

DOWNTOWN PASSENGER RAIL STATION FEASIBILITY STUDY



CITY OF MODESTO
COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT
PLANNING DIVISION

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The purpose of this study is to determine the viability of a future passenger rail station for potential high speed and conventional rail service in downtown Modesto by identifying the strengths and weaknesses of the proposal. The study will help answer the question of whether Modesto should continue pursuing a passenger rail station and what additional information, policies, and resources will be needed for such an effort to be successful. Whether action should be taken, and what action, are decisions to be made by Modesto City Council and the StanCOG Policy Board. Should City Council approve this report, nothing further will occur unless City Council directs further action.

Direct public input was sought through three workshops. Workshops were held to consider (1) criteria for selecting a station site, (2) to identify several potential station sites, and (3) to identify the preferred station site of the several identified.

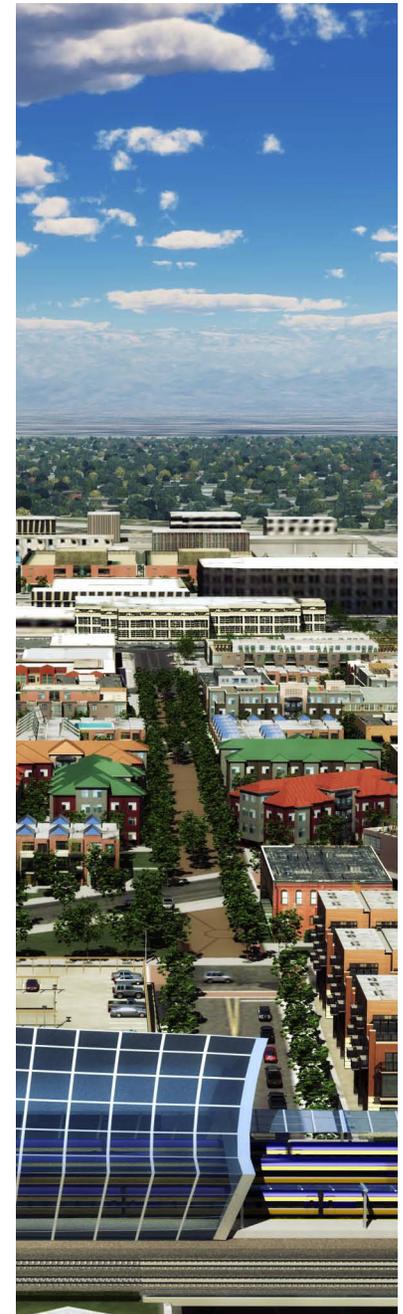
By its very nature, passenger rail, whether conventional or high speed, is a large-scale venture, requiring resources far beyond a single municipality or region. Amtrak is a national rail service; the Altamont Commuter Express is interregional and Caltrain, BART, and Metrolink (Los Angeles area) are regional services.

In 2008, California voters passed Proposition 1A, the Safe, Reliable High-Speed Passenger Train Bond Act, which authorizes the issuance of \$9.95 billion in bonds "to establish a clean, efficient high-speed train service linking Southern California, the Sacramento/San Joaquin Valley, and the San Francisco Bay Area" which is expected to reduce "air pollution, global warming greenhouse gases, and our dependence on foreign oil." This feasibility study considers a small part of this 800-mile-long statewide project.

The California High Speed Rail Authority (CHSRA) was established in 1996 to plan and implement high-speed intercity service in California. A significant part of the planning work comprises ridership projections, route selection, environmental analyses, public outreach, and engineering. While Modesto's concerns are taken into consideration, Modesto has no direct authority over the High-Speed Passenger Train project. Decision making authority for cities that may have the opportunity to a high-speed train station is limited to site selection along the route, site planning, and funding for a station. For this feasibility study, Modesto is evaluating two vertical alignment alternatives, above-grade (elevated above street level) and at-grade (at street level), consistent with the alignments being considered by the California High-Speed Rail Authority.

The CHSRA's Revised Business Plan (April 2012) includes a smaller-scale, near-term option, which is part of the "Northern California Blended Service." A station serving this option, which may be developed at-grade, could be needed within 10 years.

The high-speed train system will be developed in two phases; Modesto is part of the second phase of the project. Work on Phase 1 is well under way: an alignment has been selected for the Merced-to-Fresno segment, ridership estimates have been developed, environmental documents have been completed, and engineering of the Initial Construction Segment between Fresno and Bakersfield is



finished. Construction contracts for the Initial Construction Segment are expected to be signed in spring and fall of 2013. Planning for Phase 2 is under way, but the alignment has not yet been selected, which is critical to the development of ridership projections. The environmental documents that will eventually be prepared will consider many factors that are not part of this study: reductions in automobile trips, air quality, noise, and aesthetics, among others.

It is likely that revisions to the CHSRA's business plan will result in delayed implementation of full high speed rail for Phase 2. Instead, interim improvements to existing passenger rail service will be implemented. The complete scope of improvements to existing passenger rail has not been developed, but may include improvements to Amtrak and extension of the Altamont Commuter Express (ACE) to Modesto and Merced.

This feasibility study is limited to considering:

- Whether, where, and how a passenger rail station might fit into downtown;
- Whether necessary feeder service and parking exists or could be added;
- Right-of-way acquisition estimates for a station and for the alignment through the county;
- Whether policies are in place to support development that will support a station.



This feasibility study has five chapters:

1. Existing conditions

This chapter reviews how downtown Modesto was established and the influences that have shaped downtown and the existing resources and policies that will help make a passenger rail station successful.

2. Site selection

Different alternatives are evaluated to illustrate different scenarios. This study is not exhaustive: many other sites could have been evaluated, each with problems and benefits, and other site and circulation plans are possible for each site. Each site has been carefully considered and debated by workshop attendees; the considerations used in the site selection process are presented and are intended to be useful to City Council in its future decision making process.

3. Right of way needs

The acquisition cost of each preferred passenger rail station site is presented in 2012 dollars. Additionally, right of way estimates from the San Joaquin County line to the Merced County line are estimated on a per-acre basis.

4. Funding Sources

Potential funding sources for right of way acquisition, and operating and maintenance costs for the station are considered.

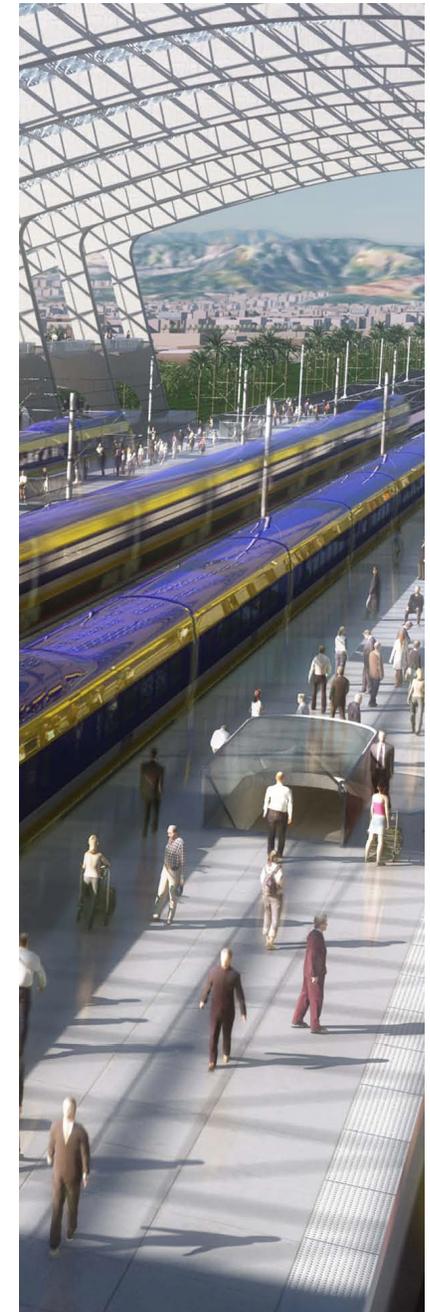
5. Policy recommendations

Downtown Modesto can accommodate a passenger rail station today, but various policies should be considered in order to gain the largest benefit from a future station.

The documents used for the workshops in August 2011, November 2011, and June 2012 appear as Appendices A, B, and C, respectively.

While Workshop 3 attendees preferred Site D/E, the largest of the three sites, the City of Modesto may select any of the three sites; or another site; or may choose not to host a passenger rail station. The process used to select Site D/E as the preferred location is made as transparent as possible through the inclusion of the details of selection criteria and how each block fared with respect to those criteria and through the discussion of elements that contribute to the feasibility of various sites for a passenger rail station, such as parking and circulation.

Depending on the type of service provided, passenger rail could serve various functions. If it is a lower-speed, local and interregional service, similar to the Altamont Commuter Express, then riders would be expected to use it in place of a private automobile to travel to and from work or during the day to get to and from meetings in other cities, such as Merced or Tracy. On the other hand, if higher-speed, long-distance service is provided, riders would be expected to travel for purposes such as connecting to



airports in Sacramento, Oakland, and San Francisco; for entertainment, sporting, and cultural events in the Bay Area, or for meetings in Los Angeles, San Francisco, or San Diego. The train could be used instead of driving or flying. Furthermore, the train could serve not just as a means to connect Modestans with the rest of California, but as a means to bring the rest of California to Modesto. Modesto offers performances at the Gallo Center for the Performing Arts and major employers such as Gallo Glass and Foster Farms, and can serve as a gateway to the Sierras for visitors. Car rental services and a Yosemite Area Regional Transportation System (YARTS) stop near or at the station could provide transportation into the mountains and directly to Yosemite National Park from downtown Modesto.

Chapter One: Existing Conditions

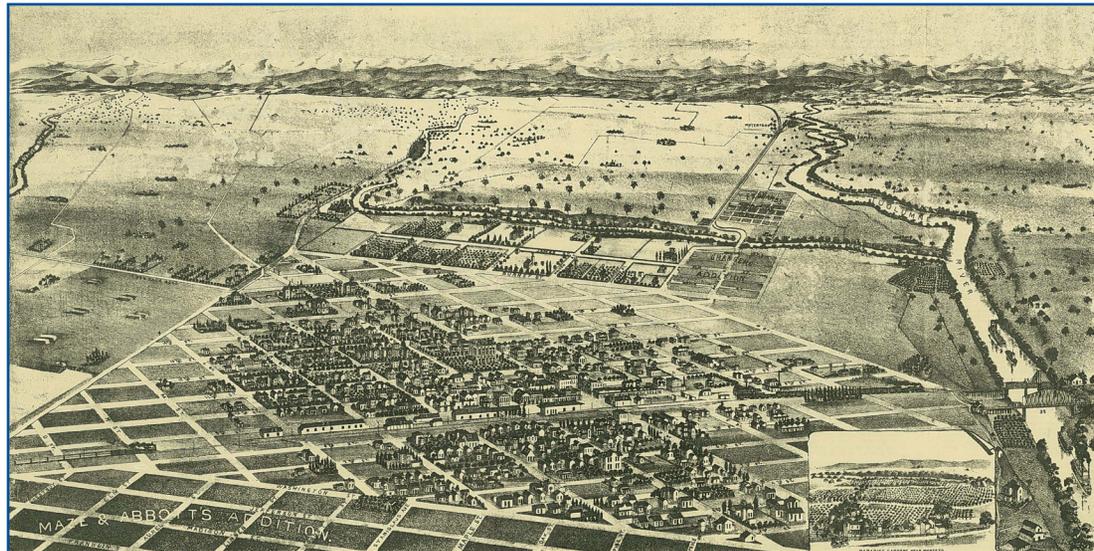
History and Development Pattern

Modesto's downtown is a former land grant given to the Central Pacific Railroad by the federal government in the 1860s and 1870s as incentive to extend rail service down the San Joaquin Valley from the main transcontinental line in Sacramento. The federal government deeded alternating sections (each 640 acres, 1 square mile) to rail companies, which were often developed by the rail companies in order to fund the extension and operation of rail service. The area comprising Modesto's commercial downtown grid today is that 640-acre land grant. Modesto incorporated as a city in 1884 with an area larger than the original land grant, approximately 1,700 acres, about 2.6 square miles.

By necessity, the land grant area and the original city were self-contained and easily traversed on foot. The land grant area originally included single-family residences and commercial and industrial businesses, including what was eventually incorporated as Modesto. Automobiles did not yet exist and horses were expensive. Most local travel occurred on foot and all daily needs were easy to reach within the city. Commercial lots were narrow, maximizing the number of businesses along a block frontage. Private automobiles began to appear in the early 20th century; they became common in the 1920s, and dominant after World War II. As Modesto grew, commercial and industrial development replaced residences, which were either demolished or slowly converted to commercial use.

The expansion of the city and development patterns reflect transportation modes: large commercial lots and frontages with large parking lots in front of the building are designed for the motoring public, while small lots and frontages with parking behind the building (if provided at all) are designed for pedestrian and bicycle traffic.

Modesto,
circa 1888



Statewide Passenger Rail Planning

The CHSRA has identified two phases of development. Phase 1 is the Los Angeles-to-San Francisco segment. Phase 2 includes Merced-to-San Jose via the Altamont Pass and to Sacramento and Los Angeles to San Diego. Modesto is on part of Phase 2. Phase 1 has begun to receive construction funding; much of the alignment has been selected and environmental and engineering documents are almost complete.

The alignment for Phase 2 has not yet been selected and planning documents have not been completed. Phase 2 will approximately parallel either the Union Pacific Railroad ("western alignment" near State Route 99 through Modesto) or the Burlington Northern-Santa Fe alignment ("eastern alignment" through Riverbank, Empire, and Denair). At this early stage of work on Phase 2, Modesto has adopted a general plan policy to bring passenger rail to downtown. Modesto participates in planning meetings for Phase 2 and actively supports federal, state, and local policies (see Chapter 5) that will make passenger rail in downtown possible. Other than funding for this study, no local funding has yet been made available. This study is expected to lead to more refined planning and engineering work and to funding for passenger rail in the Regional Transportation Plan.

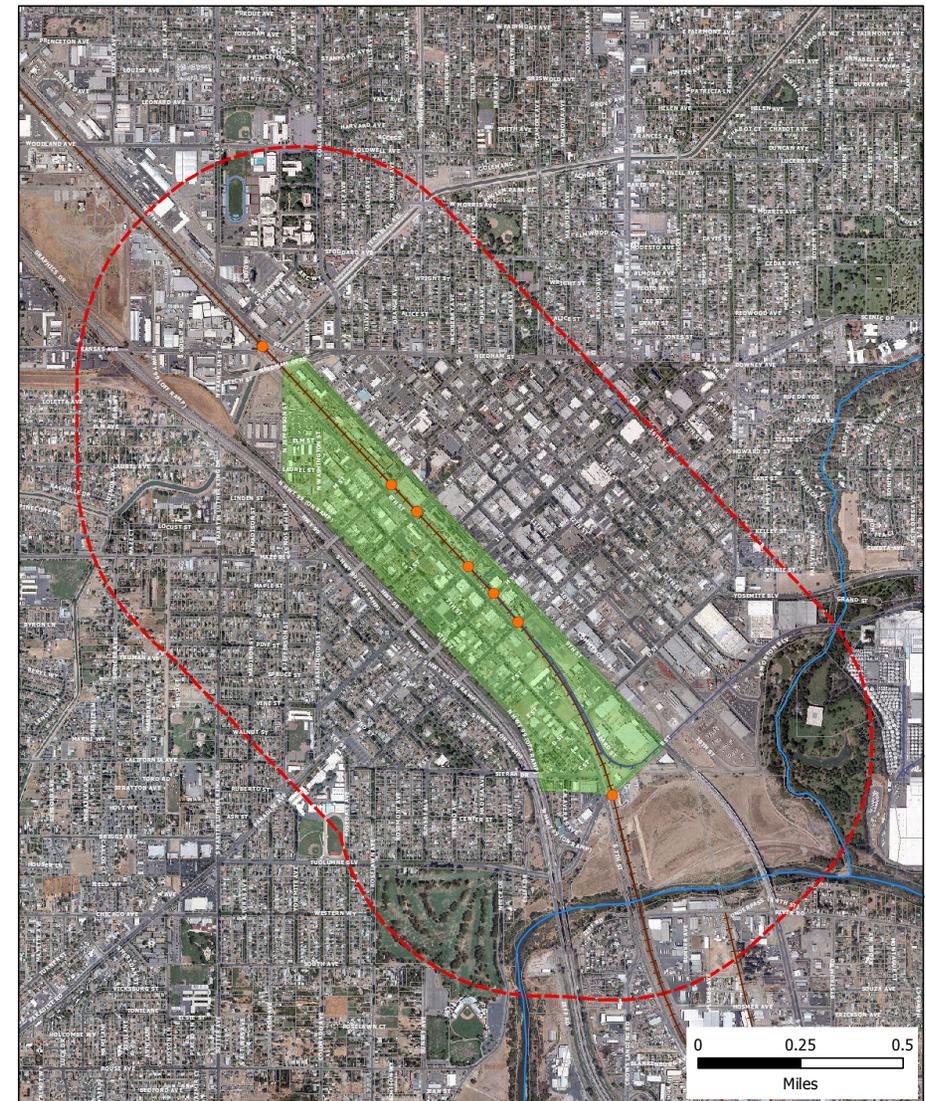
Station Area

Figure 1-1

The CHSRA has prepared planning-level engineering sketches of the western and eastern alignments for the northern San Joaquin Valley in order to prepare environmental analyses for the alignments. Modesto's primary interest is in the western alignment, which would route passenger rail through downtown. City staff met with consultants to the CHSRA to identify the appropriate study area for a passenger rail station to serve the western alignment. The area is generally bounded by State Route 99 on the west, 9th Street on the east, by N. Jefferson Street on the northwest, and B Street.

When planning the station area, the area of greatest concern is the half-mile radius around a major transit station because that is the distance that most people can walk in 10 minutes, a fairly comfortable travel distance on foot. The area within a five-minute walk of a major transit station is most heavily affected by the station. Less significant stations might utilize a maximum five-minute walk or even a three-minute walk. This area is known as a "pedestrian shed" or "ped shed," a concept similar to a commute shed: it is the area that may be covered by walking at a comfortable pace, usually measured in time from a center or an area of greatest influence.

Development within the half mile surrounding the study area (Figure 1-1), which encompasses most of the Central Pacific Railroad's original land grant and much of the original city, is extremely varied. In this area lie significant public buildings, such as the City-County Building (Modesto-Stanislaus County), the Gallo Center for the Arts, the County Courthouse, the Stanislaus County Public Library, the offices of Modesto City Schools, part of Modesto Junior College and Modesto High School. A public golf course, most of Tuolumne River Regional Park, and the Mistlin Art Gallery also lie within a 10-minute walk of the study area. Major businesses within that radius include Gallo Glass, Foster Farms, and the DoubleTree Hotel. In addition to these, the area houses a broad variety of



CA Passenger Rail

Downtown Modesto Station Study Area

- Study Area
- Study Area Half Mile Radius
- Parcels
- Union Pacific Railroad
- Modesto & Empire Traction Railroad
- Existing At-Grade Rail Crossings



industrial businesses (such as American Lumber and Stanislaus Foods), services (such as banking, architecture, engineering, and law offices), retail (such as shoes, clothing, and furniture stores), and restaurants. Toward the edges of the 10-minute ped shed are single family houses, duplexes, and apartment houses.

The existing development pattern is based upon Euclidean zoning, which separates land use types, based upon the idea that different activities are incompatible with one another. This represents a significant change from the original development pattern in Modesto, when activities were located in the city based upon functional relationships, and most daily needs were located within a short walk of one's home.

Furthermore, much of downtown Modesto's commercial and civic capacity has been eroded over time, along with downtown's status as the center of economic and civic life. Many of today's surface parking lots were once occupied by commercial buildings, such as:

- North corner of 10th and I Streets (former two-story G.P. Schafer Company),
- South corner of 10th and H Streets (former three-story Elks Club),
- 9th Street between I and J Street (former D.T. Bunker's Garage),
- South corner of 9th and I Streets (former two-story Swan Building),
- 9th Street between G and H Streets (former Modesto Bank)
- South corner of 9th and K Streets, parking structure (former Stanislaus Lumber Company),
- North corner of 9th and I Streets, McDonald's (former Chamber of Commerce)

The proliferation of parking lots, especially surface parking lots, indicates economic decline, because the land is no longer of great enough value to make a building worthwhile. Put another way, parking generates little or no revenue for the property owner or the government (in property taxes). The same principle applies to larger buildings that are replaced by smaller buildings.

Additionally, the vast majority of the residences once located in downtown are gone. Lacking residences nearby to walk from and lacking passenger rail service, foot traffic has declined and fewer businesses that depend on foot traffic are located in downtown. The net effect of this is reduced foot traffic in downtown, accompanied by reductions in commerce and in personal safety.

Downtown Core Zone

In 2010, Modesto City Council approved a new development code for 42 blocks in the downtown area, about 180 acres of the original 640-acre land grant. Figure 1-2 shows the Downtown Core zone and the planning districts within it. Unlike use-based zoning, which characterizes the predominant development code for Modesto, the Downtown Core Zone is a form-based code, which emphasizes the regulation of building form and location on the lot (disposition) over the activity that occurs inside the buildings. As it is currently configured, the area planned for highest density is located around 10th, 11th, and 12th Streets, and I, J, and K Streets.

It is the City's intention to add significant new housing opportunities in the downtown area, and to expand the Downtown Core Zone to encompass an area slightly larger than the original land grant. Adding new housing will create a close-in market for retail and office space, complementing a passenger rail station and bringing more origins and destinations closer to a future passenger rail station. By focusing development in the downtown area, the City expects to reduce automobile trips and increase pedestrian and bicycle traffic and catalyze development in downtown.

A portion of the passenger rail station study area lies within the Central District of the Downtown Core zone, which is the highest-density area in the Downtown Core. The portion of the study area that is in the Downtown Core zone lies within the Transition District, which allows more moderate density than the Central District.

For a major transit facility in a developing mixed-use, downtown core, such as a passenger rail station, it is important to minimize the amount of parking that is immediately adjacent to the station in order to allow businesses to make the most productive use possible of the high-value land around the station, and for the city to encourage revenue-producing uses in the area benefiting most from station access and proximity. In order to achieve the goal of creating high-value real estate, the station area must be planned to make walking useful, easy, and interesting.

Figure 1-2



Transportation Access

When it was first established as a stop along the Central Pacific Railroad, Modesto could be reached from other cities by rail or by wagon on the few existing roads. Today, automobile traffic dominates transportation in Modesto, even in downtown. According to the 2006-2010 American Community Survey of work trips, 81.8 percent of Modestans drive alone to work (an increase from 78.9 percent in 2000), 9.2 percent carpool (a decrease from 13.7 percent in 2000), 1.3 percent took transit (no change from 2000), 1.4 percent walked (a decrease from 1.7 percent in 2000), 2.4 percent used other modes to get to work (an increase from 1.5 percent in 2000), and 3.8 percent worked from home (an increase from 2.9 percent in 2000).

Parking

The City of Modesto currently owns and/or operates three parking garages and seven surface parking lots in the downtown area. These are shown on Figure 1-3 and listed below, with the number of spaces in each. These facilities provide approximately 2,600 off-street parking spaces in the downtown area. Of these, the library lot is located outside the 5-minute pedestrian shed for the three study sites (see below) and has therefore been excluded from further discussion, leaving almost 2,500 off-street parking spaces in the entire study area for all three sites.

Table 1: City-Operated Off-Street Parking in Downtown

Facility	Location	Spaces	City-Owned	Within Five Minutes of Study Area?
11th Street Garage	Between I and J Streets	339	Yes	Yes
10th Street Place Garage	South corner of 11th and K Streets	727	Yes	Yes
9th Street Garage	Between K and L Streets	775	Yes	Yes
Centre Plaza Parking Lot	11th Street, between K and L Streets	144	Yes	Yes
9th and I Street	South corner of 9th and I Streets	55	Yes	Yes
8th Street	Between K and I Streets	121	No	Yes
10th and H Street	South corner of 10th and H Streets	110	Yes	Yes
Library Lot	H Street, between 15th and 16th Streets	131	Yes	No
10th and G Street	Behind and for Police Department offices	157	Yes	Yes
9th Street	Between I and J Streets	42	Yes	Yes
Total		2,601	2,480	2,470

Most blocks in the downtown area are about 300 feet by 400 feet. Using a generous estimate of 22 feet per parked car and allowing for alleys and driveways, there is space for about 12 parallel-parked cars along the short sides of each block (24 total) and for about 14 parallel-parked cars along the long sides of each block (28 total) for about 52 parking spaces around each typical block. There are 61 blocks within the five-minute pedestrian sheds for the three study sites providing enough curb space for approximately 3,200 on-street parallel parking spaces.

City owned or operated off-street parking and city-owned on-street parking totals approximately 5,800 spaces within the five-minute pedestrian sheds of the three study sites. At this time, one lot is used exclusively by City staff (10th and G Street lot), a part of one structure is under contract with the DoubleTree Hotel (9th Street Garage), and one structure provides parking for City and County staff and is partly under contract to 10th Street Place tenants (10th Street Place Garage). These arrangements are expected to change over time, but must be considered as part of the parking situation in the station area.



Figure 1-3



Existing and Potential Off-Street and On-Street Parking

Historic Buildings and Landmarks

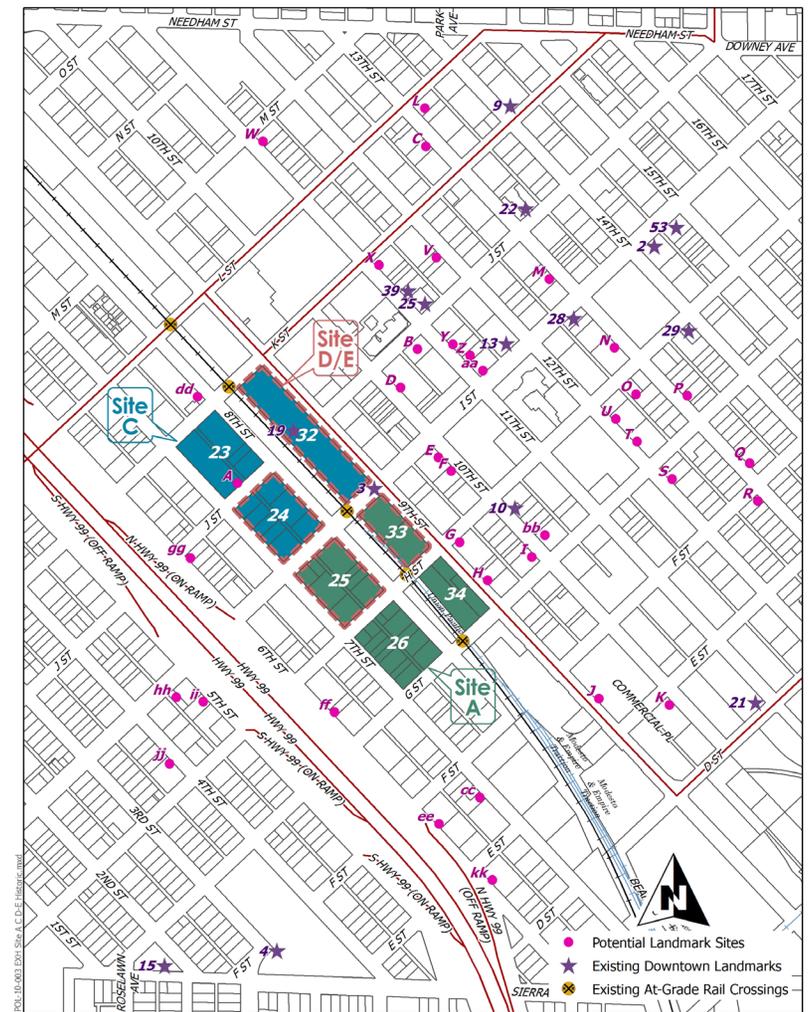
Downtown is Modesto's richest environment for historic buildings and other historic landmarks, primarily because it is the oldest part of the city. Virtually all of Modesto's historic properties are located within the original (1884) incorporated city limits. Historic buildings and landmarks provide a physical link with the past and provide context for a city. Buildings and landmarks are often privately owned, but they constitute a public resource. Well-preserved historic buildings often command high rent, in addition to making a city more beautiful.

Modesto has a program for designating local landmarks, but it is entirely voluntary and requires the consent of the property owner. Consistent with State guidelines, Modesto's Municipal Code [Title 9, Chapter 10, Section 9-10.04(b)] requires the Landmark Preservation Committee to determine that a site under consideration possesses historic, architectural, cultural, archaeological, or engineering significance, as defined.

The California Environmental Quality Act (Government Code Section 15064.5) goes further, requiring an evaluation of significant impacts on properties. Determining whether a site is historic should be done consistent with Public Resources Code Sections 5020 et seq and 5024 et seq.

Modesto's Landmark Preservation Committee has established several landmarks in the commercial downtown area, as shown on Figure 1-4. Other buildings that might be considered for preservation are also identified.

Figure 1-4



Existing and Potential Landmark Sites in the Vicinity of Preferred Station Sites

Chapter Two: Site Selection

Evaluating Preferred Sites

The first of three public workshops was held on August 10, 2011. The goal of Workshop 1 was to present the various criteria established by the California High-Speed Rail Authority and the City of Modesto for selecting a location for a passenger rail station. Workshop attendees were asked to consider whether they wanted to add other criteria, which would subsequently be used to evaluate potential sites in the study area. Appendix A contains the list as it was presented at Workshop 1.

Using the criteria established at the first workshop, staff then evaluated each of the 36 blocks in the study area and gave each block an average rating. The purpose of this was to create a quick way to compare one block to another. The rating sheets were to be used by the attendees of the second workshop.

Conceptual Station Plans

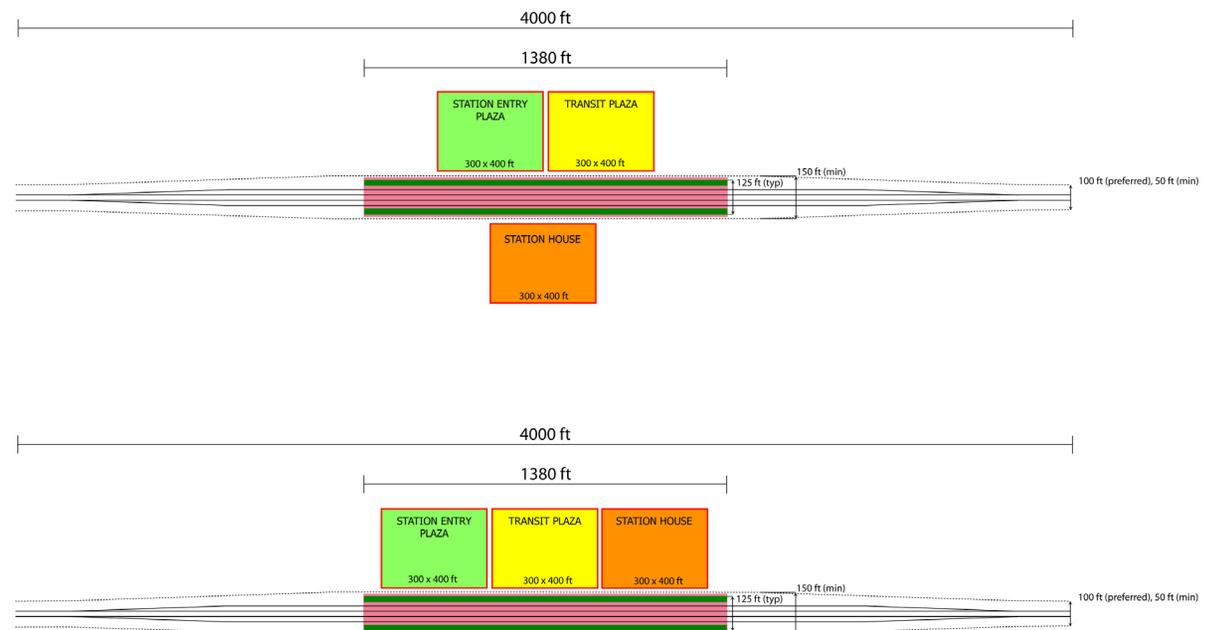


Figure 2-1
(Credit: HNTB)

Attendees at Workshop 2, held on November 16, 2011, defined the preferred sites, shown on Figure 2-2 and identified in the next section (Evaluating Preferred Sites) for developing a passenger rail station on blocks within the study area. The preferred sites were not prioritized by attendees; lettering of sites does not denote ranking. Please see “Block-by-Block Evaluation of Passenger Rail Station Study Area” (Appendix B) for more information about the prioritization process.

Conceptual station plans provided by HNTB, an engineering and design firm under contract to the California High Speed Rail Authority (Figure 2-1), suggest that adequate space for a passenger rail station is a minimum of three 300-foot by 400-foot blocks (2.75 acres), the typical block size in downtown Modesto. By extension, the total minimum station site is about 8.25 acres excluding streets, needed to accommodate the station entry plaza, station house, and transit plaza. These rail station functions are described below.

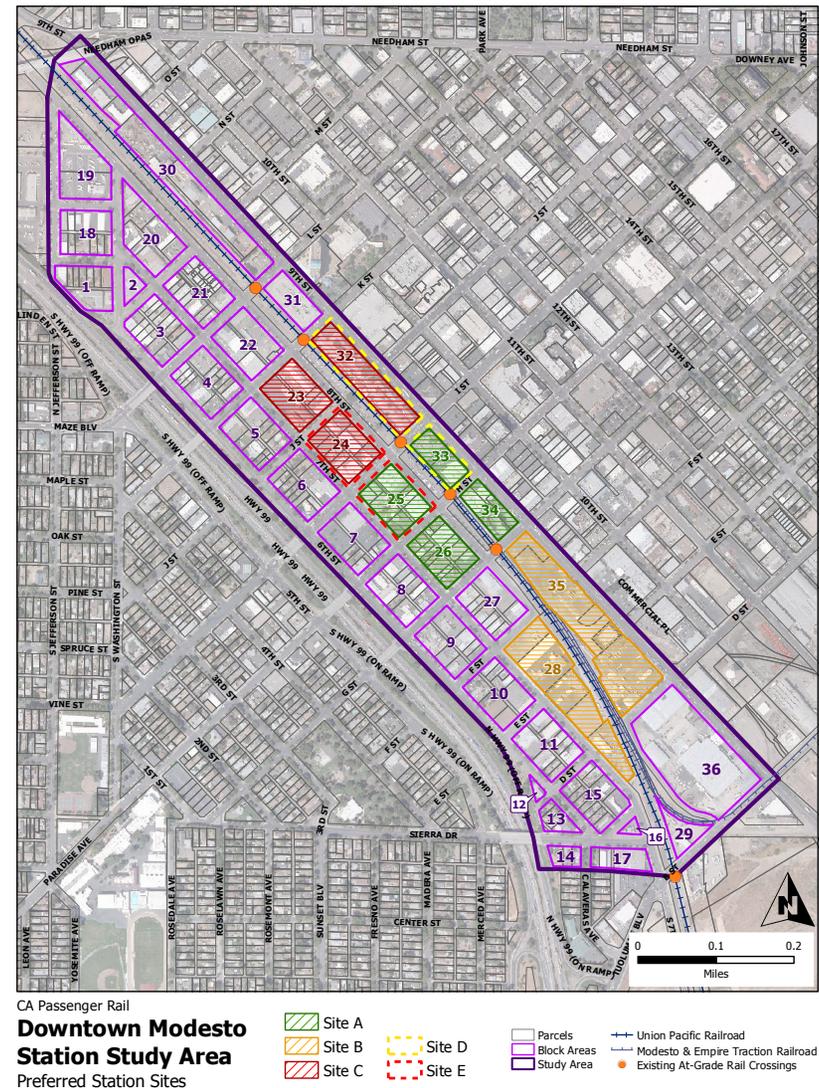
Station Entry Plaza: The entry plaza includes most of the functions for pre-boarding and departure, excepting functions in the transit plaza. Ticketing, taxi stand, curbside passenger drop-off, bicycle parking, and entry lobby, are all included.

Station House: This area accommodates train arrivals and departures and trains passing by the station; it also has platforms for passengers.

Transit Plaza: Buses arrive and depart with passengers here.

For illustrative purposes, conceptual aerial views of stations for an at-grade alignment and for an above-grade alignment are shown on Figures 2-3 and 2-4. Figure 2-5 shows a diagram of a passenger rail station in cross section.

Figure 2-2



CA Passenger Rail
Downtown Modesto Station Study Area
 Preferred Station Sites

- Site A
- Site B
- Site C
- Site D
- Site E
- Parcels
- Block Areas
- Study Area
- Union Pacific Railroad
- Modesto & Empire Traction Railroad
- Existing At-Grade Rail Crossings

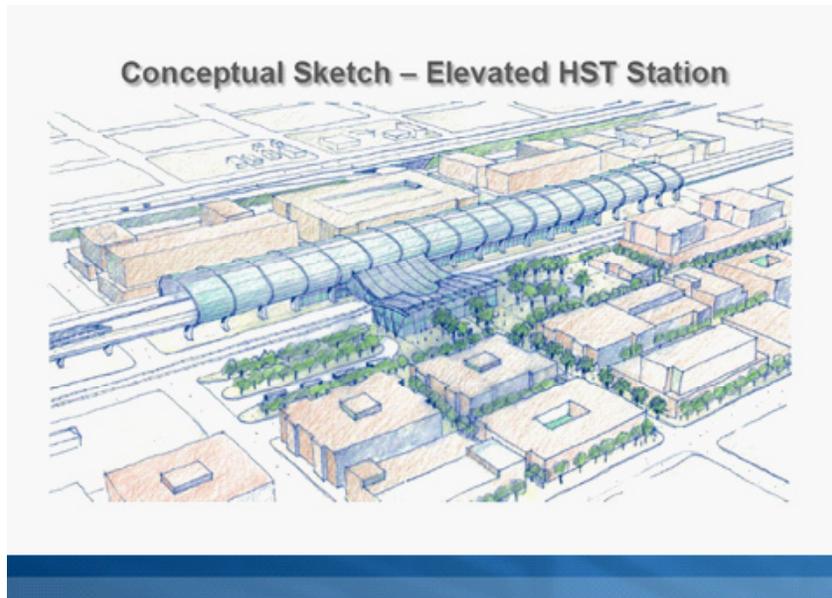


Figure 2-3
(Credit: HNTB)

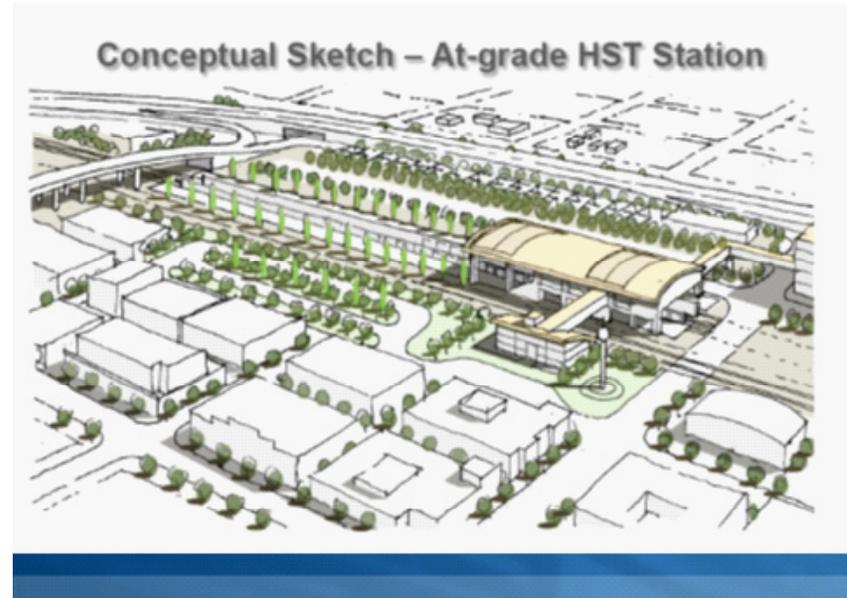


Figure 2-4
(Credit: HNTB)

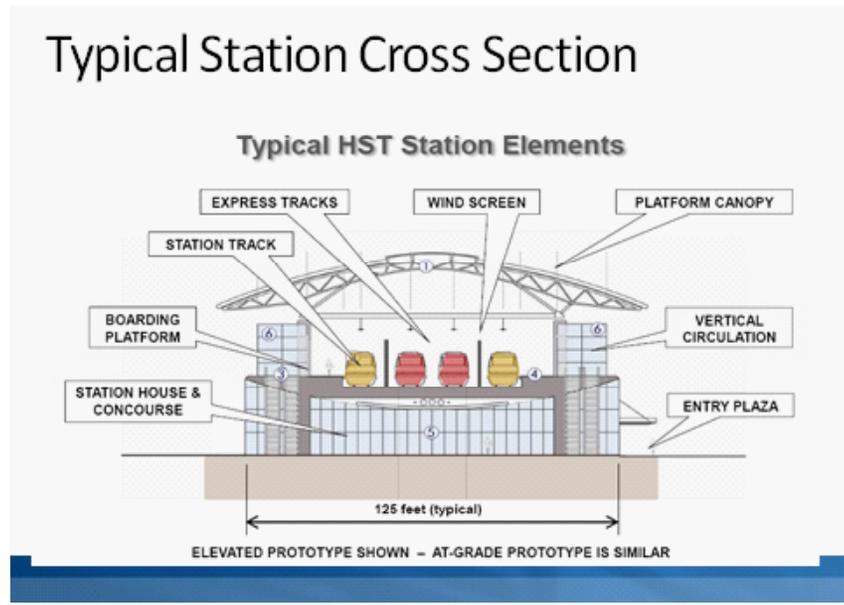


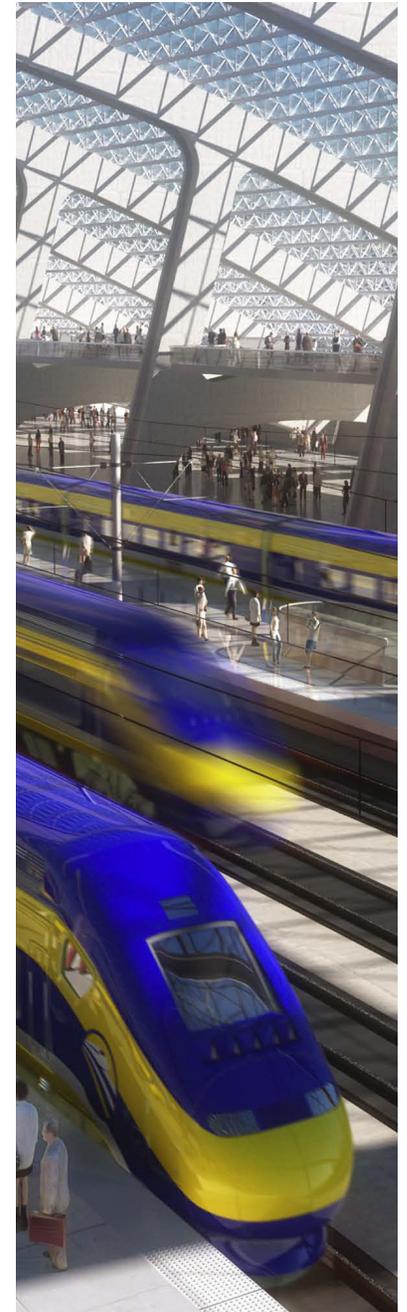
Figure 2-5
(Credit: HNTB)

Of the blocks preferred for locating a passenger rail station, the minimum rating from the Block-by-Block Evaluation exercise (Appendix B) was 2.17 and the maximum rating was 2.78. Not all of the blocks receiving ratings in this range were preferred; eight were not identified as preferred locations, including one block, Block 31, which tied Block 32 for the highest rating (2.78). (The rating sheet for each of the preferred blocks is in Appendix A.) In essence, each of the preferred sites discussed below received at least one "vote." Four blocks, 24, 25, 32, and 33, received two "votes" each. Figure 2-2 shows the station sites preferred by the attendees of Workshop 2, which were evaluated in greater depth by City staff before being ranked in order of preference at Workshop 3. For more information on the workshops, see Appendices A, B, and C.

Evaluating Preferred Sites

As detailed in Appendix B, five sites were identified for further study by participants in Workshop 2. The five sites are identified in no particular order as A, B, C, D, and E and are illustrated on Figures 2-6 through 2-10 and on Figure 2-11.

Rating sheets for each city block that is included in a preferred station site are summarized below. Sites A through E are evaluated individually, as a collection of the blocks they contain. Each site has benefits (pros) and drawbacks (cons), as described below.



Site A: Blocks 25, 26, 33, and 34

- Pros
- Adequate size: four blocks, 8.73 acres, excluding streets
 - Gridded streets, good for bus, pedestrian, bicycle, and automobile traffic
 - In the Downtown Core zone (Transitional District)
 - Uses within a half mile of the site: single and multi-family residential, commercial, civic, entertainment, and industrial
- Cons
- Not in Central District of Downtown Core zone
 - H Street may be closed
 - Right of way acquisition costs will be negatively affected by private ownership
 - Slightly higher cost of infrastructure relocation (sewer, water, storm water) than Sites C and D

Figure 2-6



Site A

Site B: Blocks 28 and 35

- Pros
- Adequate size: two large blocks, 13.91 acres excluding streets
 - Gridded streets north and east
 - Uses within a half mile of the site: single and multi-family residential, commercial, civic, entertainment, and industrial
 - Streets are peripheral to site
- Cons
- A portion of the site is in the Transition District of the Downtown Core zone, rather than in the Central District
 - Nearby industrial uses and Tuolumne River Regional Park reduce development potential
 - Not well connected across State Route 99, reducing station area development potential
 - Slightly higher cost of infrastructure relocation (sewer, water, storm water) than Sites C and D

Figure 2-7

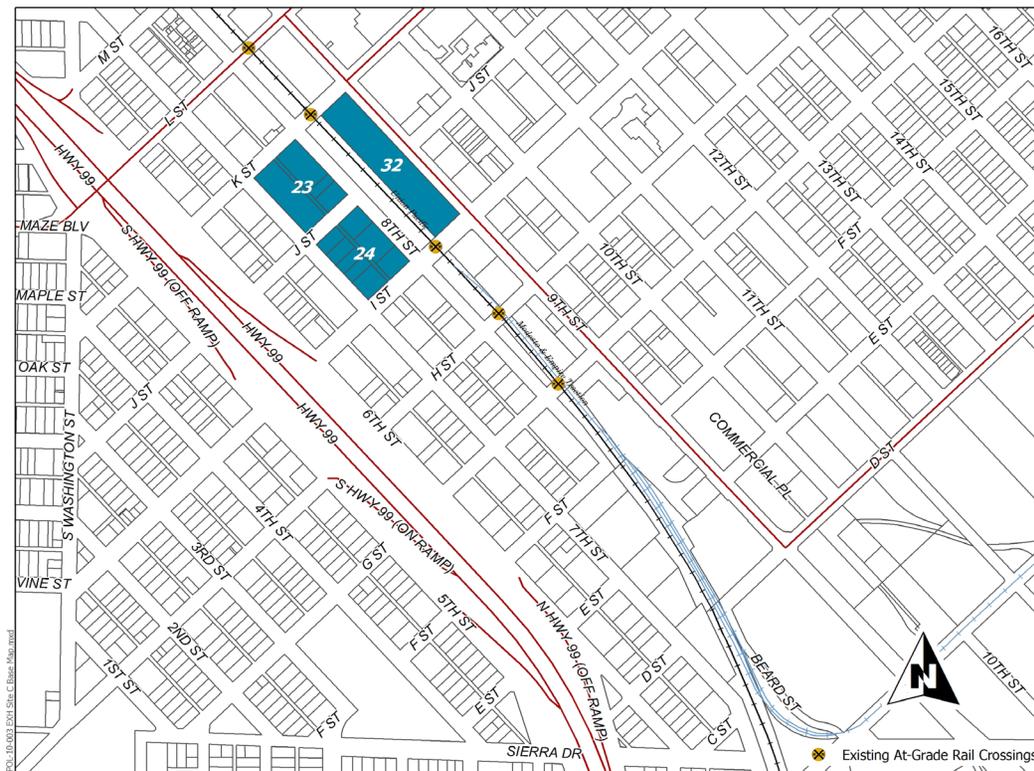


Site B

Site C: Blocks 23, 24, and 32

- Pros
- Adequate size: two standard and one large block, 9.04 acres excluding streets
 - Gridded streets, good for bus, pedestrian, bicycle, and automobile traffic
 - In the Downtown Core zone, Transitional District
 - Somewhat lower cost for infrastructure relocation (sewer, water, and storm water) and acquisition than Sites A, B, and E
- Cons
- Right of way acquisition costs will be negatively affected by private ownership.
 - St. Stanislaus Cathedral, built in 1910, occupies 1.29 acres of Block 23; excluding St. Stanislaus reduces the usable area of Site C to 7.75 acres.

Figure 2-8

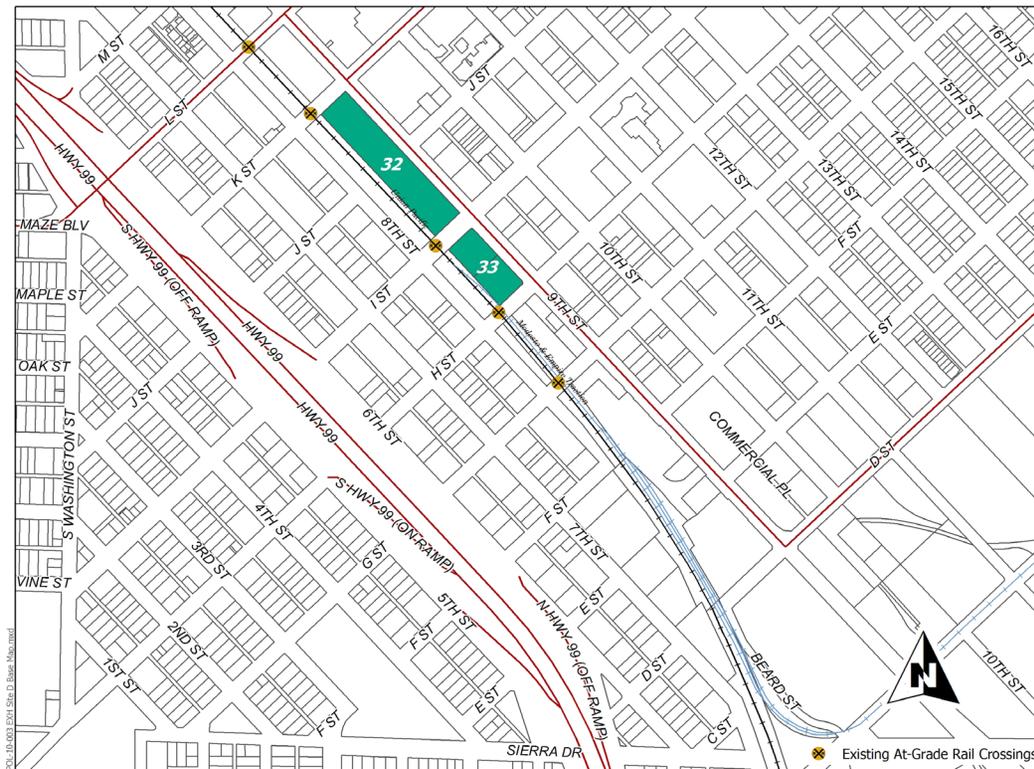


Site C

Site D: Blocks 32 and 33

- Pros
- Gridded streets, good for bus, pedestrian, bicycle, and automobile traffic
 - In the Downtown Core zone, Transitional District
 - Uses within a half mile of the site: single and multi-family residential, commercial, civic, entertainment, and industrial
 - Somewhat lower cost for infrastructure relocation (sewer, water, and storm water) and acquisition than Sites A, B, and E
- Cons
- Inadequate size: two standard blocks, 5.11 acres excluding streets
 - Weak connection to western downtown Modesto due to Union Pacific Railroad

Figure 2-9

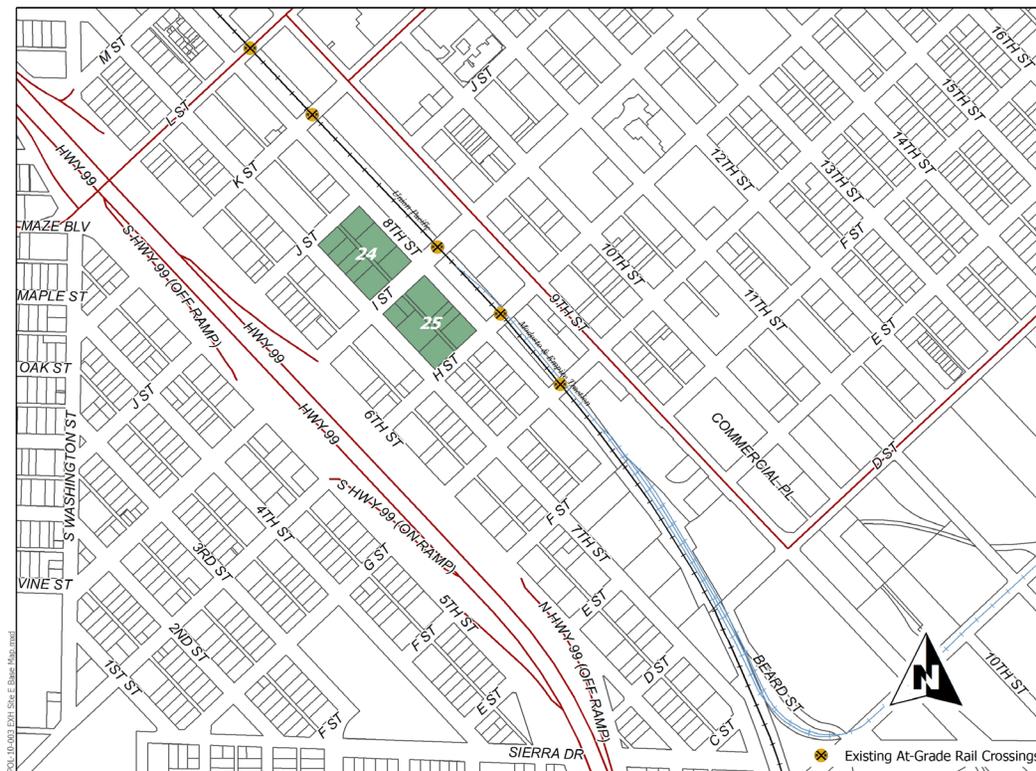


Site D

Site E: Blocks 24 and 25

- Pros
- Gridded streets, good for bus, pedestrian, bicycle, and automobile traffic
 - In the Downtown Core zone, Transitional District
 - Uses within a half mile of the site: single and multi-family residential, commercial, civic, entertainment, and industrial
- Cons
- Inadequate size: two standard blocks, 5.57 acres excluding streets
 - Weak connection to western downtown Modesto due to Union Pacific Railroad
 - Slightly higher cost of infrastructure relocation (sewer, water, storm water) than Sites C and D

Figure 2-10



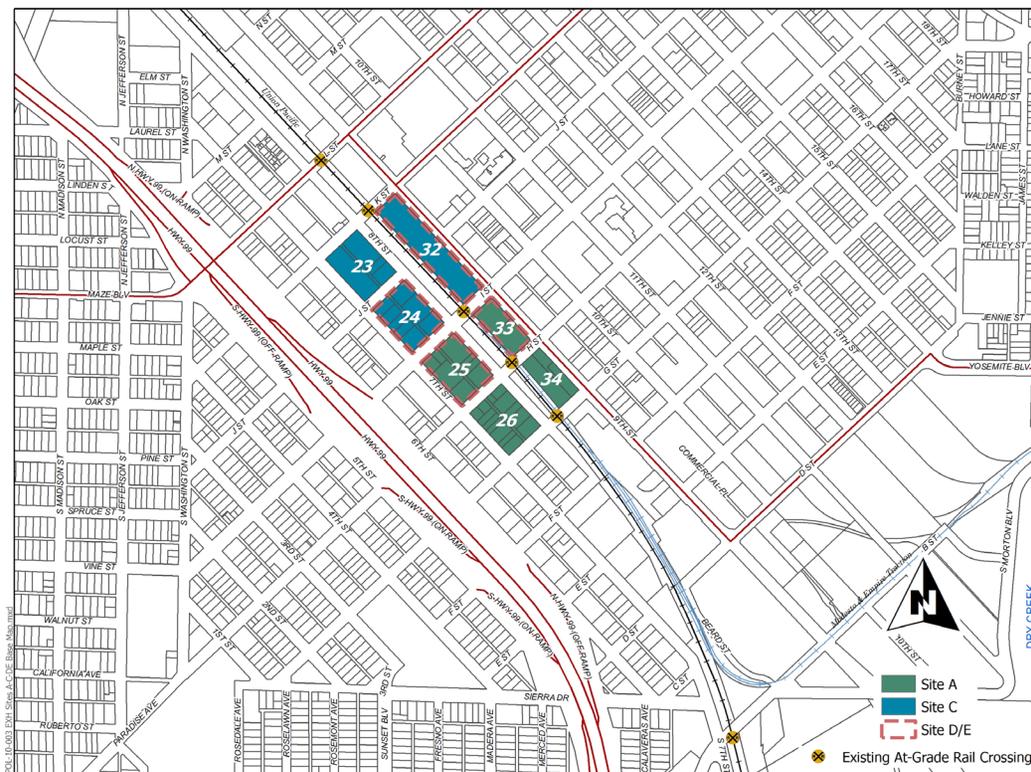
Site E

The desired outcome of Workshop 2 was to identify three preferred sites. However, the attendees selected five preferred sites. While all potential sites have drawbacks, staff decided after Workshop 2 that there were too many sites to evaluate thoroughly, and then present at Workshop 3, and that three of the sites had drawbacks significant enough to warrant elimination from further consideration.

Although Site B (Blocks 28 and 35) is the largest of the sites, its location away from bridges crossing State Route 99 and the Union Pacific Railroad right of way limits the ability of Site B to stimulate investment on the west side of State Route 99 within a five-minute walk of the potential station site. Therefore, Site B was eliminated from further consideration by City staff.

Sites D (Blocks 32 and 33) and E (Blocks 24 and 25) are the smallest sites: both comprise two city blocks, rather than the minimum three blocks needed. Rather than eliminate these sites, staff decided to combine these two sites into a single large site comprising 10.68 acres and referred to as Site D/E. The result is three potential station sites for further evaluation: Site A, Site C, and Site D/E.

Figure 2-11



Sites A, C and D/E

Conceptual Area Planning

With the selection of three sites for further evaluation (Site A, Site C, Site D/E), the work of planning the sites and the area around them can begin. Several components must be considered: pedestrian sheds or area of greatest influence, transportation access, parking, historic and potential historic buildings, development types and densities, and street-rail interface for at-grade tracks.

Pedestrian Sheds

A pedestrian shed or “ped shed” is the area that may be covered by walking at a comfortable pace, usually measured in time from a place of origin. Intuitively, the area in which a person can easily walk from a center within a short period of time is likely to receive the highest volume of pedestrian traffic. The ped shed is also an area of greatest influence for the passenger rail station that has implications for parking, property values, and business locations. For this study, we have used the most common ped shed of five minutes. Most people can comfortably walk about a quarter mile in five minutes. Five-minute ped sheds for Sites A, C, and D/E are shown in Figures 2-12, 2-13 and 2-14. Distance is measured using actual walking paths, rather than using a simple circular radius, providing a better sense of which properties can be reached within a five-minute walk of the station study sites.

Transportation Access

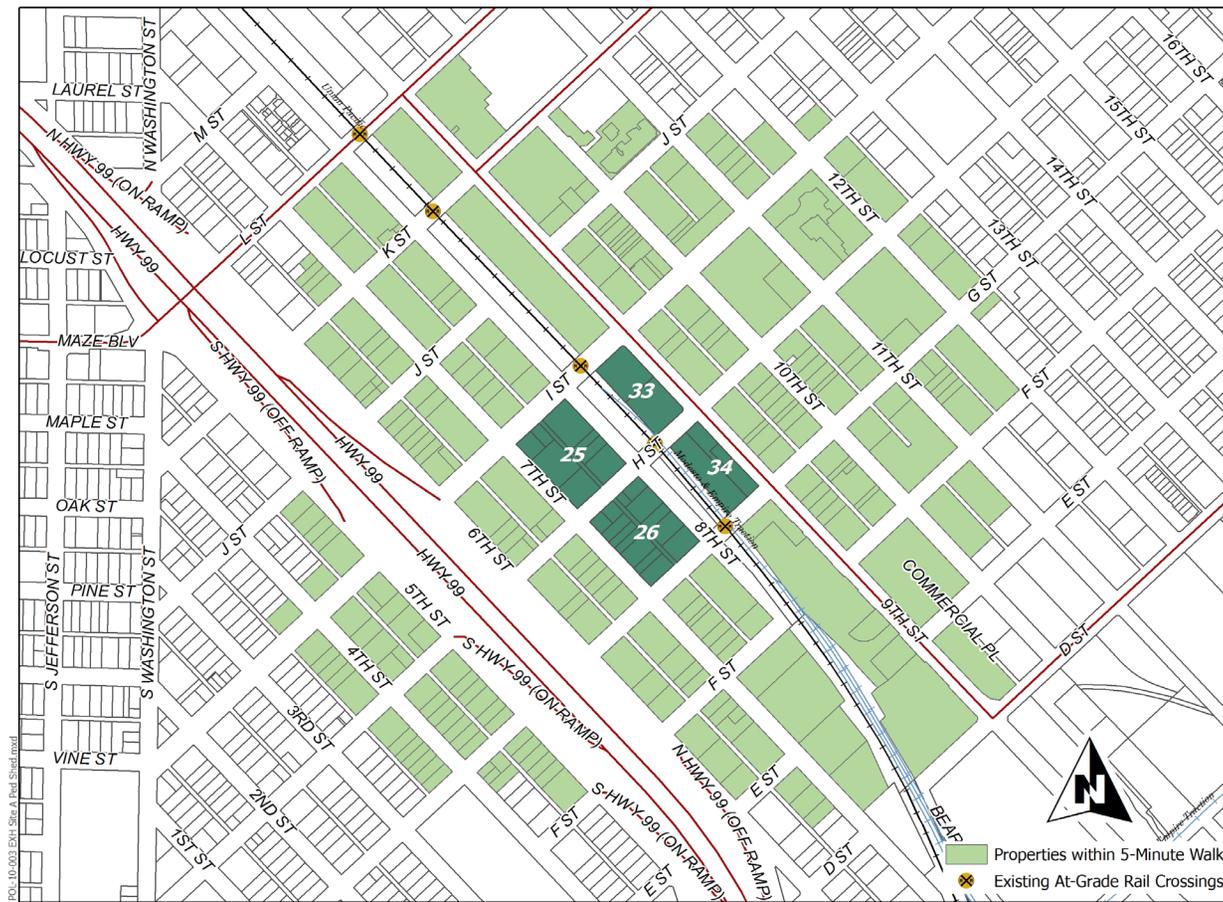
Today most travel in and around Modesto occurs by automobile, but automobile use requires significant public investment for construction, maintenance, and policing (roads) and private investment for purchase, maintenance, insurance, and gasoline (automobile). As the lane-miles of roadway increase, maintenance costs also increase. Other costs associated with automobile use include loss of farmland, noise, poor air quality, poor health and rising health care costs, and life and property loss. For these and other reasons, it is in the public interest to make walking, bicycling, bus, and train facilities readily available and convenient to use.

A new passenger rail station will bring travelers and businesses to downtown Modesto and change the existing circulation patterns. The passenger rail station will result in an increase in pedestrian traffic in the station area (California High-Speed Rail Authority, 2011). Ninth Street between D to L Streets is designated State Route 132, which is a truck route. Pedestrian crossing distances should be reduced, especially across 9th Street and bicycle facilities will be needed on through streets. Pedestrian safety must be considered with respect to all at-grade rail crossings. A taxi stand and a curbside passenger drop-off location for cars (“kiss-and-ride”) will be needed near the entry plaza.

Site A

Selecting Site A would likely result in the closure of H Street across the site and eliminate the G-H one-way couplet, returning both G and H Streets to two-way traffic. Automobile traffic would flow around the site. Bus traffic would be staged either on the east side of the site (at-grade option) or the west side (above-grade option). Pedestrian and bicycle traffic would flow around and penetrate the site. An above-grade walkway across the railroad tracks is recommended for the at-grade option to provide pedestrian access to both sides of the site. (See Figures A-1 and A-2 at Appendix C.)

Figure 2-12

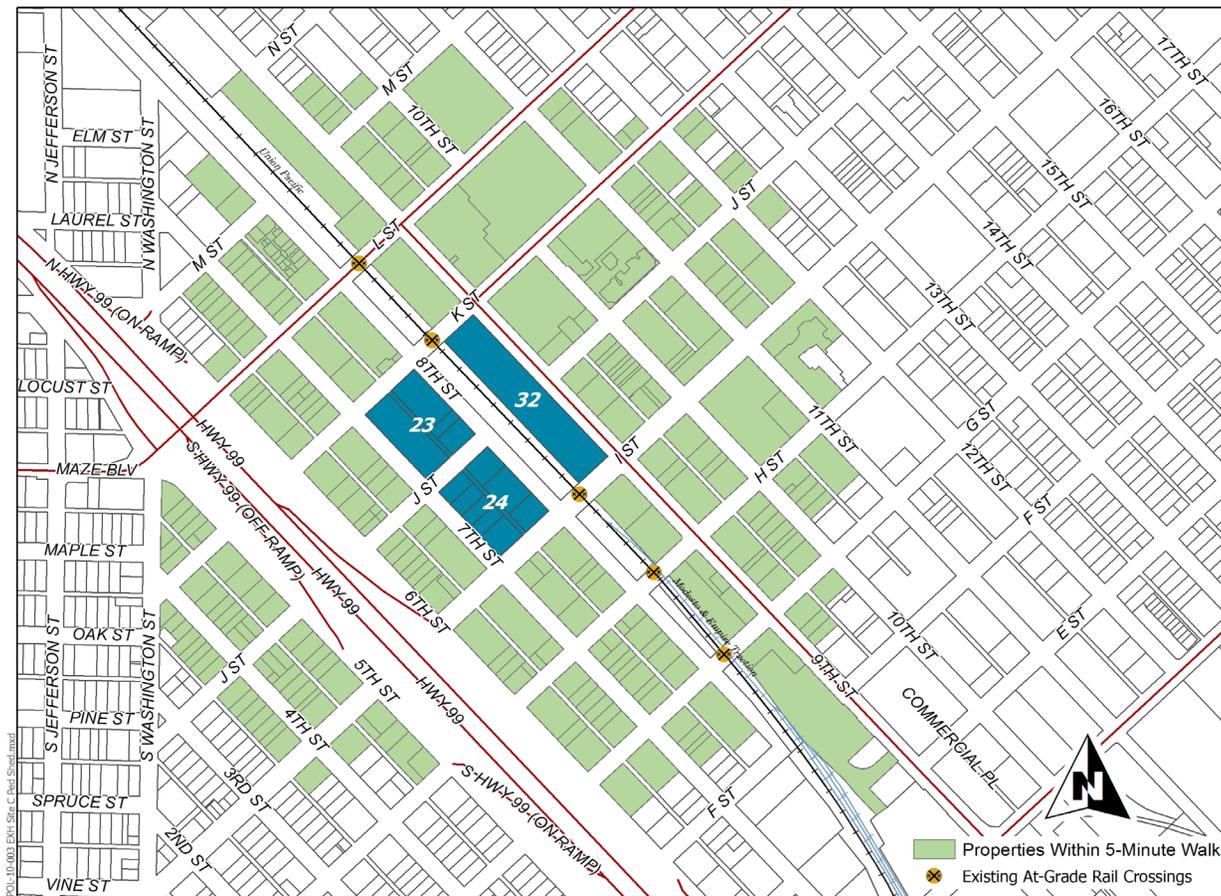


Site A: Pedestrian Shed

Site C

This site encompasses the existing Transportation Center, as well as an additional block-and-a-half west of the Union Pacific Railroad, with a half-block set aside for St. Stanislaus parish church. For the at-grade option, bus traffic would be staged at the existing Transportation Center, but buses would use the larger west side of the site for the above-grade option. Pedestrian and bicycle traffic would penetrate the site and an above-grade walkway is recommended for the at-grade option for pedestrian safety. Site C would not result in changes to the existing street circulation pattern and automobile traffic would flow around the site. (See Figures C-1 and C-2 at Appendix C.)

Figure 2-13

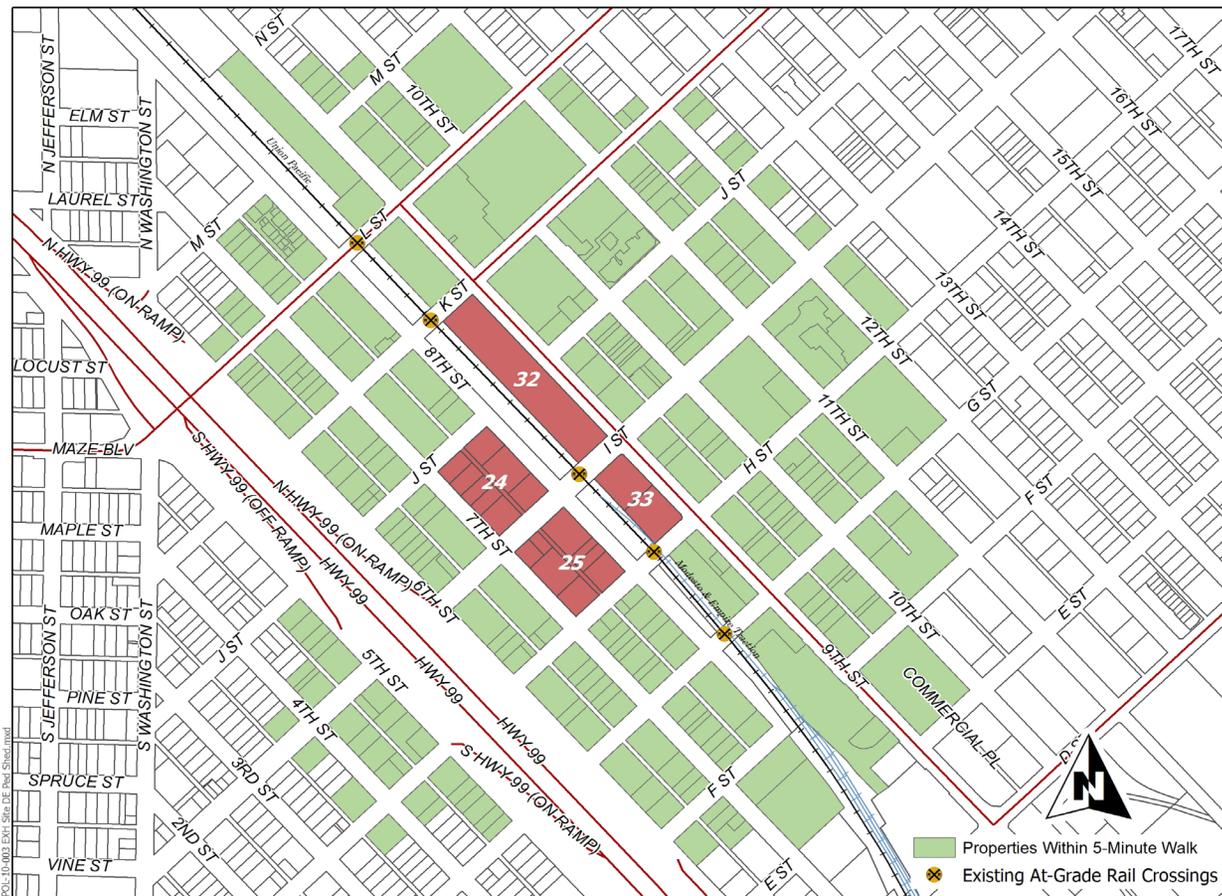


Site C: Pedestrian Shed

Site D/E

Site D/E is the largest of the three preferred sites. Because it straddles I Street, closure to automobile traffic is recommended for safety, although bus, bicycle, and pedestrian traffic could continue to use I Street. As with the other two sites, the at-grade option would allow bus access from the east side, changing to the west side for the above-grade option. Bus, bicycle, and pedestrian traffic would all penetrate the site and an above-grade pedestrian walkway is recommended for the at-grade option. To promote bus access around the site, the G-H one-way couplet could be eliminated, reopening both streets to two-way traffic. (See Figures D/E-1 and D/E-2 at Appendix C.)

Figure 2-14



Site D/E: Pedestrian Shed

Parking

As shown on Figure 2-15, there is a substantial amount of parking in the study area. As noted previously, the City of Modesto currently owns or operates approximately 2,600 off-street parking spaces and owns enough curb space to park approximately 3,200 cars on street, for a total of approximately 5,800 spaces within five minutes of the three-site study area. Parking is an important resource, but because very little revenue is derived from parking as compared to commercial buildings, and because space devoted to parking cannot be used for high-revenue-producing activities, it is equally important not to provide too much. This feasibility study does not attempt to estimate parking demand, only to describe the elements affecting parking demand.

Parking demand varies substantially over the course of a day. During business hours, long-term parking is needed for employees and short-term parking for customers and visitors. Weekday evenings, parking for shopping and entertainment dominates demand, while at night the greatest demand for parking is residential. On weekends, parking demand is dominated by shopping, entertainment, and residential uses. Parking not tied to a specific building (public parking on or off street) can be used flexibly to satisfy all of these needs. On-street parking is most commonly used for short-term automobile storage, while off-street parking is most commonly used for long-term storage.

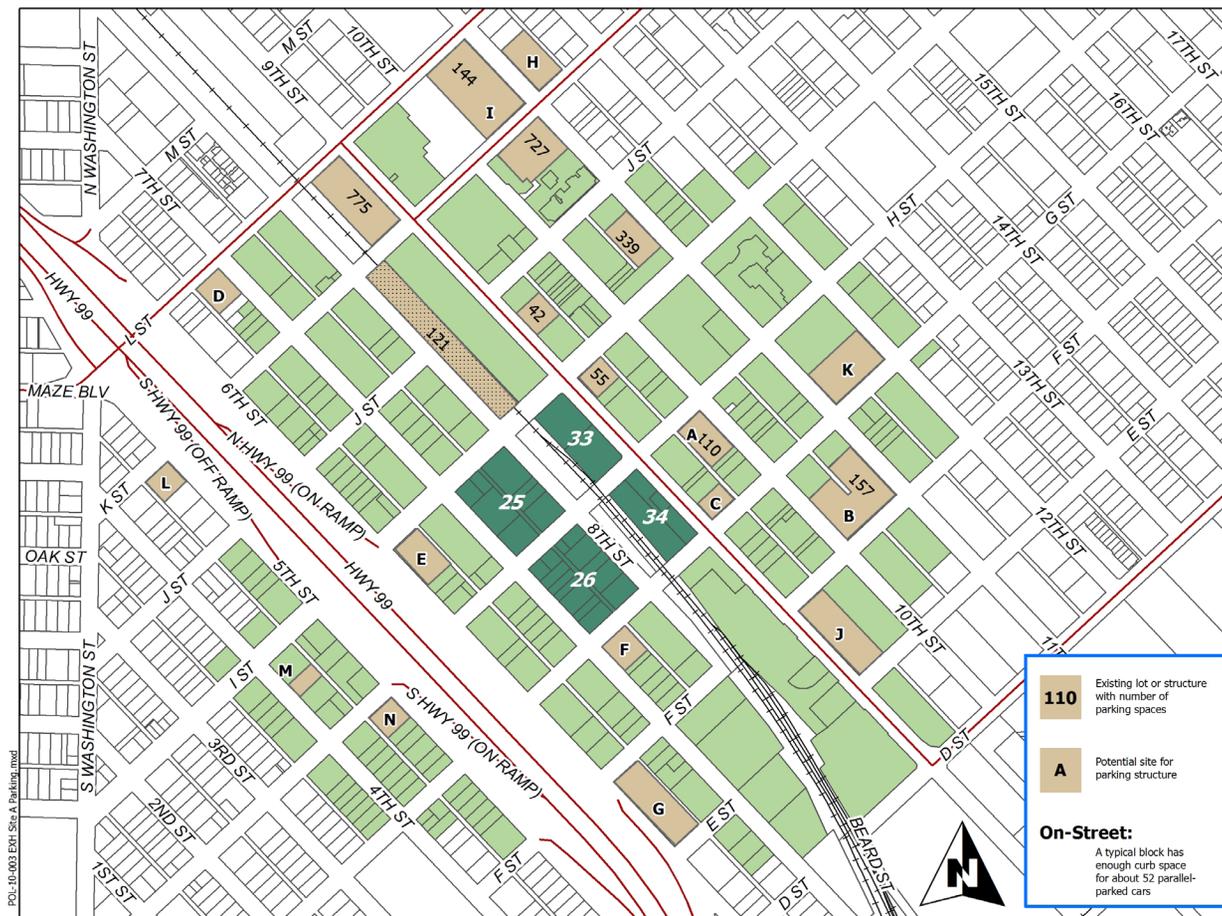
Important considerations:

- Demand for stand-alone parking will vary over time with changing use and intensity, and travel modes used in downtown Modesto. For example, Modesto's form-based code allows intensification of development with minimal parking requirements, so as new development occurs, the parking ratio will decline if parking structures are not constructed.
- New development downtown is expected to comprise substantial residential units, more fully utilizing parking capacity during evening and night hours.
- As rail ridership increases, parking demand in the station area will also increase if transit does not provide convenient access to the station with short headways. It is possible that ridership will increase more rapidly than parking and transit service. As demand becomes more predictable transit service to the station will become more frequent and convenient, reducing the need for passenger rail parking. Parking originally built to accommodate rail riders can be repurposed to serve other downtown users as parking demand declines, if parking is well distributed throughout the study area.
- Modern parking management will be necessary to reduce parking demand. At this time, much of the off-street parking within five minutes of the study sites is contracted for use by specific downtown users, who may or may not fully utilize these spaces and who do not pay the full cost (opportunity, capital, and maintenance) for parking.
- On-street parking is typically free of charge and is limited to one or two hours. Reducing the number of people driving downtown alone will require a long-range strategy that includes metered parking, flexible market-rate prices for parking, high-frequency transit service, reduced parking ratios, and other strategies to level the playing field between driving alone and other travel modes.

Site A

As shown on Figure 2-16, there are approximately 2,300 off-street parking spaces and approximately 1,700 on-street parking spaces within a five-minute walk of Site A, for about 4,000 spaces. Surface parking lots within a five-minute walk of Site A, accounting for 485 spaces, would likely be removed when a passenger rail station is established, for a net of approximately 3,500 spaces if no additional parking is constructed.

Figure 2-16

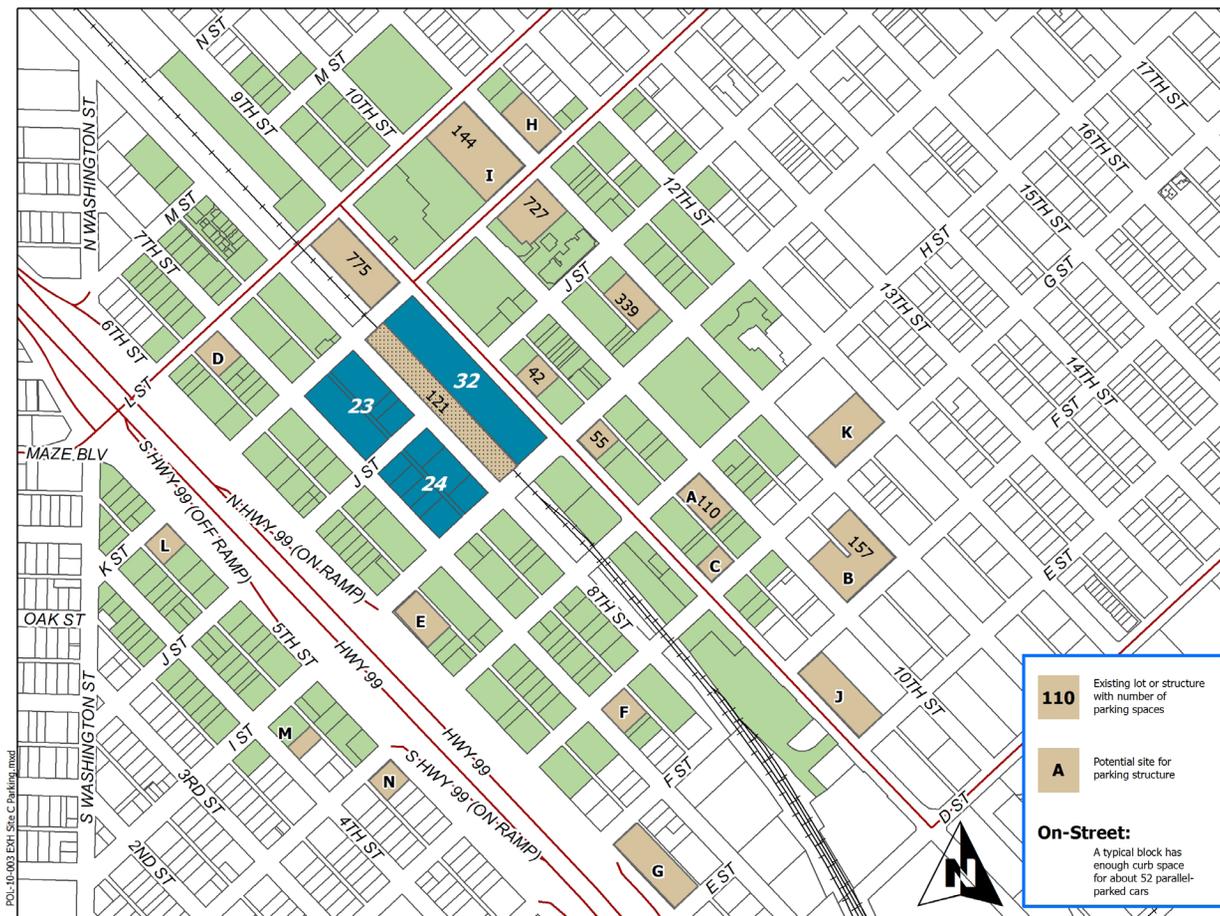


Existing Off-Street and On-Street Parking and Potential Parking Sites Within 5 Minutes of Site A

Site C

Figure 2-17 indicates there are approximately 2,300 off-street parking spaces and approximately 1,600 on-street parking spaces within a five-minute walk of Site C for about of 3,900 spaces. Approximately 470 surface parking spaces would likely be removed when a passenger rail station is established, for a net of approximately 3,400 spaces if no additional parking is constructed.

Figure 2-17



Existing Off-Street and On-Street Parking and Potential Parking Sites Within 5 Minutes of Site C

Site D/E

This site has approximately 2,500 off-street parking spaces and approximately 1,800 on-street spaces within a five-minute walk of the site, as shown on Figure 2-18 for about 4,300 spaces. Approximately 630 surface parking spaces are likely to be removed when passenger rail service is established for a net of approximately 3,700 spaces if no additional parking is constructed.

Figure 2-18

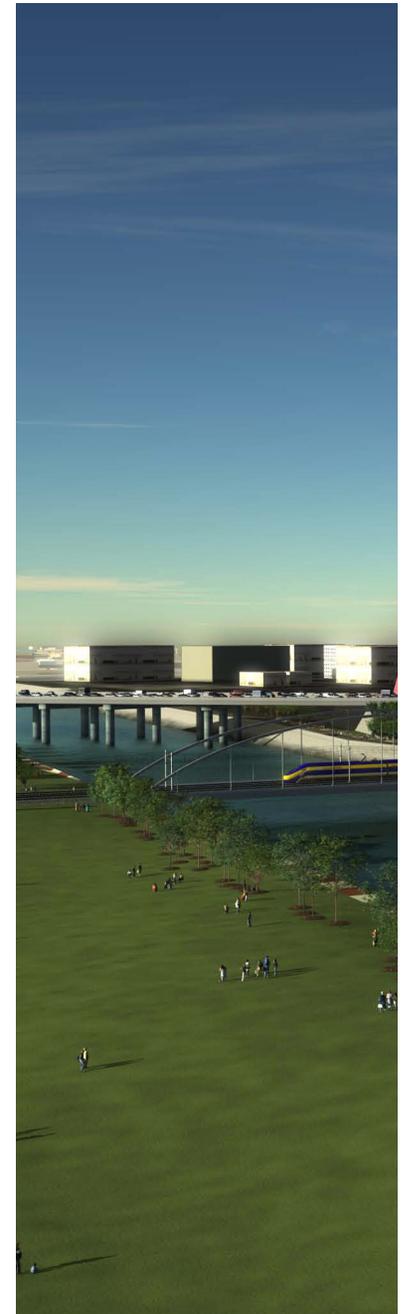


Existing Off-Street and On-Street Parking and Potential Parking Sites Within 5 Minutes of Site D-E

Choosing appropriate locations for future parking structures requires a certain amount of experience and planning to maximize developable property while avoiding unnecessary expenditures. Structures that serve the passenger rail station in the short term may be repurposed to serve other downtown development in the long term, when transit service improves. Parking serving the passenger rail station should be near the station, but not so near that it is inconvenient for other new development in downtown.

Properties that are now and could be developed for parking are shown on Figures 2-16, 2-17 and 2-18. All potential parking sites are lettered; these properties are vacant and could be purchased at relatively low cost to construct new parking structures. The number of parking spaces that could be provided at each lettered site depends upon the layout of the site and how much of the building would be occupied with leasable space.

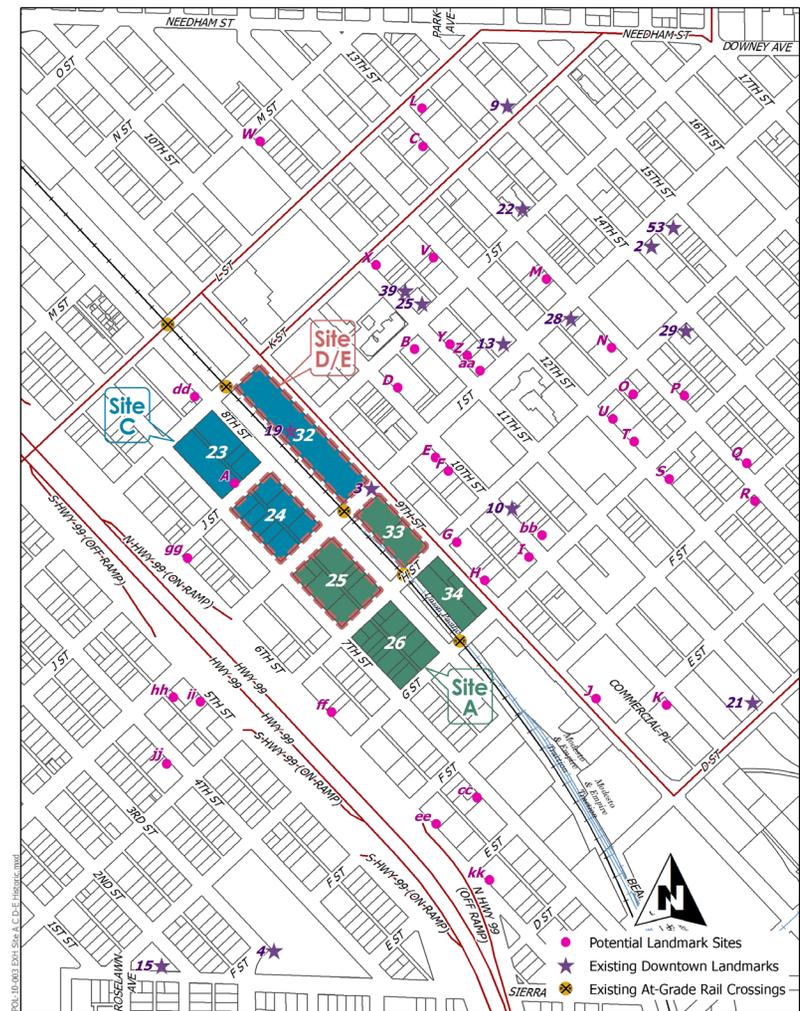
Modesto is part of Phase 2 of the California High Speed Rail project. Ridership projections, which vary with development patterns and economic conditions, have not yet been prepared for Phase 2. However, at this time it is reasonable to assume additional parking in downtown near the passenger rail station will be needed to support rail ridership. Cabral Station in Stockton has 205 off-street parking spaces dedicated for Altamont Commuter Express (ACE) riders. While not a perfect comparison, Cabral Station suggests how many spaces may be needed for a northern San Joaquin Valley commuter rail system. It should also be noted that demand for ACE is high (San Joaquin Regional Rail Commission, 2012) and its use is constrained by the rail lease agreement with Union Pacific Railroad. Nevertheless, ACE added a new train in October of 2012, for a total of four (pers. comm. Thomas Reeves, San Joaquin Regional Rail Commission). If ACE were to run on its own tracks and provide service throughout the day, ridership and parking demand would certainly be higher than it is today.



Historic and Potentially Historic Buildings

Modesto has lost a significant portion of its historic commercial and residential buildings. Great care must be exercised to ensure that remaining identified and unidentified historically significant buildings are preserved in some manner. To date, Modesto has addressed historic buildings on a site-by-site basis, which has further eroded the stock of remaining buildings. Historic buildings add character to a city and remind us of our history and the city's context. Preserving historic buildings may reduce the development capacity of a site, but if repurposed and restored, historic buildings can command higher rents than similar, modern buildings. Figure 2-19 illustrates existing local historic landmarks and potentially historic buildings in downtown.

Figure 2-19



Existing and Potential Landmark Sites in the Vicinity of Preferred Station Sites

Station Area Development

Typically, investments of public money in transportation improvements attract development in proportion to the size and concentration of the investment. Therefore, large, concentrated public transportation investments support and attract private investment. Passenger rail is a desirable amenity in most downtowns. However, rail is not a fully compatible neighbor for all potential land uses.

Under most circumstances, property values and leasing rates will determine which uses and tenants will be closest to the passenger rail station. However, noise from the Union Pacific Railroad and possibly also from passenger trains—especially if the rail line is at grade because horns would be used—as well as noise from transit feeder service, would have a negative impact on residential uses. Therefore, a building buffer should be created between the rail lines and transit center and any new residential development. As new buildings arise adjacent to the rail lines and station, they will create a noise barrier for residences.

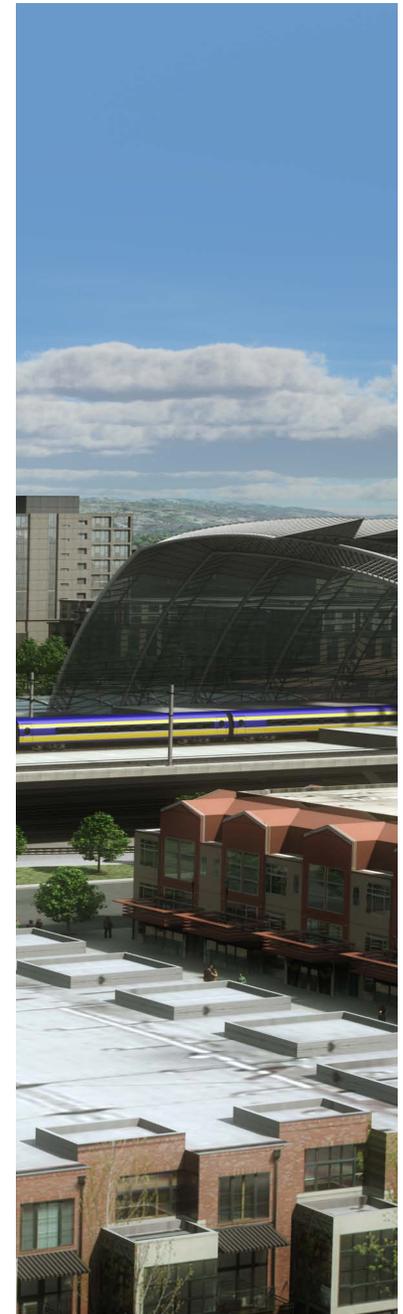
Street-Rail Interface

Conventional passenger rail service, such as the existing ACE and Amtrak serves, can cross streets and sidewalks at grade in developed areas, similar to the current freight service, without significantly changing the safety environment. However, full high-speed service must be grade-separated from local traffic, either by elevating the tracks or by putting local streets on overcrossings or undercrossings. For this feasibility study, Modesto is evaluating two vertical alignment alternatives for passenger rail: above-grade and at-grade, consistent with the alignments being considered by the California High-Speed Rail Authority.

Above-Grade Alignment An above-grade alignment would raise passenger rail tracks above street level on a series of columns in order to avoid conflicts with traffic using streets and sidewalks. Passengers would reach the station entry plaza at street level and rise to the platform level via stairs or elevators.

This alignment has the advantage of allowing traffic to cross the passenger rail alignment without stopping, even as trains arrive and depart. Potential conflicts between roadway users and trains would not exist. Additionally, trains can travel at higher speeds because the risk of collision is essentially zero, which also virtually eliminates the need for train horns to be sounded. The primary disadvantage of the above-grade alternative is its greater expense.

At-Grade Alignment An at-grade alignment would result in passenger rail tracks crossing roadways at street level, just as the existing freight rail lines do. This has the benefit of being less costly than the above-grade alignment, but does not allow full high-speed service. Depending upon the station design, the Union Pacific Railroad tracks could create a barrier to movement of passengers through the station. Modesto evaluated this alternative as a low-cost interim solution for extending passenger rail service to Modesto and Merced from Stockton.



Figures 2-20 and 2-21 show the Transportation Center, which could continue to operate in its current location on 9th Street between K and I Streets. The existing unused passenger rail platform is located immediately adjacent to the Transportation Center on the east side of the Union Pacific Railroad tracks. Whether the passenger rail tracks are east or west of the Union Pacific Railroad tracks passengers approaching from the opposite side will have difficulty reaching the platform. This problem could be solved by adding a pedestrian overcrossing or undercrossing to move passengers safely from one side of the Union Pacific Railroad to the other.

Another approach would be to move the Transportation Center and passenger rail platform from the east side of the Union Pacific Railroad tracks to the west side of the Union Pacific tracks. The disadvantage of this approach is that it would increase the number of people needing to cross two sets of at-grade railroad tracks (Union Pacific and the passenger tracks) in order to reach the station. Because more downtown development lies east of the railroad tracks and the larger portion of Modesto also lies east of the tracks, the amount of pedestrian, bicycle, bus, and car traffic crossing the tracks to reach the station would be expected to increase substantially, resulting in increased safety risks.

Conceptual Site Planning

Preparing conceptual site plans requires first determining the minimum area needed for each major activity. Following the pattern established by other passenger rail station planning efforts in the San Joaquin Valley, the major activity areas are:

(1) Entry Plaza

The entry plaza includes most of the functions for pre-boarding and departure, excepting functions in the transit plaza. Ticketing, curbside drop off (kiss-and-ride), bicycle parking, and entry lobby are all included. The entry plaza must have easy access to the station house. According to the CHSRA, at least one block is needed to accommodate each of the various functions.

Figure 2-20
Southern Pacific Depot, West Facade, facing rail line



Figure 2-21
Southern Pacific Depot, East Facade, facing 9th Street



(2) Station House

This area accommodates train arrivals and departures on platforms for passenger arrivals and departures. Through-train traffic also passes through the station house without stopping. Convenient access to both the entry plaza and the transit plaza must be available to the station house. The station house will be two to three blocks long and at least 150 feet wide to accommodate the four sets of passenger rail tracks (for north- and southbound boarding and north- and southbound through trains). Any station near the Union Pacific Railroad would need to accommodate the freight rail right of way.

(3) Transit Plaza

In this area, buses arrive and depart with passengers. Safe and convenient access to the station house must be available. The transit plaza must be at least the same size as the current transit plaza, approximately one block, but room to expand will make the site more useful. In order to provide good access for bus traffic to and from the transit plaza, adjacent streets should be two-way.

At minimum, about three city blocks including streets will be needed for all the station components. How those components are laid out will be decided at a later date. For illustrative purposes, a different conceptual site plan was used for each of the preferred sites. The CHSRA has not yet determined whether passenger rail service in the northern San Joaquin Valley will be at-grade or above-grade. Therefore, a conceptual site plan and circulation plans were prepared for at-grade and above-grade options for each preferred site. For scale, Figure 2-22 illustrates BART's above-grade alignment along Martin Luther King Jr. Boulevard in Oakland.

Figure 2-22
Photo credit
Google Street View



Figure 2-23

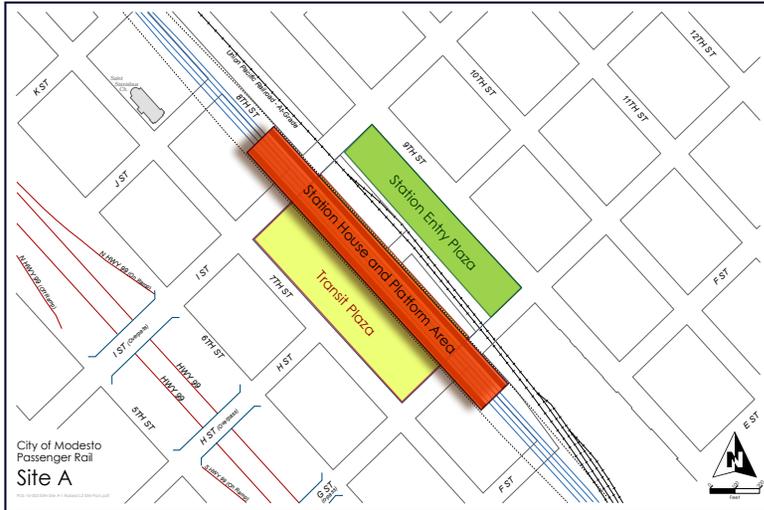


Figure A-1: Conceptual Site Plan, Above-Grade Passenger Rail, Lower Level Plazas

Site A

Above-grade alignment As shown on Figure 2-23, the station entry plaza extends along 9th Street, from G Street to I Street. The transit plaza also extends from G Street to I Street, but lies along 7th Street. The station house is above grade, roughly parallel to and west of the Union Pacific Railroad right of way, leaving the area below for station uses. The station house would be accessible by elevator or stairs from the entry plaza and transit plaza. Street closures would likely include 8th Street in the station area and H Street between 9th Street and 7th Street. (For more detail, see Figure A-1, Appendix C.) As shown on Figure 2-25, cars would be routed around the station. If H Street were closed, G Street would probably be returned to two-way traffic. Downtown freeway on- and off-ramps would still be readily accessible from G and I Streets, as well as from L Street. (For more detail, see Figure A-1, Appendix C.)

Figure 2-24

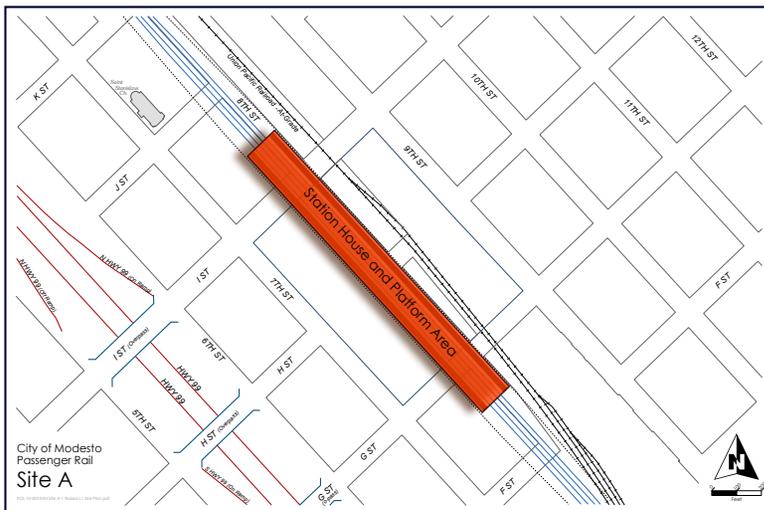


Figure A-1: Conceptual Site Plan, Above-Grade Passenger Rail, Upper Level Station House

Figure 2-25

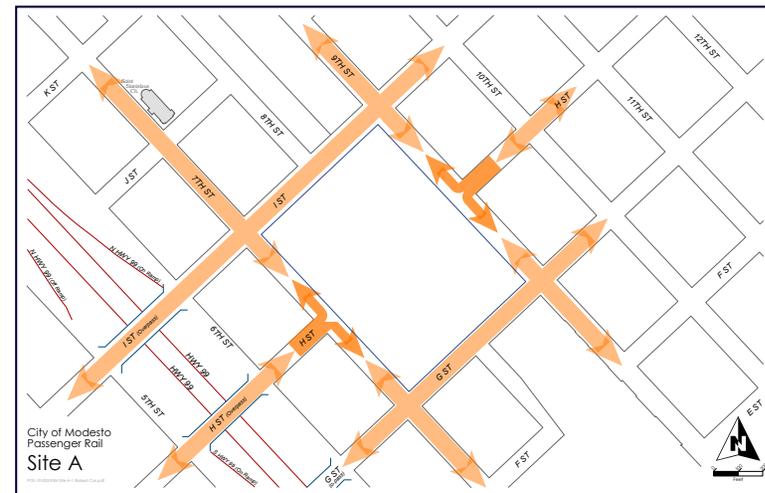


Figure A-1: Conceptual Automobile Circulation, Above-Grade Passenger Rail

Site A (continued)

At-grade alignment As shown on Figure 2-26 the station for the at-grade alignment is almost the reverse of the above-grade alignment: the transit plaza extends along 9th Street from G Street to I Street, while the station entry plaza extends along 7th Street from G Street to I Street. The station house would lie adjacent to the entry plaza on the west side of the Union Pacific Railroad right of way, on the opposite side from the transit plaza. A walkway would be necessary in order to safely and conveniently transport transit riders, pedestrians, and bicyclists across the Union Pacific Railroad. (For more detail, see Figure A-2, Appendix C.)

Figure 2-26

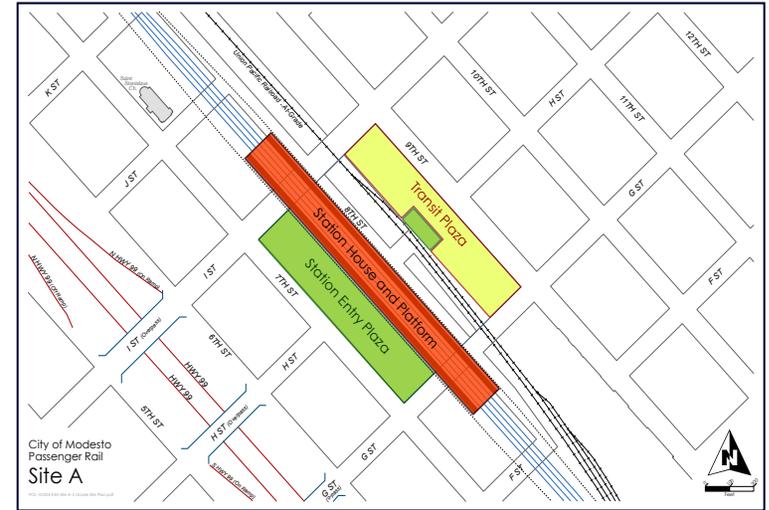


Figure A-2: Conceptual Site Plan, At-Grade Passenger Rail Service

Figure 2-27

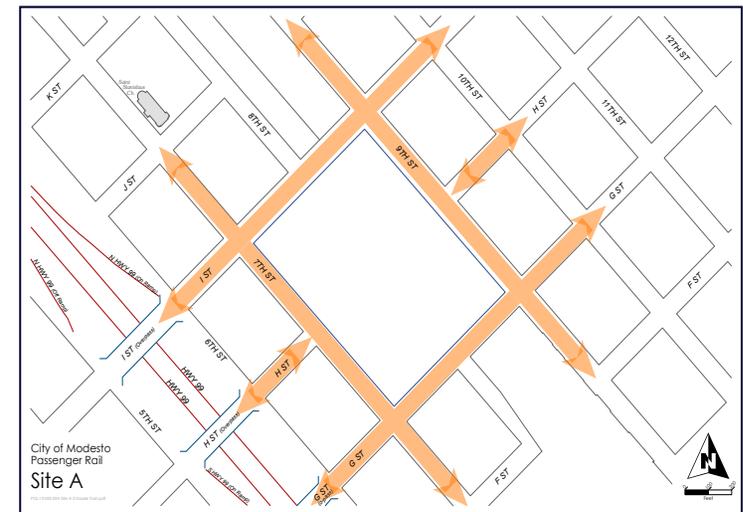


Figure A-2: Conceptual Automobile Circulation, At-Grade Passenger Rail

Site C

Figure 2-28

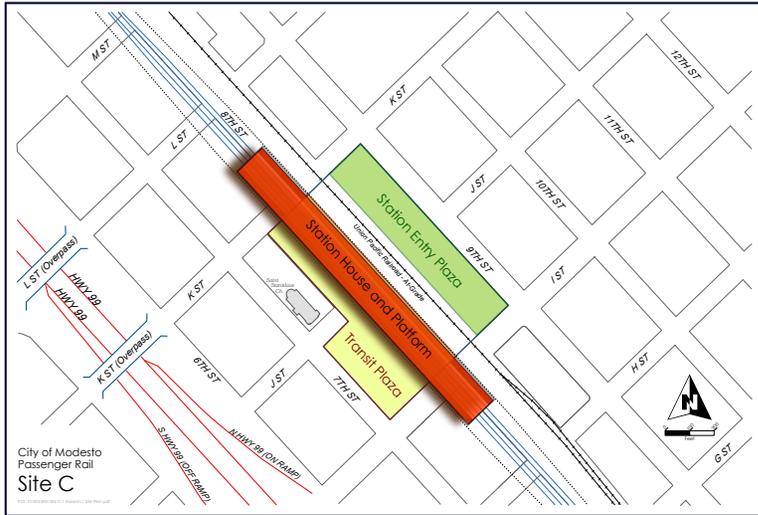


Figure C-1: Conceptual Site Plan, Above-Grade Passenger Rail Service, Lower Level Plazas

Above-grade alignment As shown on Figure 2-28, the station entry plaza would lie along 9th Street, from I Street to K Street, where the Transportation Center is today, and the transit plaza would lie along part of 7th Street, from I Street to J Street. This site plan would have a smaller transit plaza in order to preserve St. Stanislaus Church. The station house would lie west of the Union Pacific Railroad right of way and would be accessible by elevator or stairs from the entry and transit plazas, leaving the area below for other station uses. (For more detail, see Figure C-1, Appendix C.) As shown on Figure 30, automobile traffic would be routed around the passenger rail station. The circulation pattern would be similar to today's circulation pattern. (For more detail, see Figure C-2, Appendix C.)

Figure 2-29

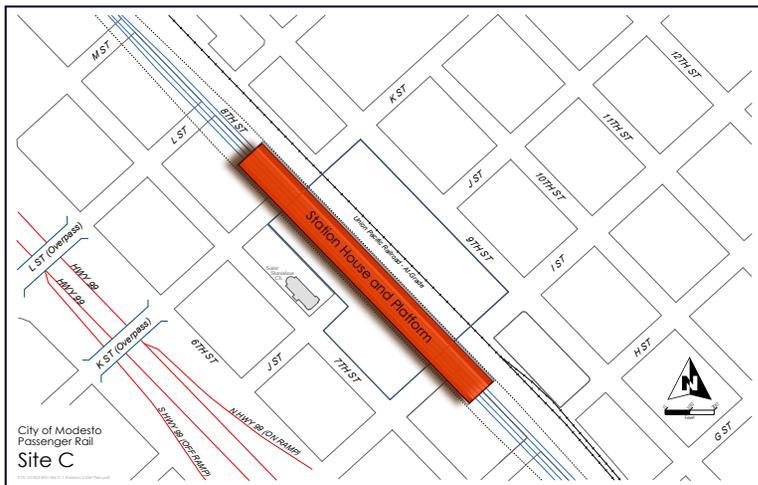


Figure C-1: Conceptual Site Plan, Above-Grade Passenger Rail, Upper Level Station House

Figure 2-30



Figure C-1: Conceptual Automobile Circulation, Above-Grade Passenger Rail Service

Site C (continued)

At-grade alignment As shown on Figure 2-31, the at-grade station concept is the reverse of the above-grade concept. In this scenario, the transit plaza is located at the site of today's Transportation Center and the station entry plaza lies on the west side of the Union Pacific Railroad right of way between I Street and K Street; St. Stanislaus Church would be preserved in its current location. (For more detail, see Figure C-2, Appendix C.) As shown on Figure 2-32, the circulation pattern would be very similar to the pattern used today. (For more detail, see Figure C-2, Appendix C.)

Figure 2-31

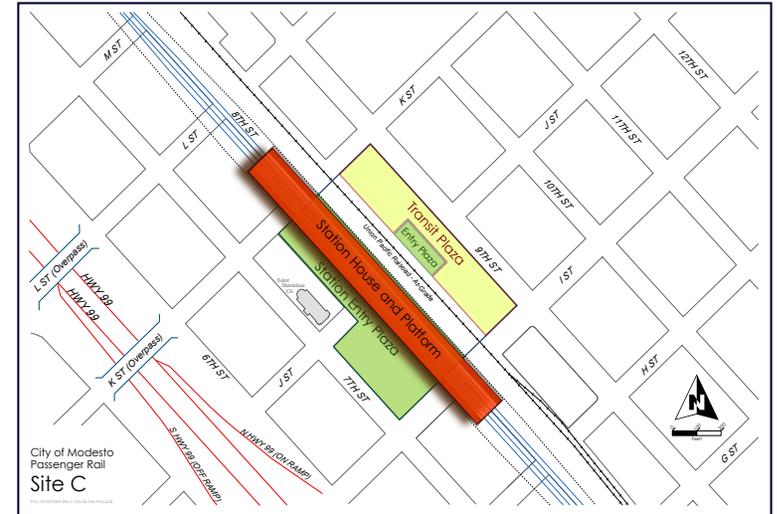


Figure C-2: Conceptual Site Plan, At-Grade Passenger Rail Service

Figure 2-32

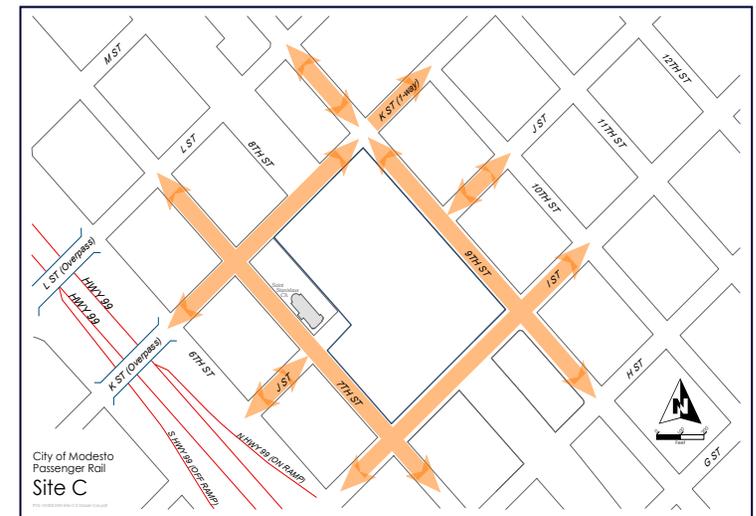


Figure C-2: Conceptual Automobile Circulation, At-Grade Passenger Rail Service

Figure 2-33

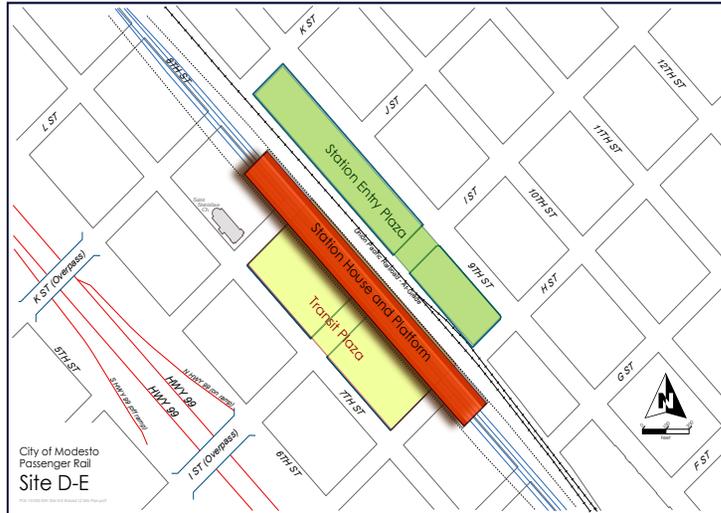


Figure D-E 1: Conceptual Site Plan, Above-Grade Passenger Rail, Lower Level Plazas

Figure 2-34

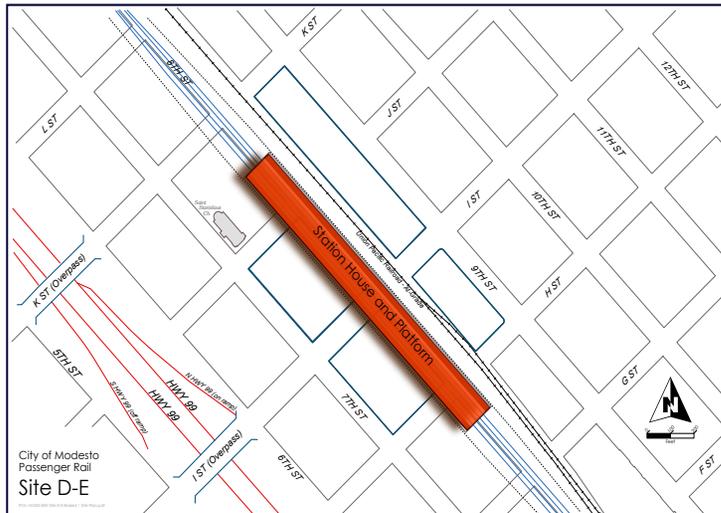


Figure D-E 1: Conceptual Site Plan, Above-Grade Passenger Rail, Upper Level Station House

Site D/E

Above-grade alignment As shown on Figure 2-33, the layout of this site is similar to Site A, but with the addition of a half block along 9th Street, taking advantage of city-owned property. The station entry plaza lies along 9th Street between H Street and K Street and the transit plaza lies along 7th Street between H Street and J Street. The station house is roughly parallel to and west of the Union Pacific Railroad right of way; because it is above-grade, the area below the station house can be used for other station purposes. The station house would be accessible from the entry and transit plazas by elevator or stairs. (For more detail, see Figure D/E-1, Appendix C.) As shown on Figure 2-35, I Street between 9th Street and 7th Street and 8th Street in the station area would be closed. (For more detail, see Figure D/E-1, Appendix C.)

Figure 2-35

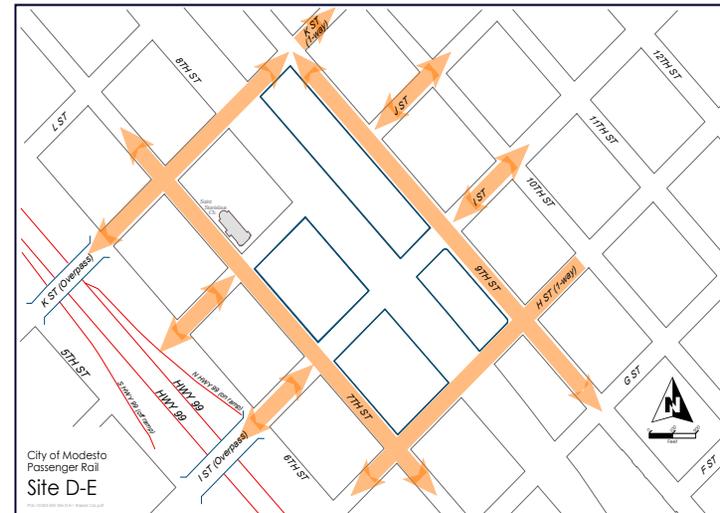


Figure D-E 1: Conceptual Automobile Circulation, Above-Grade Passenger Rail

Site D/E (continued)

At-grade alignment As shown on Figure 2-36, the at-grade option could be configured using a smaller site that could be expanded to the southeast. In this option, the station house would likely be shorter than depicted, but could be moved northerly or southerly along the alignment as needed. The transit plaza occupies the same location as today's Transportation Center and the entry plaza lies on 7th Street between I and J Streets. (For more detail, see Figure D/E-2, Appendix C.)

I Street could remain open to automobile traffic until the expansion site is needed. When the expansion site is used, H Street would then be adjacent to the station and might need to be returned to two-way traffic in order to facilitate bus access to the transit plaza. If that were to occur, then G Street would likely also be returned to two-way traffic; 8th Street would be closed in the station area.

Conclusion

After discussing the various alternatives and considering options, Workshop 3 attendees ranked the sites in order of preference. Site D/E was ranked first, Site C was second, and Site A was third. This order of preference is not binding, but if the City Council should decide to further pursue a passenger rail station, the issues weighed by the workshop attendees should be considered.

Figure 2-36

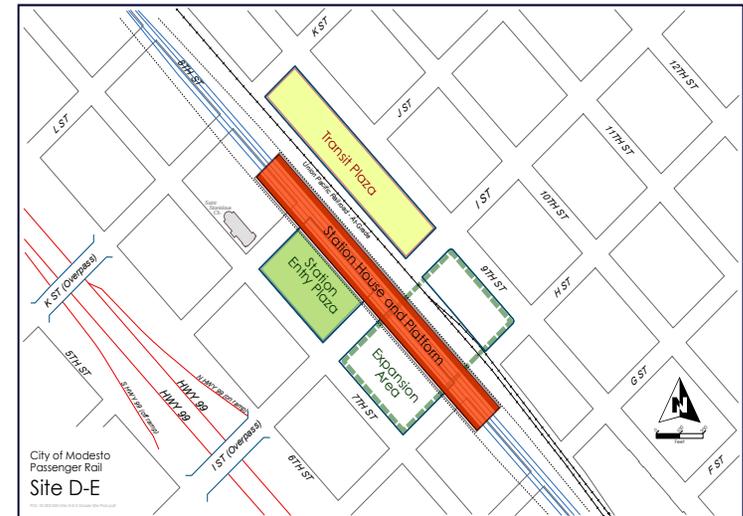


Figure D-E 2: Conceptual Site Plan, At-Grade Passenger Rail Service

Figure 2-37

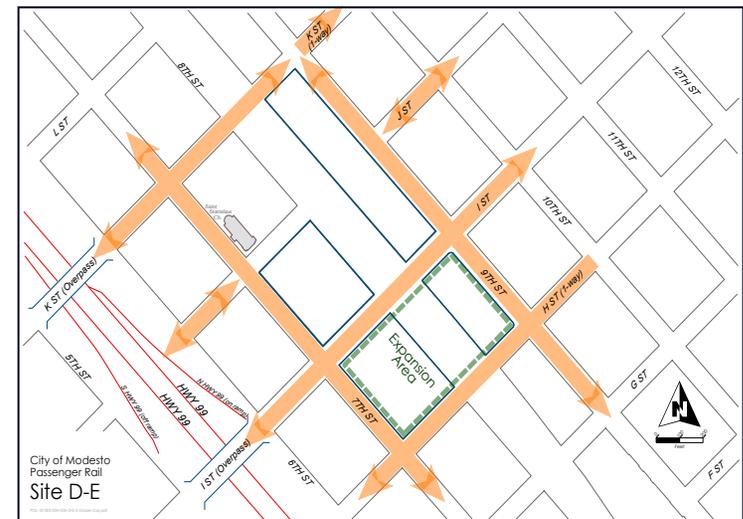


Figure D-E 2: Conceptual Automobile Circulation, At-Grade Passenger Rail

Chapter Three: Right of Way Needs

Land will be needed for both the passenger rail station and for the right of way to accommodate the tracks as they pass through Stanislaus County.

The Stanislaus County Assessor's office provided the assessment values needed to estimate the cost of purchasing the three study sites. The conceptual cost estimates are on Table B, below, ranked from the most preferred site (Site D-E) to the least preferred site (Site A), as ranked by participants in Workshop 3.

Table 2: Estimated Cost to Acquire Station Site (August 2012)

Station Site	Study Area Blocks	Acreage*	Cost per Acre	Total Cost
Site D-E	23, 24, 25, 32, 33	10.68	\$820,035	\$8,575,970
Site C	23, 24, 32	9.04	\$286,285	\$2,588,018
Site A	25, 36, 33, 34	8.73	\$1,164,952	\$10,170,034
Average		9.48	\$756,275	\$2,470

*Acreage and acquisition costs exclude streets and assumes downtown alignment will preserve street access for properties that are not part of the station.

Estimating the cost of right-of-way acquisition for the travel corridor through Stanislaus County required an analysis that sampled the types of properties that will need to be purchased. The right of way needed to accommodate two sets of passenger rail tracks will vary, but is unlikely to exceed 150 feet in width. Due to the current economic situation, property values in Stanislaus County are difficult to ascertain. Comparable values are skewed by foreclosures; property owners under no pressure to sell appear to be waiting for prices to recover before putting their properties on the market. While tax assessments tend to lag comparables, assessed value is a reasonable estimate of potential purchase price at this time. The generous estimate of 150 feet of right of way may balance using assessed values until such time as reliable comparable values become available. For the purpose of estimating right-of-way costs, it was assumed that the passenger rail tracks will lie west of the Union Pacific Railroad throughout Stanislaus County.

Property adjacent to the Union Pacific Railroad is zoned for agriculture, commercial, industrial, residential, and civic/utility uses. Forty percent of the land that would need to be acquired is zoned for agriculture use, while less than 15 percent of the land that would need to be acquired is zoned for residential use. For the purpose of evaluating the cost of right of way acquisition, properties along the possible right of way were sampled and sorted by zone. The data were then sorted into price groups by zone and a weighted average price per acre was estimated, which was applied to the estimated acreage needed for right of way by zone. The results are on Table 3 (next page). This analysis excludes roadways and the station area.

Table 3: Estimated Cost to Acquire Travel Corridor (August 2012)

Value Group	Price per Acre	Proportion of Corridor	Acreage Needed	Cost Estimate
Agriculture, Low	\$25,000 and less	32.1%	125.02	\$2,150,344
Agriculture, High	\$150,000 to \$150,000	6.9%	26.89	\$1,686,003
Commercial, Low	\$250,000 and less	5.7%	22.30	\$2,408,400
Commercial, High	\$400,000 to \$850,000	11.5%	44.63	\$30,317,159
Industrial, Low	\$90,000 to \$550,000	16.8%	65.24	\$17,392,984
Industrial, High	\$800,000 to \$3,000,000	7%	27.39	\$49,981,272
Residential, Low	\$300,000 and less	3.9%	15.17	\$3,624,113
Residential, High	\$400,000 to \$1,400,000	10.8%	42.23	\$53,066,218
Tax exempt, no comparables	\$0	5.3%	20.45	\$0
Total	---	100%	389.32	\$160,626,493

At current prices, land for the preferred passenger rail station site (Site D-E) would cost approximately \$8.8 million. Land for a travel corridor 150 feet wide would cost approximately \$160.6 million.

Chapter Four: Funding Sources

Large transportation projects, such as major roadways and transit capital projects, are typically funded through a variety of sources over multiple years. The Interstate Highway System is a good example of a large multi-decade project, similar to the construction of a new passenger rail system. The Federal Aid Highway Act of 1956 (also known as the National Interstate and Defense Highways Act), authorized the construction of a national system of highways. Construction of the initial system took 35 years. A federal gas tax was established as the initial source of construction funding (Highway Revenue Act of 1956), which was eventually supplemented with motor vehicle taxes, highway tolls, general fund receipts, bonds, property taxes, and other taxes. The initial cost estimate was \$25 billion over 12 years, which was revised to \$114 billion over 35 years (\$425 billion in 2006 dollars). Since its authorization in 1956, the Interstate Highway System has been expanded and construction costs have increased.

The Altamont Commuter Express (ACE) is an existing passenger rail service operating on the Union Pacific Railroad between Stockton and San Jose. Capital expenditures are funded by the Transportation Development Act, Proposition 1B, Alameda County Transportation Commission Measure B, San Joaquin County's transportation sales tax (Measure K), Federal Transit Administration 5307 and 5309, Build America bonds (issued jointly by the San Joaquin Council of Governments and the San Joaquin Regional Rail Commission), Federal Emergency Management Agency, Santa Clara Valley Transit Authority, Regional Transportation Impact Fees, and Caltrans' Interregional Transportation Improvement Program. Operating expenditures are funded by farebox revenue, San Joaquin County's transportation sales tax (Measure K), the Transportation Development Act, Federal Transit Authority 5307, Alameda County Transportation Commission Measure B, Santa Clara Valley Transit Authority, employer cost-sharing with shuttle services, and the Bay Area Air Quality Management District's Transportation Fund for Clean Air.

Similarly, the proposed High-Speed Train System will be funded through a variety of sources. Much of the engineering and environmental work on Phase 1 has been funded through state transportation planning funds. Additionally, the Initial Construction Segment, from Borden (Madera County) to Corcoran (Kings County) has received State Proposition 1A bond funds and \$765 million in federal American Recovery and Reinvestment Act (ARRA 2009) funds.

Regionally-Controlled Funds

In order to receive and apportion federal and state funds, StanCOG must prepare a Regional Transportation Plan that identifies regional priorities for transportation. StanCOG's 2011 Regional Transportation Plan identifies the various federal and state funds available for transportation projects. Federal funds are allocated to the State of California by the federal government. The State of California allocates both federal and state funds to each regional government, of which StanCOG is one. StanCOG's Policy Board, a body composed of 16 elected officials from the member agencies in Stanislaus County, apportions funding to regionally important projects.

StanCOG's 2011 Regional Transportation Plan identifies \$5 million for planning and technical studies in support of rail service. Funding sources are identified as unspecified grants from the Federal Railroad Administration, the Federal Transit Administration, and a Caltrans Community-Based Transportation Planning Grant. Of these funds, only the Caltrans Community-Based Transportation Planning Grant has been secured by the City of Modesto for the preparation of this passenger rail station feasibility study. Although the earliest possible build year for passenger rail through Stanislaus County is 2015, no funding is apportioned for planning or other purposes in the 2013 Federal Transportation Improvement Program (FTIP) at this time. However, the FTIP can be amended as needed by the StanCOG Policy Board, so regional funding for this project is not precluded.

Funding sources for which a passenger rail station may be eligible are described below.

Congestion Mitigation and Air Quality

The purpose of the Congestion Mitigation and Air Quality (CMAQ) Program is to fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone and carbon monoxide. Rail and bus capital costs are eligible for funding. This fund is managed by StanCOG, the Metropolitan Planning Organization.

Federal Transit Administration Section 5307 Program

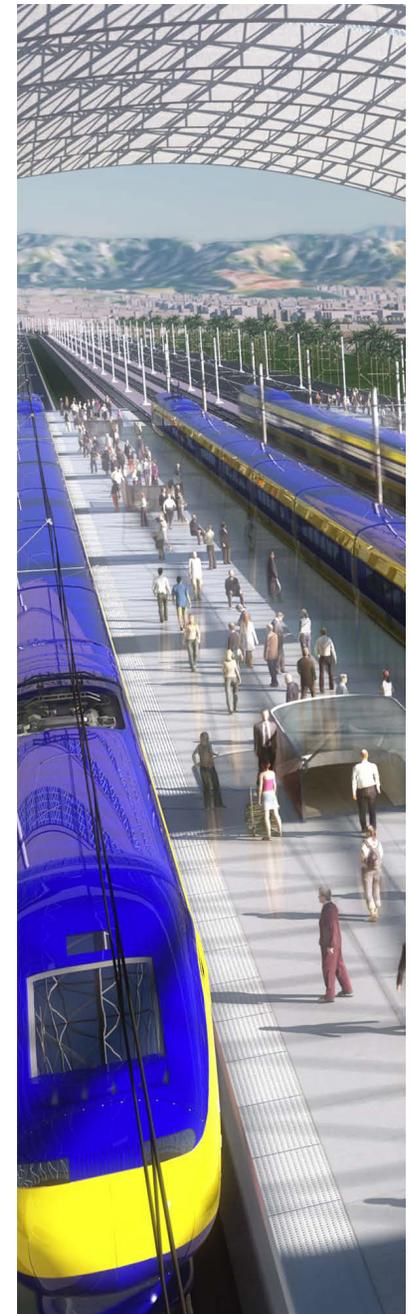
The Federal Transit Administration (FTA) Urbanized Area Formula Program, Section 5307 provides funds for public transit in areas having a population greater than 50,000. Eligible projects include planning, engineering design, technical transportation-related studies, capital investments in buses and bus facilities, capital investments in new and existing rail systems. Modesto Area Express is currently the recipient of most FTA 5307 money apportioned in Stanislaus County, which is managed by the Metropolitan Planning Organization.

Federal Transit Administration Section 5309(b) Program

This program provides funds for major transit capital investments, new rail projects, new and replacement buses and facilities, and modernization of existing rail projects. This money is managed by Metropolitan Planning Organizations.

High-Priority Projects/Federal Demonstration

A demonstration project is established and funded by Congress through federal law. Demonstration projects are part of the periodic transportation authorization acts or the annual transportation appropriations acts. The designated funding can only be used for projects as described in the law; however, demonstration projects may be any type of transportation project.



Interregional Transportation Improvement Program (ITIP)

State-authorized funding may be provided for intercity rail, interregional road or rail expansion projects outside urban areas, or projects of statewide significance. These funds are administered by the California Transportation Commission through Metropolitan Planning Organizations.

Passenger Rail Investment and Improvement Act of 2008 (PRIIA)

PRIIA is administered by the Federal Railroad Administration and the U.S. Department of Transportation. The bill reauthorizes Amtrak and focuses on intercity passenger rail, including high-speed rail corridors. Both capital and operating costs are eligible. These funds are administered through Metropolitan Planning Organizations.

Proposition 1A (Safe, Reliable High-Speed Passenger Train Bond Act of 2008) bonds

Provides \$9 billion for construction of Phase 1 of the High Speed Train (Los Angeles to San Francisco). The remaining \$950 million will be spent on improvements to local systems that connect locations away from the high speed rail mainline track to the high speed system. These funds will most likely be utilized directly by the State of California, but could be allocated to some Metropolitan Transportation Organizations.

Regional Surface Transportation Program (RSTP)

The Surface Transportation Program (STP) was established by the 1991 Federal Intermodal Surface Transportation Efficiency Act (ISTEA) and continued with the passage of the Transportation Equity Act for the 21st Century (TEA-21) and the TEA-21 Restoration Act in 1998. Capital costs for transit projects eligible for assistance under the Federal Transit Act and publicly-owned intra- or intercity bus facilities are eligible for RSTP funds. This fund is administered by the Metropolitan Planning Organization.

Transportation Development Act (TDA)

The Transportation Development Act, established in 1971, created a statewide 1/4 cent sales tax, referred to as the Local Transportation Fund (LTF) set aside for transit purposes and administered by Metropolitan Planning Organizations. It also created the State Transit Assistance fund (STA), which comes from a portion of the statewide sales tax on diesel fuel. LTF includes a small set-aside for bicycle and pedestrian projects and for regional transportation planning purposes. Both operating and capital expenses are eligible for TDA funding. Transit operators are the primary recipients of these funds.

Transportation Enhancement Program

The Transportation Enhancement Program funds are used to improve the transportation experience. Rather than funding capital investments or maintenance, the Transportation Enhancement Program funds aesthetic improvements to make the transportation more pleasant, rather than just adequate. This fund is administered by the Metropolitan Planning Organization.

Transportation Sales Tax

The State of California's sales tax rate is 7.25 percent. Local governments have the authority to tax up to an additional 2 percent, for a total of 9.25 percent, by public vote. A sales tax dedicated to a specific purpose must receive a 2/3 affirmative vote to pass. Stanislaus County has added a 1/8 cent tax for libraries for a total sales tax rate of 7.375 percent. Ceres and Oakdale have added a 1/2 cent tax to their local rates, for a total of 7.875 percent. The maximum additional countywide sales tax capacity is 1.375 percent. Should the County vote to levy a transportation sales tax, the funds could be spent on both construction and operations activities.

Locally-Controlled Funds

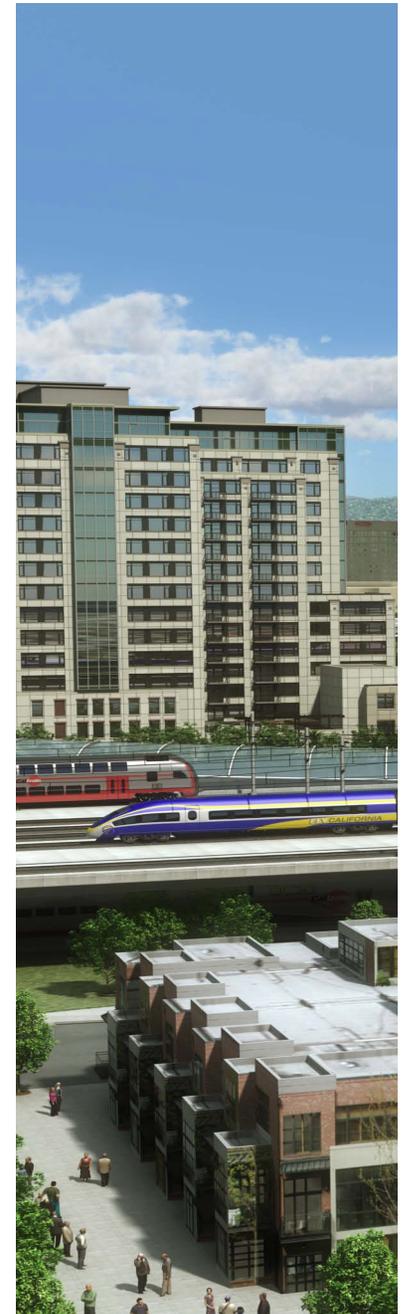
The City of Modesto controls infrastructure funds that are raised locally. These funds can be used for a variety of purposes, including capital and operating costs. Local funding sources are described below.

Capital Improvement Program (CIP)

The CIP reflects the goals and policies of the Urban Area General Plan by planning, scheduling, and financing public improvement projects citywide. Projects are evaluated and prioritized annually by the CIP Task Force.

Legislative Earmarks

Lobbying efforts can be rewarded by state or federal transportation funding earmarks. This type of funding is usually available for capital improvements, but can also be available for planning work. Modesto has successfully pursued earmarks for the Virginia Avenue Corridor and for the Tuolumne River Regional Park.



Local Benefit District or Surcharge

Modesto may establish a local benefit district for properties most directly benefitted by passenger rail. Similar to other kinds of infrastructure, the City would be required to prepare a study demonstrating the benefit (nexus) and relative size of the benefit, as required by Assembly Bill 1600 (1988). In order for fees of this type to yield the greatest financial benefit, development should be focused on the area of benefit. The City could also establish a surcharge on parking, for example, to help fund capital or operational costs.

Public-Private Partnership

The City of Modesto may enter into a contractual arrangement with one or more private entities to share some of the cost of development in exchange for sharing the financial gain associated with the development.

Transportation Sales Tax

Similar to a countywide transportation sales tax, the City of Modesto may enact a local transportation sales tax to fund both capital and operating costs. As noted above, local agencies have the authority to add up to 2 percent sales tax to the state's 7.25 percent sales tax. Modesto currently is subject to a countywide sales tax of 1/8 cent, leaving a capacity of up to 1.875 percent. A tax of this nature is subject to a 2/3 affirmative vote.

Chapter Five: Policy Recommendations

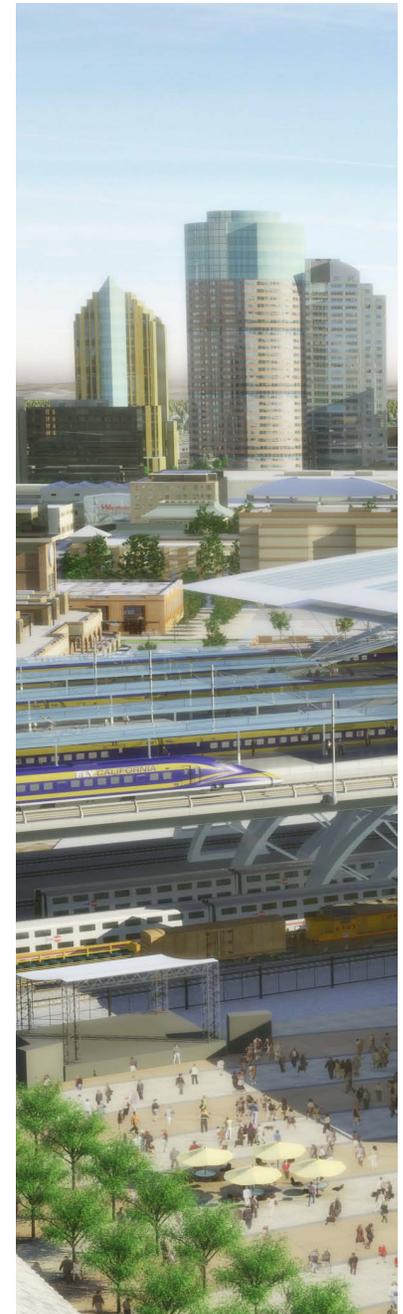
Establishing and operating a successful passenger rail system will require realignment of Modesto's and the region's planning priorities and policy efforts.

Existing Policies and Ordinances That Support Downtown Passenger Rail

The Modesto General Plan contains policies that support the development of a downtown passenger rail station. These policies are below.

- Policy III.A.5.c, page III-7. [Goals from the 2007 Modesto Redevelopment Master Plan]
 - Goal 3: Implement higher density, mixed-use development to create a balanced, vibrant downtown and active neighborhood centers.
 - Goal 8: Promote efficient automobile, bicycle, and pedestrian circulation and linkages into and through the Redevelopment Area.
- Policy V.B.6.k(2), page V-10. Inter-regional Rail Service. The City supports the extension of the Altamont Commuter Express (ACE) through the northern San Joaquin Valley and advocates its routing through and a station in downtown Modesto. The City also support the rerouting of San Joaquin rail service to provide service to the downtown area and the intermodal facilities and creation of passenger commuter rail service from Modesto to San Joaquin County, to Sacramento, and over the Altamont Pass to the Bay Area.
- Policy V.B.6.k(4), page V-10. High Speed Rail. The City supports and advocates the development of high speed rail through the San Joaquin Valley and the development of a high speed rail station in downtown.

The Modesto Municipal Code also provides some support for development of a downtown passenger rail station. Title X, Chapter 5, Article 1 limits the applicability of parking regulations to older buildings. Title X, Chapter 7, Article 5 describes a downtown form-based code that will improve conditions for pedestrians in the central portion of downtown. Title X, Chapter 7, Article 5, Section 509, further limits parking requirements in the area regulated by the form-based code. The Municipal Code also provides greater flexibility for the location of parking in downtown than in the rest of Modesto.



Additional Policy Recommendations to Support Downtown Passenger Rail

Below are several policy recommendations to provide even greater support for passenger rail.

Funding Recommendations

- ◆ Build support for passenger rail within the StanCOG Policy Board.
- ◆ Ensure that passenger rail is included in StanCOG's Sustainable Communities Strategy.
- ◆ In consultation with the California High-Speed Rail Authority and the San Joaquin Regional Rail Commission, ensure that StanCOG's constrained funding includes capital for right of way acquisition and construction of a passenger rail station and appurtenant improvements that support ground transportation alternatives to the automobile.
- ◆ Identify local funding for a passenger rail station and planning studies.

Land Use Recommendations

- ◆ Development around the passenger rail station should follow the principles of transit-oriented development: a diverse and complementary mix of uses, pedestrian-oriented site design, good street design, and parking management.

The passenger rail station will be the center of activity in downtown and the land use and zoning should be reevaluated when the site is selected.

- ◆ Develop a comprehensive strategy for addressing historic and potentially historic landmarks.

Focusing development downtown will put many landmarks and potential landmarks at risk for demolition. A comprehensive strategy will add predictability to the development review process, streamline environmental review, and preserve landmarks for future generations.

Transportation Recommendations

- ◆ Comprehensively reconsider the function and transportation priorities of streets around and near the passenger rail station.
- ◆ Consider Rerouting SR 132 for truck traffic from 9th Street to 5th Street.

9th Street will experience a large increase in pedestrian and bicycle traffic. For safety, truck traffic should be routed away from 9th Street. StanCOG can facilitate this effort.

- ◆ All streets adjacent to the transit center should be two-way streets for transit access.

Transit traffic can more easily enter and exit the site from two-way streets. Two-way traffic also tends to reduce average speeds, improving safety.

- ◆ Revise the Circulation Element with respect to non-motorized transportation in and around downtown to establish good bicycle connections to and from the station and to facilitate pedestrian access through curb extensions and generous sidewalks.

Bicycle traffic to, from, and around the station should be facilitated by adding bicycle lanes and bicycle-actuated traffic signals. Pedestrian traffic will increase, particularly around the perimeter of the station and within a five-minute walk of it. Crossing distances should be minimized and sidewalks maximized to promote safety for pedestrians.

- ◆ Consider preparing a Transportation Demand Management Plan for downtown.

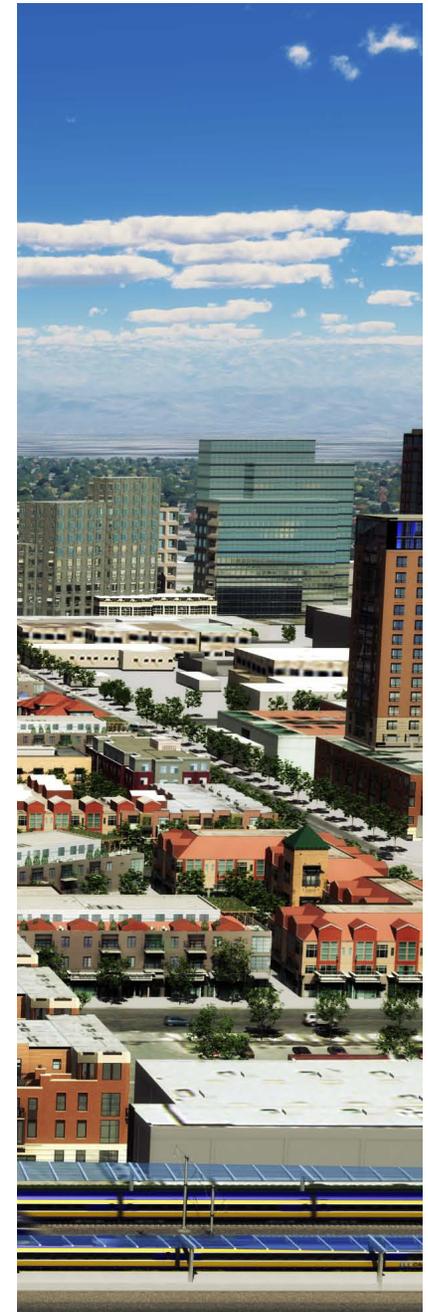
Transportation Demand Management (TDM) is the application of strategies to reduce travel demand, specifically for single-occupant private vehicles. TDM can be a cost-effective alternative to increasing roadway capacity.

- ◆ Consider reorienting local and regional transit service to feed the train station.

More routes, suburban park-and-ride lots, and downtown circulators will help get travelers to and from the station in a timely and convenient manner, without using a car.

- ◆ Consider upgrades to bus facilities, such as arrival/departure boards and mobile phone applications such as NextBus.

Increasing the predictability of transit service will give the public more confidence to take the bus downtown instead of driving. These technologies are available and in use today by many transit agencies.



- ◆ Eliminate adjacent on-street parking for security and to allow sidewalks to be widened, curbside access for passenger loading and unloading and safer turning movements for transit vehicles.

Eliminating on-street parking on streets along the perimeter of the station will increase the right of way available for non-automobile uses, which will facilitate access by bus, bicycle, foot, and taxi.

Parking Recommendations

- ◆ Minimize automobile traffic arriving at passenger rail station and needing to park. Develop a parking management strategy including smart meters, parking restrictions, carpool parking, car rental, car sharing, and electric vehicle parking using Redwood City, San Francisco, Oakland, Berkeley, and Pasadena as examples.

Reducing the demand for parking will increase the development potential in the vicinity of the passenger rail station, reduce traffic congestion, and improve safety for people not traveling by car. All-day parkers use space that would otherwise be available to patrons of local businesses. Daytime on-street parking downtown is currently time-limited (30 minutes, 1 hour, 2 hours), which makes it unusable for train riders. Daytime off-street parking is typically used by downtown employees. A parking strategy that supports passenger rail should seek to make short-term parking available for downtown visitors and reduce the number of people who drive downtown and park all day.

- ◆ There should be no free public parking downtown; all parking should be provided at the market rate.

Free parking creates an incentive to drive and increases the demand for parking. Conversely, charging the market rate for parking reduces the demand for parking, reduces public and private expenditures for parking, and increases development potential.

- ◆ Locations of parking structures should be such that they can serve not just the passenger rail station, but also future downtown development, as travel patterns change.

Parking structures are a significant real estate and financial investment that should be managed to provide the greatest benefit to the largest number of people.

Next Steps: Issues to be Resolved for Phase 2

The State Legislature has decided not to pursue a full high speed train option at this time for Phase 2 and instead wants the California High-Speed Rail Authority to pursue upgrades to existing commuter rail systems that can be linked together. In furtherance of that goal, Assembly Bill 1779 (2012) has granted San Joaquin Valley transportation planning agencies the authority to create a San Joaquin Corridor Joint Powers Authority for the purpose of operating a passenger rail line in the San Joaquin Valley. Currently, this service is provided by Amtrak on the Burlington Northern-Santa Fe Railroad, which connects the east side of Stanislaus County to the East Bay via Antioch and Martinez.

The governing board of the Joint Powers Authority would make decisions about where, when, and how passenger rail service would operate. Should a governing board be established, it would enable the flexibility to establish a passenger rail line on the Union Pacific Railroad, if an agreement can be reached with the railroad.

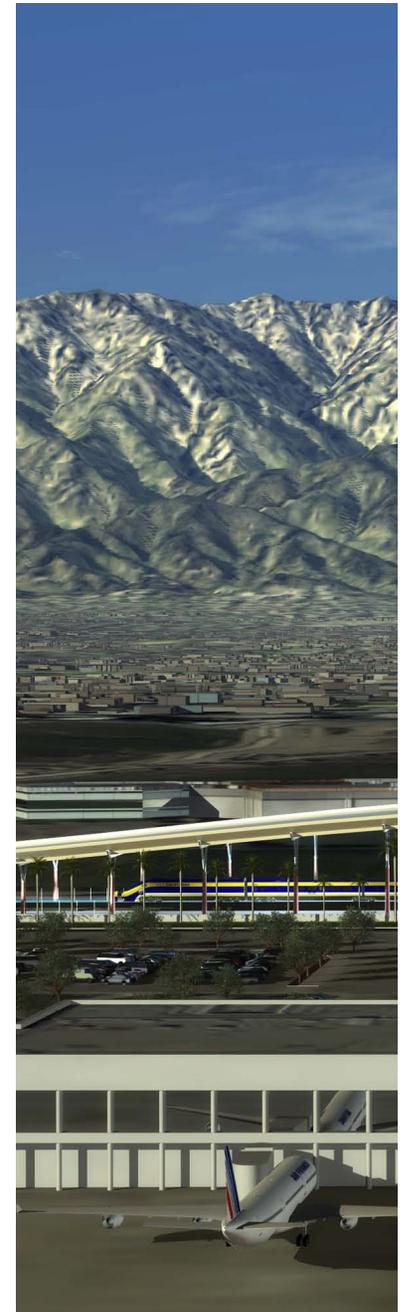
The CHSRA has not yet selected an alignment and design (at grade or above grade) for the northern San Joaquin Valley. The timing of these decisions is uncertain, but may be anticipated within one or two years. If a San Joaquin Corridor Joint Powers Authority and governing board were established prior to the California High-Speed Rail Authority's decisions on alignment and design, the Joint Powers Authority may be in a position to make decisions about passenger rail service that may influence the CHSRA's decisions.

Modesto should closely monitor the actions of these two groups through continued participation in the Phase 2 Technical Working Group. Modesto's decisions and the timing of investments should be responsive to the CHSRA and Joint Powers Authority. Due to the pending legislation on the Joint Powers Authority and interest in establishing a governing board, it is entirely possible that the Joint Powers Authority will take the lead on passenger rail service. The time frame for the critical decisions affecting passenger rail service in Modesto is probably within the next 12 to 24 months; Modesto should be ready to act.

California High-Speed Rail Authority and San Joaquin Regional Rail Commission

Ridership projections can be developed by CHSRA or SJRRC after decisions have been made regarding the northern San Joaquin Valley alignment and design. This information will allow Modesto to make decisions about station development, station area development, circulation, transit service, and parking.

Depending upon the timing of decisions made by the CHSRA and the San Joaquin Regional Rail Commission, the City of Modesto should consider a course of action that responds to decisions made by those agencies.



Modesto, 1 to 2 years (prior to decision and action by CHSRA and/or SJRRC):

- Build support for passenger rail station at the StanCOG Policy Board
- Ensure that passenger rail is part of the Sustainable Communities Strategy
- Ensure that passenger rail receives Tier I funding in the Regional Transportation Plan
- Work with StanCOG to study and plan for the rerouting of State Route 132 away from 9th Street

Modesto, 2 to 3 years (after decision by CHSRA and/or SJRRC):

- Identify infrastructure needs
 - Select a station site and begin the process of right of way acquisition
 - Initiate a parking management study using ridership projections with implementation strategies and policies
 - Initiate a transit study using ridership projections to plan for feeder service and an improved Transportation Center, improve communications with patrons
 - Initiate a historic resources strategy and policies
-

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