

Appendix H
Vehicle Miles Traveled Output and Summary

Appendix H

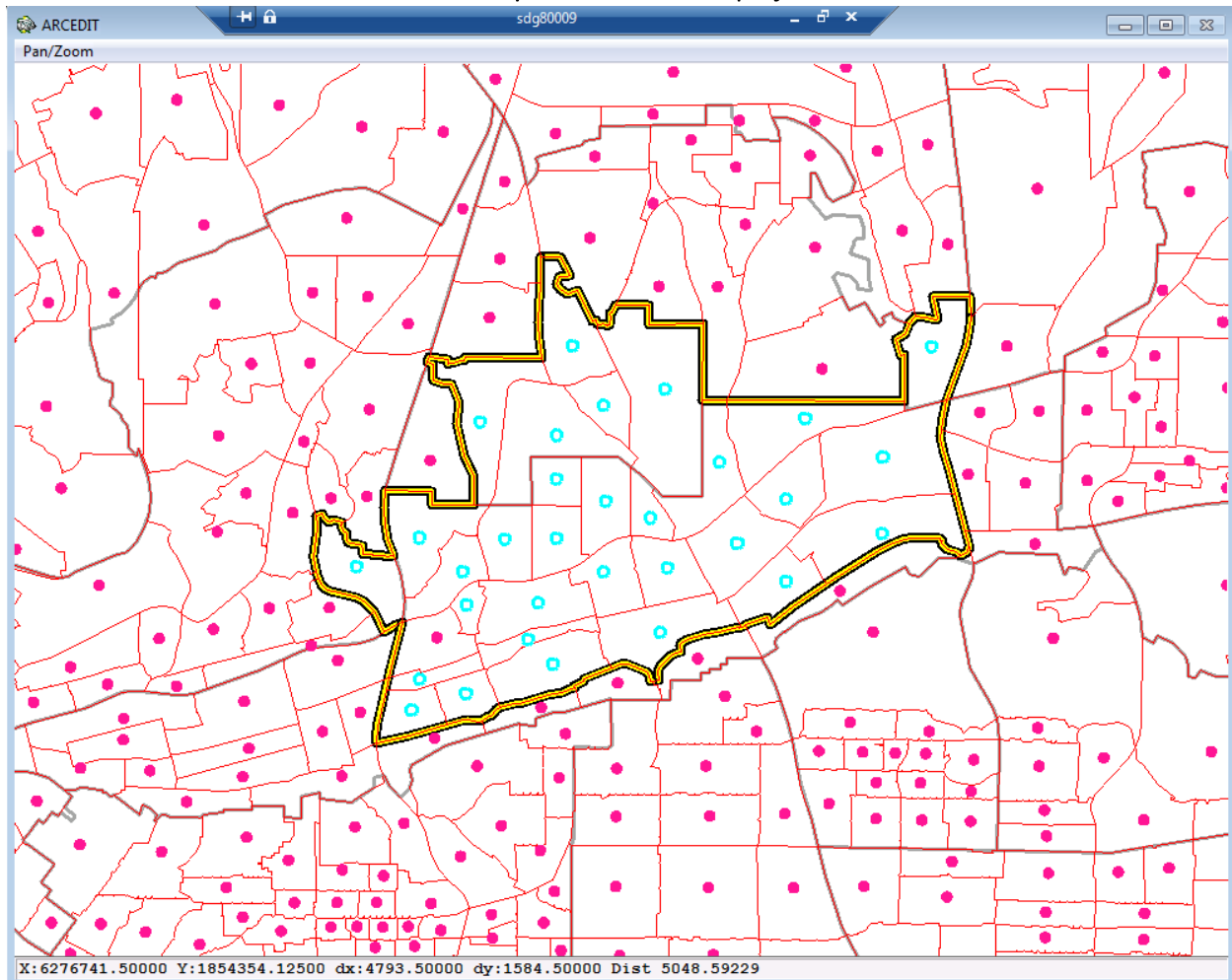
Vehicle Miles Traveled Methodology and Analysis

Section 4.2, Transportation/Circulation and Appendix C provide technical information on transportation model forecasting and detailed traffic operational analyses for the various freeway and roadway segments as well as intersections that would be affected as a result of the proposed project. This appendix includes the modeling results performed by SANDAG for the calculation of VMT within the project influence area.

The project influence area is defined as all Traffic Analysis Zones (TAZ) where the project may cause an increase or decrease of 500 or more average daily trips (ADT). This threshold is consistent with the *City of San Diego Traffic Impact Study Manual, July 1998*. By comparing the SANDAG Series 12 ADT projected for the Year 2035 with Project conditions to the Year 2035 without Project conditions, it was determined that the project influence area would cover the communities of Mission Valley, Serra Mesa, a portion of Linda Vista, and a portion of Kearny Mesa. Figure 1 displays the project influence area.

Figure 1

Serra Mesa Community Plan Amendment project influence area



Source: SANDAG, December 2016

The VMT analysis was conducted consistent with methodologies discussed in the technical white paper “Vehicle Miles Traveled Calculations Using the SANDAG Regional Travel Demand Model” prepared by the San Diego Institute of Transportation Engineers (ITE)’s Transportation Capacity and Mobility Task Force in May of 2013 (ITE 2013). This methodology disaggregates the VMT within the project influence area into three categories, internal-internal (I/I), internal-external/external-internal (I/E or E/I), and external-external (E/E). Detail description of each category is provided below:

- I/I VMT is associated with trips that have both the origin and destination within the influenced area - 100% of this VMT is included in the final total VMT;
- I/E or E/I VMT is associated with trips that have either an origin or a destination within the influence area - 50% of this VMT is included in the final total VMT;
- E/E VMT is associated with trips that does not have an origin or a destination within the influence area - these are pass-through trips and are not included in the total VMT.

VMT Analysis Results

Based upon methodology described above, a VMT analysis was conducted for all of the study scenarios with and without the proposed project.

Table 1 displays the total VMT generated within the project influence area and the region wide VMT for the following scenarios: Existing Conditions (Year 2013; presented for informational purposes), Near-Term (2017) with and without project, and Long-Term (Year 2035) with and without project scenarios.

Table 1
Vehicle Mile Traveled Comparison
Without Proposed Project Vs. With Proposed Project

Scenarios	Project Influence Area				San Diego Region			
	Without Project	With Project	Δ in Value	Δ in %	Without Project	With Project	Δ in Value	Δ in %
Existing Conditions Year 2013	424,754	-	-	-	1,422,612	-	-	-
Near-Term Year 2017	531,382	521,826	-9,556	-1.80%	1,523,630	1,518,696	-4,934	-0.32%
Cumulative Year 2035	733,403	720,196	-13,207	-1.80%	1,633,653	1,629,137	-4,516	-0.28%

Source: SANDAG, Chen Ryan Associates; December 2016

As shown, the proposed project would reduce the VMT within the project influence area by 1.8% under both the Near-Term Year 2017 with Connection and the Cumulative Year 2035 with Connection scenarios. The proposed project would also reduce the region wide VMT by .32% under the Near-Term Year 2035 with Connection scenario and by .28% under the Cumulative Year 2035 with Connection scenario.

Reference Cited:

ITE Transportation Capacity and Mobility Task Force. “Vehicle Miles Traveled Calculations Using the SANDAG Regional Travel Demand Model.” May 2013. Accessed online January 25, 2017:
http://www.sandiegoite.org/wp-content/uploads/2012/08/VMT-Paper_Final.pdf

2008 Base Year					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
			I-I	I-E and E-I	
CARLSBAD TOTAL	3,226,945	9,195	-	9,195	3,217,750
CHULA VISTA TOTAL	3,877,838	35,745	-	35,745	3,842,093
CORONADO TOTAL	427,628	5,943	-	5,943	421,685
DEL MAR TOTAL	96,975	229	-	229	96,746
EL CAJON TOTAL	2,171,522	23,965	-	23,965	2,147,557
ENCINITAS TOTAL	1,996,144	13,450	-	13,450	1,982,694
ESCONDIDO TOTAL	2,809,079	12,290	-	12,290	2,796,789
External TOTAL	347,602	2,192	-	2,192	345,410
IMPERIAL BEACH TOTAL	118,009	433	-	433	117,576
LA MESA TOTAL	1,822,372	45,198	-	45,198	1,777,174
LEMON GROVE TOTAL	830,773	6,811	-	6,811	823,962
NATIONAL CITY TOTAL	1,608,147	26,544	-	26,544	1,581,603
OCEANSIDE TOTAL	3,124,343	4,281	-	4,281	3,120,062
POWAY TOTAL	1,105,892	3,705	-	3,705	1,102,187
Phyllis PI Study Area TOTAL	1,847,366	424,754	57,236	367,518	1,422,612
SAN DIEGO TOTAL	36,209,407	966,595	-	966,595	35,242,812
SAN MARCOS TOTAL	1,998,374	3,574	-	3,574	1,994,800
SANTEE TOTAL	857,520	6,219	-	6,219	851,301
SOLANA BEACH TOTAL	521,676	4,220	-	4,220	517,456
Unincorporated TOTAL	17,154,226	70,688	-	70,688	17,083,538
VISTA TOTAL	1,658,764	817	-	817	1,657,947
REGIONWIDE TOTAL	83,810,602	1,666,848	57,236	1,609,612	82,143,754

2017 With Connection					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
		I-I, I-E and E-I	I-I	I-E and E-I	
CARLSBAD TOTAL	3,617,729	13,088	-	13,088	3,604,641
CHULA VISTA TOTAL	4,514,184	44,547	-	44,547	4,469,637
CORONADO TOTAL	445,226	6,913	-	6,913	438,313
DEL MAR TOTAL	100,883	301	-	301	100,582
EL CAJON TOTAL	2,263,527	27,567	-	27,567	2,235,960
ENCINITAS TOTAL	2,190,172	16,369	-	16,369	2,173,803
ESCONDIDO TOTAL	3,044,540	14,587	-	14,587	3,029,953
External TOTAL	401,558	2,671	-	2,671	398,887
IMPERIAL BEACH TOTAL	124,238	482	-	482	123,756
LA MESA TOTAL	1,898,032	51,216	-	51,216	1,846,816
LEMON GROVE TOTAL	871,670	7,807	-	7,807	863,863
NATIONAL CITY TOTAL	1,759,108	32,315	-	32,315	1,726,793
OCEANSIDE TOTAL	3,438,028	4,691	-	4,691	3,433,337
POWAY TOTAL	1,134,929	4,376	-	4,376	1,130,553
Phyllis PI Study Area TOTAL	2,040,522	521,826	79,384	442,442	1,518,696
SAN DIEGO TOTAL	39,449,839	1,180,241	-	1,180,241	38,269,598
SAN MARCOS TOTAL	2,188,902	4,066	-	4,066	2,184,836
SANTEE TOTAL	905,103	7,716	-	7,716	897,387
SOLANA BEACH TOTAL	599,630	6,019	-	6,019	593,611
Unincorporated TOTAL	19,183,106	87,547	-	87,547	19,095,559
VISTA TOTAL	1,820,597	841	-	841	1,819,756
REGIONWIDE TOTAL	91,991,523	2,035,186	79,384	1,955,802	89,956,337

2017 Without Connection					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
		I-I, I-E and E-I	I-I	I-E and E-I	E-E
CARLSBAD TOTAL	3,617,667	12,782	-	12,782	3,604,885
CHULA VISTA TOTAL	4,512,762	44,241	-	44,241	4,468,521
CORONADO TOTAL	444,755	7,022	-	7,022	437,733
DEL MAR TOTAL	100,958	288	-	288	100,670
EL CAJON TOTAL	2,263,675	27,965	-	27,965	2,235,710
ENCINITAS TOTAL	2,190,862	15,983	-	15,983	2,174,879
ESCONDIDO TOTAL	3,044,090	14,634	-	14,634	3,029,456
External TOTAL	401,544	2,681	-	2,681	398,863
IMPERIAL BEACH TOTAL	124,117	488	-	488	123,629
LA MESA TOTAL	1,899,106	52,096	-	52,096	1,847,010
LEMON GROVE TOTAL	871,927	7,551	-	7,551	864,376
NATIONAL CITY TOTAL	1,759,278	32,151	-	32,151	1,727,127
OCEANSIDE TOTAL	3,439,724	4,555	-	4,555	3,435,169
POWAY TOTAL	1,135,342	4,329	-	4,329	1,131,013
Phyllis PI Study Area TOTAL	2,055,012	531,382	83,182	448,200	1,523,630
SAN DIEGO TOTAL	39,454,336	1,172,142	-	1,172,142	38,282,194
SAN MARCOS TOTAL	2,189,225	4,115	-	4,115	2,185,110
SANTEE TOTAL	905,078	7,874	-	7,874	897,204
SOLANA BEACH TOTAL	599,989	5,867	-	5,867	594,122

Unincorporated TOTAL	19,186,130	88,062	-	88,062	19,098,068
VISTA TOTAL	1,820,792	875	-	875	1,819,917
REGIONWIDE TOTAL	92,016,369	2,037,083	83,182	1,953,901	89,979,286

Percent Change Between 2017 With Connection AND 2017 Without Connection					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
		I-I, I-E and E-I	I-I	I-E and E-I	E-E
CARLSBAD TOTAL	0.00%	2.39%	0.00%	2.39%	-0.01%
CHULA VISTA TOTAL	0.03%	0.69%	0.00%	0.69%	0.02%
CORONADO TOTAL	0.11%	-1.55%	0.00%	-1.55%	0.13%
DEL MAR TOTAL	-0.07%	4.51%	0.00%	4.51%	-0.09%
EL CAJON TOTAL	-0.01%	-1.42%	0.00%	-1.42%	0.01%
ENCINITAS TOTAL	-0.03%	2.42%	0.00%	2.42%	-0.05%
ESCONDIDO TOTAL	0.01%	-0.32%	0.00%	-0.32%	0.02%
External TOTAL	0.00%	-0.37%	0.00%	-0.37%	0.01%
IMPERIAL BEACH TOTAL	0.10%	-1.23%	0.00%	-1.23%	0.10%
LA MESA TOTAL	-0.06%	-1.69%	0.00%	-1.69%	-0.01%
LEMON GROVE TOTAL	-0.03%	3.39%	0.00%	3.39%	-0.06%
NATIONAL CITY TOTAL	-0.01%	0.51%	0.00%	0.51%	-0.02%
OCEANSIDE TOTAL	-0.05%	2.99%	0.00%	2.99%	-0.05%
POWAY TOTAL	-0.04%	1.09%	0.00%	1.09%	-0.04%
Phyllis Pl Study Area TOTAL	-0.71%	-1.80%	-4.57%	-1.28%	-0.32%
SAN DIEGO TOTAL	-0.01%	0.69%	0.00%	0.69%	-0.03%
SAN MARCOS TOTAL	-0.01%	-1.19%	0.00%	-1.19%	-0.01%
SANTEE TOTAL	0.00%	-2.01%	0.00%	-2.01%	0.02%
SOLANA BEACH TOTAL	-0.06%	2.59%	0.00%	2.59%	-0.09%
Unincorporated TOTAL	-0.02%	-0.58%	0.00%	-0.58%	-0.01%
VISTA TOTAL	-0.01%	-3.89%	0.00%	-3.89%	-0.01%
REGIONWIDE TOTAL	-0.03%	-0.09%	-4.57%	0.10%	-0.03%

2035 With Connection					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
			I-I	I-E and E-I	
CARLSBAD TOTAL	4,280,985	17,902	-	17,902	4,263,083
CHULA VISTA TOTAL	5,560,953	61,573	-	61,573	5,499,380
CORONADO TOTAL	460,416	9,138	-	9,138	451,278
DEL MAR TOTAL	100,157	373	-	373	99,784
EL CAJON TOTAL	2,424,920	37,208	-	37,208	2,387,712
ENCINITAS TOTAL	2,519,222	21,619	-	21,619	2,497,603
ESCONDIDO TOTAL	3,435,800	18,386	-	18,386	3,417,414
External TOTAL	527,677	4,494	-	4,494	523,183
IMPERIAL BEACH TOTAL	130,345	499	-	499	129,846
LA MESA TOTAL	2,073,150	74,592	-	74,592	1,998,558
LEMON GROVE TOTAL	949,320	7,089	-	7,089	942,231
NATIONAL CITY TOTAL	1,944,596	42,272	-	42,272	1,902,324
OCEANSIDE TOTAL	4,030,824	6,382	-	6,382	4,024,442
POWAY TOTAL	1,292,770	5,749	-	5,749	1,287,021
Phyllis PI Study Area TOTAL	2,349,333	720,196	116,509	603,687	1,629,137
SAN DIEGO TOTAL	44,330,888	1,598,161	-	1,598,161	42,732,727
SAN MARCOS TOTAL	2,606,878	4,434	-	4,434	2,602,444
SANTEE TOTAL	1,333,222	10,832	-	10,832	1,322,390
SOLANA BEACH TOTAL	703,747	7,916	-	7,916	695,831
Unincorporated TOTAL	24,503,208	130,387	-	130,387	24,372,821
VISTA TOTAL	2,174,525	815	-	815	2,173,710
REGIONWIDE TOTAL	107,732,936	2,780,017	116,509	2,663,508	104,952,919

2035 Without Connection					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
		I-I, I-E and E-I	I-I	I-E and E-I	
CARLSBAD TOTAL	4,281,977	17,485	-	17,485	4,264,492
CHULA VISTA TOTAL	5,560,992	60,910	-	60,910	5,500,082
CORONADO TOTAL	460,549	9,321	-	9,321	451,228
DEL MAR TOTAL	100,058	347	-	347	99,711
EL CAJON TOTAL	2,425,507	37,559	-	37,559	2,387,948
ENCINITAS TOTAL	2,521,012	21,028	-	21,028	2,499,984
ESCONDIDO TOTAL	3,436,996	18,542	-	18,542	3,418,454
External TOTAL	527,671	4,478	-	4,478	523,193
IMPERIAL BEACH TOTAL	130,460	489	-	489	129,971
LA MESA TOTAL	2,072,764	75,720	-	75,720	1,997,044
LEMON GROVE TOTAL	949,843	6,799	-	6,799	943,044
NATIONAL CITY TOTAL	1,944,105	41,699	-	41,699	1,902,406
OCEANSIDE TOTAL	4,031,757	6,211	-	6,211	4,025,546
POWAY TOTAL	1,291,719	5,749	-	5,749	1,285,970
Phyllis PI Study Area TOTAL	2,367,056	733,403	121,529	611,874	1,633,653
SAN DIEGO TOTAL	44,345,463	1,587,564	-	1,587,564	42,757,899
SAN MARCOS TOTAL	2,606,304	4,507	-	4,507	2,601,797
SANTEE TOTAL	1,334,217	11,090	-	11,090	1,323,127
SOLANA BEACH TOTAL	704,073	7,656	-	7,656	696,417
Unincorporated TOTAL	24,497,683	130,753	-	130,753	24,366,930
VISTA TOTAL	2,175,819	836	-	836	2,174,983
REGIONWIDE TOTAL	107,766,025	2,782,146	121,529	2,660,617	104,983,879

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JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
		I-I, I-E and E-I	I-I	I-E and E-I	E-E
CARLSBAD TOTAL	-	-	-	-	-
CHULA VISTA TOTAL	-	-	-	-	-
CORONADO TOTAL	-	-	-	-	-
DEL MAR TOTAL	-	-	-	-	-
EL CAJON TOTAL	-	-	-	-	-
ENCINITAS TOTAL	-	-	-	-	-
ESCONDIDO TOTAL	-	-	-	-	-
External TOTAL	-	-	-	-	-
IMPERIAL BEACH TOTAL	-	-	-	-	-
LA MESA TOTAL	-	-	-	-	-
LEMON GROVE TOTAL	-	-	-	-	-
NATIONAL CITY TOTAL	-	-	-	-	-
OCEANSIDE TOTAL	-	-	-	-	-
POWAY TOTAL	-	-	-	-	-
Phyllis PI Study Area TOTAL	-	-	#DIV/0!	#DIV/0!	-
SAN DIEGO TOTAL	-	-	-	-	-
SAN MARCOS TOTAL	-	-	-	-	-
SANTEE TOTAL	-	-	-	-	-
SOLANA BEACH TOTAL	-	-	-	-	-

Unincorporated TOTAL	-	-	-	-	-
VISTA TOTAL	-	-	-	-	-
REGIONWIDE TOTAL	-	-	#DIV/0!	#DIV/0!	-

Percent Change Between 2035 Without Connection AND					
JURISDICTION	TOTAL VMT	TOTAL Phyllis Place VMT	Two Trip End Phyllis Place VMT	One Trip End Phyllis Place VMT	NON-Phyllis Place VMT
		I-I, I-E and E-I	I-I	I-E and E-I	E-E
CARLSBAD TOTAL	-0.02%	2.38%	0.00%	2.38%	-0.03%
CHULA VISTA TOTAL	0.00%	1.09%	0.00%	1.09%	-0.01%
CORONADO TOTAL	-0.03%	-1.96%	0.00%	-1.96%	0.01%
DEL MAR TOTAL	0.10%	7.49%	0.00%	7.49%	0.07%
EL CAJON TOTAL	-0.02%	-0.93%	0.00%	-0.93%	-0.01%
ENCINITAS TOTAL	-0.07%	2.81%	0.00%	2.81%	-0.10%
ESCONDIDO TOTAL	-0.03%	-0.84%	0.00%	-0.84%	-0.03%
External TOTAL	0.00%	0.36%	0.00%	0.36%	0.00%
IMPERIAL BEACH TOTAL	-0.09%	2.04%	0.00%	2.04%	-0.10%
LA MESA TOTAL	0.02%	-1.49%	0.00%	-1.49%	0.08%
LEMON GROVE TOTAL	-0.06%	4.27%	0.00%	4.27%	-0.09%
NATIONAL CITY TOTAL	0.03%	1.37%	0.00%	1.37%	0.00%
OCEANSIDE TOTAL	-0.02%	2.75%	0.00%	2.75%	-0.03%
POWAY TOTAL	0.08%	0.00%	0.00%	0.00%	0.08%
Phyllis Pl Study Area TOTAL	-0.75%	-1.80%	-4.13%	-1.34%	-0.28%
SAN DIEGO TOTAL	-0.03%	0.67%	0.00%	0.67%	-0.06%
SAN MARCOS TOTAL	0.02%	-1.62%	0.00%	-1.62%	0.02%
SANTEE TOTAL	-0.07%	-2.33%	0.00%	-2.33%	-0.06%
SOLANA BEACH TOTAL	-0.05%	3.40%	0.00%	3.40%	-0.08%
Unincorporated TOTAL	0.02%	-0.28%	0.00%	-0.28%	0.02%
VISTA TOTAL	-0.06%	-2.51%	0.00%	-2.51%	-0.06%
REGIONWIDE TOTAL	-0.03%	-0.08%	-4.13%	0.11%	-0.03%