

# APPENDIX B

## **Weekday Peak Hour Trips Generated by Land Uses for Local Area Transportation Review**

Table B-1  
 Number of Weekday PeakHour Trips Generated by General Office

Bldg Size (SF of GFA)	General	
	Weekday Peak-Hour Trips	
	AM	PM
5,000	7	11
10,000	14	22
15,000	21	34
20,000	28	45
25,000	35	56
30,000	43	63
40,000	60	78
50,000	77	92
60,000	94	106
70,000	111	121
80,000	128	135
90,000	145	150
100,000	162	164
110,000	179	178
120,000	196	193
130,000	213	207
140,000	230	222
150,000	247	236
160,000	264	250
170,000	281	265
180,000	298	279
190,000	315	294
200,000	332	308
220,000	366	337
240,000	400	366
260,000	434	394
280,000	468	423
300,000	502	452
320,000	536	481
340,000	570	510
360,000	604	538
380,000	638	567
400,000	672	596
420,000	706	625
440,000	740	654
460,000	774	682
480,000	808	711
500,000	842	740

**Equations Used**

AM peak-hour trips = 1.38(GFA/1000)  
 PM peak-hour trips = 2.24(GFA/1000)

25,000 sf and over

AM peak-hour trips = 1.70 (GFA/1000) – 8  
 PM peak-hour trips = 1.44(GFA/1000) + 20

**Special Cases**

If a building is within 1,000 feet of a Metrorail station and outside the Beltway, reduce weekday peak-hour trips from chart at left.

Straight Line Distance to Station (in feet)	Percent Reduction in Trips	
	AM	PM
0	50%	40%
50	50%	38%
100	50%	36%
150	50%	34%
200	50%	32%
250	50%	30%
300	50%	28%
350	50%	26%
400	50%	24%
450	50%	22%
500	50%	20%
550	50%	18%
600	50%	16%
650	50%	14%
700	50%	12%
750	50%	10%
800	50%	8%
850	50%	6%
900	50%	4%
950	50%	2%
1,000	50%	0%

If a building is over 300,000 sf with a single employer and NOT part of an activity center with different land uses

Building Size (SF of GFA)	Weekday Peak-Hour Trips	
	AM	PM
300,001	625	559
320,000	659	588
340,000	693	617
360,000	727	645
380,000	761	674
400,000	795	703
420,000	829	732
440,000	863	761
460,000	897	789
480,000	931	818
500,000	965	847

**Equations Used**

AM peak-hour trips = 1.70(GFA/1000) + 115  
 PM peak-hour trips = 1.44(GFA/1000) + 127

Please note: Trip generation rates are calculated using the size of individual buildings, not the combined size of a group.

Table B-2

Number of Weekday Peak Hour Trips Generated by General Retail

With Major Food Chain Store			Without Major Food Chain Store		
Bldg Size (SF of GLA)	Peak-Hour Trips		Bldg Size (SF of GLA)	Peak-Hour Trips	
	AM	PM		AM	PM
50,000	155	619	5,000	9	35
55,000	164	656	10,000	18	70
60,000	173	693	15,000	27	108
65,000	182	730	20,000	36	146
70,000	192	767	25,000	46	185
75,000	201	804	30,000	57	226
80,000	210	841	35,000	67	268
85,000	220	879	40,000	78	311
90,000	229	916	45,000	89	356
95,000	238	953	50,000	101	402
100,000	248	990	55,000	108	433
105,000	257	1027	60,000	116	464
110,000	266	1064	65,000	124	496
115,000	275	1101	70,000	132	529
120,000	285	1139	75,000	141	563
125,000	294	1176	80,000	149	597
130,000	303	1213	85,000	158	633
135,000	313	1250	90,000	167	668
140,000	322	1287	95,000	176	705
145,000	331	1324	100,000	186	743
150,000	340	1362	105,000	195	781
155,000	350	1399	110,000	205	820
160,000	359	1436	115,000	215	859
165,000	368	1473	120,000	225	899
170,000	378	1510	125,000	235	941
175,000	387	1547	130,000	246	982
180,000	396	1584	135,000	256	1025
185,000	405	1622	140,000	267	1068
190,000	415	1659	145,000	278	1112
195,000	424	1696	150,000	289	1157
200,000	433	1733	155,000	301	1203
			160,000	312	1249
			165,000	324	1296
			170,000	336	1344
			175,000	348	1393
			180,000	360	1442
			185,000	373	1492
			190,000	386	1543
			195,000	399	1594
			200,000	412	1646

**Equations Used**

50,000 to 200,000 sf

AM peak-hour trips =  $0.25 [7.43 (GLA/1000) + 247]$   
 PM peak-hour trips =  $7.43 (GLA/1000) + 247$

Adjustment Factor for No Major Food Chain Store

$P = 0.05 + 0.002 [200 - (GLA/1000)]$

Please note:  
**Under 50,000 sf**  
 No equations, since major food chain store is typically at least 50,000 sf

**Equations Used**

Under 50,000 sf

AM peak-hour trips =  $0.25 [12.36(GLA/1000)](1-P)$   
 PM peak-hour trips =  $[12.36 (GLA/1000)](1-P)$

50,000 to 200,000 sf

AM peak-hour trips =  $0.25 [7.43(GLA/1000) + 247](1-P)$   
 PM peak-hour trips =  $[7.43(GLA/1000) + 247](1-P)$

Table B-3  
 Number of Weekday Peak Hour Trips Generated by Residential Units

No. of Units	Single-Family		Townhouse		Garden Apartment		High-Rise Apartments	
	AM	PM	AM	PM	AM	PM	AM	PM
1	1	1	0	1	0	0	0	0
5	5	6	2	4	2	2	2	2
10	10	11	5	8	4	5	4	5
15	14	17	7	12	7	7	6	7
20	19	22	10	17	9	10	8	9
25	24	28	12	21	11	12	10	12
30	29	33	14	25	13	14	12	14
35	33	39	17	29	15	17	14	16
40	38	44	19	33	18	19	16	18
45	43	50	22	37	20	22	18	21
50	48	56	24	42	22	24	20	23
55	52	61	26	46	24	26	22	25
60	57	67	29	50	26	29	24	28
65	62	72	31	54	29	31	26	30
70	67	78	34	58	31	34	28	32
75	72	83	36	62	33	36	30	35
80	75	87	38	66	35	39	32	37
85	78	91	41	71	37	41	34	39
90	81	95	43	75	39	43	36	41
95	84	99	46	79	41	46	39	44
100	87	103	48	83	43	46	40	46
110	93	111	53	88	47	53	43	49
120	99	119	59	93	51	57	46	53
130	106	128	64	97	55	62	49	56
140	112	136	69	102	59	67	52	60
150	118	144	75	107	64	72	55	63
160	124	152	80	112	67	76	57	66
170	130	160	85	117	71	81	60	70
180	137	169	90	121	75	86	63	73
190	143	177	96	126	79	90	66	77
200	149	185	101	131	83	95	69	80
210	155	193	106	136	87	100	72	83
220	161	201	112	141	91	104	75	87
230	168	210	117	145	95	109	78	90
240	174	218	122	150	99	114	81	94
250	180	226	128	155	103	119	84	97
275	196	247	141	167	113	130	91	106
300	211	267	154	179	123	142	98	114
325	227	288	167	191	133	154	105	123
350	242	308	181	203	143	166	113	131
375	258	329	194	215	153	177	120	140
400	273	349	207	227	164	189	127	148
425	289	370	220	239	173	201	134	157
450	304	390	234	251	183	213	142	165
475	320	411	247	263	193	224	149	174
500	320	431	260	275	203	236	156	182
550	366	472	287	299	223	260	171	199
600	397	513	313	323	243	283	185	216

**Equations Used**

**SINGLE-FAMILY DETACHED**

Under 75 Units

AM peak-hour trips = 0.95(# of units)  
 PM peak-hour trips = 1.11(# of units)

75 Units and Over

AM peak-hour trips = 0.62(# of units) + 25  
 PM peak-hour trips = 0.82(# of units) + 21

**TOWNHOUSES OR SINGLE-FAMILY ATTACHED**

Under 100 Units

AM peak-hour trips = 0.48(# of units)  
 PM peak-hour trips = 0.83(# of units)

100 Units and Over

AM peak-hour trips = 0.53(# of units) - 5  
 PM peak-hour trips = 0.48(# of units) + 35

**GARDEN & MID-RISE APARTMENTS**

(one to nine stories)

Under 75 Units

AM peak-hour trips = 0.44(# of units)  
 PM peak-hour trips = 0.48(# of units)

75 Units and Over

AM peak-hour trips = 0.40(# of units) + 3  
 PM peak-hour trips = 0.47(# of units) + 1

**HIGH-RISE APARTMENTS**

(ten or more stories)

Under 100 Units

AM peak-hour trips = 0.40(# of units)  
 PM peak-hour trips = 0.46(# of units)

100 Units and Over

AM peak-hour trips = 0.29(# of units) + 11  
 PM peak-hour trips = 0.34(# of units) + 12

Table B-4  
Number of Weekday Peak Hour Trips Generated by a Child Daycare Center

Number of Staff	Total AM Trips	Total PM Trips
6	28	28
7	29	30
8	31	32
9	33	35
10	35	37
11	36	39
12	38	41
13	40	43
14	42	45
15	43	47
16	45	49
17	47	51
18	49	53
19	50	55
20	52	57
21	54	59
22	56	61
23	57	63
24	59	65
25	61	68

Peak Period	Directional Distribution		Trip Purpose		
	Entering	Exiting	New	Pass-by	Diverted
AM	53%	47%	32%	27%	41%
PM	49%	51%	27%	12%	61%

For six or fewer staff, there is no need for a traffic study to satisfy LATR. The applicant may proffer a specific schedule of the arrival and departure of those staff arriving during weekday peak periods specified in the special exception statement of operation.

Table B-5  
Number of Weekday Peak Hour Trips Generated by a Private School

Number of Students Enrolled	School Program for Kindergarten to:	
	12 <sup>th</sup> Grade	8 <sup>th</sup> Grade
25	20	23
50	38	46
75	59	69
100	78	92
125	98	115
150	117	138
175	137	161
200	156	184
225	176	207
250	195	230
275	215	253
300	234	276
325	254	299
350	273	322
375	293	345
400	312	368

Please note: For over 400 students, a special study is required to determine the trip-generation rate.

Table B-6  
 Number of Weekday Peak Hour Trips Generated by an Automobile Filling Station

No. of Pumping Stations	With Fuel Only		With Fuel and Garage Only				With Fuel and Convenience Store Only				With Fuel, Car Washes, and Convenience Store			
	All Areas		Upcounty		Downcounty		Upcounty		Downcounty		Upcounty		Downcounty	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	11	15	11	17	11	11	12	22	12	12	17	22	17	15
2	23	30	22	33	22	22	25	44	25	25	35	44	35	30
3	34	45	33	50	33	33	37	65	37	37	52	65	52	45
4	45	60	44	67	44	44	49	87	49	49	69	87	69	60
5	57	75	55	83	55	55	61	109	61	62	87	109	87	75
6	68	90	66	100	66	67	74	131	74	74	104	131	104	90
7	79	105	77	117	77	78	86	152	86	86	121	152	121	106
8	90	120	88	133	88	89	98	174	98	99	139	174	139	121
9	102	135	99	150	99	100	111	196	111	111	156	196	156	136
10	113	150	110	167	110	111	123	218	123	123	173	218	173	151
11	124	165	121	183	121	122	135	239	135	136	191	239	191	166
12	136	180	132	200	132	133	147	261	147	148	208	261	208	181
13	147	194	143	217	143	144	160	283	160	160	225	283	225	196
14	158	209	154	233	154	155	172	305	172	172	243	305	243	211
15	170	224	165	250	165	166	184	326	184	185	260	326	260	226
16	181	239	176	267	176	177	196	348	196	197	277	348	277	241
17	192	254	187	283	187	189	209	370	209	209	295	370	295	256
18	204	269	198	300	198	200	221	392	221	222	312	392	312	271
19	215	284	209	317	209	211	233	413	233	234	329	413	329	287
20	226	299	220	333	220	222	246	435	246	246	347	435	347	302
Rate per Pumping Station	11.31	14.96	11.00	16.67	11.00	11.09	12.28	21.75	12.28	12.32	17.33	21.75	17.33	15.08