



# CONNECTING AND TRANSFORMING CALIFORNIA

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Morgan Hill City Council

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Morgan Hill, California



# CONNECTING CALIFORNIA



- Phase I:
  - » 520 Miles
  - » San Francisco to Los Angeles/Anaheim
- Phase II:
  - » Extends 300 Miles
  - » Connections to Sacramento and San Diego

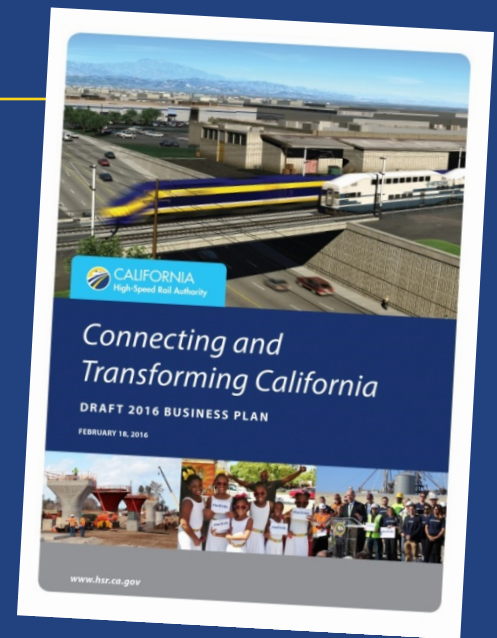
# CONSTRUCTION IS UNDERWAY

- Construction Package 1: 29 Miles
  - » DB: Tutor Perini/Zachry/Parsons
  - » PCM: Wong+Harris
- Construction Package 2-3: 65 Miles
  - » DB: Dragados/Flatiron
  - » PCM: Arcadis
- Construction Package 4: 22 Miles
  - » DB: California Rail Builders
  - » PCM: HNTB



# DRAFT 2016 BUSINESS PLAN

- Required by PUC Section 185033
- Includes:
  - » Summary of Progress Over the Last Two Years
  - » Approach to Deliver the System Using Existing Funds
  - » Updated Ridership Forecasts and Cost Estimates
  - » Describes Next Major Milestones
- Three Main Objectives
  - » Initiate High-Speed Rail Service as Soon as Possible
  - » Make Strategic, Concurrent Investments that Connect State, Regional and Local Rail Systems
  - » Be Ready When Funding Becomes Available



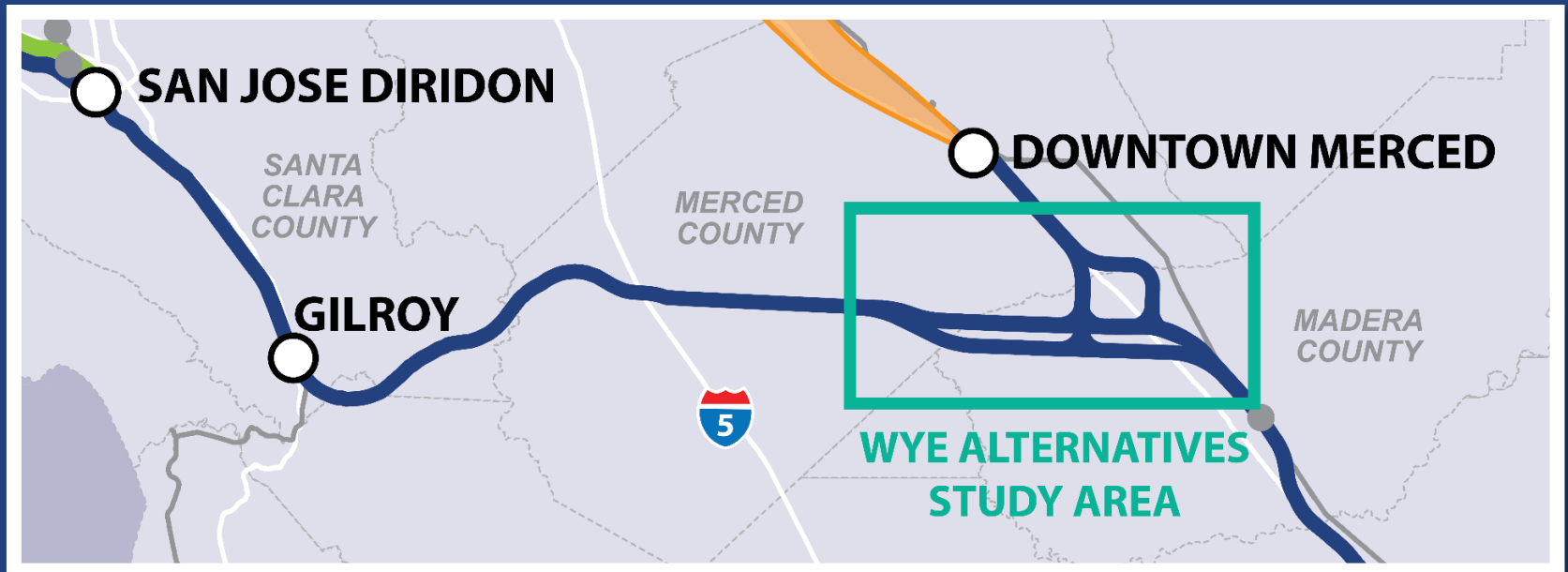
# DRAFT 2016 BUSINESS PLAN: Key Highlights

- Capital Cost Reduction:
  - » \$67.6 Billion (2014) to \$64.2 Billion
- Phase 1 (San Francisco-LA/Anaheim)
  - » Operational by 2029
- Silicon Valley to Central Valley Line
  - » Operational by 2025
  - » San Jose-North of Bakersfield
  - » \$20.7 Billion – Fully Funded
- Burbank to Anaheim Corridor Improvements
  - » Together with our Partners
  - » Invest \$4 Billion
- Extension to San Francisco and Bakersfield
  - » Additional \$2.9 Billion
  - » Operational by 2025



# SAN JOSE TO MERCED PROJECT SECTION

- 84-Mile Corridor
- Central Valley Wye Portion Being Studied Separately
- Primarily Follows Monterey Highway, Highway 101 and Highway 152 through the Pacheco Pass
- Stations Being Studied:
  - » San Jose (Diridon)
  - » Gilroy



# SAN JOSE TO MERCED WYE UPDATE

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- Summer 2011

- » Presented Supplemental Alternatives Analysis Reports to Board
- » Board directs that wye decision be made as part of San Jose-Merced section rather than Merced-Fresno section
- » Directed to engage stakeholders to refine wye alignments

- Fall 2011 – Spring 2012

- » Engaged public and agency stakeholders to evaluate options
- » *Hybrid Alignment* selected for Merced to Fresno
- » Bay Area to Central Valley Partially Revised Final Program EIR Certified

- Summer – Fall 2012

- » Conduct public information meetings and gather feedback
- » Prepare Supplemental Alternatives Analysis



## WHERE WE ARE: PROJECT HISTORY

## Alignments as of Supplemental Alternatives Analysis - July 2011





# WHERE WE ARE

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- **Project History**

- » Past Project Alternatives
- » Visual Design Guidelines

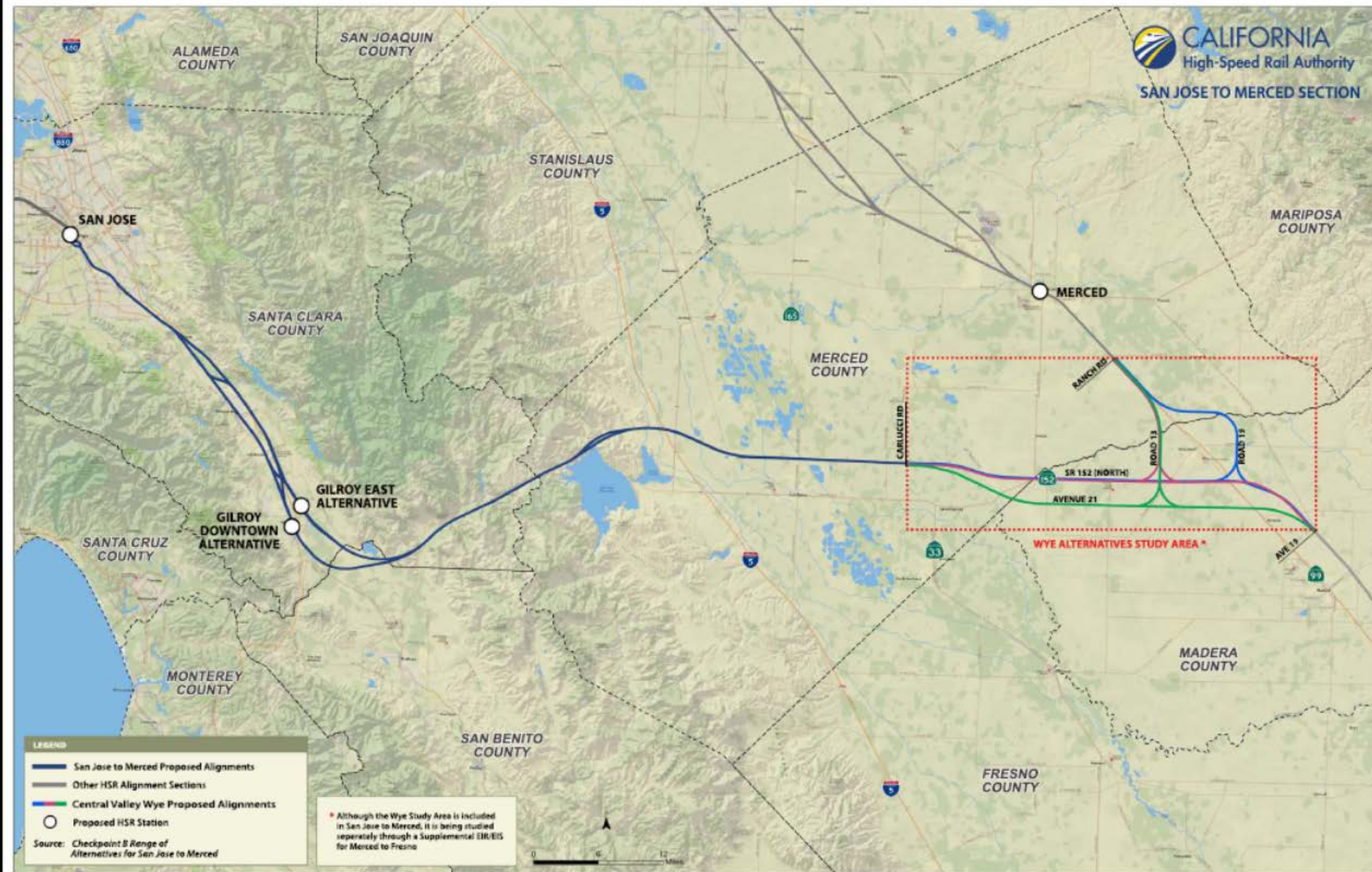
- **Ongoing Analysis**

- » Central Valley Wye
- » Corridor Alignment Refinements through San Jose, Morgan Hill and Gilroy
- » Regulatory agency concurrence on the range of alternatives to be studied in the environmental document
- » Station Area Design Work

- **Completion of Environmental Review**

- » Initial operating system from Bakersfield to San Jose identified in the Draft 2016 Business Plan

# SAN JOSE TO MERCED ALTERNATIVES



# WHERE WE ARE: MORGAN HILL – GILROY SUBSECTION

- First Supplemental AA Report recommended carrying the East of UPRR and US 101 alignments forward in the Draft EIR/EIS
- City of Gilroy and its consulting team released a Draft Gilroy High-Speed Train Station Visioning Project Report - February 2012
- Gilroy City Council recommended a Downtown Gilroy HST Station and further study of the modified at grade and trench vertical alignment options - February 2012



For discussion – subject to change



# WHERE WE ARE: FINAL VISUAL DESIGN GUIDELINES

- Extensive review and input with the community
- Defines roles and responsibilities for implementation

## 3.0 GENERAL DESIGN GUIDANCE

### 3.1 AESTHETICS

#### 3.1.1 Objectives

The TVM and CMG broadly define the objectives of aesthetic design for HST infrastructure as:

1. Elegance in engineering design, which is the visual expression of efficient structural function.
2. Engineering design that is well-composed and coherent, where the parts harmoniously relate to each other and work together to create a unified whole.
3. Engineering design that fits with, and contributes to, specific physical contexts along the HST corridor.

#### 3.1.2 Principles

Aesthetically refined design is attractive and pleasing to look at. A bridge built to bring of balance, stability, coherence and completeness. Good aesthetic design is rooted in three core principles:

- **Proportion:** The size and shape of design

elements are in scale and proportional relationship to each other and to the whole.

- **Representative:** The form and structure of design elements have an exact match in size and shape between two halves, parts or sides, design elements at varying scales reflect each other in proportion and shape, and/or the combination of design elements achieve a visually balanced composition.

- **Unity:** the design looks and feels complete in a natural, identifiable and satisfying way.

#### 3.1.3 Desired Outcomes

- HST infrastructure is aesthetically refined and functionally elegant throughout the corridor.

- HST infrastructure is integrated with urban design, contributing to the build-out of the City Center/Blue Area where the HST alignment impacts down or public and/or private property located for right-of-way.

- HST station design aligns with the implications of the Downtown Station Area Plan.

#### Two quotes informed the CMG discussion of aesthetic design:

"The visual expression of efficient structural function is a fundamental criterion of elegance in bridge design."

— Christian Mose, Bridge Engineer, winner 2008 Outstanding Structure Award

"Beauty is not simply a matter of personal opinion. It depends primarily upon the eye of the beholder. ... Beauty, in fact, is every where." In science, for example, one sees and feels the beauty of a theory only if the latter is coherent, coherent and harmonious with all parts generated naturally from simple principles, and those parts work together to form a unified, total structure."

— David Bohm, Physicist



#### Palomares Project's Features

1. Provide daylight between two-track viaduct structures.
2. Minimize the number of columns with the use of long-span beam-and-girder construction for approach to Downtown Station and 2,000 long span bridge.
3. Develop column orientation and spacing to support future joint use, reduce number of bridge piers and enable development of the Downtown Station area for the Downtown Station Area Plan.
4. Provide opportunities for active built-up use of space under the viaduct.
5. Implement gateway improvements at the Downtown Station and Downtown Station Area Plan.
6. Implement 2,000 long span bridge structure.
7. Maintain/Restore Downtown Park Trail.
8. Provide trackhead space for Route 87 Blue Park.

#### SECTION 2



Left: Looking Westward: Downtown Station, looking west. Right: Looking Eastward: Downtown Station, looking east.



Looking Southward: Downtown Station, looking south.



Fig. 3. Potential column cross sections

A strong shadow reflecting the visual depth of the column. A column with a tapered cross-section can create a gradient in shadow and silhouette a shape similar to the silhouette of the column. For four-track viaducts, the use of the bottom surface (the underside of a viaduct).

- **Proportionate:** Maximum consistent tapered cross-sections in guideway vary by span, depth and type (single-track viaduct, double-track viaduct, etc.).
- **Coherence:** Consistent tapered cross-sections in guideway vary by span, depth and type (single-track viaduct, double-track viaduct, etc.).
- **Design consistency:** Column shape is consistent in a guideway cross-section. The tapered guideway cross-sections are consistent in shape. The tapered guideway cross-sections are consistent in shape. The tapered guideway cross-sections are consistent in shape.

#### 3.1.3.3 Column and Pier Shape

A column is a slender, independent vertical support. Piers are vertical supports that are proportionally wider relative to other structures.

- **Shape:** The perception of column section and piers can be influenced by the shape.



Fig. 4. Round column, capital and tapered cross-section



Fig. 5. Hexagonal column, capital and tapered pier



Fig. 6. Tapered column, capital and tapered pier



Left: Looking Westward: Downtown Station, looking west. Right: Looking Eastward: Downtown Station, looking east.

# WHAT WE WILL BE WORKING ON WITH YOU

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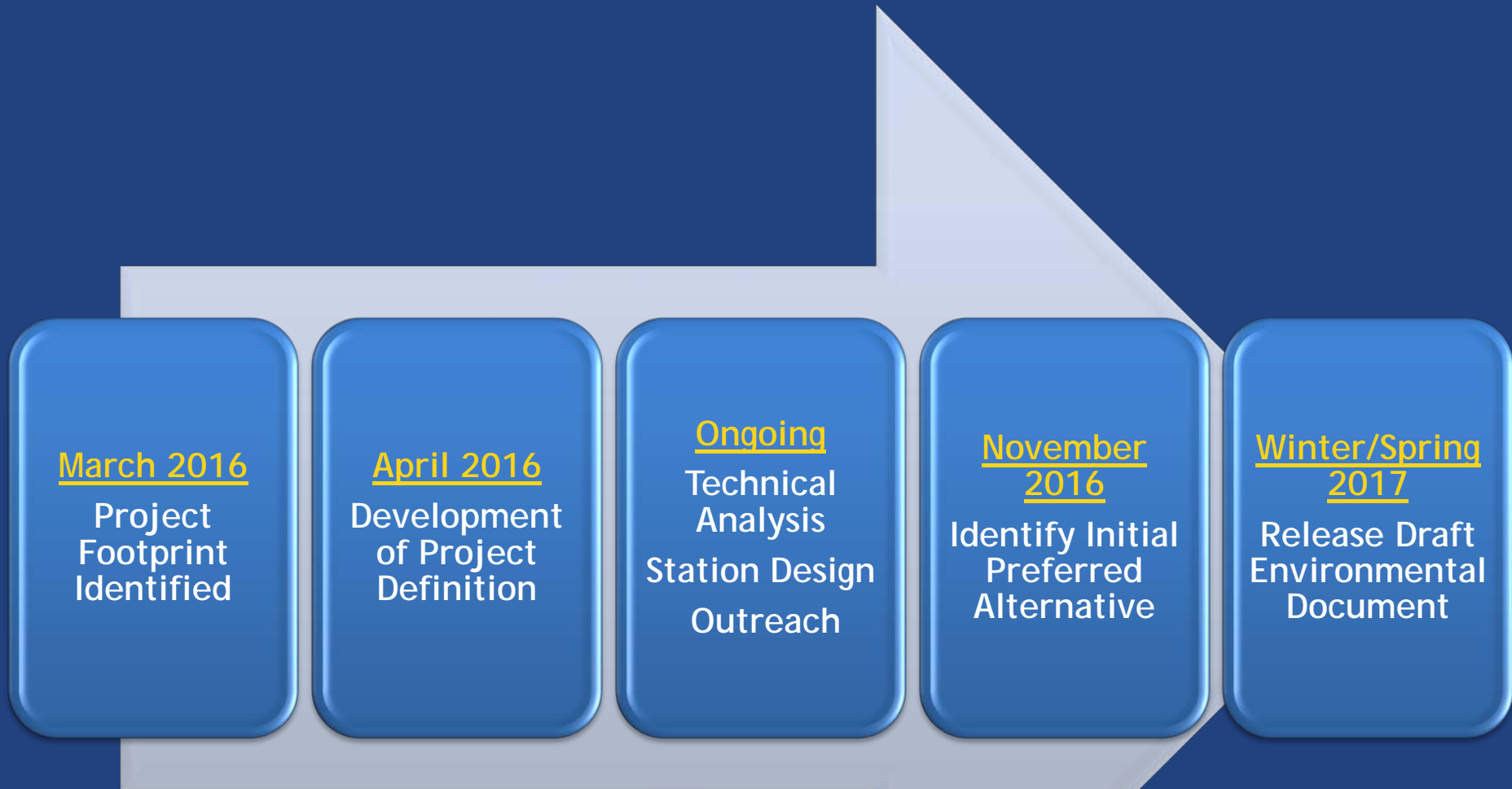
- **New Design Refinements**

- » Blended Service at Diridon Station
- » Monterey Viaduct
- » Pacheco Pass Tunnel Refinements

- **Current Work**

- » Validating Previous Studies
- » Refining Project Footprint
- » Evaluating New Approaches

# MILESTONE SCHEDULE\*



\*Preliminary/Subject to Change



# COLLABORATIVE APPROACH

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# COMMUNITY ENGAGEMENT

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- Resource Agency Coordination
- Station Area Planning
- Environmental Justice Outreach
- Community Working Groups
- Open Houses

# THANK YOU & STAY INVOLVED

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