Corridor Crossings STRATEGY

Local Policy Makers Group (LPMG)

8.24.2023

AGENDA

- Program Approach Recap
- Design & ROW Topic
- Redwood City Example
- Look Ahead

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Paths

Project Delivery Opportunities

Communicate roles, responsibilities, processes, and standards for individual projects.

Outcome: *Crossings Delivery Guide*

Program Strategy Development

Develop a shared, corridor vision with an incremental and implementable approach for regional benefits.

Balance vision with implementable action plan

Outcome: *Program Vision and Strategy*

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Purpose

As an outcome of the **Business Plan**, the Corridor Crossings Strategy is an effort to **define a systematic corridor-wide approach** to crossings.

The strategy aims to **align stakeholder ambitions into balance with an implementable program,** addressing:

- Funding
- Organization
- Program Delivery

Note: Active grade separation projects will continue in parallel

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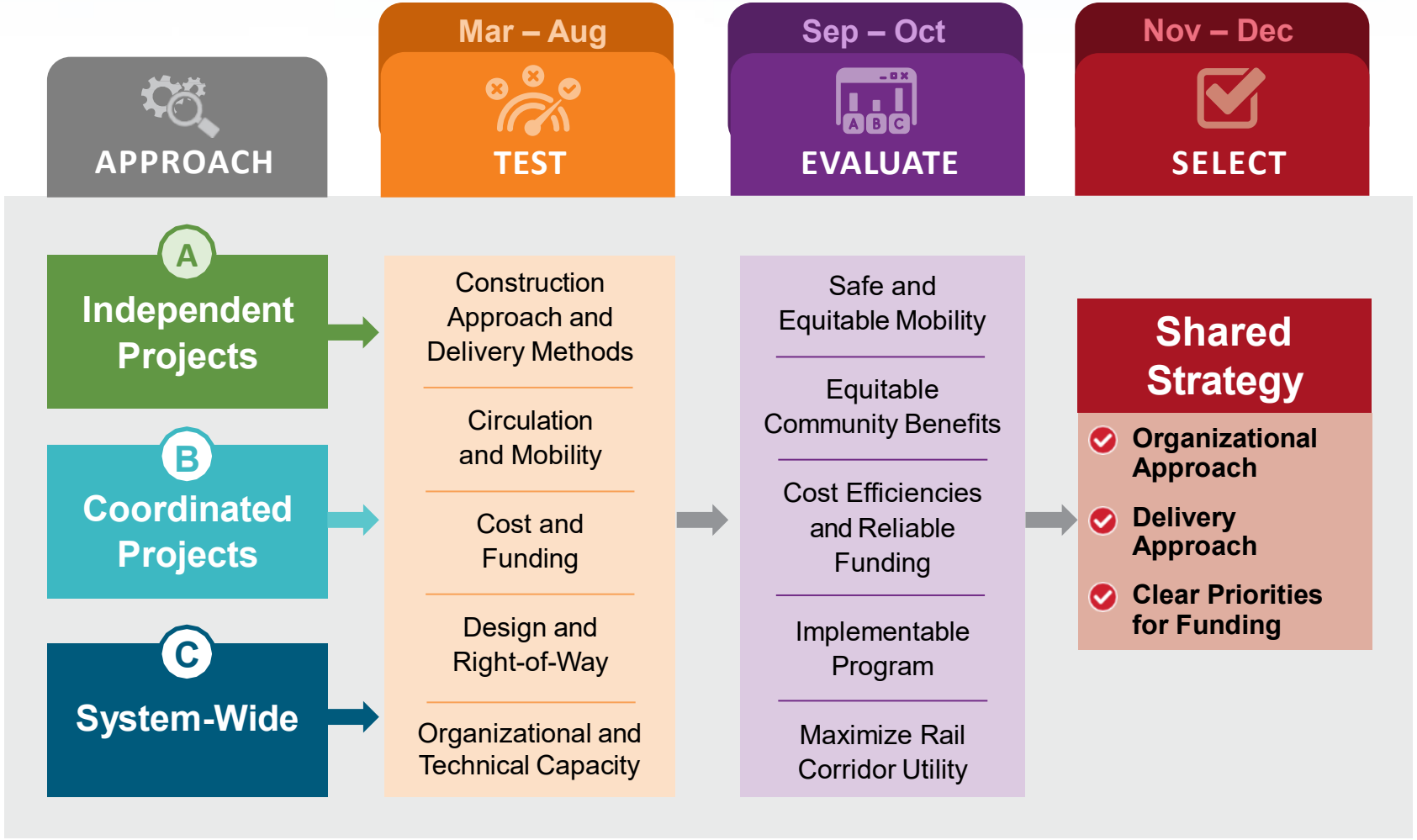
Program Strategy Process



Design & ROW Topic

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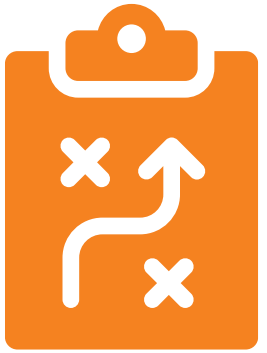
Design and Right-of-Way (ROW)

Objectives

- How do we most efficiently and cost effectively deliver projects?
- Identify design approaches that integrate with the community context



Approach

- Review existing conditions
- Consider typical solutions
- Develop common themes

Takeaways

- Understand how to address Key Constraints
- Approach for identifying most appropriate solution

Existing Conditions

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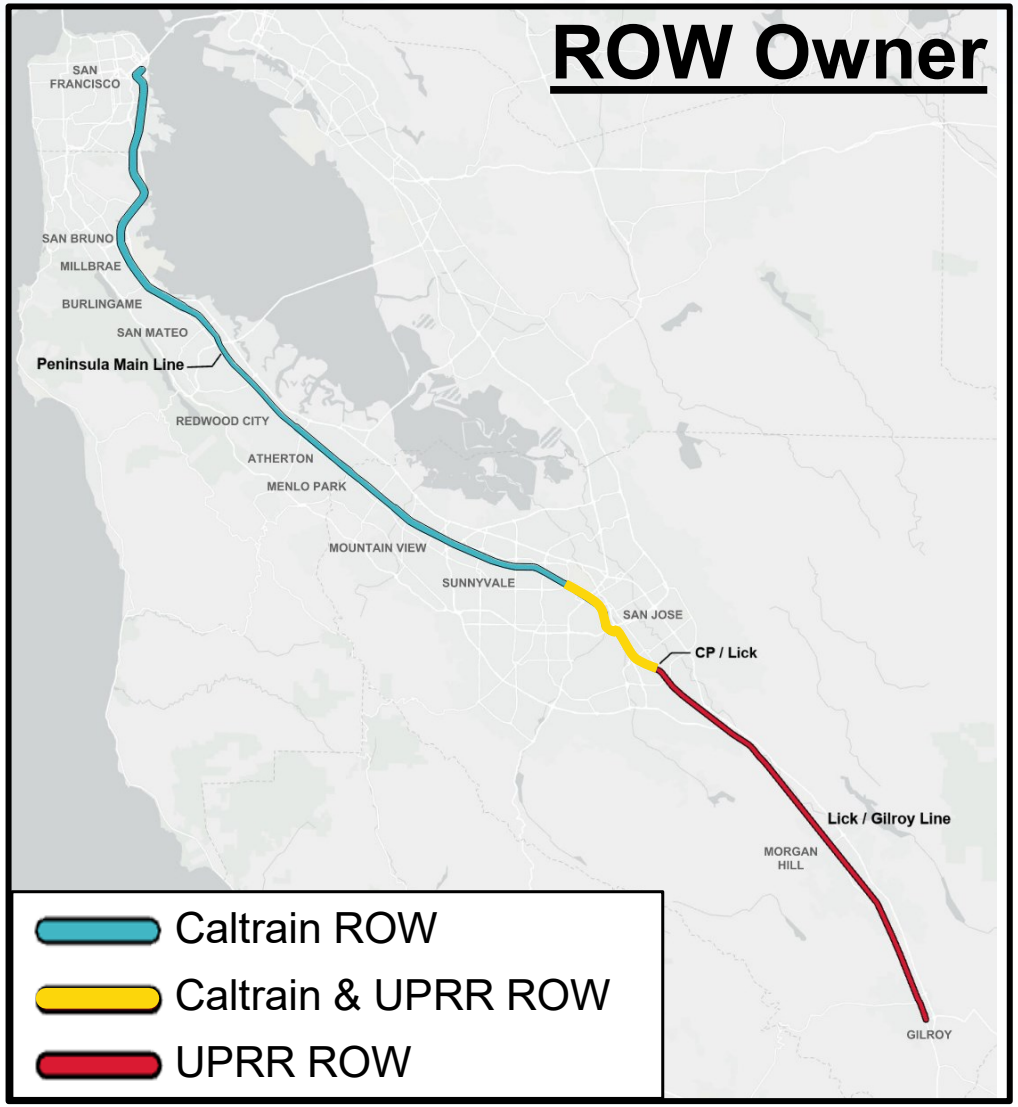
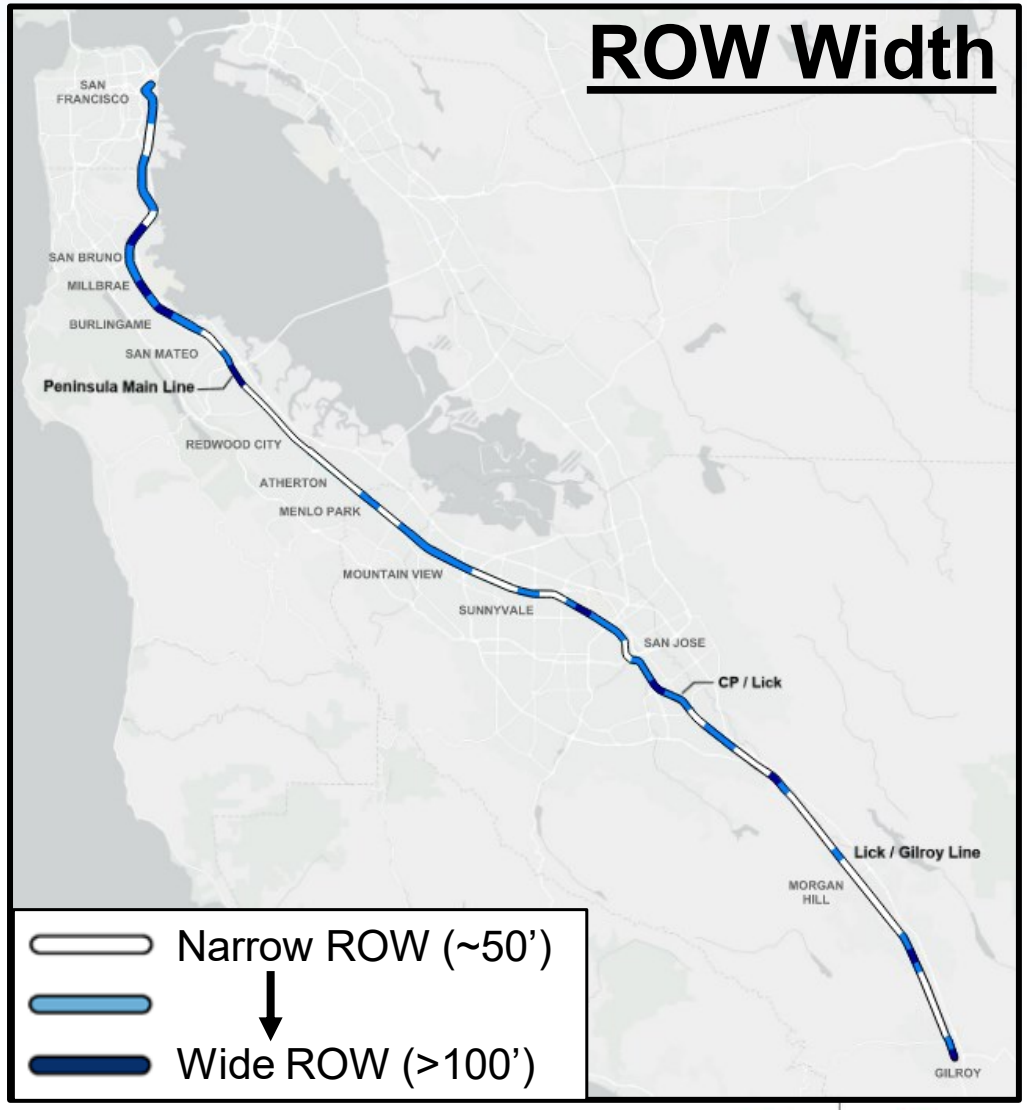
Existing Right-of-Way (ROW)





Typical Design Solutions

Viaduct

Olympic GS, Santa Monica

Embankment

E 25th Ave, San Mateo

Activation Opportunities

Parking

Active Transportation

Greenspace

Revenue Generation

Parking Beneath 7 Train Viaduct, New York City

Active Transportation Beneath Davenport Diamond Viaduct, Toronto

Businesses Beneath Railway Viaduct, London, England

Physical Considerations

Regulatory Considerations

Community Considerations

Financial Viability

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Typical Design Solutions

Underpass

Fifth Ave, North Fair Oaks, San Mateo County

Hybrid

E 28th Ave, San Mateo

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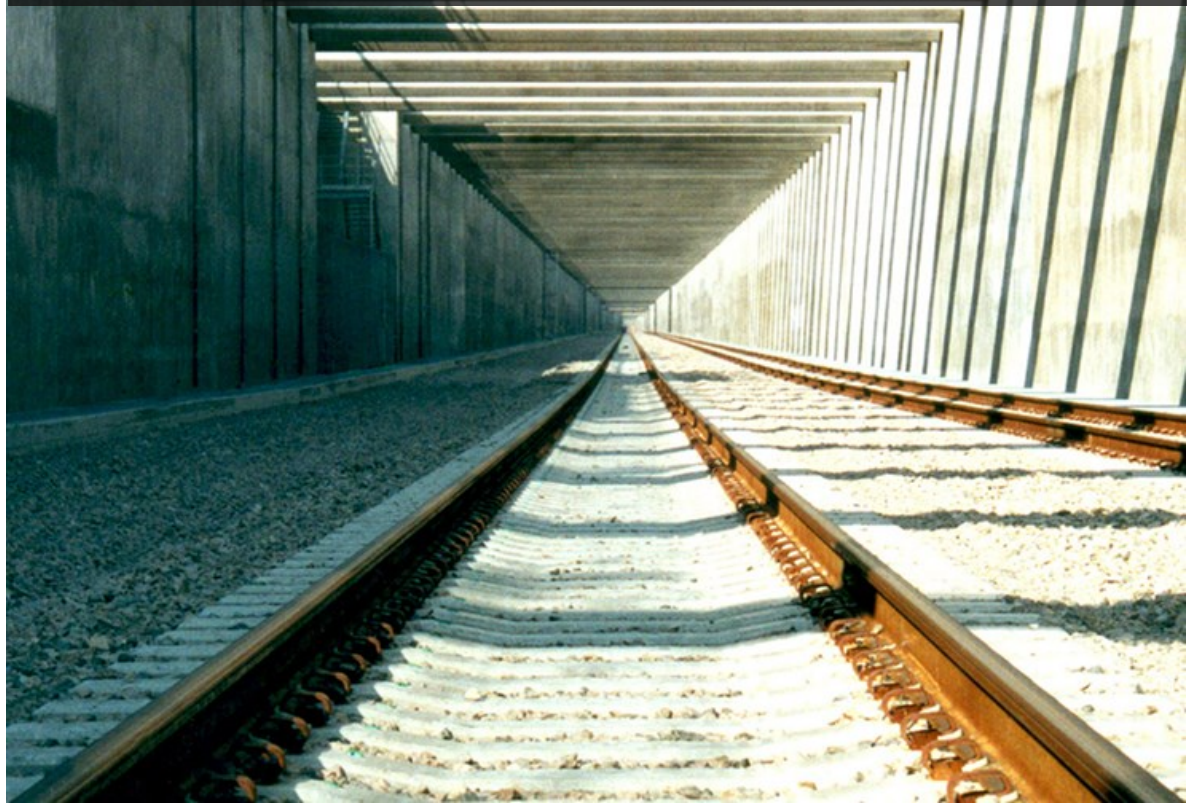
Typical Design Solutions

Trench



Alameda Mid-Corridor Trench, Los Angeles

Overpass

San Antonio Station, Mountain View

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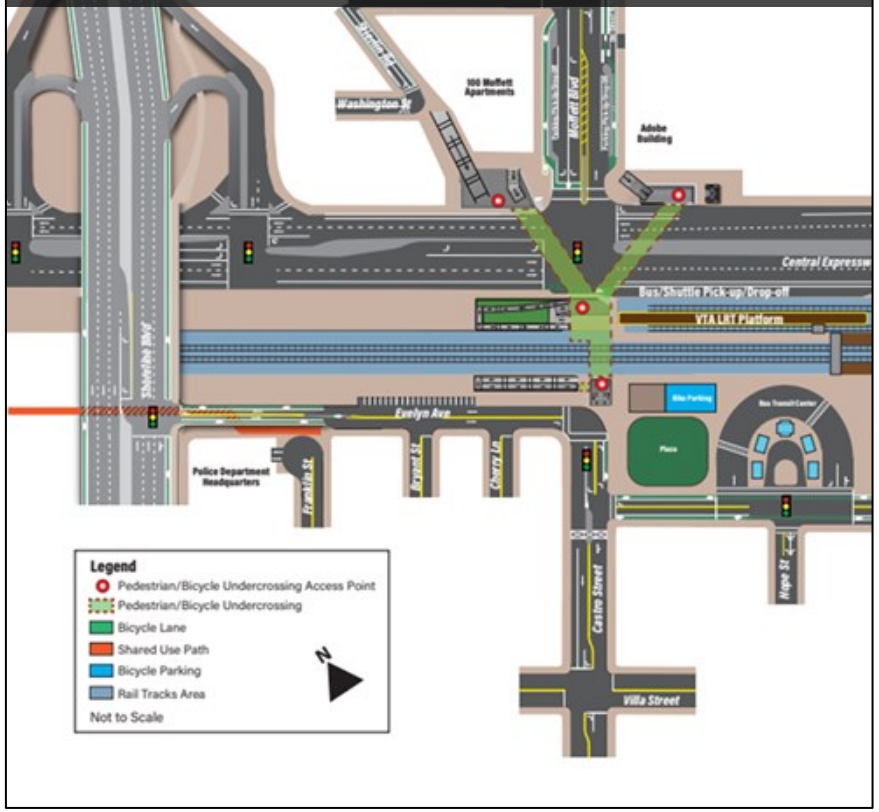
Typical Design Solutions

Full Closure

Benton St, Santa Clara

Vehicular Closure



Castro St, Mountain View

Corridor Themes

Rural/UPRR

- Long at-grade crossing spacing
- Low density development

Urban Isolated

- Long at-grade crossing spacing
- High density development

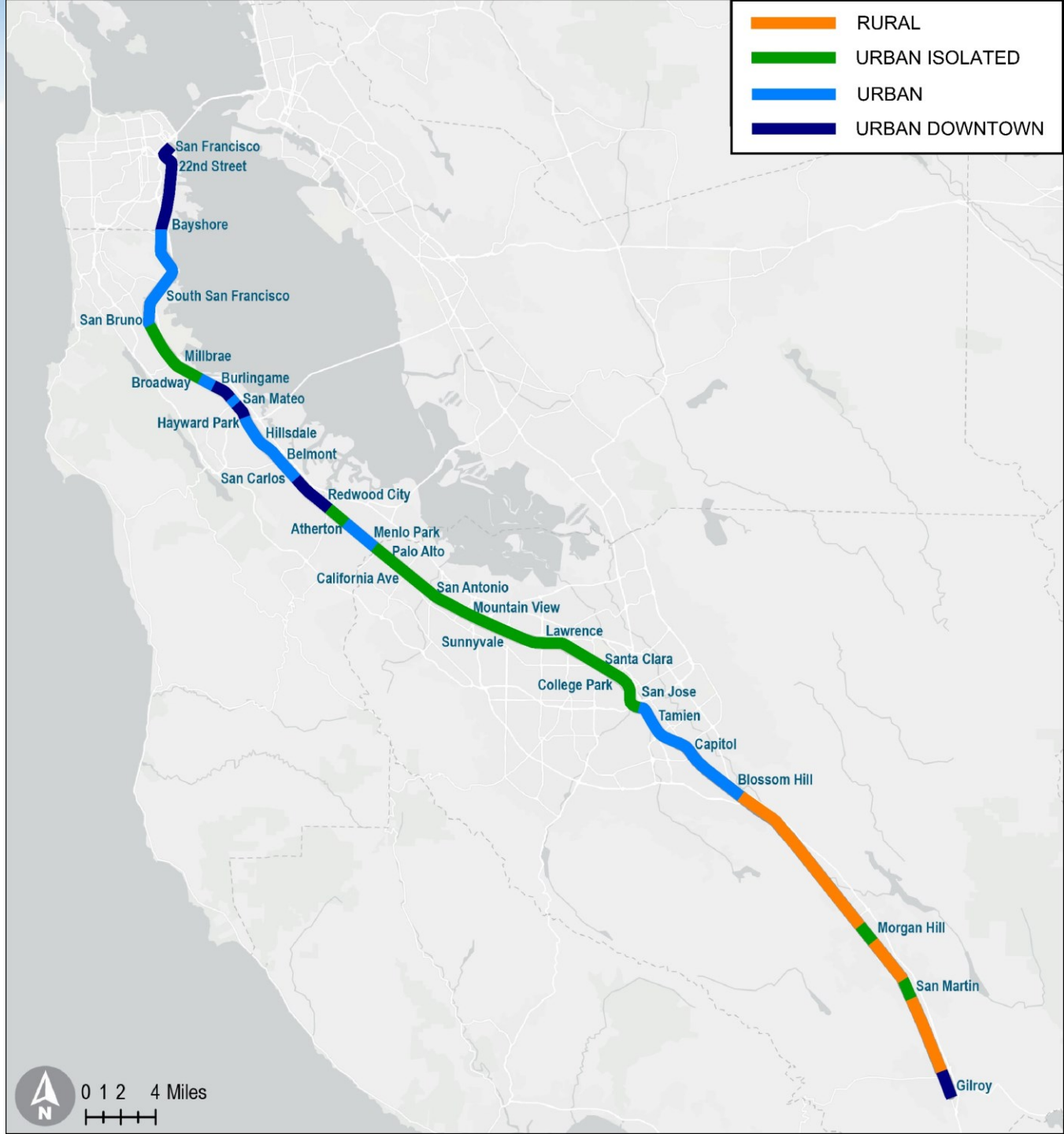
Urban

- Medium at-grade crossing spacing
- High density development

Urban Downtown

- Short at-grade crossing spacing
- Very high density development

At-Grade Crossing Spacing	Distance
Long	> 1 mile
Medium	½ - 1 mile
Short	< ½ mile



Themes – Rural/UPRR

Characteristics

- Long crossing spacing (> 1 mile)
- Low density adjacent land use
- Local roadway reconfiguration feasible
- Low traffic volume
- Less constrained right of way

E Middle Ave Crossing, Morgan Hill

Potential solutions

- Grade Crossing Improvements
- Closure
- Underpass
- Overpass

Church Ave Crossing, San Martin

Themes – Urban Isolated

Characteristics

- Long crossing spacing (> 1 mile)
- High density adjacent land use
- Ranges from low to high traffic volumes
- Less constrained right-of-way

Churchill Ave Crossing, Palo Alto

Potential Solutions

- Vehicular Closure
- Underpass
- Embankment
- Hybrid

Rengstorff Ave Crossing, Mountain View
LPA: Underpass

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Themes – Urban

Characteristics

- Medium Crossing Spacing (0.5 - 1 mile)
- High density adjacent land use
- Ranges from low to high traffic volumes
- Constrained right-of-way

Potential Solutions

- Viaduct
- Embankment
- Trench
- Hybrid
- Underpass

Three close crossings adjacent to Monterey Highway in San Jose.
Skyway Dr, Branham Ln, and Chynoweth Ave

Themes – Urban Downtown

Characteristics

- Short Crossing Spacing (<0.5 mi)
- Very high-density adjacent land use
- Ranges from low to high traffic volumes
- Constrained right-of-way

Potential Solutions

- Viaduct
- Embankment
- Combo viaduct/embankment
- Trench
- Closure

Closely spaced crossings in Downtown San Mateo

Themes – UPRR Urban Downtown

Characteristics

- **UPRR**
- **Less frequent Train Traffic**
- Short Crossing Spacing (<0.5 mi)
- Very high-density adjacent land use
- Constrained right-of-way

Potential Solutions

- **Grade Crossing Safety Improvements**
- Viaduct
- Embankment
- Combo viaduct/embankment

Closely spaced crossings in UPRR ROW in Downtown Gilroy

Redwood City Example

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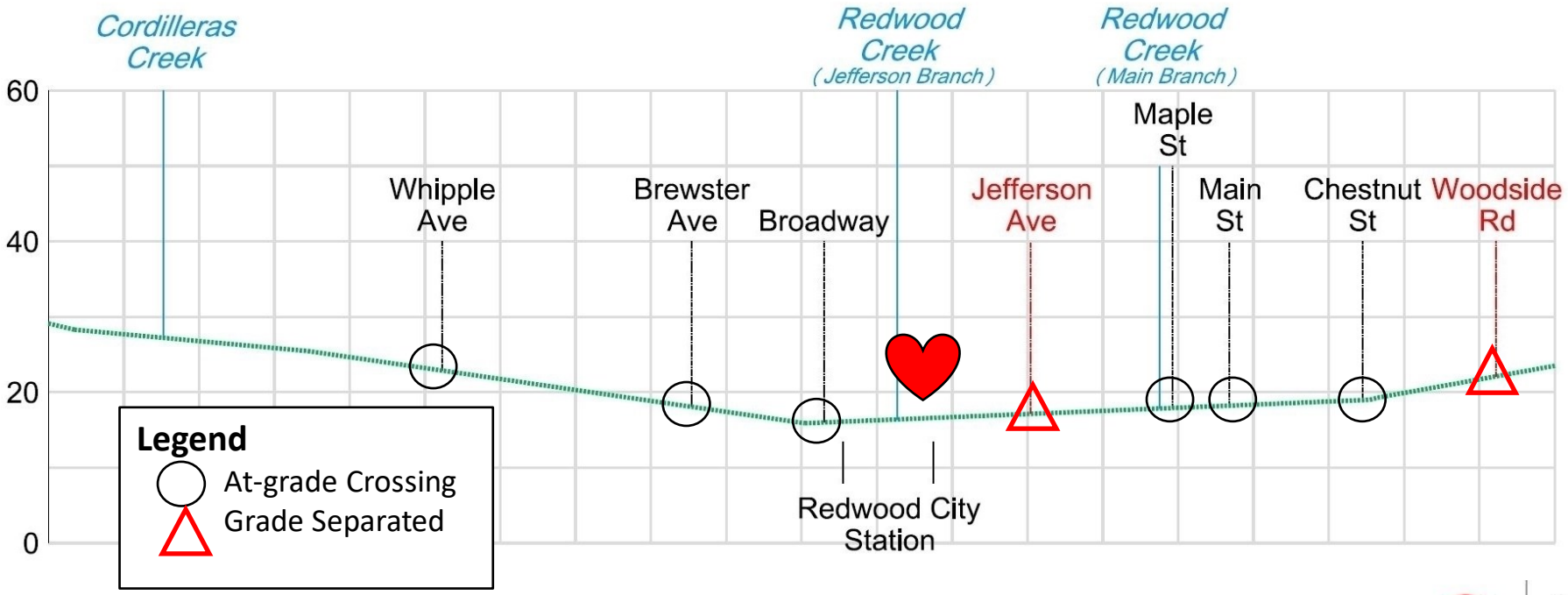
Project Goals & Setting

Study Goals

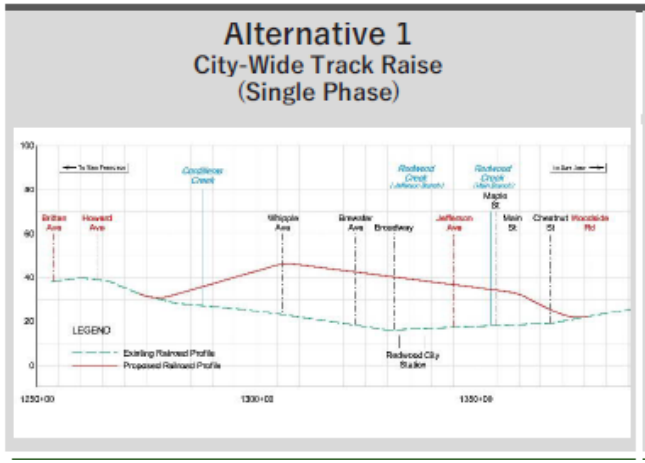
- Analyze feasible alternatives for remaining 6 at-grade crossings
- Decide on a long-term strategy for grade separations (which crossings when)

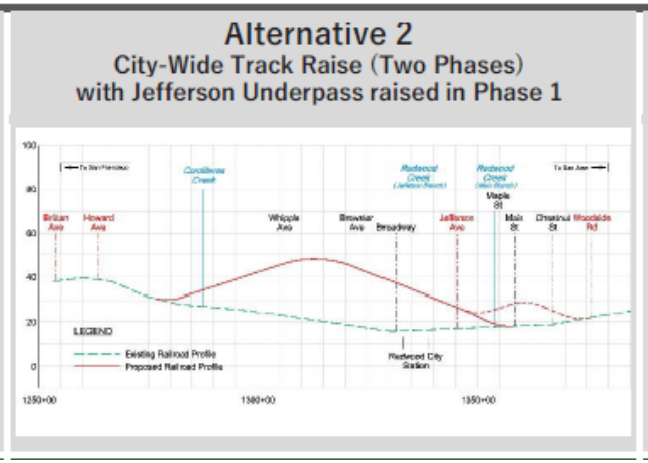
Project Setting

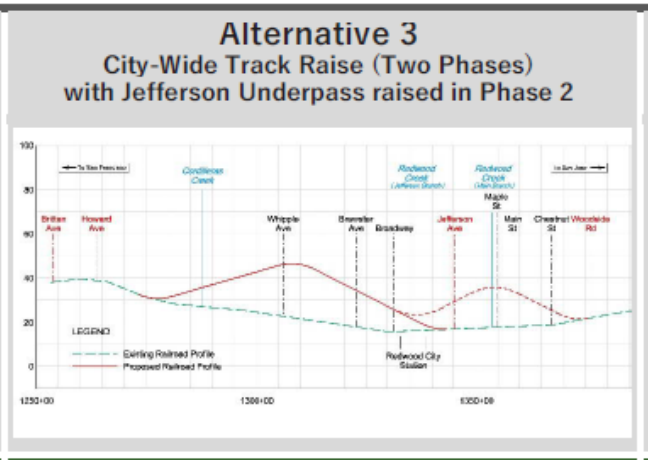


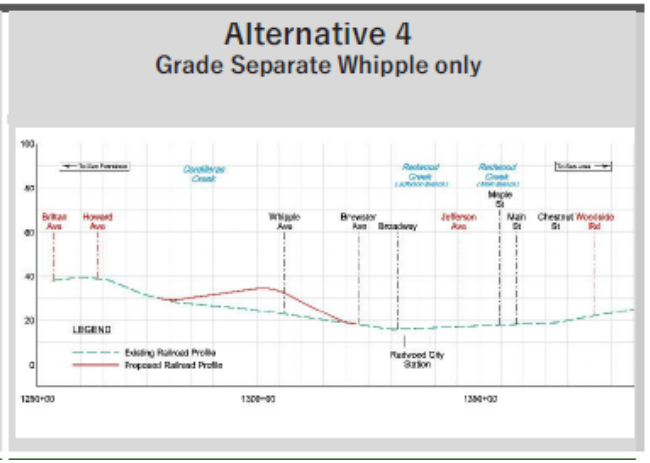
Alternative Refinement

- Initial direction from City Council to avoid trenching/tunneling for rail
- “Cast a wide net” = 15 alternatives focused on vertical alignments



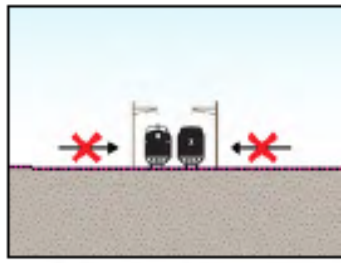




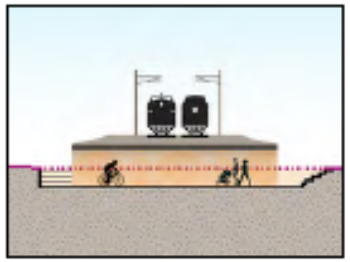


- Narrowed corridor and individual crossing options using public input and technical criteria with an eye to minimize potential ROW impacts and accommodate transit needs
- Community survey to finalize preferred alternative

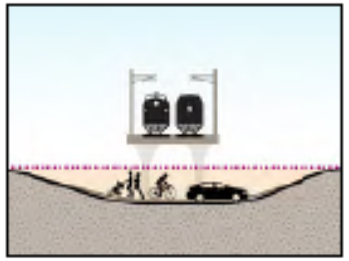
Broadway



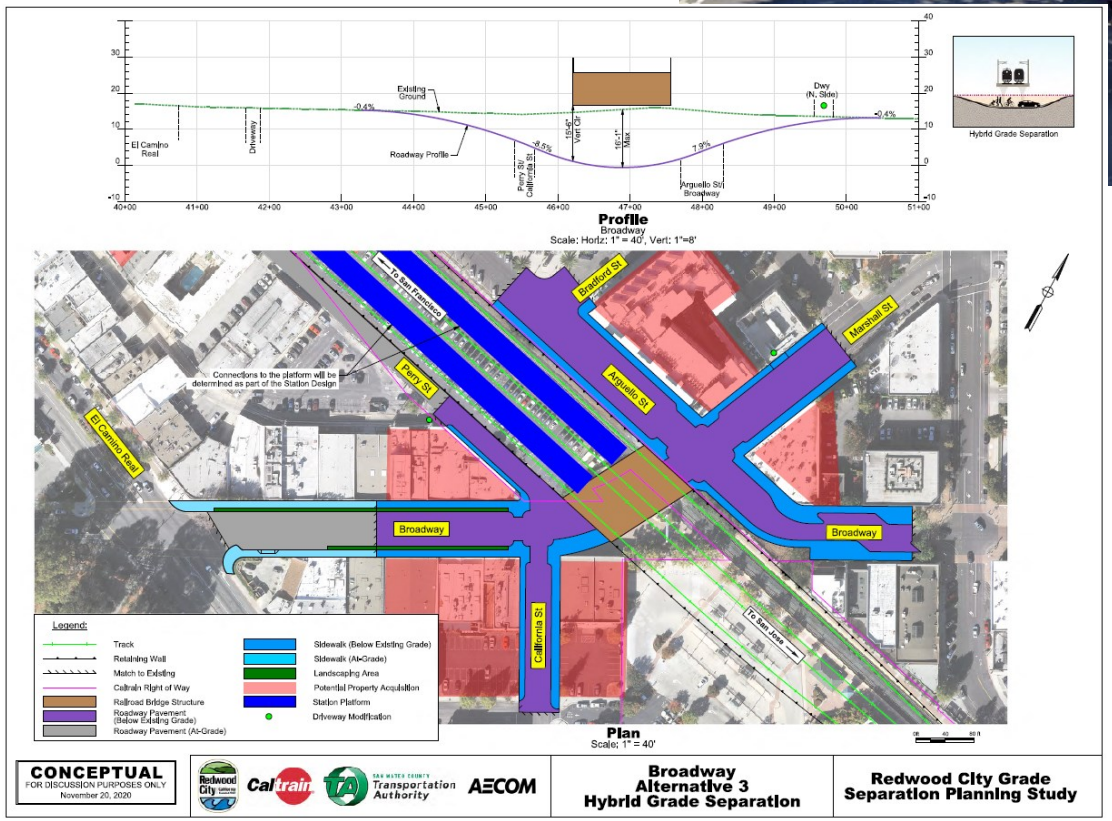
Full Closure



Pedestrian & Bike Underpass



Hybrid Grade Separation



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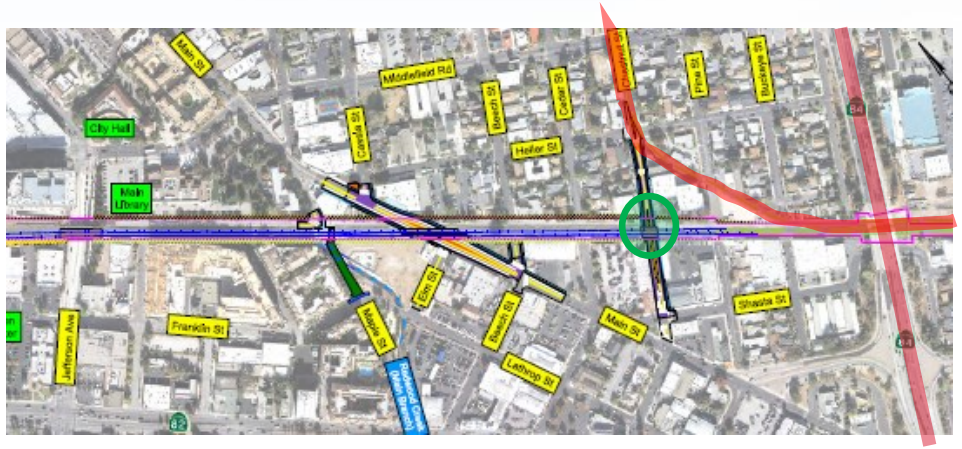
Maple Street

Chestnut Street



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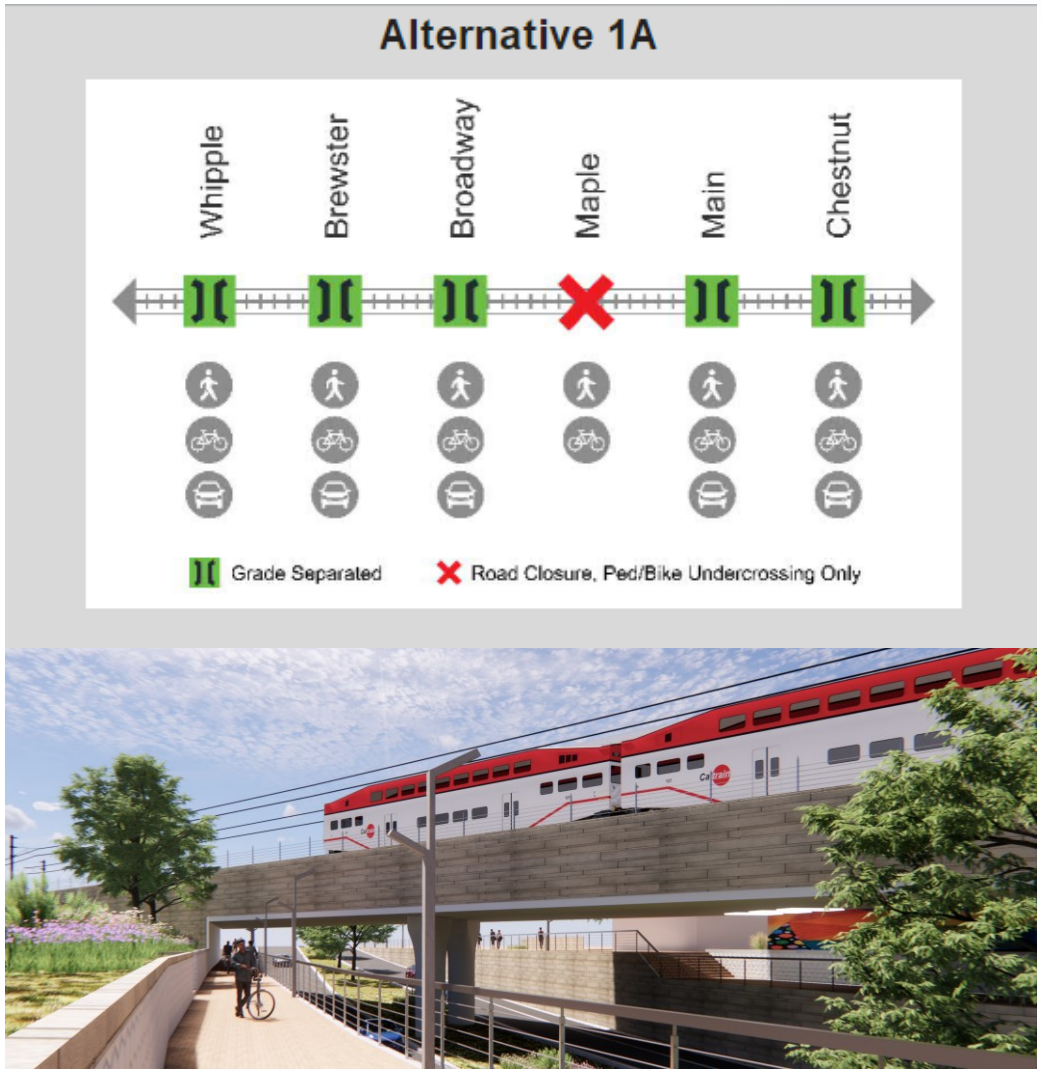
Recommended Alternative



- Citywide raise of the tracks with grade separations at all 6 rail crossings
- Maple closed to vehicular traffic (open to people walking and biking)
- Other crossings open for all modes

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Questions and Discussion

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Summary

Understand how to address Key Constraints

- ROW impacts
- Cost
- Utilities/Drainage
- OCS

Factors to consider for appropriate solutions

- Profile consistency
- Single-crossing vs multi-crossing solutions
- Activation opportunities
- Community context
- Track owner standards

Look Ahead

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Recent / Pending Discretionary Grants

City	Project	At-Grade Crossings	Funding Grants	Anticipated Award Notification or Awarded
South SF San Bruno	South Linden Avenue and Scott Street Grade Separation	S. Linden Avenue Scott Street	*TIRCP*	*July*
Burlingame	Burlingame Broadway Grade Separation	Broadway	*RCE* ***TIRCP***	*June* ***July***
Redwood City	Redwood City Grade Separation Study	Multiple	*TIRCP*	*July*
San Mateo	San Mateo Downtown Grade Crossings (Planning Phase)	Multiple	*RCE*	*June*
Palo Alto	Connecting Palo Alto	Churchill Avenue Meadow Drive Charleston Road	MPDG ***RCE*** ***TIRCP***	TBD ***June*** ***July***
Mountain View	Mountain View Transit Center and Grade Separation	Castro Street	***LPP*** ***TIRCP***	***June*** ***July***
Mountain View	Rengstorff Grade Separation	Rengstorff Avenue	CRISI *RCE* *TIRCP*	TBD *June* *July*
Sunnyvale	Mary Avenue Grade Separation	Mary Avenue	OBAG	November

Blue text = awarded

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Upcoming Stakeholder Engagement

Stakeholder Group	Name	Timeframe	Content
PPG	Project Partner Group	September	Technical Topic Recap and Next Steps
CSCG	City/County Staff Coordinating Group	September	
LPMG	Local Policy Makers Group	September	
AMP	Advocacy and Major Projects (JPB Subcommittee)	September	Program Update
JPB	Joint Powers Board	October	Program Update

Website Updates and Contact Information

Website is regularly updated with deliverables, including:

- *Program Overview brochure*
- *Funding Opportunities brochure*
  - *Updated with bike/ped*
- *Community Fact Sheets by Jurisdiction*
- *Caltrain CCS Program Strategy Report, Part 1*

Program Website:
https://www.caltrain.com/CCS

Contact Email:
CCS@caltrain.com

Activation Opportunity Examples

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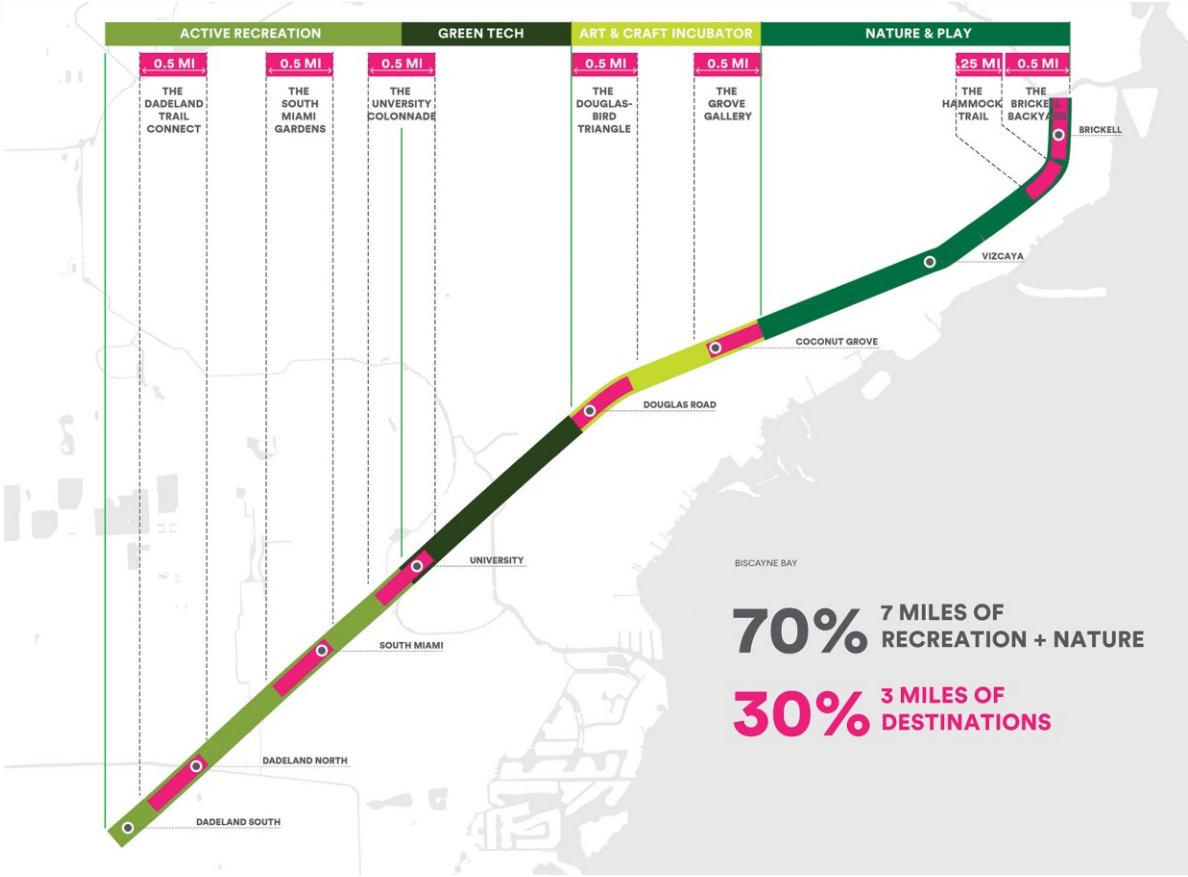
Transit

The Underline

USA, Miami

- Transforming the land below Miami's Metrorail into a 10-mile linear park, urban trail, and public art destination
- **Phase 1** now open
- **Phase 2** under construction
  (expected to open by the end of 2023)
- **Phase 3** under design



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Highway

Claiborne Corridor

USA, New Orleans

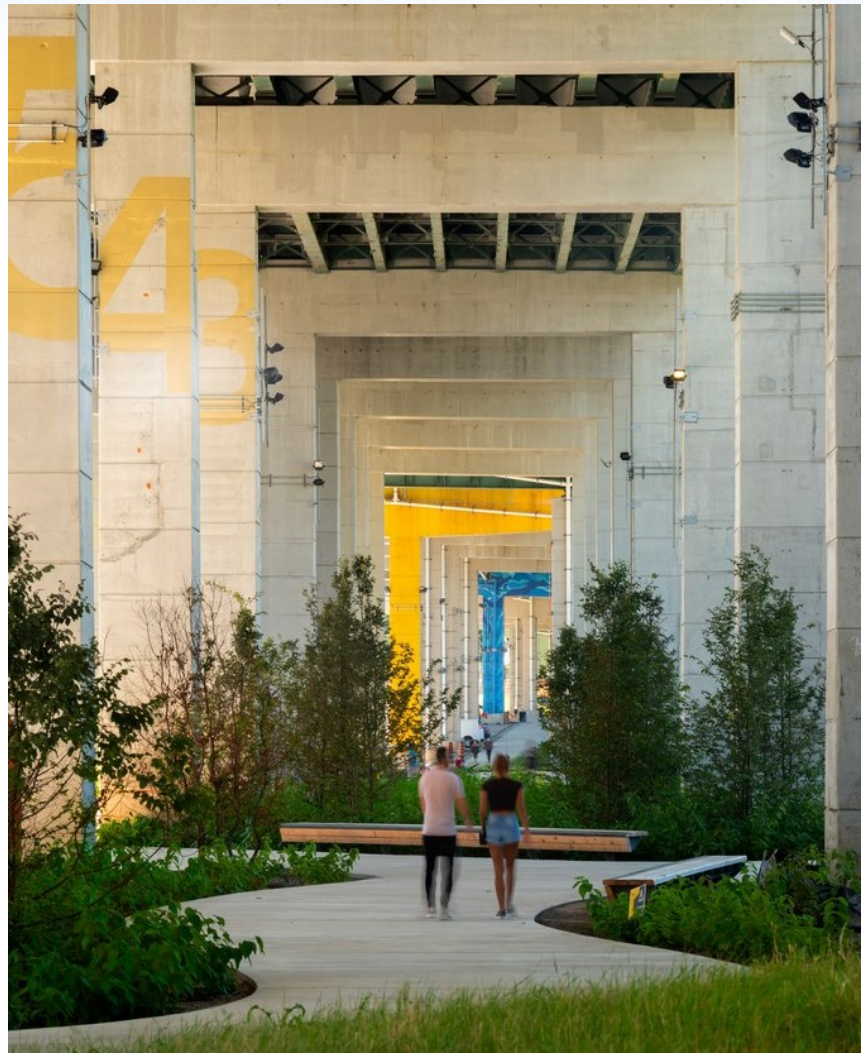
- 19 block transformation of the elevated I-10 expressway
  (Claiborne Ave. from Canal St. to St Bernard Ave.)
- A world class market with arts, crafts, produce, and seafood vendors
- Includes classrooms and exhibit space, interactive technology, and educational demonstrations

Highway

The Bentway

Canada, Toronto

- A public trail and corridor space underneath the Gardiner Expressway on repurposed land that was previously vacant, rail lines, parking lots, and outdoor storage
- Funded through a public-private partnership between the City of Toronto and philanthropists Judy and Wilmot Matthews
- Managed by a not-for-profit organization, The Bentway Conservancy



Highway

A8erna

The Netherlands, Zaanstad

- Transformation of space underneath the elevated A8 motorway from a surface parking lot into active mixed-use space
- Reconnects two sides of the City and provides connection to the river
- Includes a park, exhibition space, parking, and shops along its ~1,200 ft length

Transit

The Underline: Caulfield to Dandenong

Australia, Melborne

- Part of a larger effort to remove level crossings between roads and railways, and extend and improve the capacity of the rail system
- 5 stations rebuilt
- 3 sections of the railway line elevated
- 9 road crossings removed
- 22 hectares of new public space created