

Appendix D

Fehr & Peers VMT Memo

MEMORANDUM

Date: January 15, 2021
 To: Cori Resha, Ascent
 From: David B. Robinson, Fehr & Peers
Subject: Elk Grove Housing Element Update VMT Analysis

RS20-3929

Fehr & Peers completed a vehicle miles of travel (VMT) analysis to support the update to the City of Elk Grove Housing Element. The update to the Housing Element is necessary to demonstrate that the City can accommodate its Regional Housing Needs Allocation (RHNA). Specifically, the City must identify locations where 4,265 Low and Very Low-Income housing units can be built and the policies and strategies necessary to meet the City’s housing needs.

This memorandum describes the City’s RHNA, existing and candidate locations, the analysis methodology, the evaluation criteria, and presents the analysis results.

RHNA and Candidate Locations

Table 1 compares the City of Elk Grove RHNA to the SACOG region. As shown, the City’s total RHNA is 8,263 dwellings with 51.6% in the Low and Very Low-Income categories, which is the bases of the analysis. Analysis of the Moderate and Above-moderate income categories is not required. The City of Elk Grove’s total allocation represents 5.4 % of the SACOG region and 6.8% of the lower income units. **Figure 1** shows existing and candidate locations that can accommodate the lower income units.

Table 1: Land Use Comparison

Jurisdiction	Lower Income Units				Higher Income Units		Total RHNA
	Very Low	Low	Very Low + Low	% of Total RHNA	Moderate	Above Moderate	
Elk Grove	2,661	1,604	4,265	51.6%	1,186	2,812	8,263
SACOG Region	38,999	23,503	62,502	40.7%	26,993	64,017	153,512
Elk Grove’s Share of SACOG Region	6.8%	6.8%	6.8%	-	4.4%	4.4%	5.4%

Source: SACOG Regional Housing Needs Plan, Cycle 6 (2021-2029), Adopted Mach 2020.

Analysis Methodology

We developed origin-destination/tour-based transportation analysis VMT forecasts, using the modified version of SACOG's SACSIM regional travel demand forecasting model, developed for the City of Elk Grove General Plan Update and subsequently updated for clarity. Due to uncertainty on the exact location of where development will occur, we tested four scenarios that varied the amount and location of RHNA dwelling units allocated to the existing and candidate sites shown on **Figure 1**. This approach was applied to identify a worst case VMT scenario for analysis. **Tables 2 through 5** summarizes the allocation assumptions for the four analyzed scenarios, which are briefly described below:

- Scenario 1 – Applies existing zoning on the existing sites and rezones all candidate sites.
- Scenario 2 – Applies up-zoning on some existing sites and rezones all of the candidate sites.
- Scenario 3 – Applies existing zoning on the existing sites, rezones/includes sites furthest out from the core.
- Scenario 4 – Applies up-zoning on some existing sites and rezones on some candidate sites.

Table 2: Analysis Scenario 1

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
Existing Sites			
E-1	RD-20	189	225
E-2	RD-25	181	215
E-3	RD-20	149	178
E-4	RD-25	166	198
E-5	SEPA-HDR (15.1-30)	137	163
E-6	SEPA-HDR (15.1-30)	151	180
E-7	SEPA-HDR (15.1-30)	195	233
E-8	SEPA-HDR (15.1-30)	176	210
E-9	SEPA-HDR (15.1-30)	278	300
E-10	SEPA-HDR (15.1-30)	92	110
E-11	SEPA-HDR (15.1-30)	64	77
E-12	SEPA-HDR (15.1-30)	61	73
E-13	RD-25	111	133
E-14	RD-25	189	225
E-15	RD-25	189	225

Table 2: Analysis Scenario 1

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
E-16	RD-25	181	215
E-17	RD-25	149	178
E-18	RD-25	166	198
Total (Existing Sites)	-	2,887	3,610
Candidate Sites			
C-1	RD-30	267	289
C-2	RD-25	60	72
C-3	RD-30	190	205
C-4	RD-30	184	202
C-5	RD-30	308	332
C-6	RD-30	200	216
C-7	RD-25	74	88
C-8	RD-25	49	58
C-9	RD-25	74	88
C-10	RD-30	174	198
C-11	RD-30	78	70
C-12	RD-30	146	158
C-13	RD-30	95	103
C-14	RD-30	49	53
C-15	RD-25	97	115
C-16	RD-30	80	86
C-17	RD-30	125	135
C-18	RD-25	258	258
C-19	RD-25	42	53
C-20	RD-25	32	38
C-21	RD-25	35	42
C-22	RD-25	43	52
C-23	RD-25	42	21
C-24	RD-25	105	125
C-25	RD-25	109	129
Total (Candidate Sites)	-	2,916	3,186

Table 2: Analysis Scenario 1

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
Total	-	5,803	6,796

Source: Fehr & Peers, 2020

Table 3: Analysis Scenario 2

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
Existing Sites			
E-1	RD-20	230	230
E-2	RD-25	102	387
E-3	RD-30	387	418
E-4	RD-30	163	178
E-5	SEPA-HDR (15.1-30)	225	243
E-6	SEPA-HDR (15.1-30)	215	233
E-7	SEPA-HDR (15.1-30)	149	192
E-8	SEPA-HDR (15.1-30)	166	198
E-9	SEPA-HDR (15.1-30)	137	163
E-10	SEPA-HDR (15.1-30)	151	180
E-11	SEPA-HDR (15.1-30)	195	233
E-12	SEPA-HDR (15.1-30)	210	227
E-13	RD-25	278	300
E-14	RD-30	110	119
E-15	RD-30	77	83
E-16	RD-30	73	78
E-17	RD-30	133	143
E-18	RD-30	225	243
Total (Existing Sites)	-	3,226	3,848
Candidate Sites			
C-1	RD-30	267	289
C-2	RD-25	60	72
C-3	RD-30	190	205
C-4	RD-30	184	202
C-5	RD-30	308	332
C-6	RD-30	200	216
C-7	RD-25	74	88
C-8	RD-25	49	58
C-9	RD-25	74	88
C-10	RD-30	174	198

Table 3: Analysis Scenario 2

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
C-11	RD-30	78	70
C-12	RD-30	146	158
C-13	RD-30	95	103
C-14	RD-30	49	53
C-15	RD-25	97	115
C-16	RD-30	80	86
C-17	RD-30	125	135
C-18	RD-25	258	258
C-19	RD-25	42	53
C-20	RD-25	32	38
C-21	RD-25	35	42
C-22	RD-25	43	52
C-23	RD-25	42	21
C-24	RD-25	105	125
C-25	RD-25	109	129
Total (Candidate Sites)	-	2,916	3,186
Total	-	6,142	7,034

Source: Fehr & Peers, 2020

Table 4: Analysis Scenario 3

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
Existing Sites			
E-1	RD-20	230	230
E-2	RD-25	102	387
E-3	RD-20	279	310
E-4	RD-25	137	163
E-5	SEPA-HDR (15.1-30)	189	225

Table 4: Analysis Scenario 3

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
E-6	SEPA-HDR (15.1-30)	181	215
E-7	SEPA-HDR (15.1-30)	149	178
E-8	SEPA-HDR (15.1-30)	166	198
E-9	SEPA-HDR (15.1-30)	137	163
E-10	SEPA-HDR (15.1-30)	151	180
E-11	SEPA-HDR (15.1-30)	195	233
E-12	SEPA-HDR (15.1-30)	176	210
E-13	RD-25	278	300
E-14	RD-25	92	110
E-15	RD-25	64	77
E-16	RD-25	61	73
E-17	RD-25	111	133
E-18	RD-25	189	225
Total (Existing Sites)	-	2,887	3,610

Candidate Sites

C-1	RD-30	267	289
C-2	SC		
C-3	RD-15		
C-4	RD-30	184	202
C-5	SC		
C-6	GC		
C-7	RD-25	74	88
C-8	RD-25	49	58
C-9	RD-25	74	88
C-10	RD-30	174	198
C-11	RD-30	78	70
C-12	RD-30	146	158
C-13	RD-20		
C-14	BP		
C-15	GC		
C-16	RD-5		

Table 4: Analysis Scenario 3

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
C-17	RD-30	125	135
C-18	RD-6		
C-19	RD-25	42	53
C-20	RD-25	32	38
C-21	RD-25	35	42
C-22	RD-25	43	52
C-23	RD-25	42	21
C-24	RD-5		
C-25	RD-25	109	129
Total (Candidate Sites)	-	1,474	1,621
Total	-	4,361	5,231

Source: Fehr & Peers, 2020

Table 5: Analysis Scenario 4

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
Existing Sites			
E-1	RD-20	230	230
E-2	RD-25	102	387
E-3	RD-30	387	418
E-4	RD-25	137	163
E-5	SEPA-HDR (15.1-30)	189	225
E-6	SEPA-HDR (15.1-30)	181	215
E-7	SEPA-HDR (15.1-30)	149	178
E-8	SEPA-HDR (15.1-30)	166	198
E-9	SEPA-HDR (15.1-30)	137	163
E-10	SEPA-HDR (15.1-30)	151	180
E-11	SEPA-HDR (15.1-30)	195	233

Table 5: Analysis Scenario 4

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
E-12	SEPA-HDR (15.1-30)	176	210
E-13	RD-25	278	300
E-14	RD-30	110	119
E-15	RD-30	77	83
E-16	RD-25	61	73
E-17	RD-30	133	143
E-18	RD-25	189	225
Total (Existing Sites)	-	3,048	3,743
Candidate Sites			
C-1	RD-30	267	289
C-2	RD-25	60	72
C-3	RD-30	190	205
C-4	RD-30	184	202
C-5	SC		
C-6	GC		
C-7	RD-25	74	88
C-8	RD-25	49	58
C-9	RD-25	74	88
C-10	RD-30	174	198
C-11	LC		
C-12	RD-30	146	158
C-13	RD-20		
C-14	BP		
C-15	GC		
C-16	RD-5		
C-17	RD-30	125	135
C-18	RD-6		
C-19	RD-25	42	53
C-20	AR-2		
C-21	RD-15		
C-22	RD-4		

Table 5: Analysis Scenario 4

Site ID (See Figure 1)	Assumptions		
	Zoning	RHNA Allocation	DU Potential
C-23	RD-25	42	21
C-24	RD-25	105	125
C-25	RD-25	109	129
Total (Candidate Sites)	-	1,641	1,821
Total	-	4,689	5,564

Source: Fehr & Peers, 2020

Tables 6 compares the percent of the RHNA allocation achieved for each scenario presented above to the RHNA allocation for the Low and Very Low-Income categories. As shown, Scenario 2 includes the most RHNA dwelling units (i.e., 6,142) of the four analysis scenarios, which would provide a 44 percent buffer beyond the RHNA allocation for the Low and Very Low category.

Table 6: RHNA Allocation for Low and Very Low-Income Categories by Analysis Scenario

	Analysis Scenario				
	1	2	3	4	
Existing Site	2,887	3,226	2,887	3,048	
Candidate Site	2,916	2,916	1,474	1,641	
Total	5,803	6,142	4,361	4,689	
RHNA Allocation (Low/Very Low-Income Category)	4,265				
Buffer Achieved	Dwelling Units	1,538	1,877	96	424
	Percent of RHNA	136%	144%	102%	110%

Source: SACOG Regional Housing Needs Plan, Cycle 6 (2021-2029), Adopted March 2020.

The City uses total daily VMT and VMT per service population as the basis for VMT analysis. The following describes these two VMT metrics and their intended use:

- VMT per Service Population – Includes the sum of all vehicle miles of travel produced by individual land uses in a project, divide by the sum of total residents living in the project. The VMT per service population metric is used to assess a project against specific land use VMT limits. The Project includes multi-family residential land use. Therefore, the Project is compared to the high density residential VMT limit.
- Total Daily VMT – Includes the sum of all daily vehicle miles of travel produced by all uses within the City of applicable Study Area. Since the Project is located in the City limits, the Citywide cumulative VMT limit that is outlined in Policy MOB-1-1(a)(ii) is used to assess the Project.

The VMT estimates include all trips that have one end in a project location and includes the following:

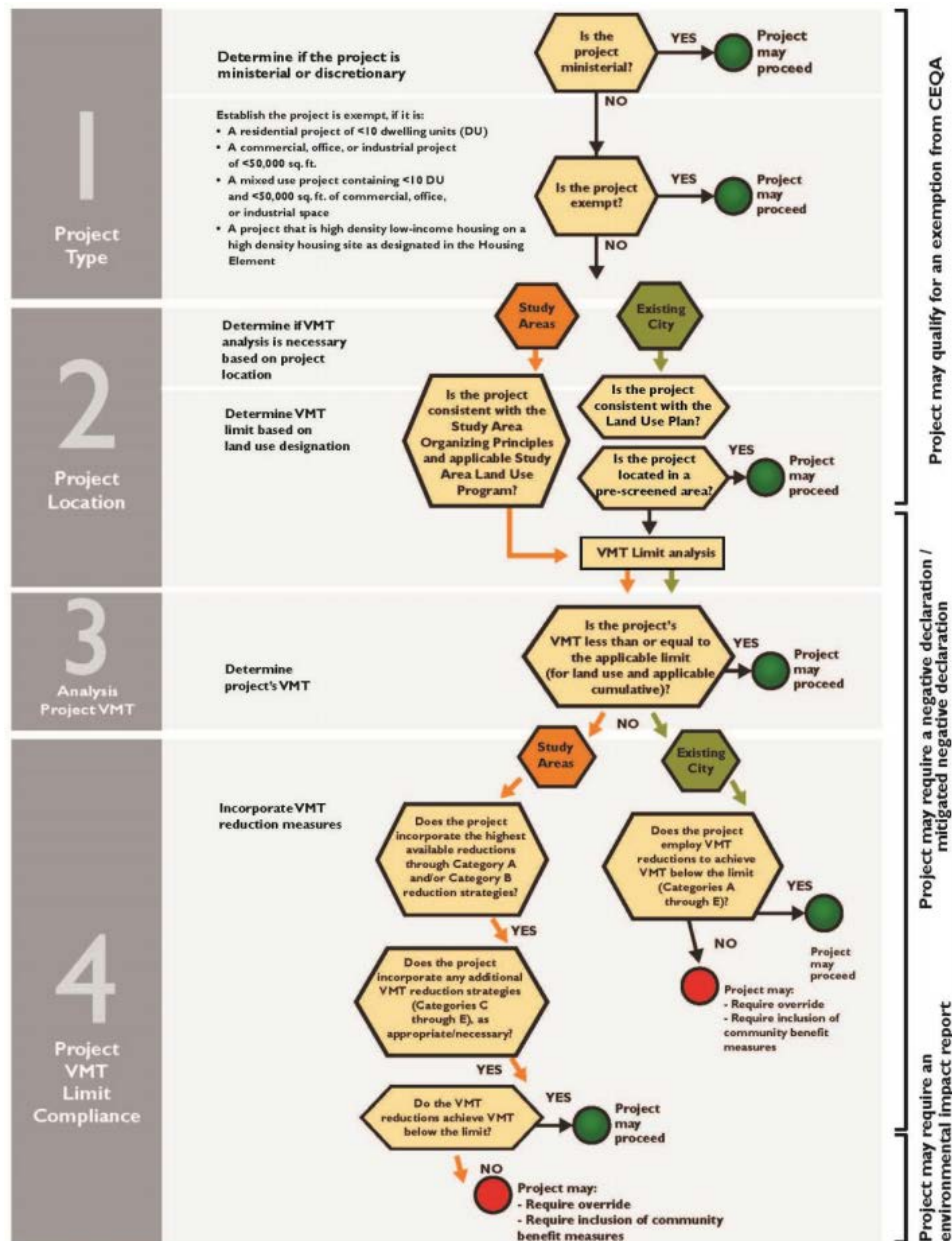
- Trip Types – Includes internal-to-internal (II), internal-to-external (IX), and external-to-internal (XI) trips. External-to-external (XX) trips are excluded.
- Trip Length – Fully accounts for entire length of each trip.
- Trip Tours – Includes trip tours without an origin or destination at the home.

Details of the VMT calculation process are included in Appendix E of the City of Elk Grove Transportation Analysis Guidelines.

Analysis Evaluation Criteria

The following evaluation criteria was used to determine if the addition of the proposed Project would result in an impact in the City of Elk Grove.

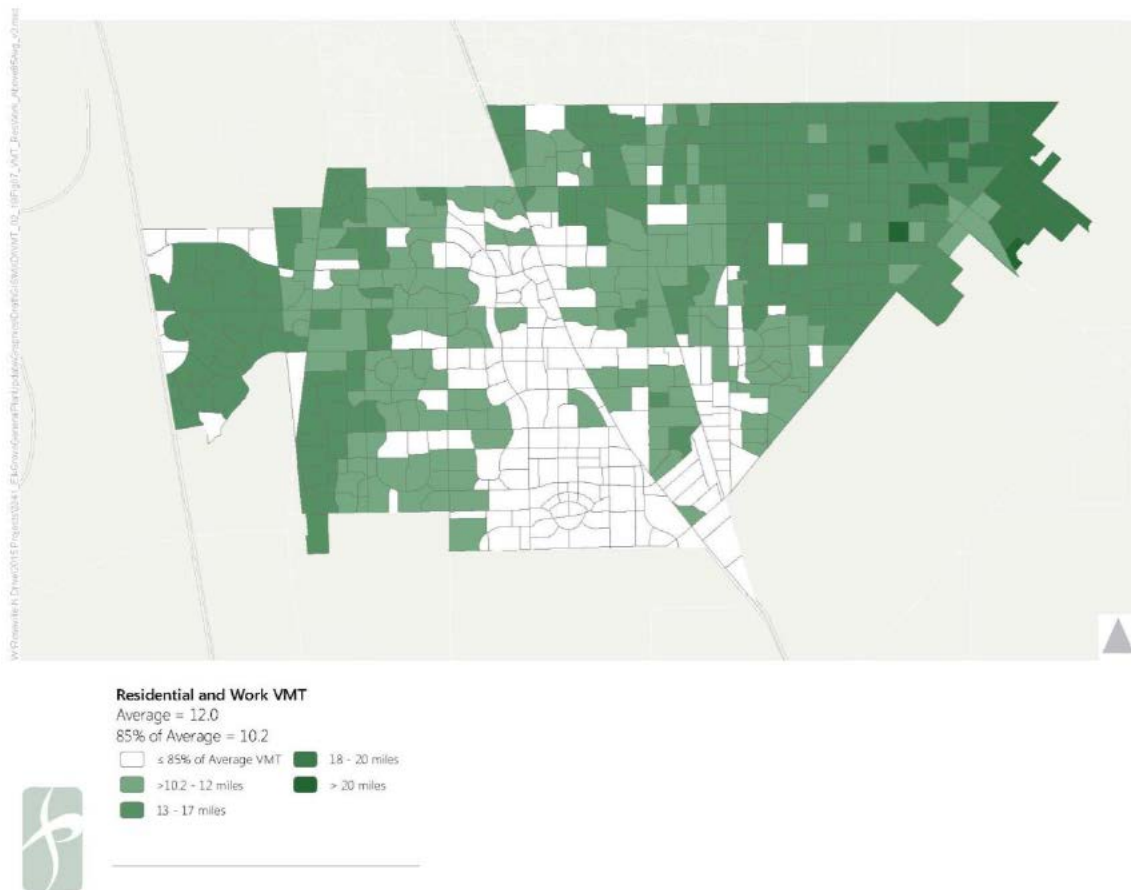
The City desires to achieve a reduction in VMT. Reductions in VMT can be accomplished through a combination of land use and mobility actions. To reduce VMT, the City has established the following metrics and limits depicted in the following graphic.



The VMT analysis process for land use projects outlined above includes the following four steps:

- Step 1 (Project Type) – Determine if the project is ministerial or discretionary or if the project is exempt from VMT analysis.
- Step 2 (Project Location) – Determine if VMT analysis is necessary based on project location and determine the Project’s VMT limit by land use designation.
- Step 3 (Analyze Project VMT) – Determine the Project’s VMT and compare to the VMT limit by land use designation (from Step 2) to determine if VMT mitigation is necessary.
- Step 4 (Project VMT Limit Compliance) – Identify VMT reduction mitigation measures and significance of VMT impacts with mitigation.

The following VMT Screening Map identifies areas in the City that are exempt from VMT analysis. These include sites that have been pre-screened through Citywide VMT analysis. Pre-screened areas are shown in white and have been determined to result in 15 percent or below the average service population VMT established for that land use designation if built to the specifications of the Land Use Plan. With an average VMT per service population of 12.0, the City's target VMT per service population threshold is 10.2.



For projects that have not been pre-screened and that do not achieve the limits outlined below shall be subject to all feasible mitigation measures necessary to reduce the VMT for, or induced by, the Project to the applicable limits. If the VMT for or induced by the Project cannot be reduced consistent with the performance metrics outlined below, the City may consider approval of the Project, subject to a finding of overriding consideration and mitigation of transportation impacts to the extent feasible, provided some other form of community benefit is achieved by the Project.

- **New Development** – Any new land use plans, amendments to such plans, and other discretionary development proposals (referred to as “development projects”) are required to demonstrate a 15 percent reduction in VMT from existing (2015) conditions. To demonstrate this reduction, conformance with following land use and cumulative VMT limits is required:
 1. **Land Use** – Development projects shall demonstrate that the VMT produced by the project at buildout is equal to or less than the VMT limit of the project’s General Plan land use

designation, as shown in the following table, which incorporates the 15 percent reduction from 2015 conditions:

Vehicle Miles Traveled Limits by Land Use Designation

Land Use Designation	VMT Limit (daily per service population)
Commercial and Employment Land Use Designations	
Community Commercial	41.6
Regional Commercial	44.3
Employment Center	47.1
Light Industrial/Flex	24.5
Light Industrial	24.5
Heavy Industrial	39.5
Mixed Use Land Use Designations	
Village Center Mixed Use	41.6
Residential Mixed Use	21.2
Public/Quasi Public and Open Space Land Use Designations	
Parks and Open Space ¹	0.0
Resource Management and Conservation ¹	0.0
Public Services	53.1
Residential Land Use Designations	
Rural Residential	34.7
Estate Residential	49.2
Low Density Residential	21.2
Medium Density Residential	20.9
High Density Residential	20.6
Other Land Use Designations	
Agriculture	34.7

Notes:

1. *These land use designations are not anticipated to produce substantial VMT, as they have no residents and few to no employees. These land use designations therefore have no limit and are exempt from analysis.*

2. Cumulative for Development Projects within the Existing City – Development projects located within the existing (2017) City limits shall demonstrate that cumulative VMT within the City including the project would be equal to or less than the established Citywide limit of 6,367,833 VMT (total daily VMT).
3. Cumulative for Development Projects within Growth Areas – Development projects located in Study Areas shall demonstrate that cumulative VMT within the applicable Study Area would be equal to or less than the established limit shown in the following table.

Study Area Total Vehicle Miles Traveled Limits

Study Area	VMT Limit (total VMT at buildout)
North Study Area	37,622
East Study Area	420,612
South Study Area	1,311,107
West Study Area	705,243

The Project is located within the City limits. The Project and remainder of the City will meet the buildout VMT Limit 6,367,833.

Analysis Results

The Project VMT analysis under cumulative conditions, relative to the threshold of significance presented above, is discussed below. The VMT analysis includes all the roadway improvements included as part of the General Plan VMT analysis.

VMT Screening

The VMT Screening Map identifies areas in the City that are exempt from VMT analysis. These include sites that have been pre-screened through Citywide VMT analysis. Pre-screened areas have been determined to result in 15 percent or below the average service population VMT established for the land use designations for the study area if built to the specifications of the Land Use Plan.

The Project would be implemented on sites throughout the City that fall within and outside of the pre-screened areas. In addition, the Project would require a general plan amendment to change some land use designations. Therefore, the Project is not eligible for pre-screening.

Impact

General Plan Impact 5.13.2 identified that implementation of the General Plan would result in increased VMT that would be significant and unavoidable. Project-generated VMT per service population associated with housing sites under the Housing Element Update would not result in an exceedance of the City's VMT per service population threshold for the High Density Residential land use designation (i.e., 20.6 VMT). However, the addition of Project-generated total daily VMT within the City could result in an exceedance of the established Citywide limit of 6,367,833 VMT, depending on the amount and location of development sites selected by the Council. The Council could select sites that would result in the exceedance of the established Citywide limit that would require additional mitigation measures to reduce total daily VMT to a less than significant level. Therefore, implementation of the Project would result in a **significant and unavoidable** impact to VMT.

VMT Limits by Land Use Designation

As outlined above, the Project must demonstrate that the VMT produced by the Project at buildout is equal to or less than the VMT limit of the underlying land use designation. The Project will have a General Plan

land use designation of High Density Residential after the required general plan amendment outlined above. **Tables 7 through 10** summarize the VMT per service population for Scenarios 1 through 4, respectively, by potential development site and the average for each analysis scenario.

Table 7: VMT Performance – Scenario 1

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
E-1	RD-20	230	575	11,129	19.35
E-2	RD-25	102	255	4,270	16.75
E-3	RD-20	279	698	13,045	18.70
E-4	RD-25	137	343	6,182	18.05
E-5	SEPA-HDR (15.1-30)	189	473	9,556	20.22
E-6	SEPA-HDR (15.1-30)	181	453	9,348	20.66
E-7	SEPA-HDR (15.1-30)	149	373	7,938	21.31
E-8	SEPA-HDR (15.1-30)	166	415	8,844	21.31
E-9	SEPA-HDR (15.1-30)	137	343	7,299	21.31
E-10	SEPA-HDR (15.1-30)	151	378	7,963	21.09
E-11	SEPA-HDR (15.1-30)	195	488	9,965	20.44
E-12	SEPA-HDR (15.1-30)	176	440	9,760	22.18
E-13	RD-25	278	695	12,847	18.48
E-14	RD-25	92	230	4,001	17.40
E-15	RD-25	64	160	3,514	21.96
E-16	RD-25	61	153	2,819	18.48
E-17	RD-25	111	278	4,767	17.18
E-18	RD-25	189	473	7,912	16.75
C-1	RD-30	267	668	13,790	20.66
C-2	RD-25	60	150	2,740	18.27
C-3	RD-30	190	475	7,644	16.09
C-4	RD-30	184	460	9,803	21.31
C-5	RD-30	308	770	13,396	17.40
C-6	RD-30	200	500	9,025	18.05
C-7	RD-25	74	185	3,420	18.48
C-8	RD-25	49	123	2,291	18.70
C-9	RD-25	74	185	3,259	17.61
C-10	RD-30	174	435	8,325	19.14
C-11	RD-30	78	195	3,986	20.44
C-12	RD-30	146	365	7,461	20.44

Table 7: VMT Performance – Scenario 1

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
C-13	RD-30	95	238	3,925	16.53
C-14	RD-30	49	123	2,051	16.75
C-15	RD-25	97	243	4,904	20.22
C-16	RD-30	80	200	3,262	16.31
C-17	RD-30	125	313	6,864	21.96
C-18	RD-25	258	645	12,063	18.70
C-19	RD-25	42	105	1,804	17.18
C-20	RD-25	32	80	1,427	17.83
C-21	RD-25	35	88	1,579	18.05
C-22	RD-25	43	108	2,291	21.31
C-23	RD-25	42	105	2,306	21.96
C-24	RD-25	105	263	5,195	19.79
C-25	RD-25	109	273	5,985	21.96
Total		5,803	14,508	279,955	19.30

Source: Fehr & Peers, 2020.

Table 8: VMT Performance – Scenario 2

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
E-1	RD-20	230	575	11,137	19.37
E-2	RD-25	102	255	4,273	16.76
E-3	RD-30	387	968	18,108	18.72
E-4	RD-30	163	408	7,361	18.06
E-5	SEPA-HDR (15.1-30)	225	563	11,384	20.24
E-6	SEPA-HDR (15.1-30)	215	538	11,112	20.67
E-7	SEPA-HDR (15.1-30)	149	373	7,944	21.33
E-8	SEPA-HDR (15.1-30)	166	415	8,851	21.33
E-9	SEPA-HDR (15.1-30)	137	343	7,304	21.33
E-10	SEPA-HDR (15.1-30)	151	378	7,969	21.11
E-11	SEPA-HDR (15.1-30)	195	488	9,973	20.46
E-12	SEPA-HDR (15.1-30)	210	525	11,654	22.20

Table 8: VMT Performance – Scenario 2

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
E-13	RD-25	278	695	12,856	18.50
E-14	RD-30	110	275	4,788	17.41
E-15	RD-30	77	193	4,231	21.98
E-16	RD-30	73	183	3,376	18.50
E-17	RD-30	133	333	5,717	17.19
E-18	RD-30	225	563	9,426	16.76
C-1	RD-30	267	668	13,800	20.67
C-2	RD-25	60	150	2,742	18.28
C-3	RD-30	190	475	7,650	16.10
C-4	RD-30	184	460	9,810	21.33
C-5	RD-30	308	770	13,406	17.41
C-6	RD-30	200	500	9,031	18.06
C-7	RD-25	74	185	3,422	18.50
C-8	RD-25	49	123	2,293	18.72
C-9	RD-25	74	185	3,261	17.63
C-10	RD-30	174	435	8,331	19.15
C-11	RD-30	78	195	3,989	20.46
C-12	RD-30	146	365	7,467	20.46
C-13	RD-30	95	238	3,928	16.54
C-14	RD-30	49	123	2,053	16.76
C-15	RD-25	97	243	4,908	20.24
C-16	RD-30	80	200	3,264	16.32
C-17	RD-30	125	313	6,869	21.98
C-18	RD-25	258	645	12,072	18.72
C-19	RD-25	42	105	1,805	17.19
C-20	RD-25	32	80	1,428	17.85
C-21	RD-25	35	88	1,581	18.06
C-22	RD-25	43	108	2,293	21.33
C-23	RD-25	42	105	2,308	21.98
C-24	RD-25	105	263	5,198	19.80
C-25	RD-25	109	273	5,989	21.98
Total		6,142	15,355	296,361	19.30

Source: Fehr & Peers, 2020.

Table 9: VMT Performance – Scenario 3

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
E-1	RD-20	230	575	11,135	19.37
E-2	RD-25	102	255	4,272	16.75
E-3	RD-20	279	698	13,052	18.71
E-4	RD-25	137	343	6,185	18.06
E-5	SEPA-HDR (15.1-30)	189	473	9,561	20.24
E-6	SEPA-HDR (15.1-30)	181	453	9,353	20.67
E-7	SEPA-HDR (15.1-30)	149	373	7,943	21.32
E-8	SEPA-HDR (15.1-30)	166	415	8,849	21.32
E-9	SEPA-HDR (15.1-30)	137	343	7,303	21.32
E-10	SEPA-HDR (15.1-30)	151	378	7,967	21.11
E-11	SEPA-HDR (15.1-30)	195	488	9,971	20.45
E-12	SEPA-HDR (15.1-30)	176	440	9,765	22.19
E-13	RD-25	278	695	12,854	18.49
E-14	RD-25	92	230	4,004	17.41
E-15	RD-25	64	160	3,516	21.98
E-16	RD-25	61	153	2,820	18.49
E-17	RD-25	111	278	4,770	17.19
E-18	RD-25	189	473	7,916	16.75
C-1	RD-30	267	668	13,797	20.67
C-2	SC	-	-	-	-
C-3	RD-15	-	-	-	-
C-4	RD-30	184	460	9,809	21.32
C-5	SC	-	-	-	-
C-6	GC	-	-	-	-
C-7	RD-25	74	185	3,422	18.49
C-8	RD-25	49	123	2,292	18.71
C-9	RD-25	74	185	3,261	17.62
C-10	RD-30	174	435	8,329	19.15
C-11	RD-30	78	195	3,988	20.45
C-12	RD-30	146	365	7,465	20.45
C-13	RD-20	-	-	-	-
C-14	BP	-	-	-	-
C-15	GC	-	-	-	-
C-16	RD-5	-	-	-	-

Table 9: VMT Performance – Scenario 3

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
C-17	RD-30	125	313	6,867	21.98
C-18	RD-6	-	-	-	-
C-19	RD-25	42	105	1,805	17.19
C-20	RD-25	32	80	1,427	17.84
C-21	RD-25	35	88	1,580	18.06
C-22	RD-25	43	108	2,292	21.32
C-23	RD-25	42	105	2,307	21.98
C-24	RD-5	-	-	-	-
C-25	RD-25	109	273	5,988	21.98
Total		4,361	10,903	215,869	19.80

Source: Fehr & Peers, 2020.

Table 10: VMT Performance – Scenario 4

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
E-1	RD-20	230	575	11,119	19.3
E-2	RD-25	102	255	4,266	16.7
E-3	RD-30	387	968	18,078	18.7
E-4	RD-25	137	343	6,176	18.0
E-5	SEPA-HDR (15.1-30)	189	473	9,547	20.2
E-6	SEPA-HDR (15.1-30)	181	453	9,340	20.6
E-7	SEPA-HDR (15.1-30)	149	373	7,931	21.3
E-8	SEPA-HDR (15.1-30)	166	415	8,836	21.3
E-9	SEPA-HDR (15.1-30)	137	343	7,292	21.3
E-10	SEPA-HDR (15.1-30)	151	378	7,956	21.1
E-11	SEPA-HDR (15.1-30)	195	488	9,956	20.4
E-12	SEPA-HDR (15.1-30)	176	440	9,751	22.2
E-13	RD-25	278	695	12,835	18.5
E-14	RD-30	110	275	4,780	17.4
E-15	RD-30	77	193	4,224	21.9
E-16	RD-25	61	153	2,816	18.5

Table 10: VMT Performance – Scenario 4

Site	Zoning	Dwelling Units	Service Population	Daily VMT	VMT Per Service Population
E-17	RD-30	133	333	5,707	17.2
E-18	RD-25	189	473	7,905	16.7
C-1	RD-30	267	668	13,777	20.6
C-2	RD-25	60	150	2,738	18.3
C-3	RD-30	190	475	7,637	16.1
C-4	RD-30	184	460	9,794	21.3
C-5	SC	-	-	-	-
C-6	GC	-	-	-	-
C-7	RD-25	74	185	3,417	18.5
C-8	RD-25	49	123	2,289	18.7
C-9	RD-25	74	185	3,256	17.6
C-10	RD-30	174	435	8,317	19.1
C-11	LC	-	-	-	-
C-12	RD-30	146	365	7,454	20.4
C-13	RD-20	-	-	-	-
C-14	BP	-	-	-	-
C-15	GC	-	-	-	-
C-16	RD-5	-	-	-	-
C-17	RD-30	125	313	6,857	21.9
C-18	RD-6	-	-	-	-
C-19	RD-25	42	105	1,802	17.2
C-20	AR-2	-	-	-	-
C-21	RD-15	-	-	-	-
C-22	RD-4	-	-	-	-
C-23	RD-25	42	105	2,304	21.9
C-24	RD-25	105	263	5,190	19.8
C-25	RD-25	109	273	5,980	21.9
Total		4,689	11,723	229,326	19.56

Source: Fehr & Peers, 2020.

Table 11: VMT by Land Use Designation Limits – Project Buildout Conditions by Analysis Scenario

Land Use Designation	Scenario	VMT Per Service Population		Limit Exceeded?
		Scenario Buildout	Limit	
High Density Residential	1	19.3	20.6	No
	2	19.3		No
	3	19.8		No
	4	19.6		No

Source: Fehr & Peers, 2020.

Table 11 compares the Project’s VMT per service population (i.e., residents) to the City’s VMT limit for High Density Residential land use (which incorporates a 15% reduction in total VMT from the 2015 baseline). The average VMT per service population for all potential development sites, for all four analysis scenarios, will perform better than the City’s VMT limit for the High Density Residential land use designation. However, as shown in **Tables 7 through 10**, some of the potential sites that make up the four development scenarios would perform worse than the City’s VMT per service population limit.

Citywide VMT Limits

As outlined above, land use development projects located with the existing (2019) City limits shall demonstrate that cumulative VMT within the City, including the Project, would be equal to or less than the City’s established total VMT limit. This VMT limit incorporates a 15% reduction in total VMT from the 2015 baseline. **Table 12** compares the citywide total VMT limit to the City’s total VMT limit with buildout of the four analysis scenarios. As shown in **Table 12**, the addition of the Project would increase cumulative VMT and would exceed the established citywide limit with most of the analysis scenarios except Scenario 3. Scenario 3 accommodates the RHNA allocation of Low and Very Low-Income units, but with the smallest buffer (only 2%).

Table 12: Citywide VMT Limit – Project Buildout Conditions by Analysis Scenario

Analysis Scenario	Total VMT		Limit Exceeded?
	Scenario Buildout	Limit	
1	6,430,455	6,367,833	Yes
2	6,446,861		Yes
3	6,366,369		No
4	6,379,826		Yes

Source: Fehr & Peers, 2020.

Citywide VMT Limits

As detailed above, Project-generated VMT per service population would not result in an exceedance of the VMT per service population threshold for the High Density Residential land use designation (i.e., 20.6 VMT). However, the increase of total daily VMT within the City resulting from implementation of the Project as a whole could result in an exceedance of the established Citywide limit of 6,367,833 VMT, depending on the sites selected by the Council. Therefore, implementation of the Project may result in substantially more severe VMT impacts than identified in the General Plan EIR.

Mitigation

Table 13 summarizes VMT reduction strategies to achieve daily values below the established limits, which are documented in the City of Elk Grove Transportation Analysis Guidelines¹. The VMT reduction strategies are grouped into the following five categories:

- Category A – Land Use and Location
- Category B – Site Enhancement
- Category C – Transit System Improvements
- Category D – Commute Trip Reduction
- Category E – In-Lieu Fee

The range of potential VMT reduction is identified for each category, along with the cross-category maximum that is applicable when multiple strategies are applied in combination. Since the final list of sites is not known at this time, the application of Category E (In-Lieu Fee) is not feasible because a fee cannot be calculated.

Implementation of one of the following options would reduce total average daily VMT within the City:

- Option A: - Implement Category A strategies (see **Table 13**). The City Council shall develop a modified scenario that provides the RHNA allocation to Low and Very Low-Income categories of 4,265 dwelling units and achieves an average daily VMT within the City that is less than the Citywide limit of 6,367,833 VMT.

OR

- Option B: - Implement Category B through D strategies (see **Table 13**). Prior to design review, the project applicant shall prepare and submit a VMT Reduction Strategy Technical Memorandum to the satisfaction of the Public Works Director (i.e., or their designee) documenting Category B through D strategies to reduce the project's proportional share of average daily VMT within the City. The proportional share of VMT shall be calculated based on the final list of project sites selected by the City Council and be directly proportional to the relative VMT efficiency (i.e.,

¹ *Transportation Analysis Guidelines*, City of Elk Grove, Adopted February, and Updated December 2019.

measured by VMT per service population) of the proposed project site and the average VMT efficiency of all selected sites.

Table 13: VMT Reduction Strategies

Strategy Category		Description	Range of Potential VMT Reduction ²	
			Category	Cross-Category
A	Land Use/ Location	Land use-related components such as project density, location, and efficiency related to other housing and jobs; and diversity of uses within the project. Also includes access and proximity to destinations, transit stations, and active transportation infrastructure.	Up to 21.3%	15% Maximum
B	Site Enhancement	Establishing or connecting to a pedestrian/bike network; traffic calming within and in proximity to the project; car sharing programs; shuttle programs.	Up to 5.7%	
C	Transit System Improvements ¹	Improvements to the transit system including reach expansion, service frequency, types of transit, access to stations, station safety and quality, parking (park-and-ride) and bike access (to transit itself and parking), last-mile connections.	Up to 10.5%	
D	Commute Trip Reduction ¹	<u>For Residential Sites:</u> transit fare subsidies, education/training of alternatives, rideshare programs, shuttle programs, bike share programs. <u>For Employment Sites:</u> transit fare subsidies, parking cash-outs, paid parking, alternative work schedules/telecommute, education/training of alternatives, rideshare programs, shuttle programs, bike share programs, end of trip facilities.	Up to 30.0%	
E	In-Lieu fee	A fee is levied that is used to provide non-vehicular transportation services that connect project residents to areas of employment or vice versa. This service may be provided by the project applicant in corporation with major employers.	Up to 10.5%	

¹Can be achieved through TDM program measures.

²

Source: Fehr & Peers, 2020.

Implementation of this mitigation would reduce total daily VMT. However, because the Council has not selected the final list of development sites and because an individual site may not be able to achieve its required reduction in total daily VMT within the City, the impact would remain **significant and unavoidable**.

Figure 1 – Existing and Candidate Low and Very Low-Income Housing Sites

