



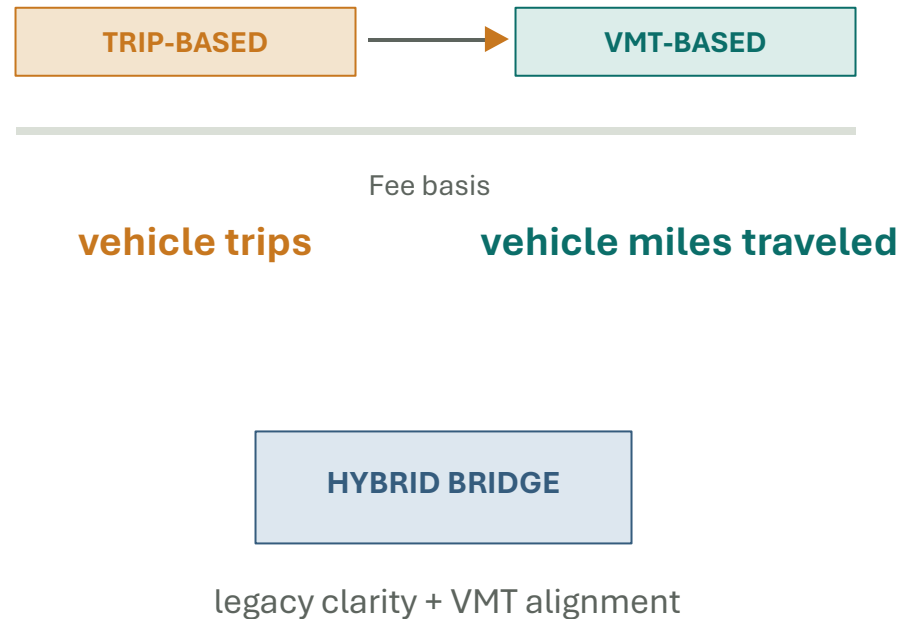
Trip-Based vs VMT-Based Impact Fees

Agenda

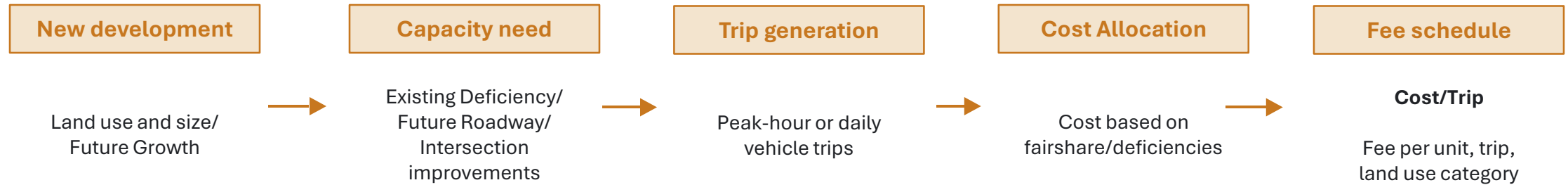
- **Background**
- **Standard Practice**
- **Approaches**
- **Case Study**

Transportation Impact Fees

Choosing the right nexus for transportation mitigation after SB 743



Trip-based fees are easy to explain because they follow observed vehicle activity.



Why agencies like it

- Familiar inputs and fee schedules
- Easy public explanation
- Works with legacy roadway CIPs

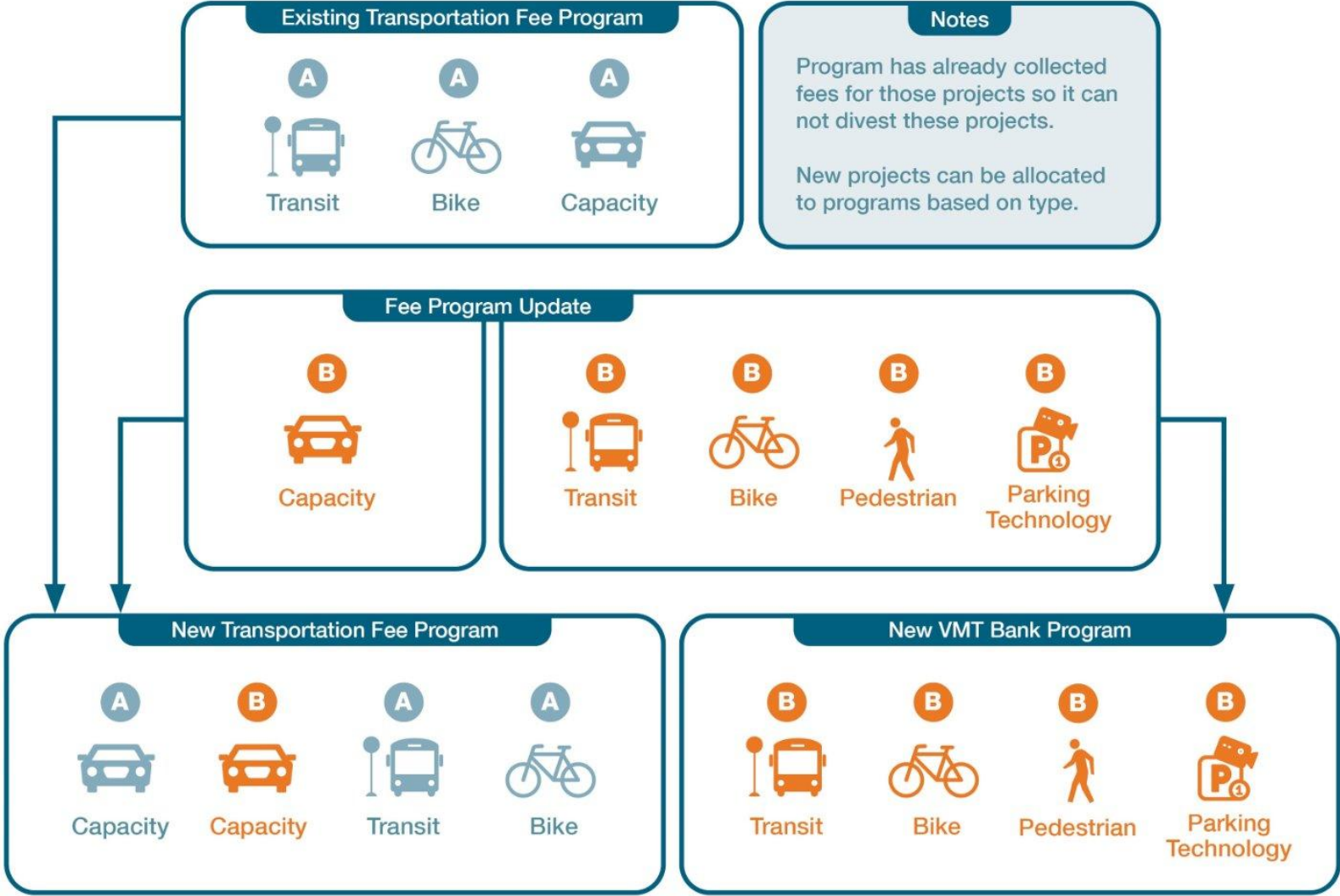
Approaches to integrate VMT into Impact Fees.

-  **Affect Cost Allocation**
-  **Affect Improvement Projects: Capacity vs. VMT-Reducing Projects**
-  **Prioritize Projects Based on VMT reduction**

Cost Allocation Approach

Transportation Impact Fee Methodologies			
	 Trips Generated Traditional Approach	VS	VMT Generated VMT-Based Approach 
What it Measures	Number of Vehicle Trips 		Vehicle Miles Traveled (VMT) 
How It's Measured	Trip Generation Rates (Trips per unit of land use) 		Trip Generation Rates x Average Trip Length 
What It Reflects	Roadway Congestion 		Distance Traveled 
How Land Uses Are Compared	Compared by trips per unit 		Compared by VMT per unit 
Impact Fee Outcome	Fees based on share of new trips and project cost 		Fees based on share of new VMT and project cost 
Key Considerations	- Simple and widely used - Focuses on number of trips 		- Reflects travel and system use - Supports VMT reduction goals 
Both Approaches:	 Travel Demand Models +  Land use growth +  Project Costs =  Fair share of cost for new development		

Project Based Approach



SBCOG TIMF Program

- Roadway/Intersection Fee
- Pedestrian/Bike Fee

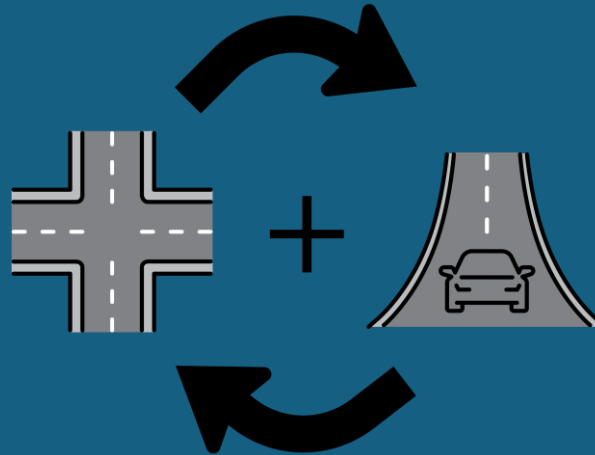


Fee Program Options



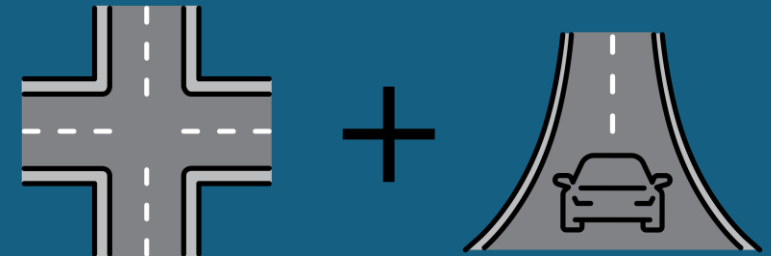
A. Trip-Based

Maintain existing system where fees are tied to added traffic volumes and capacity needs



B. Combined (Trip & VMT Based) Fee

Use LOS-based fee for regional/capacity projects and VMT-based fee for trip-reduction TDM, and multimodal programs



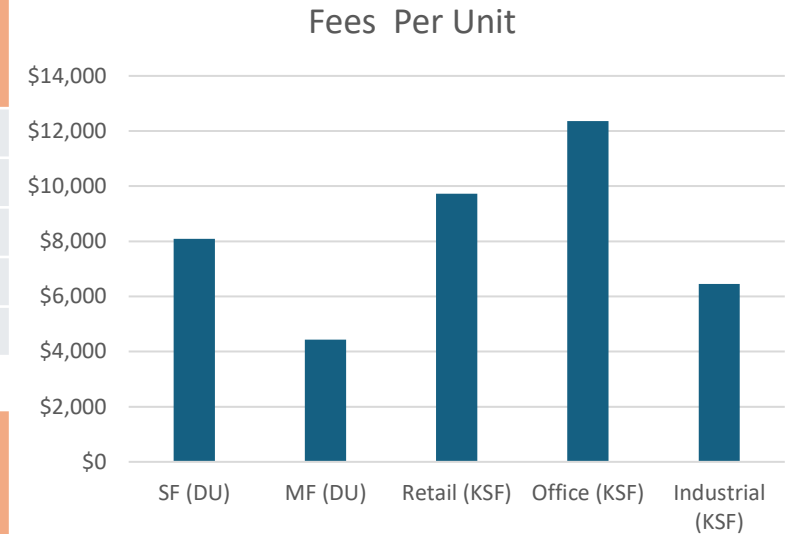
C. Trip Based + VMT-Based Fee

Maintain existing fees and establish new fee based on excess VMT generated by new development

Trip Based Fee (with Trip Length)

Land Use	Growth	Trip/VMT Demand Factor	Trip/VMT Share	Allocated Cost	Road-Int Fee
Single Family (DU)	8,126	1.04	28%	\$54,205,481	\$6,671
Multi-Family (DU)	2,032	0.57	4%	\$7,429,021	\$3,656
Office (KSF)	1,782	1.25	7%	\$14,287,320	\$8,018
Retail (KSF)	5,838	1.59	31%	\$59,538,003	\$10,198
Industrial (KSF)	3,299	0.83	9%	\$17,562,788	\$5,324

Land Use	Growth	Trip/VMT Demand Factor	Trip/VMT Share	Allocated Cost	Ped-Bike Fee
Single Family (DU)	8,126	1.04	28%	\$11,515,163	\$1,417
Multi-Family (DU)	2,032	0.57	4%	\$1,578,187	\$777
Office (KSF)	1,782	1.25	7%	\$3,035,132	\$1,703
Retail (KSF)	5,838	1.59	31%	\$12,647,979	\$2,166
Industrial (KSF)	3,299	0.83	9%	\$3,730,958	\$1,131

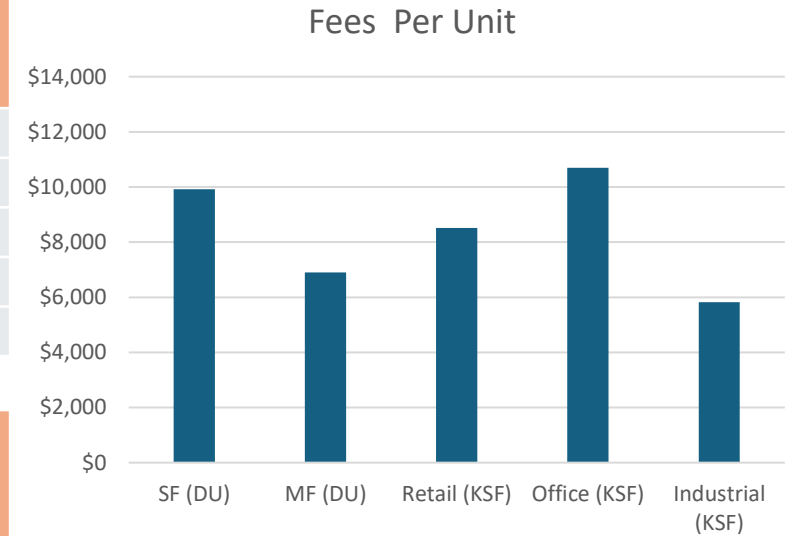


Trip Demand Factor: ITE Trip Rate X Trip Length X New Trips%

Trip Based and VMT Based Fee

Land Use	Growth	Trip/VMT Demand Factor	Trip/VMT Share	Allocated Cost	Road-Int Fee
Single Family (DU)	8,126	1.04	28%	\$54,205,481	\$6,671
Multi-Family (DU)	2,032	0.57	4%	\$7,429,021	\$3,656
Office (KSF)	1,782	1.25	7%	\$14,287,320	\$8,018
Retail (KSF)	5,838	1.59	31%	\$59,538,003	\$10,198
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Land Use	Growth	Trip/VMT Demand Factor	VMT Share	Allocated Cost	Ped-Bike Fee
Single Family (DU)	8,126	1.04	65%	\$26,397,689	\$3,249
Multi-Family (DU)	2,032	0.57	16%	\$6,601,047	\$3,249
Office (KSF)	1,782	1.25	2%	\$891,529	\$500
Retail (KSF)	5,838	1.59	7%	\$2,920,733	\$500
Industrial (KSF)	3,299	0.83	4%	\$1,650,479	\$500



Growth	Residential VMT	Non-Residential VMT
VMT Growth	372,292	88,650

Trip/VMT Demand Factor: ITE Trip Rate X Trip Length X New Trips%

VMT Share: Residential or Non-Residential VMT Growth vs Total VMT Growth

VMT Mitigation Bank

Eligible Projects

Pedestrian

Sidewalk gaps
Enhanced crossings
Safe routes / access

Bicycle

Protected lanes
Trails / paths
Bike parking / links

Transit + TDM

Stop access
Service / frequency,
shuttles, parking

Estimate VMT benefit

1

**Estimate users
affected and mode
shift**

2

**Apply project-level
reduction methods**

3

**Determine VMT
reduced by project**

NCHRP 552 for bicycle facility
demand/benefits;
CAPCOA/CalEEMod, local model
outputs, observed counts, or
project-specific studies for VMT
reduction.

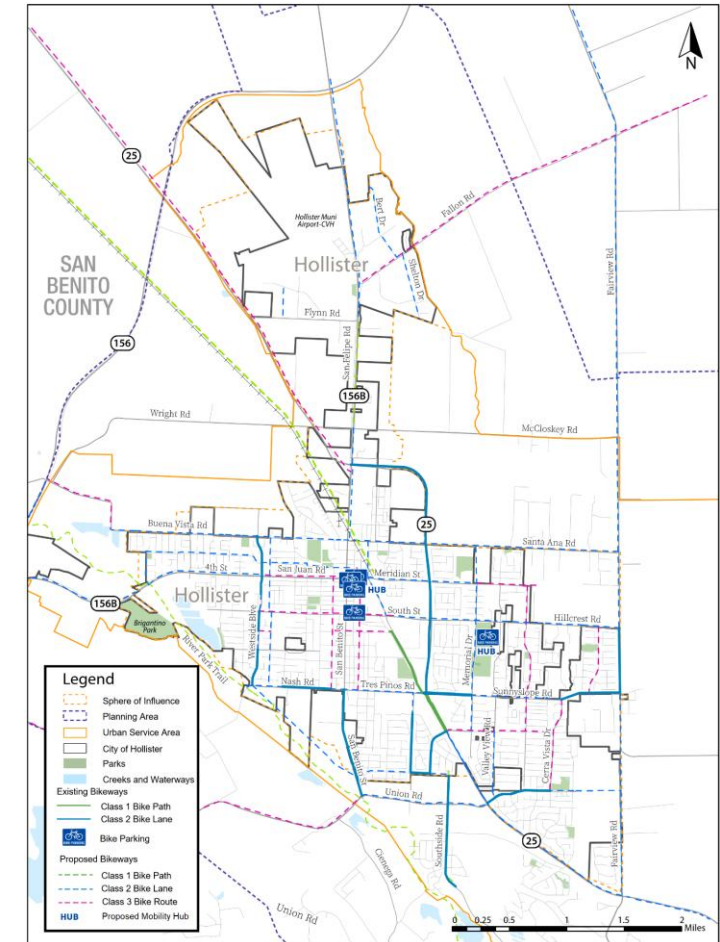
Set bank unit cost

Cost per VMT reduced

$$\text{Bank unit cost} = \frac{\text{total eligible project cost}}{\text{total annual VMT reduced}}$$

The resulting \$/VMT becomes
the mitigation credit price or
the VMT-based fee input.

A project with more verified VMT
reduction lowers the cost per VMT; a
high-cost, low-benefit project raises it.



Trip Based Fee + VMT Bank

Land Use	Growth	Trip/VMT Demand Factor	Trip/VMT Share	Allocated Cost	Road-Int Fee
Single Family (DU)	8,126	1.04	28%	\$54,205,481	\$6,671
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Trip Demand Factor: ITE Trip Rate X Trip Length X New Trips%

The winning program has both a defensible nexus and a credible mobility outcome.

- **VMT Mitigation Bank streamlines development/economic goals**
- **VMT Based Impact fee are more likely to fund more multimodal projects**
- **Trips Based Impact fee can reward capacity expansion, less sensitive to infill context**

Trip-based, VMT-based, or hybrid: the methodology should make the agency's policy intent visible.

Thank You