

## APPENDIX 2-A: ROADWAY CROSSINGS, MODIFICATIONS, AND CLOSURES

Since publication of the San Francisco to San Jose Project Section Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS), the following substantive changes have been made to this section.

• Table 2, *Proposed Roadway Crossings of High-Speed Rail, Modifications, and Closures,* San Mateo to Palo Alto Subsection was revised to clarify the Harbor Boulevard Roadway/Path extended underpass as located in Belmont, not San Carlos.



## Table 1 Existing Roadway Crossings<sup>1</sup>

| Alternative      | Railroad Xing Location         | Iroad Xing Location Existing Railroad Grade and HSR Grade <sup>2</sup> |                     | County        |
|------------------|--------------------------------|--|---------------------|---------------|
| San Francisco to | South San Francisco Subsection |  |                     |               |
| A/B              | I-280                          | Overcrossing   | San Francisco       | San Francisco |
| A/B              | Mission Bay Drive              | At grade   | San Francisco       | San Francisco |
| A/B              | I-280                          | Overcrossing   | San Francisco       | San Francisco |
| A/B              | 16th Street                    | At grade   | San Francisco       | San Francisco |
| A/B              | Mariposa Street                | Overcrossing   | San Francisco       | San Francisco |
| A/B              | I-280                          | Overcrossing   | San Francisco       | San Francisco |
| A/B              | 22nd Street                    | Overcrossing   | San Francisco       | San Francisco |
| A/B              | 23rd Street                    | Overcrossing   | San Francisco       | San Francisco |
| A/B              | I-280                          | Overcrossing   | San Francisco       | San Francisco |
| A/B              | Cesar Chavez Street            | Aerial   | San Francisco       | San Francisco |
| A/B              | I-280                          | Overcrossing   | San Francisco       | San Francisco |
| A/B              | Evans Avenue                   | Aerial   | San Francisco       | San Francisco |
| A/B              | Jerrold Avenue                 | Aerial   | San Francisco       | San Francisco |
| A/B              | Quint Street                   | Aerial   | San Francisco       | San Francisco |
| A/B              | Oakdale Avenue                 | Overcrossing   | San Francisco       | San Francisco |
| A/B              | Williams Avenue                | Overcrossing   | San Francisco       | San Francisco |
| A/B              | Paul Avenue                    | Overcrossing   | San Francisco       | San Francisco |
| A/B              | Tunnel Avenue <sup>3</sup>     | Overcrossing   | Brisbane            | San Mateo     |
| A/B              | US 101/US 101 on-ramp          | Overcrossing   | Brisbane            | San Mateo     |
| A/B              | Oyster Point Boulevard         | Overcrossing   | South San Francisco | San Mateo     |
| A/B              | East Grand Avenue              | Overcrossing   | South San Francisco | San Mateo     |
| A/B              | US 101                         | Overcrossing   | South San Francisco | San Mateo     |
| A/B              | Airport Boulevard              | Aerial   | South San Francisco | San Mateo     |
| A/B              | South Linden Avenue            | At grade   | South San Francisco | San Mateo     |



| Alternative      | Railroad Xing Location | Existing Railroad Grade and HSR Grade <sup>2</sup> | City       | County    |
|------------------|------------------------|--|------------|-----------|
| San Bruno to San | Mateo Subsection       |  |            |           |
| A/B              | Scott Street           | At grade   | San Bruno  | San Mateo |
| A/B              | I-380                  | I-380 Overcrossing                                 |            | San Mateo |
| A/B              | San Bruno Avenue       | Aerial   | San Bruno  | San Mateo |
| A/B              | San Mateo Avenue       | Aerial   | San Bruno  | San Mateo |
| A/B              | Angus Avenue           | Aerial   | San Bruno  | San Mateo |
| A/B              | Center Street          | At grade   | Millbrae   | San Mateo |
| A/B              | Hillcrest Boulevard    | Aerial   | Millbrae   | San Mateo |
| A/B              | Millbrae Avenue        | Overcrossing                                       | Millbrae   | San Mateo |
| A/B              | Broadway               | At grade   | Burlingame | San Mateo |
| A/B              | Oak Grove Avenue       | At grade   | Burlingame | San Mateo |
| A/B              | North Lane             | At grade   | Burlingame | San Mateo |
| A/B              | Howard Avenue          | At grade   | Burlingame | San Mateo |
| A/B              | Bayswater Avenue       | Bayswater Avenue At grade Burl                     |            | San Mateo |
| A/B              | Peninsula Avenue       | Peninsula Avenue At grade                          |            | San Mateo |
| A/B              | Villa Terrace          | illa Terrace At grade                              |            | San Mateo |
| A/B              | East Bellevue Avenue   | At grade   | San Mateo  | San Mateo |
| A/B              | East Poplar Avenue     | Aerial   | San Mateo  | San Mateo |
| A/B              | East Santa Inez Avenue | Aerial   | San Mateo  | San Mateo |
| A/B              | Monte Diablo Avenue    | Aerial   | San Mateo  | San Mateo |
| A/B              | Tilton Avenue          | Aerial   | San Mateo  | San Mateo |
| A/B              | 1st Avenue             | At grade   | San Mateo  | San Mateo |
| A/B              | 2nd Avenue             | At grade   | San Mateo  | San Mateo |
| A/B              | 3rd Avenue             | At grade   | San Mateo  | San Mateo |
| A/B              | 4th Avenue             | At grade   | San Mateo  | San Mateo |
| A/B              | 5th Avenue             | At grade   | San Mateo  | San Mateo |
|                  |                        |  |            |           |

| Alternative       | Railroad Xing Location | Existing Railroad Grade and HSR Grade <sup>2</sup> | City         | County   |  |
|-------------------|------------------------|--|--------------|--|--|
| A/B               | 9th Avenue             | At grade   | San Mateo    | San Mateo  |  |
| San Mateo to Palo | o Alto Subsection      |  |              |  |  |
| A/B               | SR 92                  | Overcrossing                                       | San Mateo    | San Mateo  |  |
| A/B               | 25th Avenue            | Aerial (under construction) <sup>4</sup>           | San Mateo    | San Mateo  |  |
| A/B               | Hillsdale Boulevard    | Aerial   | San Mateo    | San Mateo  |  |
| A/B               | 42nd Avenue            | Aerial   | San Mateo    | San Mateo  |  |
| A/B               | Ralston Avenue         | Aerial   | Belmont      | San Mateo  |  |
| A/B               | Harbor Boulevard       | Aerial   | Belmont      | San Mateo  |  |
| A/B               | Holly Street           | Aerial   | San Carlos   | San Mateo<br>San Mateo<br>San Mateo<br>San Mateo<br>San Mateo<br>San Mateo |  |
| A/B               | Brittan Avenue         | Aerial   | San Carlos   | San Mateo  |  |
| A/B               | Howard Avenue          | Aerial   | San Carlos   | San Mateo  |  |
| A/B               | Whipple Avenue         | At grade   | Redwood City | San Mateo  |  |
| A/B               | Brewster Avenue        | At grade   | Redwood City | San Mateo  |  |
| A/B               | Broadway               | At grade   | Redwood City | San Mateo  |  |
| A/B               | Jefferson Avenue       | Aerial   | Redwood City | San Mateo  |  |
| A/B               | Maple Street           | At grade   | Redwood City | San Mateo  |  |
| A/B               | Main Street            | At grade   | Redwood City | San Mateo  |  |
| A/B               | Chestnut Street        | At grade   | Redwood City | San Mateo  |  |
| A/B               | SR 84                  | Overcrossing                                       | Redwood City | San Mateo  |  |
| A/B               | Fifth Avenue           | Overcrossing                                       | Redwood City | San Mateo  |  |
| A/B               | Fair Oaks Lane         | At grade   | Atherton     | San Mateo  |  |
| A/B               | Watkins Avenue         | At grade   | Atherton     | San Mateo  |  |
| A/B               | Encinal Avenue         | At grade   | Menlo Park   | San Mateo  |  |
| A/B               | Glenwood Avenue        | At grade   | Menlo Park   | San Mateo  |  |
| A/B               | Oak Grove Avenue       | At grade   | Menlo Park   | San Mateo  |  |
| A/B               | Ravenswood Avenue      | At grade   | Menlo Park   | San Mateo  |  |



| Alternative            | Railroad Xing Location                | Existing Railroad Grade and HSR Grade <sup>2</sup> | City          | County      |
|------------------------|---------------------------------------|--|---------------|-------------|
| A/B                    | Palo Alto Avenue                      | At grade   | Palo Alto     | Santa Clara |
| A/B                    | University Avenue                     | Aerial   | Palo Alto     | Santa Clara |
| A/B                    | Embarcadero Road                      | Aerial   | Palo Alto     | Santa Clara |
| A/B                    | Churchill Avenue                      | At grade   | Palo Alto     | Santa Clara |
| A/B                    | Oregon Expressway                     | Aerial   | Palo Alto     | Santa Clara |
| A/B                    | Meadow Drive                          | At grade   | Palo Alto     | Santa Clara |
| A/B                    | Charleston Road                       | At grade   | Palo Alto     | Santa Clara |
| A/B                    | San Antonio Road                      | Overcrossing                                       | Palo Alto     | Santa Clara |
| Mountain View to Sant  | a Clara Subsection                    |  |               |             |
| A/B                    | Rengstorff Avenue                     | At grade   | Mountain View | Santa Clara |
| A/B                    | Shoreline Boulevard                   | Overcrossing                                       | Mountain View | Santa Clara |
| A/B                    | Castro Street                         | At grade   | Mountain View | Santa Clara |
| A/B                    | SR 85                                 | Overcrossing                                       | Mountain View | Santa Clara |
| A/B                    | Whisman Road                          | Overcrossing                                       | Mountain View | Santa Clara |
| A/B                    | SR 237                                | Overcrossing                                       | Mountain View | Santa Clara |
| A/B                    | Mary Avenue                           | At grade   | Sunnyvale     | Santa Clara |
| A/B                    | Mathilda Avenue                       | Overcrossing                                       | Sunnyvale     | Santa Clara |
| A/B                    | Sunnyvale Avenue                      | At grade   | Sunnyvale     | Santa Clara |
| A/B                    | Fair Oaks Avenue                      | Overcrossing                                       | Sunnyvale     | Santa Clara |
| A/B                    | Wolfe Road                            | Overcrossing                                       | Sunnyvale     | Santa Clara |
| A/B                    | County Route G2 (Lawrence Expressway) | Overcrossing                                       | Sunnyvale     | Santa Clara |
| A/B                    | Bowers Avenue                         | Aerial   | Santa Clara   | Santa Clara |
| A/B                    | San Tomas Expressway                  | Overcrossing                                       | Santa Clara   | Santa Clara |
| A/B                    | Scott Boulevard                       | Overcrossing                                       | Santa Clara   | Santa Clara |
| San Jose Diridon Stati | on Approach Subsection⁵               | ·  |               |             |
| A/B (Viaduct to I-880) | Lafayette Street                      | Aerial   | Santa Clara   | Santa Clara |

| Alternative            | Railroad Xing Location  | Existing Railroad Grade and HSR Grade <sup>2</sup> | City        | County      |
|------------------------|-------------------------|--|-------------|-------------|
| A/B (Viaduct to I-880) | De La Cruz Boulevard    | Overcrossing                                       | Santa Clara | Santa Clara |
| A/B (Viaduct to I-880) | I-880                   | Overcrossing                                       | San Jose    | Santa Clara |
| A                      | Hedding Street          | Overcrossing                                       | San Jose    | Santa Clara |
| A                      | West Taylor Street      | Aerial   | San Jose    | Santa Clara |
| A                      | West Julian Street      | Aerial   | San Jose    | Santa Clara |
| A                      | West Santa Clara Street | Aerial   | San Jose    | Santa Clara |
| A                      | Park Avenue             | Aerial   | San Jose    | Santa Clara |
| A                      | West San Carlos Street  | Overcrossing                                       | San Jose    | Santa Clara |
| A                      | Auzerais Avenue         | At grade   | San Jose    | Santa Clara |
| A                      | I-280                   | Aerial   | San Jose    | Santa Clara |
| A                      | Drake Street            | At grade   | San Jose    | Santa Clara |
| A                      | Bird Avenue             | Aerial   | San Jose    | Santa Clara |
| A                      | Delmas Avenue           | Aerial   | San Jose    | Santa Clara |
| A                      | Prevost Street          | Aerial   | San Jose    | Santa Clara |
| A                      | SR 87                   | Aerial   | San Jose    | Santa Clara |
| A                      | Willow Street Aerial    |  | San Jose    | Santa Clara |
| A                      | West Alma Avenue        | Aerial   | San Jose    | Santa Clara |

HSR = high-speed rail

I- = Interstate

SR = State Route

US = U.S. Highway

Xing = crossing

<sup>1</sup> This table identifies the locations where the existing railroad crosses existing roadways. There would be no change to the grade of these existing crossings.

<sup>2</sup> Overcrossing = Currently railroad below roadway

At grade = Currently railroad crosses the roadway at grade

Aerial = Currently railroad crosses above the roadway

<sup>3</sup> The project would result in the relocation of the Tunnel Avenue overcrossing. The grade would remain the same; the only change would be in the location of the overcrossing.

<sup>4</sup> The grade-separated aerial crossing at 25th Avenue is currently under construction and the project would not result in any changes to the grade of this proposed crossing. In addition, grade-separated aerial crossings are proposed at 28th Avenue and 31st Avenue and the project would not result in any changes to these proposed changes to the grade.

<sup>5</sup> For the San Jose Diridon Station Approach Subsection, the information in this table is limited to the existing roadway crossings along the Caltrain right-of-way. Additional information about new roadway crossings are shown in Table 2.



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## Table 2 Proposed Roadway Crossings of High-Speed Rail, Modifications, and Closures<sup>2</sup>

| Туре                    | Alternative                       | Roadway/Path              | Existing Road/Path Grade<br>at Roadway Xing | Proposed Road/Path<br>Profile at HSR | Proposed HSR Grade (Above or Below) at Roadway Xing | Grade<br>Separation | Closure | Modification  | City        | County         |
|-------------------------|-----------------------------------|---------------------------|---|--------------------------------------|---|---------------------|---------|---|-------------|----------------|
|                         | to South San Francisco            | Subsection                |   |                                      |   |                     |         |   |             |                |
| Roadway<br>Modification | A                                 | Tunnel Avenue             | N/A   | N/A                                  | N/A   | N/A                 | N/A     | Realign Tunnel Avenue to east   | Brisbane    | San<br>Mateo   |
| Roadway<br>Modification | A/B                               | Tunnel Avenue<br>Overpass | Aerial                                      | No change                            | Below   | Yes                 | N/A     | Relocate Tunnel Avenue overpass and southern terminus<br>connection to Valley Drive at Bayshore Boulevard | Brisbane    | San<br>Mateo   |
| Roadway<br>Modification | A/B                               | Lagoon Road               | N/A   | N/A                                  | N/A   | N/A                 | N/A     | Extend Lagoon Road to west to new Tunnel Avenue overpass  | Brisbane    | San<br>Mateo   |
| San Bruno to Sa         | an Mateo Subsection               | ·                         | ÷   | ÷                                    | ÷   | ·                   | ·       |   |             |                |
| Roadway<br>Modification | A/B                               | Hillcrest Boulevard       | Trench/Cut                                  | No change                            | Above   | Yes                 | N/A     | Widen existing underpass  | Millbrae    | San<br>Mateo   |
| Roadway<br>Modification | A/B                               | California Drive          | N/A   | N/A                                  | N/A   | N/A                 | N/A     | Extend California Drive north to Victoria Avenue, to replace Serra Avenue                                 | Millbrae    | San<br>Mateo   |
| Road Closure            | A/B                               | Serra Avenue              | N/A   | N/A                                  | N/A   | N/A                 | Yes     | Road closure  | Millbrae    | San<br>Mateo   |
| San Mateo to Pa         | alo Alto Subsection               |                           |   |                                      |   | -                   |         |   |             |                |
| Roadway<br>Modification | В                                 | Ralston Avenue            | Trench/Cut                                  | No change                            | Above   | N/A                 | N/A     | Replace underpass   | Belmont     | San<br>Mateo   |
| Roadway<br>Modification | В                                 | Holly Street              | Trench/Cut                                  | No change                            | Above   | N/A                 | N/A     | Replace underpass   | San Carlos  | San<br>Mateo   |
| Roadway<br>Modification | В                                 | 25th Avenue               | Trench/Cut (Proposed) <sup>1</sup>          | No change                            | Above   | N/A                 | N/A     | Extend underpass  | San Mateo   | San<br>Mateo   |
| Roadway<br>Modification | В                                 | 28th Avenue               | Trench/Cut (Proposed) <sup>1</sup>          | No change                            | Above   | N/A                 | N/A     | Extend underpass  | San Mateo   | San<br>Mateo   |
| Roadway<br>Modification | В                                 | 31st Avenue               | Trench/Cut (Proposed) <sup>1</sup>          | No change                            | Above   | N/A                 | N/A     | Extend underpass  | San Mateo   | San<br>Mateo   |
| Roadway<br>Modification | В                                 | 42nd Avenue               | Trench/Cut                                  | No change                            | Above   | N/A                 | N/A     | Extend underpass  | San Mateo   | San<br>Mateo   |
| Roadway<br>Modification | В                                 | Harbor Boulevard          | Trench/Cut                                  | No change                            | Above   | N/A                 | N/A     | Extend underpass  | Belmont     | San<br>Mateo   |
| Roadway<br>Modification | В                                 | Brittan Avenue            | Trench/Cut                                  | No change                            | Above   | N/A                 | N/A     | Extend underpass  | San Carlos  | San<br>Mateo   |
| Roadway<br>Modification | В                                 | Howard Avenue             | Trench/Cut                                  | No change                            | Above   | N/A                 | N/A     | Extend underpass  | San Carlos  | San<br>Mateo   |
| Mountain View           | to Santa Clara Subsect            | ion                       |   |                                      |   |                     |         |   |             |                |
| None                    |                                   |                           |   |                                      |   |                     |         |   |             |                |
| San Jose Dirido         | on Station Approach Su            | bsection                  |   |                                      |   |                     |         |   |             |                |
| Road Closure            | B (Viaduct to Scott<br>Boulevard) | Grant Street              | N/A   | N/A                                  | N/A   | N/A                 | Yes     | Shorten road  | Santa Clara | Santa<br>Clara |

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| Туре                    | Alternative                       | Roadway/Path               | Existing Road/Path Grade at Roadway Xing | Proposed Road/Path<br>Profile at HSR | Proposed HSR Grade (Above or Below) at Roadway Xing | Grade<br>Separation | Closure | Modification  | City        | County         |
|-------------------------|-----------------------------------|----------------------------|--|--------------------------------------|---|---------------------|---------|---|-------------|----------------|
| Roadway<br>Modification | B (Viaduct to Scott<br>Boulevard) | De la Cruz<br>Boulevard    | Aerial                                   | Trench/Cut                           | Above   | Yes                 | N/A     | Change from overcrossing to undercrossing                             | Santa Clara | Santa<br>Clara |
| Roadway<br>Modification | B (Viaduct to I-880)              | West Hedding<br>Street     | Aerial                                   | No change                            | Below   | N/A                 | N/A     | Rebuild existing overcrossing   | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | B (Viaduct to Scott<br>Boulevard) | West Hedding<br>Street     | Aerial                                   | Trench/Cut                           | Above   | Yes                 | N/A     | Change from overcrossing to undercrossing                             | San Jose    | Santa<br>Clara |
| Road Closure            | B (both viaduct options)          | Stockton Avenue            | N/A                                      | N/A                                  | N/A   | N/A                 | Yes     | Convert to cul-de-sac   | San Jose    | Santa<br>Clara |
| Road Closure            | B (both viaduct options)          | University Avenue          | N/A                                      | N/A                                  | N/A   | N/A                 | Yes     | Convert to cul-de-sac   | San Jose    | Santa<br>Clara |
| Road Closure            | B (both viaduct options)          | Emory Street               | N/A                                      | N/A                                  | N/A   | N/A                 | Yes     | Convert to cul-de-sac   | San Jose    | Santa<br>Clara |
| Road Closure            | B (both viaduct options)          | Chestnut Street            | N/A                                      | N/A                                  | N/A   | N/A                 | Yes     | Realigned, closed from Asbury Street to West Taylor Street            | San Jose    | Santa<br>Clara |
| New Road<br>Crossing    | A/B (Viaduct to I-<br>880)        | West Taylor Street         | Trench/cut                               | Aerial                               | Above   | Yes                 | N/A     | New HSR overcrossing alongside existing Caltrain<br>overcrossing      | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | B (Viaduct to Scott<br>Boulevard) | West Taylor Street         | N/A                                      | N/A                                  | N/A   | N/A                 | N/A     | Realign westbound Taylor Street to northbound Chestnut<br>Street      | San Jose    | Santa<br>Clara |
| New Road<br>Crossing    | B (both viaduct options)          | North Montgomery<br>Street | At grade                                 | No change                            | Above   | N/A                 | N/A     | Extended to maintain property access                                  | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | B (both viaduct options)          | Stover Street              | N/A                                      | N/A                                  | N/A   | N/A                 | N/A     | Extend Stover Street from South Montgomery Street to<br>Autumn Street | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | B (both viaduct options)          | Crandall Street            | N/A                                      | N/A                                  | N/A   | N/A                 | N/A     | Extend from South Montgomery Street to Autumn Street                  | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | A                                 | Cahill Street              | N/A                                      | N/A                                  | N/A   | N/A                 | N/A     | Extend to Otterson; convert to transit only lanes                     | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | B (both viaduct options)          | Cahill Street              | N/A                                      | N/A                                  | N/A   | N/A                 | N/A     | Extend to Park Avenue; convert to transit only lanes                  | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | A                                 | Bird Avenue                | Trench/cut                               | No change                            | Above   | N/A                 | N/A     | Rebuild existing underpasses  | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | A                                 | Delmas Avenue              | Trench/cut                               | No change                            | Above   | N/A                 | N/A     | Rebuild existing underpasses  | San Jose    | Santa<br>Clara |
| New Road<br>Crossing    | B (both viaduct options)          | SR 87 On-Ramp              | At grade                                 | No change                            | Above   | N/A                 | N/A     | Realign ramp  | San Jose    | Santa<br>Clara |
| Roadway<br>Modification | A                                 | Fuller Avenue              | N/A                                      | N/A                                  | N/A   | N/A                 | N/A     | Realign Fuller Avenue cul-de-sac                                      | San Jose    | Santa<br>Clara |

Sources: Authority 2019a, 2019b HSR = high-speed rail I- = Interstate N/A = not applicable Prop. = Proposed SR = State Route

Xing = crossing <sup>1</sup> This table shows the modifications to the roadways resulting from the project, including modifications to existing roadway crossings. <sup>2</sup> The 25th Avenue underpass is currently under construction and would be completed prior to the construction of HSR. The 28th Avenue and 31st Avenue underpasses are proposed to be built and it is anticipated that they would be built prior to the construction of HSR.





## References

California High-Speed Rail Authority (Authority). 2019a. *San Francisco to San Jose Project Section Transportation Technical Report.* Prepared by Fehr and Peers. December 2019. Sacramento, CA.

—. 2019b. San Jose to Merced Project Section Transportation Technical Report. Prepared by Fehr and Peers. September 2019. Sacramento, CA.