenario #1 +50%		Scenario #2 +100%		Scenario #3 +100% only to properties >3000m ²	
				FSR	Size GFA m ²	FSR	Size GFA m ²	FSR	Size GFA m ²
7 Bayard St	293	0.75:1	220	1.125:1	330	1.5:1	440	0.75:1	220
5 Bayard St	668	0.75:1	501	1.125:1	752	1.5:1	1002	0.75:1	501
1 Bayard St	524	0.75:1	393	1.125:1	590	1.5:1	786	0.75:1	393
16 Bertram St	628	0.75:1	471	1.125:1	707	1.5:1	942	0.75:1	471
14 Bertram St	326	0.75:1	245	1.125:1	367	1.5:1	489	0.75:1	245
12 Bertram St	332	0.75:1	249	1.125:1	374	1.5:1	498	0.75:1	249
11 - 15 Bertram St	1,210	0.75:1	908	1.125:1	1361	1.5:1	1815	0.75:1	908
5 Bertram St	1,111	0.75:1	833	1.125:1	1250	1.5:1	1667	0.75:1	833
3 Bertram St	487	0.75:1	365	1.125:1	548	1.5:1	731	0.75:1	365
1 Bertram St	488	0.75:1	366	1.125:1	549	1.5:1	732	0.75:1	366
9 Tennyson Rd	343	0.75:1	257	1.125:1	386	1.5:1	515	0.75:1	257
11 Tennyson Rd	366	0.75:1	275	1.125:1	412	1.5:1	549	0.75:1	275
13 Tennyson Rd	408	0.75:1	306	1.125:1	459	1.5:1	612	0.75:1	306
15 Tennyson Rd	462	0.75:1	347	1.125:1	520	1.5:1	693	0.75:1	347
17A Tennyson Rd	463	0.75:1	347	1.125:1	521	1.5:1	695	0.75:1	347
17B Tennyson Rd	481	0.75:1	361	1.125:1	541	1.5:1	722	0.75:1	361
17C Tennyson Rd	436	0.75:1	327	1.125:1	491	1.5:1	654	0.75:1	327
12 Emily St	825	0.75:1	619	1.125:1	928	1.5:1	1238	0.75:1	619
4 Emily St	507	0.75:1	380	1.125:1	570	1.5:1	761	0.75:1	380
2 Emily St	697	0.75:1	523	1.125:1	784	1.5:1	1046	0.75:1	523
17 Herbert St	335	0.75:1	251	1.125:1	377	1.5:1	503	0.75:1	251
15 Herbert St	1,230	0.75:1	923	1.125:1	1384	1.5:1	1845	0.75:1	923
11 Herbert St	447	0.75:1	335	1.125:1	503	1.5:1	671	0.75:1	335
3 - 9 Herbert St	1,018	0.75:1	764	1.125:1	1145	1.5:1	1527	0.75:1	764

Site	Subsidiary (m ²)	FSR	GFA under Canada Bay LEP 2008	Scenario #1 +50%		Scenario #2 +100%		Scenario #3 +100% only to properties >3000m ²	
				FSR	Size GFA m ²	FSR	Size GFA m ²	FSR	Size GFA m ²
1 Herbert St	374	0.75:1	281	1.125:1	421	1.5:1	561	0.75:1	281
28 Herbert St	362	0.75:1	272	1.125:1	407	1.5:1	543	0.75:1	272
26 Herbert St	332	0.75:1	249	1.125:1	374	1.5:1	498	0.75:1	249
24 Herbert St	357	0.75:1	268	1.125:1	402	1.5:1	536	0.75:1	268
22 Herbert St	351	0.75:1	263	1.125:1	395	1.5:1	527	0.75:1	263
20 Herbert St	350	0.75:1	263	1.125:1	394	1.5:1	525	0.75:1	263
18 Herbert St	348	0.75:1	261	1.125:1	392	1.5:1	522	0.75:1	261
16 Herbert St	352	0.75:1	264	1.125:1	396	1.5:1	528	0.75:1	264
14 Herbert St	703	0.75:1	527	1.125:1	791	1.5:1	1055	0.75:1	527
8 Herbert St	690	0.75:1	518	1.125:1	776	1.5:1	1035	0.75:1	518
6 Herbert St	349	0.75:1	262	1.125:1	393	1.5:1	524	0.75:1	262
2A Herbert St	1,267	0.75:1	950	1.125:1	1,425	1.5:1	1,901	0.75:1	950
TOTAL	104,517		76,270		113,384		151,152		90,002
DWELLINGS			753		1,134		1,512		900

*Notes:

- Figures exclude areas zoned B1 Neighbourhood shops
- These figures (esp. Scenario 3) are based on the existing subdivision pattern and are likely to change.
- Should the land owned by Mortlake Consolidated Investments Pty Ltd be amalgamated prior to being developed, Scenario 3 would deliver an additional 7527.75m², or 75 dwellings.

Surrounding Catchment

6. FSR under the Canada Bay LEP within the catchment areas.

Murrumbidgee (see clause 4.10 of the Canada Bay LEP)	
Development	Floor Space Ratio
Residential	0.75:1
Non-residential	1.0:1
Mixed Use	0.75:1
Breakfast Point	
Breakfast Point	0.70:1
Cabarita	
Cabarita (R3 Medium Density; Edgewood, Kendall Inlet & Cape Cabarita)	0.70:1
Cabarita (R2 Low Density Residential)	Refer to Canada Bay LEP, FSR maps
Concord	
Concord	Refer to Canada Bay LEP, FSR maps

7. Existing number of dwellings in catchment areas

Breakfast Point	
Dwellings under the Metropolitan Development Plan total	1,698
Remaining capacity <i>Concept plan amendment application (Breakfast Point Concept Plan, 2005 Mod 1) under consideration by the DoP.</i>	598
Total Capacity	2,296
Cabarita	
Edgewood & Kendall Inlet - R3 Medium Density	353
Cape Cabarita - R3 Medium Density	203
Remaining R2 Low Density Residential	253
Concord (part)	
Concord R2 Low Density & R3 Medium Density	1082

*Note: Figures exclude areas zoned B1 Neighbourhood shops

**PEER REVIEW
OF
TRAFFIC IMPACTS
FOR
PROPOSED MEDIUM DENSITY
RESIDENTIAL DEVELOPMENT
AT
HILLY STREET PRECINCT - MORTLAKE
ON BEHALF OF
CITY OF CANADA BAY COUNCIL**

Ref. 10008r2

September 2010

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1.0 INTRODUCTION

Transport and Urban Planning has been appointed (by City of Canada Bay Council) to undertake a peer review of the projected traffic impacts prepared by Transport and Traffic Planning Associates (TTPA) relative to the proposal to provide between 206 and 411 medium density residential apartments upon a site of 27,431m² located generally to the west of Hilly Street and north of Edwin Street at Mortlake.

The development proposals envisages 3 scenarios as follows:

- + 206 residential apartments under LEP 2008
- + 309 residential apartments under a +50% FSR (scenario 1)
- + 411 residential apartments under a +100% FSR (scenario 2)

This review aims to provide Council with information and advice pertaining to

- Projected traffic generation
- Peak hour trip movements
- Traffic impacts on critical access roads at key intersections
- The suitability or otherwise of permitting an increased FSR

2.0 SITE DETAILS

The development site is a consolidation of numerous allotments in 3 separate sections and occupying a total area of some 27,832m². The irregular shaped sections extend easterly from Hilly Street (and northerly from Edwin Street) to the western shore of Majors Bay.

The site represents remnants of the Mortlake Industrial Area where numerous sites have been or are being redeveloped for residential apartments including the large “Breakfast Point” site. The sections of the site are designated as:

- Site 1: - The south eastern portion comprising the block bounded by Hilly Street, Edwin Street, Bennett Street and Northcote Street.
- Site 2: - The small south western portion with frontage to Bennett Street and Majors Bay.
- Site 3: - The northern portion with frontages to Hilly Street, Northcote Street and Majors Bay.

The large Breakfast Point development site is located just to the east. There are existing adjoining residential developments extending to the north along Hilly Street as well as a recently completed development which adjoins Site 2 on the corner of Bennett Street and Northcote Street.

The development site is subject to a range of current and former industrial uses together with 6 “cottage” dwellings along the Edwin Street frontage. The existing uses are summarised as follows:

- 17,015m² GFA manufacturing/office
- 1,635m² warehouse
- 242 employees/tenants
- 6 dwellings

3.0 DEVELOPMENT PROPOSAL

The development proposal involves an arrangement of contemporary residential apartment buildings of various levels with basement carparking.

It is envisaged that there will be a total of 18 buildings ranging from 3 to 9 levels surrounded by extensive public and private open space areas including a foreshore strip. The envisaged “make up” of the development, depending on the FSR outcome is as follows:

LEP 2008	Scenario 1 FSR 1.13:1	Scenario 2 FSR 1.5:1
31 x 1 bedroom	46 x 1 bedroom	62 x 1 bedroom
103 x 2 bedroom	155 x 2 bedroom	206 x 2 bedroom
72 x 3 bedroom	108 x 3 bedroom	143 x 3 bedroom
Total 206 apartments	Total 309 apartments	Total 411 apartments

Parking would be accommodated in basement levels with 5 separate access connections to the frontage roads.

Conversely the total projected apartment yields for the Mortlake precinct, as provided by Council are:

- LEP 2008 753 apartments
- Scenario 1 1134 apartments
- Scenario 2 1512 apartments

Therefore the TTPA proposals represent approximately 27.3% of all future residential redevelopment in the Mortlake precinct.

4.0 TRAFFIC GENERATION

The TTPA has undertaken AM and PM traffic generation surveys of 200 existing residential apartments in the Mortlake precinct and found peak traffic arrivals and departure trips as follows:

AM 60 vehicle trips (8 in and 52 out) and
PM 54 vehicle trips (47 in and 7 out)

Giving a traffic generation rate of

0.30 vehicle trips per dwelling AM and
0.27 vehicle trips per dwelling PM

Conversely the RTA Land Use Traffic Generation Guidelines (Section 3) October 2002 issue 2.2 indicates as follows:

- **Medium density residential flat building**

Rates

Smaller unit and flats (up to two bedrooms):

Daily vehicle trips = 4-5 per dwelling

Weekday peak hour vehicle trips = 0.4-0.5 per dwelling

Larger units and townhouses (three or more bedrooms):

Daily vehicle trips = 5.0-6.5 per dwelling

Weekday peak hour vehicle trips = 0.5-0.65 per dwelling

Factors

Comments regarding internal and external trips made under Factors, Dwelling Houses also apply to medium density developments.

The basic generation rates for developments in less affluent areas and for public housing may, in some cases, be lower than stated.

- **High density residential flat building**

Rates

Metropolitan Regional (CBD) Centres:

Daily vehicle trips = not available

Peak hour vehicle trips = 0.24 trips per unit

Metropolitan Sub-Regional Centres:

Daily vehicle trips = not available

Peak hour vehicle trips = 0.29 trips per unit

Factors

The above rates include visitors, staff, service/delivery and on street movements such as taxis and pick up/set down activities.

Whilst the rates proposed by TTPA are similar to the RTA rates for high density flat buildings, these rates traditionally apply to residential development in CBD or sub regional centres with good and available access to public transport services (rail and buses to multiple destinations).

In addition the TTPA resident questionnaire surveys indicate that only 24% of respondents utilised AM public transport with 71% utilising a car based trip. Importantly a total of 53 questionnaire surveys, were returned and analysed by TTPA. This small sample may suggest a distorted and/or inaccurate level of modal split and public transport usage.

For sensitivity testing we would suggest:

- i A larger survey be undertaken with a minimum 500 returned surveys for analysis; or**
- ii The RTA Guidelines (2002) for medium density residential flat buildings be adopted with some flexibility.**

TTPA projects the expected AM and PM peak traffic generated levels for the varied scenarios as follows:

	LEP 2008 206 apartments	Scenario 1 309 apartments	Scenario 2 411 apartments
@ 0.30 vtph in AM	62 vtph	93 vtph	124 vtph
@ 0.27 vtph in PM	56 vtph	84 vtph	111 vtph

Conversely and based on our projected (RTA) traffic generation rates, Transport and Urban Planning would expect post development AM and PM peak traffic generated rates as follows:

LEP 2008 206 apartments	Scenario 1 309 apartments	Scenario 2 411 apartments
108 vtph	162 vtph	275 vtph

Therefore we believe TTPA under estimates peak hour traffic generation by up to 42%.

However TTPA does make a valid point that the prior non residential land uses upon the development site did also realise a significant level of AM/PM traffic generation that no longer is present and that the site is well positioned for future residents to utilise existing bus or ferry services originating within the Mortlake Precinct.

5.0 TRIP DISTRIBUTION

The trip distribution adopted by TTPA (based on the 53 returned questionnaire surveys) indicates an AM exit pattern for car based trips as follows:

- to Concord Road 54%
- to Parramatta Road 6%
- to Queen or Lyons Road 20%
- to Putney Punt 20%

The above trip assignments do not replicate the prior trip table matrix provided by Council which generally indicates that 65% of all AM peak existing traffic is eastbound with 10% northbound, 10% southbound and 15% westbound.

The Council provided trip matrix (for all of the City of Canada Bay LGA) was, as we understand, derived from prior studies undertaken for Council community development units.

Given the significant discrepancy by TTPA in both traffic peak hour generation levels and trip assignments, it is difficult, with any confidence, to estimate post development traffic impacts on the critical access road and at key intersections and make valid assessments in this regard.

In our view the TTPA trip assignments are based upon a relatively small sample of survey results and are not comprehensive enough to be statistically significant.

Notwithstanding TTPA indicates that should eastbound post development traffic impacts exceed acceptable parameters that there are a range of traffic management measures available to enhance the performance of the intersections to offset any worsening of conditions. These measures include:

- Peak period NO STOPPING restrictions (eg. Burwood Road, Broughton Street)
- Peak period prohibition of minor turning movements (eg. Burwood Road / Crane Street, Broughton Road / Crane Street)
- Roundabout geometry (eg. Majors Bay Road / Norman Street)

The provision of peak 'no stopping' restrictions on existing collector roads and the banning of turning movements at key intersections is likely to impact upon existing resident amenity and cause some traffic to otherwise divert by existing (non impacted) local streets.

6.0 PUBLIC TRANSPORT USAGE

TTPA contends that it is fortuitous that the development site is able to take full advantage of the existing STA bus service being at the 'service commencement' point where full capacity is available. These buses provide for direct travel to/from the City and connection to rail services at Burwood (as well as the City).

The STA has no proposals at present to augment these services, however the Authority:

- Will respond to increased patronage demands as development takes place in the area
- Will expect that facilities are provided as part of the ongoing development in order to accommodate and encourage travel by bus

TTPA indicates further that it is apparent that:

- The greater number of apartments the greater number of bus passengers who will fill the buses and result in demand for more services
- The design encourages and provides for walking and cycling
- Providing housing where there are public transport services available as well as walking and cycling facilities encourages a reduced reliance on private motor vehicle use

Whilst we would agree with this approach and encourage public transport usage over car dependency there is a limit to how many persons public transport can appeal to and constraints upon both the capacity and frequency to which services can be provided.

TTPA also appears to suggest that public transport services are unlimited and will in the main satisfy unlimited demands to all eastbound destinations.

7.0 CONCLUSIONS

- The Hilly Street Medium Density residential proposal is for +206 apartments under LEP 2008 and up to +411 apartments under Development Scenario 2. This represents only 27% of all future development potential for the Mortlake Precinct under existing LEP 2008 or alternatively Scenario 1 (+50% FSR) or Scenario 2 +100% FSR.
- Notwithstanding, the level of peak hour traffic generation adopted by TTPA, in our view underestimates the likely levels of peak hour traffic generation (as indicated by RTA Guidelines) by up to 42%.
- The vehicle trip assignments and modal split matrix journey to work put forward by TTPA based on only 53 returned (existing) resident questionnaire survey in our view significantly misrepresents the likely vehicle trip assignments and the likely use of public transport opportunities ie. buses and ferries (when compared to earlier data for the Canada Bay LGA) Even though both bus and ferry public transport facilities are conveniently located for use by residents they are limited in terms of patron capacity and frequency of service to remain/become a major mode of transport for future residents in the AM/PM hours (at full development).
- However the Hilly Street proposals at a higher (RTA recommended) traffic generation rate and with a trip assignment more in keeping with those already accepted for the Canada Bay LGA (ie. 70% of all AM trips to the Sydney or North Sydney CBD) are not in isolation likely to derive traffic impacts on key access roads and critical intersections beyond manageable levels (as in the main Hilly Street is only 27% of full development potential).
- TTPA also indicates that for the Mortlake Precinct the prior non residential land uses which comprise the Hilly Street development site would have had a (in theory) traffic generation rate similar to that now proposed with the reduced TTPA peak traffic generation levels. (And therefore, should attract a discount credit). Whilst this may be correct in part the prior industrial uses, were, in the main inbound in AM peak and outbound in the PM peak (i.e. the opposite to residential uses) and therefore not significantly contributory to the directional traffic flows and delays.
- Critically the acceptance of any FSR higher than that already permitted by LEP 2008 is likely to set an undesirable precedence for the remaining Mortlake Precinct and adjoining precincts. The cumulative consequences of the likely outcomes will be to realise mid block traffic volumes beyond accepted peak hour amenity threshold and traffic volume demands at key signalised intersections beyond the practical lane capacity (ie. on Crane Street, Gipps Street and Parramatta Road) for these intersections under existing traffic controls and geometric layouts.
- The expected cost to remediate these intersections back to acceptable performance levels is in our view beyond the fiscal capabilities of City of Canada Bay Council.