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City Council Meeting

Connecting Palo Alto

Rail Grade Separation Project

Discussion Outline

- Introduction
- Brief Review of Issues & Recommended Next Steps
- Expanded Community Advisory Panel (XCAP) Presentation
- Public Comments
- Summary & Recommendations
- Councilmembers Question & Comments

Purpose

- Review and discuss issues from the last study session

- Based on feedback from Council tonight, staff recommends:
 1. Based on the XCAP recommendations, consider eliminating two Alternatives from further consideration

 2. Review and Approve Proposed Grade Separation Work Plan

Review of Issues from Study Session

- Basis of Design
- Caltrain Potential 4-Track Configuration
- Traffic Study and Future Volumes
- Geotechnical Investigations
- Drainage Investigations
- Additional Outreach
- Other Notable Elements

Basis of Design

Public Infrastructure Engineering is a Regulated Field:

- Industry and Agency-Specific Design Standards
 - Caltrain's (2020) Design Criteria, Caltrans HDM, MUTCD, AASHTO Greenbook, etc.
- Licensing of Individual Professional Engineers
 - Professional Engineers (Civil, Structural, Geotechnical, etc.)
- Legal System and Tort Liability
 - Design Liability, Operations Risk, Insurance, Claims etc.

Design Decisions at the Conceptual Engineering Stage:

- Safety
 - Adhere to FHWA's/Caltrans Controlling Criteria (Design Speed, Sight Distance, Lane/Shoulder Widths, etc.)
 - Include features that reduce accident rate and severity (avoid driver confusion, minimize ped/bike conflicts, etc.)
 - Allow for emergency vehicle turning movements
- Functionality
 - Accommodate existing and future traffic volumes and infrastructure elements (signage, signal/light poles, etc.)
 - Improve traffic operations (reduce travel times)
 - Minimize cut-through traffic on residential streets
 - Accomplish all of the above while minimizing disruption to the community, adjacent properties, etc.
- Confidence
 - Safety + Functionality = Sound Engineering Design
 - Ability to Obtain Agency Approvals + Funding

Basis of Design – Summary & Next Steps

Summary

- Design is consistent with applicable standards for local roadways.
- A combination of many factors drive the conceptual designs; safety, functionality and minimizing community disruption, all play a key role in the layout of each alternative.
- Overall project footprint and order-of-magnitude cost provides the ability to evaluate, compare and ultimately eliminate alternatives.

Recommended Next Steps

- Fine-tune the preferred alternative(s) in the next phase which is preliminary engineering and environmental clearance
- Phase includes detailed surveys completed, additional input from the City Council and community can be incorporated into the design.
- Work with Caltrain to understand the flexibility in providing design variances on alternatives

Caltrain Potential 4-Track Configuration

Recommended Next Steps

Work with Caltrain to understand limits of passing track needs and its impacts on current design

Implementation of the illustrative “Moderate Growth” 2040 Service Scenario would require construction of a single 4-track station somewhere in northern Santa Clara County. This station could be at either Palo Alto, California Avenue, San Antonio or Mountain View. California Avenue has been shown for illustrative purposes in some diagrams but no preference or selection is implied.

Implementation of the illustrative “High Growth” 2040 Service Scenario would require up to 15 miles of new 4-track segments along the Caltrain corridor including a potential 4-track segment in Palo Alto and/or Mountain View.

Concepts shown are illustrative only and any decision to advance planning for potential 4-track stations in Palo Alto would be based on direction by the Caltrain Board and would involve significant subsequent feasibility analysis, community engagement and environmental clearance.

Traffic Study & Future Volumes

Traffic Model Future Volumes are based on

- City's Traffic Model
 - City's Comprehensive Plan
 - Land use Assumption and General Plan Buildout Model
 - City's Model with 2030 Volumes for build out
- Regional Traffic Model
 - Valley Transportation Authority (VTA) Traffic Model
 - Projected to 2040 Traffic Volumes for land use information from other communities

Recommended Next Steps

Use combination of City's 2030 Buildout volumes from City's Traffic Model and use regional projections from VTA 2040 Model to update traffic study text

Geotechnical Investigation & Studies

Geotechnical Investigation & Studies

- Conduct borings along the alignment at key locations
- Details on soil profile (soil classification, water table, etc.)
- Feasibility of Box Jacking
- Groundwater considerations during construction
- Foundation & right-of-way requirements
- Structural Design of Trench

Recommended Next Steps

Conduct geotechnical investigations to further evaluate alternatives in preparation of the next phase

Drainage Investigation & Studies

Drainage Investigation & Studies

- Comprehensive groundwater monitoring program
- Adobe, Barron, and Matadero Creek Concerns

Recommended Next Steps

Conduct drainage investigations to further evaluate alternatives in preparation of the next phase

Additional Outreach

Outreach and Coordination with Stakeholders

- Caltrain
- Bicycle and Pedestrians
- Palo Alto Unified School District
- Stanford University

Recommended Next Steps

Outreach for feedback on the remaining alternatives in consideration

Other Notable Elements

- San Francisquito Bridge Replacement Project – Caltrain
 - Coordinate and follow up with Caltrain, Menlo Park
 - May affect design of Palo Alto Avenue Grade Separation
- Embarcadero Bridge Widening (Historic Aspects)
 - Currently not considered as historic, however eligible for historic consideration due to age of the bridge.
 - Will be addressed during environmental process
- Bridge Deck Thickness
 - Will be refined during the next phase

Questions for Council Consideration

Based on the XCAP recommendations, is the Council prepared to eliminate the following Alternatives from further consideration?

- South Palo Alto Tunnel (Passenger and Freight)
- South Palo Alto Tunnel (With At-Grade Freight)

Items regarding the proposed Grade Separation Work Plan:

- **Timeframe and Sequence of Additional Work:** What is the timeframe and sequence for review of alternatives at these crossings?
- **Council Governance of Work Ahead:** What is the expected role of Rail Committee Vs Full Council?

Staff Recommendations

Proposed Grade Separation Work Plan

- Summer: Council review of the Charleston/Meadow alternatives still under consideration, then provide direction on additional studies/next phase of the project
- Fall: Council review of the Churchill alternatives still under consideration, then provide direction on additional studies/next phase of the project
- Fall/Winter: Council to reconvene the Rail Committee and discuss financial considerations

Additional Support for Project

- Depending upon Council direction, future amendments with Consultant will be required to accomplish additional work



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XCAP Presentation #2

Proposed Council Motion

1. Eliminate the following Alternatives from further consideration, including South Palo Alto Tunnel (Passenger and Freight) and South Palo Alto Tunnel (With At-Grade Freight)

2. Accept the Staff's Proposed Grade Separation Work Plan and Anticipated Timing
 - Summer: Complete a detailed review of the Charleston/Meadow alternatives still under consideration, then provide direction on additional studies/next phase of the project
 - Fall: Complete a detailed review of the Churchill alternatives still under consideration, then provide direction on additional studies/next phase of the project
 - Fall/Winter: Council to reconvene the Rail Committee and discuss financial considerations

Note:

- Depending upon Council direction, future amendments with consultant will be required to accomplish additional work
- Should the City Council choose to adjust current direction or add additional scope and work, staff will need to assess needs and return to the City Council.



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