



Item 9 - PowerPoint

Transportation Authority of Marin Board of Commissioners

Ramp Metering Project Overview & Update

February 28, 2019



Marin County's Ramp Metering Program

Roles

- Caltrans – Implementing Agency, Owner and Operator
- TAM – Supporter, Facilitator, Develop FAQ's, Outreach
- County/Cities – Participate/ Advisor in Ramp Metering Technical Advisory Committee

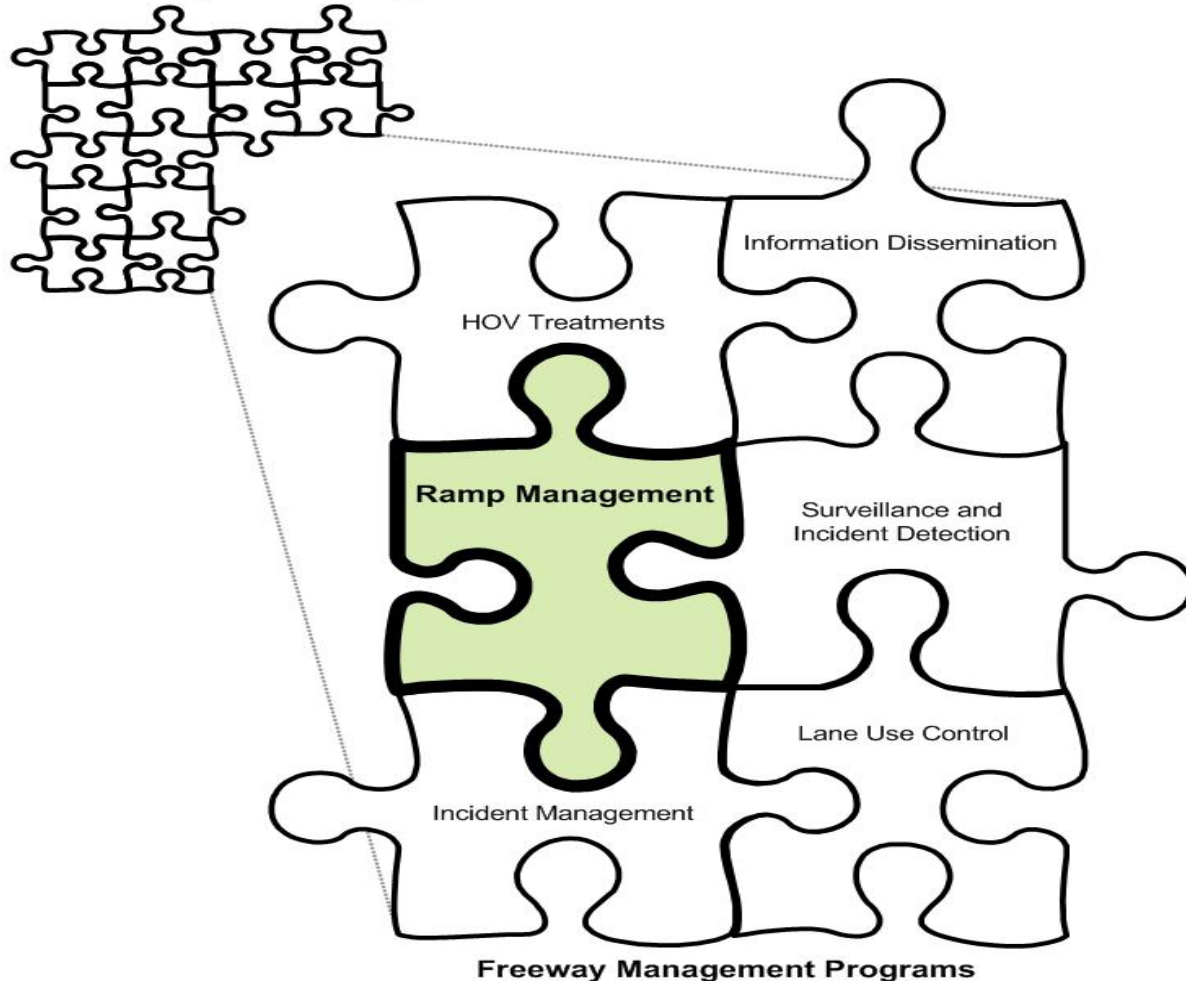
Ramp Metering Goals & Benefits

- Reduces total travel delay
- Provides consistent travel times
- Provides HOV Incentives with HOV Bypass Lanes.
- Breaks up Platoons of Vehicles, Making Merging Safer
- Improves Vehicle Throughput
- Reduces Emissions



Metering is Only One Piece of the Puzzle to Manage Congestion

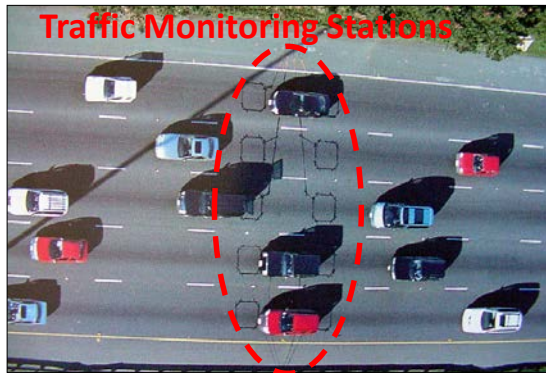
Surface Transportation Program



Traffic Operation Systems (TOS)

TOS elements, such as traffic monitoring stations, closed circuit television cameras (CCTV), and changeable message signs (CMS) are used to improve mobility.

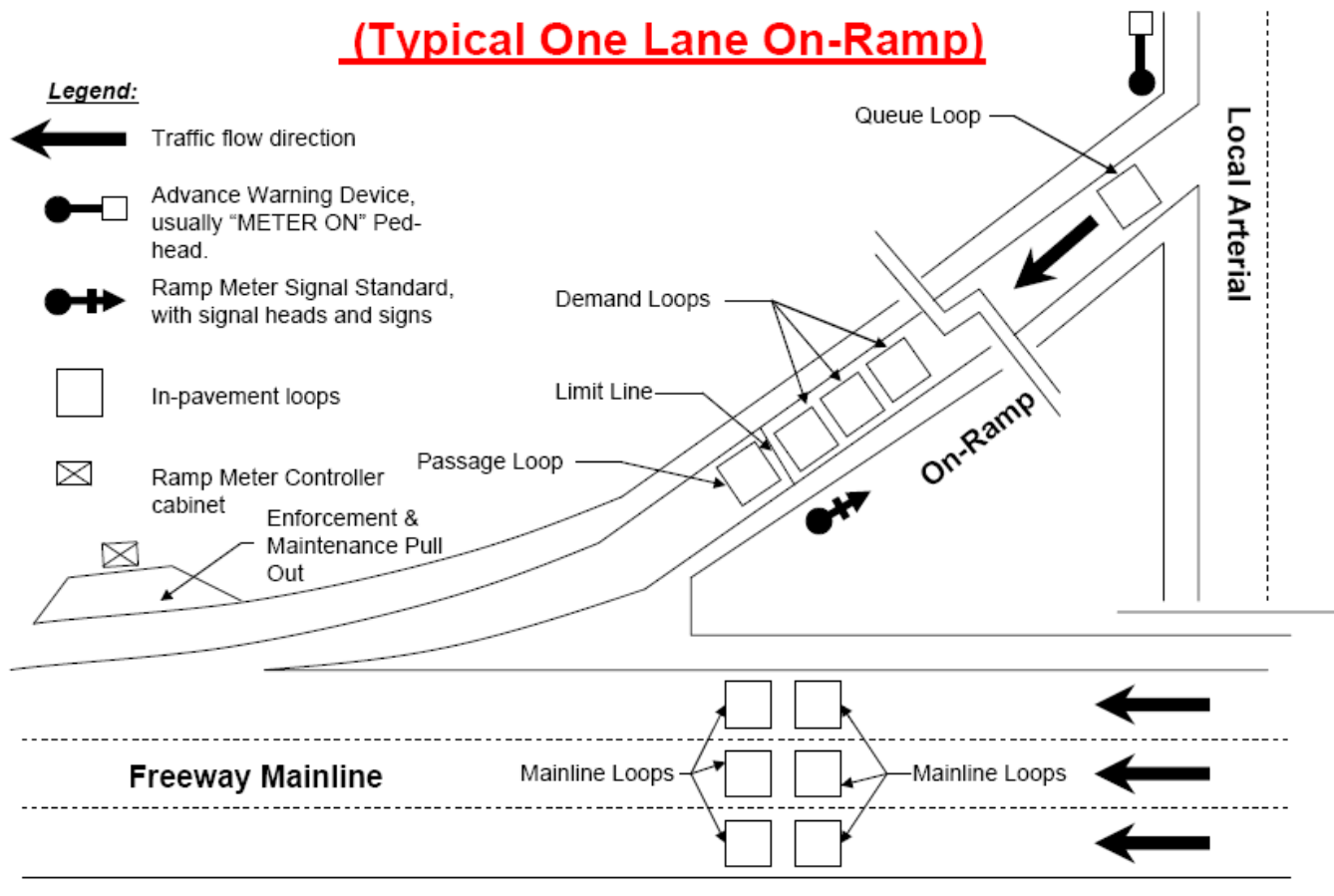
- Traffic Monitoring Stations – Used to monitor traffic flow and detect incidents.
- CCTV– Used to identify/verify incidents & aid in response activities.
- CMS – Are used to provide critical real-time traffic advisories to the motorist.



How Ramp Metering Works – Through the Use of Technology

Ramp Metering Hardware Example

(Typical One Lane On-Ramp)



US 101 Northbound Ramps

NB MRN-101 Ramp Metering

Blithedale Ave / Tiburon Blvd Diagonal

FREQ Origin/on-ramp #5



— On-ramp storage upstream of limit line

Based on Widening Plan with HOV bypass on-ramp
22 vehicles (660 ft) to end of on-ramp
44 vehicles (1,320 ft) total storage (2-lane on-ramp)

US 101 Northbound Preliminary Ramp Metering Assessment Study

1. Bridgeway / Gate 6
2. Highway 1/Pohono
3. Redwood Highway / Seminary
4. Blithedale Loop
5. Tiburon Diagonal
6. Tamalpais Loop
7. Tamalpais Diagonal
8. Sir Francis Drake Blvd

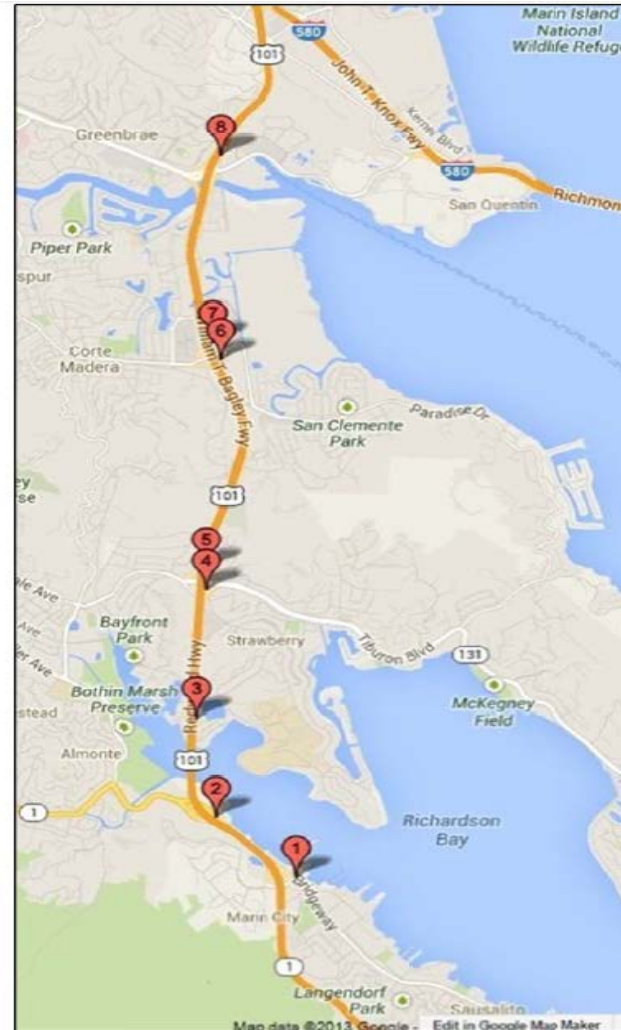
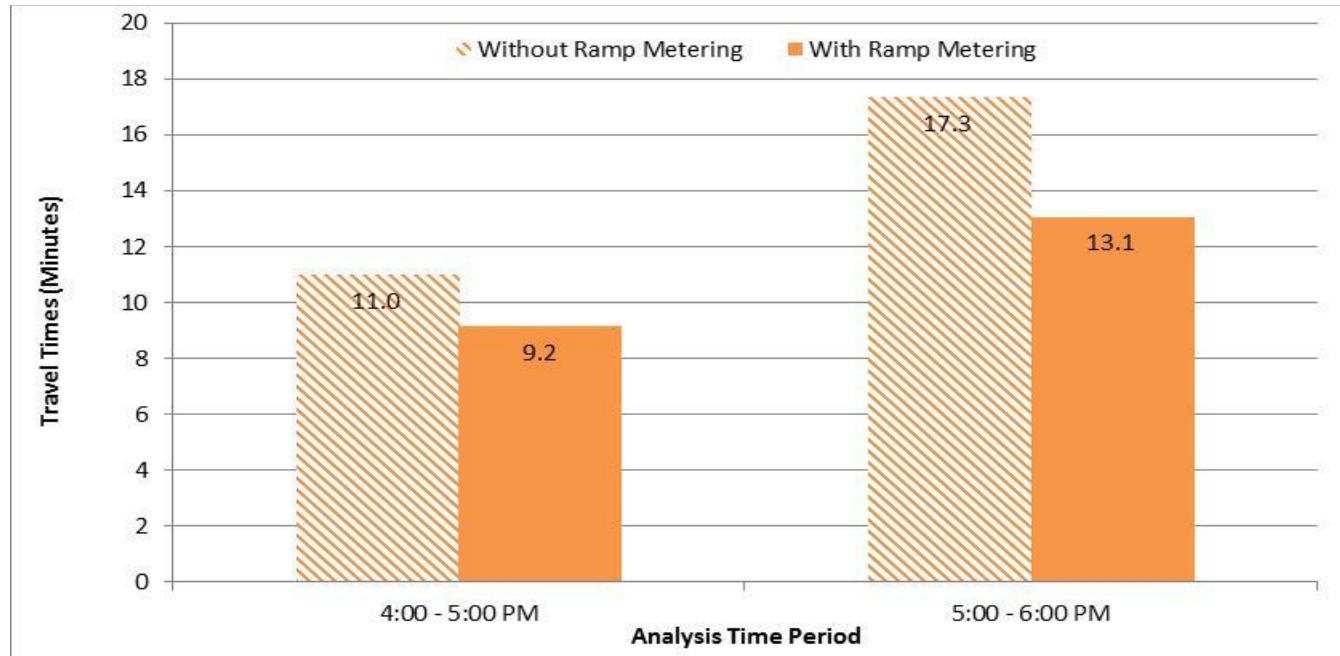


Figure 1: Study Area Showing Ramp Locations

Travel Time Savings



Analysis Time Period	Without Ramp Metering	With Ramp Metering	Difference	
	Minutes	Minutes	Minutes	Percent
4:00 – 5:00 PM	11.0	9.2	-1.8	-16%
5:00 – 6:00 PM	17.3	13.1	-4.2	-24%

Phase 1 Implementation Schedule

Environmental Phase – Complete

Design Phase – Complete


Construction – Spring 2019

Data Collection , Modeling, Establish Draft Metering Rates
(In consultation with the RMTAC)

Ramp Metering Activation – Summer 2020

Phase 1 Outreach

- Caltrans webpage linked from TAM and local agencies, as appropriate
- Factsheets as the program progresses from construction to implementation
- Communication with stakeholders and local agencies for distribution
- Direct USPS Mailer 2 weeks prior to Construction



PROJECT FACT SHEET

EA #15161

EFIS Project ID: 0414000446

Description:
This project proposes to install Ramp Meters and Traffic Operations System (TOS) at various locations in the northbound direction along Route 101 from PM 0.0 to PM 9.0 in Marin County.

Scope:
Project scope includes installation and repair of ramp metering at 11 locations, of which three include ramp widening. TOS element includes installation of a Changeable Message Sign (CMS), salvage/removal of Wireless Magnetometer Vehicle Detection Sensors (WMVDS) and installation of inductance loops. Improvements also include widening of State Route 131 (Tiburon Blvd) from North Knoll Road to US 101 northbound on-ramp.

Environmental:
Env. Document Type — CE/CE
Permit — None

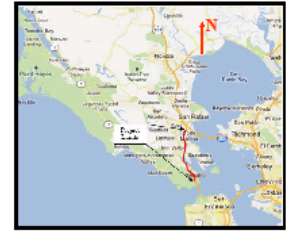
Right-of-Way:
TCE — 0
No. of Full Take — 0
No. of Partial Take — 0

Programmed Funding

Component	Budget (\$x1000)
PAED (Corridor)	\$4,600 ¹
PS&E	\$1,500 (\$1.4m ² &0.1m ¹)
Right-of-Way Support	\$50 ²
Construction Support	\$1,800 ²
Right-of-Way Capital	\$110 ²
Construction Capital	\$9,700 ²
TOTAL:	\$17,560

¹ - Congestion Mitigation and Air Quality Improvement Program (CMAQ)
² - State Highway Operation and Protection Program (SHOOPP)

NORTH REGION:
Marin 101 — PM 0.0/9.0



SCHEDULE:

Milestone	Baseline	Current
Project Approval & Env. Document (PA&ED)	05/07/14	05/07/14 (A)
R/W Certification	07/02/18	08/22/18 (A)
Final Design (RTL)	08/01/18	08/29/18 (A)
Advertise Contract	11/22/18	10/08/18 (A)
Award Contract	02/27/19	12/17/18 (A)
Accept Contract (CCA)	05/31/21	06/30/20 (T)

(A) Actual Date
 (T) Target Date

PROJECT NOTES:

- This project is Phase 1 of the Marin 101 Corridor Ramp Metering Project (EA #15160)
- Widening of State Route (SR) 131 (Tiburon Blvd) was added to the project to improve traffic flow on SR 131 and US 101 on-ramp.
- Caltrans will work with local partners and TAM to develop a ramp metering implementation plan.
- Ramp metering lights are anticipated to be activated in the Fall of 2020

Project Manager: Prakash Silva (PH: 510-286-6114)

Design Manager: Roni Boukhallil (PH: 510-286-5694)
Chief, Office of Traffic Systems: Lester S. Lee (PH: 510-286-4528)





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Questions

