

Preliminary Alternatives Analysis

Caltrain Modernization & High Speed Train Projects

City of Burlingame

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Regional Program Manager

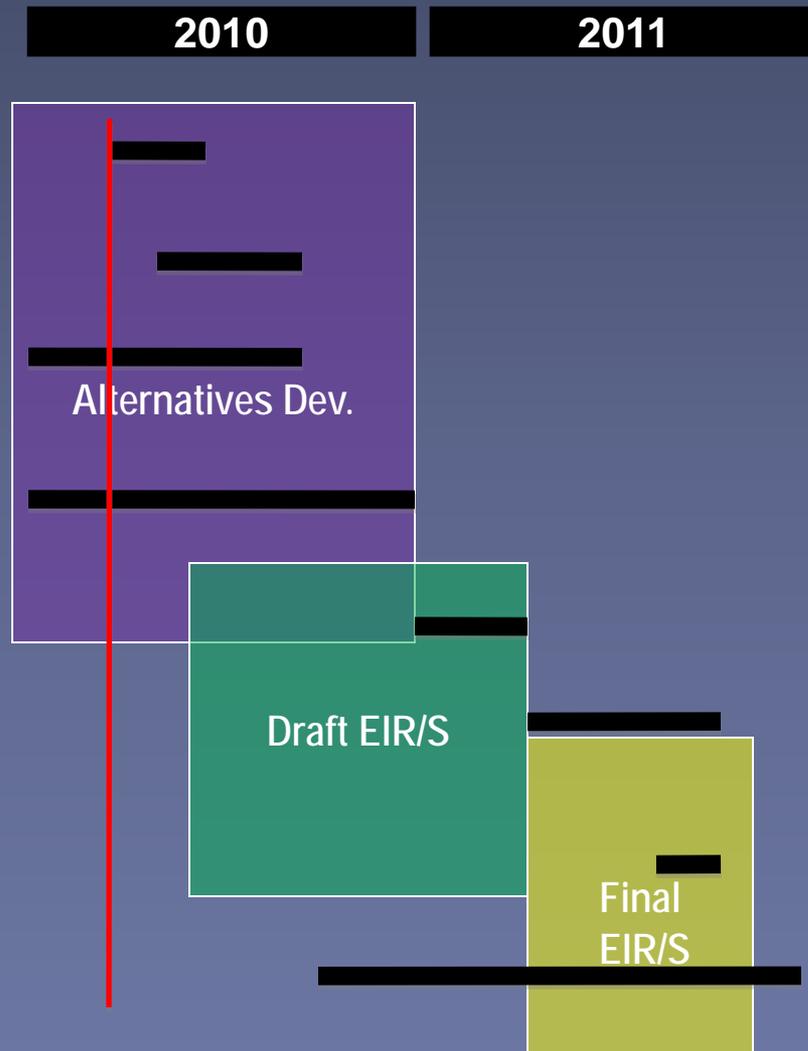
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Context Sensitive Solutions Program Manager, Peninsula Rail Program

May 12, 2010



Project Schedule

1. Prelim. Alternatives Analysis -- Spring 2010
2. Stations -- Spring/Summer 2010
3. 15% Engineering & Costs Summer 2010
4. Draft EIR/S -- Dec. 2010
5. Public Comment Dec. 2010 – Feb. 2011
6. Final EIR/S – Summer 2011
7. NOD/ROD – September 2011
8. 30% Engineering



Feedback from Burlingame

- Study range of alternatives: tunnel, trench and cut & cover
- Study and mitigate impacts to the Community
 - Connected small town -- avoid visual and physical barrier
 - Residential neighborhoods or businesses
 - Downtown Burlingame and Broadway –Future Mixed-Use Housing
 - Two Historic Stations and Eucalyptus Grove
 - Noise and vibration
 - Construction and utilities
 - Property impacts and property values
 - Caltrain service & restore service to Broadway Station & electrification
 - Grade separations, Broadway and Highway 101 interchange
- Millbrae High Speed Train Station
 - Traffic, parking, California Avenue, Rollins Road and security
- Coordinated and transparent public process

Planning Assumptions

- Stay within existing Caltrain Right of Way to the extent feasible
- Four track, grade separated system
- High-speed train up to 125 MPH; Caltrain up to 110 MPH
- Opportunity for joint operations

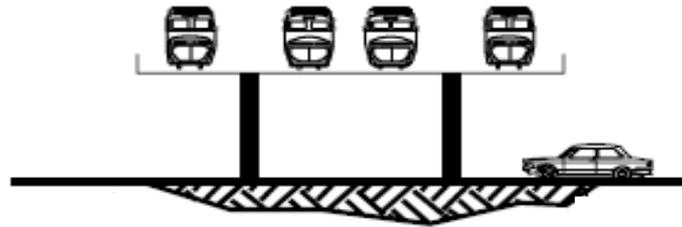
Planning Assumptions (continued)

- Improve Caltrain Service
- Shared High Speed & Caltrain Stations
 - San Francisco, Millbrae (SFO), San Jose
 - Potential high-speed train stop:
 - Redwood City
 - Palo Alto
 - Mountain View

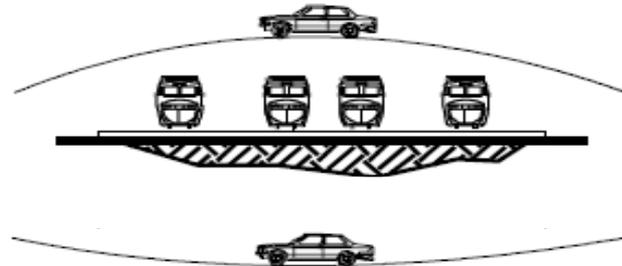
Corridor Findings

- Caltrain corridor is preferred alignment
- San Francisco joint terminal solution: Transbay Transit Center and 4th and King
- Limit use of high berms and retaining walls
- Tunnel options added
- Ending High Speed Train service in San Jose would negatively impact Caltrain and its riders, and does not meet Prop. 1A requirements.

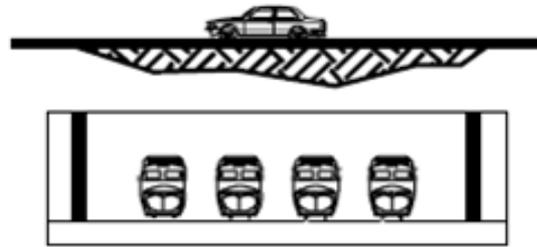
AERIAL



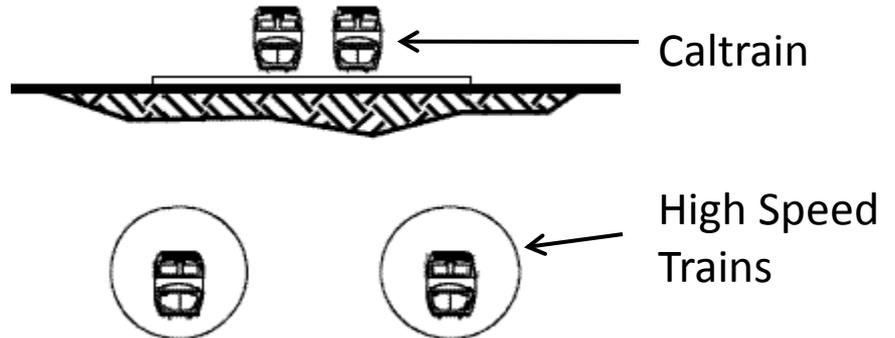
AT CALTRAIN GRADE



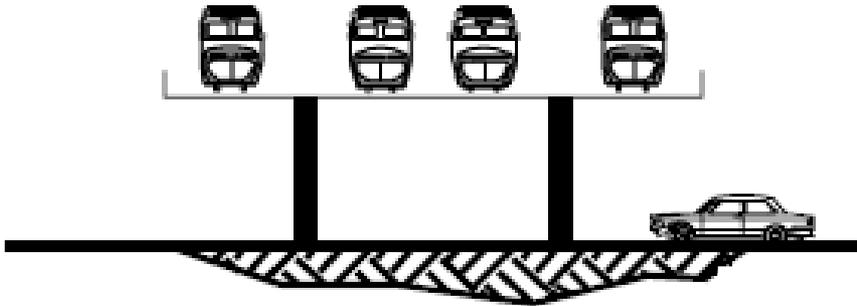
TRENCH/CUT & COVER



HST DEEP TUNNEL



Aerial Viaduct



COLOR CODE:



WIDTH: approx. 80 – 105 feet

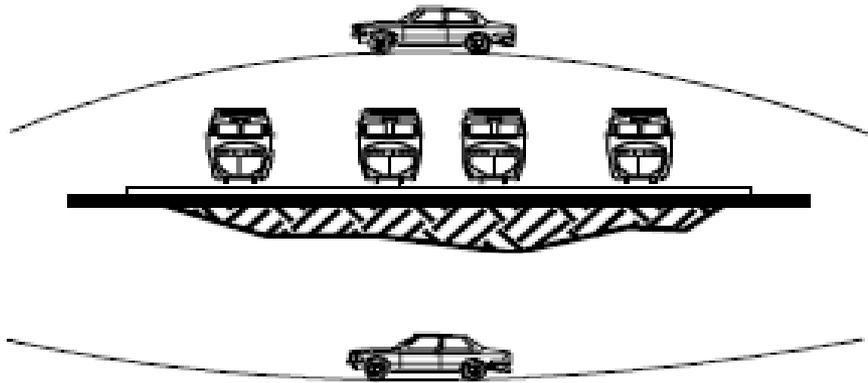
COST: 3 X at grade

PROS: Improved or New East/West Connections, Narrow Width, Usable Space Below Structure, Rider Views, Constructability

CONS: Visual Impact, Noise Impact



Existing Caltrain Grade



COLOR CODE:



WIDTH: approx. 95 – 105 feet

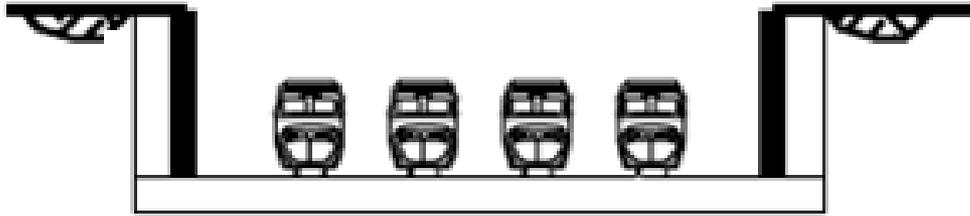
Cost: 1 X all costs relative to at grade

PROS: No Increase in Visibility, Rider Views, Constructability, least Effect on Freight

CONS: Larger Impacts to Properties on East/West Roads at Grade Crossings



Trench



COLOR CODE:



WIDTH: approx. 100 feet

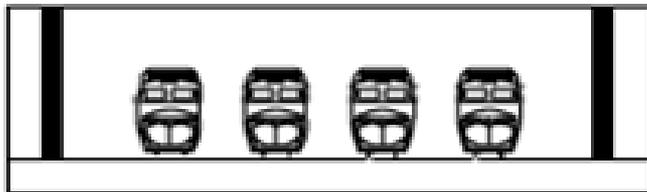
COST: 3.5 X at grade

PROS: Limited Visual Impact, Limited Ventilation Needs, Options for Connectivity across Trench

CONS: Doesn't Improve Connectivity, Potential Impacts to Waterways and Utilities, Cost, Right of Way Needs



Cut & Cover



COLOR CODE:



WIDTH: approx. 100 – 140 feet

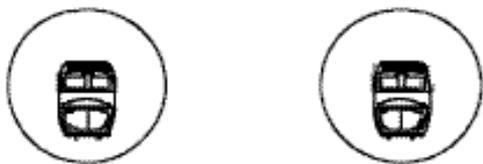
COST: 5 X at grade

PROS: Limited Visual Impact, Less Noise at Covered Areas, Improved Connectivity, Useable Space at Grade

CONS: Requires Ventilation System, Potential Impacts to Waterways and Utilities, Cost, Right of Way Needs, Vent Shaft Noise



Deep Bored Tunnel – HST ONLY



COLOR CODE:



WIDTH: approx. 70 – 115 feet

COST: 7 X at grade

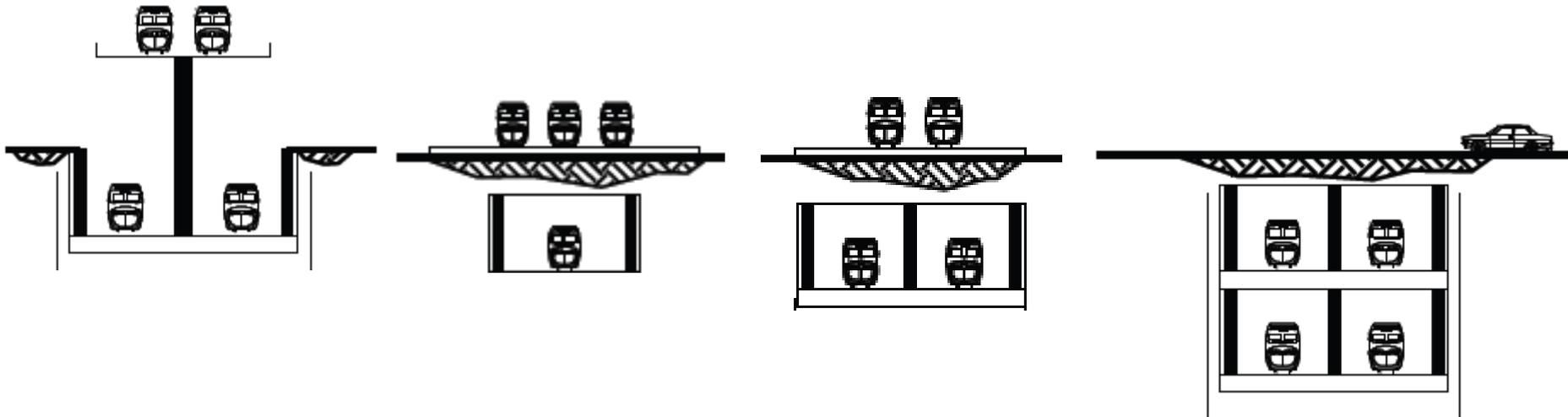
PROS: Limited Visual and Noise Impacts of HST, Improved Connectivity

CONS: Cost, Fire & Life Safety Issues, Centralized Noise Impacts at Vent Shafts, No Upgrades to Caltrain, Decreased Rider Experience



Other Alternatives

Various combinations of alternatives are also being studied. (See Appendix C)



INITIAL

3

Millbrae (SFO) Station



AERIAL

AT GRADE

TRENCH/ C&C

RESULTS

3

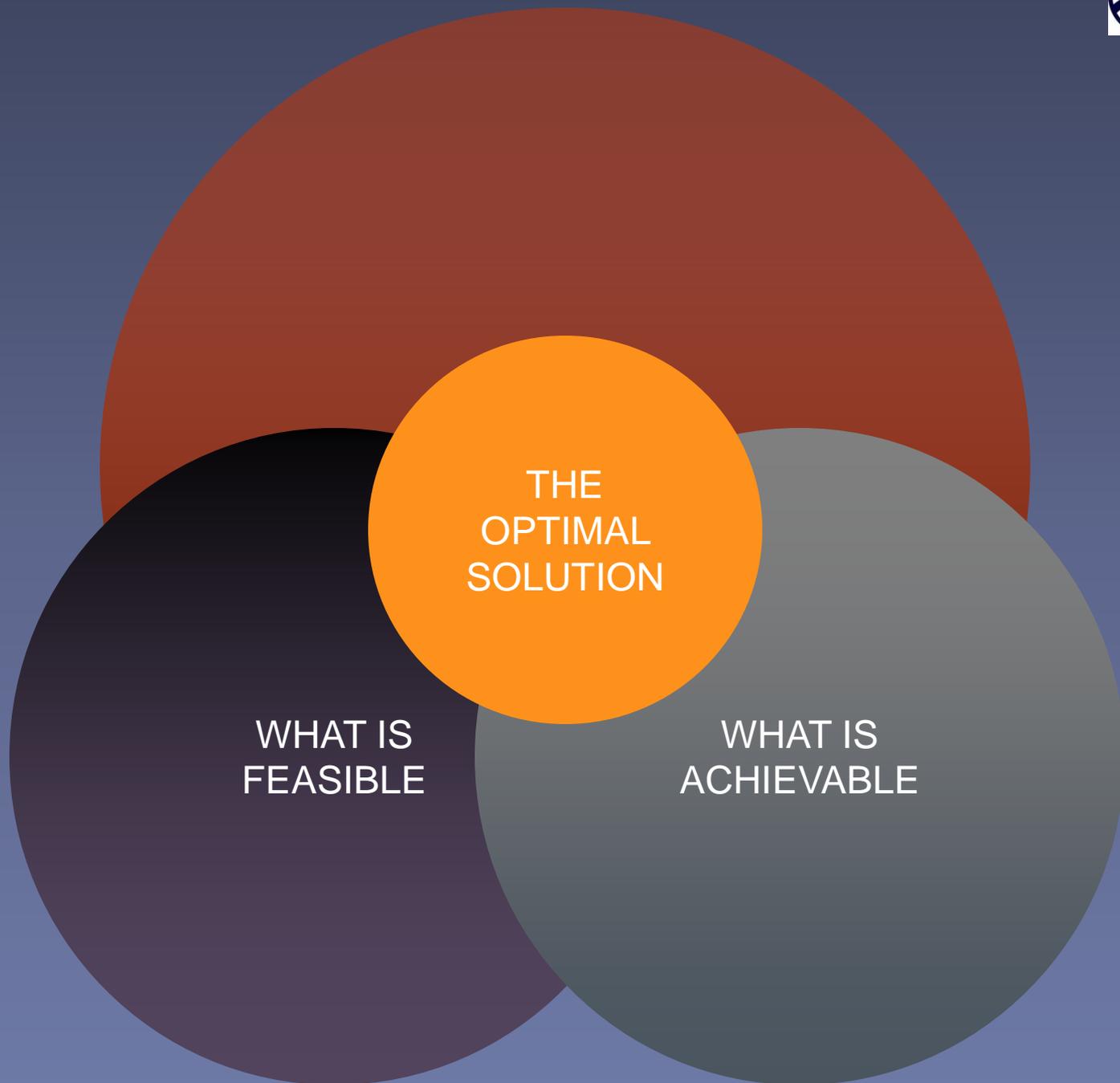
Millbrae (SFO) Station



AERIAL

AT GRADE

TRENCH/ C&C



THE
OPTIMAL
SOLUTION

WHAT IS
FEASIBLE

WHAT IS
ACHIEVABLE

Break-out Groups

- Review Alternatives Analysis Maps
- Feedback on Alternatives
- Report Back

What is in the Toolkit?

- Reference Documents
 - Context and technical information
- Exercises
 - Provide input to project team and TWG/PWG members at each step of the process
 - Exercise #1: Mapping the Context
 - Exercise #2: Grade Separation / Vertical Options
- Available online at the PRP Website

http://www.caltrain.com/peninsularailprogram_csstoolkit.html

Next Steps

- Continue to gather feedback
- “Stitch” Corridor together
- 15% Design & Cost Estimates
- Stations Planning
- Environmental Studies
- Draft EIR/EIS, December 2010

For More Information

Email prp@caltrain.com and ask to be added to our email list.

Peninsula Rail Program

www.caltrain.com/peninsularailprogram.html

California High-Speed Rail Authority

www.cahighspeedrail.ca.gov