

Appendix Q: VMT Analysis

To: San Diego Association of Governments and Caltrans District 11

From: North County Comprehensive Multimodal Corridor Plan Project Team

Date: October 2022

Subject: North County Comprehensive Multimodal Corridor Plan – Vehicle Miles Traveled (VMT) Analysis

Overview

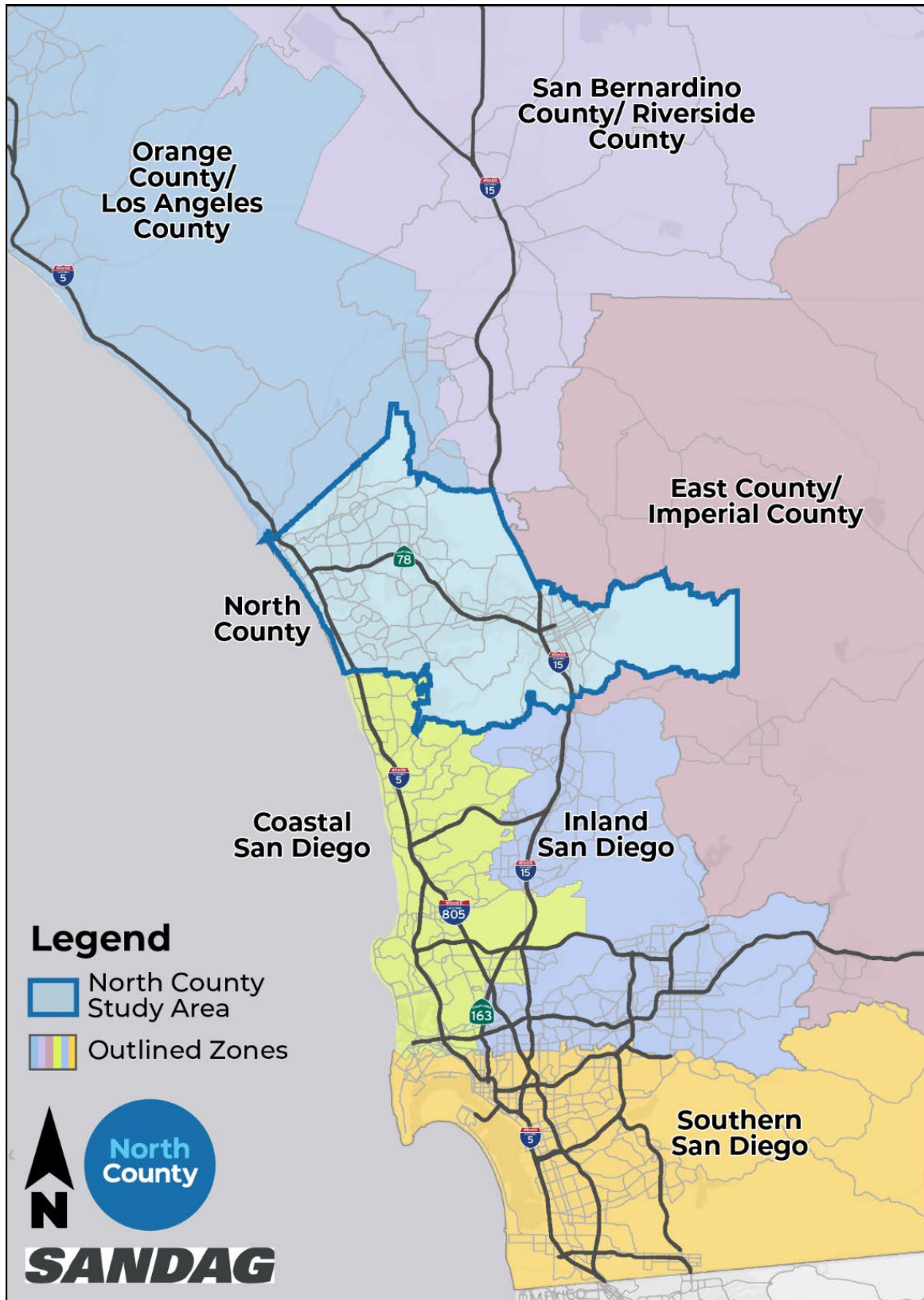
The North County Comprehensive Multimodal Corridor Plan (CMCP) identifies integrated transportation solutions that enhance the way people travel throughout North County. To help the project team identify issues within the study area and develop a transportation solutions strategy, the North County CMCP project team performed a Vehicle Miles Traveled (VMT) Analysis utilizing Big Data analytics from the StreetLight Insight platform.

VMT is a key performance measure for environmental impacts to the transportation system and is used to measure progress towards local, regional, and state goals. This memo documents the methodology developed to calculate VMT as it relates to the study area and includes a summary of the results.

Data and Methodology

User trips to, from, and through the study area were evaluated with subsets (e.g. time of day, weekday, weekend) defined to perform the analyses and provide a deeper understanding of the study area. The StreetLight volumes for 2016 through 2019 were generated and the resulting Block Group data was grouped into larger regions to summarize the findings (**Figure 1**).

Figure 1: StreetLight Analysis – Regions



Findings

Table 1 and **Table 2** provide a summary of the VMT and total trips by region area including the North County subregion. For the existing transportation system, the North County area sees a daily VMT of almost 8,500,000 in 2019. Compared to a daily VMT of just over 9,700,000 in 2016, the estimated VMT in the study area has decreased by approximately 13 percent. **Table 3** to **Table 14** provide a summary of the VMT analysis by trip type for trips starting in the subregion, trips ending in the subregion and internal and external trips to the subregion.

Table 15 provides a summary of the VMT between 2018 and 2021 for North County trips, internal trips and external trips. **Table 16** provides a summary of the VMT between 2018 and 2021 for external trips to and from the subregion and surrounding regions. Of the trips contributing to the estimated VMT, 75 percent are internal to the North County study area indicating an opportunity to reduce VMT by developing a competitive transit network and safer active transportation facilities.

Figure 2 displays the annual average daily traffic (AADT) and population over time for State Route 78 (SR 78). It shows an increase in both population and AADT overtime. **Figure 3** displays the gas prices, VMT of internal trips, and VMT of total trips annually for 2019, 2020, and 2021 and monthly between January 2021 and April 2022. **Figure 4** and **Figure 5** display the VMT trends overtime for the no build and build scenario of the region and North County subregion.

Table 1: VMT Summary (2016 - 2019)

VMT by Region Area	2016	2017	2018	2019
North County Only	9,709,543	9,696,709	8,430,226	8,483,036
Inland San Diego	3,294,059	3,169,494	3,097,907	3,256,288
Coastal San Diego	4,712,619	4,589,095	4,203,392	4,564,929
San Bernardino County/Riverside County	1,423,974	2,017,299	2,818,731	3,056,558
Orange County/Los Angeles County	2,092,662	2,834,878	3,466,236	3,849,959
East County/Imperial County	624,457	767,720	805,784	877,746
Southern San Diego	2,185,425	2,016,481	2,092,487	2,199,351
Other	34,302	177,085	301,231	336,569
Total	24,077,040	25,268,762	25,215,995	26,624,436

Source: StreetLight Analytics

Table 2: Total Trips Summary (2016 - 2019)

Trip by Region Area	2016	2017	2018	2019
North County Only	1,891,877	1,906,756	1,706,148	1,592,281
Inland San Diego	146,813	140,476	133,343	268,144
Coastal San Diego	257,191	253,636	227,674	2,473
San Bernardino County/Riverside County	39,579	53,687	70,415	75,396
Orange County/Los Angeles County	83,732	93,632	102,233	58,273
East County/Imperial County	53,272	62,787	59,327	140,968
Southern San Diego	50,489	46,355	49,320	52,185
Other	514	1,524	2,349	110,123
Total	2,523,467	2,558,853	2,350,809	2,299,843

Source: StreetLight Analytics

Table 3: VMT Analysis by Trip Type for Trips Starting in Study Area (2016)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Inland San Diego	72,658	3.3%	1,630,639.6	9.6%	22.4	23,431	1.1%	517,714.1	3.1%	22.1	25,223	1.1%	562,496.3	3.1%	22.3	24,005	1.1%	550,429.2	3.1%	22.9
Orange County/Los Angeles County	41,683	1.9%	1,049,856.9	6.2%	25.2	9,646	0.4%	269,498.9	1.6%	27.9	18,030	0.8%	397,174.9	1.6%	22.0	13,716	0.6%	355,935.8	1.6%	26.0
East County/Imperial County	26,897	1.2%	308,131.8	1.8%	11.5	5,074	0.2%	59,784.7	0.4%	11.8	14,220	0.6%	155,655.6	0.4%	10.9	7,602	0.3%	92,691.6	0.4%	12.2
Other	267	0.0%	17,926.8	0.1%	67.1	14	0.0%	2,431.2	0.0%	179.3	76	0.0%	6,886.5	0.0%	91.0	161	0.0%	5,361.9	0.0%	33.3
San Bernardino County/Riverside County	19,831	0.9%	715,616.3	4.2%	36.1	5,196	0.2%	193,322.4	1.1%	37.2	7,559	0.3%	258,249.1	1.1%	34.2	7,008	0.3%	257,417.6	1.1%	36.7
Southern San Diego	25,486	1.2%	1,100,744.0	6.5%	43.2	6,329	0.3%	270,410.6	1.6%	42.7	9,844	0.4%	423,403.2	1.6%	43.0	9,313	0.4%	406,930.2	1.6%	43.7
Coastal San Diego	130,279	5.9%	2,400,064.3	14.2%	18.4	37,899	1.7%	753,665.0	4.5%	19.9	46,868	2.1%	801,608.0	4.5%	17.1	45,512	2.1%	844,791.3	4.5%	18.6

Source: StreetLight Analytics

Table 4: VMT Analysis by Trip Type for Trips Ending in Study Area (2016)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Inland San Diego	74,155	3.4%	1,663,418.9	9.9%	22.4	21,501	1.0%	489,697.1	2.9%	22.8	26,162	1.2%	580,131.7	2.9%	22.2	26,492	1.2%	593,590.2	2.9%	22.4
Orange County/Los Angeles County	42,049	1.9%	1,042,805.2	6.2%	24.8	9,157	0.4%	246,900.0	1.5%	27.0	17,091	0.8%	384,451.9	1.5%	22.5	15,521	0.7%	385,105.6	1.5%	24.8
East County/Imperial County	26,375	1.2%	316,325.1	1.9%	12.0	6,062	0.3%	74,509.1	0.4%	12.3	12,634	0.6%	143,482.2	0.4%	11.4	7,679	0.3%	98,333.8	0.4%	12.8
Other	247	0.0%	16,374.7	0.1%	66.3	13	0.0%	2,218.7	0.0%	169.0	61	0.0%	5,444.7	0.0%	89.9	152	0.0%	4,107.4	0.0%	27.0
San Bernardino County/Riverside County	19,748	0.9%	708,358.1	4.2%	35.9	5,828	0.3%	217,676.6	1.3%	37.4	7,275	0.3%	257,144.0	1.3%	35.3	6,590	0.3%	227,987.2	1.3%	34.6
Southern San Diego	25,003	1.1%	1,084,681.1	6.4%	43.4	6,052	0.3%	259,329.3	1.5%	42.9	9,292	0.4%	402,469.2	1.5%	43.3	9,657	0.4%	422,792.4	1.5%	43.8
Coastal San Diego	126,912	5.8%	2,312,554.4	13.7%	18.2	32,447	1.5%	632,302.3	3.8%	19.5	46,746	2.1%	774,042.3	3.8%	16.6	47,718	2.2%	906,209.8	3.8%	19.0

Source: StreetLight Analytics

Table 5: VMT Trips by Trip Type – Internal and External Trips (2016)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
North County CMCP Study Area	1,891,877	75.0%	9,709,543.0	40.3%	5.1	331,503	66.3%	1,723,098.0	30.2%	5.2	843,089	77.8%	4,302,850.5	45.5%	5.1	717,286	76.4%	3,688,465.4	41.7%	5.1
External	631,590	25.0%	14,367,497.2	59.7%	22.7	168,648	33.7%	3,989,460.0	69.8%	23.7	241,080	22.2%	5,152,639.7	54.5%	21.4	221,127	23.6%	5,151,683.9	58.3%	23.3
Total	2,523,467	100.0%	24,077,040.2	100.0%	9.5	500,150	100.0%	5,712,557.9	100.0%	11.4	1,084,169	100.0%	9,455,490.2	100.0%	8.7	938,413	100.0%	8,840,149.2	100.0%	9.4

Source: StreetLight Analytics

Table 6: VMT Analysis by Trip Type for Trips Starting in Study Area (2017)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Inland San Diego	69,821	3.1%	1,576,334.9	9.0%	22.6	23,479	1.1%	521,606.8	3.0%	22.2	24,023	1.1%	542,633.9	3.0%	22.6	22,319	1.0%	512,094.3	3.0%	22.9
Orange County/Los Angeles County	47,566	2.1%	1,462,397.0	8.3%	30.7	12,613	0.6%	393,069.5	2.2%	31.2	18,647	0.8%	520,740.2	2.2%	27.9	15,445	0.7%	465,585.8	2.2%	30.1
East County/Imperial County	31,100	1.4%	371,935.4	2.1%	12.0	6,587	0.3%	85,558.4	0.5%	13.0	16,135	0.7%	182,421.6	0.5%	11.3	8,371	0.4%	103,005.5	0.5%	12.3
Other	730	0.0%	78,815.1	0.4%	108.0	22	0.0%	4,457.2	0.0%	199.9	184	0.0%	21,209.4	0.0%	115.3	412	0.0%	23,236.9	0.0%	56.4
San Bernardino County/Riverside County	25,514	1.1%	951,584.7	5.4%	37.3	7,171	0.3%	263,029.7	1.5%	36.7	9,891	0.4%	357,108.7	1.5%	36.1	8,215	0.4%	308,369.2	1.5%	37.5
Southern San Diego	23,709	1.1%	1,030,477.9	5.9%	43.5	6,506	0.3%	280,238.5	1.6%	43.1	9,160	0.4%	397,949.5	1.6%	43.4	8,044	0.4%	352,290.0	1.6%	43.8
Coastal San Diego	130,427	5.8%	2,387,363.6	13.6%	18.3	40,251	1.8%	820,386.1	4.7%	20.4	45,074	2.0%	754,631.9	4.7%	16.7	45,102	2.0%	812,345.6	4.7%	18.0

Source: StreetLight Analytics

Table 7: VMT Analysis by Trip Type for Trips Ending in Study Area (2017)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Inland San Diego	70,655	3.2%	1,593,159.5	9.2%	22.5	21,349	1.0%	487,115.5	2.8%	22.8	24,717	1.1%	557,997.3	2.8%	22.6	24,589	1.1%	548,046.7	2.8%	22.3
Orange County/Los Angeles County	46,066	2.1%	1,372,480.9	7.9%	29.8	10,935	0.5%	328,501.9	1.9%	30.0	17,562	0.8%	483,548.8	1.9%	27.5	16,688	0.7%	476,624.4	1.9%	28.6
East County/Imperial County	31,687	1.4%	395,784.8	2.3%	12.5	8,072	0.4%	108,298.4	0.6%	13.4	14,940	0.7%	177,089.7	0.6%	11.9	8,663	0.4%	108,643.8	0.6%	12.5
Other	794	0.0%	98,269.9	0.6%	123.8	33	0.0%	6,843.9	0.0%	210.1	215	0.0%	28,605.3	0.0%	133.2	386	0.0%	18,811.4	0.0%	48.8
San Bernardino County/Riverside County	28,173	1.3%	1,065,714.5	6.1%	37.8	10,042	0.5%	373,411.3	2.1%	37.2	10,138	0.5%	380,201.7	2.1%	37.5	7,785	0.3%	291,723.4	2.1%	37.5
Southern San Diego	22,646	1.0%	986,003.1	5.7%	43.5	5,941	0.3%	257,222.1	1.5%	43.3	8,277	0.4%	359,780.5	1.5%	43.5	8,427	0.4%	368,958.8	1.5%	43.8
Coastal San Diego	123,209	5.5%	2,201,731.7	12.7%	17.9	32,636	1.5%	628,355.9	3.6%	19.3	44,325	2.0%	722,685.4	3.6%	16.3	46,248	2.1%	850,690.4	3.6%	18.4

Source: StreetLight Analytics

Table 8: VMT Analysis by Trip Type – Internal and External Trips (2017)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
North County CMCP Study Area	1,906,756	74.5%	9,696,708.5	38.4%	5.1	353,568	65.6%	1,822,448.1	28.6%	5.2	818,981	77.1%	4,141,872.3	43.0%	5.1	734,207	76.9%	3,738,229.3	41.6%	5.1
External	652,097	25.5%	15,572,053.0	61.6%	23.9	185,637	34.4%	4,558,095.0	71.4%	24.6	243,288	22.9%	5,486,603.8	57.0%	22.6	220,694	23.1%	5,240,425.9	58.4%	23.7
Total	2,558,853	100.0%	25,268,761.5	100.0%	9.9	539,205	100.0%	6,380,543.1	100.0%	11.8	1,062,269	100.0%	9,628,476.1	100.0%	9.1	954,901	100.0%	8,978,655.2	100.0%	9.4

Source: StreetLight Analytics

Table 9: VMT Analysis by Trip Type for Trips Starting in Study Area (2018)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Inland San Diego	66,236	3.3%	1,542,854.0	9.1%	23.3	22,079	1.1%	505,670.7	3.0%	22.9	24,727	1.2%	574,666.2	3.0%	23.2	19,429	1.0%	462,517.1	3.0%	23.8
Orange County/Los Angeles County	51,392	2.5%	1,764,754.1	10.5%	34.3	14,107	0.7%	450,216.6	2.7%	31.9	21,507	1.1%	684,459.1	2.7%	31.8	14,763	0.7%	531,522.7	2.7%	36.0
East County/Imperial County	29,864	1.5%	402,792.0	2.4%	13.5	6,357	0.3%	89,739.4	0.5%	14.1	16,478	0.8%	206,170.8	0.5%	12.5	7,013	0.3%	104,601.5	0.5%	14.9
Other	1,181	0.1%	147,028.9	0.9%	124.5	49	0.0%	8,109.6	0.0%	165.8	359	0.0%	46,716.5	0.0%	130.1	606	0.0%	48,468.4	0.0%	80.0
San Bernardino County/Riverside County	34,401	1.7%	1,372,891.0	8.1%	39.9	9,852	0.5%	376,220.0	2.2%	38.2	14,400	0.7%	562,843.4	2.2%	39.1	9,901	0.5%	409,476.8	2.2%	41.4
Southern San Diego	24,932	1.2%	1,056,976.8	6.3%	42.4	6,605	0.3%	277,498.5	1.6%	42.0	10,512	0.5%	445,460.5	1.6%	42.4	7,816	0.4%	334,017.7	1.6%	42.7
Coastal San Diego	116,411	5.7%	2,167,776.6	12.8%	18.6	35,678	1.8%	738,217.8	4.4%	20.7	43,669	2.2%	751,871.5	4.4%	17.2	37,064	1.8%	677,687.3	4.4%	18.3

Source: StreetLight Analytics

Table 10: VMT Analysis by Trip Type for Trips Ending in Study Area (2018)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Inland San Diego	67,107	3.3%	1,555,053.2	9.3%	23.2	20,930	1.0%	489,868.3	2.9%	23.4	25,545	1.3%	589,750.6	2.9%	23.1	20,632	1.0%	475,434.3	2.9%	23.0
Orange County/Los Angeles County	50,841	2.5%	1,701,481.5	10.2%	33.5	12,903	0.6%	407,890.1	2.4%	31.6	21,023	1.0%	659,725.2	2.4%	31.4	15,962	0.8%	542,738.2	2.4%	34.0
East County/Imperial County	29,463	1.5%	402,992.4	2.4%	13.7	7,291	0.4%	104,697.6	0.6%	14.4	15,240	0.8%	197,098.0	0.6%	12.9	6,917	0.3%	99,019.5	0.6%	14.3
Other	1,168	0.1%	154,202.0	0.9%	132.0	41	0.0%	7,284.3	0.0%	178.7	375	0.0%	55,651.5	0.0%	148.6	575	0.0%	43,584.8	0.0%	75.8
San Bernardino County/Riverside County	36,014	1.8%	1,445,839.9	8.6%	40.1	13,054	0.6%	494,140.3	2.9%	37.9	14,167	0.7%	567,479.6	2.9%	40.1	8,568	0.4%	362,569.1	2.9%	42.3
Southern San Diego	24,388	1.2%	1,035,510.6	6.2%	42.5	6,323	0.3%	266,774.9	1.6%	42.2	9,779	0.5%	415,946.7	1.6%	42.5	8,286	0.4%	352,789.0	1.6%	42.6
Coastal San Diego	111,263	5.5%	2,035,615.4	12.1%	18.3	29,764	1.5%	589,940.1	3.5%	19.8	43,246	2.1%	729,846.6	3.5%	16.9	38,253	1.9%	715,828.7	3.5%	18.7

Source: StreetLight Analytics

Table 11: VMT Analysis by Trip Type – Internal and External Trips (2018)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
North County CMCP Study Area	1,706,148	72.6%	8,430,226.2	33.4%	4.9	314,807	63.0%	1,576,475.5	24.7%	5.0	791,666	75.2%	3,887,402.9	37.5%	4.9	599,674	75.4%	2,974,193.8	36.6%	5.0
External	644,661	27.4%	16,785,768.4	66.6%	26.0	185,033	37.0%	4,806,268.1	75.3%	26.0	261,027	24.8%	6,487,686.4	62.5%	24.9	195,785	24.6%	5,160,255.1	63.4%	26.4
Total	2,350,809	100.0%	25,215,994.6	100.0%	10.7	499,840	100.0%	6,382,743.6	100.0%	12.8	1,052,693	100.0%	10,375,089.3	100.0%	9.9	795,459	100.0%	8,134,448.9	100.0%	10.2

Source: StreetLight Analytics

Table 12: VMT Analysis by Trip Type for Trips Starting in Study Area (2019)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Coastal San Diego	133,413	6.9%	2,285,216.8	13.0%	17.1	31,136	1.6%	598,423.6	3.4%	19.2	53,165	2.7%	840,406.9	3.4%	15.8	49,113	2.5%	846,386.3	3.4%	17.2
East County/Imperial County	30,035	1.5%	444,543.3	2.5%	14.8	5,405	0.3%	82,191.5	0.5%	15.2	17,627	0.9%	242,825.5	0.5%	13.8	7,003	0.4%	119,526.3	0.5%	17.1
Inland San Diego	69,796	3.6%	1,623,365.0	9.2%	23.3	19,560	1.0%	450,557.9	2.6%	23.0	27,370	1.4%	632,766.5	2.6%	23.1	22,867	1.2%	540,040.6	2.6%	23.6
Orange County/Los Angeles County	55,284	2.8%	1,944,032.8	11.1%	35.2	12,115	0.6%	367,902.7	2.1%	30.4	24,972	1.3%	843,967.5	2.1%	33.8	18,179	0.9%	730,300.4	2.1%	40.2
San Bernardino County/Riverside County	38,283	2.0%	1,541,732.8	8.8%	40.3	9,145	0.5%	349,922.7	2.0%	38.3	17,416	0.9%	692,844.6	2.0%	39.8	11,716	0.6%	498,419.0	2.0%	42.5
Southern San Diego	25,979	1.3%	1,096,904.8	6.2%	42.2	5,318	0.3%	225,109.7	1.3%	42.3	10,808	0.6%	457,236.0	1.3%	42.3	9,853	0.5%	414,559.1	1.3%	42.1
Other	1,191	0.1%	162,508.9	0.9%	136.4	45	0.0%	7,920.3	0.0%	177.6	380	0.0%	65,291.4	0.0%	171.7	760	0.0%	87,514.8	0.0%	115.1

Source: StreetLight Analytics

Table 13: VMT Analysis by Trip Type for Trips Ending in Study Area (2019)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
Coastal San Diego	134,731	6.9%	2,279,712.1	13.0%	16.9	27,815	1.4%	520,163.7	3.0%	18.7	59,229	3.0%	928,626.7	3.0%	15.7	47,687	2.5%	830,921.6	3.0%	17.4
East County/Imperial County	28,238	1.5%	433,202.8	2.5%	15.3	5,867	0.3%	92,198.1	0.5%	15.7	13,802	0.7%	203,366.7	0.5%	14.7	8,569	0.4%	137,638.1	0.5%	16.1
Inland San Diego	71,172	3.7%	1,632,922.9	9.3%	22.9	18,580	1.0%	430,814.4	2.5%	23.2	28,374	1.5%	644,874.3	2.5%	22.7	24,218	1.2%	557,234.2	2.5%	23.0
Orange County/Los Angeles County	54,839	2.8%	1,905,925.7	10.9%	34.8	11,551	0.6%	350,471.0	2.0%	30.3	23,695	1.2%	834,274.0	2.0%	35.2	19,575	1.0%	719,476.1	2.0%	36.8
San Bernardino County/Riverside County	37,113	1.9%	1,514,825.3	8.6%	40.8	10,474	0.5%	399,797.5	2.3%	38.2	14,983	0.8%	624,089.8	2.3%	41.7	11,652	0.6%	490,569.7	2.3%	42.1
Southern San Diego	26,206	1.3%	1,102,446.3	6.3%	42.1	5,355	0.3%	226,670.4	1.3%	42.3	11,187	0.6%	469,481.6	1.3%	42.0	9,664	0.5%	406,294.3	1.3%	42.0
Other	1,282	0.1%	174,060.3	1.0%	135.8	52	0.0%	9,343.2	0.1%	179.1	494	0.0%	86,340.5	0.1%	174.7	731	0.0%	77,064.2	0.1%	105.5

Source: StreetLight Analytics

Table 14: VMT Analysis by Trip Type – Internal and External (2019)

Zone	All Trip Types: Estimated Trips	All Trip Types: Percent of Total Trips	All Trip Types: Estimated VMT	All Trip Types: Percent of Total VMT	All Trip Types: Weighted Avg. Trip Length	HBW Types: Estimated Trips	HBW Types: Percent of Total Trips	HBW Types: Estimated VMT	HBW Types: Percent of Total VMT	HBW Types: Weighted Avg Trip Length	HBO Types: Estimated Trips	HBO Types: Percent of Total Trips	HBO Types: Estimated VMT	HBO Types: Percent of Total VMT	HBO Types: Weighted Avg Trip Length	NHB Types: Estimated Trips	NHB Types: Percent of Total Trips	NHB Types: Estimated VMT	NHB Types: Percent of Total VMT	NHB Types: Weighted Avg Trip Length
North County CMCP Study Area	1,592,281	69.2%	8,483,036.3	31.9%	5.3	270,704	62.5%	1,456,328.8	26.2%	5.4	748,436	71.1%	3,976,945.9	34.5%	5.3	573,141	70.3%	3,058,852.4	32.1%	5.3
External	707,562	30.8%	18,141,399.8	68.1%	25.6	162,416	37.5%	4,111,486.6	73.8%	25.3	303,503	28.9%	7,566,392.1	65.5%	24.9	241,585	29.7%	6,455,944.7	67.9%	26.7
Total	2,299,843	100.0%	26,624,436.1	100.0%	11.6	433,120	100.0%	5,567,815.4	100.0%	12.9	1,051,939	100.0%	11,543,338.0	100.0%	11.0	814,727	100.0%	9,514,797.1	100.0%	11.7

Source: StreetLight Analytics

Table 15: Daily VMT Summary in Millions of Miles (2018 - 2019)

Year	Total VMT for North County Trips ¹	Internal Trips ²	External Trips ³
2018	25.2 M	33.40%	66.60%
2019	26.6 M	31.90%	68.10%
2020	21.1 M	30.80%	69.20%
2021	24.0 M	40.30%	59.70%

Source: StreetLight Analytics

Table 16: Annual VMT Summary for External Trips to/from Surrounding Regions (2018-2021)

VMT for External Trips to/from Surrounding Regions	2018	2019	2020	2021
Coastal San Diego	16.8%	17.0%	16.0%	19.7%
Orange/ Los Angeles County	13.8%	14.5%	14.0%	8.6%
Inland San Diego	12.2%	12.2%	12.2%	13.7%
Riverside/ San Bernardino County	11.3%	11.5%	13.5%	5.8%
East County/ Imperial County	3.1%	3.3%	3.8%	2.6%
Southern San Diego	8.3%	8.3%	7.9%	9.0%
Other	1.2%	1.3%	1.8%	0.1%

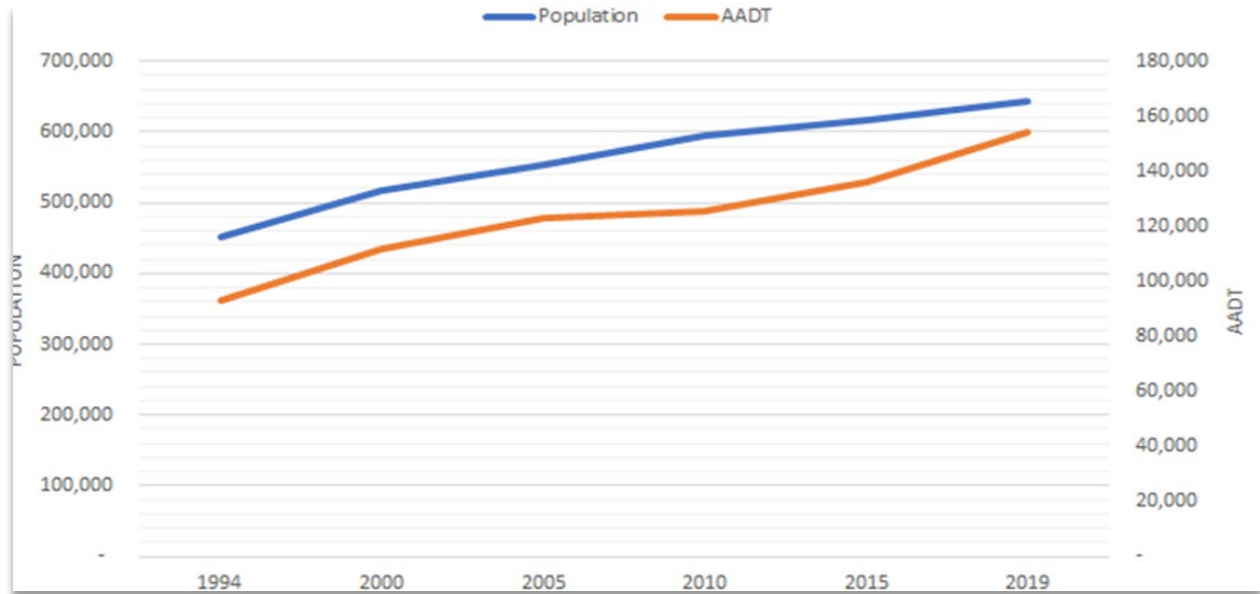
Source: StreetLight Analytics

¹ Total VMT includes all miles for the trip—both outside and within study area boundaries

² Trips starts and ends within North County

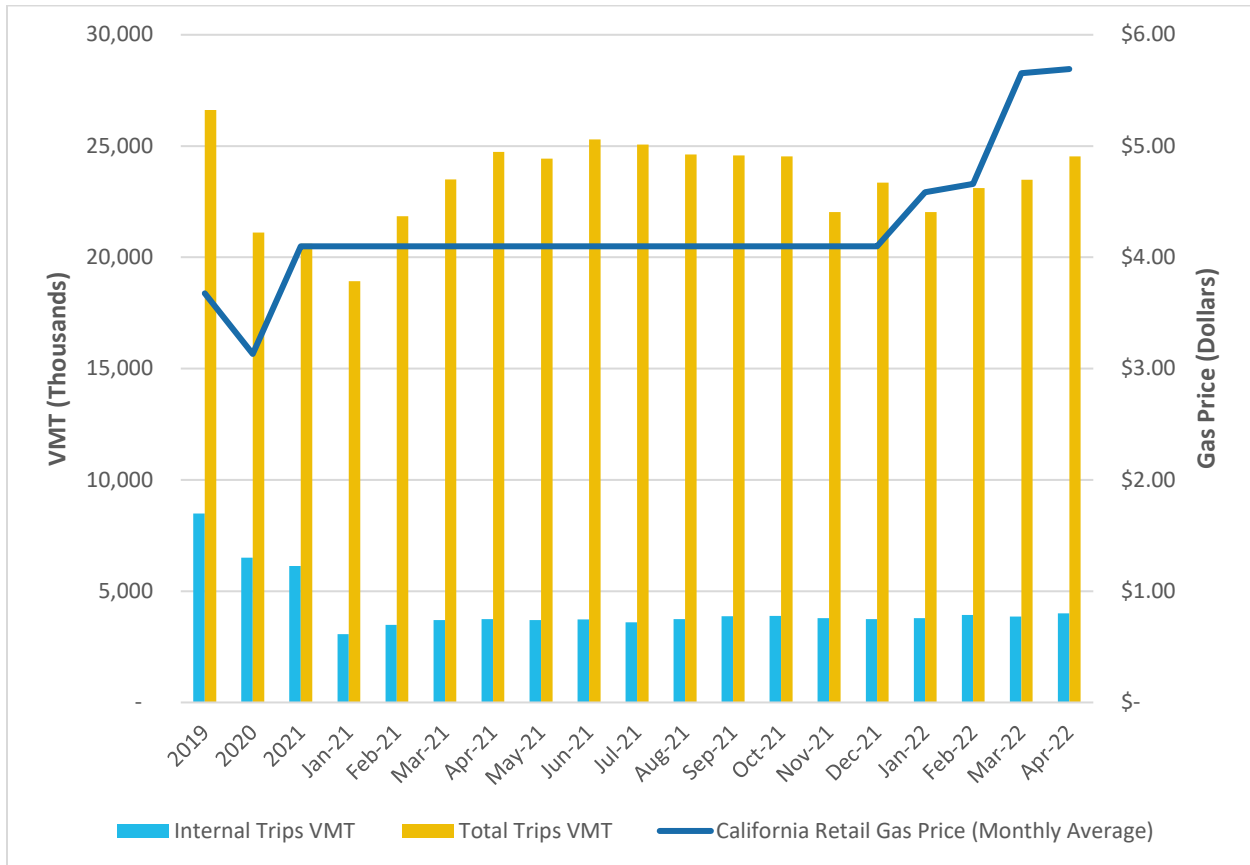
³ Trips that either start/end within North County but end/start outside of North County

Figure 2: SR 78 Annual Average Daily Traffic (AADT) and Population Over Time (2009 – 2019)



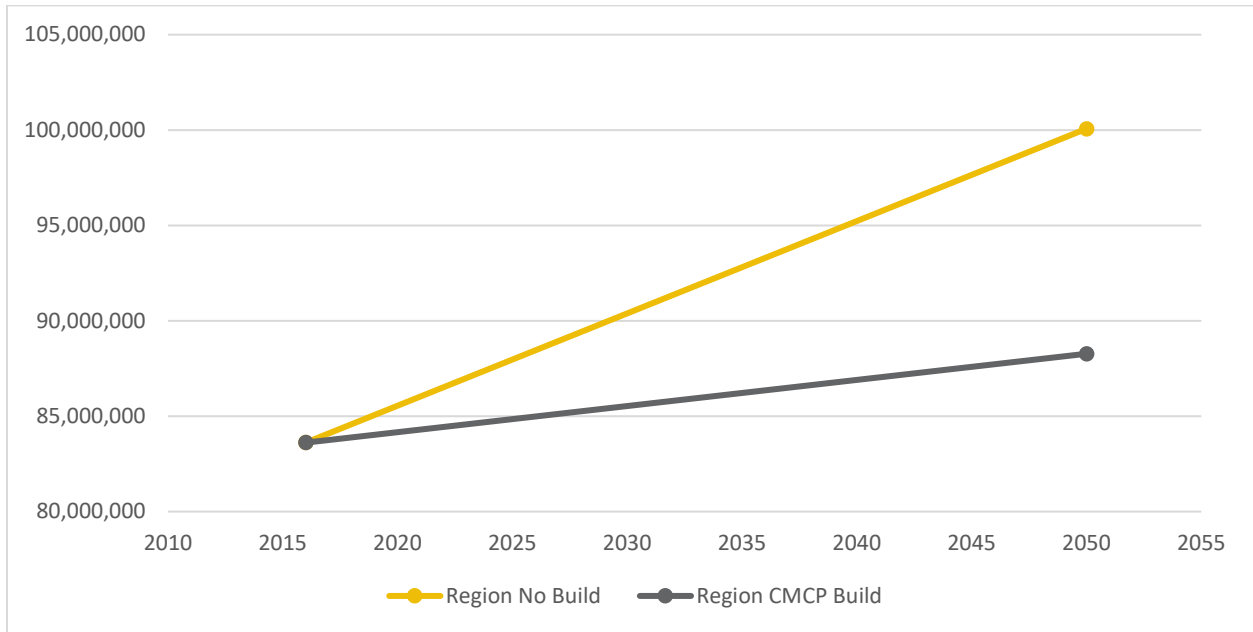
Source: Caltrans District 11 Staff

Figure 3: Gas Pricing and North County Subregion Trends Over Time



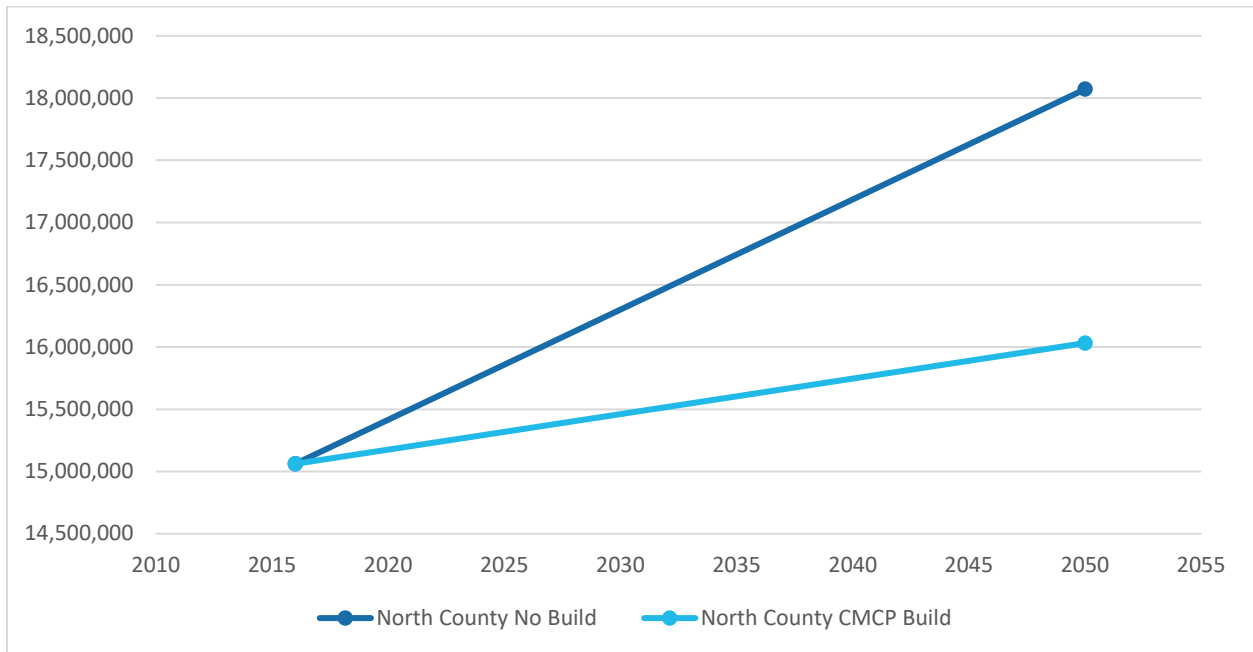
Source: US Energy Information Administration and StreetLight Analytics

Figure 4: Regional VMT Trends (No Build vs Build Scenarios)



Source: SANDAG Model

Figure 5: North County Subregion VMT Trends (No Build vs. Build)



Source: SANDAG Model