

## VEHICLE MILES TRAVELED (VMT) MITIGATION BANK PILOT PROGRAM

Public Works Department

**City Council Meeting**  
December 17, 2024

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## SUMMARY

- City of Riverside Presentation
  - VMT Background & Exemptions, Current Approach
- Kimley-Horn & Associates (KHA) Presentation
  - Vehicle Miles Traveled (VMT) Mitigation Pilot Program



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## SENATE BILL (SB) 743 BACKGROUND

- Historically, Level of Service (automobile delay) was the transportation metric used when evaluating traffic impacts.
- Senate Bill (SB) 743** – State mandated local agencies to adopt Vehicle Miles Traveled (VMT) by 7/1/20 as transportation metric.

### Transition to VMT Methodology:

- Phase I** (Establish CEQA compliance, set thresholds & exemptions)
  - Adopted VMT methodology on 6/16/20
- Phase II** – Establish VMT Mitigation Program (\*we are here now\*) (2024)



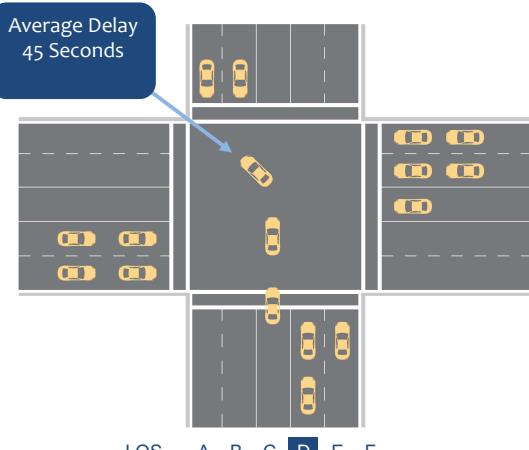
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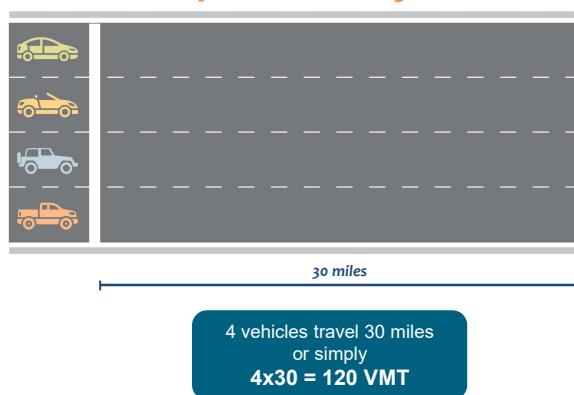
### Level of Service (LOS)

#### Impact to the Driver



### Vehicle Miles Traveled (VMT)

#### Driver's Impact to Transportation System



**Senate Bill 743 Mandate July 2020**

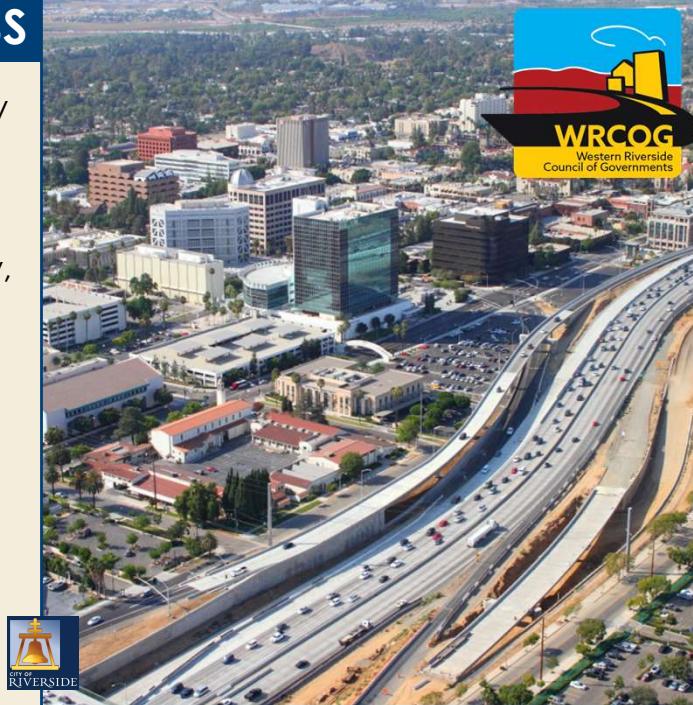
Source: Kimley Horn & Associates

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## VMT EXEMPTION PROCESS

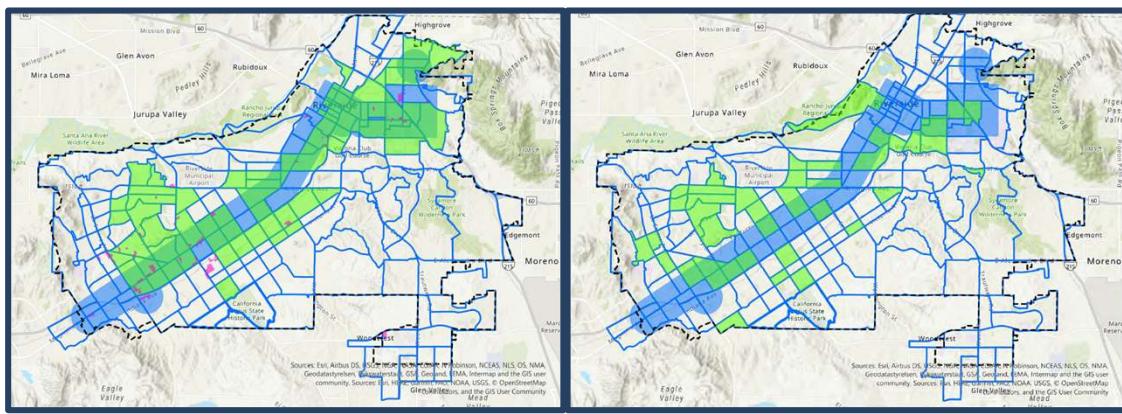
- **W.R.C.O.G.** – Traffic Impact Study Guidelines with VMT Methodology Blueprint (Adopted 2020)
- **VMT Screening Tool** Map of low, moderate or high VMT area & compares to thresholds
- **Project Type Screening**
  1. Transit Priority Area (TPA)
  2. Low VMT Area
  3. Project Type
  4. Mixed Use Projects
  5. Redevelopment Projects



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## VMT SCREENING CRITERIA

### SCREENING PROCESS (Exemptions) – Does the Project Need a VMT Analysis?



#### Residential & Transit Screening

\*Maps for visualization purposes only, individual site review conducted by Traffic Engineering Division

#### Office and Industrial Screening

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## VMT EXEMPTION HISTORICAL DATA



**DEVELOPMENT APPLICATIONS REVIEWED ANNUALLY ~ 175 Projects**

**90% of development applications are exempt from VMT analysis**



**VMT exempted projects use screening criteria:**

- Local Serving Project (50%) (less than 50K square ft retail)
- Project Type Screening (20%)
- Housing Element Site (10%)
- Smaller Projects (10%)

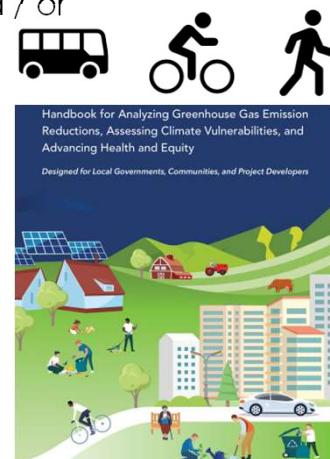


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## VMT IMPACTS & MITIGATION (EXISTING EFFORTS)

- **How To Mitigate Significant VMT Impacts of the 10% projects?**
  - Mitigation measures from CAPCOA Handbook and / or
  - Prepare an Environmental Impact Report (EIR)
- **VMT Mitigation Costs:**
  - EIR costs in the range of 100K-400K; EIR = TIME
  - Schedule will take months
  - Capital improvements can be excessive
- **VMT Mitigation - Lessons Learned:**
  - Not so simple as state mandate for local agencies
  - Local agency approach varies widely
    - Full VMT mitigation may not be feasible



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# VMT MITIGATION PILOT PROGRAM OPTION

## **VMT Mitigation Pilot Program Benefits:**

- Streamline the development process
- Provide certainty to developers
- Mitigation option for other agencies



- VMT Mitigation Bank **Pilot** Program
- Started (2023)
- <https://www.riversidevmt.com/>
- Multiple Public Outreach Meetings
- Goal is to adopt program by 2024!

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## Vehicle Miles Traveled (VMT) Mitigation

Through Fees, Banks, & Exchanges Program

Prepared for:



Prepared by:

**Kimley »Horn**  
Expect More. Experience Better.

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# VMT MITIGATION PILOT PROGRAM

## Summary:

- Study Purposes
- Outreach Efforts
- Program Recommendation
- Mitigation Measures Reviewed
- Mitigation Measure Packages
- Findings and Remaining Steps



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# VMT MITIGATION PILOT PROGRAM PURPOSE

## Study Purposes

- Identify new solutions to mitigate significant transportation impacts
- Provide information to public about VMT
- Evaluate the feasibility of a VMT Mitigation Program



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# VMT MITIGATION PILOT PROGRAM OUTREACH

## Outreach Efforts

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20+



Online Survey Responses



Public Meeting



Stakeholder Advisory Committee Meetings



Targeted Agency Meetings



City Staff Meetings

### Targeted Agencies:

- WRCOG
- County of Riverside
- RTA
- UCR

Project Website: <https://www.riversidevmt.com/>

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# VMT MITIGATION PILOT PROGRAM RECOMMENDATION

- VMT Bank is the Recommended Framework

	VMT Bank	VMT Exchange	VMT Impact Fee
Predefined Projects	✓	✗	✓
Applicant Can Provide a Project Option	✗	✓	✗
Experience Administering Similar Programs	✓/✗	✗	✓
Can Result in Low Cost per VMT Reduced	✓	✓/✗	✗
Supportive of All SB 743 Goals	✓	✓	✓/✗

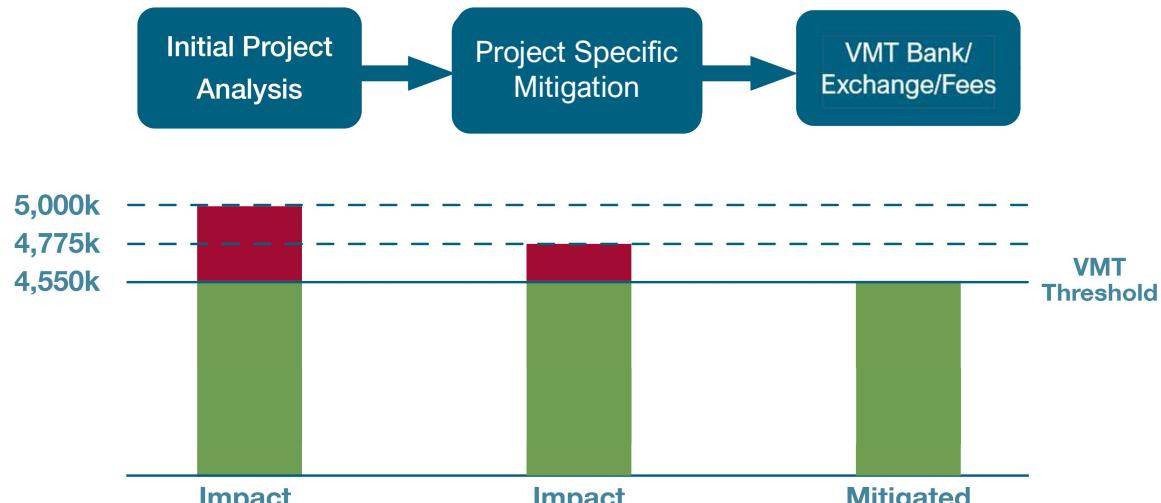


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## How VMT Mitigation Program Works (If There's an Impact)



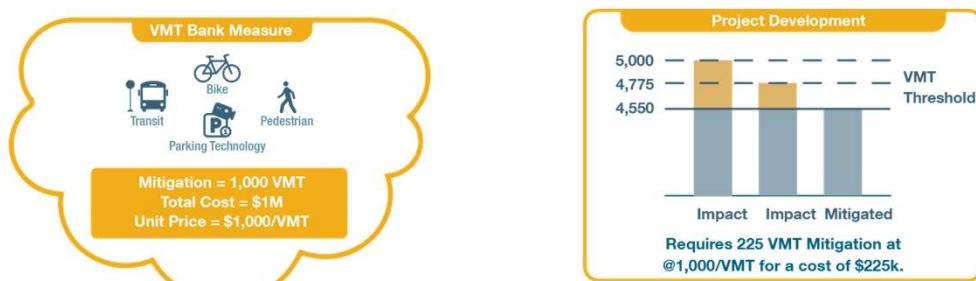
Note: Numbers Used are Provided as an Example

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## How a VMT Bank Works



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## MITIGATION PROGRAM PROJECTS ANALYZED

- 29 bike projects analyzed
- 11 pedestrian projects considered, 4 analyzed
- 14 transit operations projects screened
- 6 transit projects analyzed
- 3 Transportation Demand Management (TDM) measures considered
  - *Carpool – not analyzed*
  - *Telecommute: Work-from-Home (WFH) every day vs. WFH 1 day a week*
    - *Analyzed*
  - *Free Transit Pass – not analyzed*



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### Option A Mitigation Measure Package

Project ID	Roadway	Ward	Description	Cost	VMT Reduced	Cost/VMT
14	Columbia Avenue	1	Stripe bike lane between American Dr and Salmon River Rd	\$41,719	90	\$462
15	Cypress Avenue	6,7	Stripe bike lane between La Sierra Ave and Crest Ave	\$38,800	145	\$267
16	Orange Street	1	Construct separated bikeway between 14th St and 3rd St	\$176,239	733	\$240
17	Hole Avenue	6	Stripe buffered bike lane between Collett Ave and Magnolia Ave	\$63,360	322	\$197
18	Tyler Street	6,7	Stripe bike lane between Diana Ave and Arlington Ave	\$110,000	571	\$193
19	University Avenue	2	Construct a buffered bike lane between Iowa Ave and Campus Dr	\$133,358	750	\$178
20	Jackson Street	5	Construct bike path between Diana Ave and Magnolia Ave	\$54,600	310	\$176
21	Adams Street	5	Strip buffered bike lane between Diana Ave and Arlington Ave	\$83,200	738	\$113
22	Brockton Avenue	3	Stripe bike lane between Magnolia Ave and Beatty Dr	\$62,605	593	\$106
23	California Avenue	5	Stripe buffered bike lane between Van Buren Blvd and Adams St	\$76,800	801	\$96
24	Van Buren Boulevard	5,6	Stripe buffered bike lane between SR 91 and Arlington Ave	\$161,600	1,904	\$85
25	Monroe Street	5	Stripe buffered bike lane between Diana Ave and Arlington Ave	\$90,400	1,308	\$69
26	Gramercy Place	6	Strip bike boulevard between Crest Ave and Rutland Ave	\$4,400	129	\$34
27	Colorado Avenue	5	Stripe bike boulevard between Van Buren Blvd and Adams St	\$25,944	1,606	\$16
28	Rutland Avenue	6	Stripe bike boulevard between Wells Ave and Arlington Ave	\$15,072	1,058	\$14
29	Wells Avenue	6	Stripe bicycle route between Tyler St and Crest Ave	\$5,960	614	\$10
<b>Total</b>				<b>\$1,144,057</b>	<b>11,672</b>	<b>\$98</b>

**Note:** Option A includes bike improvements only. Improvements sourced from the Riverside PACT Active Transportation Master Plan. Only improvements with Cost/VMT less than \$2,000 included. Twelve Projects are 80% funded by SS4A Grant (Project ID#s 15, 17-18, 20, 21, 23-29)

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## Option B Mitigation Measure Package

Project ID	Roadway/Route	Ward	From/To or Route Name	Cost	VMT Reduced	Cost/VMT
14	Columbia Avenue	1	Stripe bike lane between American Dr and Salmon River Rd	\$41,719	90	\$462
15	Cypress Avenue	6,7	Stripe bike lane between La Sierra Ave and Crest Ave	\$38,800	145	\$267
16	Orange Street	1	Construct separated bikeway between 14th St and 3rd St	\$176,239	733	\$240
17	Hole Avenue	6	Stripe buffered bike lane between Collett Ave and Magnolia Ave	\$63,360	322	\$197
18	Tyler Street	6,7	Stripe bike lane between Diana Ave and Arlington Ave	\$110,000	571	\$193
19	University Avenue	2	Construct a buffered bike lane between Iowa Ave and Campus Dr	\$133,358	750	\$178
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21	Adams Street	5	Strip buffered bike lane between Diana Ave and Arlington Ave	\$83,200	738	\$113
22	Brockton Avenue	3	Stripe bike lane between Magnolia Ave and Beatty Dr	\$62,605	593	\$106
23	California Avenue	5	Stripe buffered bike lane between Van Buren Blvd and Adams St	\$76,800	801	\$96
24	Van Buren Boulevard	5,6	Stripe buffered bike lane between SR 91 and Arlington Ave	\$161,600	1,904	\$85
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27	Colorado Avenue	5	Stripe bike boulevard between Van Buren Blvd and Adams St	\$25,944	1,606	\$16
28	Rutland Avenue	6	Stripe bike boulevard between Wells Ave and Arlington Ave	\$15,072	1,058	\$14
29	Wells Avenue	6	Stripe bicycle route between Tyler St and Crest Ave	\$5,960	614	\$10
32	10	N/A	Riverside/Watkins-Galleria	\$5,900,000	2,285	\$2,582
33	22	N/A	Riverside - Perris	\$5,900,000	2,797	\$2,109
34	13	N/A	Hunter Park Metro-Galleria	\$5,900,000	2,990	\$1,973
35	14	N/A	Galleria-Loma Linda VA	\$5,900,000	3,142	\$1,878
36	12	N/A	Corona Hills Plaza/Riverside/La Cadena-Merced	\$5,900,000	3,553	\$1,660
37	15	N/A	Riverside/Downtown-Merced	\$5,900,000	4,227	\$1,396
<b>Total</b>				<b>\$36,544,057</b>	<b>30,666</b>	<b>\$1,192</b>

**Note:** Option B includes bike and transit improvements only. Transit improvements developed in coordination with RTA.

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## Option C Mitigation Measure Package

Project ID	Roadway/Route	Ward	From/To or Route Name	Cost	VMT Reduced	Cost/VMT
14	Columbia Avenue	1	Stripe bike lane between American Dr and Salmon River Rd	\$41,719	90	\$462
15	Cypress Avenue	6,7	Stripe bike lane between La Sierra Ave and Crest Ave	\$38,800	145	\$267
16	Orange Street	1	Construct separated bikeway between 14th St and 3rd St	\$176,239	733	\$240
17	Hole Avenue	6	Stripe buffered bike lane between Collett Ave and Magnolia Ave	\$63,360	322	\$197
18	Tyler Street	6,7	Stripe bike lane between Diana Ave and Arlington Ave	\$110,000	571	\$193
19	University Avenue	2	Construct a buffered bike lane between Iowa Ave and Campus Dr	\$133,358	750	\$178
20	Jackson Street	5	Construct bike path between Diana Ave and Magnolia Ave	\$54,600	310	\$176
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26	Gramercy Place	6	Strip bike boulevard between Crest Ave and Rutland Ave	\$4,400	129	\$34
27	Colorado Avenue	5	Stripe bike boulevard between Van Buren Blvd and Adams St	\$25,944	1,606	\$16
28	Rutland Avenue	6	Stripe bike boulevard between Wells Ave and Arlington Ave	\$15,072	1,058	\$14
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36	12	N/A	Corona Hills Plaza/Riverside/La Cadena-Merced	\$5,900,000	3,553	\$1,660
37	15	N/A	Riverside/Downtown-Merced	\$5,900,000	4,227	\$1,396
25	Orange Street	1	Complete street with 5.5-foot sidewalks between SR-60 and Center Street	\$1,000,000	24	\$41,667
22	Main St	1	Complete street with 5-8-foot sidewalks between Columbia Ave and Santa Ana River	\$1,000,000	30	\$33,333
<b>Total</b>				<b>\$39,544,057</b>	<b>30,720</b>	<b>\$1,287</b>

**Note:** Option C includes bike, transit, and pedestrian improvements

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PROGRAM COST PER VMT REDUCED COMPARISON			
Agency	VMT Mitigation Program Format	Status	Cost per VMT Reduced (\$/VMT Reduced)
City of Lancaster	VMT Mitigation Fee Optional Program	Implemented in 2023, with a cost basis of \$150/VMT	\$150/VMT reduced
City of Palmdale	VMT Bank	Implemented 2024, with a cost basis of \$261/VMT	\$261/VMT reduced
City of San Diego	Active Transportation In-Lieu Impact Fee	Implemented in 2020, with a cost basis of \$1,400/VMT	\$1,400/VMT reduced
City of Watsonville	VMT Bank	Implemented March 2023, with a cost basis of \$1,524/VMT	\$1,524/VMT reduced (maximum)
San Bernardino County Transportation Authority (SBCTA)	VMT Bank	\$2,000,000 in grant funds awarded in 2024 to seed identified mitigation measures. Telework program expected to result in \$161/VMT reduced	\$161/VMT reduced
Western Riverside Council of Governments (WRCOG)	VMT Exchange	In development. Optional participation and expected to be implemented in 2025	--



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VMT MITIGATION BANK PILOT PROGRAM	
Recommendation and Remaining Steps	
<i>A Voluntary Pilot Program is recommended as the initial step</i>	
<ul style="list-style-type: none"> <li>• <b>VMT Banking</b></li> <li>• <b>Option A Mitigation Measures Package</b> <ul style="list-style-type: none"> <li>• Most cost-effective measures</li> </ul> </li> </ul>	
<b>Remaining Steps</b>	
<ul style="list-style-type: none"> <li>• Committee Presentations</li> <li>• Council Presentations and Adoption</li> <li>• Pilot Program Implementation and Evaluation</li> <li>• Final Program Determination</li> </ul>	



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## »TREDLite VMT Evaluation Tool

**TREDLiteVMT**

**Choose Your Location**  
Select parcels by choosing them on the map, searching the address, or uploading a project boundary shapefile.

**Jurisdiction**  
Riverside

**Address**  
Search

**Parcel Selection**  
Zoom in on the map to the parcel level to select the parcels.

**Select From Map**   
**Upload Project Shapefile**

**Undo** **Clear**

**Next**

**VMT Banking**

Selected Land Use: 210 - Single Family Detached Housing  
Per Unit Cost: \$1,000

Persons Per Household: 2.4

Based on your project with TREDLite results, you'll need \$0.00 to meet the threshold.

**Print Results**

**Project** **Mitigated with Mitigation**

**VMT Data**

Category	Baseline	Project	Mitigation	Total
Regional Average (VMT Capable)	13.48	13.48	13.48	13.48
Daily Trips	472	472	472	472
<b>Pollutant</b>	<b>Mobile</b>	<b>Project</b>	<b>Mitigation</b>	<b>Total</b>
CO (t/yr)	24.55	24.55	27.32	51.21
NOx (t/yr)	2.12	2.12	45.15	51.07
SO2 (t/yr)	0.00	0.00	1.64	1.64
PM2.5 (t/yr)	0.02	0.02	0.02	0.04
PM2.5 (t/yr)	0.02	0.02	0.02	0.05
PM2.5 (t/yr)	0.02	0.02	0.02	0.05
CO2 (t/yr)	142.39	142.39	142.39	336.08

**Project** **Mitigated with Mitigation**

Projects that have a significant impact:

- affordable housing
- within a 1/2 mile of Major Transit Stop
- located in a low income area
- Less than 100 trips per day

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## VMT MITIGATION (ADDITIONAL CONSIDERATIONS)

- VMT Bank Programs:**
  - Funds will be utilized for VMT reducing projects (bike, ped & transit)
  - Cannot utilize funding for vehicle improvement projects
  - Proposed WRCOG VMT Mitigation **Exchange** Program
- General Plan Update:**
  - Recommendations from VMT Mitigation Pilot Program
  - Programmatic EIR would allow for tiering of projects
- CEQA VMT Thresholds:**
  - 2020 VMT Adoption – 15% below baseline conditions
  - Amend CEQA VMT Threshold to **baseline conditions** consistent with other jurisdictions (Amend Reso. 23589)



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## NEXT STEPS

➡ Transportation Board Meeting 11/6/24 (Approval recommended)

➡ Planning Commission Meeting 11/21/24

➡ Land Use Committee Meeting 12/9/24

➤ City Council Meeting 12/17/24



➤ Pilot Program Begins in early 2025!



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## STRATEGIC PLAN ALIGNMENT

### Strategic Priority 6 – Infrastructure, Mobility & Connectivity

**Goal 6.2** – to maintain, protect and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

#### Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability &amp; Resiliency



Equity



Innovation



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## RECOMMENDATIONS

Staff recommends that the City Council:

1. Adopt a Resolution approving the Vehicle Miles Traveled (VMT) Mitigation Bank Pilot Program, recommending Option A (VMT Mitigation Bank Option) and associated bike projects detailed within the VMT Mitigation Program Report;
2. Introduce an Ordinance, amending Title 16 of the Riverside Municipal Code by adding Chapter 16.80 related to the Vehicle Miles Traveled (VMT) Impact Fee Mitigation Program;



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## RECOMMENDATIONS

3. Adopt a Resolution modifying the existing California Environmental Quality Act (CEQA) VMT transportation Impact threshold to the current jurisdictional baseline VMT per capita for new residential projects and the current jurisdictional baseline VMT per employee for new office and industrial projects and revise the Traffic Impact Analysis (TIA) Guidelines accordingly; and
4. Direct staff to conduct a workshop to educate the development community in the application of the new vehicle miles traveled mitigation program including a training session on the TredLite software to address projects with transportation related VMT impacts.



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