TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

March 17, 2022

Mr. Peter Kulmaticki
JD PIERCE COMPANY, INC.
2222 Martin, Suite 100
Irvine, CA 92612

SUBJECT: Sunterra Vehicle Miles Traveled (VMT) Analysis, City of San Jacinto

Dear Mr. Kulmaticki,

*TJW Engineering, Inc. (*TJW*)* is pleased to submit this Vehicle Miles Traveled (VMT) Analysis for the proposed Sunterra project located on the southwest corner of Sanderson Avenue and Ramona Boulevard in the City of San Jacinto. The proposed project consists of 215 single family residential homes. This memorandum is in reference to the Sunterra Traffic Impact Analysis dated October 25th, 2021. The purpose of this memorandum is to summarize the VMT analysis.

BACKGROUND

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts. For land use projects, OPR has identified VMT as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA guidelines that implement SB 743 were approved on December 28, 2018 with an implementation date of July 1, 2020 as the new metric.

Consistent with the new metric of VMT for analysis of transportation impacts, this analysis follows the VMT guidelines set forth by the *City of San Jacinto Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (June, 16th, 2020).*

METHODOLOGY

The City's Traffic Impact Analysis (TIA) Guidelines provide various screening criteria for land use projects. The project details were evaluated and compared to the screening criteria established in the guidelines to determine if the project could be screened from VMT analysis. The following is an overview of the project in relation to the screening criteria:

- **Step 1: Transit Priority Area (TPA) Screening** – The project is not located within a TPA. Therefore, this screening criterion does not apply.
- **Step 2: Low VMT Area Screening** – The TIA Guidelines recommend examining the project location within the Western Riverside Council of Governments (WRCOG) screening tool. However, this tool was developed using the Riverside County Transportation Analysis model (RIVTAM). WRCOG has recently released the Riverside County Model version 3.0 (RIVCOM), which is the recommended travel demand model within Riverside County for VMT analysis purposes. Therefore, the project TAZ was examined within RIVCOM no project model run. The project TAZ VMT per service population was found to be 35.3, which is higher than the regional average of 34.6. Therefore, the project is not located within a low VMT area and this screening criterion does not apply to the project.
- **Step 3: Project Type Screening** – The TIA Guidelines identifies various local-serving land uses and projects that generate less than 500 daily trips can be screened out. The proposed project includes single-family residential development and is not considered a local-serving land use. In addition, the project will generate more than 500 daily trips. Therefore, this screening criterion does not apply.

As the project is not screened from VMT analysis, a detailed VMT analysis was conducted to assess the project's VMT impact.

Thresholds of Significance

Based on the TIA Guidelines, project VMT per service population is the metric to evaluate the potential project impacts. The TIA Guidelines establishes the base (2012) and cumulative (2040) year WRCOG subregional VMT per service population as the VMT impact threshold for the corresponding year. Additionally, based on the TIA Guidelines, project-effect on VMT should be evaluated by comparing link-level VMT per service population for the WRCOG subregion between project and with project conditions for both base and cumulative year.

Riverside County Model version 3.0 (RIVCOM) is currently the recommended travel model in Riverside County for VMT analysis purposes and therefore, this model was used to estimate the project VMT. Additionally, the base and cumulative year subregional VMT per service population were also calculated using the base year (2018) and cumulative year (2045) no project RIVCOM model runs. Also, link-level VMT per service population for both base and cumulative years were also calculated from RIVCOM no project model runs using daily assignment volumes for all the links within the region and dividing it by the regional service population.

For the with project scenarios, RIVCOM socioeconomic database for both base and cumulative years were updated with the project land uses to calculate project VMT. The project VMT was calculated from the RIVCOM model runs as described below:

Project Traffic Analysis Zone Update

For base year scenario, an empty TAZ available at the vicinity of the project location was used as the project TAZ. The project land use was added to the project TAZ so that the project can be isolated for VMT evaluation.

A similar approach was used for cumulative year. It should be noted that the project land use was included in the model as additional land use and no shifting of land use from other TAZs was used. In that regard, the cumulative VMT analysis can be considered as a conservative estimate.

Model Runs and Project VMT Estimation

Model runs were conducted for this updated model after incorporating the project land uses as described above. Project VMT per service population was estimated from RIVCOM model runs consistent with the methodology recommended in the TIA Guidelines. Origin-Destination (O-D) method was used for project VMT estimate as recommended in the Guidelines. As such, project generated VMT was extracted from RIVCOM model runs using origin-destination trip matrices and by multiplying them with the final assignment skim matrices. The extracted project origin destination VMT was divided by the estimated project service population to develop the project VMT per service population for both scenarios.

Daily assignment volumes were used to estimate the total link-level daily VMT for all the links within the WRCOG from the with project model runs. Total link-level daily VMT was divided by the regional service population to estimate regional link-level VMT per service population.

VMT ANALYSIS

Project VMT Impact

Table 1 summarizes the base year regional threshold and project VMT per service population. As shown in Table 1, the project's VMT per service population is higher than the regional threshold. Therefore, based on the TIA Guidelines, the project will have a significant VMT impact.

Table 2 summarizes the regional threshold and the project VMT per service population for the cumulative year. As shown in Table 2, the project's cumulative year VMT per service population is higher than the regional threshold. However, the project is consistent with the City's General Plan and therefore, is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Therefore, as stated in the TIA Guidelines, the cumulative impact is considered less than significant.

Detailed VMT calculations for the project is attached.

Table 1 – Base Year Regional and Project VMT per Service Population

Threshold[1]	Project	Difference	Percentage Difference	Significant Impact
34.6	35.1	0.5	1.45%	Yes

1: Estimated using "No Project" RIVCOM model runs

Table 2 – Cumulative Year Regional and Project VMT per Service Population

Threshold[1]	Project	Difference	Percentage Difference	Significant Impact
33.4	30.2	-3.2	9.58%	No

1: Estimated using "No Project" RIVCOM model runs

Project's Effect on VMT

Table 3 summarizes the base year no project and with project VMT per service population for the WRCOG subregion. As shown in Table 3, the with project regional link-level VMT per service population is 3.22% higher than the corresponding no project metric.

Table 4 summarizes the corresponding values for cumulative year. As shown in Table 4, the with project regional link-level VMT per service population is 2.91% higher than the corresponding no project metric.

Detailed VMT calculations for the project is attached.

Table 3 – Base Year (2018) Regional Roadway VMT per Service Population

2012	No Project	With Project	Difference	Percentage Difference
WRCOG Subregion[1]	18.234	18.229	-0.005	-0.03%

1: Estimated using RIVCOM model

Table 4 – Cumulative Year (2040) Regional Roadway VMT per Service Population

2040	No Project	With Project	Difference	Percentage Difference
WRCOG Subregion[1]	17.525	17.519	-0.006	-0.03%

1: Estimated using RIVCOM model

VMT MITIGATION

The City's VMT Guidelines provides a list of various VMT mitigation measures in the event a project is found to have a significant impact. Among those measures, a technical memorandum titled *SB 743 Implementation TDM Strategy Assessment (February 2019)* developed by Fehr & Peers is referenced. The technical memorandum provides VMT reduction strategies that can be quantified using the California Air Pollution Control Officers Association (CAPCOA) calculation methodologies and recent Air Resource Board (ARB) research findings. Among the strategies includes providing traffic calming measures.

Traffic calming can include, but not limited to, marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, etc. *(Measure SDT-2, CAPCOA 2010, page 190).*

Based on the guidelines outlined in the technical memorandum referenced in the City's VMT Guidelines, providing traffic calming measures can reduce VMT by as much as 1.7%. The VMT reduction is a function of the percentage of streets and intersections within the project with traffic calming improvements based on the below table.

Table 5 – Traffic Calming VMT Reduction

% VMT Reduction		% of Streets with Improvements			
		25%	50%	75%	100%
% of Intersections with Improvements	25%	0.425%	0.425%	0.85%	0.85%
	50%	0.425%	0.85%	0.85%	1.275%
	75%	0.85%	0.85%	1.275%	1.275%
	100%	0.85%	1.275%	1.275%	1.7%

Source: SB 743 Implementation TDM Strategy Assessment (Fehr & Peers, February 2019)

The project will be providing traffic calming measures throughout the project along the streets and at intersections within the project. On-street parking will be provided along all streets within the project. Crosswalks, stop signs, and "stop" pavement markings will also be provided at all ten (10) interior intersections; nine (9) of which just need one set whereas the intersection of Street D and Street F should be an all-way stop requiring four sets. A summary of the traffic calming measures are highlighted below. For reference, the landscaping plan is attached. Taking into consideration the project features, the project can receive the maximum 1.7% VMT reduction (see Table 5 above) by providing traffic calming at all street and intersections within the project.

- Streets
  - All streets within the project will provide on-street parking
    1. Street A
    2. Street B
    3. Street C
    4. Street D
    5. Street E
    6. Street F
    7. Street G
    8. Street H
    9. Street I
    10. Street J
    11. Street K
    12. Street L

- Intersections
  - All intersections within the project will provide crosswalks
    1. Street F / Street B
    2. Street F / Street D
    3. Street F / Street A
    4. Street F / Street H
    5. Street A / Street E
    6. Street E / Street G
    7. Street H / Street K
    8. Street D / Street H
    9. Street D / Street J
    10. Street D / Street L

As shown in Table 1, the project's base year VMT per service population exceeds the regional VMT per service population by 1.45%. The project features allow for a 1.7% reduction to VMT for providing traffic calming measures resulting in the project's VMT per service population to be less than the regional VMT per service population. Therefore, as stated in the City's TIA Guidelines, the project will not have a significant impact.

SUMMARY

This memorandum provides an overview of the VMT analysis conducted for the proposed project. The City's guidelines outline VMT per service population thresholds for base year and cumulative scenarios. The VMT Analysis indicates the project generated VMT per service population exceeded the WRCOG subregional VMT per service population for both base and cumulative years.

The project's VMT per service population for base year exceeds the WRCOG subregional VMT per service population by approximately 1.45%. The project's traffic calming features allow for a 1.7% reduction in VMT. As such, the project would result in less VMT per service population than the WRCOG subregion for the base year scenario.

As outlined in the City's guidelines cumulative year impacts are considered less than significant if the project is consistent with the City's General Plan. As the project is consistent with the City's General Plan, no significant impact is identified.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

David Chew, PTP
Transportation Planner

VMT Calculation Worksheet

VMT Calculation Worksheet - Project VMT

2018	Sanderson Ranch (Project)	WRCOG Region
Population	590	1,889,027
Employment	0	570,329
Service population	590	2,459,356
Homebased (HB) VMT	16,173	35,567,256
OD VMT	20,715	85,143,640
HB VMT per capita	27.4	18.8
OD VMT per service population	35.1	34.6

** Base year regional threshold was btained from WRCOG SB 743 Implementation Pathway Package Study*

2045	Sanderson Ranch (Project)	WRCOG Region
Population	590	2,680,162
Employment	0	846,261
Service Population	590	3,526,423
Homebased (HB) VMT	13,553	50,220,201
OD VMT	17,801	117,930,527
HB VMT per capita	23.0	18.7
OD VMT per service population	30.2	33.4

VMT Calculation Worksheet - Project's Effect on VMT

2018	With project	Without project	Difference	% Difference
Roadway VMT	44,842,067	44,843,616	(1,549)	0.0%
Service population	2,459,946	2,459,356	590	
VMT per service population	18.229	18.234	-0.005	-0.03%

2045	With project	Without project	Difference	% Difference
Roadway VMT	61,789,754	61,798,971	(9,217)	0.0%
Service population	3,527,013	3,526,423	590	
VMT per service population	17.519	17.525	-0.006	-0.03%

SUNTERRA

SAN JACINTO CALIFORNIA

Landscape Basin
Open Space Turf
Area

Open Space
Parking

Recreation Area
Enlargement
See Sheet 2

Open space
walkway

Water Wise
Planting

Turf Open Space

Bench Area
(2 Benches)

Open Space
Parking

Curb adjacent
side walk

Street Trees Typ.
see Plant Legend

Bench Area
(2 Benches)

Parkway Planting

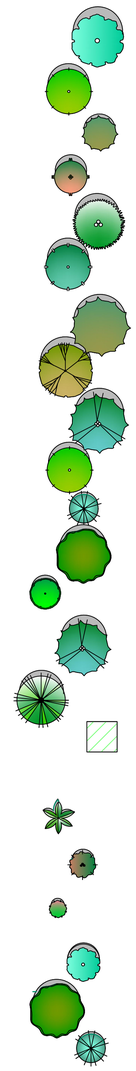
Parkway Sidewalk

Open Space Turf
Area

0' 80' 240'

NORTH

1.1 SITE LANDSCAPE CONCEPT PLAN



STREET TREES

Brachychiton populneus /
Bottle Tree

Pistacia chinensis /
Chinese Pistachio

Lophostemon confertus /
Brisbane Box

Pyrus calleryana 'Aristocrat' /
Aristocrat Pear

Pinus pinea /
Stone Pine

Quercus suber /
Cork Oak

Prosopis chilensis /
Chilean Mesquite

Platanus acerifolia 'Bloodgood' /
Sycamore

Podocarpus gracilior /
Yew Pine

Arbutus 'Marina' /
Marina Strawberry Tree

Chionathus retusus /
Chinese Fringe Tree

Quercus agrifolia /
Coast Live Oak

Prunus lyonii /
Catalina Cherry

Pistacia chinensis /
Chinese Pistache

Pinus eldarica /
Eldarica Pine

Water Wise Shrubs

REC AREA TREES

Syagrus romanzoffiona /
Queen Palm

Arbutus 'Marina' /
Marina Strawberry Tree

Rhapholipais indica 'Majestic Beauty
Hawthorne

Podocarpus henkelii /
Log-leafed Yellowwood

Quercus agrifolia /
Coast Live Oak

Vitex agnus-castus /
Chaste Tree

1.2 PLANT LEGEND

TBLA Landscape Architecture

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Conceptual Landscape Plans Developed for:

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CONCEPTUAL LANDSCAPE PLAN

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07/26/2021
Sheet:
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