WMH

In association with AECOM

STATE ROUTE 262

(Mission Boulevard) Cross Connector Project

Presentation to Alameda County Transportation Commission

WMH

In association with AECOM

Introductions

WMH Team Organizat

ALAMEDA County Transportation Commission

STAKEHOLDERS

- City of Fremont
- Caltrans District 4
- Alameda County
- VTA
- FHWA
- BART/UPRR

PRINCIPAL-IN-CHARGE

William Hadaya, PE

PROJECT MANAGER

Tim Lee, PE

PUBLIC OUTREACH

Eileen Goodwin

ENVIRONMENTAL

Lynn McIntyre

STRUCTURES

Syed Kazmi, PE

SUPPORT SERVICES

Carl Gibson, PE

TRANSPORTATION / TRAFFIC

Damian Stefanakis

URBAN PLANNING

Blake Sanborn

PRELIMINARY ENGINEERING

Ben Razeghi, PE

TESLA

Urban Planning Experience

Blake Sanborn
AECOM

Treasure Island

Pier 70 Master Plan & Sustainability Plan

WMH

In association with AECOM

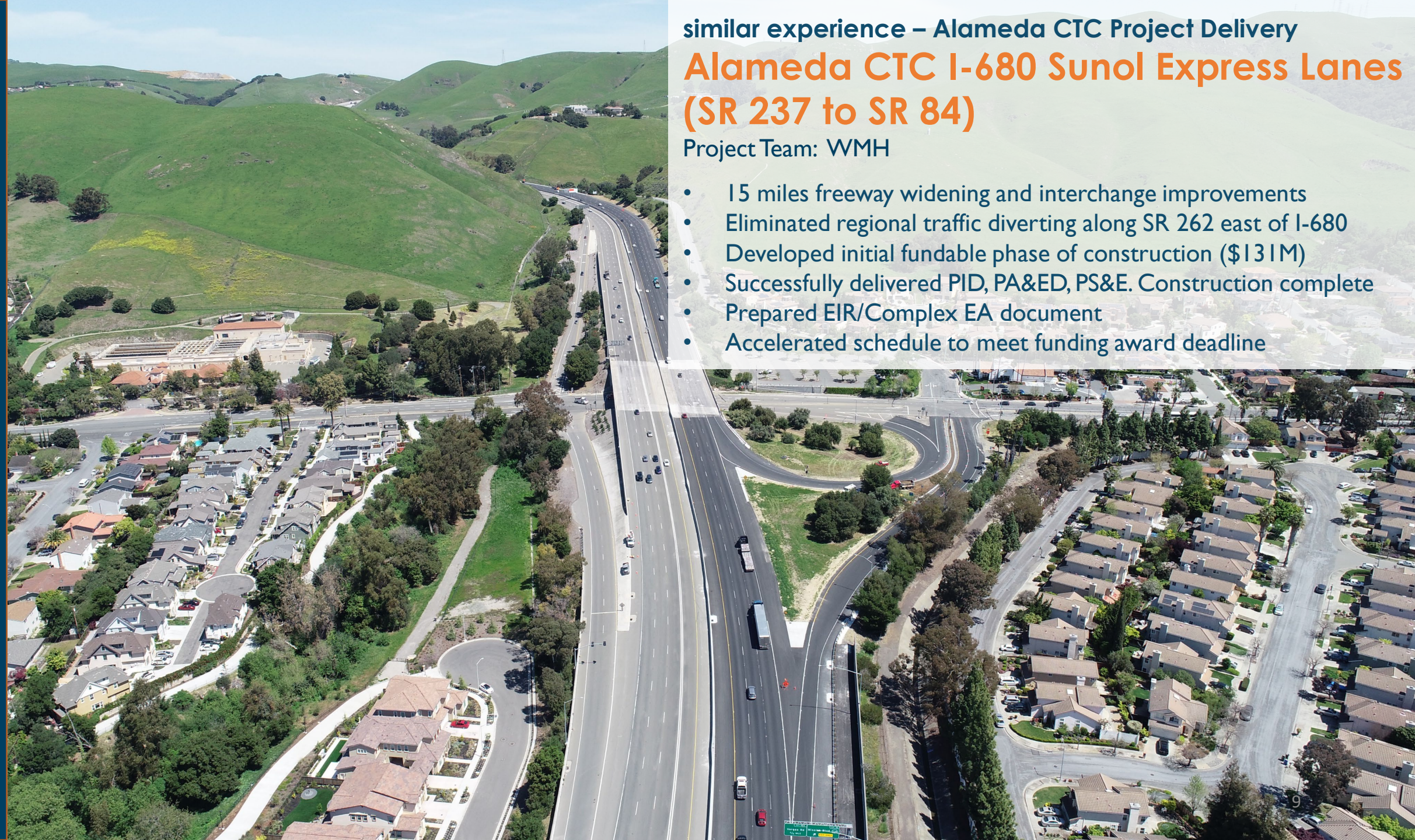
Expertise

similar experience – Alameda CTC Project Delivery

Alameda CTC I-680 Sunol Express Lanes (SR 237 to SR 84)

Project Team: WMH

- 15 miles freeway widening and interchange improvements
- Eliminated regional traffic diverting along SR 262 east of I-680
- Developed initial fundable phase of construction ($131M)
- Successfully delivered PID, PA&ED, PS&E. Construction complete
- Prepared EIR/Complex EA document
- Accelerated schedule to meet funding award deadline



similar experience – Alameda CTC Project Delivery

I-680 / SR 84 Interchange Improvements and SR 84 Widening

Project Team: WMH, AECOM

- Complete SR 84 as expressway and extend southbound I-680 express lane
- Reconstruct freeway to freeway interchange
- Extensive bridge and retaining wall construction
- Successfully delivered PA&ED, PS&E. Construction underway
- Prepared EIR/EA and regulatory permits
- Regional bike facility improvements
- Accelerated schedule to meet funding award deadline

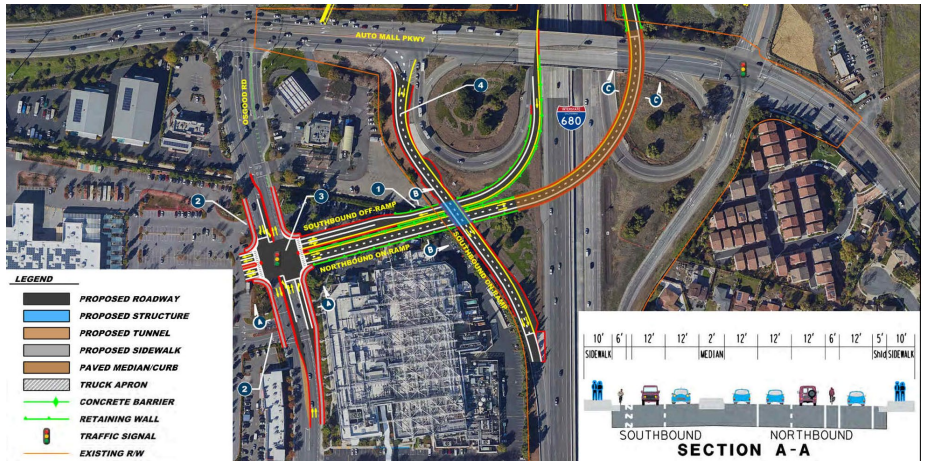
similar experience – Alameda CTC Project Delivery

I-680 Southbound Express Lanes (SR 84 to Alcosta Blvd.)

Project Team: WMH, AECOM

- 10 miles freeway widening
- Developed initial fundable phase of construction ($125M)
- Successfully delivered PID, PA&ED, and PS&E
- Prepared IS / EA document
- Accelerated schedule to meet funding award deadline
- Supported Ala CTC to secure $25M in competive grant funding

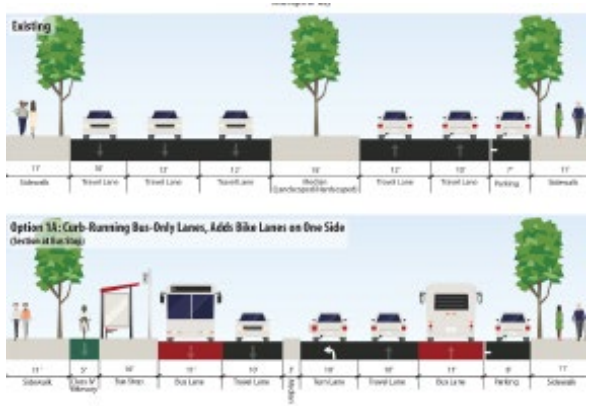
City of Fremont Experience



I-680 Interchange Modernizations

I-680 Sunol Express Lanes

Washington Blvd. / Paseo Padre Pkwy. Grade Separation



East 14th St. / Mission Blvd. and Fremont Blvd. Multimodal Corridor

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Structures Experience

I-880 / Coleman Avenue Interchange

Pasadena Blue Line Construction Authority

LA Metro Regional Connector Transit

I-880 / 23rd & 29th Avenues Interchange

Urban Planning Experience

Blake Sanborn
AECOM

Treasure Island

Pier 70 Master Plan & Sustainability Plan

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Staffing Plan & Availability

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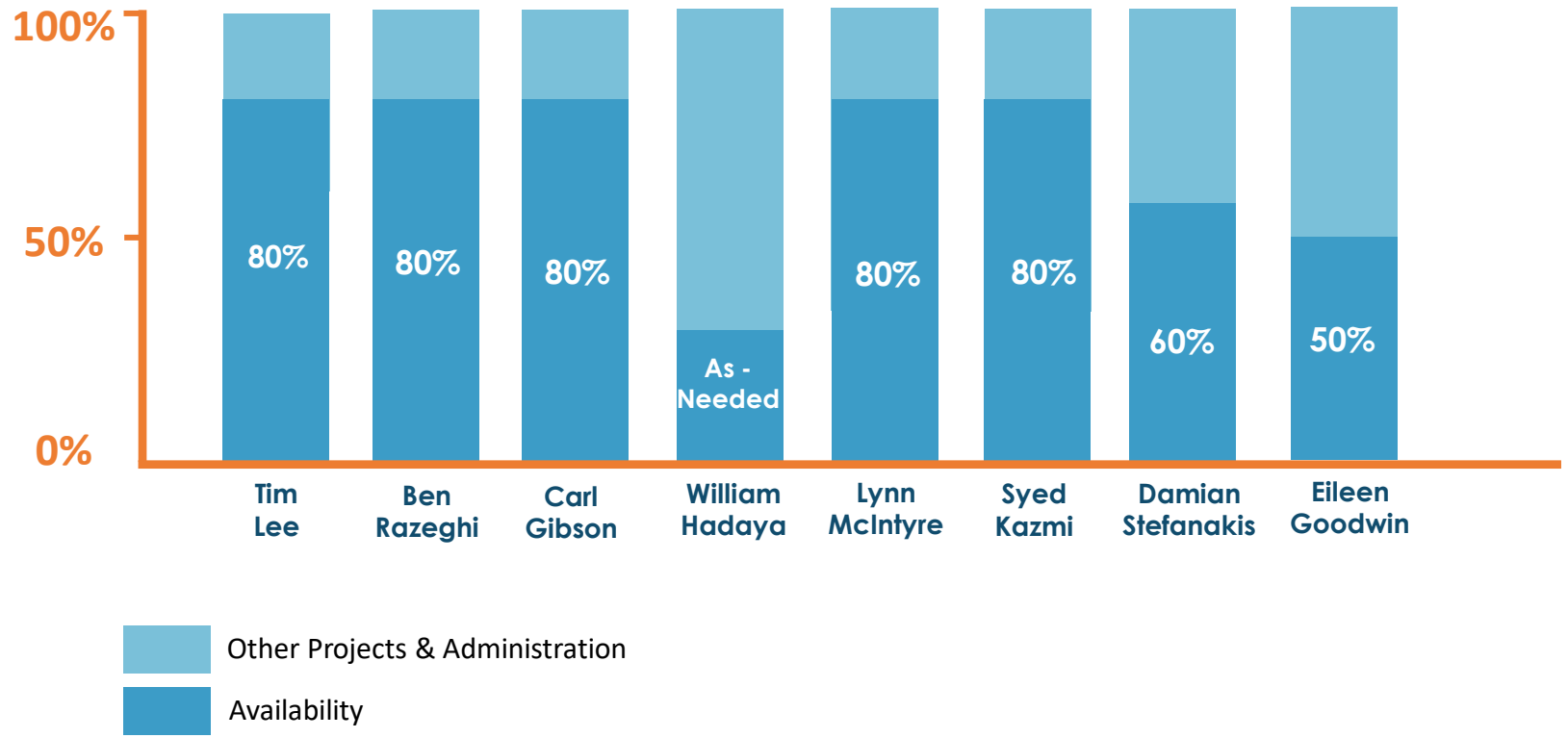
PRELIMINARY ENGINEERING
Ben Razeghi, PE

Key Staff Availability

Availability of Key Staff & Other Prominent Team Members



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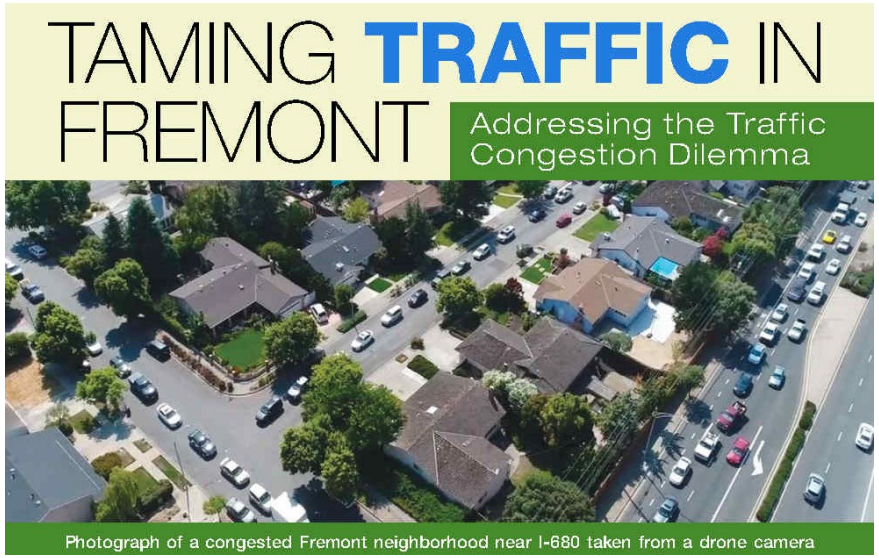
Understanding the Required Scope of Work

SR 262 – Existing Conditions

- Bay Area's 'most congested mile'
- Gridlock conditions on SR 262
- Cut through traffic on local streets
- Unsafe conditions for bicyclists and pedestrians



WMH solved a similar problem for the City of Fremont by constructing the I-680 Sunol Express Lanes to relieve gridlock on SR 262 east of I-680

Phase I Project Goals

Direct SR 262 Connection between I-880 and I-680

Grade Separate Local Street and Railroad Crossings

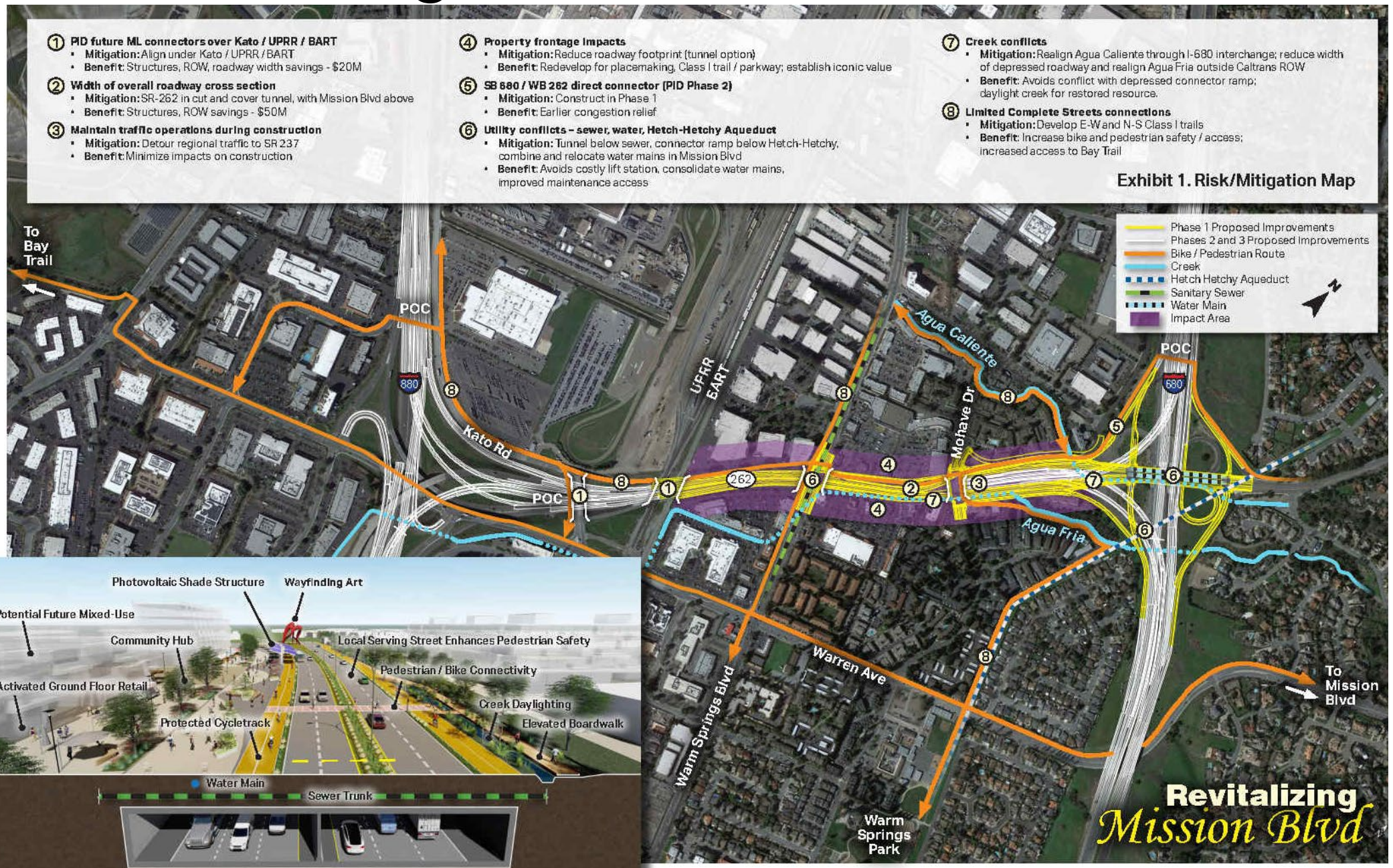
Connect Brown access to Mohave

NB 880 connects to Warm Springs via Warren

Reconstruct I-680 Interchange

*This is a once in a generation opportunity to **Revitalize Mission Boulevard** by enhancing the community quality of life, safety, connections and economic sustainability*

Risks and Mitigation



Key Risks and Mitigation

KEY RISK	MITIGATION
• Build Alternatives Consensus	• Screen and Refine PID Alternatives
• Property Frontage Impacts	• Reduce roadway footprint
• Width of overall roadway cross section	• Consider 4 GP Lanes. Cut and cover tunnel.
• Construction Impacts	• Feasible Construction Staging Plan
• Bicycle/Pedestrian Safety	• Protected E-W and N-S facilities.
• Coordination with Future Phases	• Minimize throwaway costs
• Environmental Approach	• Clear Phase 1 - independent purpose and need
• Shorten Project Delivery	• Prelim. Engineering prior to Project Approval
• Fundable Project	• Cost saving measures. Access to funding partners

SR 262 - Elevated Roadway Alternative

- Least Cost Alternative
- Defer Widening for Managed Lanes

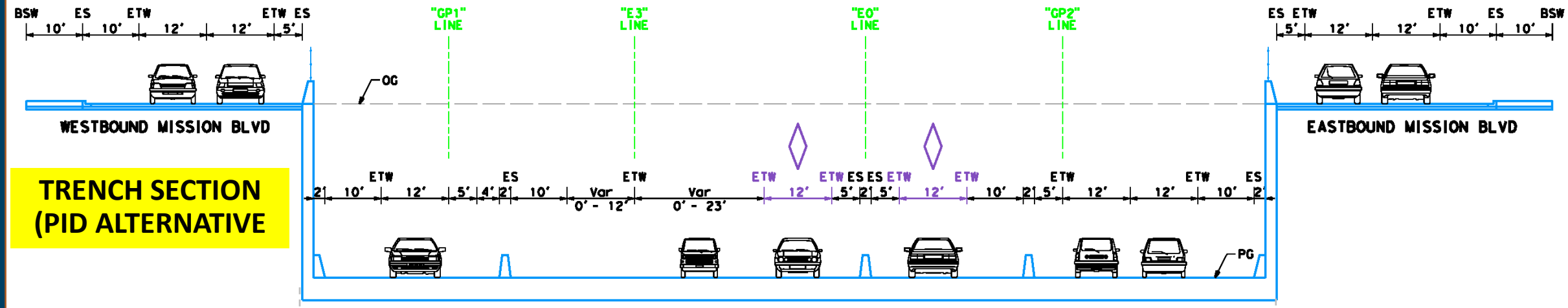
- Community Concerns
- Physical and Visual Barrier
- Does not promote Redevelopment
- Limited Land Use Under Viaducts
- Homeless / Graffiti Concerns

SR 262 - Depressed Roadway Alternative

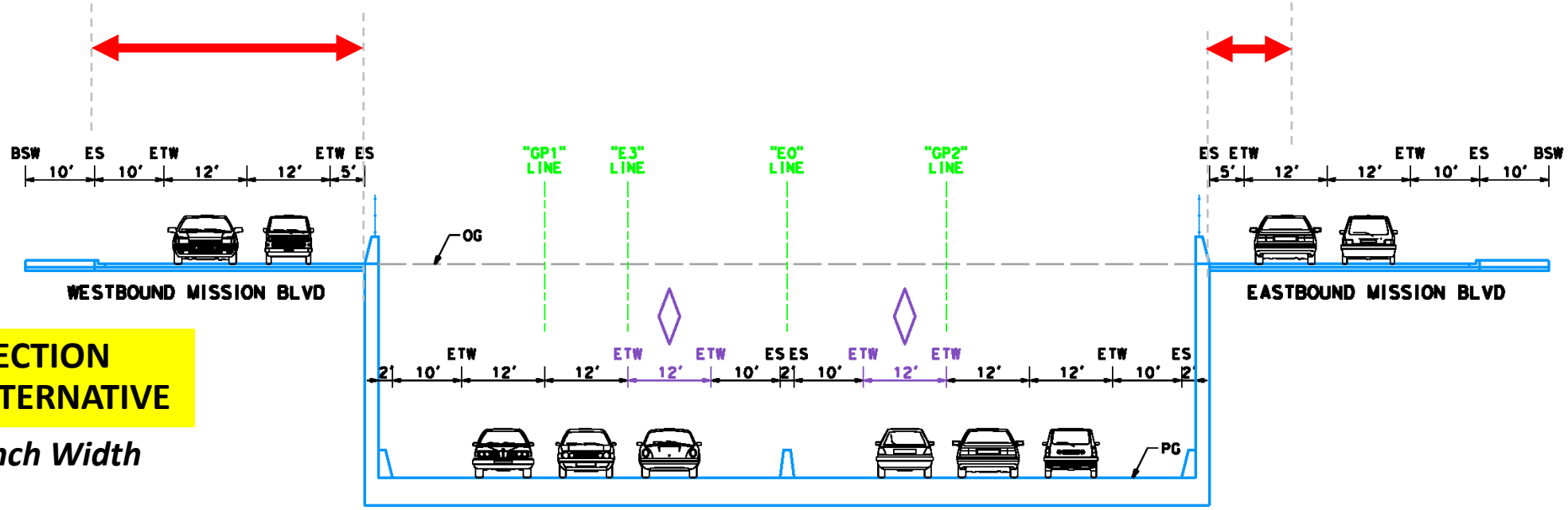
- Reduced Visual and Noise Impacts
- Accommodated Future Managed Lanes
- Supported by City

- Higher Cost
- Physical Barrier (similar to I-980 in Oakland)
- Wider Footprint. Increased Property Take
- Pump Station Required to drain depressed roadway

Phase 1 – Trench Section Options



TRENCH SECTION (PID ALTERNATIVE



TRENCH SECTION (MODIFIED ALTERNATIVE

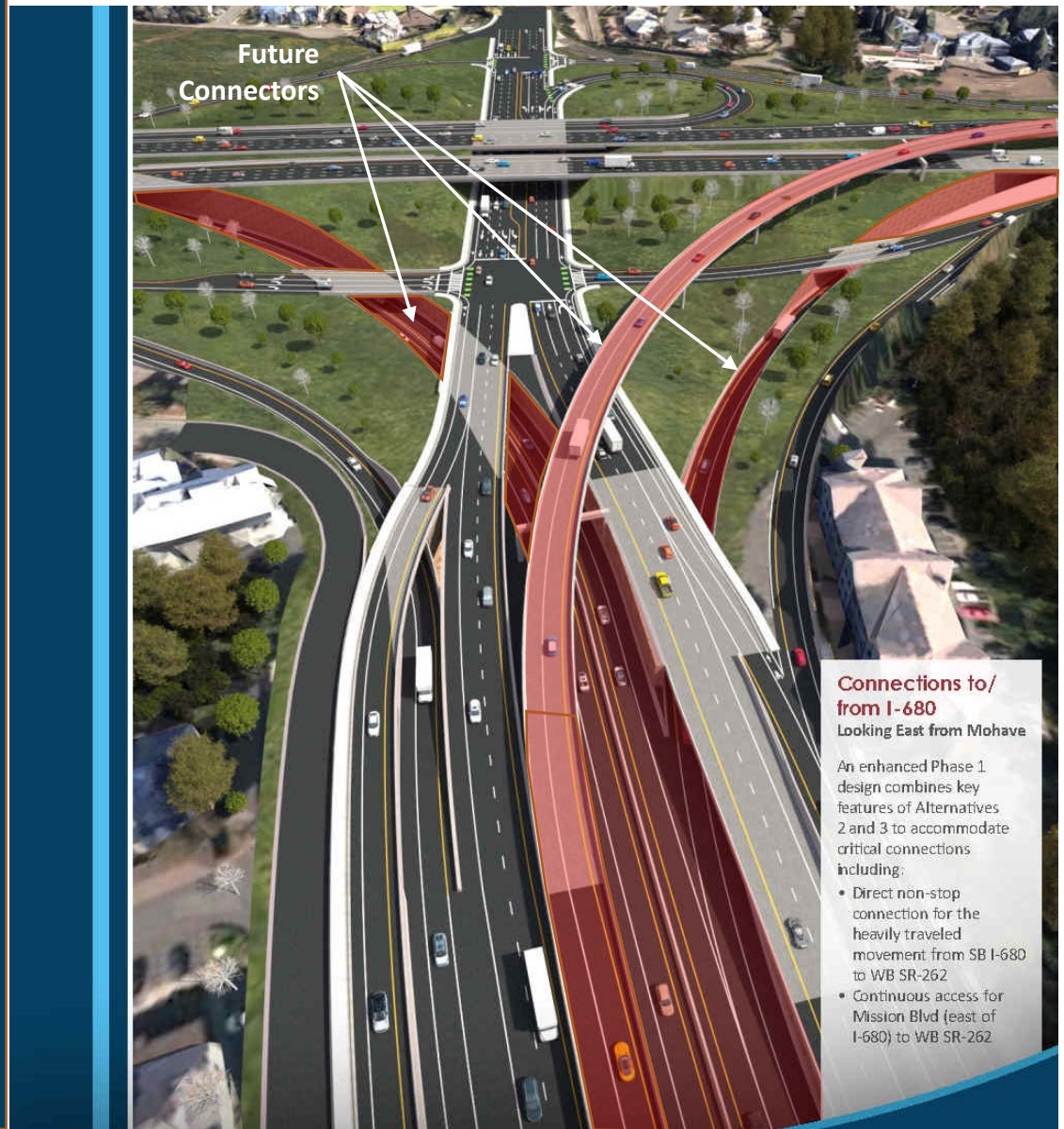
Reduced Trench Width

SR 262 - Cut and Cover Tunnel Alternative

- Fully connects communities
- Promotes Redevelopment for City
- Safer environmental for peds and bikes
- Minimum Footprint / Property Take
- Reduced Cost - $80M
- No Physical or Visual Barrier
- Reduced construction impacts
- Opportunity to daylight Agua Fria Creek
- Minimize stormwater treatment
- Reduced watershed for pump station

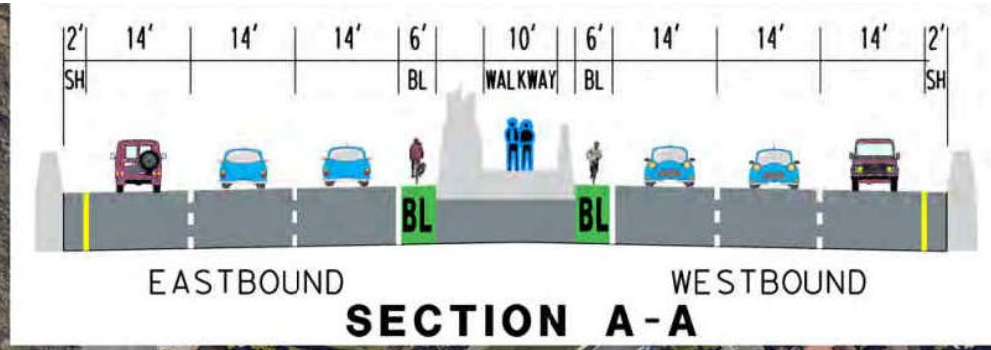
- Tunnel Ventilation and Fire Safety Facilities

Phase 1 - Connections to/from I-680



- Direct non-stop connection for the heavily traveled movement from SB I-680 to WB SR 262
- Provide two lanes for EB SR 262 traffic to access NB I-680 on-ramp
- Accommodate future connectors for Phases 2 and 3

I-680/SR 262 Interchange DDI Alternative



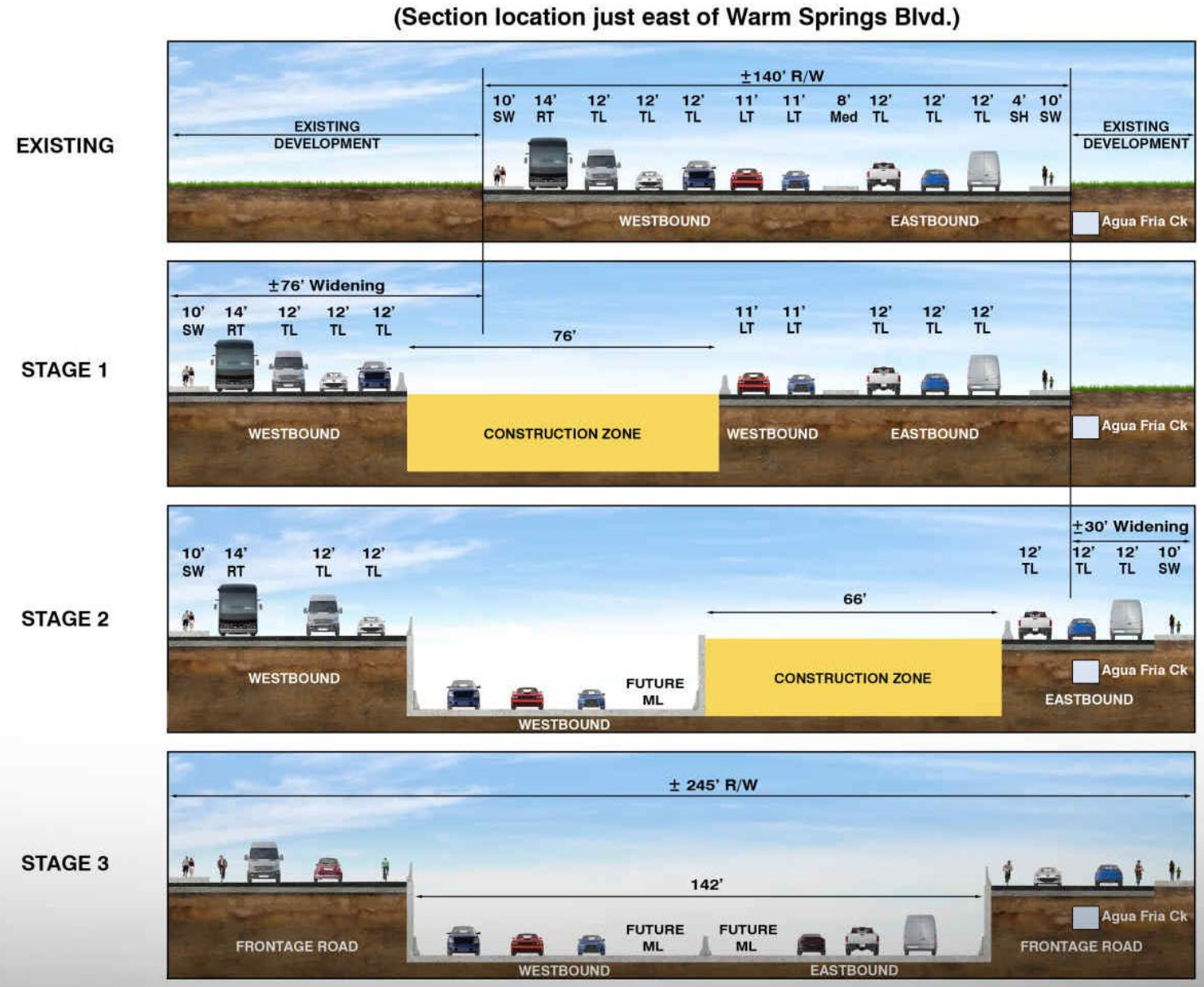
PROJECT IMPROVEMENTS

1. FREE TURN ONTO ON-RAMP
2. BARRIER PROTECTED PEDESTRIAN WALKWAY
3. 14' WIDE LANES
4. CLOSE LANE

LEGEND

- PROPOSED ROADWAY
- PROPOSED SIDEWALK
- PAVED MEDIAN
- BIKE LANE
- CONCRETE BARRIER
- RETAINING WALL
- TRAFFIC SIGNAL
- EXISTING R/W

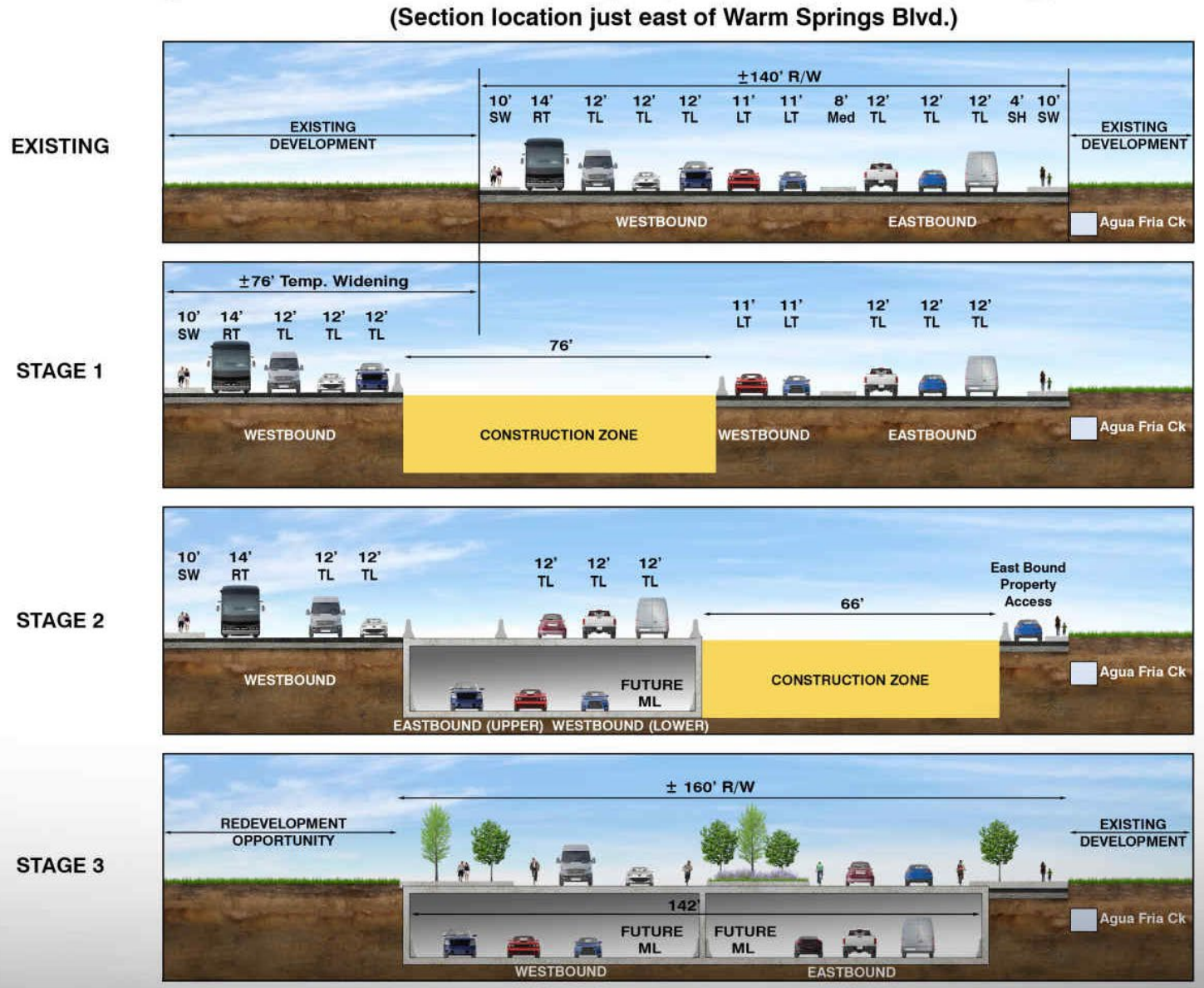
Stage Construction – Open Trench



Staged Construction Concept #1
Open Trench

Project can be staged to maintain all existing traffic movements during the entire construction period. An open trench would be constructed by using temporary pavement to carry Mission Blvd traffic. This concept would also work for a viaduct as well.

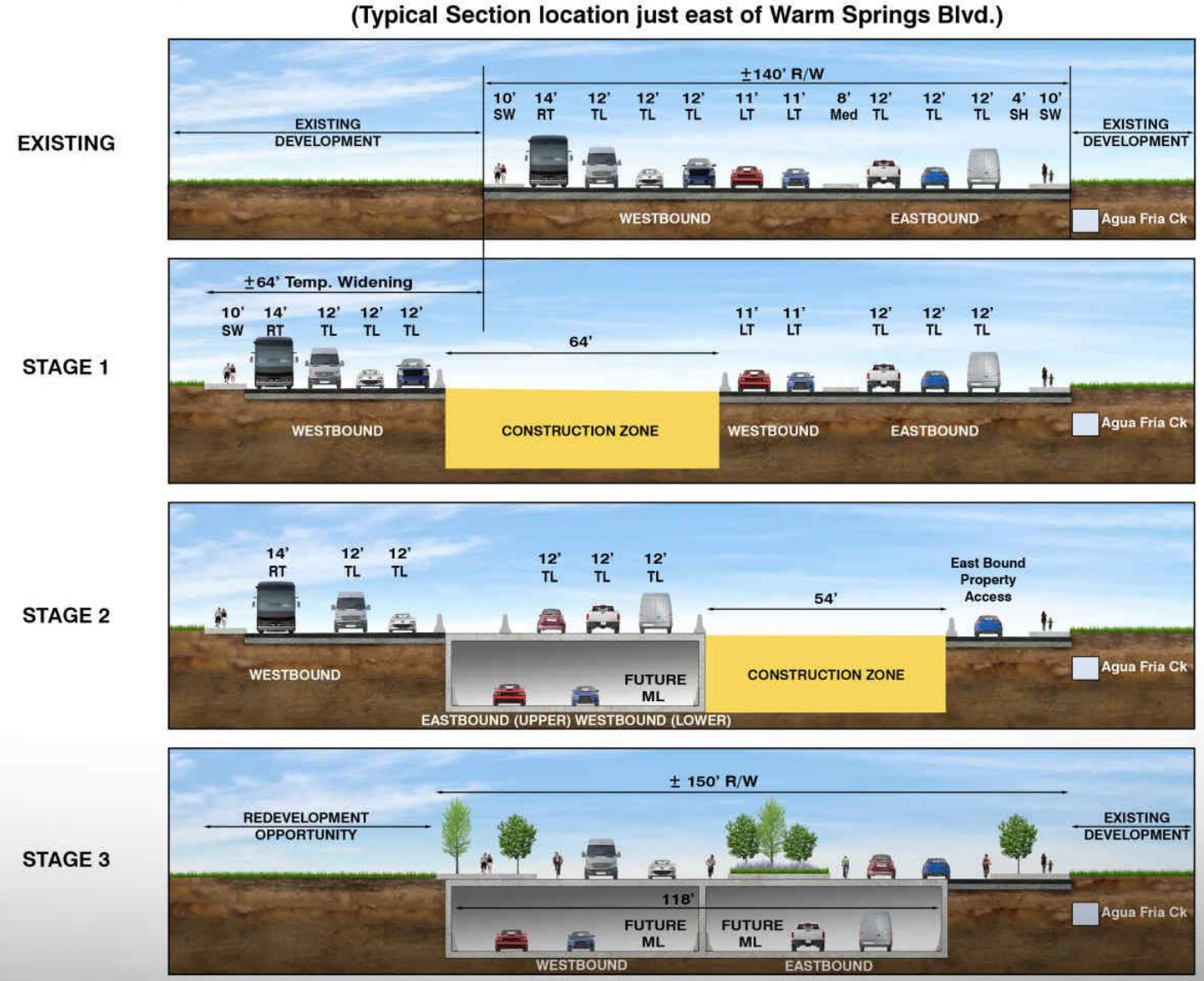
Stage Construction – Cut and Cover



Staged Construction Concept #2
Cut & Cover

Project can be staged to maintain all existing traffic movements during the entire construction period. A cut and cover tunnel would be constructed by using temporary pavement to carry Mission Blvd traffic. A tunnel would have less right of way impacts and provide greater opportunity for redevelopment and additional bicycle/ pedestrian crossings to increase connectivity within the City.

Stage Construction – Cut and Cover with Lane Conversion



Staged Construction Concept #3

Cut & Cover
(Lane Conversion)

Project can be staged to maintain all existing traffic movements during the entire construction period. A cut and cover tunnel (with lane conversion) would be constructed by using temporary pavement to carry Mission Blvd traffic. This tunnel would have the same benefits as the previously described cut and cover tunnel, but with added advantage of a narrower corridor.

Geometric Approval Process

- **Controlling Criteria for Design Standards**

Design Speed	**Lane Width**	**Shoulder Width**
Horizontal Curve Radius	Superelevation Rate	**Stopping Sight Distance**
Maximum Grade	**Cross Slope**	Vertical Clearance

For Multiple Build Alternatives…….

- **Draft Project Report – Conceptual Approval of Nonstandard Features**
- **Project Report – Approval of Design Exceptions (Build Alternative)**
- **Mitigate Approved Nonstandard Features**

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Revitalizing Mission Boulevard

Revitalizing Mission Boulevard

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Environmental

Environmental Document Approach

- Refine Purpose & Need and Build Alternatives per public input
- Build responses to public concerns into technical studies: esp. Community and Visual impact assessments, Noise, Cultural
- Deliver CEQA Environmental Impact Report (EIR) with NEPA Routine Environmental Assessment (EA) for Phase 1

Draft EIR/EA Key Milestones	Final EIR/EA Key Milestones
Alternatives: Feasible and Considered but Rejected	PDT: Identification of Preferred Alternative and rationale
Cultural Resources: Section 106	Cultural Resources: Section 106
Air Quality: MTC Task Force consultation	FHWA Air Quality Conformity Determination
	Formal Consultation for Endangered Species (US Fish & Wildlife, NOAA Fisheries)

Managing Environmental Risks

Risk	Management
Controversy about Purpose and Need, Alternatives, or Community Impacts	• Early, proactive, and equitable public outreach • Supportive communication on potential property impacts and relocation benefits • Impactful visualizations of community, property, and aesthetic changes • Directly address concerns as part of outreach and environmental reporting • Modify design to respond to concerns where possible • Direct follow-up with concerned parties
Cultural resource discovery or Native American concerns	• Proactive outreach to Native Americans • Complete testing as soon as alternative footprints defined • Combine archaeology and phase 1 testing report • Modify design to avoid impacts if possible • Vertical/horizontal Environmentally Sensitive Area designations to streamline agency consultation, where appropriate
Resource agency concerns about creek modifications	• Early coordination with permitting agencies • eDNA testing for California red-legged frog and steelhead • Proactive mitigation planning • Consideration of benefits of daylighting for habitat, water quality, and hydromodification

Managing Environmental Risks

Risk	Management
Increase in Vehicle Miles Traveled (VMT) and CEQA Potentially Significant Impact	**Design** • Project design includes multiple project-level VMT reduction measures (Complete Streets elements, bicycle paths/facilities, wide sidewalks, grade separated crossings of freeway-to-freeway traffic, better connectivity to public transportation, more efficient bus operation) • Early coordination and scoping of mitigation opportunities: incorporate infrastructure electrification (e-bike charging); support multimodal transportation use thru social marketing, public education, $ incentives
	Analysis • Adjust Alameda CTC model to reflect critical factors that affect VMT that are not included: local land use changes and trip generation • Account for bottlenecks outside of key project gateways and volume shifts on parallel routes • Present VMT changes in balance with improvements in key measures of effectiveness such as Vehicle Hours of Delay (VHD) as well as GHG, air quality, energy, and noise • Quantify VMT offset of improvements to pedestrian and bicycle facilities, street connectivity, destination accessibility, transit travel time reduction (Caltrans TAC Table C-2)

Public Outreach: Qualifications

- 20+ years successful collaboration with Eileen Goodwin
- Strong community connections and knowledge:
  - I-680 NB Express Lanes Project
  - Warm Springs/South Fremont Community Plan
  - Dumbarton Rail Corridor
  - I-880/Decoto Road Interchange
- Key experience: urban grade separations, property acquisitions, relocations
- Proven effectiveness of AECOM Virtual Rooms

Eileen Goodwin

APEX Strategies

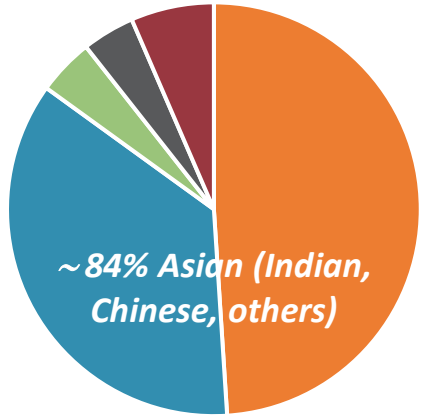
Public Outreach Lead

Public Outreach: Approach

- Focus on the City's vision to deliver a project that best reflects the community's interests
- Initial stakeholder outreach (pre-scoping)
  - Changing demographic profile
  - Reboot project discussions
- Detailed outreach strategy plan for effective and inclusive mix of engagement
  - Door to door, direct contact
  - Community workshops
  - Informational briefings
  - Scoping and environmental document meetings
- AECOM Virtual Room technology
  - Safe space for large gatherings
  - Better attendance than in-person meetings
  - Built-in comment, online survey tools
  - Opportunity to share space with City

Public Outreach: Equity & Inclusion

- Public outreach & environmental document process
  - Translation, interpretation, and assistive services
  - Non-electronic noticing and informational methods
  - Early engagement of community-based organizations
  - Accessible electronic, printed materials
- Project design
  - Reconnect community while minimizing property and other project impacts
  - Improve pedestrian and bike infrastructure and safety
  - Better incorporate active transportation into greater area network and access to Bay
  - Incorporate purposeful urban design that promotes connectedness
  - Complete Streets and ADA



Benefits and Innovations

Funding

- Active transportation and proximity to transit-oriented development great “funding hooks”
- Proven success for Alameda CTC: 2020 SB Competitive LPP for I-680 EL (max amount $25M)
- More than $1.5B secured in last decade

Certifications

- *Envision Certification*: Institute for Sustainable Infrastructure “LEED for highways” – US 101 Managed Lanes
- *LEED for Neighborhood Development* - Treasure Island Public Realm Master Plan
- Supports grant application efforts and helps position projects for industry awards

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Transportation

Traffic Analysis Approach

1. **EXPEDITE** analysis to facilitate design refinement decisions

2. **VERIFY** Current Traffic Conditions, Collision History, and Evaluation Methodology

3. **ANALYSIS** of critical areas
   - south end transitions
   - single/dual express lane transitions
   - controlled access limits

Travel Demand Modeling

- Lead for Alameda Countywide Model development and on-call support to ACTC
- System perspective – model is a tool, not the answer
- Use model to address high level demand and capacity issues upfront before more detailed analysis
    - Select link
    - Demand model volume comparisons
- Develop methodology/approach memos
    - Gain stakeholder consensus early in the project
- SB 743 and Caltrans VMT methodology
    - Guided Caltrans with the VMT methodology framework
    - Significant VMT project experience

Model plot graphic?

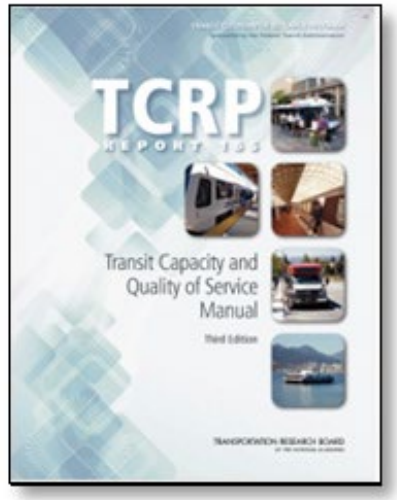
Travel Demand Modeling

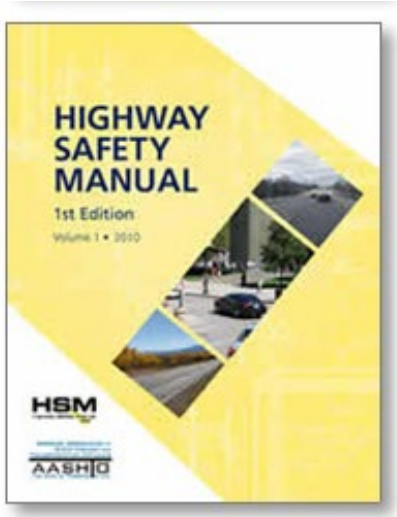
- Early agency coordination is critical
  - Develop methodology memos
    - Obtains stakeholder consensus early in the project
  - Perform a planning level analysis
    - Helps reduce project alternatives for full technical analysis

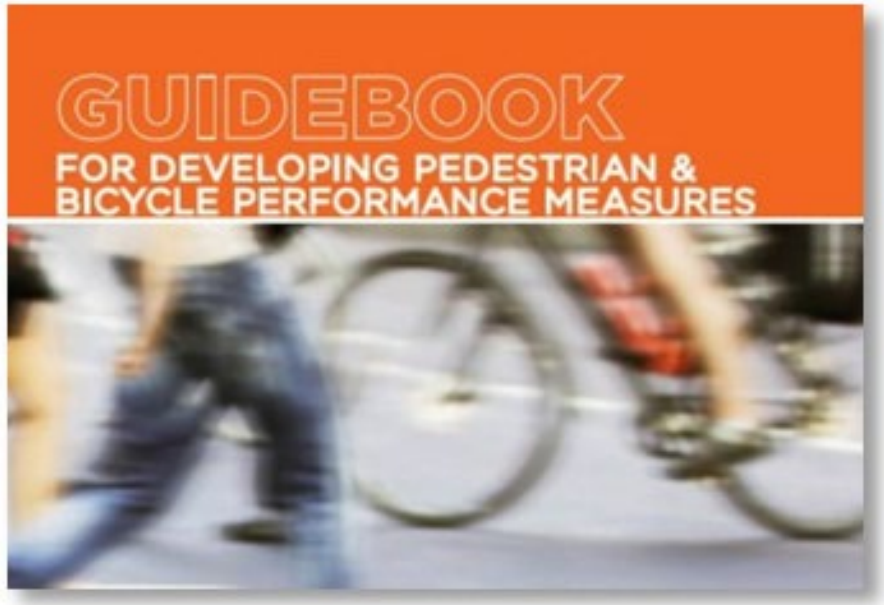
- Key scope tasks
  - Address Covid-19 impact on data collection
  - Sensitivity Analysis – 6 vs. 4 lanes
  - Multimodal benefits of open trench vs. cut and cover tunnel

Performance Based Decisions

- Expand focus beyond traffic operations
- Use multimodal performance measures to evaluate alternatives
- Include safety and Complete Streets
- Caltrans Safety Performance Methodology

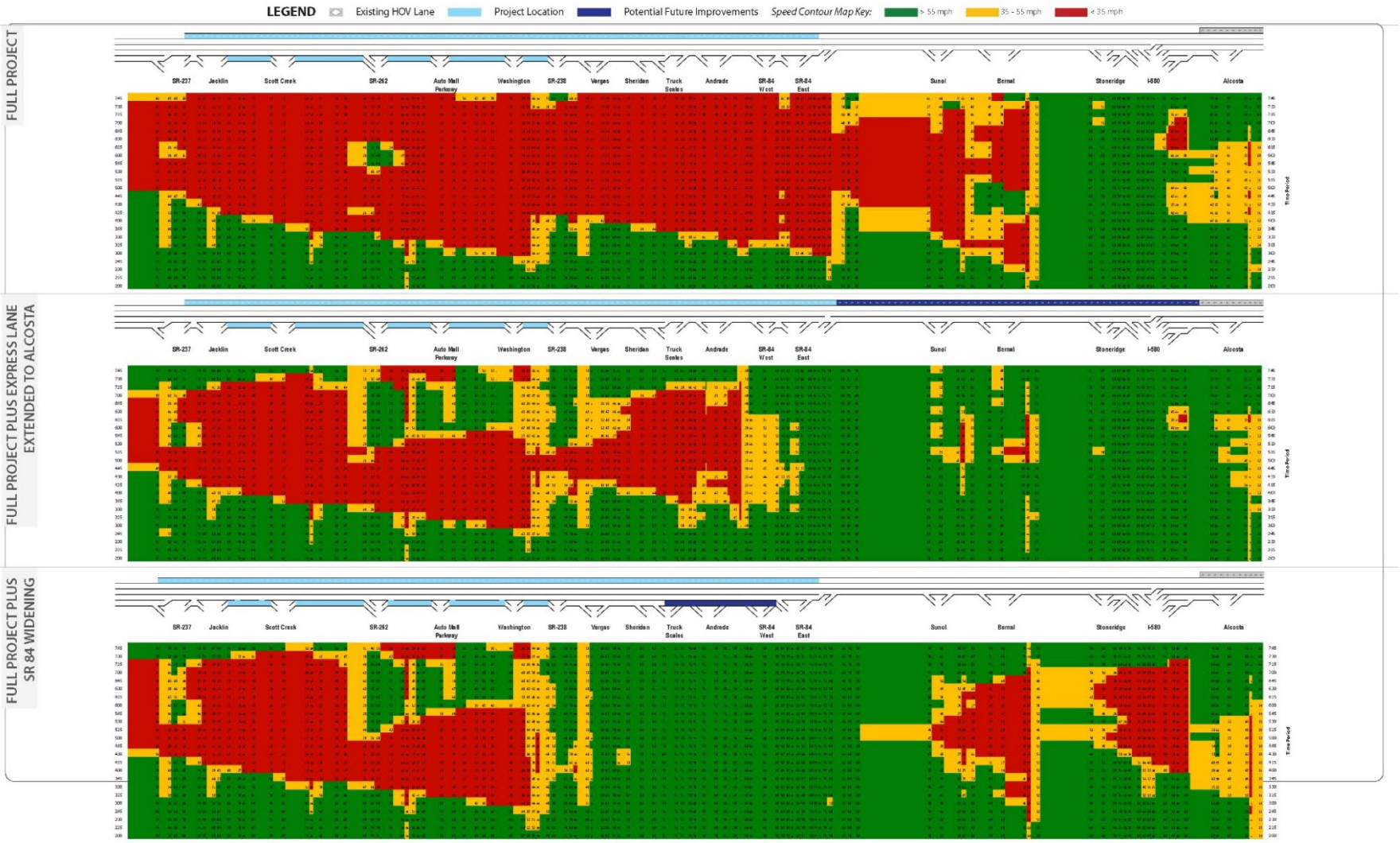






Traffic Operations Analysis Visualization

Heat Map

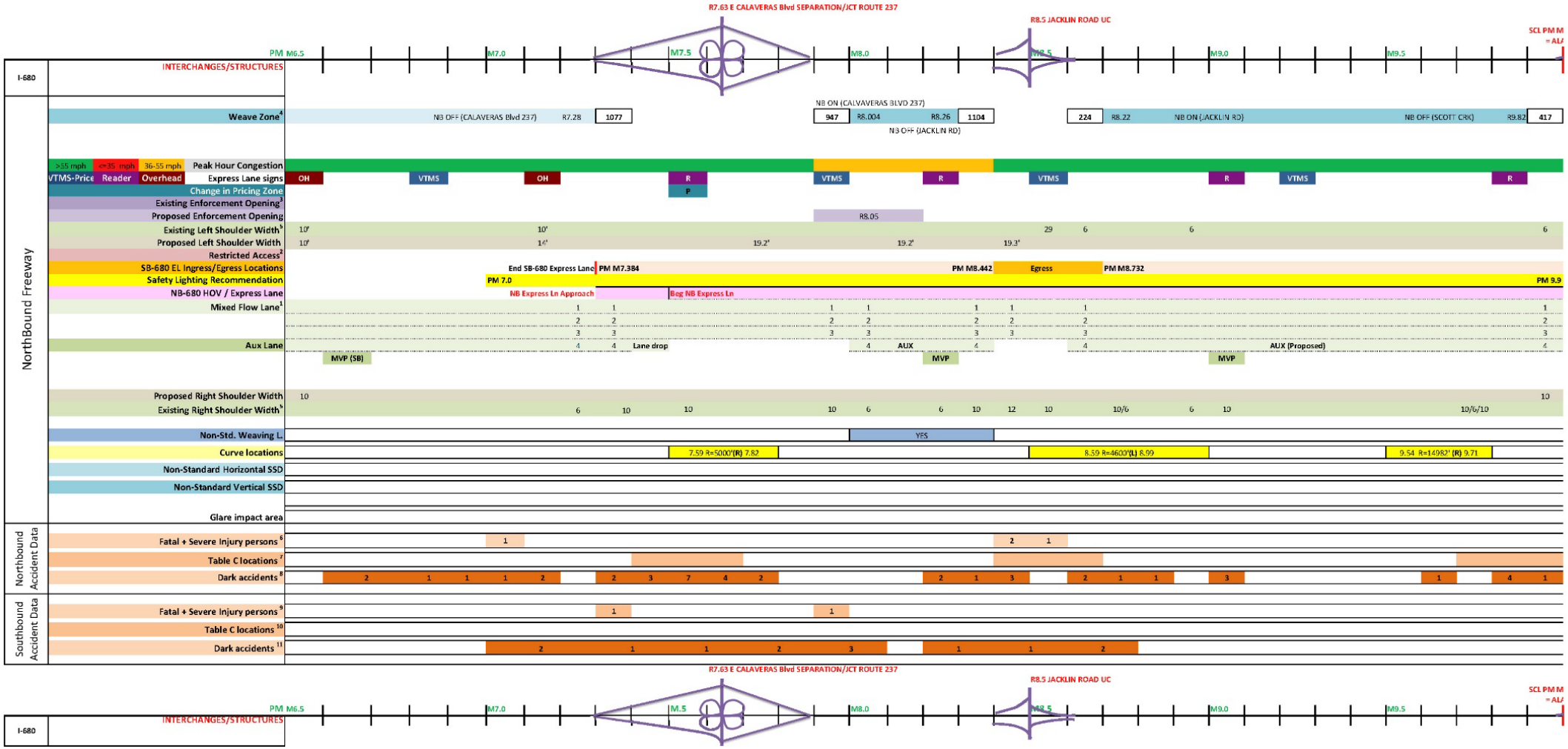


I-680 NORTHBOUND YEAR 2040 TRAVEL SPEEDS: POTENTIAL FUTURE CORRIDOR IMPROVEMENTS

FIGURE 8-1B

Traffic Safety Assessment

Traffic Safety Diagram



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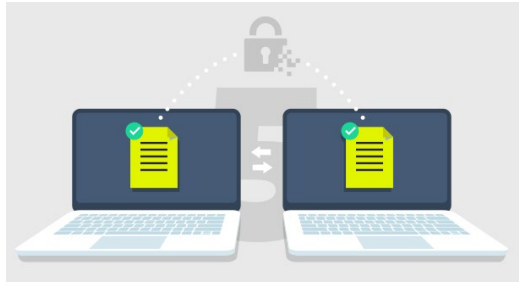
Management Plan

Management Plan – Communication/Coordination

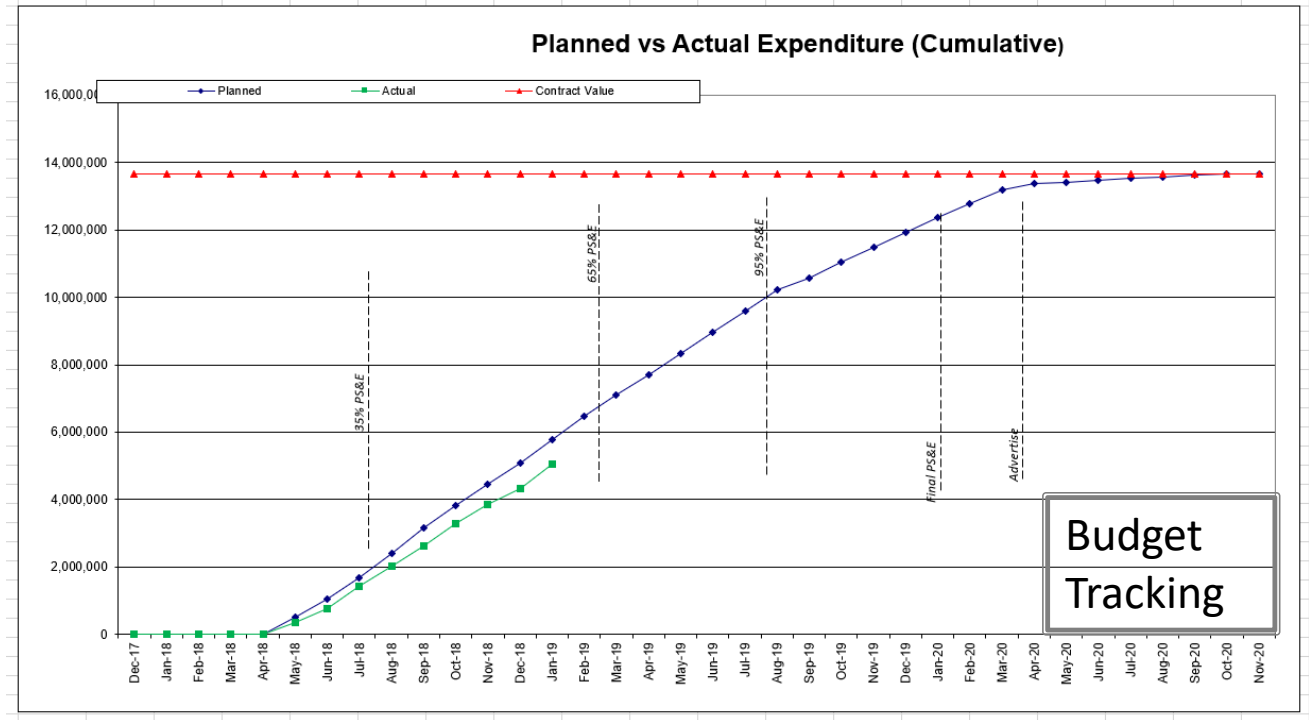
- Responsive to Alameda CTC Needs
- Effective Meetings
- Document Decisions
- File Sharing
- Public Outreach Strategy Plan

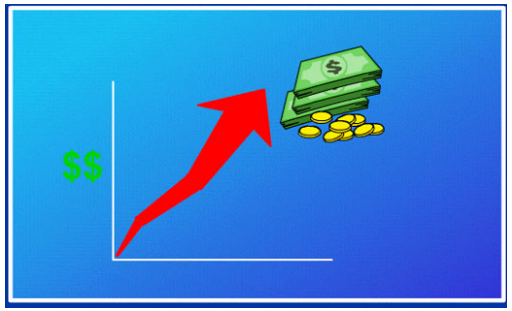


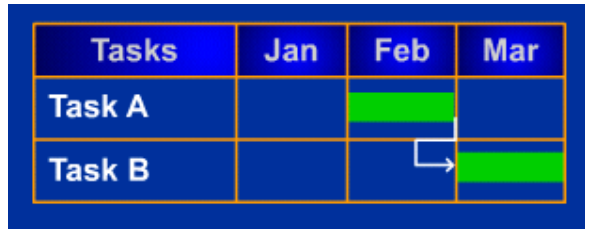
"Our Management Plan incorporates proven practices that have been successfully utilized on several ACTC projects"

Management Plan – Project Controls

- Spending Plan
- Monitor Costs Weekly
- Monthly Invoice Reporting
- Manage Resources
- Contract Administration
- Adherence to Ala CTC Policies/Procedures
- Schedule Control







Managing Schedule

- Update schedule on a regular basis
- Conduct Scoping Meeting. Develop work plans to agree on approach for various studies.
- Identify schedule critical tasks and focus on keeping them on track
- Provide adequate time for agency reviews
- Make sure reviewers understand milestones and stick to them
- Quality control review / checks of all deliverables (prior to each submittal)

- Established relationships with ACTC, District 4 and City staff
- Work collaboratively to address project problems and address them efficiently
- Bi-weekly check-in's with ACTC Project Manager and Design Team
- Bi-weekly check-in's with District 4 Environmental and Design staff
- Monthly PDT/focus meetings to provide status updates and make key decisions
- Document decisions made

Management Plan – Risk Management

Prepare and Maintain LEVEL 3 Risk Register in Coordination with PDT throughout Project Development to track ALL project risks

LEVEL 3 - RISK REGISTER	Project Name:	I-680 Express Lanes (SR 262 to Koopman Rd.) PM M2.4 to R12.4	DIST- EA	04-4G0561	Project Manager	Gary Sidhu (Alameda CTC) Ron Kiaaina (Caltrans)

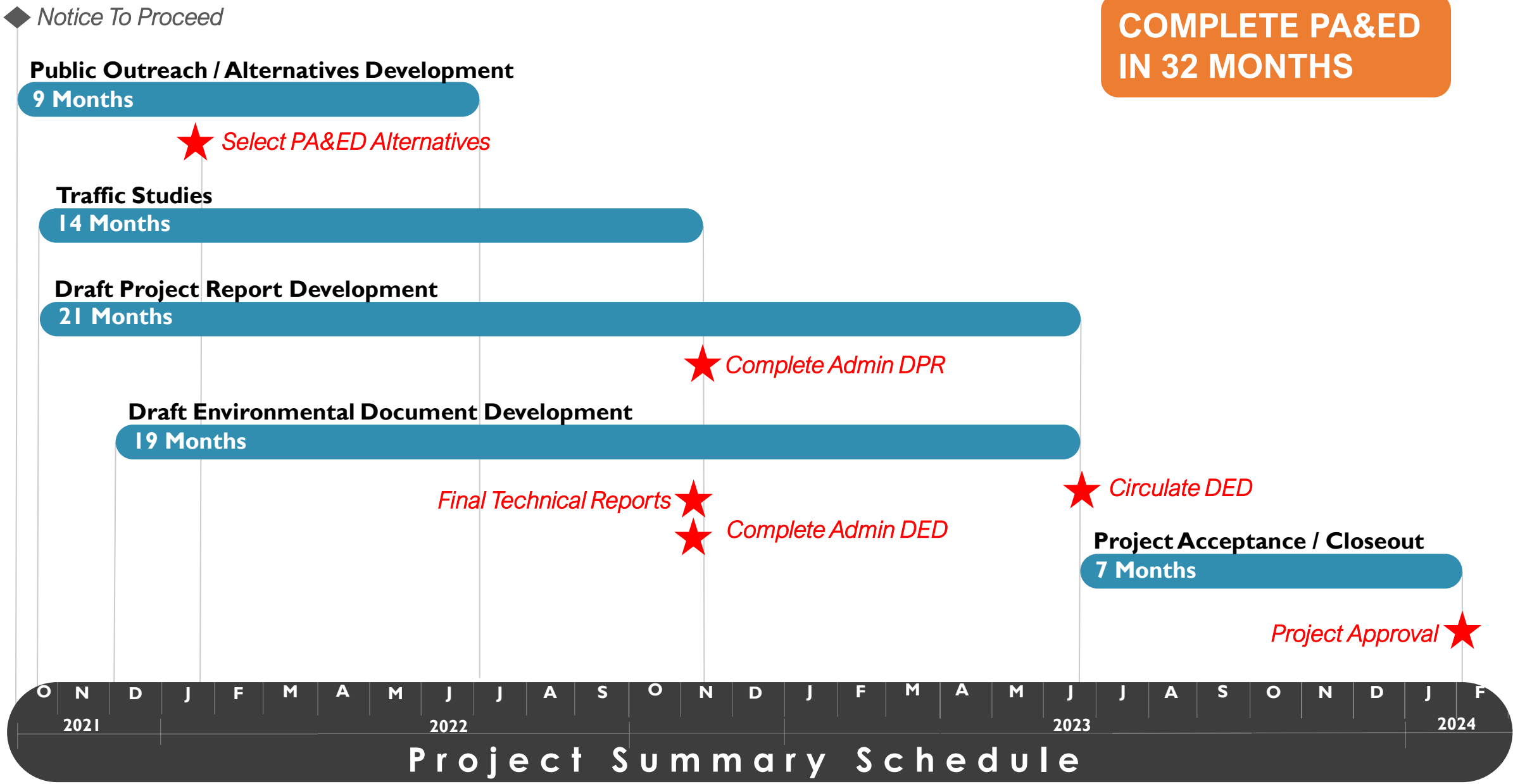
Risk Identification						Risk Assessment													
						Probability		Cost Impact ($)				Time Impact (days)				Rationale	Risk Response			
Status	ID #	Category	Title	Risk Statement	Current status/assumptions	Low	High	Low	Most likely	High	Probable	Low	Most likely	High	Probable		Strategy	Response Actions	Risk Owner	Updated
Active	1	PM	Project Estimate	Changes in the market conditions, material prices and level of contractor competition may affect the cost of the project.	Ongoing	40	60	$ 5,000,000		$ 10,000,000	$ 3,750,000	100		200	75		Accept	Track Cost Trends and continuously evaluate the cost estimate. Include moderate level of contingency. If cost estimate tends to exceed the available budget, reassess various project scope elements and identify potential scope items for modification or removal.	Ala CTC Team	6/22/2016
Retired	2	Design	Cross Slope Correction	Caltrans is requiring cross slope corrections to the existing pavement to address drainage and safety issues that could potentially result from addition of the HOV/EL lane. Depending upon the extent of corrections needed, it could increase project cost from $4 to $8M.	Minimum cross slope of 2% is proposed	30	70	$ 4,000,000	$ 4,700,000	$ 8,000,000	$ 2,783,000	30		60	23	extended night work to place additional overlay material	Mitigate	Resolved. District requested additional SHOPP funds	Ala CTC Team / Caltrans	6/22/2016
Retired	3	Environmental	Environmental Mitigation	Lack of available mitigation resources in the area may result in added cost.	Species mitigation is now available from Ohlone West bank. Riparian tree mitigation is available from Stanley Ranch	10	40	$ 50,000		$ 100,000	$ 19,000	30		100	16		Mitigate	Resolved. Mitigation bank sites identified	Ala CTC Team / Caltrans	3/10/2017
Active	4	Design	Toll System and Civil Design Coordination	Lack of timely input of the TSI into the civil PS&E has the potential to delay civil PS&E completion and/or result in significant CCOs.	Multiple meetings/phone conferences conducted between Kapsch and WMH to bring Kapsch up to speed with the civil design plans. Kapsch has reviewed 65% and 95% civil plans and provided input. Regular face to face meetings with Kapsch and design team are ongoing to reconcile details for the toll system facilities and resolve interface issues.	30	60	$ 20,000		$ 200,000	$ 50,000	30		60	20		Mitigate	Continue coordination meetings between Kapsch and WMH to ensure proper integration of toll system needs into 95% civil PS&E.	Ala CTC Team / WMH/Kapsch	3/10/2017

Management Plan – Quality Deliverables

- Project specific Quality Management Plan (QMP)
- Coordination between disciplines
- Quality control review of all deliverables (prior to each submittal)
- Senior Staff Review of All Technical Reports
- Caltrans QA/QC Checklists – NEPA Compliance
- Independent Technical Review (value analysis, constructability)
- Response to comments matrix
- **Produce quality construction documents**

QC | QA

COMPLETE PA&ED IN 32 MONTHS



WMH
In association with AECOM

Wrap-Up

The Right Team to Deliver SR 262

- ✓Innovative and Cost Effective Solutions

  $80M Savings!

- ✓Best reflecting community's interests
- ✓Complete PA&ED in 32 months

WMH in association with AECOM brings unmatched design experience of transportation projects of similar size and complexity

WMH Team PA&ED Delivery Performance

Ala CTC Project	Type of ED	Begin PA&ED	End PA&ED	Duration (months)
I-680 NB Express Lane (SR 237 to SR 84)	EIR/EA (complex)	2/28/2013	7/29/2015	29
I-680/SR 84 Interchange	EIR/EA	2/10/2015	5/3/2018	35
I-680 GAP Express Lane	IS/EA	9/10/2018	11/9/2020	26
SR 262 Cross Connector	EIR/EA	TBD	TBD	32 (estimate)

References: I-680 Sunol Express Lanes

"I am amazed at the resolve and commitment of you and your teams to make the NB lane open and available to the public in the midst of the COVID challenges. Fremont staff has also shared with me how they are already seeing the difference. Next year we will have the EL operations on line and yet another reason to celebrate"

City of Fremont Mayor Lily Mei

"Congratulations and gratitude to the entire team on achieving this major and significant milestone in project delivery for such a complex and sizeable project. RTL constitutes the end of the design and PS&E development process, with the necessary permits, right of way certification, utility certification, and QA process mostly completed – not easy. So thank you."

Art Dao, former Executive Director, Alameda CTC