

Table A-1

Daily Vehicle Miles Traveled (VMT) for Highway 82 in the Aspen Area - 2005 and 2030

Grid	Miles of Roadway	Average Daily Traffic 2005	Vehicle Miles Traveled 2005	Average Daily Traffic 2030	Vehicle Miles Traveled 2030
1	0.64	15400	9856.00	23100	14784.00
2	0.64	18600	11904.00	29528	18897.92
3	0.47	18600	8742.00	29528	13878.16
4	0.00	0	0.00	0	0.00
5	0.00	0	0.00	0	0.00
6	0.00	0	0.00	0	0.00
7	0.25	18600	4650.00	29528	7382.00
8	0.66	18600	12276.00	29528	19488.48
9	0.34	18600	6324.00	29528	10039.52
10	0.00	0	0.00	0	0.00
11	0.00	0	0.00	0	0.00
12	0.00	0	0.00	0	0.00
13	0.00	0	0.00	0	0.00
14	0.19	18600	3534.00	29528	5610.32
15	0.76	23200	17632.00	37700	28652.00
16	0.57	23200	13224.00	37700	21489.00
17	0.00	0	0.00	0	0.00
18	0.00	0	0.00	0	0.00
19	0.00	0	0.00	0	0.00
20	0.00	0	0.00	0	0.00
21	0.24	23600	5664.00	35546	8530.92
22	0.85	16400	13940.00	23701	20145.68
23	0.40	7600	3040.00	10735	4294.00
24	0.00	0	0.00	0	0.00
25	0.00	0	0.00	0	0.00
26	0.00	0	0.00	0	0.00
27	0.00	0	0.00	0	0.00
28	0.00	0	0.00	0	0.00
29	0.42	5400	2268.00	7088	2976.96
30	0.62	5400	3348.00	7088	4394.56
Total	7.05	-	116402.00	-	180563.52

Notes:

1) VMT for SH 82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base AADT volumes for 2005.

2) The CDOT data base included neither traffic data for SH82 for mile posts 40.112, 40.381, and 40.494 (grid 16) for 2005 nor for calculated 2030 values. These values (shaded) were estimated based on the 1997 relationship between these mile post stations and stations at mile posts 39.804 and 40.63.

Sources: System Management Technical Report and Traffic Characteristics and Safety Technical Report, State Highway 82/ Entrance to Aspen Environmental Reevaluation, FHWA and CDOT, February 2007.

Table A-2**2005 Daily Vehicle Miles Traveled by Road Type in the Aspen Area**

Grid	Highway 82	Arterial Roads	Local Roads	Gravel Roads	Total
1	9856	0	0	0	9856
2	11904	0	14	0	11918
3	8742	0	639	0	9381
4	0	621	3	1	625
5	0	0	0	0	0
6	0	304	77	7	388
7	4650	304	347	2	5303
8	12276	48	26	17	12367
9	6324	0	13	5	6342
10	0	3684	3331	0	7015
11	0	0	194	0	194
12	0	389	237	2	628
13	0	0	62	8	70
14	3534	490	97	97	4218
15	17632	3900	348	3	21883
16	13224	1578	1989	6	16797
17	0	1538	698	7	2243
18	0	0	160	51	211
19	0	2824	84	0	2908
20	0	2713	31	0	2744
21	5664	871	361	11	6907
22	13940	250	3426	2	17618
23	3040	0	1876	10	4926
24	0	0	15	0	15
25	0	1316	168	0	1484
26	0	2327	50	0	2377
27	0	0	0	59	59
28	0	0	30	15	45
29	2268	0	161	0	2429
30	3348	0	180	0	3528
Total	116402	23157	14617	303	154479

Note: VMT for SH 82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base AADT volumes for 2005. All other VMT is as was taken from the 1994 Aspen PM10 nonattainment SIP Element. These figures were not adjusted for 2005 vs. 1997 because CDOT traffic data for SH 82 show a slight reduction in traffic volumes (~1%) for 2005 vs. 1997.

Table A-3**Projected 2030 Daily Vehicle Miles Traveled with Preferred Alternative by Road Type in the Aspen Area**

Grid	Highway 82	Arterial Roads	Local Roads	Gravel Roads	Total
1	14784	0	0	0	14784
2	18898	0	22	0	18920
3	13878	0	1018	0	14896
4	0	989	5	2	995
5	0	0	0	0	0
6	0	484	123	11	618
7	7382	484	553	3	8422
8	19488	76	41	27	19633
9	10040	0	21	8	10068
10	0	5867	5305	0	11172
11	0	0	309	0	309
12	0	620	377	3	1000
13	0	0	99	13	111
14	5610	780	154	154	6700
15	28652	6211	554	5	35422
16	21489	2513	3168	10	27179
17	0	2449	1112	11	3572
18	0	0	255	81	336
19	0	4497	134	0	4631
20	0	4321	49	0	4370
21	8531	1387	575	18	10510
22	20146	398	5456	3	26003
23	4294	0	2988	16	7298
24	0	0	24	0	24
25	0	2096	268	0	2363
26	0	3706	80	0	3786
27	0	0	0	94	94
28	0	0	48	24	72
29	2977	0	256	0	3233
30	4395	0	287	0	4681
Total	180564	36879	23278	483	241203

Notes: Future (2030) VMT for SH 82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base future traffic volumes calculator for 2030. VMT for all other roads were calculated based on the relationship between 2005 and 2030 volumes for SH 82 as included in or calculated by the CDOT data base future traffic calculator.

Table A-4

Estimated 2005 PM10 Emissions for Highway 82 in the Aspen Area

Grid	Miles of Roadway	2005 Average Daily Traffic	Emission Factor (lb/VMT)*	PM10 Emissions
1	0.64	15400	0.0708	697.8
2	0.64	18600	0.0708	842.8
3	0.47	18600	0.0708	618.9
4	0.00	0	0	0.0
5	0.00	0	0	0.0
6	0.00	0	0	0.0
7	0.25	18600	0.0708	329.2
8	0.66	18600	0.0708	869.1
9	0.34	18600	0.0708	447.7
10	0.00	0	0	0.0
11	0.00	0	0	0.0
12	0.00	0	0	0.0
13	0.00	0	0	0.0
14	0.19	18600	0.0708	250.2
15	0.76	23200	0.0708	1248.3
16	0.57	23200	0.0481	636.1
17	0.00	0	0	0.0
18	0.00	0	0	0.0
19	0.00	0	0	0.0
20	0.00	0	0	0.0
21	0.24	23600	0.0481	272.4
22	0.85	16400	0.0481	670.5
23	0.40	7600	0.0481	146.2
24	0.00	0	0	0.0
25	0.00	0	0	0.0
26	0.00	0	0	0.0
27	0.00	0	0	0.0
28	0.00	0	0	0.0
29	0.42	5400	0.0481	109.1
30	0.62	5400	0.0481	161.0
Total	7.05	-		7299.6

Notes:

1) VMT for SH82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base AADT volumes for 2005.

2) The CDOT data base does not include traffic data for SH82 for mile posts 40.112, 40.381, and 40.494 (grid 16) for 2005 or for calculated 2030 values. These values (shaded) were estimated based on the 1997 relationship between these mile post stations and stations at mile posts 39.804 and 40.63.

* Emission factors differ according to inventory grid cell, based on whether the cell is located inside or outside of the town of Aspen. Roads within the town of Aspen have regular, mandatory street sweeping on Highway 82 and on certain defined intersections, as well as regular, voluntary street sweeping on local roads. Therefore, the emission factor is lower for cells within Central Aspen.

Table A-5

Estimated 2030 PM10 Emissions for Highway 82 with Preferred Alternative in the Aspen Area

Grid	Miles of Roadway	2030 Average Daily Traffic	Emission Factor (lb/VMT)*	PM10 Emissions
1	0.64	23100	0.0708	1046.7
2	0.64	29528	0.0708	1338.0
3	0.47	29528	0.0708	982.6
4	0.00	0	0	0.0
5	0.00	0	0	0.0
6	0.00	0	0	0.0
7	0.25	29528	0.0708	522.6
8	0.66	29528	0.0708	1379.8
9	0.34	29528	0.0708	710.8
10	0.00	0	0	0.0
11	0.00	0	0	0.0
12	0.00	0	0	0.0
13	0.00	0	0	0.0
14	0.19	29528	0.0708	397.2
15	0.76	37700	0.0708	2028.6
16	0.57	37700	0.0481	1033.6
17	0.00	0	0	0.0
18	0.00	0	0	0.0
19	0.00	0	0	0.0
20	0.00	0	0	0.0
21	0.24	35546	0.0481	410.3
22	0.85	23701	0.0481	969.0
23	0.40	10735	0.0481	206.5
24	0.00	0	0	0.0
25	0.00	0	0	0.0
26	0.00	0	0	0.0
27	0.00	0	0	0.0
28	0.00	0	0	0.0
29	0.42	7088	0.0481	143.2
30	0.62	7088	0.0481	211.4
Total	7.05	-		11380.3

Notes:

1) VMT for SH 82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base AADT volumes for 2005.

2) The CDOT data base does not include traffic data for SH 82 for mile posts 40.112, 40.381, and 40.494 (grid 16) for 2005 or for calculated 2030 values. These values (shaded) were estimated based on the 1997 relationship between these mile post stations and stations at mile posts 39.804 and 40.63.

* Emission factors differ according to inventory grid cell, based on whether the cell is located inside or outside of the town of Aspen. Roads within the town of Aspen have regular, mandatory street sweeping on Highway 82 and on certain defined intersections, as well as regular, voluntary street sweeping on local roads. Therefore, the emission factor is lower for cells within Central Aspen.

Table A-6

2005 Daily Vehicle Miles Traveled by Road Type in the Aspen Area

Grid	Arterial Roads (VMT/day)	Arterial Roads PM10 Emissions (VMT x 0.0634 lb/VMT)	Local Roads (VMT/day)	Local Roads PM10 Emissions (VMT x 0.0684 lb/VMT)	Gravel Roads (VMT/day)	Gravel Roads PM10 Emissions (VMT x 0.26 lb/VMT)	Total (lb/day)
1	0	0.0	0	0.0	0	0.0	0
2	0	0.0	14	1.0	0	0.0	15
3	0	0.0	639	43.7	0	0.0	683
4	621	39.4	3	0.2	1	0.3	665
5	0	0.0	0	0.0	0	0.0	0
6	304	19.3	77	5.3	7	1.8	413
7	304	19.3	347	23.7	2	0.5	696
8	48	3.0	26	1.8	17	4.4	96
9	0	0.0	13	0.9	5	1.3	19
10	3684	233.6	3331	227.8	0	0.0	7476
11	0	0.0	194	13.3	0	0.0	207
12	389	24.7	237	16.2	2	0.5	669
13	0	0.0	62	4.2	8	2.1	74
14	490	31.1	97	6.6	97	25.2	722
15	3900	247.3	348	23.8	3	0.8	4522
16	1578	100.0	1989	136.0	6	1.6	3809
17	1538	97.5	698	47.7	7	1.8	2388
18	0	0.0	160	10.9	51	13.3	222
19	2824	179.0	84	5.7	0	0.0	3093
20	2713	172.0	31	2.1	0	0.0	2918
21	871	55.2	361	24.7	11	2.9	1323
22	250	15.9	3426	234.3	2	0.5	3928
23	0	0.0	1876	128.3	10	2.6	2014
24	0	0.0	15	1.0	0	0.0	16
25	1316	83.4	168	11.5	0	0.0	1579
26	2327	147.5	50	3.4	0	0.0	2528
27	0	0.0	0	0.0	59	15.3	59
28	0	0.0	30	2.1	15	3.9	47
29	0	0.0	161	11.0	0	0.0	172
30	0	0.0	180	12.3	0	0.0	192
Total	23157	1468.2	14617	999.8	303	78.8	40545

Note: VMT for SH 82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base AADT volumes for 2005. All other VMT is as was taken from the 1994 Aspen PM10 nonattainment SIP Element. These figures were not adjusted for 2005 vs. 1997 because CDOT traffic data for SH 82 a slight reduction in traffic volumes (~1%) for 2005 vs. 1997.

Table A-7

2030 Daily Vehicle Miles Traveled with Preferred Alternative by Road Type in the Aspen Area

Grid	Arterial Roads (VMT/day)	Arterial Roads PM10 Emissions (VMT x 0.0634 lb/VMT)	Local Roads (VMT/day)	Local Roads PM10 Emissions (VMT x 0.0684 lb/VMT)	Gravel Roads (VMT/day)	Gravel Roads PM10 Emissions (VMT x 0.26 lb/VMT)	Total (lb/day)
1	0	0.0	0	0.0	0	0.0	0
2	0	0.0	22	1.5	0	0.0	24
3	0	0.0	1018	69.6	0	0.0	1087
4	989	62.7	5	0.3	2	0.4	1058
5	0	0.0	0	0.0	0	0.0	0
6	484	30.7	123	8.4	11	2.9	657
7	484	30.7	553	37.8	3	0.8	1108
8	76	4.8	41	2.8	27	7.0	153
9	0	0.0	21	1.4	8	2.1	30
10	5867	372.0	5305	362.8	0	0.0	11907
11	0	0.0	309	21.1	0	0.0	330
12	620	39.3	377	25.8	3	0.8	1065
13	0	0.0	99	6.8	13	3.3	118
14	780	49.5	154	10.6	154	40.2	1149
15	6211	393.8	554	37.9	5	1.2	7202
16	2513	159.3	3168	216.7	10	2.5	6066
17	2449	155.3	1112	76.0	11	2.9	3803
18	0	0.0	255	17.4	81	21.1	353
19	4497	285.1	134	9.2	0	0.0	4925
20	4321	273.9	49	3.4	0	0.0	4647
21	1387	87.9	575	39.3	18	4.6	2107
22	398	25.2	5456	373.2	3	0.8	6256
23	0	0.0	2988	204.4	16	4.1	3208
24	0	0.0	24	1.6	0	0.0	26
25	2096	132.9	268	18.3	0	0.0	2515
26	3706	235.0	80	5.4	0	0.0	4026
27	0	0.0	0	0.0	94	24.4	94
28	0	0.0	48	3.3	24	6.2	75
29	0	0.0	256	17.5	0	0.0	274
30	0	0.0	287	19.6	0	0.0	306
Total	36879	2338.1	23278	1592.2	483	125.5	64570

Note: VMT for SH 82 was calculated using roadway lengths/distances from the FEIS technical analysis and CDOT traffic data base AADT volumes for 2005. All other VMT is as was taken from the 1994 Aspen PM10 nonattainment SIP Element. These figures were not adjusted for 2005 vs. 1997 because CDOT traffic data for SH 82 show a slight reduction in traffic volumes (~1%) for 2005 vs. 1997.

Table A-8

2005 PM10 Emission Inventory (assuming Street Sanding) for the Aspen/Pitkin County Attainment/Maintenance Area (lb/day)

Grid	Highway 82	Paved Arterial Roads	Paved Local Roads	Gravel Roads	Vehicle Exhaust	Aircraft	Restaurants	Wood Stoves/ Inserts	Fireplaces	Stationary Source	TOTAL
1	697.8	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	699.8
2	842.8	0.0	1.0	0.0	2.0	34.7	0.0	0.0	0.0	0.0	880.4
3	618.9	0.0	43.7	0.0	2.0	0.0	1.04	5.71	2.31	0.0	673.7
4	0.0	39.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	39.8
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	19.3	5.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	26.4
7	329.2	19.3	23.7	0.5	1.0	0.0	0.0	0.0	0.0	0.0	373.7
8	869.1	3.0	1.8	4.4	5.0	0.0	1.04	0.0	6.94	0.0	891.4
9	447.7	0.0	0.9	1.3	2.0	0.0	0.0	0.0	0.0	0.0	451.9
10	0.0	233.6	227.8	0.0	2.0	0.0	0.0	7.62	36.99	0.0	508.0
11	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	2.31	0.0	15.6
12	0.0	24.7	16.2	0.5	0.0	0.0	0.0	0.0	4.62	0.0	46.0
13	0.0	0.0	4.2	2.1	0.0	0.0	0.0	0.0	0.0	0.0	6.3
14	250.2	31.1	6.6	25.2	2.0	0.0	0.0	0.0	0.0	0.0	315.1
15	1248.3	247.3	23.8	0.8	6.0	0.0	1.04	3.80	0.0	0.0	1531.0
16	636.1	100.0	136.0	1.6	5.0	0.0	1.04	9.53	25.43	0.0	914.7
17	0.0	97.5	47.7	1.8	0.0	0.0	0.0	13.33	11.56	0.0	172.0
18	0.0	0.0	10.9	13.3	0.0	0.0	0.0	5.71	2.31	0.0	32.2
19	0.0	179.0	5.7	0.0	1.0	0.0	0.0	3.80	2.31	0.0	191.9
20	0.0	172.0	2.1	0.0	1.0	0.0	0.0	5.71	0.0	0.0	180.8
21	272.4	55.2	24.7	2.9	2.0	0.0	0.0	1.91	25.43	0.0	384.5
22	670.5	15.9	234.3	0.5	7.0	0.0	23.76	15.24	41.61	0.0	1008.8
23	146.2	0.0	128.3	2.6	1.0	0.0	0.0	17.13	48.55	0.0	343.8
24	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
25	0.0	83.4	11.5	0.0	0.0	0.0	2.09	0.0	0.0	0.0	97.0
26	0.0	147.5	3.4	0.0	1.0	0.0	0.0	0.0	0.0	0.0	152.0
27	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0	0.0	0.0	15.3
28	0.0	0.0	2.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0	6.0
29	109.1	0.0	11.0	0.0	1.0	0.0	0.26	5.71	9.25	0.0	136.3
30	161.0	0.0	12.3	0.0	1.0	0.0	0.0	0.0	13.87	0.0	188.2
Total	7299.6	1468.2	999.8	78.8	44.0	34.7	30.3	95.2	233.5	0.0	10284.0

Table A-9**2030 PM10 Emission Inventory with Preferred Alternative (assuming Street Sanding) for the Aspen/Pitkin County Attainment/Maintenance Area (lb/day)**

Grid	Highway 82	Paved Arterial Roads	Paved Local Roads	Gravel Roads	Vehicle Exhaust	Aircraft	Restaurants	Wood Stoves/ Inserts	Fireplaces	Stationary Source	TOTAL
1	1046.7	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1048.7
2	1338.0	0.0	1.5	0.0	2.0	64.1	0.0	0.0	0.0	0.0	1405.6
3	982.6	0.0	69.6	0.0	2.0	0.0	1.55	8.49	2.31	0.0	1066.5
4	0.0	62.7	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	63.4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	30.7	8.4	2.9	0.0	0.0	0.0	0.0	0.0	0.0	42.0
7	522.6	30.7	37.8	0.8	1.0	0.0	0.0	0.0	0.0	0.0	593.0
8	1379.8	4.8	2.8	7.0	5.0	0.0	1.55	0.0	6.94	0.0	1408.0
9	710.8	0.0	1.4	2.1	2.0	0.0	0.0	0.0	0.0	0.0	716.3
10	0.0	372.0	362.8	0.0	2.0	0.0	0.0	11.33	36.99	0.0	785.1
11	0.0	0.0	21.1	0.0	0.0	0.0	0.0	0.0	2.31	0.0	23.4
12	0.0	39.3	25.8	0.8	0.0	0.0	0.0	0.0	4.62	0.0	70.5
13	0.0	0.0	6.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	10.1
14	397.2	49.5	10.6	40.2	2.0	0.0	0.0	0.0	0.0	0.0	499.4
15	2028.6	393.8	37.9	1.2	6.0	0.0	1.55	5.66	0.0	0.0	2474.7
16	1033.6	159.3	216.7	2.5	5.0	0.0	1.55	14.17	25.43	0.0	1458.2
17	0.0	155.3	76.0	2.9	0.0	0.0	0.0	19.82	11.56	0.0	265.6
18	0.0	0.0	17.4	21.1	0.0	0.0	0.0	8.49	2.31	0.0	49.3
19	0.0	285.1	9.2	0.0	1.0	0.0	0.0	5.66	2.31	0.0	303.3
20	0.0	273.9	3.4	0.0	1.0	0.0	0.0	8.49	0.0	0.0	286.8
21	410.3	87.9	39.3	4.6	2.0	0.0	0.0	2.84	25.43	0.0	572.4
22	969.0	25.2	373.2	0.8	7.0	0.0	35.34	22.66	41.61	0.0	1474.9
23	206.5	0.0	204.4	4.1	1.0	0.0	0.0	25.48	48.55	0.0	490.1
24	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
25	0.0	132.9	18.3	0.0	0.0	0.0	3.11	0.0	0.0	0.0	154.3
26	0.0	235.0	5.4	0.0	1.0	0.0	0.0	0.0	0.0	0.0	241.4
27	0.0	0.0	0.0	24.4	0.0	0.0	0.0	0.0	0.0	0.0	24.4
28	0.0	0.0	3.3	6.2	0.0	0.0	0.0	0.0	0.0	0.0	9.5
29	143.2	0.0	17.5	0.0	1.0	0.0	0.39	8.49	9.25	0.0	179.9
30	211.4	0.0	19.6	0.0	1.0	0.0	0.0	0.0	13.87	0.0	245.9
Total	11380.3	2338.1	1592.2	125.5	44.0	64.1	45.0	141.6	233.5	0.0	15964.4

Annual Traffic Growth Rates by Roadway Segment - State Highway 82				
MP Start	MP End	Start Point Description	20-Year Factor*	Annual Grwth Rate
35.283	37.242	ON SH82 SE/O CR 10, BRUSH CK RD, SNOWMASS AT ASPEN	1.40	1.70%
37.242	38.323	ON SH82 SE/O AIRPORT RD, NW/O ASPEN	1.47	1.94%
38.323	39.804	ON SH82 NW/O CR 13, MAROON CK RD W/O ASPEN	1.50	2.05%
39.804	40.630	ON SH82 E/O CR13, MAROON CK RD, W/O ASPEN	1.41	1.73%
40.630	40.762	ON SH82, MAIN ST NW/O 3 RD ST, ASPEN	1.40	1.70%
40.762	41.093	ON SH82, MAIN ST SE/O GARMISH ST, ASPEN	1.40	1.70%
41.093	41.159	ON SH82, MAIN ST SE/O MONARCH ST, ASPEN	1.35	1.51%
41.159	41.223	ON SH82, MAIN ST NW/O GALENA ST, ASPEN	1.25	1.12%
41.223	41.459	ON SH82, MAIN ST SE/O GALENA ST, ASPEN	1.45	1.88%
41.459	41.573	ON SH82, MAIN ST SW/O HOPKINS ST, ASPEN	1.32	1.40%
41.573	41.743	ON SH82, MAIN ST E/O COOPER AVE, ASPEN	1.33	1.44%
41.743	42.471	ON SH82, MAIN ST E/O N RIVERSIDE AVE, ASPEN	1.25	1.12%

* CDOT 20-year factor was used to calculate annual growth rate for each roadway segment