MEMORANDUM

URBAN | CROSSROADS

DATE: June 19, 2024
TO: Lillyanna Diaz, City of Moreno Valley
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 16129-01 VMT

FARM BUREAU 140 (PEN24-0058, TTM 38955) VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. has completed the following Vehicle Miles Traveled (VMT) Analysis for the Farm Bureau 140 project (**Project**) located at 21160 Box Springs Road in the City of Moreno Valley.

PROJECT OVERVIEW

The site is the current location of the Riverside County Farm Bureau. The Project includes demolition of the existing structures on-site in order to develop a 140-unit, market-rate multifamily (low-rise) residential development. A site plan is provided in Attachment A.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City of Moreno Valley adopted their Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (June 2020) (1) (**City Guidelines**). This VMT analysis has been prepared based on the adopted City Guidelines.

TRAFFIC MODELING METHODOLOGY

City Guidelines identifies the Riverside County Transportation Model (RIVCOM) as the appropriate tool for conducting VMT analysis for land use projects in the City of Moreno Valley. RIVCOM was developed by the Western Riverside Council of Governments (WRCOG) and initially released in June 2021. RIVCOM version 4.0.1, recently released in January 2024, represents the most current sub-regional transportation modeling tool for Riverside County. RIVCOM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment.

VMT ANALYSIS METHODOLOGY

PRODUCTION/ATTRACTION VMT

Consistent with City Guidelines, VMT has been estimated using the Production/Attraction (PA) method. The PA method for calculating VMT sums all weekday VMT generated by Home-Based (HB) and Home-Based Work (HBW) trips with at least one trip-end in the study area (i.e., individual Traffic Analysis Zone or TAZ) by trip purpose. Productions are land use types that generate trips (residences), and attractions are land use types that attract trips (employment). The PA method allows Project generated VMT to be evaluated based on trip purpose, which is consistent with recommended analysis methodologies outlined by both the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) (2) and City Guidelines.

Consistent with City Guidelines, project generated VMT estimates are presented as HB VMT per capita for residential uses. Project generated HB VMT per capita is an efficiency metric that represents VMT generated on a typical weekday per person who resides within the Project. Use of this metric allows the City to compare the Project to the remainder of the City for purposes of identifying transportation impacts.

BOUNDARY VMT

City Guidelines also acknowledge that the VMT analysis should also contain an evaluation of a project's effect on VMT, which can be performed using the boundary method of calculating VMT. The boundary method is the sum of all weekday VMT on the roadway network within a designated boundary (i.e., City boundary). The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. Consistent with City Guidelines, the City of Moreno Valley's boundary was used as the boundary for this assessment.

VMT IMPACT THRESHOLDS

The City Guidelines describe the following significance thresholds for VMT analyses[1]:

1. A project would have a significant VMT impact if, in the Existing Plus Project (i.e., baseline) scenario, its VMT per capita (for residential projects) exceeds the per capita VMT for Moreno Valley.

2. If a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence. If it is not consistent with the RTP/SCS, then it would have a significant VMT impact if:

    a. For residential projects its net VMT per capita exceeds the average VMT per capita for Moreno Valley in the RTP/SCS horizon-year.

[1] City Guidelines; Page 26

The City Guidelines notes that the Cumulative No Project scenario shall reflect the adopted RTP/SCS; as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence.

CITY OF MORENO VALLEY VMT PER CAPITA

The City of Moreno Valley average VMT per capita was calculated using the RIVCOM model and found to be **15.9 VMT per capita** (see Table 1).

TABLE 1: CITY OF MORENO VALLEY AVERAGE VMT PER CAPITA

City of Moreno Valley	Baseline
Population	219,186
HB VMT	3,448,907
HB VMT per Capita	15.9

PROJECT VMT ESTIMATES

To estimate project generated VMT, land use information such as dwelling units (DU) must first be converted into a RIVCOM-compatible dataset. The RIVCOM model utilizes socio-economic data (SED) (e.g., households, population, and employment) for the purposes of vehicle trip estimation. The Project's SED is then isolated within the Project's TAZ. For the purposes of this analysis, the population conversion factor used is consistent with the City of Moreno Valley General Plan; Housing Element, Page 3-10 of 3.9 persons per household. Table 2 summarizes the SED inputs used to represent the Project.

TABLE 2: LAND USE DATA SUMMARY

Land Use	Quantity	Population Density Factor	Population
Residential	140 DU	3.9 person per household	546

PROJECT-GENERATED VMT

VMT estimates for the Project were extracted from RIVCOM using the PA trip matrices, which includes project generated VMT for all home-based production trips. The VMT estimates calculated for current conditions along with a comparison to the City's adopted impact threshold are presented in Table 3. RIVCOM outputs have been included in Attachment B.

TABLE 3: PROJECT-GENERATED VMT PER CAPITA

	Existing + Project
Population	546
HB VMT	8,518
VMT per capita	15.6
City Threshold	15.9
Potentially Significant?	No

PROJECT'S CUMULATIVE IMPACT ON VMT

The Project is located in assessor's parcel numbers (APNs) 256-200-002 through -004. Based on the City General Plan's underlying land use assumptions of high density residential (HDR) and zoning of R-15 multi-family residential (see Figure 1), the Project is consistent with the City's underlying land use and zoning and does not require a general plan amendment or change of zone. As such, the Project is therefore consistent with the land use assumptions contained in the reginal RTP/SCS and cumulative impacts are considered less than significant.

FIGURE 1: GENERAL PLAN LAND USE MAP

Although not required by the City Guidelines as the Project is consistent with RTP/SCS, in an effort to disclose any potential impacts, an assessment of the Project's effect on VMT has also been included. The Project's effect on VMT has been calculated using the boundary method. Land use information representing the proposed land use changes contemplated by the Project were coded into the Project TAZ to represent the "With Project" condition. Table 5 summarizes the boundary VMT under the No Project and With Project scenarios for the cumulative condition.

TABLE 4: PROJECT EFFECT ON VMT

	Horizon Year	
	No Project	With Project
Service Population	333,346	333,892
Boundary VMT	3,409,268	3,410,866
Boundary VMT per Service Population	10.2	10.2
Change in VMT per Service Population	0.0	

As presented in Table 4, the boundary VMT per service population is estimated to remain unchanged under cumulative With Project conditions.

ACTIVE TRANSPORTATION & PUBLIC TRANSIT REVIEW

The purpose of this analysis is to evaluate the potential for the Project to conflict with adopted transportation policies, plans, or programs. The analysis specifically addresses potential Project impacts to circulation roadways, bicycle facilities, pedestrian facilities, and public transit.

CITY OF MORENO VALLEY GENERAL PLAN CIRCULATION ELEMENT

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on City of Moreno Valley General Plan Circulation Element, are described subsequently. Exhibit 2 shows the City of Moreno Valley General Plan Circulation Element and below is a summary of General Plan roadway classifications.

Arterials: Arterial streets carry the majority of traffic traveling through the City. They serve two primary functions: to move vehicles into and through the city, and to serve adjacent commercial land uses. They provide access to freeways as well as major activity centers and residential areas. Driveways and other curb cuts along arterials are designed to minimize disruption to traffic flow. Sidewalks are typically included along arterials, and protected Class I or IV bike lanes are recommended. Truck routes are designated along arterials. The desired maximum roadway capacity on arterials averages from 30,000 to 55,000 vehicles per day depending on number of lanes, type and width of directional separation, presence of on-street parking or bicycle facilities, configuration and frequency of access to adjacent land uses, and intersection configurations. Moreno Valley has several designations of varying ROW, the widest Divided Major Arterial (134' ROW), Divided Arterial (110' ROW), Arterial (100' ROW) and down to a Minor Arterial (88' ROW).

The following study area roadways within the City of Moreno Valley is classified as a Divided Major Arterial:

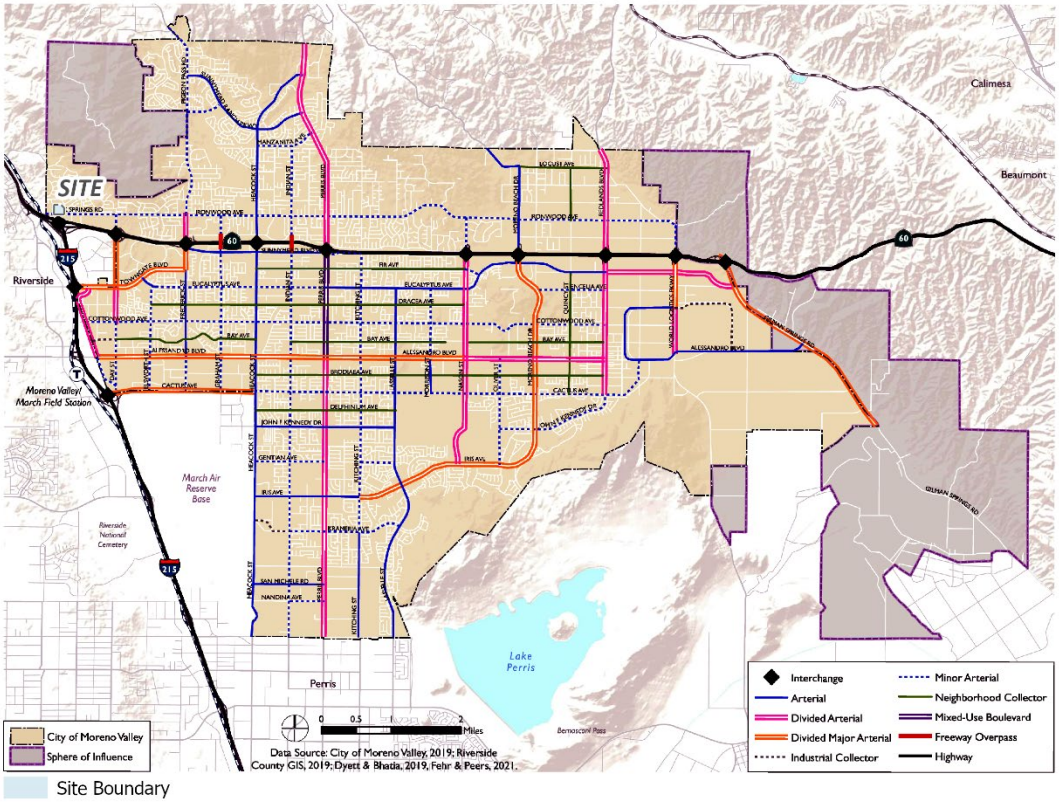
- Day Street, between SR-60 and Towngate Boulevard.

The following study area roadways within the City of Moreno Valley are classified as Minor Arterials:

- Box Springs Road, along the Project frontage.
- Day Street, between Box Springs Road and SR-60.

EXHIBIT 2: CITY OF MORENO VALLEY GENERAL PLAN CIRCULATION ELEMENT

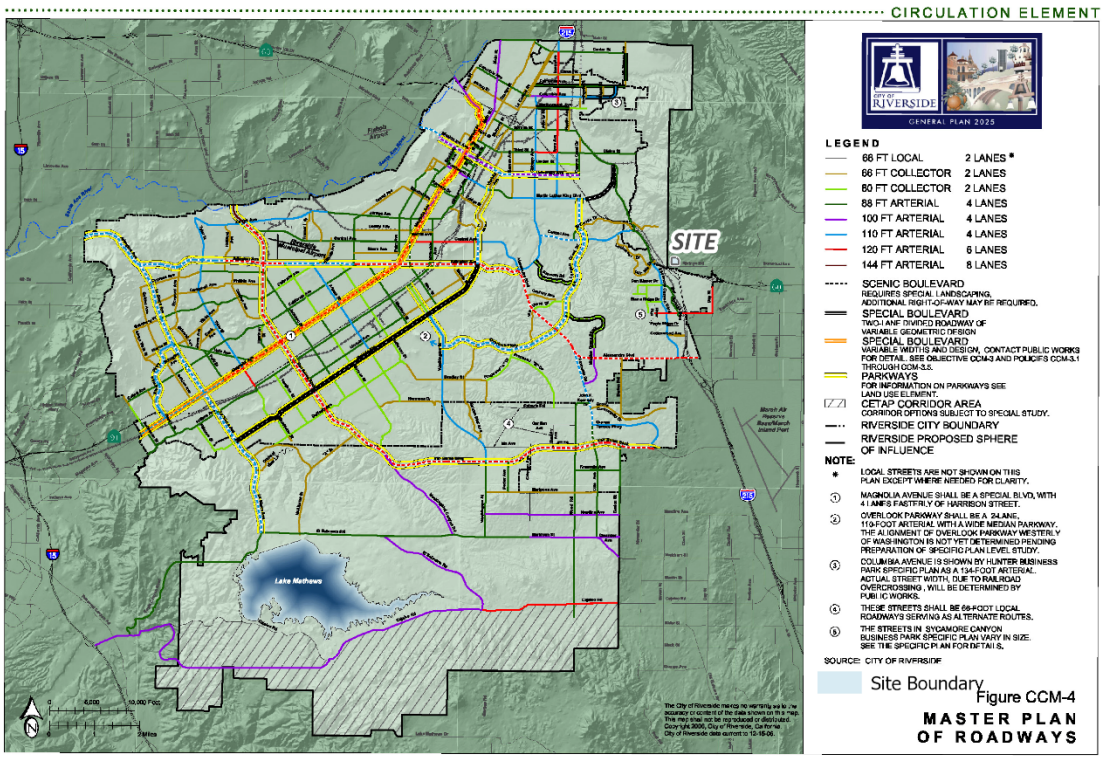
Map C-1: Circulation Diagram



CITY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3 shows the City of Riverside General Plan Circulation Element. (3)

EXHIBIT 3: CITY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT



BICYCLE FACILITIES REVIEW

The bicycle facilities, as identified in the City of Moreno Valley General Plan, are a concerted effort to expand the ease of alternative transportation options for residents, recognizing both health and environmental benefits. This includes existing and proposed bicycle facilities, with the majority of existing facilities in the western portion of the city where most people live, and proposed, connecting networks of bicycle facilities in the eastern portion of the city. With relatively flat terrain and a rectilinear street grid, Moreno Valley is an inherently bikeable community. Improving bicycle facilities can increase the likelihood and desirability of this active transportation mode for short distance trips, school trips, and recreational activities. A map of existing and planned bicycle networks within the City of Moreno Valley can be found in Exhibit 4. The different types of bicycle facilities designated in Moreno Valley are described below:

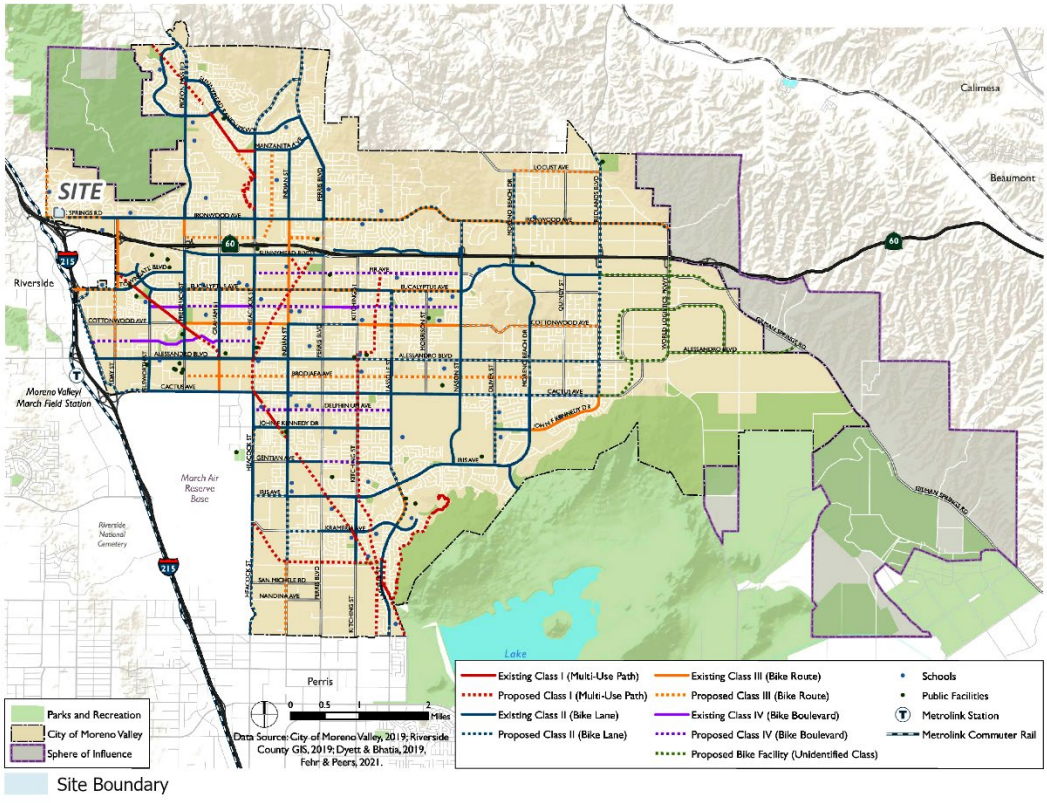
- **Class I Bikeways (Multi-Use Paths):** Class I bikeways are facilities that are physically separated from vehicles, designated for the exclusive use of bicyclists and pedestrians with minimal vehicle crossings.
- **Class II Bikeways (Bike Lanes):** Class II bikeways are striped lanes designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross flow are permitted at designated locations.

- **Class III Bikeways (Bike Routes):** Class III bikeways, also referred to as bike routes, are only identified by signs or pavement markings. A bicycle route is meant for use by bicyclists and for motor vehicle travel (i.e., shared use).
- **Class IV Bikeways (Cycle Tracks):** Class IV bikeways, also referred to as cycle tracks, are protected bike lanes, which provide a right-of-way designated exclusively for bicycle travel within a roadway that is protected from vehicular traffic with devices such as curbs, flexible posts, inflexible physical barriers, or on-street parking.
- **Bicycle Boulevards:** Bicycle Boulevards are convenient, low stress cycling environments on low traffic volume streets, typically parallel to higher traffic volume streets as an alternative to them. These roads prioritize bicyclists and typically include speed and traffic volume management measures, such as intersection ROW control, to discourage motor vehicle traffic.

Adjacent to the Project site, an existing Class II bike lane can be found along Box Springs Road. Within the study area, an existing Class III bike route can be found along Day Street. Class III bike routes are proposed along Morton Road.

EXHIBIT 4: BICYCLE FACILITIES

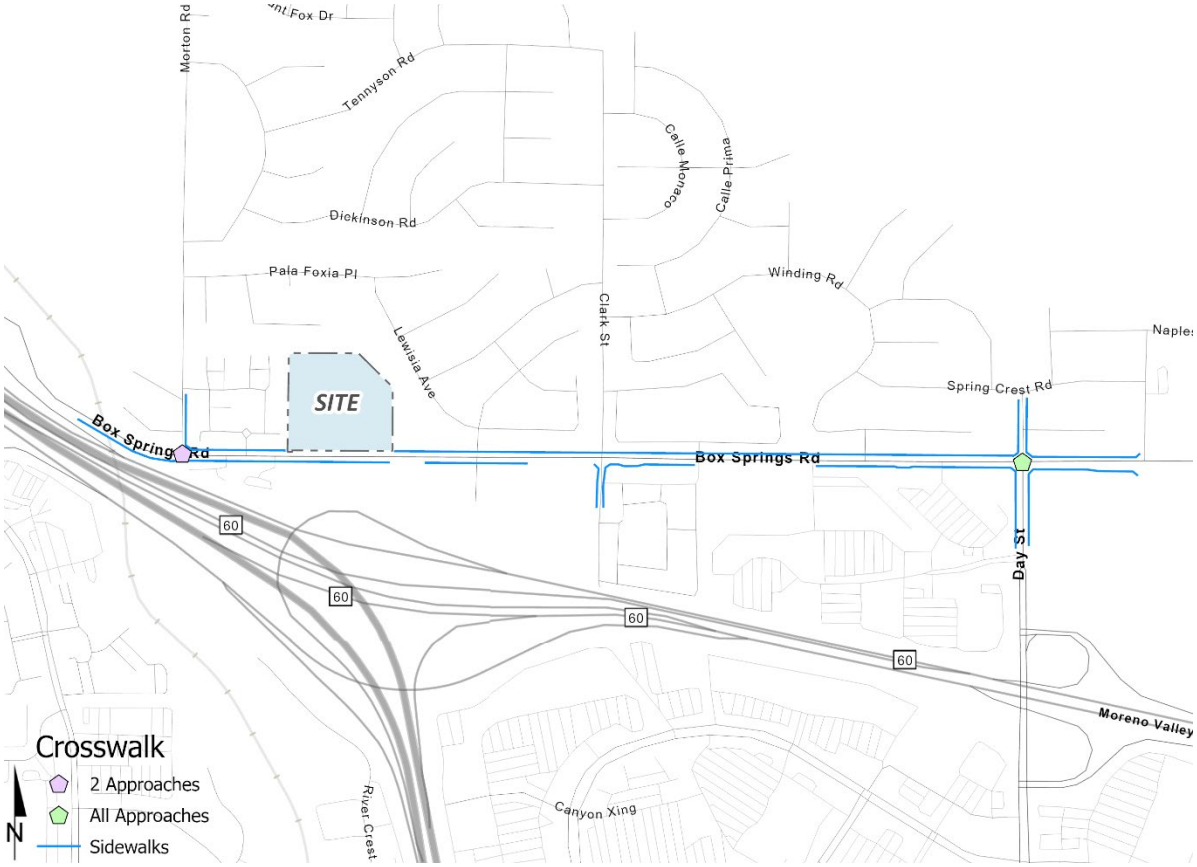
Map C-2: Existing and Planned Bicycle and Pedestrian Network



PEDESTRIAN FACILITIES REVIEW

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, and multi-use trails. Exhibit 4 illustrates the existing crosswalks throughout the study area. As shown in Exhibit 4, pedestrian facilities are built out along portions of Box Springs Road. Under the assumption that pedestrian facilities will continue to be constructed as the study area develops, the Project will be part of a safe and efficient pedestrian network. The Project is to develop the sidewalks along the roadways adjacent to the Project.

EXHIBIT 4: EXISTING PEDESTRIAN FACILITIES



PUBLIC TRANSIT REVIEW

Transit service can provide an alternative to automobile travel and is a critical mode of transportation for those who cannot drive (such as the elderly, youth, or disabled) or do not have access to a vehicle. The transit options in Moreno Valley are shown in Exhibit 5. Within Moreno Valley, intercity buses, local buses, and demand-responsive service are provided, all of which help people get around. Existing public transportation offerings are described below.

Riverside Transit Agency (RTA): The majority of the available public transportation is provided by the Riverside Transit Agency (RTA) via fixed route and paratransit bus services. RTA provides routes within the City that connect to major destinations such as the Moreno Valley/March Field Metrolink Station, Perris Station Transit Center, University of California Riverside (UCR), and Moreno Valley Mall. Major Moreno Valley bus routes include routes 11, 16, 18, 19, 19A, 20, and

31. Route 16 runs along Box Springs Road and Day Street. There are bus stops approximately 500 feet east and 500 feet west of the Project site along Box Springs Road.

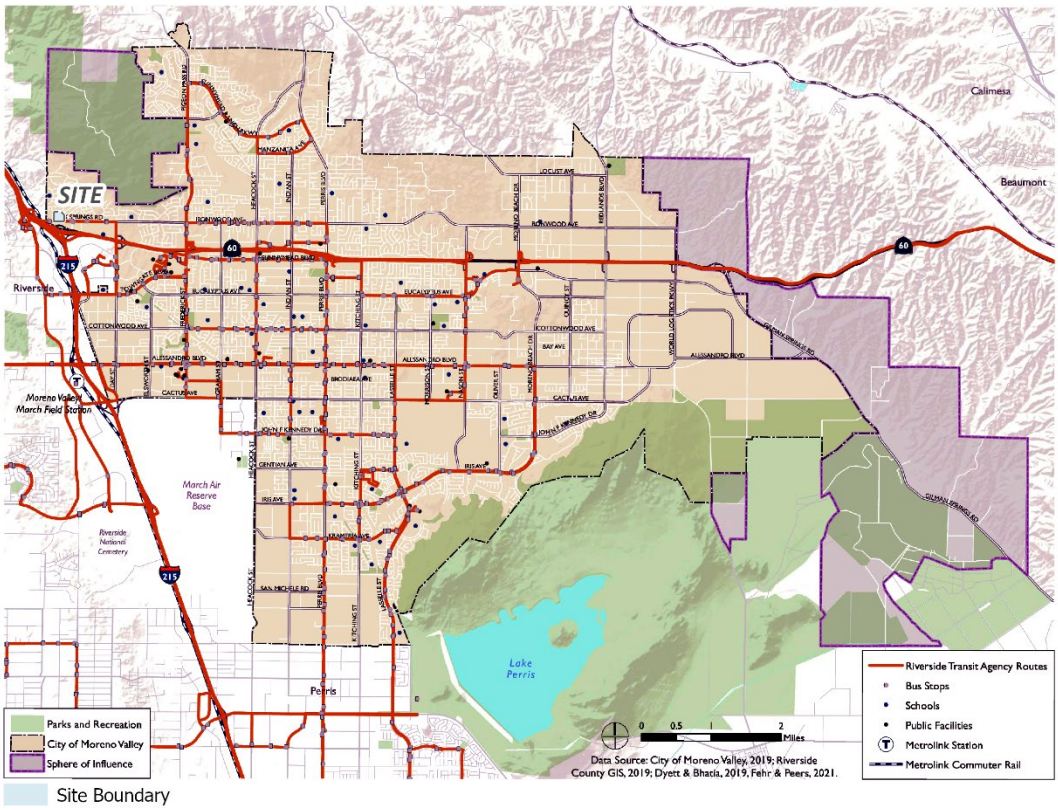
In addition, RTA Route 31 also provides connections to Beaumont, Banning, Hemet and San Jacinto, and passengers can transfer in Beaumont to Sunline Route 10 for service to the Coachella Valley. RTA also provides Dial-A-Ride services for seniors and persons with disabilities.

Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

Metrolink: Metrolink is a commuter rail program operated by the Southern California Regional Rail Authority (SCRRA), providing service from outlying suburban communities to employment centers such as Burbank, Irvine, and downtown Los Angeles. The nearest Metrolink station is the Moreno Valley/March Field Metrolink Station, located approximately 3 miles south of the Project site and less than one-half mile west of the city limits. The 91/Perris Valley Line (PVL) train services Metrolink stations in the cities of Perris, Riverside, Corona, Fullerton, Buena Park, Norwalk/Santa Fe Springs, and Los Angeles. The Metrolink 10-Year Strategic Plan (2015-2025) indicates that through a partnership with Metro, they will experiment with lower fares across the board and targeted discounts on shorter distance trips with the goal of increasing ridership and revenue.

EXHIBIT 5: EXISTING TRANSIT ROUTES

Map C-3: Transit Lines and Facilities



TRANSPORTATION IMPACT ANALYSIS

This assessment addresses the following Transportation thresholds stated in *CEQA Guidelines* Appendix G:

T-1 Potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

T-2 Potential to conflict or be inconsistent with *CEQA Guidelines* Section 15064.3(b) regarding policies to reduce vehicle miles traveled (VMT).

T-3 Potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-4 Potential to result in inadequate emergency access.

T-1 ASSESSMENT

A review of the Project description did not identify any disruption to existing bicycle, pedestrian nor transit facilities. The Project would not modify transit stop locations or change transit headways. Additional transit ridership demand could increase boarding activity at existing bus stops and transit terminals located near the Project site. The Project is consistent with the adopted plans regarding bicycle and pedestrian infrastructure and is not expected to decrease the performance or safety of these facilities. Therefore, the Project is considered to have a less than significant impact on active transportation and on public transit.

Based on the preceding discussions, the potential for the Project to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities would be **less than significant**.

T-2 ASSESSMENT

The Riverside County Model (RIVCOM) forecast of home-based VMT per capita is the required method for estimating project generated VMT.

1. A project would have a significant VMT impact if, in the Existing Plus Project (i.e., baseline) scenario, its VMT per capita (for residential projects) exceeds the per capita VMT for Moreno Valley.

2. If a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence.

Based on the VMT analysis previously presented in this technical memorandum, Project-generated VMT per capita was found to be less than the baseline City of Moreno Valley VMT per capita. Additionally, the Project was found to be consistent with the RTP/SCS and a cursory review of the Project's cumulative effect on VMT was found to remain unchanged. The Project therefore results in a **less than significant** VMT impact.

T-3 ASSESSMENT

The Project does not propose or require facilities or operations that would substantially increase hazards due to a geometric design feature. Final designs of Project plans and all Project traffic

improvements would be subject to review and approval by the City, thereby ensuring conformance of improvements with City and design and safety standards. On-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the Project site. Sight distance at each Project access point would be reviewed to ensure conformance with City sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

Traffic generated by the Project, and traffic accessing the Project site, would comprise conventional autos and light trucks. Uses requiring incompatible vehicle types (e.g., farm equipment) are not proposed by the Project. Further, given the Project's suburban context, it is not anticipated that such incompatible vehicle types would comprise a substantial proportion of traffic accessing the Project site.

Based on the preceding, the potential for the Project to substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) would be **less than significant.**

T-4 ASSESSMENT

The Project does not propose or require facilities or operations that would restrict or otherwise interfere with emergency access. Final Project plans as approved by the Lead and Responsible Agency would be required to conform with adopted and proposed emergency access and evacuation plans.

Additionally, to minimize potential effects of Project construction on area traffic patterns, it is recommended the following or similar Construction Area Traffic Management Plan (Plan) be implemented as a Project Condition of Approval. Typical elements and information incorporated in the Plan would include, but not be limited to:

- Name of on-site construction superintendent and contact phone number.
- Identification of Construction Contract Responsibilities - For example, for excavation and grading activities, describe the approximate depth of excavation, and quantity of soil import/export (if any).
- Identification and Description of Truck Routes - to include the number of trucks and their staging location(s) (if any).
- Identification and Description of Material Storage Locations (if any).
- Location and Description of Construction Trailer (if any).
- Identification and Description of Traffic Controls - Traffic controls shall be provided per the Manual of Uniform Traffic Control Devices (MUTCD) if the occupation or closure of any traffic lanes, parking lanes, parkways or any other public right-of-way is required. If the right-of-way occupation requires configurations or controls not identified in the MUTCD, a separate traffic control plan must be submitted to the City for review and approval. All right-of-way encroachments would require permitting through the City.
- Identification and Description of Parking - Estimate the number of workers and identify parking areas for their vehicles.
- Identification and Description of Maintenance Measures - Identify and describe measures taken to ensure that the work site and public right-of-way would be maintained (including dust control).

The Plan would be reviewed and approved by the Lead Agency and affected Responsible Agencies prior to the issuance of development or encroachment permits. The Plan and its requirements would also be required to be provided to all contractors as one component of construction plan/contract document packages.

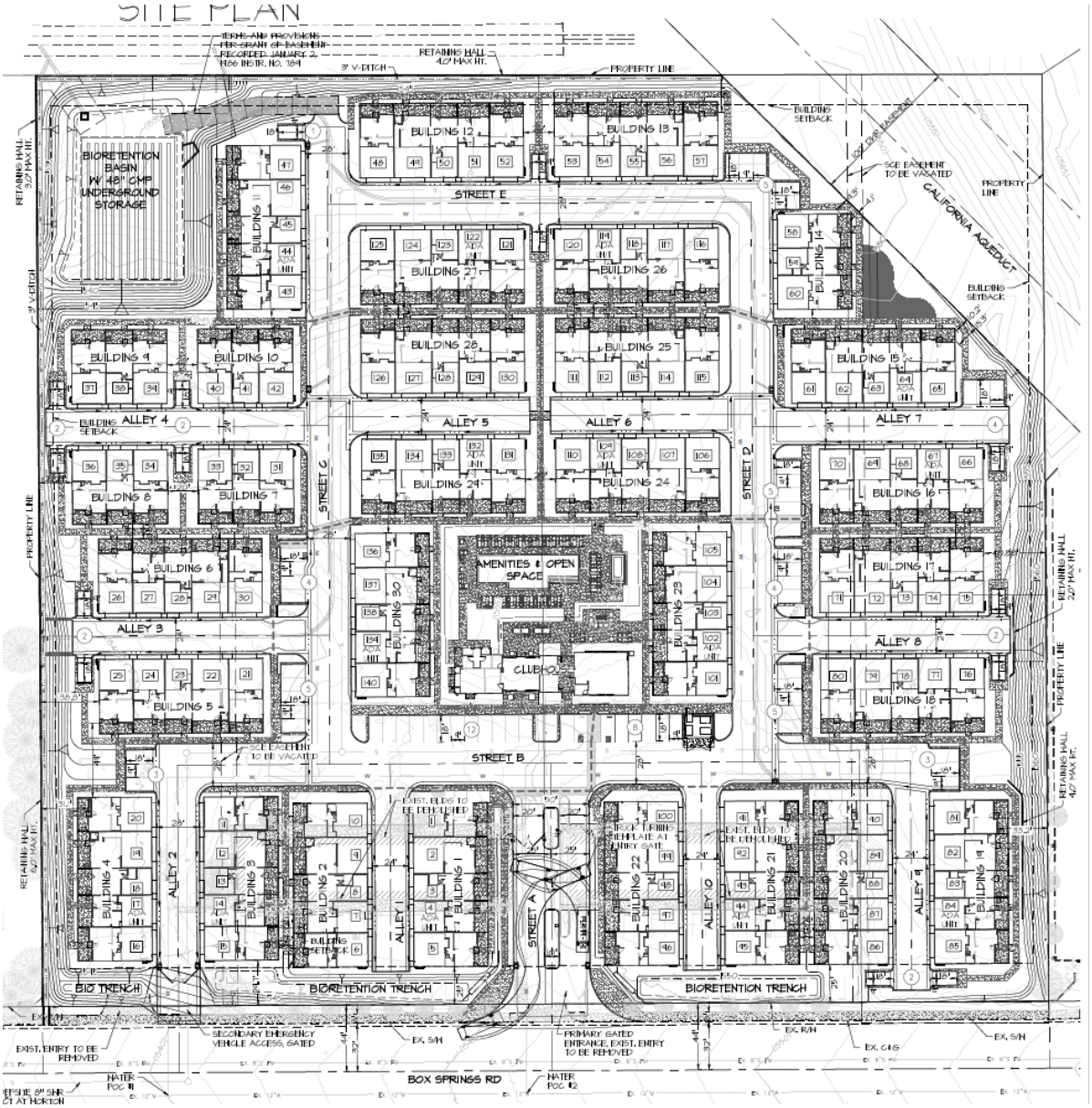
Based on the preceding, the potential for the Project to result in inadequate emergency access would be **less than significant.**

If you have any questions, please contact me directly at aso@urbanxroads.com.

REFERENCES

1. **City of Moreno Valley.** *Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment .* June 2020.
2. **Governor's Office of Planning and Research.** *Technical Advisory On Evaluating Transporation Impacts In CEQA.* December 2018.
3. **City of Riverside.** *Riverside General Plan 2025.* City of Riverside : s.n., Amended February 2018.

ATTACHMENT A
PROJECT SITE PLAN


SITE PLAN
BIORETENTION BASIN W 48" CMP UNDERGROUND STORAGE
BUILDING 12
BUILDING 13
STREET E
BUILDING 27
BUILDING 26
BUILDING 28
BUILDING 25
BUILDING 14
BUILDING 15
BUILDING 9
BUILDING 10
BUILDING 11
ALLEY 4
ALLEY 5
ALLEY 6
ALLEY 7
STREET C
STREET D
BUILDING 24
BUILDING 24
BUILDING 16
BUILDING 8
BUILDING 7
BUILDING 6
AMENITIES & OPEN SPACE
CLUBHO
BUILDING 30
BUILDING 23
BUILDING 17
ALLEY 3
ALLEY 8
BUILDING 5
BUILDING 18
STREET B
BUILDING 4
BUILDING 3
BUILDING 2
BUILDING 1
ALLEY 2
ALLEY 1
STREET A
BUILDING 22
BUILDING 21
BUILDING 20
ALLEY 10
ALLEY 9
BIO TRENCH
BIORETENTION TRENCH
BIORETENTION TRENCH
BOX SPRINGS RD
PROPERTY LINE
RETAINING WALL
BUILDING SETBACK
CALIFORNIA AQUEDUCT
SCE EASEMENT TO BE VACATED
EXIST. ENTRY TO BE REMOVED
SECONDARY EMERGENCY VEHICLE ACCESS, GATED
PRIMARY GATED ENTRANCE, EXIST. ENTRY TO BE REMOVED
WATER POC #1
WATER POC #2

ATTACHMENT B
RIVCOM OUTPUTS

TABLE B-1: RIVCOM OUTPUTS

TAZ	1198
Daily_Home-Based (incl. IEHB) Prod VMT	82589.71875
Daily_HBW (incl. EIHBW) Attr VMT	21637.78125
Daily_Total Auto OD From VMT	80999.36719
Daily_Total Auto OD To VMT	80350.89063
Daily_Total Auto OD Intra VMT	339.78009
Daily_Total Truck OD From VMT	1858.002197
Daily_Total Truck OD To VMT	1885.436768
Daily_Total Truck OD Intra VMT	0.973732
Daily_Total OD From VMT	82857.36719
Daily_Total OD To VMT	82236.32813
Daily_Total OD Intra VMT	340.753845
Daily_Total_TripLen	10.634726
Population	5298
Employment	585
Enrollment	1004