

San Francisco Freeway Corridor Management Update



SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

October 20, 2016

Overview



OVERVIEW >

- ▶ **SF Freeway Corridor Management Study (FCMS)**
 - ▶ **Goals**
 - ▶ **Freeway Management Toolbox**
- ▶ **FCMS Status Update**
 - ▶ **Existing Conditions Summary**
 - ▶ **Technical Feasibility Analysis**
- ▶ **Next Steps**

Freeway Corridor Management Study



FCMS >

- ▶ **Recommendation of 2013 SFTP**
- ▶ **Funded by \$300,000 Caltrans Planning Grant & \$300,000 Prop K Allocation**
- ▶ **Focus on US-101 & I-280 Corridors**
- ▶ **Need: Over 100,000 new person-trips to and from San Francisco's downtown, southeast, and the South Bay projected through 2040**
 - ▶ **Would fill one peak period bus per minute on US-101 or I-280**
 - ▶ **Muni Equity Strategy performance gap for this corridor**
- ▶ **Study Partners: Caltrans, SFMTA, MTC, San Mateo C/CAG**

Freeway Corridor Management Study



FCMS > GOALS

GOALS	OBJECTIVES
Move people to support economic competitiveness	Improve freeway corridor productivity, utilization, & efficiency Increase vehicle occupancy levels Reduce recurrent delay
Travel reliability	Reduce non-recurrent delay Improve travel time predictability
Travel choices	Increase transit competitiveness Provide better information
Coordination across jurisdictions	Coordinate recommendations with other citywide and regional projects & programs
Reduce traveler emissions	Reduce per capita vehicle tripmaking Reduce per capita vehicle emissions
Balanced effects: Avoid disparities, minimize impacts on neighborhoods	Mitigate the impact of through-trips on local streets Ensure equitable access Avoid disparities in distribution of benefits / impacts

Freeway Corridor Management Study



FCMS > FREEWAY MANAGEMENT TOOLBOX

► What's in the Toolbox?

► Operations Technologies

Adaptive Signal Control

Real-time and Advance Information

Dynamic Speed Advisories

► Managed Lanes

Ramp Metering

Weave/Merge Guidance

High Occupancy Vehicle Lanes

Express Lanes



Existing Conditions



FCMS STATUS UPDATE > EXISTING CONDITIONS SUMMARY

Northbound SF-101; Average Speeds and Volumes

Freeway	Segment	Location	ID	Data	Speed / Volume	Average Speed and Volume																ADT															
						12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM		4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM							
US 101 NB	1A	Approaching Alanna Way	105-04181	INRIX	Speed	66	66	66	66	67	68	64	57	46	54	62	65	65	66	66	66	65	59	57	62	65	64	67	67	109,704							
	1B	Alanna Way Interchange	105P04181	INRIX	Speed	66	65	65	65	66	68	64	56	44	52	62	65	66	66	66	66	66	65	60	59	63	65	64	66		67						
	2A	Approaching 3rd St/Bayshore Blvd	105-04182	INRIX	Speed	64	63	64	62	65	66	63	54	41	48	60	63	64	65	64	64	64	63	59	59	62	63	63	64		65	126,764					
	2B	3rd St/Bayshore Blvd Interchange	105P04182	INRIX	Speed	64	65	66	64	64	64	63	45	30	38	58	62	63	64	62	63	60	53	58	62	61	62	62	63								
	3A	Approaching Paul Ave	105-04183	INRIX	Speed	65	66	66	65	65	65	61	38	24	32	55	61	63	62	60	60	55	47	56	63	61	62	63	63		126,764						
	3B	Paul Ave Interchange	401358	PeMS	Speed	72	71	71	71	71	71	65	41	30	44	62	66	67	67	65	65	60	56	63	67	68	70	71	69								
	4A	Approaching Bacon St	105-04184	INRIX	Speed	64	65	67	65	65	65	60	39	24	32	55	61	63	62	59	60	56	50	57	61	61	62	63	63				124,638				
	4B	Bacon Street Interchange	402255	PeMS	Speed	71	71	70	69	70	71	64	47	35	41	58	64	66	66	64	65	64	62	64	67	68	69	71	71								
	5A	Approaching I-280/Alemamy Blvd	105-04185	INRIX	Speed	65	66	67	65	65	65	61	39	24	32	55	62	63	63	63	60	57	51	58	61	62	63	64	64					69,013			
	5B	I-280/Alemamy Blvd Interchange	105P04185	INRIX	Speed	62	63	63	63	63	63	60	29	17	22	43	56	60	60	57	43	53	57	54	56	60	58	60	61						61		
	6A	Approaching Potrero Ave	105-04186	INRIX	Speed	67	67	66	66	67	68	59	28	18	22	45	58	60	60	56	65	66	64	64	65	64	67	68	68						98,592		
	6B	Potrero Ave Interchange	105P04186	INRIX	Speed	68	67	69	67	67	68	62	40	28	38	56	63	64	65	63	64	62	59	62	65	65	66	67	67								
	7A	Approaching Vermont St	105-04187	INRIX	Speed	65	65	65	64	64	65	56	39	34	34	42	51	57	51	51	33	33	36	38	47	55	55	61	63							65	92,315
	7B	Vermont St Interchange	105P04187	INRIX	Speed	57	59	59	58	58	56	53	44	38	43	46	47	48	29	12	10	10	11	20	29	35	43	46	50								

Southbound SF-101; Average Speeds and Volumes

Freeway	Segment	Location	ID	Data	Speed / Volume	Average Speed and Volume																ADT														
						12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM		4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM						
US 101 SB	8A	Approaching Vermont St	105-04187	INRIX	Speed	55	59	61	61	58	58	50	44	48	46	43	41	37	36	32	30	29	28	28	36	48	49	50	52	125,110						
	8B	Vermont St Interchange	105N04187	INRIX	Speed	56	60	61	60	58	58	53	48	50	50	48	48	46	45	43	41	39	38	40	45	51	52	52	53							
	7A	Approaching Potrero Ave	105-04186	INRIX	Speed	60	63	63	62	61	62	58	55	53	55	56	56	54	54	54	52	51	52	55	57	58	57	58	58		109,854					
	7B	Vermont St POC	401410	PeMS	Speed	66	66	66	65	66	66	64	61	60	61	60	61	60	61	62	63	62	60	61	63	64	66	64	64							
	6A	Approaching Potrero Ave	105-04186	INRIX	Speed	60	63	63	62	63	64	60	47	44	57	59	59	58	58	60	58	57	53	53	58	59	59	59	60			117,745				
	6B	Potrero Ave Interchange	105N04186	INRIX	Speed	60	63	63	62	63	64	65	62	56	54	60	61	60	60	61	60	58	55	55	59	60	60	60	61							
	5A	Approaching Bacon St	105-04184	INRIX	Speed	64	65	64	64	64	65	61	38	35	52	61	61	62	63	62	63	62	61	61	62	61	61	61	61				96,870			
	5B	Bacon Street Interchange	105N04184	INRIX	Speed	64	65	64	64	65	65	61	37	35	52	61	61	62	63	62	63	62	62	61	62	62	61	62	61							
	4A	Approaching Paul Ave	105-04183	INRIX	Speed	64	64	64	64	64	65	62	37	35	52	63	63	63	64	63	62	62	61	62	63	62	63	62	63					109,698		
	4B	Paul Ave Interchange	401357	PeMS	Speed	71	71	70	70	70	70	65	46	37	47	62	66	66	67	67	67	66	67	66	67	68	68	70	71							
	3A	Approaching 3rd St/Bayshore Blvd	105-04182	INRIX	Speed	64	65	65	64	64	65	61	38	35	52	61	61	62	63	63	63	62	61	61	62	63	63	63	62						61	105,376
	3B	3rd St/Bayshore Blvd Interchange	105N04182	INRIX	Speed	65	65	64	64	64	65	63	30	29	44	62	63	63	64	64	63	62	62	63	64	64	64	64	67							
	2A	Approaching Alanna Way	105-04181	INRIX	Speed	66	65	64	65	67	67	64	31	29	42	61	65	64	66	65	63	63	63	65	65	66	66	66	67						122,988	
	2B	Alanna Way Interchange	105N04181	INRIX	Speed	66	66	64	65	68	69	65	45	43	51	64	66	65	67	66	64	64	64	65	67	67	67	68	68							



Source: INRIX, PeMS

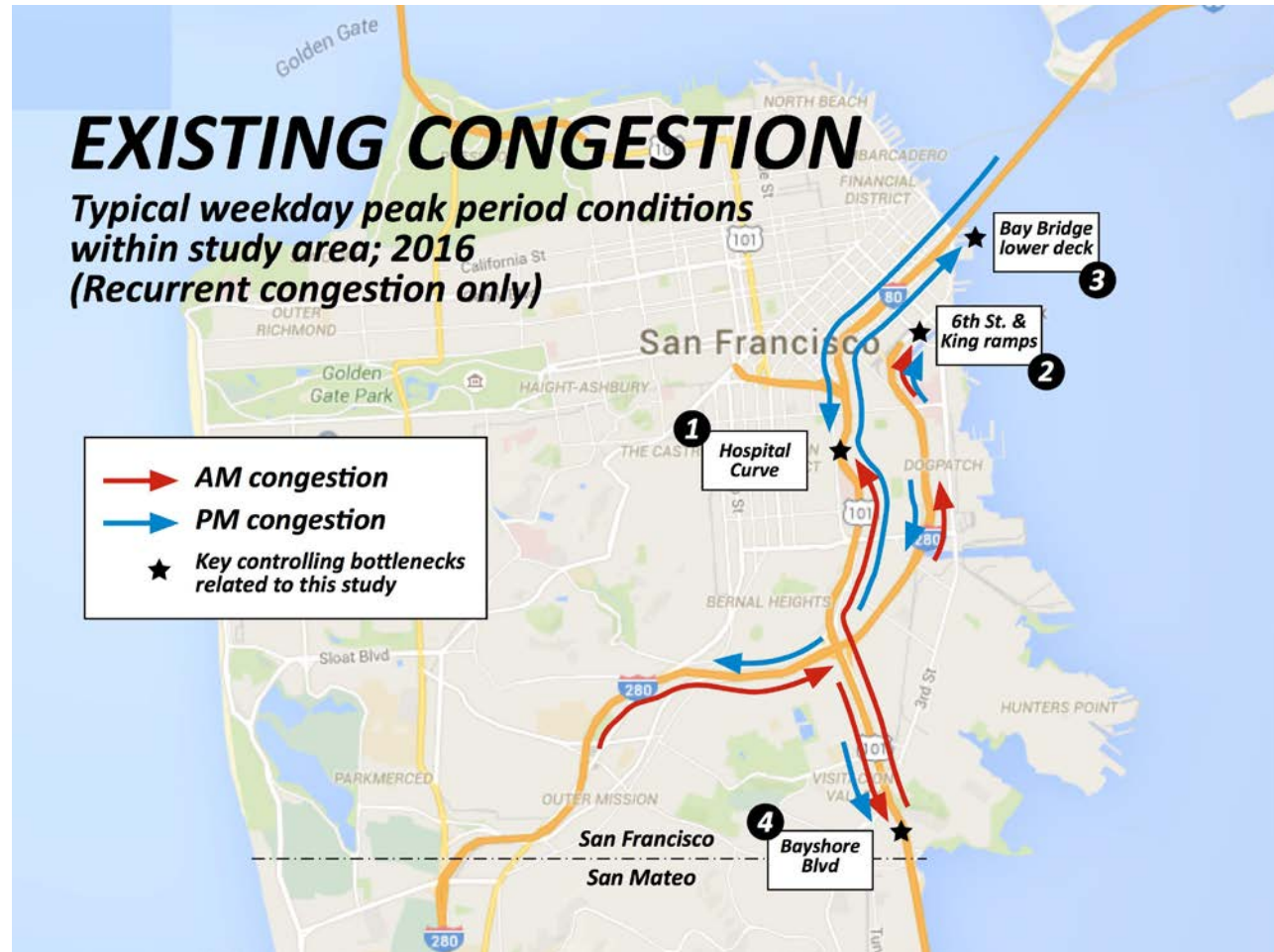
Existing Conditions



FCMS STATUS UPDATE > EXISTING CONDITIONS SUMMARY

▶ **AM**
Peak
Period:
7am-9am

▶ **PM**
Peak
Period:
2pm-6pm



Source: INRIX 4/2014-4/2015, Field Observations

Existing Conditions



FCMS STATUS UPDATE > EXISTING CONDITIONS SUMMARY

I-280 AM (6:00-10:00 AM)	Total Vehicles	2+ HOV%	3+ HOV%
NB Off Ramp @ 5 th & King	5,604	24% (1,339)	6% (354)
NB Off Ramp @ 6 th & Brannan	7,289	25% (1,823)	8% (565)
SB On Ramp @ 5 th & King	3,523	26% (903)	11% (393)
SB On Ramp @ 6 th & Brannan	6,569	24% (1,567)	6% (394)

I-280 PM (3:00-7:00 PM)	Total Vehicles	2+ HOV%	3+ HOV%
NB Off Ramp @5 th & King	6,216	28% (1,763)	8% (482)
NB Off Ramp @ 6 th & Brannan	7,458	33% (2,435)	10% (758)
SB On Ramp @ 5 th & King	4,955	30% (1,498)	11% (523)
SB On Ramp @ 6 th & Brannan	9,964	23% (2,294)	5% (527)

Source: Field
Observation, May 2016

Existing Conditions



FCMS STATUS UPDATE > EXISTING CONDITIONS SUMMARY

Year	Freeway	Direction	# of Incidents	# of Accidents	Total
2013	US 101 (SF)	NB	54	8	62
		SB	97	13	110
	US 101 (SM)	NB	27	0	27
		SB	22	1	23
	I-280 (SF)	NB	59	1	60
		SB	96	6	102
Total			355	29	384
2014	US 101 (SF)	NB	71	0	71
		SB	85	10	95
	US 101 (SM)	NB	21	0	21
		SB	19	1	20
	I-280 (SF)	NB	66	1	67
		SB	123	0	123
Total			385	12	397
2015	US 101 (SF)	NB	66	29	95
		SB	94	31	125
	US 101 (SM)	NB	18	0	18
		SB	17	0	17
	I-280 (SF)	NB	69	8	77
		SB	91	4	95
Total			355	72	427

Source: Caltrans TMC Activity Logs

Technical Feasibility Analysis



FCMS STATUS UPDATE > TECHNICAL FEASIBILITY ANALYSIS

► Feasibility Analysis Underway

► Preliminary Feasibility: Managed Lane

HOV or HOT/Express



► Regional Context

Study underway in San Mateo County to evaluate options for managed lanes on US 101

SFCTA has begun discussions with officials in San Mateo County to explore options to create a seamless managed lane experience along the entire US 101 corridor

Initial Promising Alternative



TECHNICAL FEASIBILITY ANALYSIS >

▶ **FCMS team currently developing specific alternatives**

▶ **Objectives**

Offer managed lane users, including transit, ability to bypass congestion and achieve more reliable travel times

Leverage existing right-of-way or lanes

Connect to a potential facility in San Mateo County

▶ **Limitations**

No significant new construction

Minimize impact to general purpose lanes and parallel arterials

▶ **Presentation and analysis of alternatives anticipated at January Committee and Board**

Next Steps



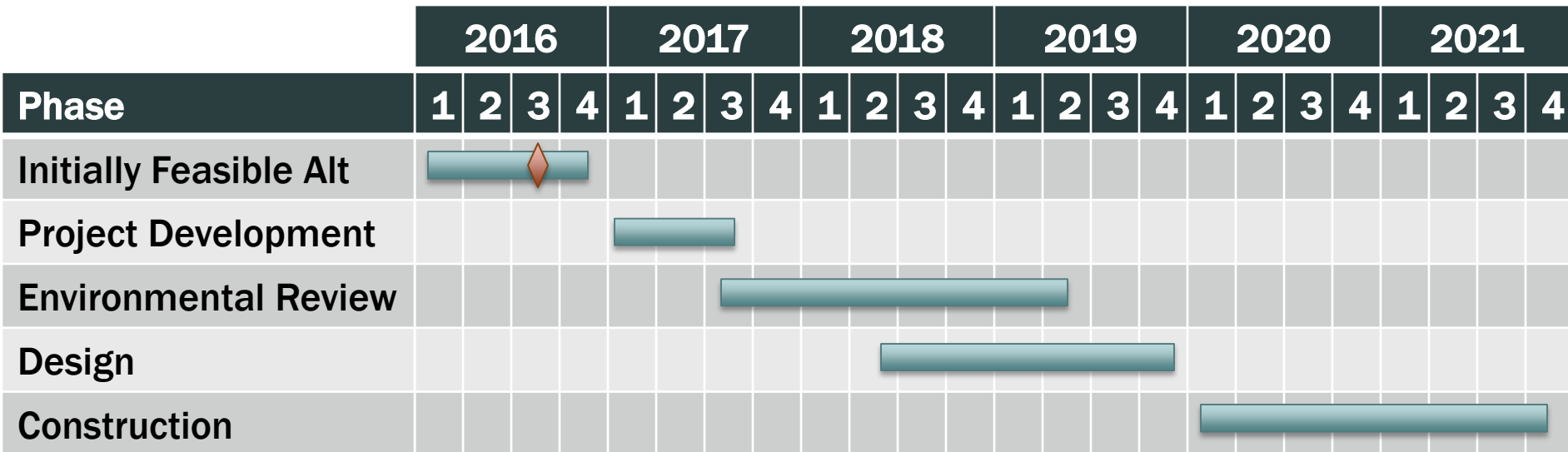
NEXT STEPS >

- ▶ **Community involvement is key**
 - ▶ **SFCTA to conduct direct outreach with neighborhood groups and residents of neighborhoods along freeway corridors**
 - ▶ **Broad-based outreach anticipated in January with presentation of analysis of alternatives**
- ▶ **Next technical step is analysis of managed lane alternatives**
- ▶ **Coordination and Project Development phase with Caltrans**
 - ▶ **Project Development phase would advance initially feasible alternatives, and define the larger technical analysis, including traffic and policy, that would take place in the Environmental Review phase**

Next Steps



NEXT STEPS > SCHEDULE



Questions?



SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY