City of Palo Alto Grade Separation Project

Churchill Avenue, Meadow Drive, and Charleston Road

Palo Alto Community Meetings

August 25 and 26, 2026

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Near-term Safety Improvements

Caltrain is committed to continuing our strong partnership with the City of Palo Alto to advance safety improvements that benefit the community.

Across Palo Alto/Alma, Churchill, Meadow and Charleston:

- Installed delineators, solar markers, pavement markings, and updated striping
- Implemented anti-trespass panel and Rail Sentry safety pilots

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Welcome

30 Minutes

Welcome

Project Team Introductions
Project Presentation

30 Minutes

Q&A

Key Topics Q&A
Open Q&A

60 Minutes

Open House

Churchill Grade Crossing Station
Meadow/Charleston Grade Crossing Station

Both community meetings (August 25 and 26) cover the same content

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Ways to Provide Input

Comment Cards

Project Website Comment Form

Live Q&A Session

Translation services are provided through *Wordly*

Current Project Phase

Preliminary Engineering and Environmental

2025			2026				2027			
Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Concept Development and Refinement → #1 → **15% Design** → #2 → **35% Design and Environmental**

City Council Direction #1: Identified alternatives to advance to 15% Design

We are here

City Council Direction #2: Concurrence with concepts to advance to 35% Design and Environmental Documentation

Completed 35% Design and Environmental Documentation

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Project Area

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What We Heard

- Prior to 15% Design, we asked for your feedback on the alternatives; that input helped inform City Council's December direction
- Your comments are documented, tracked, and reported to Rail Committee and City Council

Recurring Themes from Community Feedback

- Traffic and circulation
- Bicycle and pedestrian safety
- Student safety and school access
- Project Footprint
- Aesthetics and neighborhood character
- Construction impacts
- Cost and funding

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Meeting Objectives

- Share Project 15% Design
- Describe Total Project Cost and Schedule Development Process
- Outline the 35% Design and Environmental Phase

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Direction from City Council

CROSSING	Churchill Avenue	Meadow Drive & Charleston Road		Charleston Road
GRADE SEPARATION APPROACH	PARTIAL UNDERPASS	HYBRID	UNDERPASS	UNDERPASS
	Vehicle Crossing (without Landscape Strip)	Elevated rail bridge	Direct Access Ramp	Direct Access Ramp
	Bike/Ped Crossing (Seale - Alma Street Ramp*)*			

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Design Process

Topic	15% Provided	35% Design Will Provide
Layout	Drawings of track profiles, roadways, intersection geometry, and paths	Refined profiles, intersection geometry, and bike and pedestrian facility design
Footprint	Preliminary project footprint for environmental studies	Established project footprint for approvals
Risks	Identified key risks, constraints, and constructability considerations	Preliminary utility depths verified through potholing, preliminary conflict matrix developed
Construction	Initial feasibility construction approach and sequencing	Updated construction approach and sequencing
Cost and Schedule	Independent Rough Order of Magnitude (ROM) total project cost estimate and schedule	Preliminary total project cost estimate and schedule

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PARTIAL UNDERPASS

Churchill Ave – *Partial Underpass*

Right in/right out intersections

Ramps to lower intersection (signalized)

Softened turns on Bicycle and Pedestrian bridge over Churchill Ave

Embarcadero Bike Path

Bridge for railroad tracks

Ramp to lower intersection (signalized)

PARTIAL UNDERPASS

Churchill Ave – *Partial Underpass*

PARTIAL UNDERPASS

Seale Ave – *Bicycle and Pedestrian Undercrossing*

Project footprint updated to accommodate utilities

Bicycle and pedestrian ramp to undercrossing

Driveway access maintained

Bicycle and pedestrian ramp to undercrossing

Alma St lanes shifted west to accommodate ramp

Refining box-jacking strategy for underpass

Bicycle and pedestrian routes to nearby schools

Alma St

Rinconda Ave

PEERS PARK

Park Blvd

Castilleja Ave

PARTIAL UNDERPASS

Seale Ave – *Bicycle and Pedestrian Undercrossing*

UNDERPASS

Charleston Road – *Underpass*

Relocated bicycle and pedestrian ramp to Charleston Rd to enable utility relocation

Refining bicycle movements on east side of crossing

Ramps to lower intersection (signalized)

Bicycle and pedestrian bridge over Charleston Rd

At-grade railroad bridge

Ramp to lower intersection (signalized)

Adjusted bicycle and pedestrian ramp configuration for accessibility

Roadway alignment adjusted to accommodate gas line

One-way traffic on Park Blvd

Lindero Dr

Alma St

Alma St

Park Blvd

Park Blvd

W. Charleston Rd

STOP

UNDERPASS

Charleston Road – *Underpass*

HYBRID

Meadow Drive – *Hybrid*

Slip lane removed for improved bicycle safety

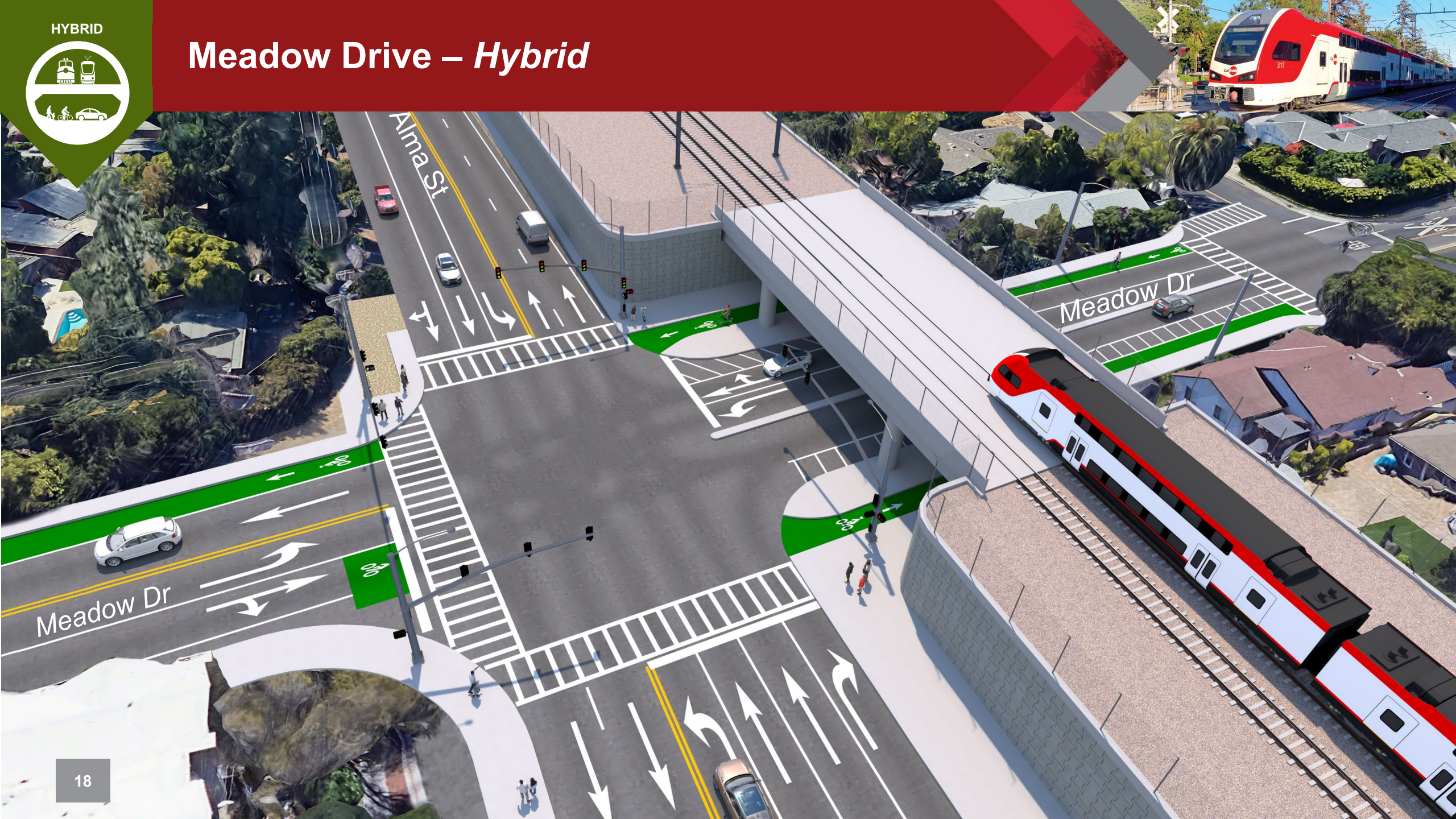
Elevated railroad bridge

Protected bicycle lanes

Bike lane and column placement under railroad bridge to be refined

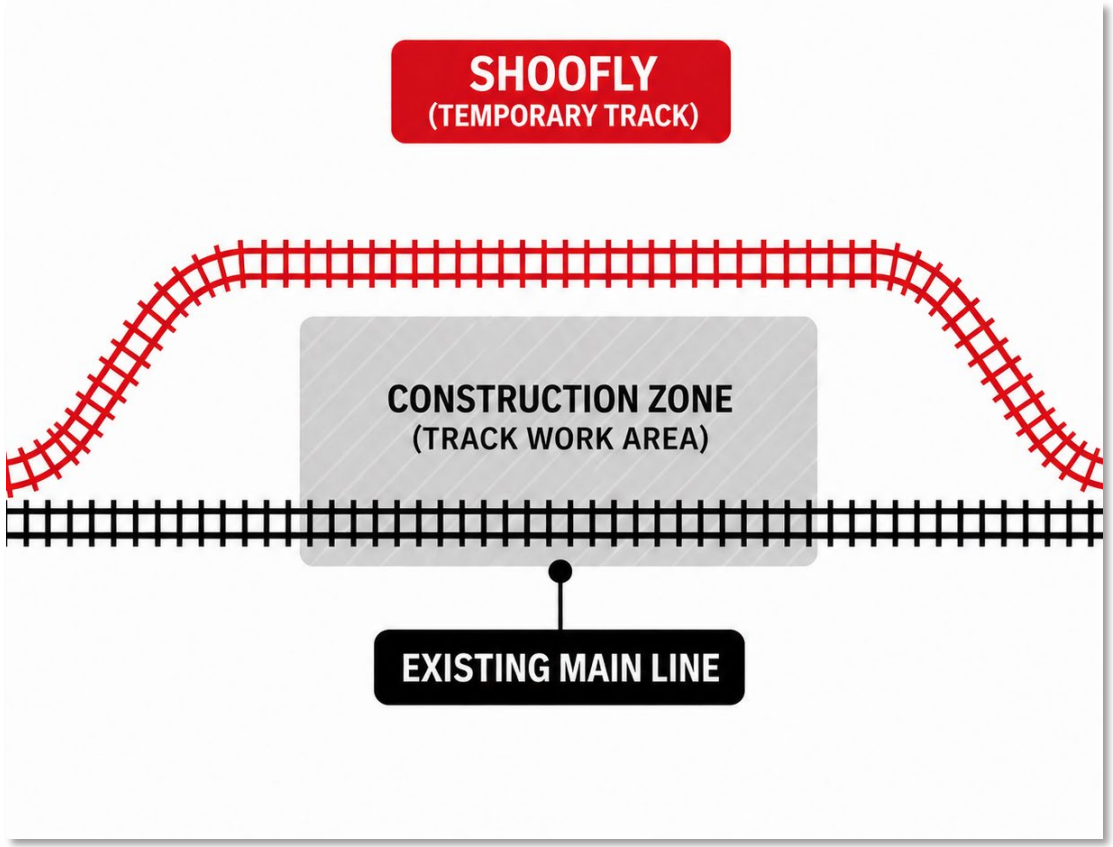
HYBRID

Meadow Drive – *Hybrid*



Track Shoofly

- A shoofly (temporary track) is **necessary** to construct the **Meadow Hybrid** grade separation
- Shoofly sequencing will allow for **reliable** and **consistent** Caltrain operations (with work windows)
- Opportunity to reduce **construction duration**



Temporary Track Extents

Total Project Cost Estimate

Rough Order of Magnitude (ROM)

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Delivery Scenarios Evaluated

CHURCHILL AVENUE CROSSING	**Churchill Avenue with Seale Avenue**		
MEADOW AND CHARLESTON CROSSINGS	*Concurrent* **Charleston Road + Meadow Drive**	*Sequential* **Charleston Road** ↓ **Meadow Drive**	**Charleston Road *ONLY***

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Total Project Cost Estimate Life Cycle

15% Design

Concept Design

Purpose of the Estimate
Support concept due diligence and inform early decisions

Schedule
High-level schedule estimate

Cost Estimate
Rough Order of Magnitude (ROM)

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35% Design

Preliminary Design & Environmental Review

Purpose of the Estimate
Support environmental review and funding plan

Schedule
Preliminary schedule

Cost Estimate
Preliminary

LATE 2027

65% Design

Design Development

Purpose of the Estimate
Support grant applications, procurement, and contract packaging

Schedule
Revised schedule

Cost Estimate
Detailed

Final Design

Final Design & Construction Documents

Purpose of the Estimate
Establish construction budget

Schedule
Project baseline schedule

Cost Estimate
Project baseline budget

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Risk Associated with Costs*

Range of Estimate Improves with Design

15% Current Design Phase

35% Design + Environmental

65% Design

Construction Documents

✓ Risks Addressed/Mitigated

- Stable project footprint identified

! Risks Remaining

- Contractor procurement method not confirmed
- Unknown utilities
- Potential property impacts not confirmed
- Soil and groundwater undefined
- Construction sequencing uncertainty
- Schedule and funding uncertainty

✓ Risks Addressed/Mitigated

- Delivery method
- Project footprint refined

! Risks Remaining

- Utility relocations
- Potential property acquisition
- Railroad work windows
- Construction staging

✓ Risks Addressed/Mitigated

- Utilities located
- Soil investigated
- Potential property acquisitions appraised

! Risks Remaining

- Market conditions
- Regulatory approvals
- Long-lead time materials

✓ Risks Addressed/Mitigated

- Scope finalized
- Utility design complete
- Potential property acquired
- Railroad windows confirmed

! Risks Remaining

- Unforeseen conditions
- Price increases before award

*Typical risks shown; not inclusive of all potential risks

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Cost and Schedule Tradeoffs

*Design development involves **balancing safety, access, rail operations, and community impact***

Considerations	Potential Constraint(s)
Maintain Vehicular Access During Construction	More complex staging and tighter work areas
Maintain High-Frequency Rail Operations	Focused work windows outside of peak period adjacent to rail
Minimize Project Footprint	Tighter work areas and more complex staging
Limit Noise During Construction	Reduced constructability and longer durations
Maintain Bicycle/Pedestrian Connections	Additional temporary detours and signage

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Total Project Cost Estimate – Buildup

Construction Contractor Cost
(Direct & Indirect)
- *Permitting and Utilities*

Designer/Engineer of Record Costs

Agency Costs
(Caltrain, City, etc.)
- Project Management and Oversight
- Environmental Documentation and Permitting
- TASI (Operations)
- Construction Administration, Management, and Inspections

Real Property and Easements

Escalation
(Cost of Time)

Project Contingency
(Unknown & Known)

Basis of Total Project Cost Estimates

	Churchill Avenue with Seale Avenue	Charleston Road + Meadow Drive	Charleston Road → Meadow Drive	Charleston Road *ONLY*
Estimate Year (Year of Dollar)	2026			
Estimated Construction Start	2032			
Key Input of Cost	15% design			
High-Level Construction Duration	3 – 4 years	5 years	9 years	4 years

Costs and durations are preliminary in nature and represent rough order-of-magnitude estimates that will be further refined during future phases of design.

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Churchill: Total Project Cost & Construction Duration

Delivery Scenario	**Churchill Avenue with Seale Avenue**
Construction Duration	**3 – 4 years**
Total Project Cost Estimate (Year of Expenditure)	**$420M – $450M**

Costs and durations are preliminary in nature and represent rough order-of-magnitude estimates that will be further refined during future phases of design.

Meadow/Charleston: Total Project Cost & Construction Duration

Delivery Scenario	Charleston Road + Meadow Drive	Charleston Road ⬇ Meadow Drive	Charleston Road *ONLY*
Construction Duration	5 years	9 years	4 years
Total Project Cost Estimate (Year of Expenditure)	$1B – 1.1B	$1.2B – 1.3B	$480M – 530M

Costs and durations are preliminary in nature and represent rough order-of-magnitude estimates that will be further refined during future phases of design.

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Full Program (Churchill, Meadow, and Charleston)

Total Program Cost Estimate

Program Delivery Scenario	Total Program Cost Estimate
Churchill + Concurrent Meadow and Charleston	$1.5B - $1.6B
Churchill + Sequential Meadow and Charleston	$1.7B - $1.8B

Costs are preliminary in nature and represent rough order-of-magnitude estimates that will be further refined during future phases of design.

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Anticipated Funding Sources

Project Phase	Funding Sources		
Planning & Conceptual Design	$5M	City Capital Funds	VTA Measure B Local Streets & Roads Fund
15% Design	$20M	FRA Rail Crossing Elimination Grant	VTA Measure B Grade Separation Fund
35% Design			
Final Design	$9M	City Measure K	
Construction	$23.79M	State TIRCP Award	
	Potential Unallocated Funding: City Measure K: $5M – $30M VTA Measure B: $325 – $350M		

Phases fully funded

*Findings from design process will inform future City Council decisions surrounding **prioritization**, **phasing**, and **implementation** strategy*

Funding Strategy to be Determined

Environmental Documentation Process

Fall 2026 — **Environmental documentation runs in parallel with 35% Design** — **Fall 2027**

Perform Technical Studies

Traffic, noise, air quality, biology, cultural resources, and related studies completed

Prepare Environmental Document

Findings documented for required determination level

Agency Review and Approval

Lead Agencies complete review and issue an environmental approvals

Caltrain Board approves CEQA document

FRA approves NEPA

Project Direction

City Council considers whether to authorize the project for implementation

CEQA: *California Environmental Quality Act;* ***FRA****: Federal Railroad Administration;* ***NEPA:*** *National Environmental Policy Act*

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Approach to Potential Property Impacts

Possible Permanent Acquisition
Property or right-of-way that may be needed for the permanent improvements

Possible Temporary Construction Easements
Property access that may be needed during construction

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Project is not approved or cleared for implementation; potential impacts are for planning purposes only.

15% Design

Identifies **preliminary project footprint** and **potentially affected parcels**

35% Design

Refines project and construction limits and **evaluates project changes** that could change potential property needs

Future Phases

Future acquisitions would **require approval to advance the project into implementation** and to follow Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA).

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Engagement

Community Meetings
15% design overview; Total Project Cost Estimate and schedule; community feedback opportunities; what will continue to be refined

PABAC
Bicycle and pedestrian elements of the grade separation project 15% design

City Council
Concurrence on concepts to advance into 35% design and environmental documentation

8/25 & 8/26 — 9/3 — 9/28

AUGUST 1 5 10 15 20 25 30 5 10 15 20 25 30 OCTOBER

8/20

CSTSC
New access routes for Palo Alto HS & other PAUSD schools

9/8

Rail Committee
Total Project Cost Estimate and schedule community meeting summary

FOR MORE INFORMATION

WWW.CALTRAIN.COM