City of Modesto, Community and Economic Development Department

Passenger Rail Feasibility Study
Ranking Preferred Station Locations: Site and Circulation Plans
A Report for Workshop 3, June 20, 2012

Background

This Passenger Rail Station Feasibility Study is Modesto's initial consideration of where to locate a station in downtown. Transportation infrastructure of all types represents a tremendous investment of public money—StanCOG's 2011 Regional Transportation Plan (Table 3.1, page 66) estimates that the region will receive approximately $1.8 billion from 2012 to 2021 ($180 million annually) and approximately $2.5 billion from 2022 to 2036 ($167 million annually) from all known sources of revenue. Virtually all of this money is planned for road construction at this time; none of the money is currently allocated for passenger rail.

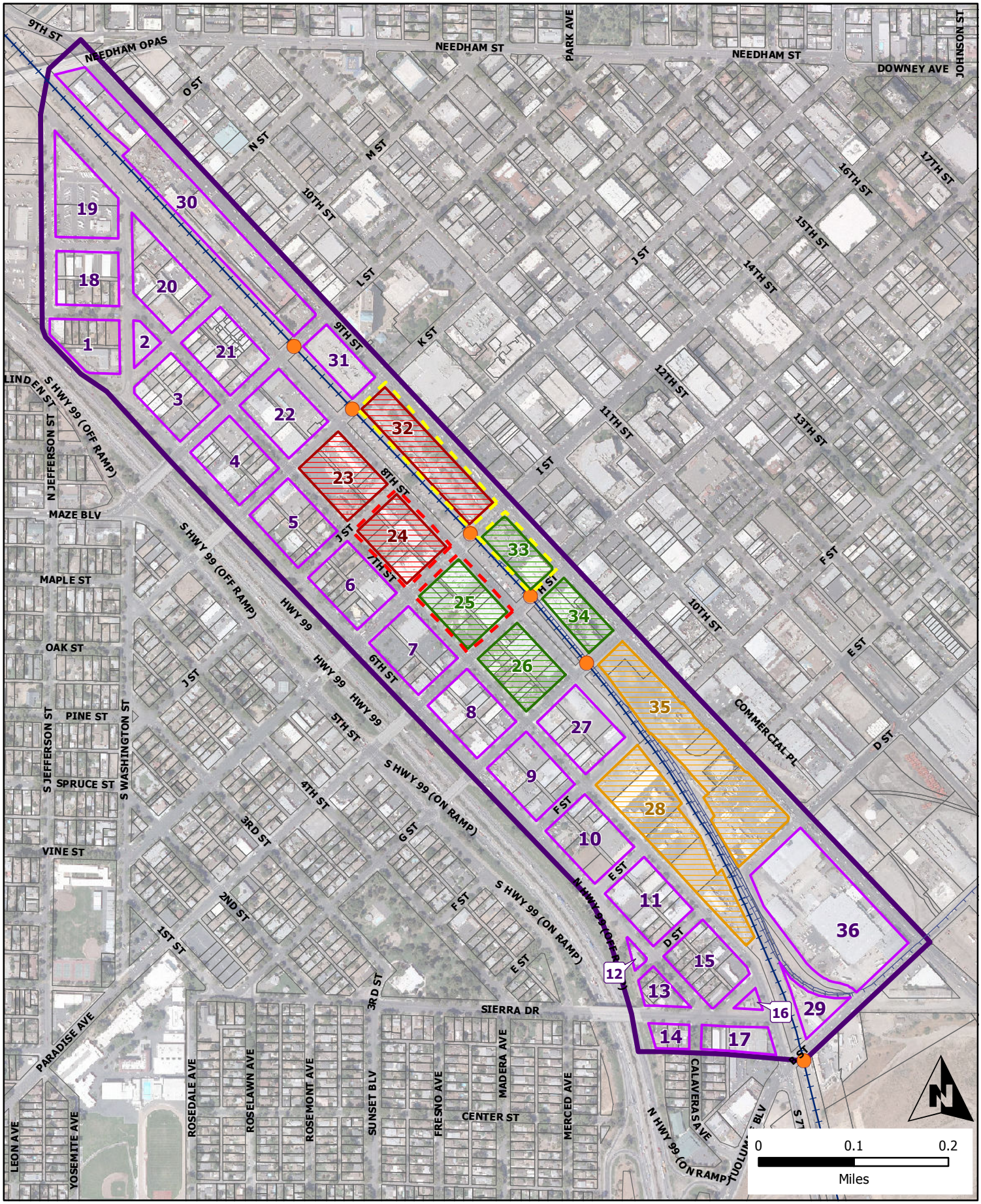
Because transportation expenditures are substantial, planning must begin by developing generalized studies that become more detailed at every stage of the process. Thus, this effort is fairly general, and is being conducted for the purpose of narrowing options and identifying subsequent steps in the station selection and planning process.

Modesto's Urban Area General Plan includes a policy to locate a passenger rail station in downtown, but does not identify a specific site (Policy V.B.6.k.4, page V-10). Modesto has limited ability to identify the location of a future passenger rail station, contingent on such variables as the selection of an alignment for a passenger rail system, which is the discretion of the State of California and the California High Speed Rail Authority, with participation from the San Joaquin Regional Rail Authority.

Modesto is located on Phase 2 of the High Speed Rail system, which includes the Altamont Commuter Express. Phase 2 comprises the Los Angeles to San Diego leg, the Merced to Sacramento leg, and upgrading and extending the existing Altamont Commuter Express service. City staff actively participates in regional (Phase 2) rail planning meetings and workshops.

On August 10, 2011, the City of Modesto conducted the first workshop for the Passenger Rail Station Feasibility Study. The purpose of this workshop was to present an overview of the project with an emphasis on that portion of the project that will affect Modesto, then to discuss criteria for selecting a location ("siting criteria") for a future passenger rail station.

Attendees at Workshop 2, held on November 16, 2011, identified five sites preferred for a passenger rail station, shown on Figure 1. Subsequent review of these sites by staff eliminated Site B from further review and combined Sites D and E into Site D/E, for a total of three sites.



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

Introduction

The purpose of Workshop 3 is to rank the potential passenger rail station sites from most preferred to least preferred.

There are currently two vertical alignments under consideration for the northern San Joaquin Valley, in accordance with the California High Speed Rail Authority's revised business plan. The term "vertical alignment" refers to the elevation of the rail line: "above grade" is raised above street level, "at grade" is at street level, and "below grade" is in a trench or tunnel underground. In the northern San Joaquin Valley, passenger rail is expected to be either at grade or above grade, so both situations must be considered.

The revised business plan considers lower-cost alternatives to the immediate full implementation of High Speed Rail, focusing on interim upgrades to existing passenger rail service in California, which includes Altamont Commuter Express and Amtrak in the northern San Joaquin Valley. An interim upgrade may result in at-grade passenger rail service through Modesto, using either track space leased from Union Pacific Railroad or on dedicated parallel right of way. The completion of high speed train service in California may include an above-grade alignment, which would allow for higher speed service on a dedicated right of way.

Station Elements

The selected site must accommodate a Station Entry Plaza, Station House, and Transit Plaza, which include the following functions:

Station 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.

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.

Transit Plaza In this area, buses arrive and depart with passengers.

Evaluating Preferred Sites

Five sites were identified for further study by participants in Workshop 2 (November 16, 2011). The five sites are identified in no particular order as A, B, C, D, and E. The sites are illustrated on Figure 1. Each site has benefits (pros) and drawbacks (cons), as described below.

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

Site A forms a rectangular area bounded by 7th , 9th , G, and I Streets, spanning the Union Pacific Railroad right of way, 8th Street, and H Street. Site A has a minimum area of 8.73 acres.

Pros
- gridded streets, connections across SR 99
- Downtown Core zone
- adequately sized and centrally located
- wide variety of uses within a half mile of the site (residential, civic, industrial, entertainment, restaurants, shopping)

Cons
- straddles H Street, which might need to be closed at site
- acquisition costs relatively high, compared to other sites

Site B: Blocks 28 and 35

This site is an irregular polygon bounded by 9th, D, 7th, F, 8th, and G Streets, spanning the Union Pacific Railroad right of way. Site B is a minimum of 13.91 acres.

Pros
- edge of the downtown industrial area
- wide variety of uses within a half mile of the site (residential, commercial, civic, entertainment, and industrial uses)
- large site not crossed by streets

Cons
- blocks are large and streets are poorly connected locally and across SR 99
- uses within a half mile of the site are weighted toward industrial and park
- lower development potential in vicinity due to a large-scale food processing plant

Site C: Blocks 23, 24, and 32

This site forms a rectangle bounded by K, 9th, I, and 7th Streets and spanning the Union Pacific Railroad right of way. Site C has a minimum area of 9.04 acres.

Pros
- Downtown Core zone
- Relatively low utility relocation costs
- gridded streets, connections across SR 99
- wide variety of uses within a half mile of the site (residential, civic, industrial, entertainment, restaurants, shopping)

Cons
- acquisition costs relatively high, compared to other sites
- part of Block 23 is occupied by St. Stanislaus church, reducing usable area

Site D: Blocks 32 and 33

This site is bounded by 9th, H, and K Streets and the Union Pacific Railroad right of way. Site D has a minimum area of 5.11 acres.

Pros
- gridded streets, connections across SR 99
- Downtown Core zone
- wide variety of uses within a half mile of the site (residential, civic, industrial, entertainment, restaurants, shopping)
- lower acquisition costs, compared to other sites

Cons
- small site
- straddles I Street, which may need to be closed at the site

Site E: Blocks 24 and 25

Site E is bounded by 7th, J, 8th, and H Streets. Site E has a minimum area of 5.57 acres.

Pros
- gridded streets, connections across SR 99
- Downtown Core zone
- wide variety of uses within a half mile of the site (residential, civic, industrial, entertainment, restaurants, shopping)

Cons
- small site
- straddles I Street, which may need to be closed at the site
- relatively high acquisition costs, compared to other sites

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, limited the ability of Site B to stimulate investment on the west side of State Route 99 within a five-minute walk of the site. Therefore, Site B was eliminated from further consideration.

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.

Three sites, Site A, Site C, and Site D/E, will be evaluated further.

Conceptual Site and Area Planning

With the selection of three sites for further evaluation (Site A, Site C, Site D/E), the work of planning the area around the sites 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 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. 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 below (Figures 2, 3, and 4)

Parking

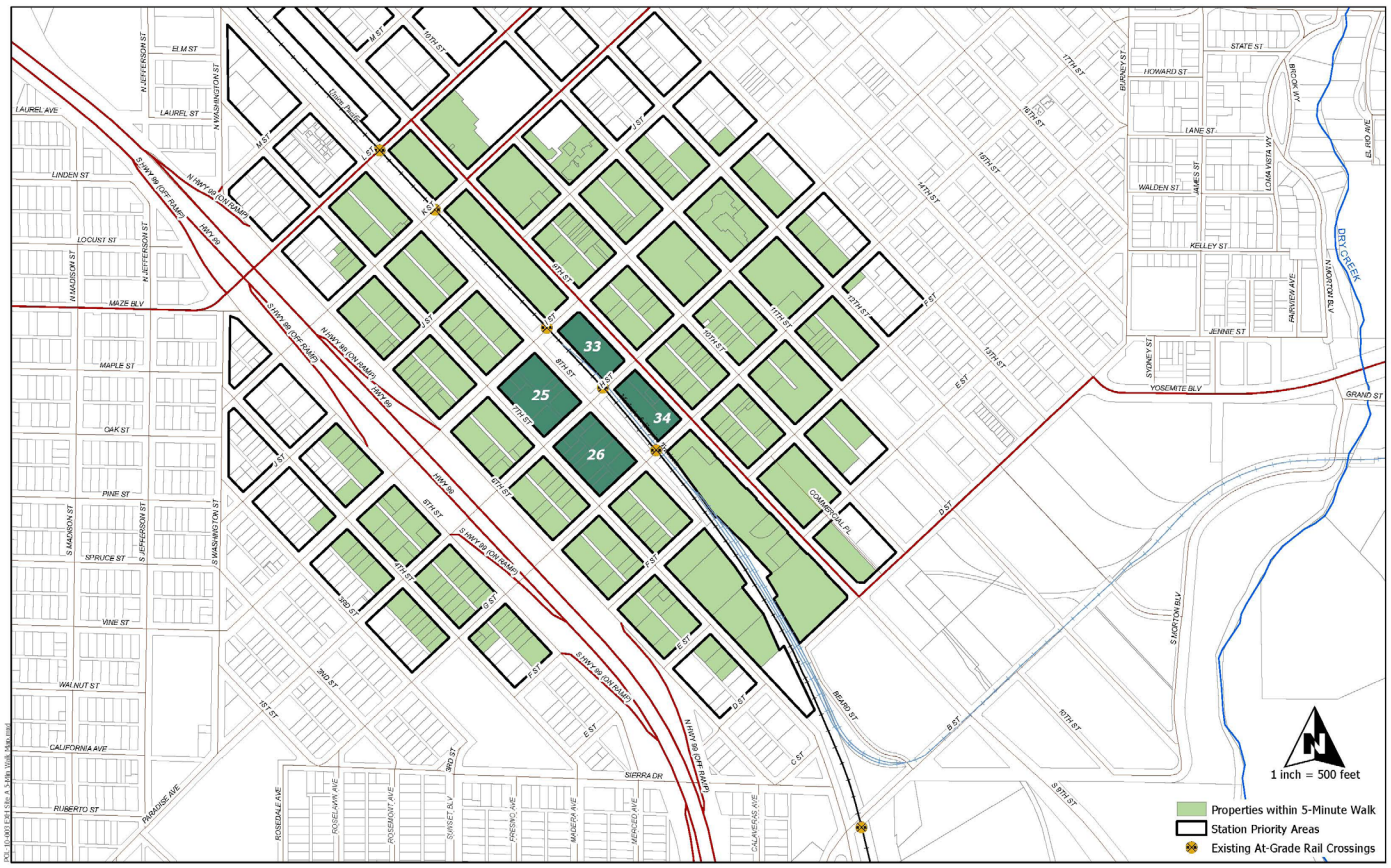
As shown on Figure 5, there is a substantial amount of parking in the study area. The City of Modesto currently owns or operates approximately 2,600 off-street parking spaces and owns enough curb space to park approximately 3,200 cars on street, for a total of approximately 5,800 spaces within the three-site study area.

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. On-street parking is most commonly used for short-term automobile storage, while off-street parking is most commonly used for long-term storage. Public parking, both on- and off-street, can be used flexibly to satisfy all of these needs.

<u>Important considerations</u>:

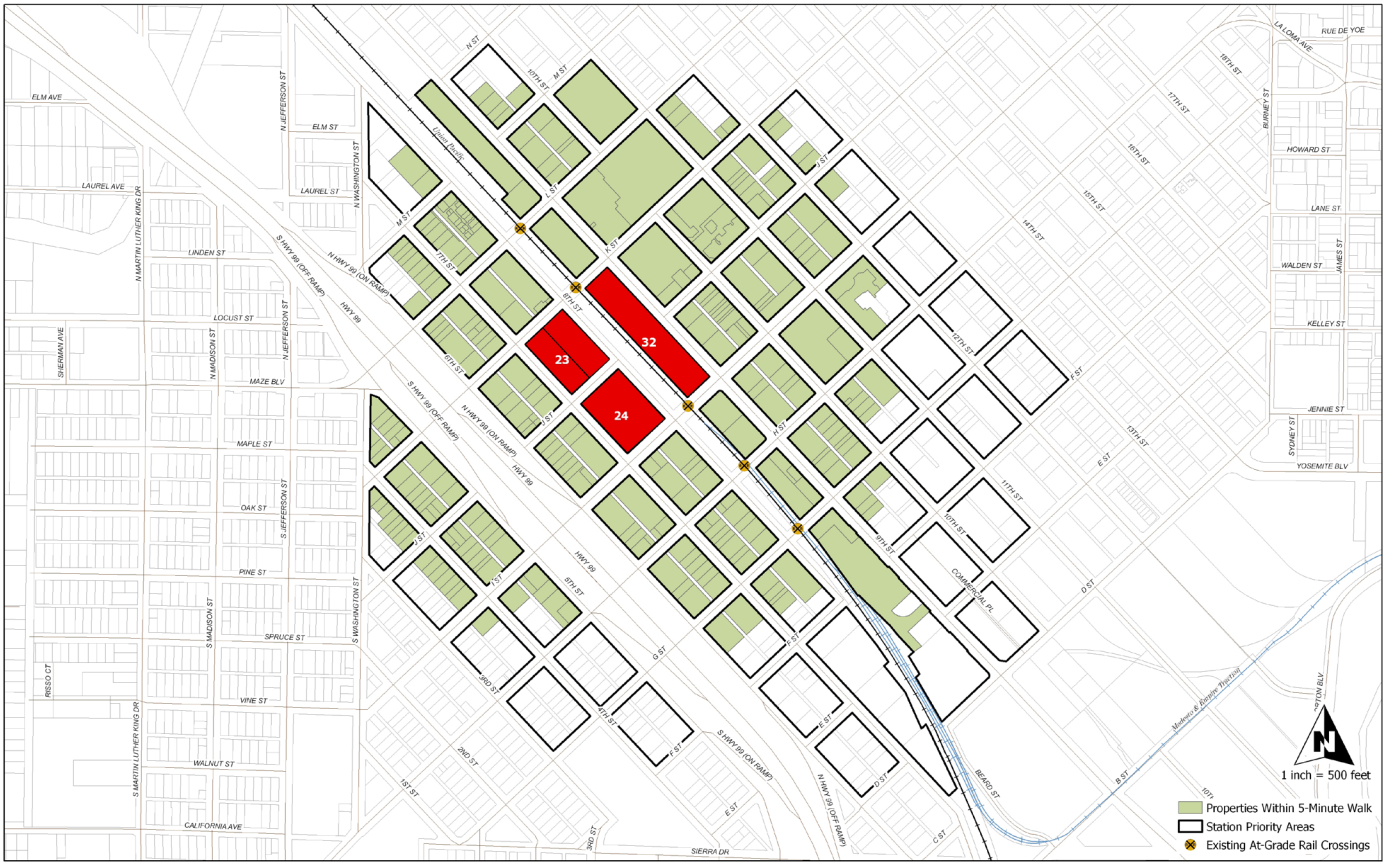
Demand for stand-alone parking changes with use, development intensity, and travel mode.

- Modesto's form-based code allows intensification of development with minimal parking requirements.
- New development is expected to comprise substantial residential development which will allow better utilization of existing parking.
- 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.



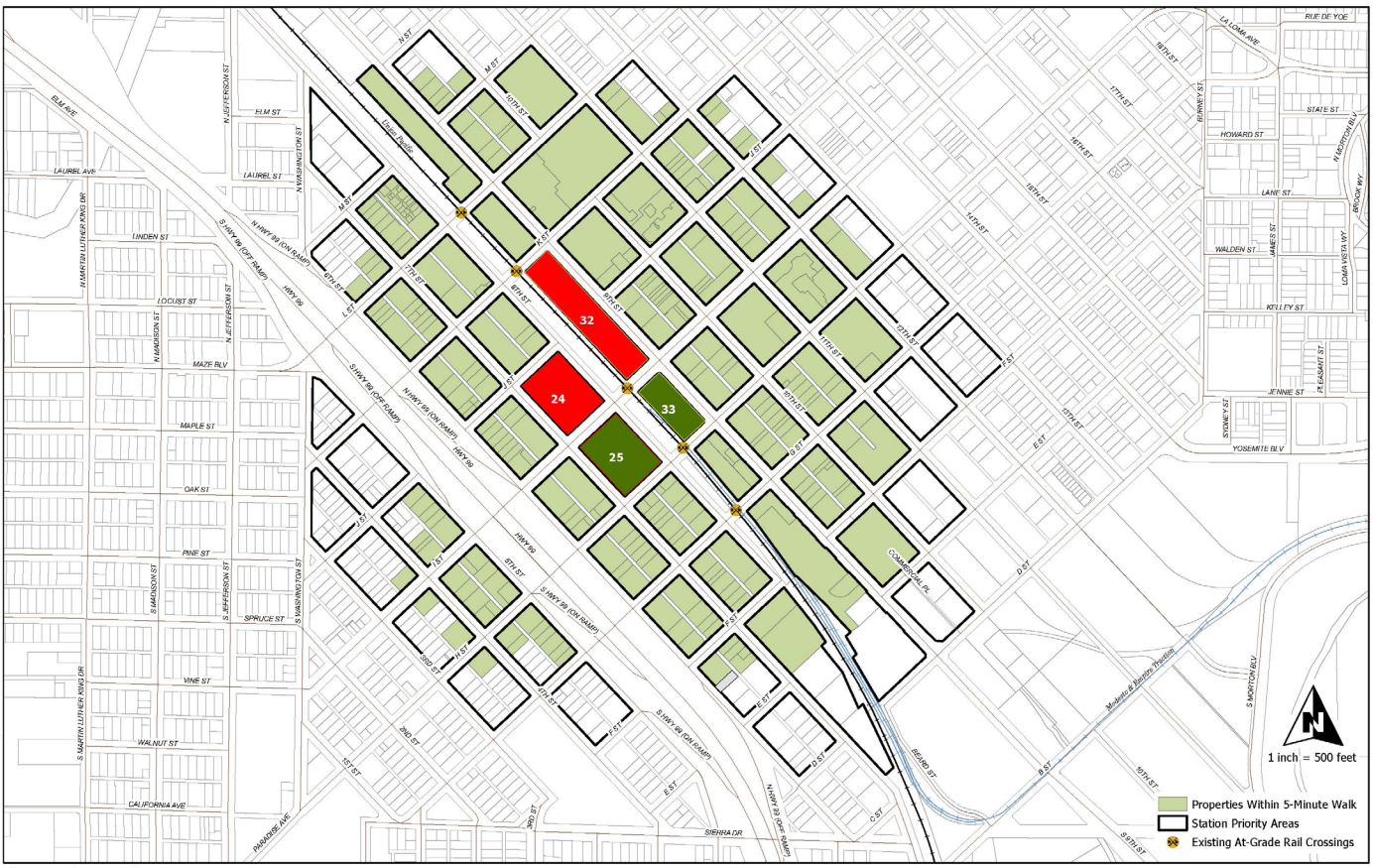
Site A Walk Map

Figure 2



Site C Walk Map

Figure 3



Site D/E Walk Map

Figure 4

- Parking built to accommodate rail riders can eventually be repurposed to serve other downtown users as parking demand declines.

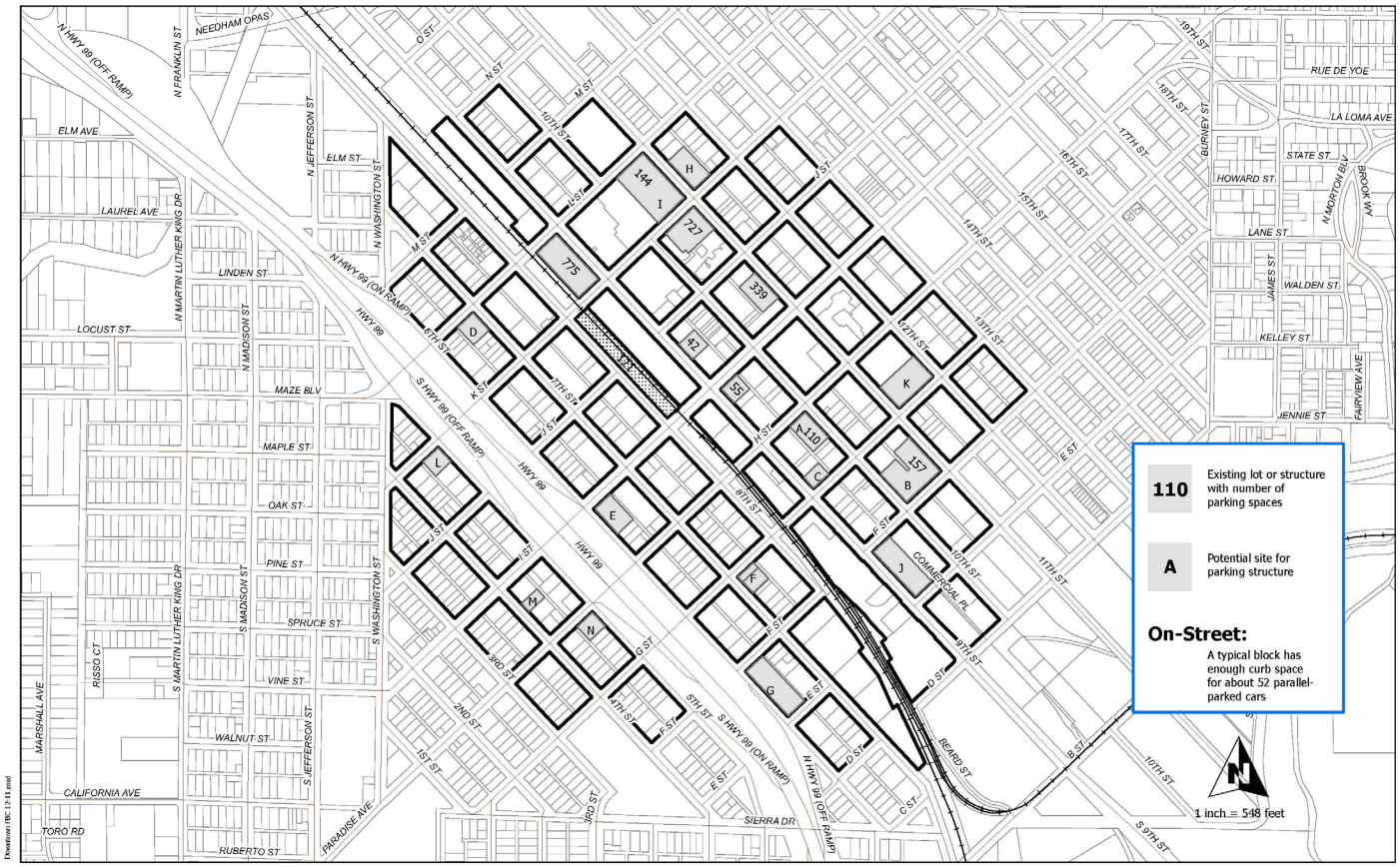
- Modern parking management will be necessary to reduce parking demand. Reducing the number of people driving downtown alone will require a long-range strategy that includes metered parking, flexible market-rate prices for parking, high-frequency transit service, reduced parking ratios, and other strategies.

Site A As shown on Figure 6, 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 a conservative estimate of 4,000 spaces. Surface parking lots within a five-minute walk of Site A, accounting for 485 spaces, would certainly be removed when passenger rail is established, for a net of approximately 3,500 spaces if no additional parking is constructed.

Site C Figure 7 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 an estimate of 3,900 spaces. Approximately 470 surface parking spaces would likely be removed when passenger rail service is established for a net of approximately 3,400 spaces if no additional parking is constructed.

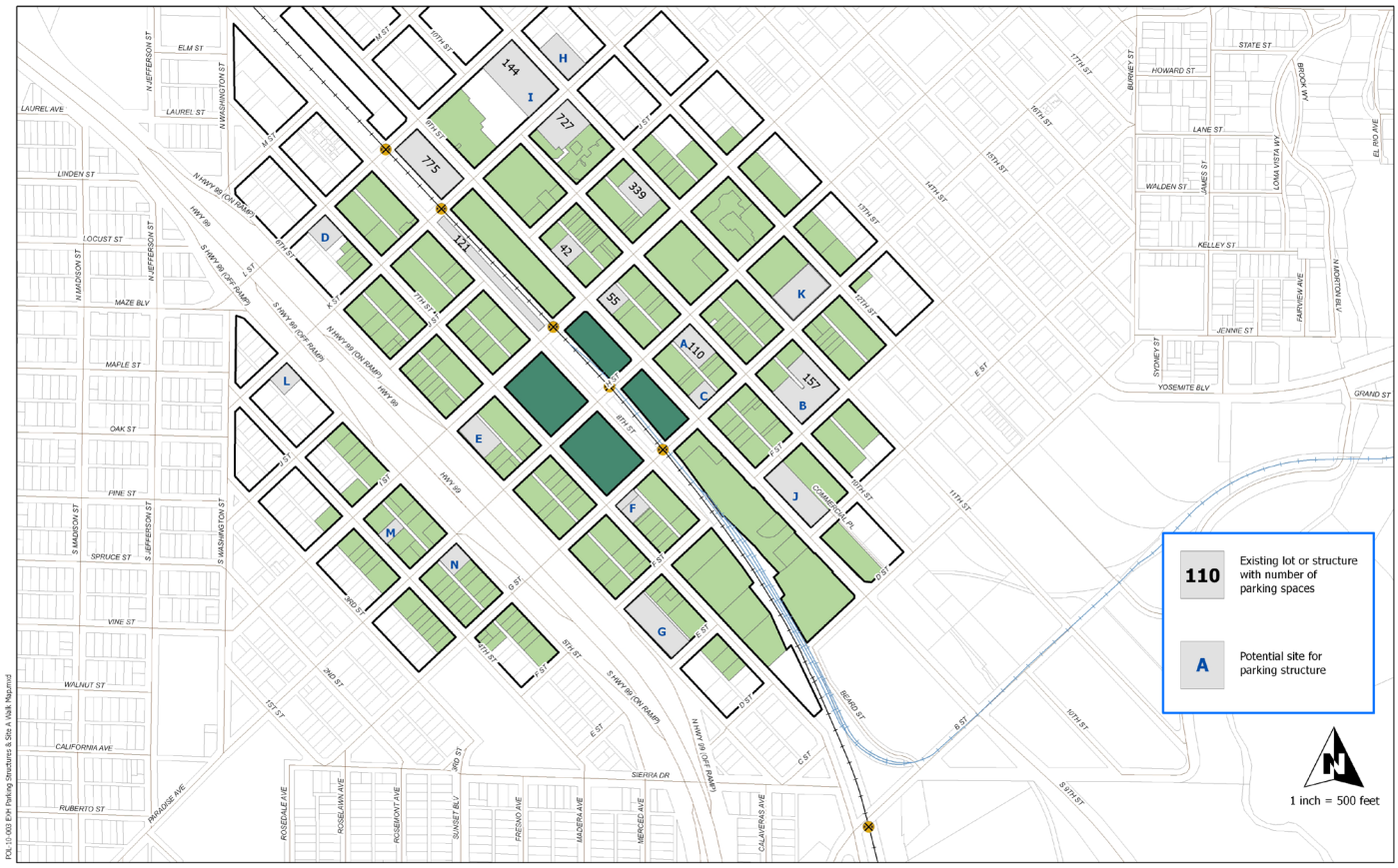
Site D/E This site has approximately 2,500 off-street parking spaces and approximately 1,800 on-street spaces within a five-minute walk of the site, as shown on Figure 8, for an estimate of 4,300 spaces. Approximately 630 surface parking spaces are likely to be removed when passenger rail service is established for a net of approximately 3,700 spaces if no additional parking is constructed.

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, it is reasonable to assume additional parking in downtown near the passenger rail station will be needed to support rail ridership.



Existing Off-Street and On-Street Parking and Potential Parking Sites

Figure No. 5



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

Figure 6

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

Figure 7

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

Figure 8

Site and Circulation Plans

For many reasons, it is in the public interest to make walking, bicycling, bus, and train facilities as readily available and convenient to use for work and non-work purposes, as are private automobiles.

Each site has two sets of site and circulation plans. The first set illustrates conceptual site and circulation plans for the above-grade rail option and the second set illustrates conceptual site and circulation plans for the at-grade rail option. Generally speaking, the above-grade option utilizes space more efficiently by allowing two levels for the station. The at-grade option presents safety concerns by radically increasing the width of railroad right of way crossing streets and sidewalks.

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. 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.)

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 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.)

Site D/E Site D/E is the largest site. Less demand for rail travel is assumed for the at-grade option, as the train would likely provide primarily lower speed, interregional (rather than statewide) service. Because it straddles I Street, closure to through 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. (See Figures D/E-1 and D/E-2.)

Discuss station options and rank Sites A, C, and D/E in order of preference.

Workshop 3: Report on Results

About two dozen members of the public attended the June 20, 2012, workshop. After the introduction and project background describing how the three preferred sites were selected, the conceptual site plans and circulation plans for each of the three sites (A, C, and D/E) was discussed extensively amongst the room. The conceptual nature of the plans was emphasized.

A number of comments, concerns, and questions were raised by the attendees. In no particular order, they are:

- Where was the original station?
- Don't close H Street.
- The above grade option will leave usable space below the tracks.
- How will the station be designed around the Union Pacific rail line?
- When asked, citizen groups like the signal timing on G and H Streets.
- Why isn't a below grade option being considered?
- Do the plans call for the relocation of the historic Southern Pacific depot?
- Are there any plans to buy and demolish St. Stanislaus church?
- How far out of town would the line remain above grade?
- The expansion area for Site D/E could also be used for Site C.
- I can't imagine closing I Street.
- Why not consider the area between L and K and 7th and 8th?
- Are there options to closing I Street?
- What would be the impact on the Save Mart on Downey of closing I Street at 9th Street?
- What would be the impact on the west side (Paradise Road) traffic into downtown of closing I Street at 9th Street?
- I Street closure concept should go to City Council.
- Any station plan that closes I Street gives momentum to that concept.
- If you close I Street, you need parking to accommodate increased pedestrian traffic.
- G and H are commuter streets, it's OK to close I Street, there's not as much traffic.
- An at-grade crossing for passenger rail is too dangerous.
- Block 25 is good.
- What is the noise impact of passenger rail on St. Stanislaus?
- For Site C, why not take another half block between I and H Streets?
- Why wasn't the area of 7th and I Street considered?

Each of these points was discussed during the workshop. Below, we respond to the questions and concerns identified above in order to represent the content of Workshop 3 as completely as possible.

Where was the original station?
The original stop seems to have been approximately one block south of the existing 1915 Southern Pacific Depot on what is now 9th Street.

Will historic buildings be relocated or demolished?
No decisions have been made yet regarding if, when, or how a passenger rail station will be built in downtown Modesto. It is unknown at this time whether the rail line will pass through downtown Modesto (near the Union Pacific Railroad) or on the east side of Modesto (near the Burlington Northern-Santa Fe Railroad).

However, assuming the alignment will pass through downtown Modesto, staff believes that incorporating the 1915 Southern Pacific Railroad Depot into the station design would provide context for a new station, while preserving an important part of Modesto's history. There are no plans to demolish or move St. Stanislaus Church, which would be expensive and would destroy an important part of the city's history. These issues will be considered further if Modesto and the region decide to host a passenger rail station.

Discussion of study area sites and configurations other than Sites A, C, and D/E
The study area for a possible passenger rail station was broadly delineated through discussions with consultants to the California High Speed Rail Authority. The study area was thus bounded roughly by State Route 99 and Jefferson Street on the west, the Union Pacific Railroad on the east, Sierra Drive and B Street on the south, and the Needham Overpass on the north.

Each block in the study area was evaluated using the criteria established at Workshop 1. Attendees at Workshop 2 identified groups of blocks they considered preferable for a station using the criteria and their knowledge of Modesto.

Discussion of different vertical alignments
The physical characteristics of travel on a high-speed rail system limit track curvature. Whether curves are up and down or side to side, curves must be very long and gentle to minimize passenger discomfort. Some portions of the larger system will travel through tunnels to minimize curves, while most portions will either be at-grade or above-grade for long stretches. Finally, tunneling is the most expensive option for the vertical alignment, although it might be feasible in some areas.

Both above-grade and below-grade alignments would make more space available for use at street level. Both of those options also eliminate at-grade street crossings, which would occur with the at-grade alignment. Safety for roadway users and pedestrians is a concern with the at-grade option. A below-grade option is not being considered by the City of Modesto because Modesto is not responsible for engineering the system. Modesto may express preferences for the alignment, but does not control the decision.

What about street closures and changing one-way streets to two-way streets?
Each of the site plans represents a single possibility for utilizing each site. There are many possible configurations which will be explored should the city elect to host a passenger rail station. Using more than a single block for a passenger rail station requires consideration of how people will move across the station and around the perimeter of the site. Passenger safety in particular is complicated if a street runs through a passenger rail station. The simplest approach,

but not the only approach, is to close streets that would run through the station and route traffic around the station perimeter.

One-way streets present a challenge to bus traffic. Because a passenger rail station will incorporate a bus station to facilitate passenger traffic to and from the station, buses will enter and leave the station site. To speed bus traffic to and from the site, buses need two-way street access on all sides of the station. Once again, this is not a requirement, but makes bus access to the site easier. Decisions about street closures and one-way or two-way streets will be made if Modesto decides to host a station and after design options are elaborated.

Final Tally

After discussing the pros and cons of each site, votes were tallied as:

Site D/E:	23
Site C:	16
Site A:	3

Site D/E is the clear preference of those attending Workshop 3, many of whom attended more than one workshop, some of whom attended all three workshops.

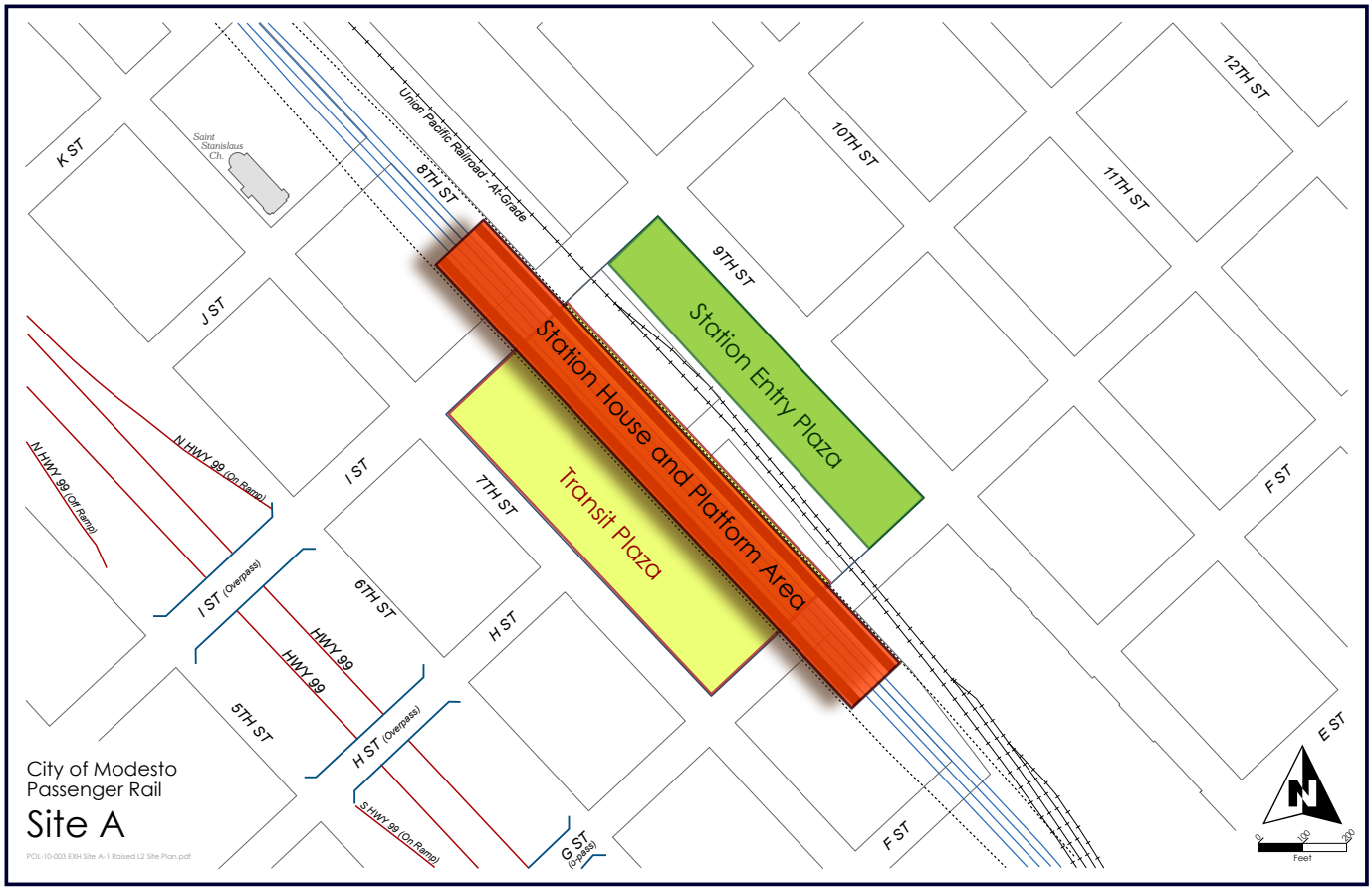


Figure A-1: Conceptual Site Plan, Above-Grade Passenger Rail, Lower Level Plazas

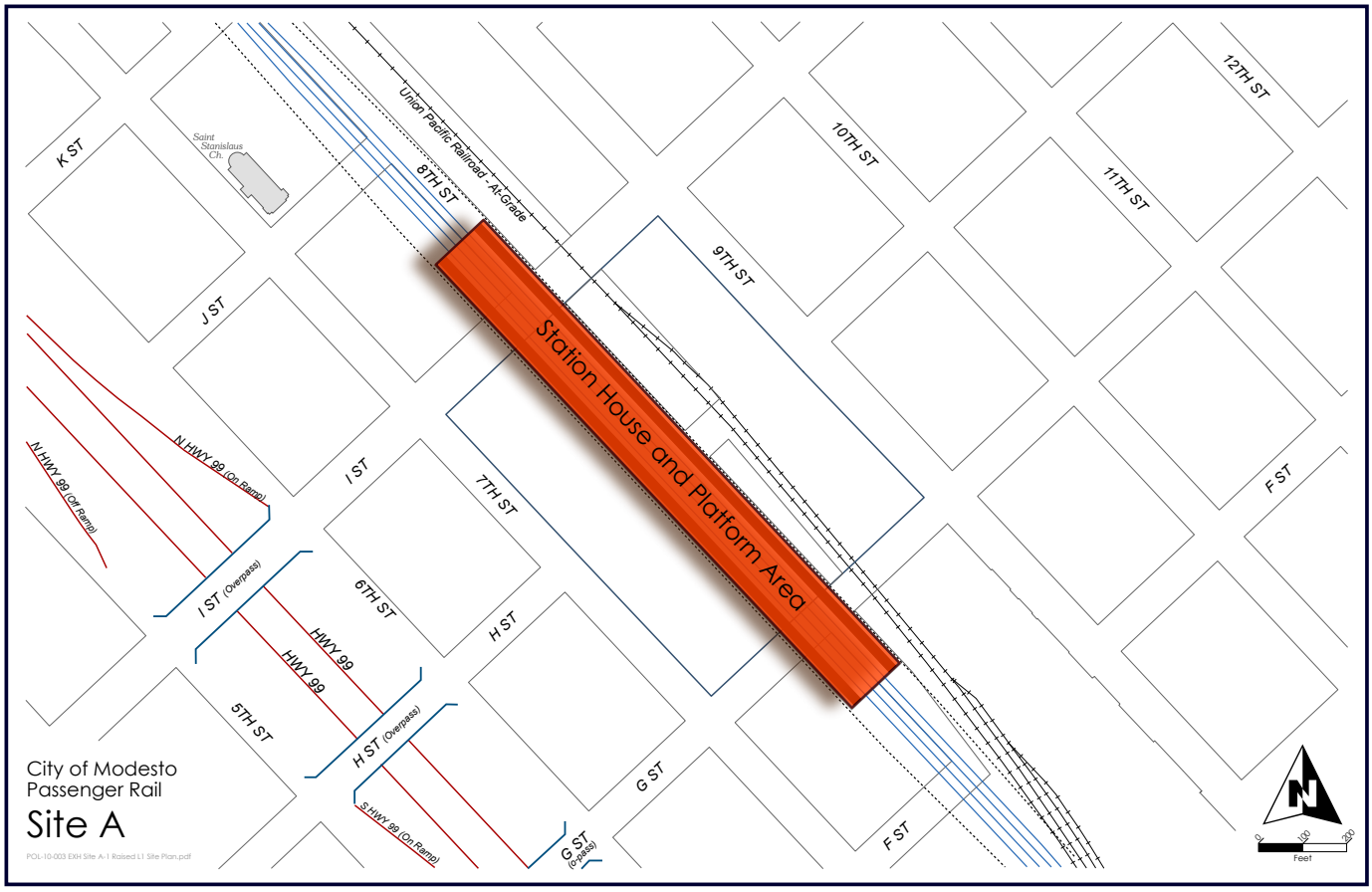


Figure A-1: Conceptual Site Plan, Above-Grade Passenger Rail, Upper Level Station House

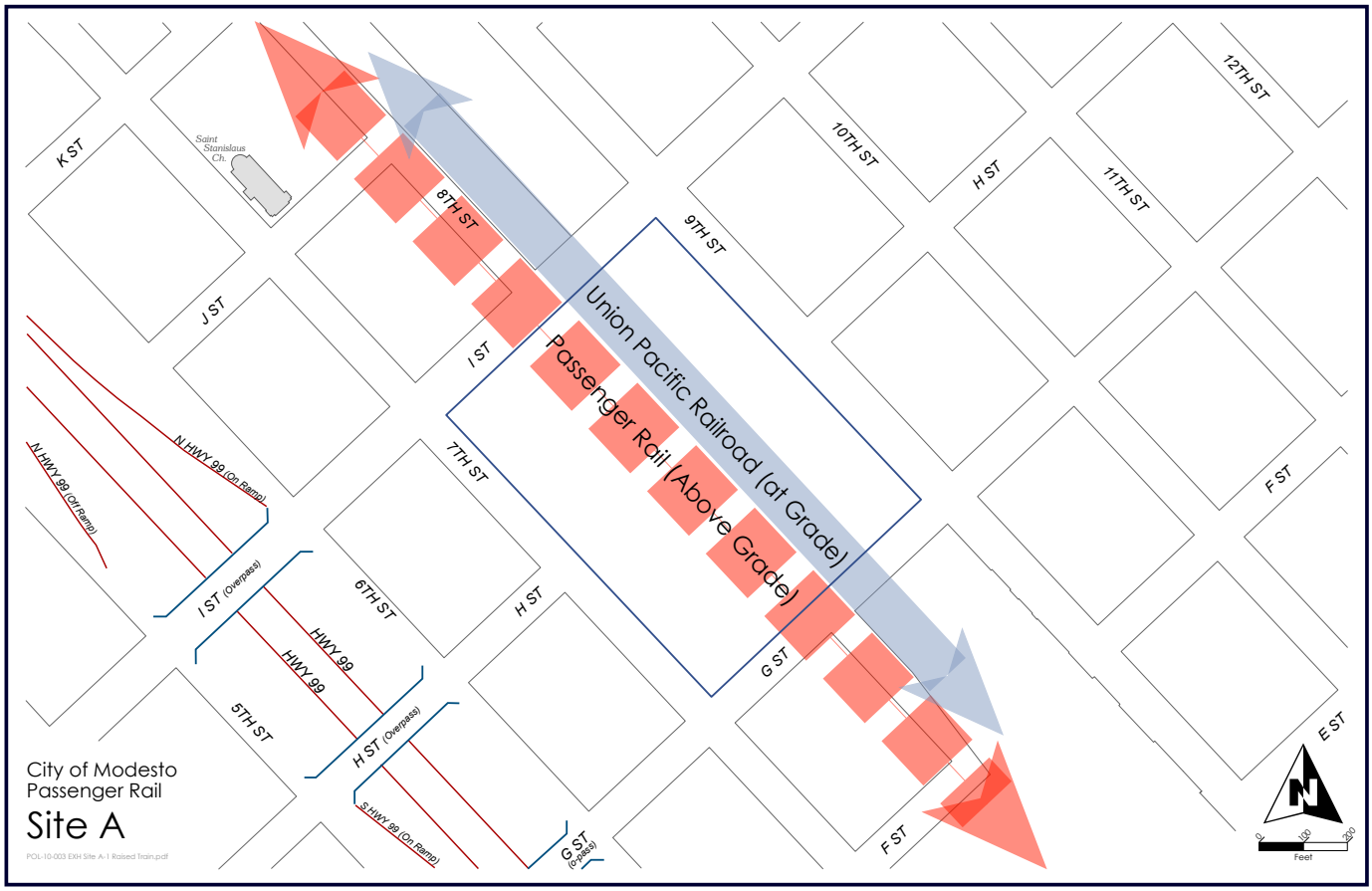


Figure A-1: Conceptual Train Circulation, Above-Grade Passenger Rail

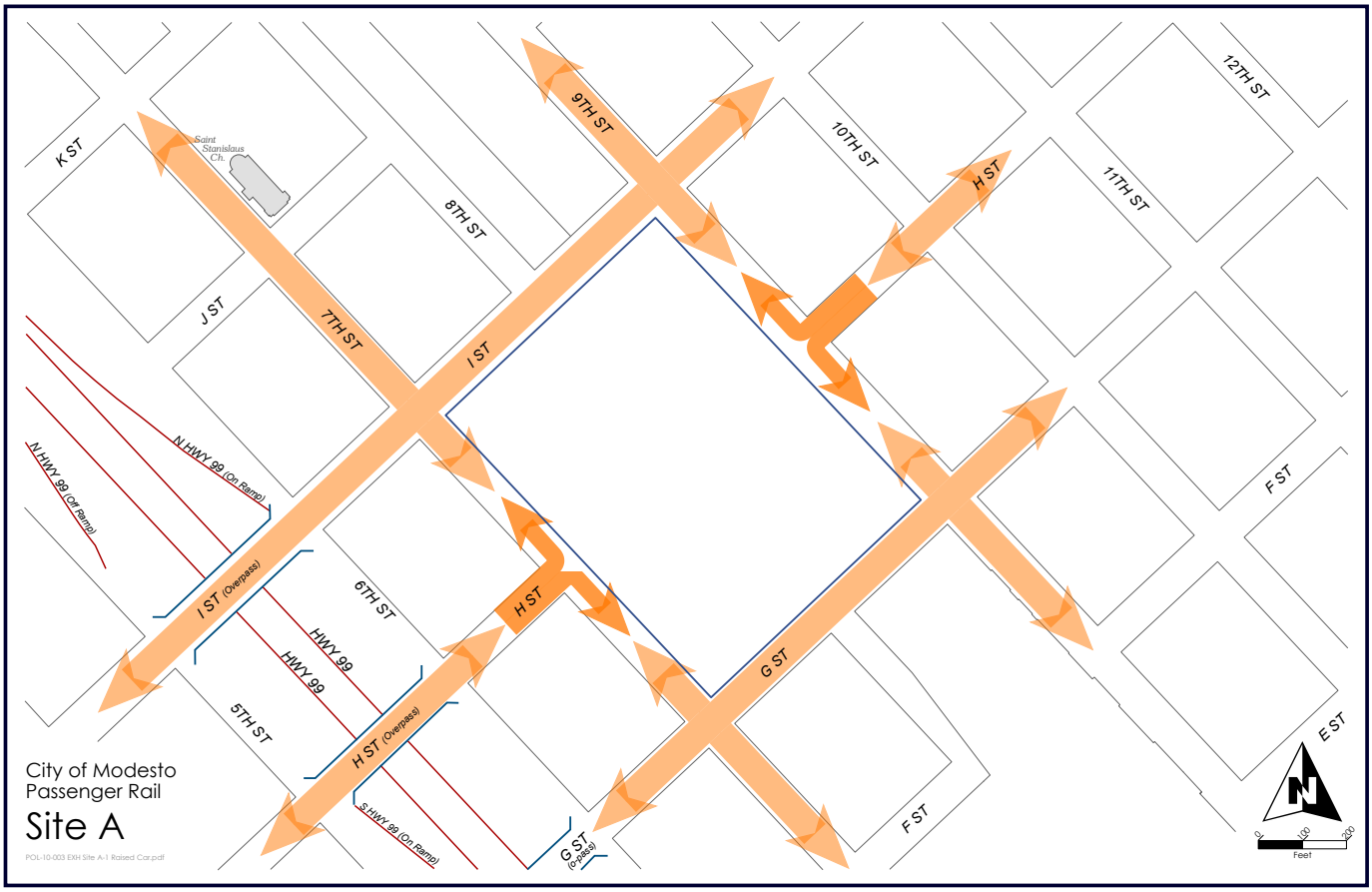


Figure A-1: Conceptual Automobile Circulation, Above-Grade Passenger Rail

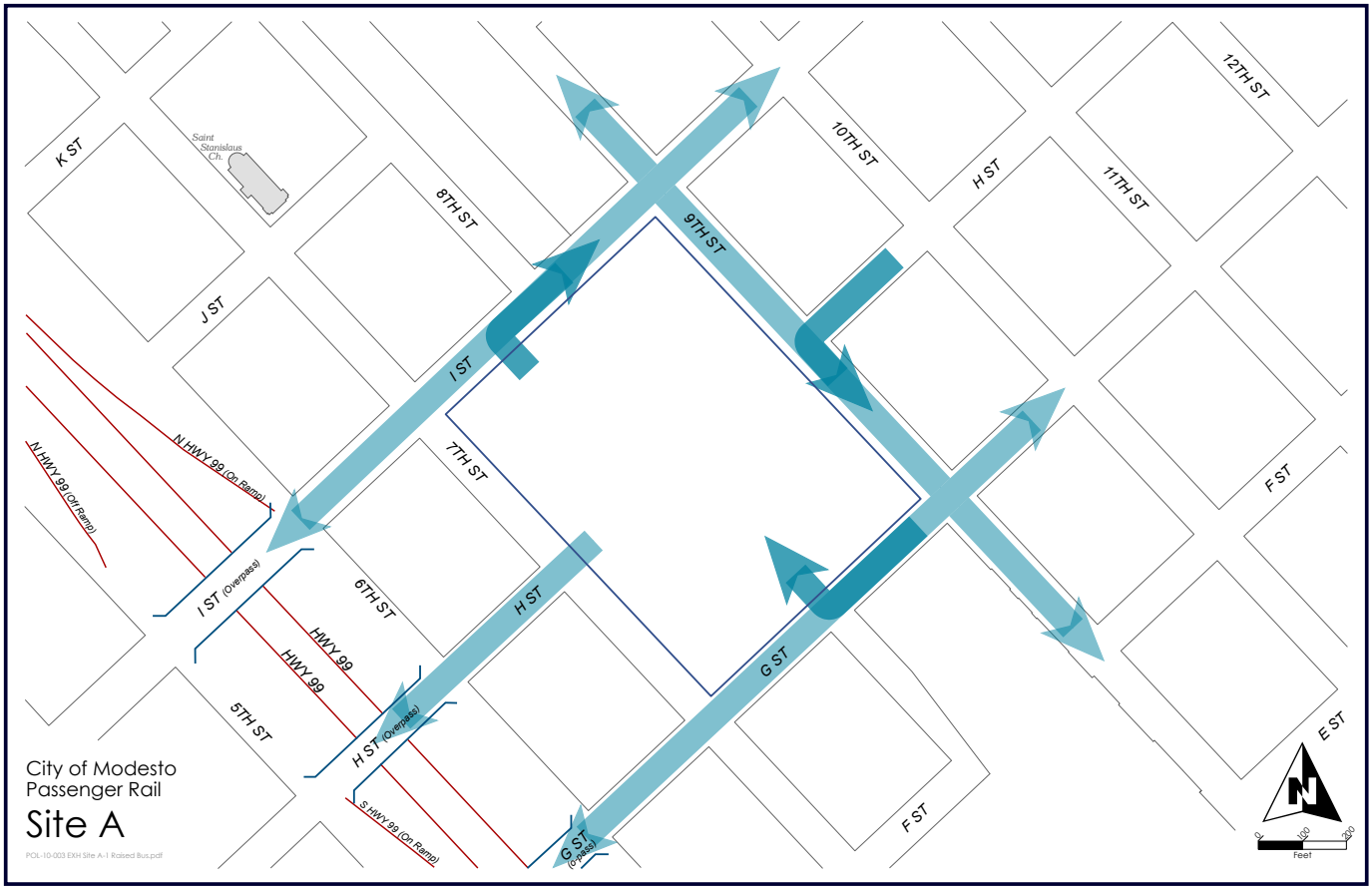


Figure A-1: Conceptual Bus Circulation, Above-Grade Passenger Rail

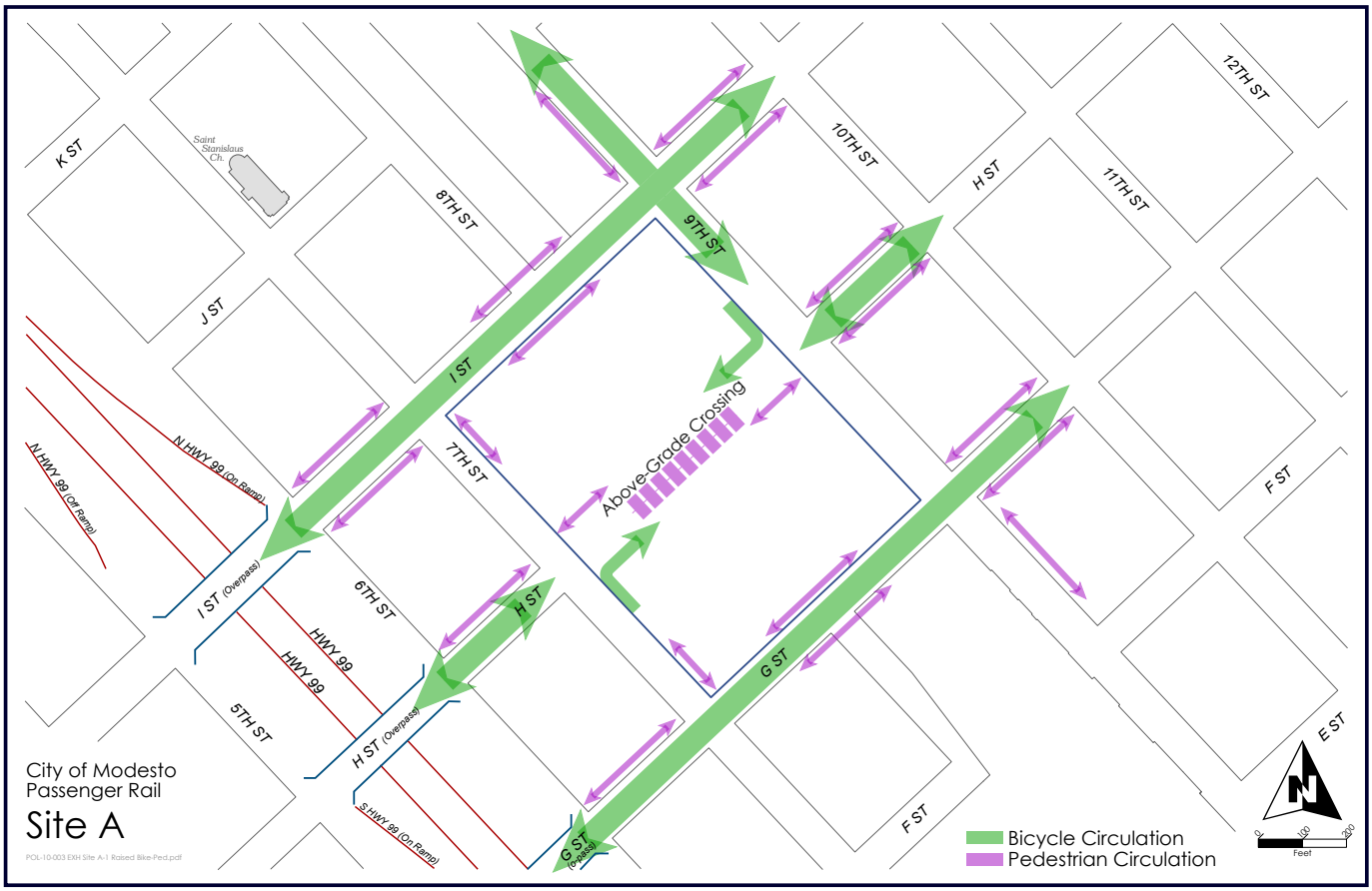


Figure A-1: Conceptual Bicycle & Pedestrian Circulation, Above-Grade Passenger Rail

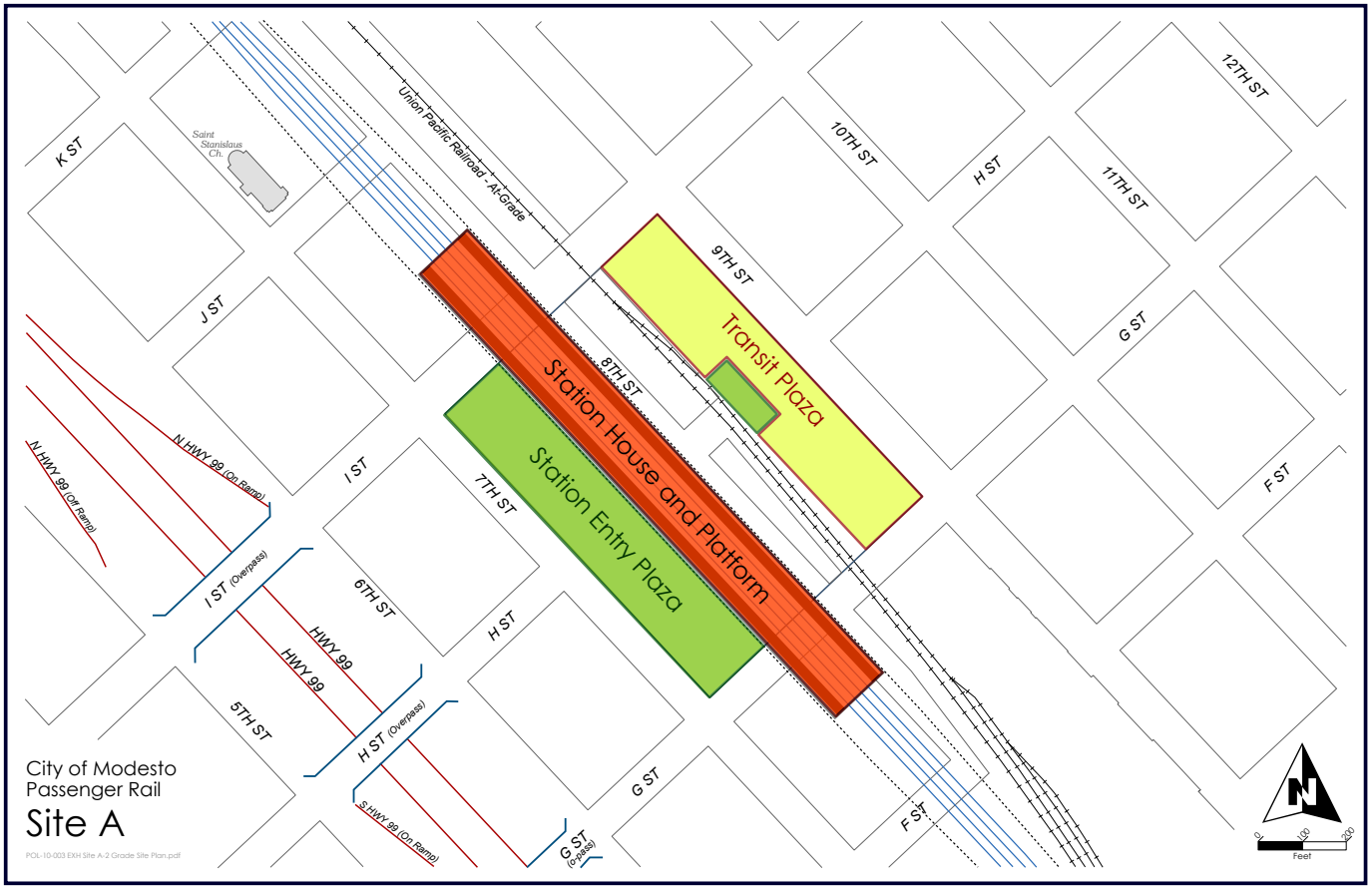


Figure A-2: Conceptual Site Plan, At-Grade Passenger Rail Service

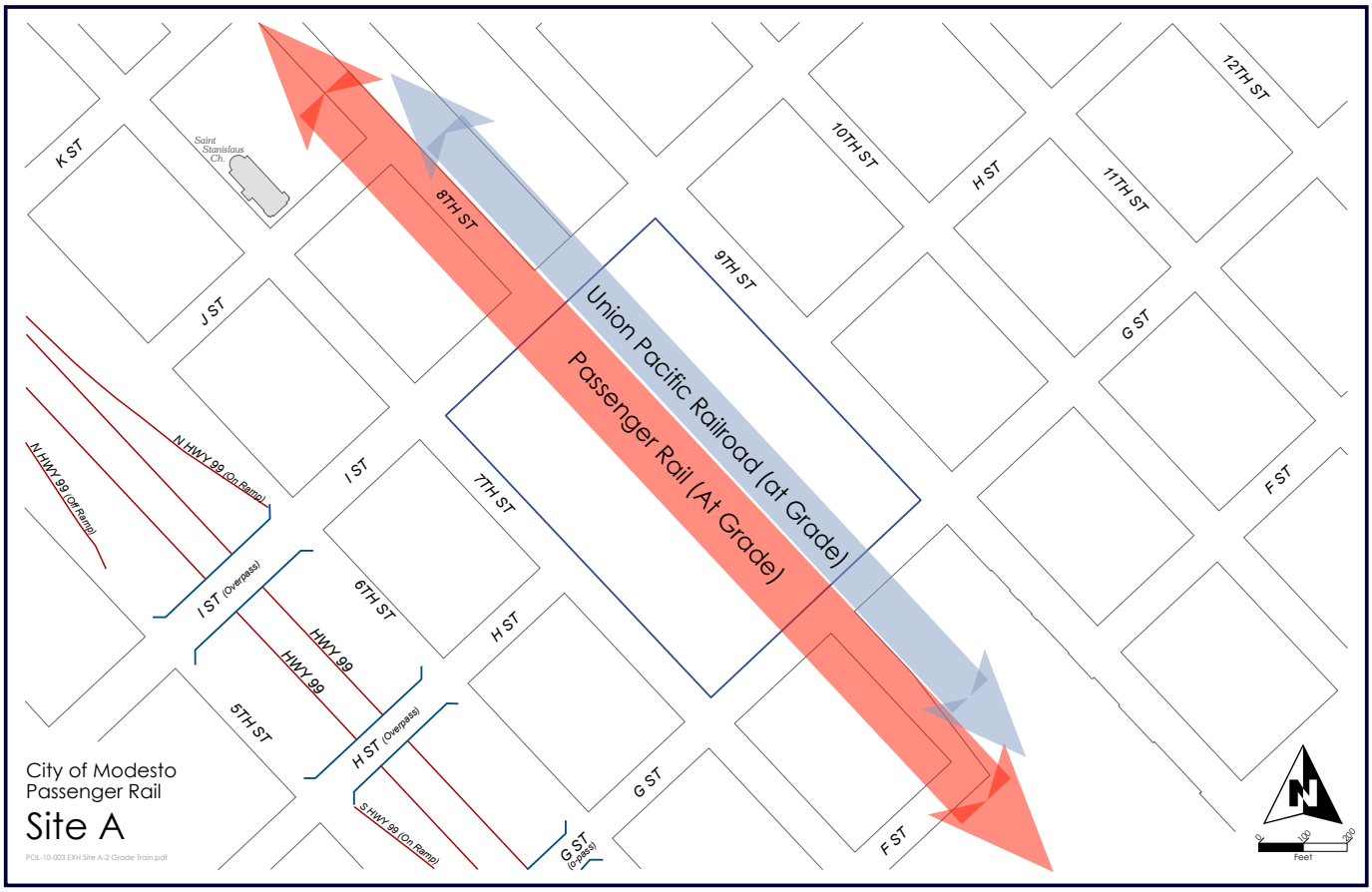


Figure A-2: Conceptual Train Circulation, At-Grade Passenger Rail

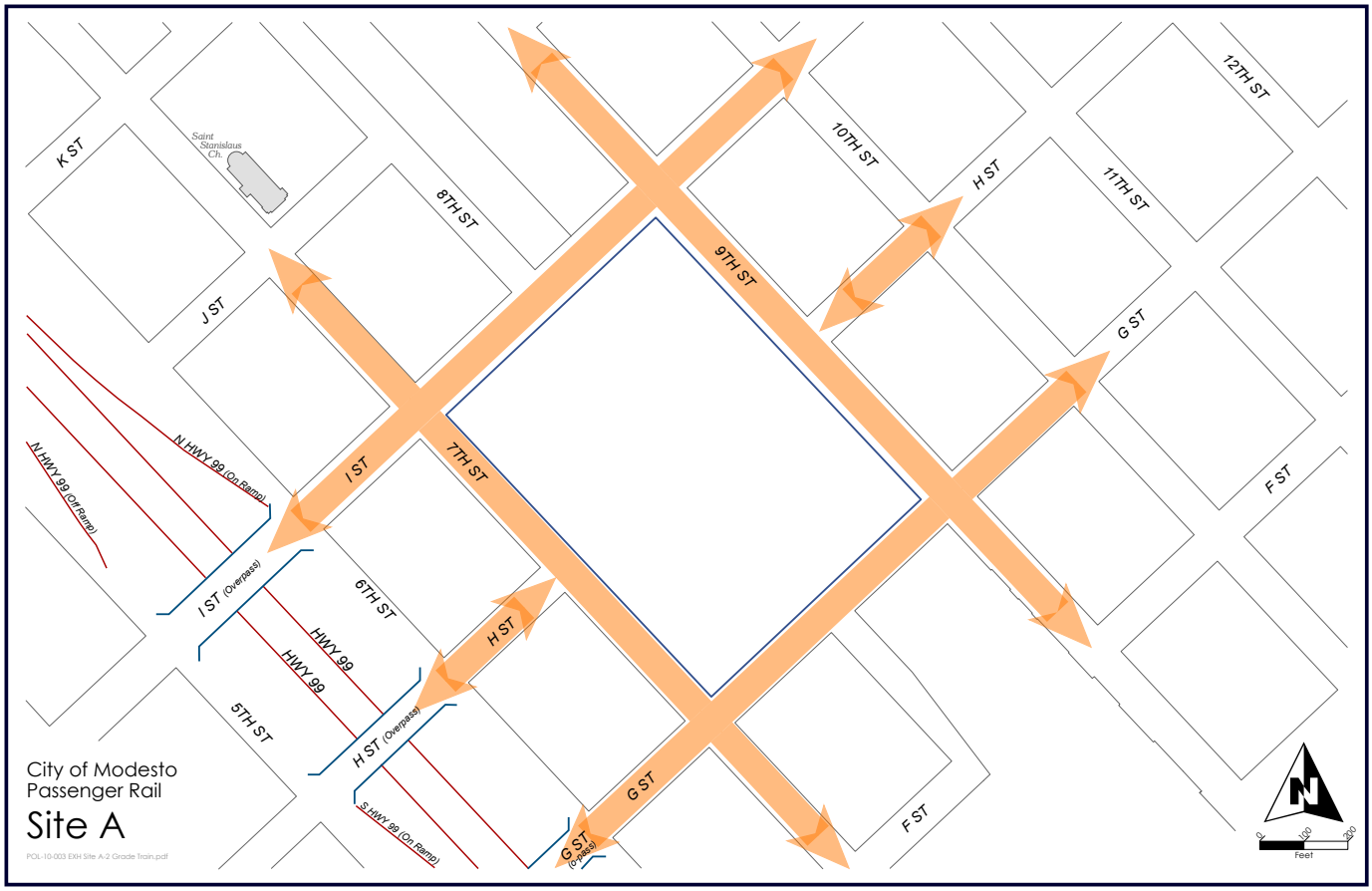


Figure A-2: Conceptual Automobile Circulation, At-Grade Passenger Rail

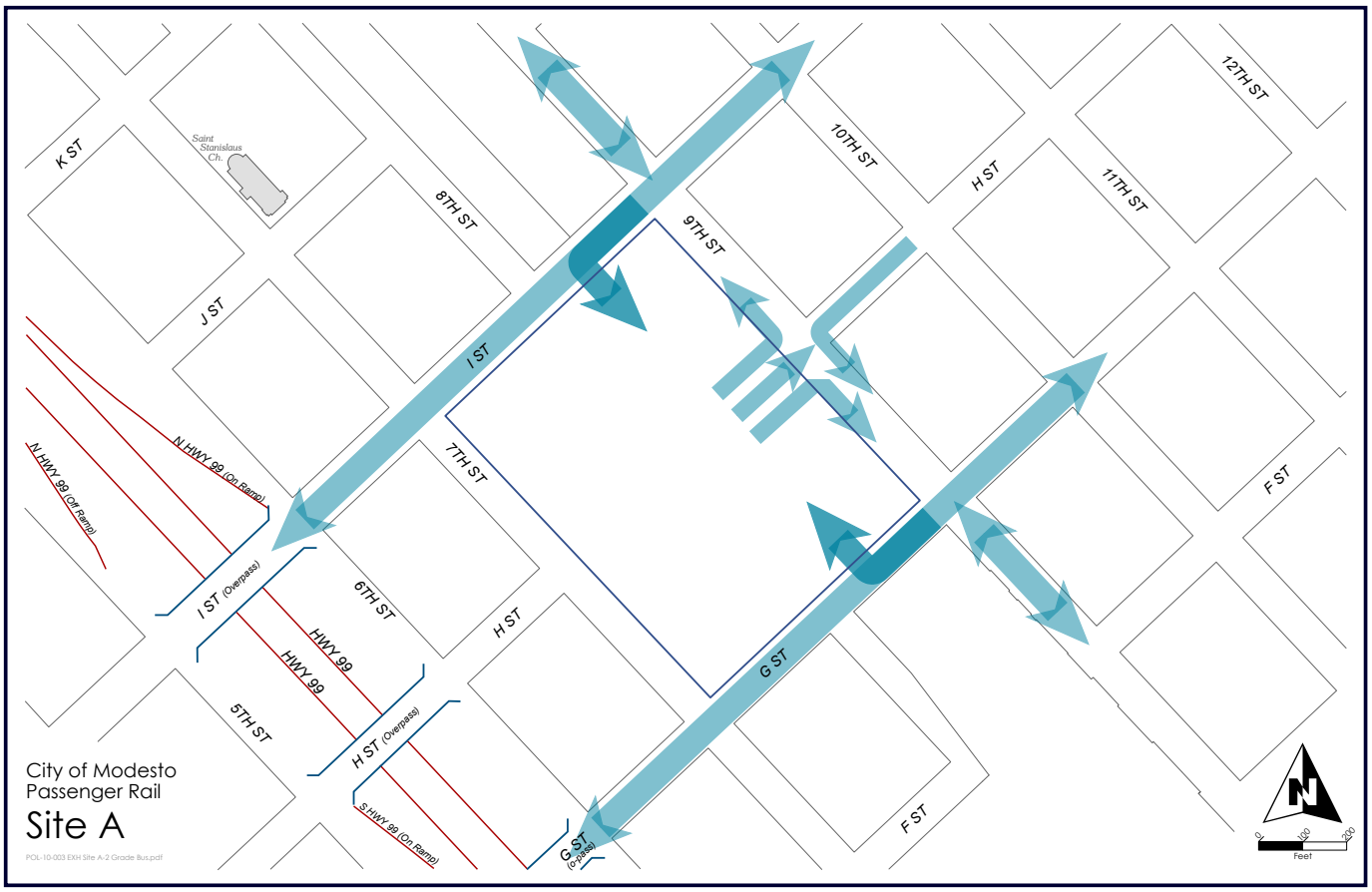


Figure A-2: Conceptual Bus Circulation, At-Grade Passenger Rail

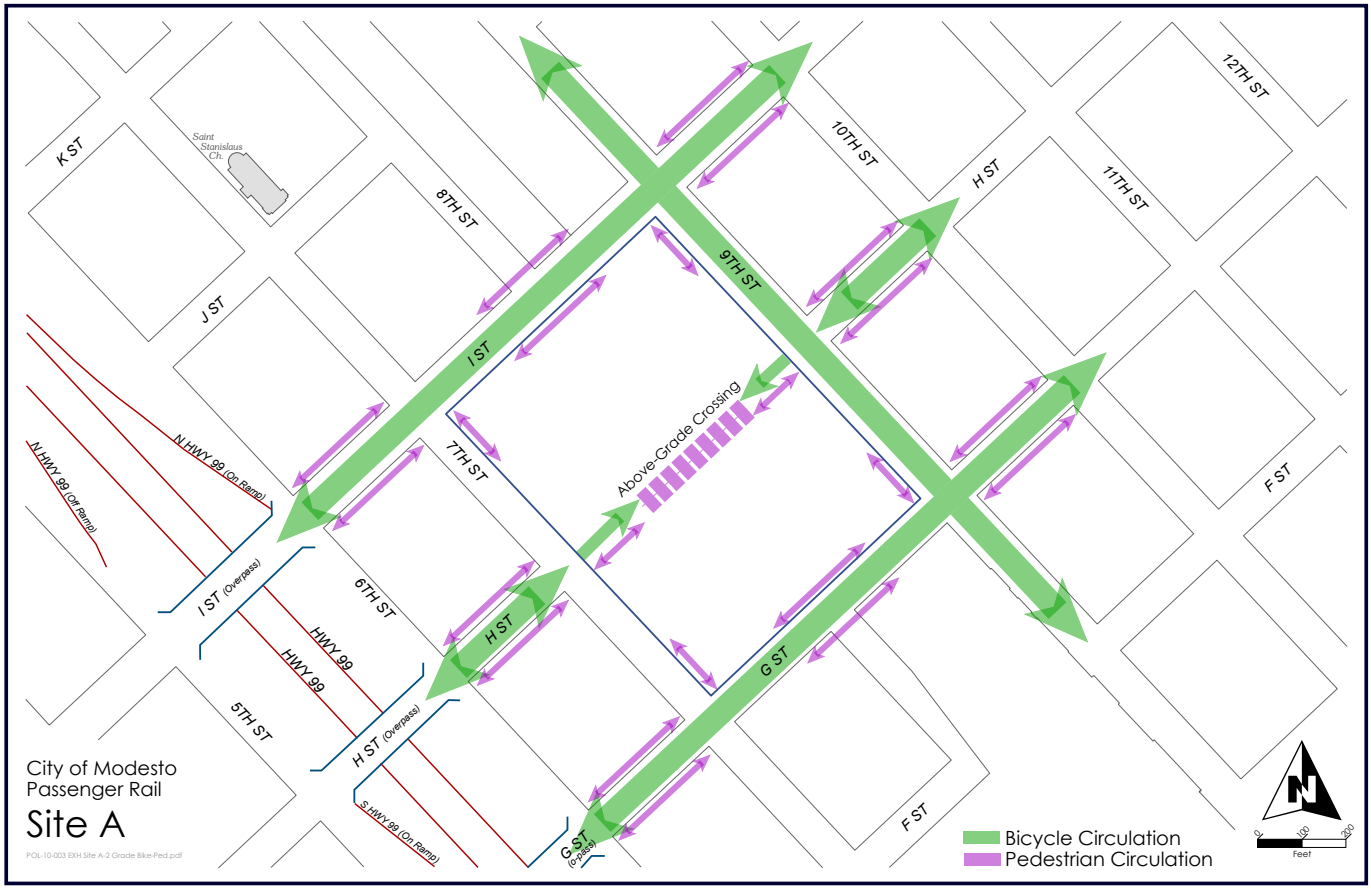


Figure A-2: Conceptual Bicycle & Pedestrian Circulation, At-Grade Passenger Rail

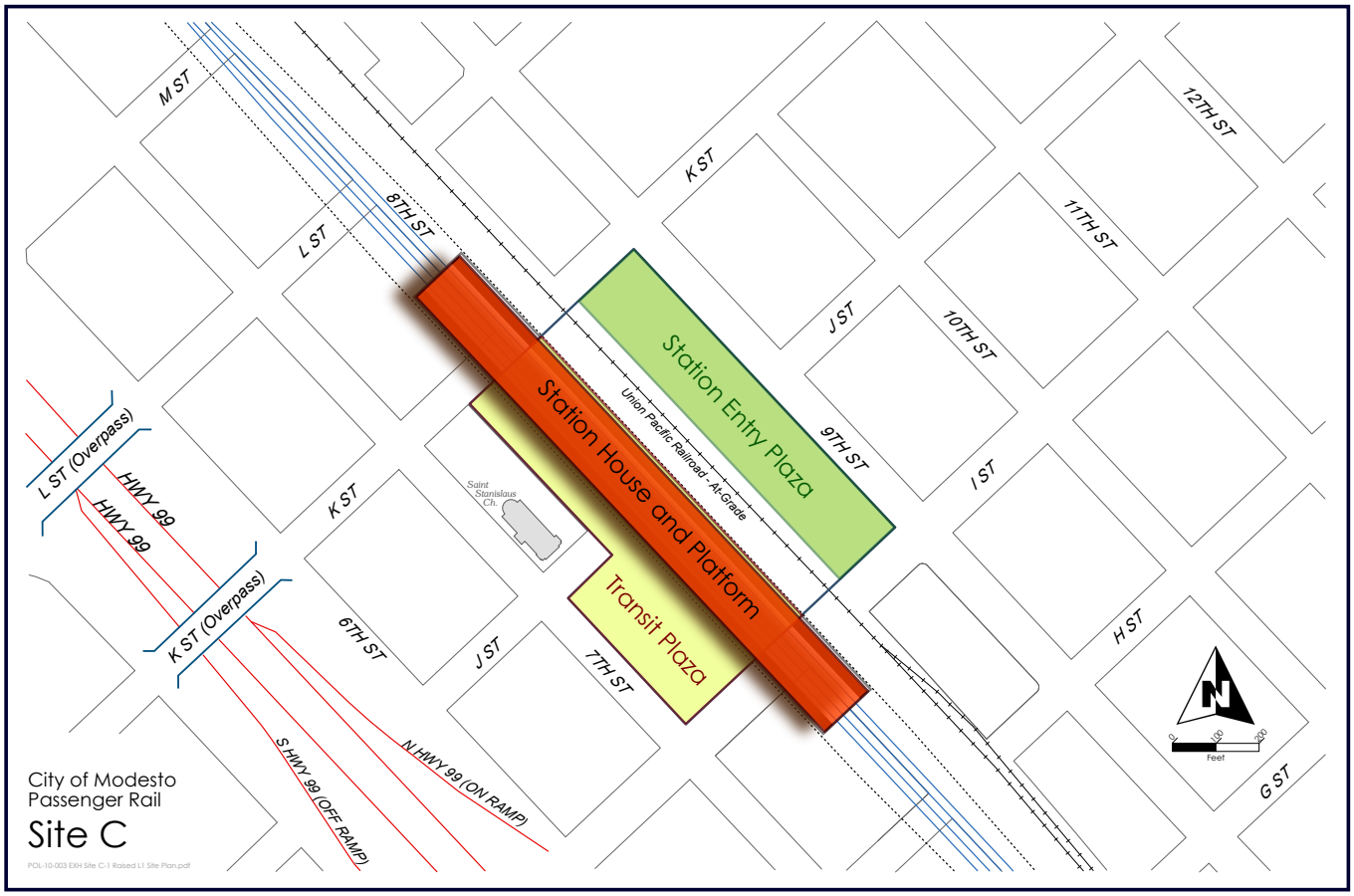


Figure C-1: Conceptual Site Plan, Above-Grade Passenger Rail Service, Lower Level Plazas

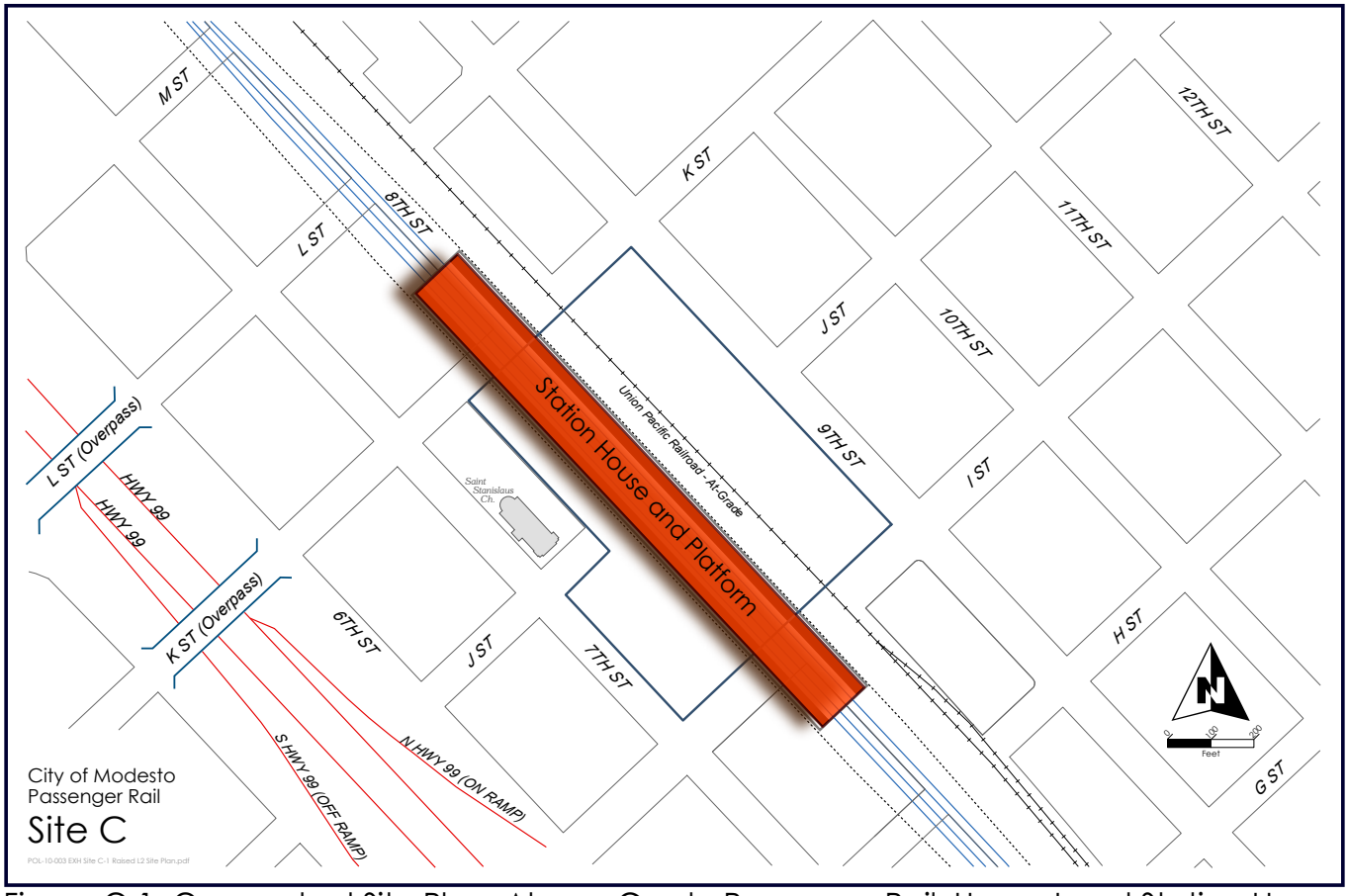


Figure C-1: Conceptual Site Plan, Above-Grade Passenger Rail, Upper Level Station House

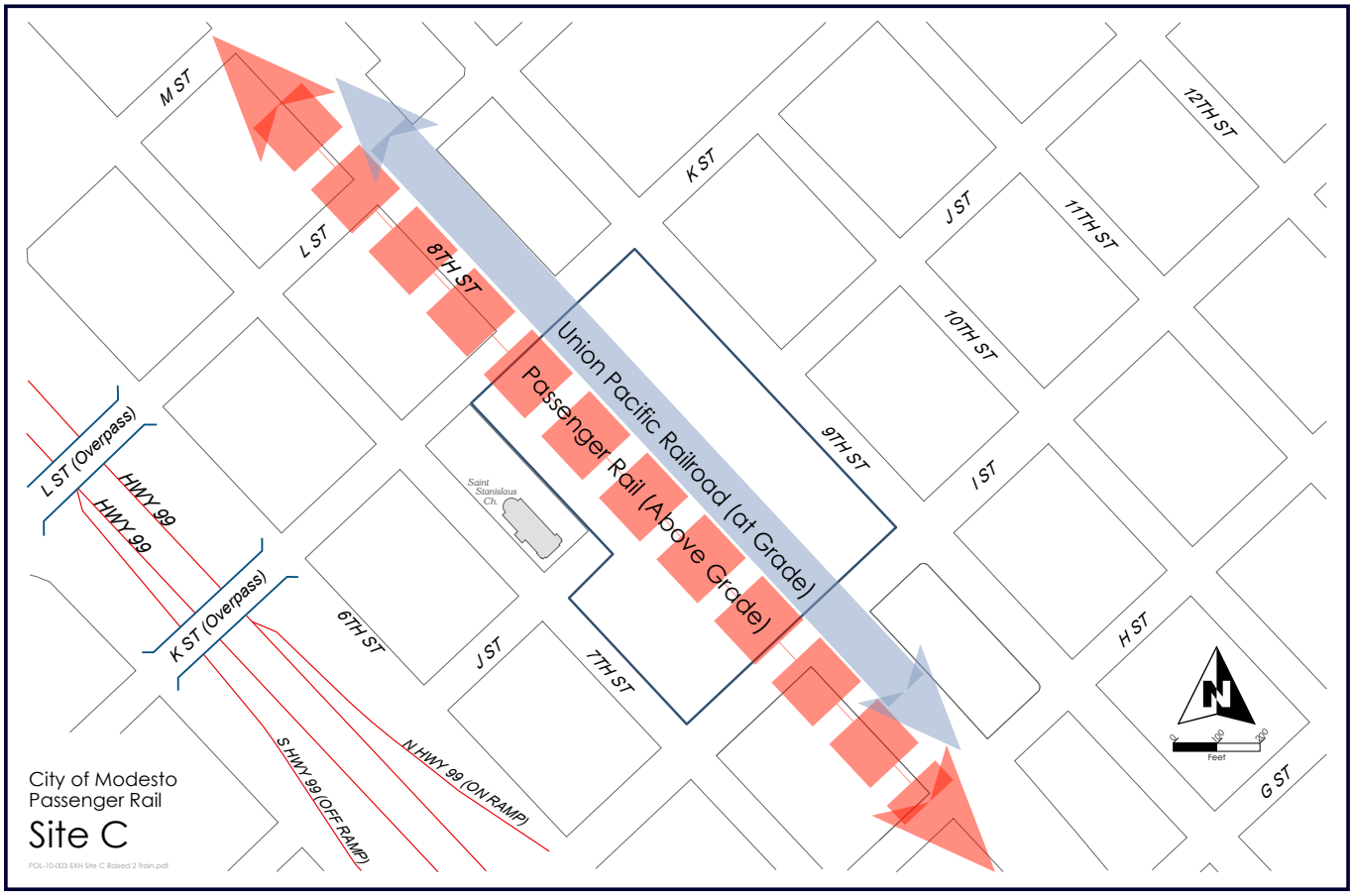


Figure C-1: Conceptual Site Plan, Train Circulation, Above-Grade Passenger Rail Service

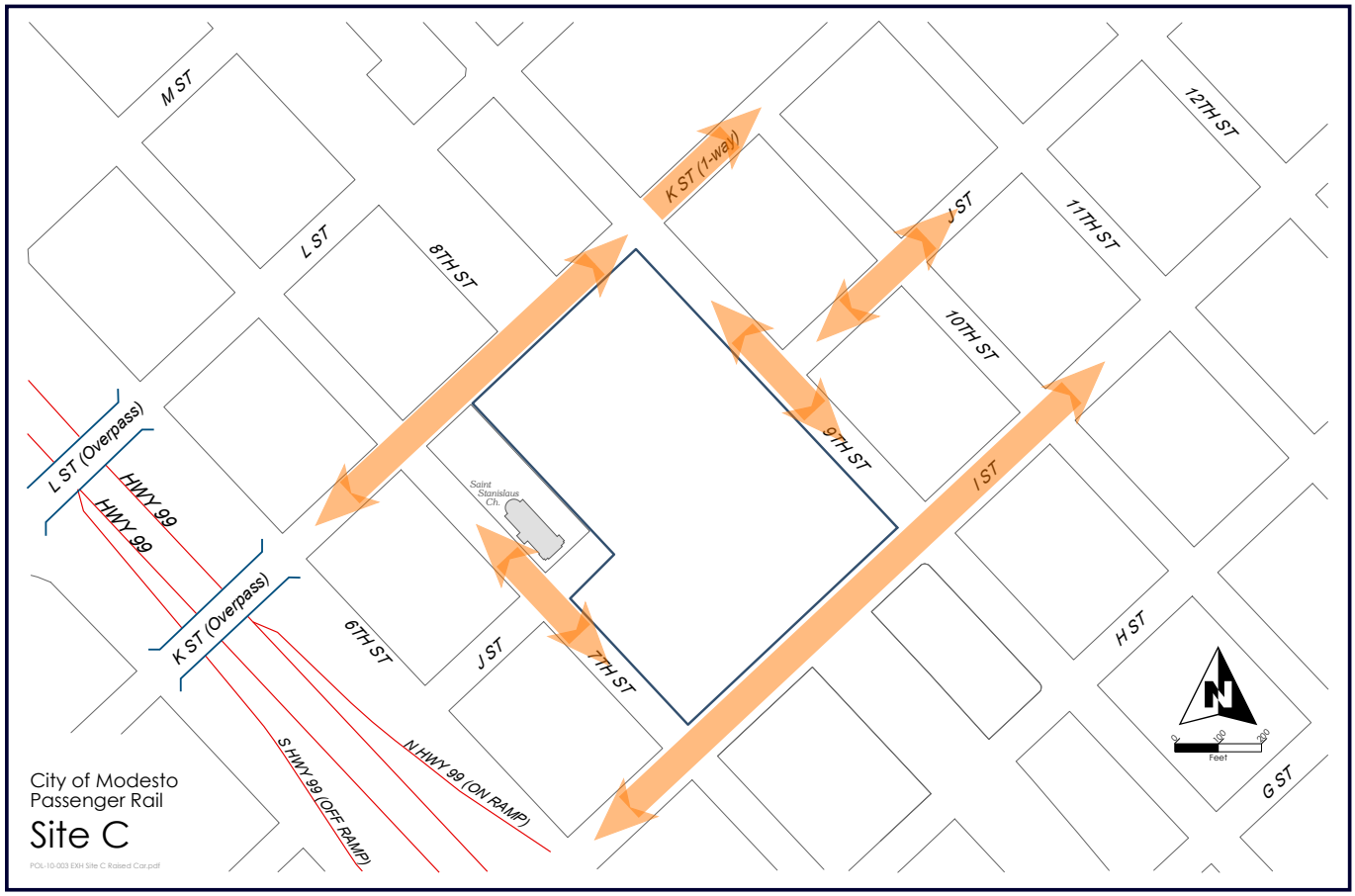


Figure C-1: Conceptual Automobile Circulation, Above-Grade Passenger Rail Service

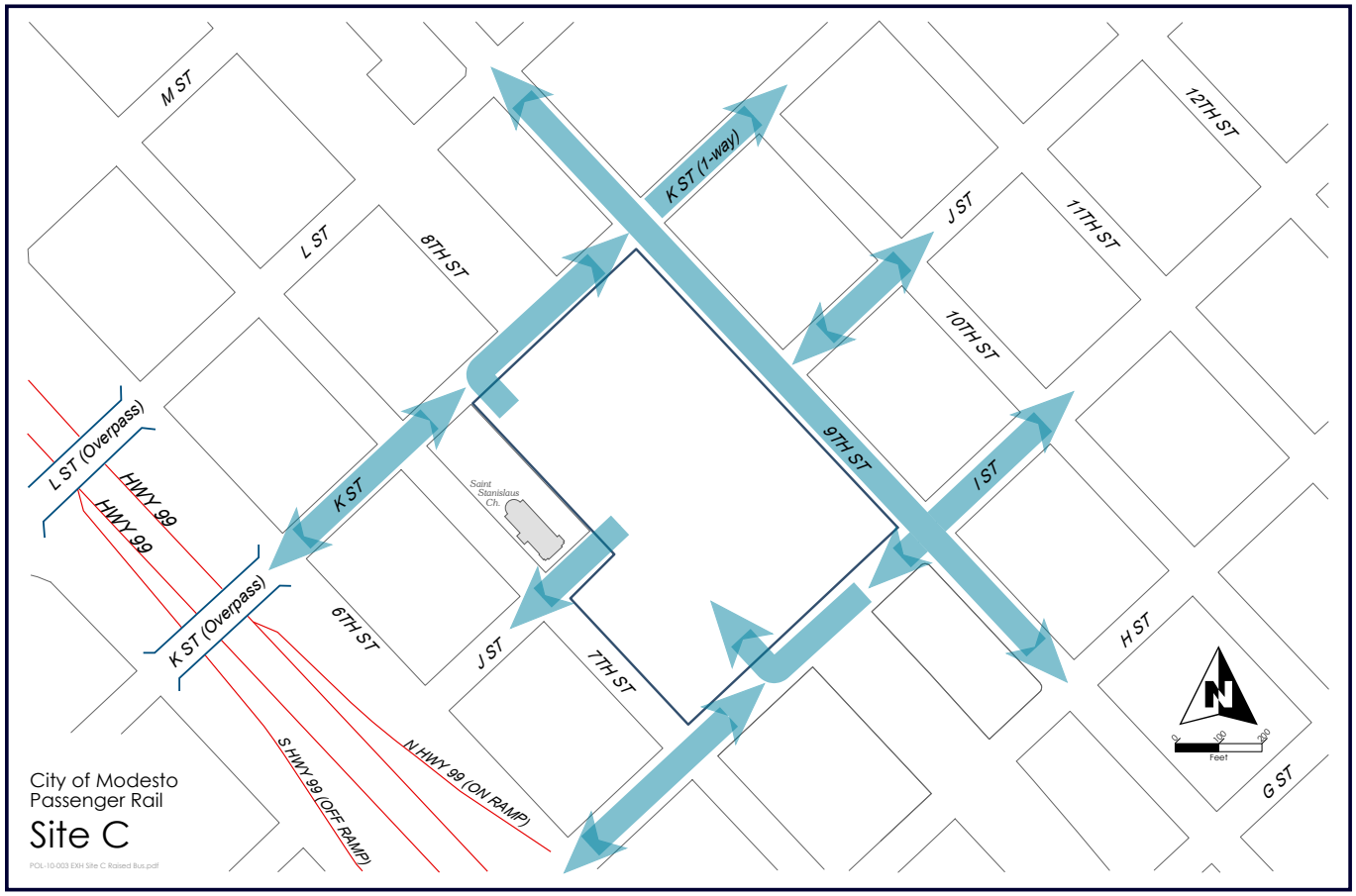


Figure C-1: Conceptual Bus Circulation, Above-Grade Passenger Rail Service

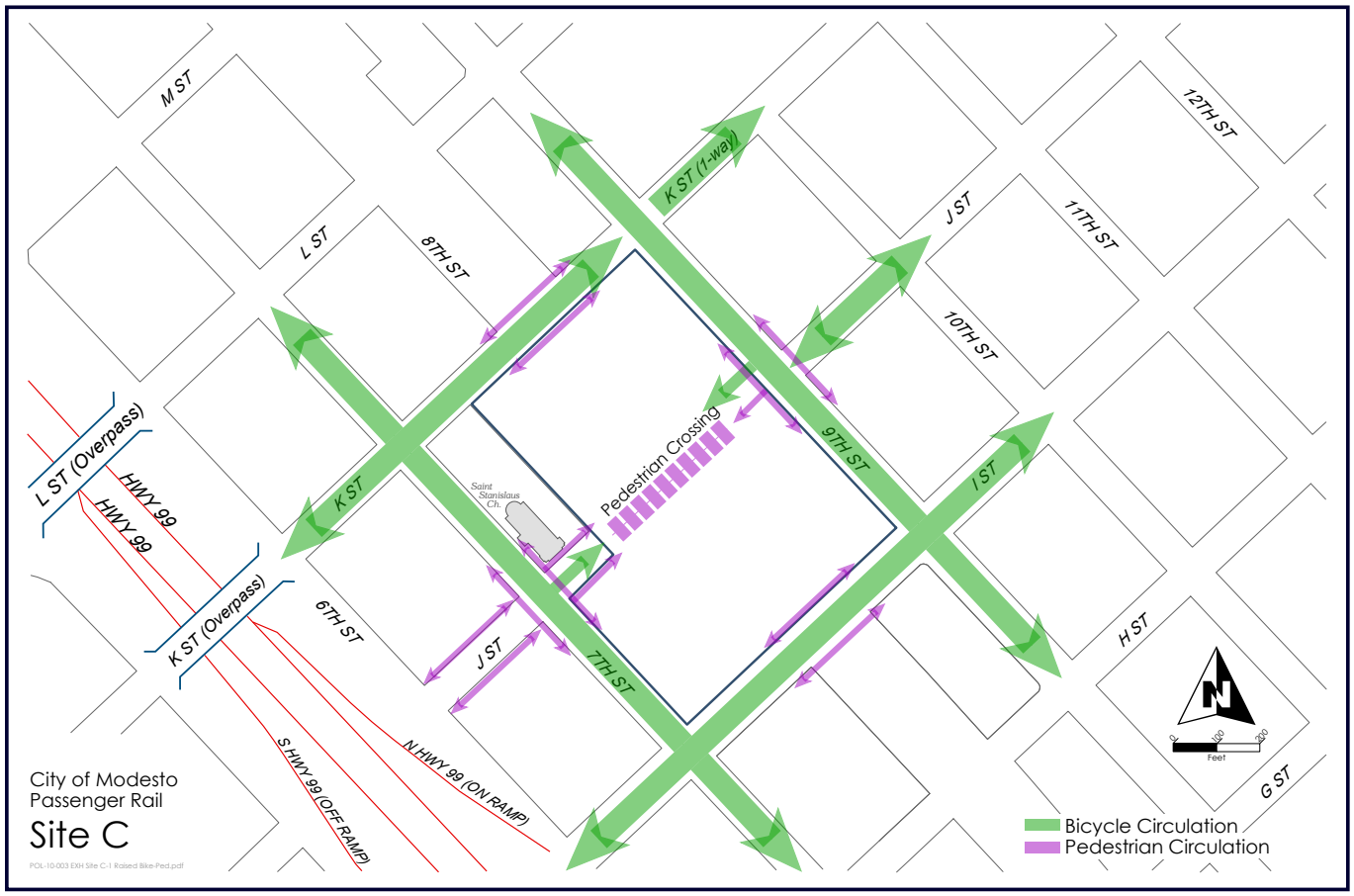


Figure C-1: Conceptual Bicycle and Pedestrian Circulation, Above-Grade Passenger Rail

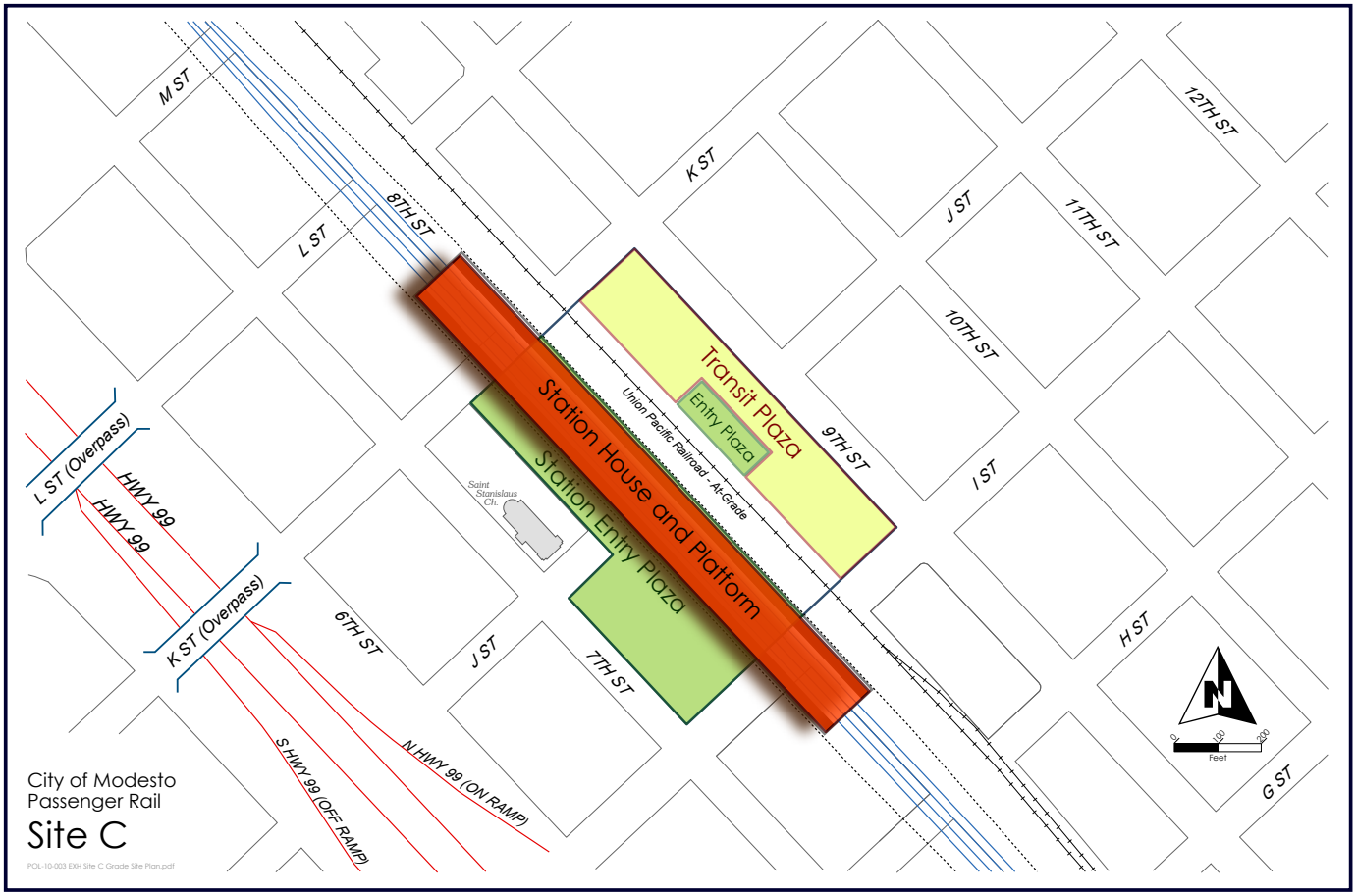


Figure C-2: Conceptual Site Plan, At-Grade Passenger Rail Service

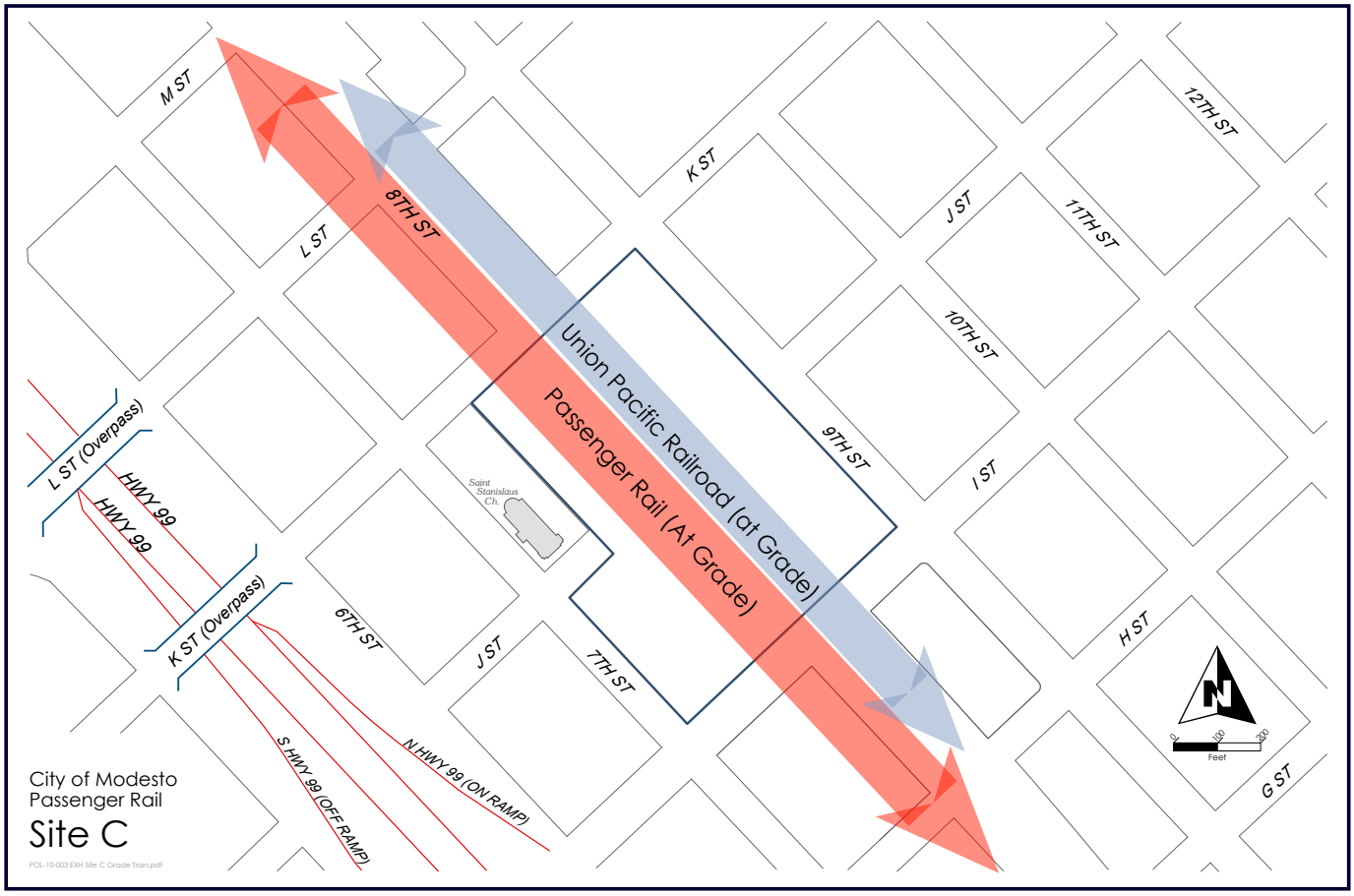


Figure C-2: Conceptual Site Plan, Train Circulation, At-Grade Passenger Rail Service

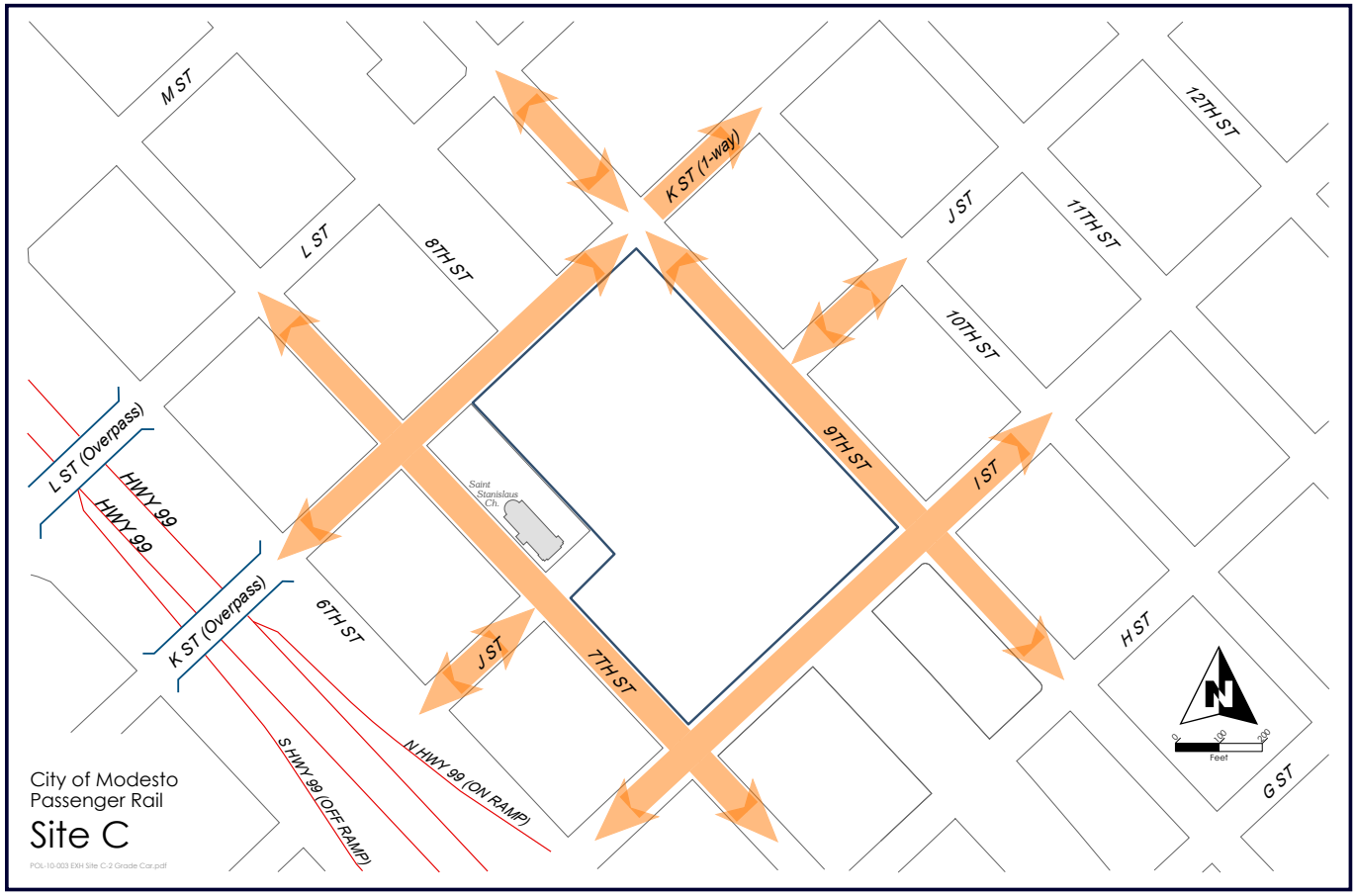


Figure C-2: Conceptual Automobile Circulation, At-Grade Passenger Rail Service

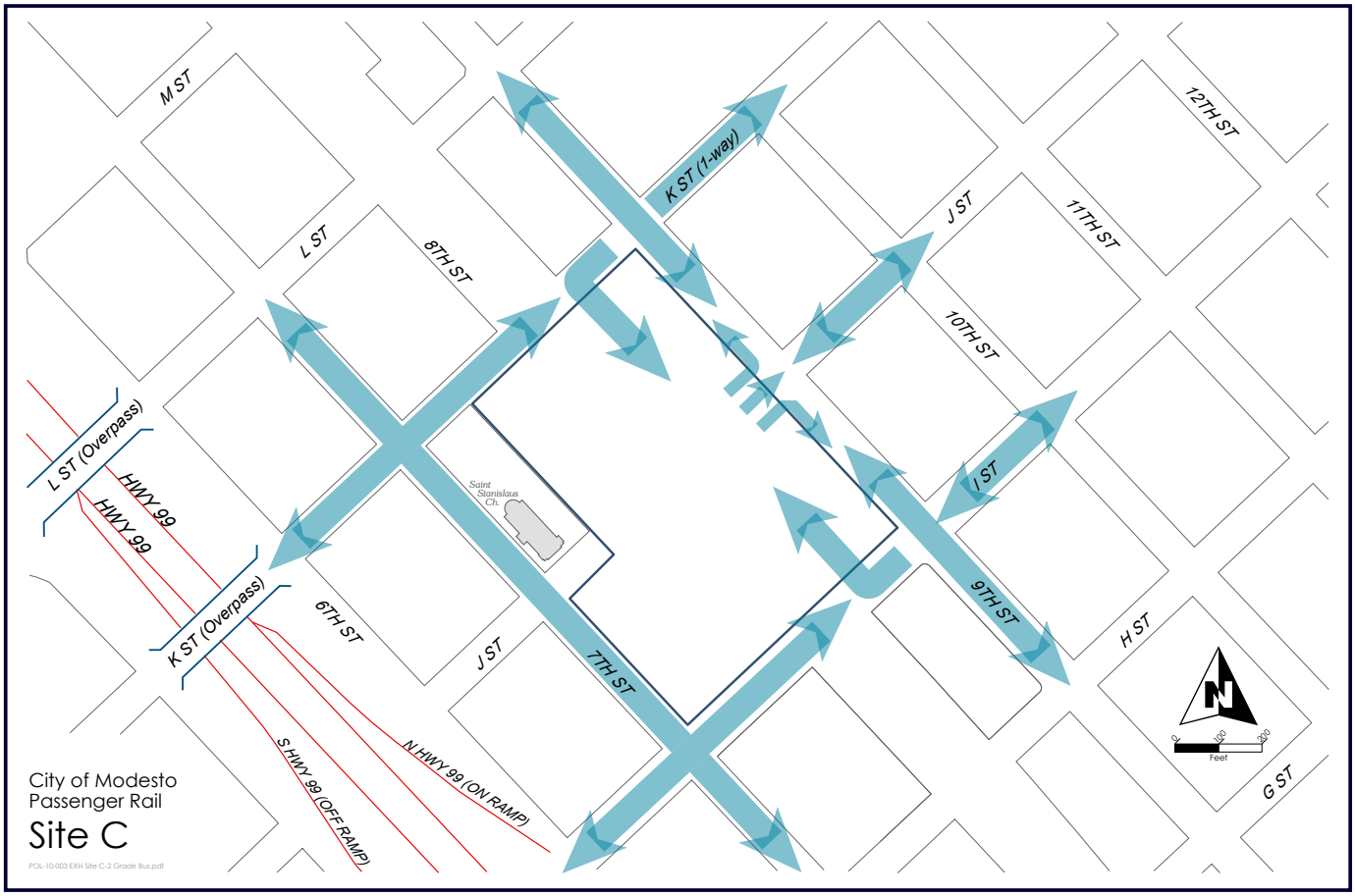


Figure C-2: Conceptual Bus Circulation, At-Grade Passenger Rail Service

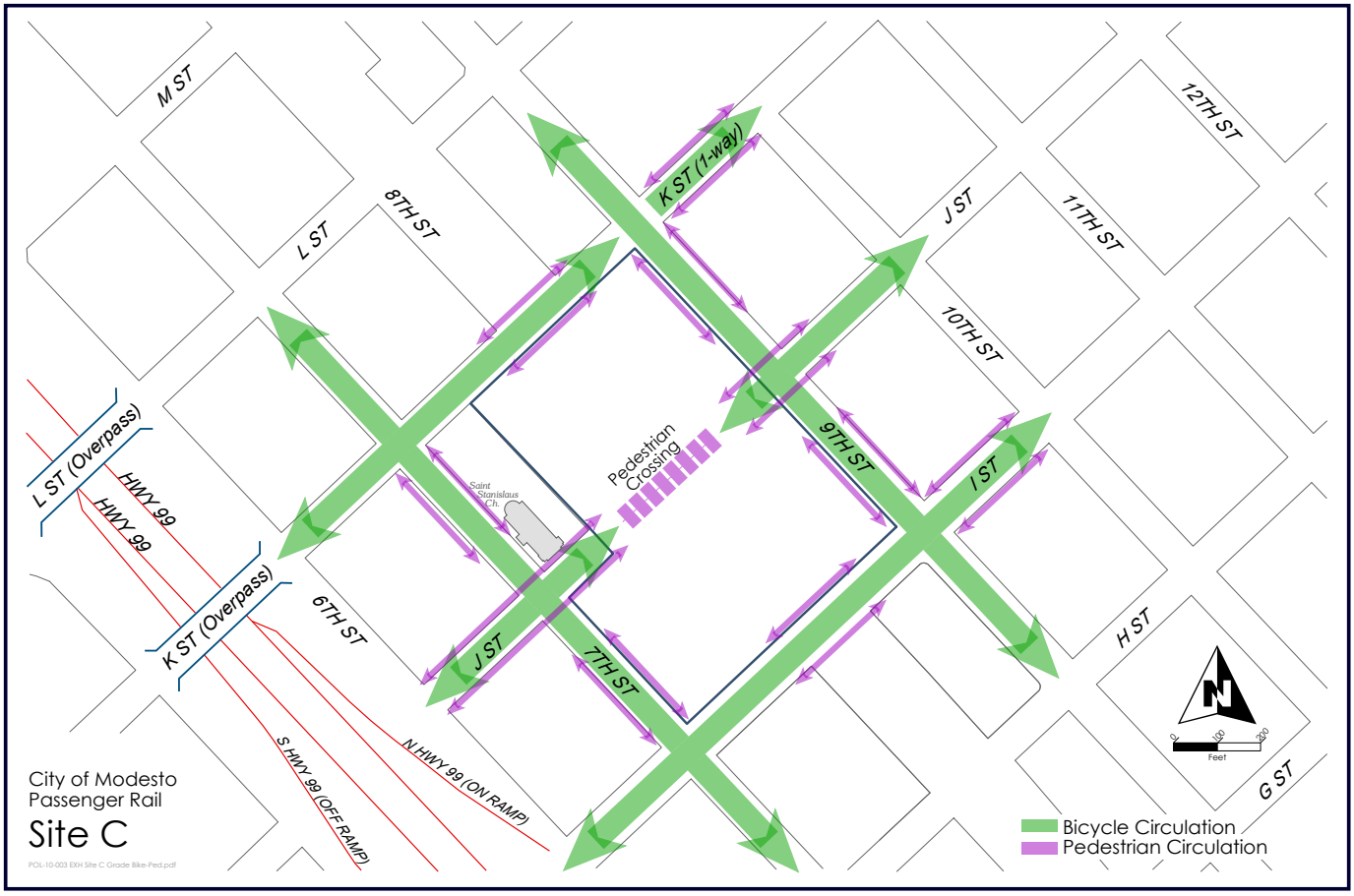


Figure C-2: Conceptual Bicycle and Pedestrian Circulation, At-Grade Passenger Rail

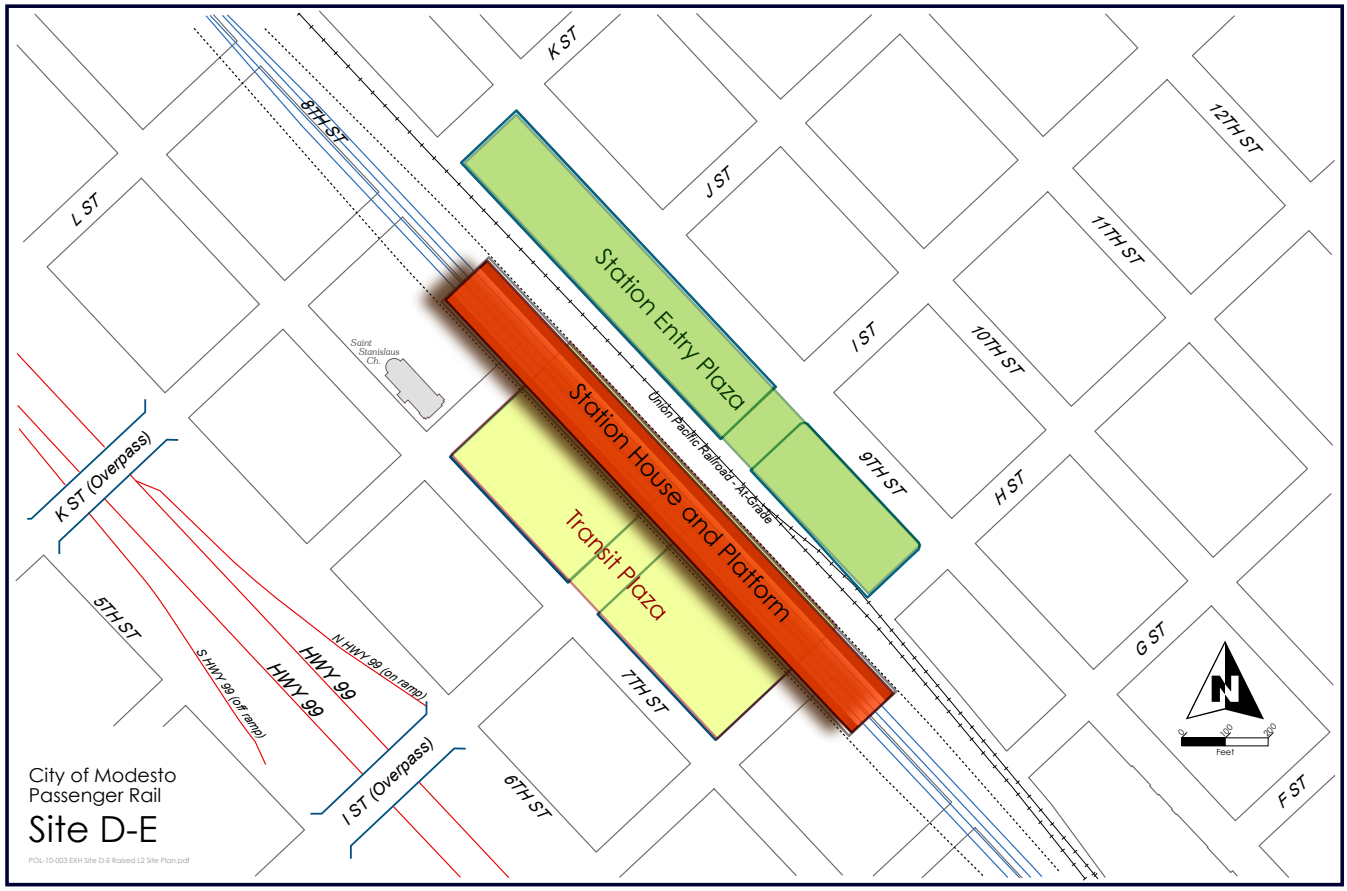


Figure D-E 1: Conceptual Site Plan, Above-Grade Passenger Rail, Lower Level Plazas

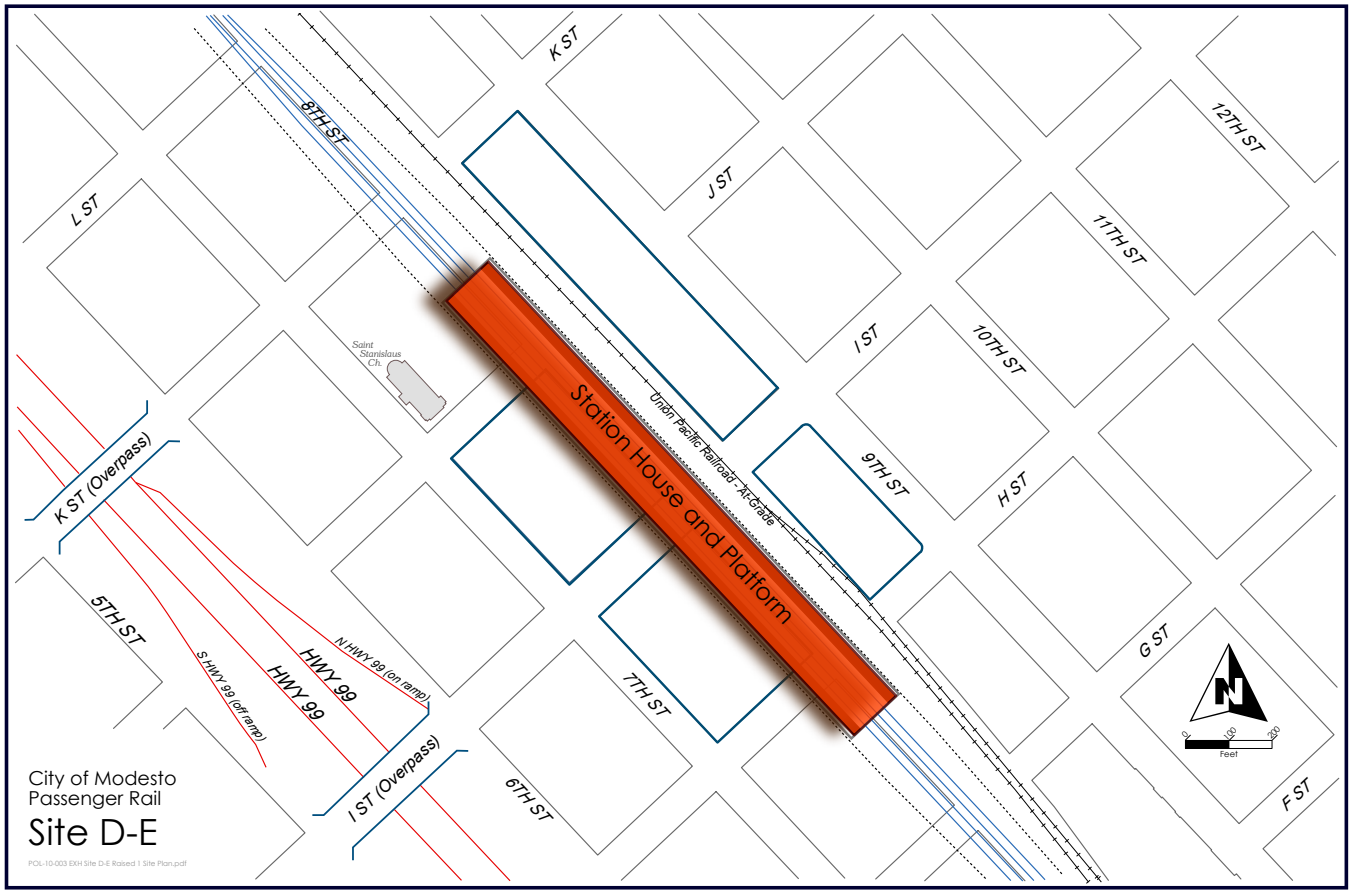


Figure D-E 1: Conceptual Site Plan, Above-Grade Passenger Rail, Upper Level Station House

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

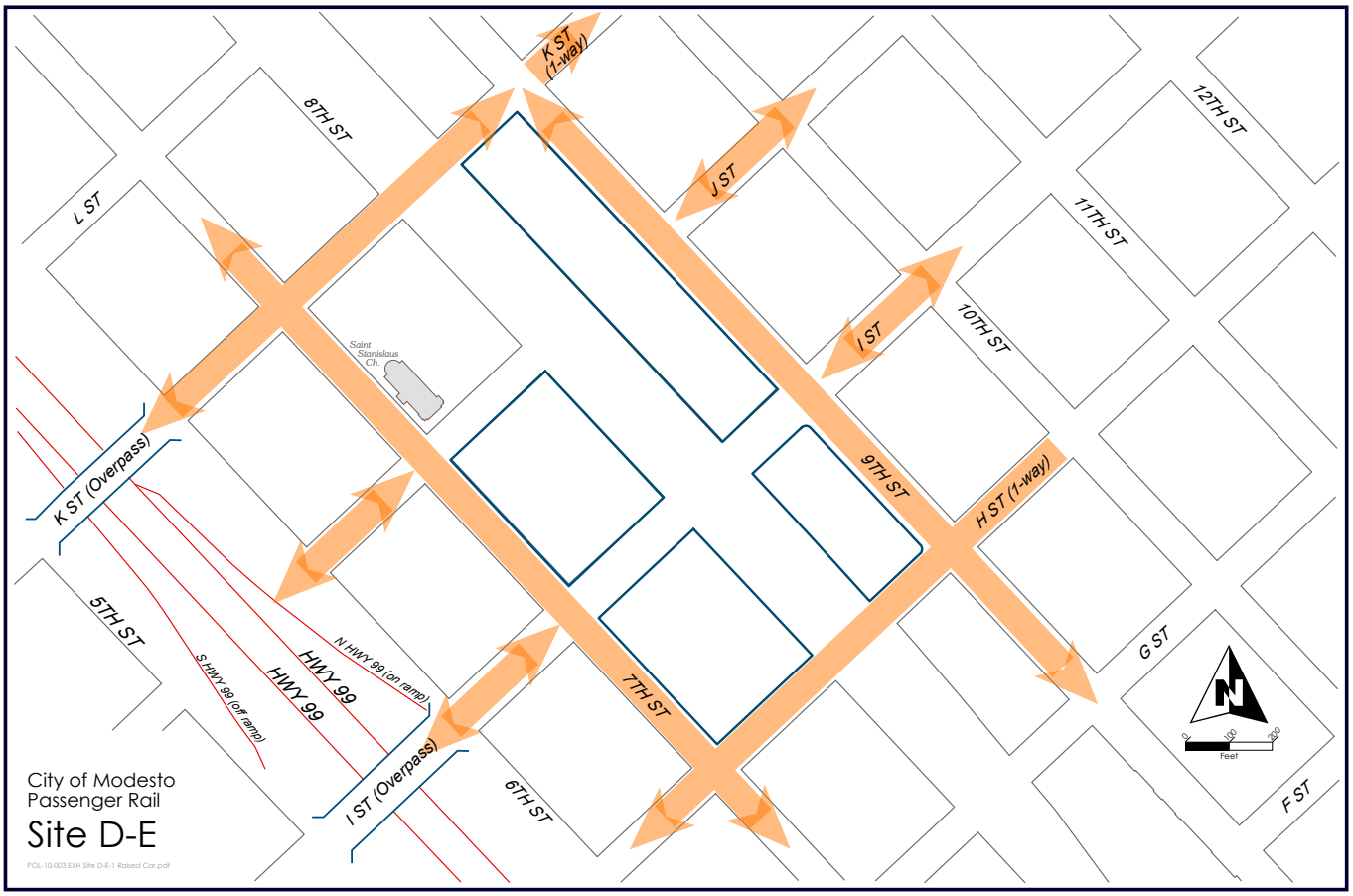


Figure D-E 1: Conceptual Automobile Circulation, Above-Grade Passenger Rail

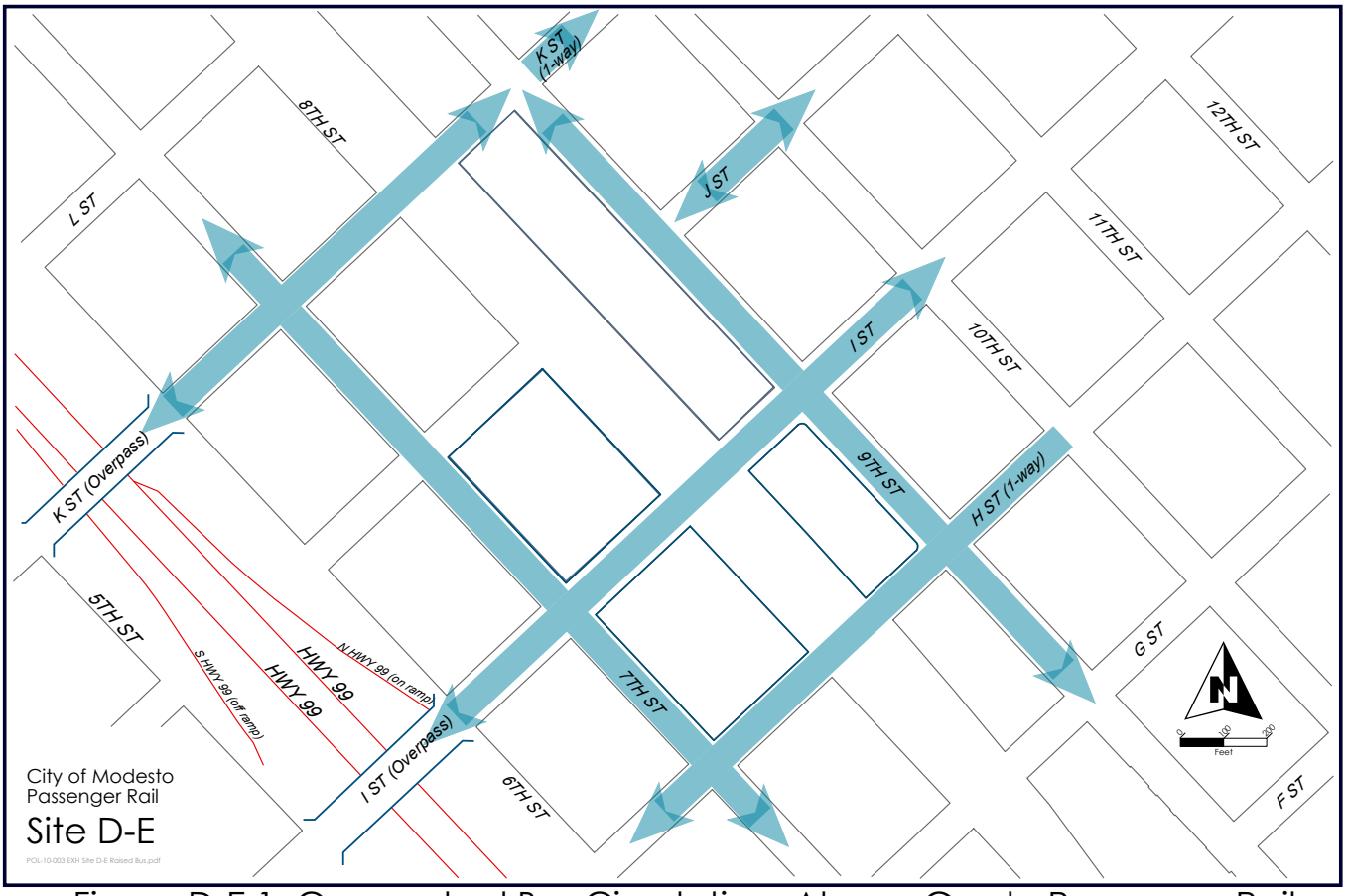


Figure D-E 1: Conceptual Bus Circulation, Above-Grade Passenger Rail

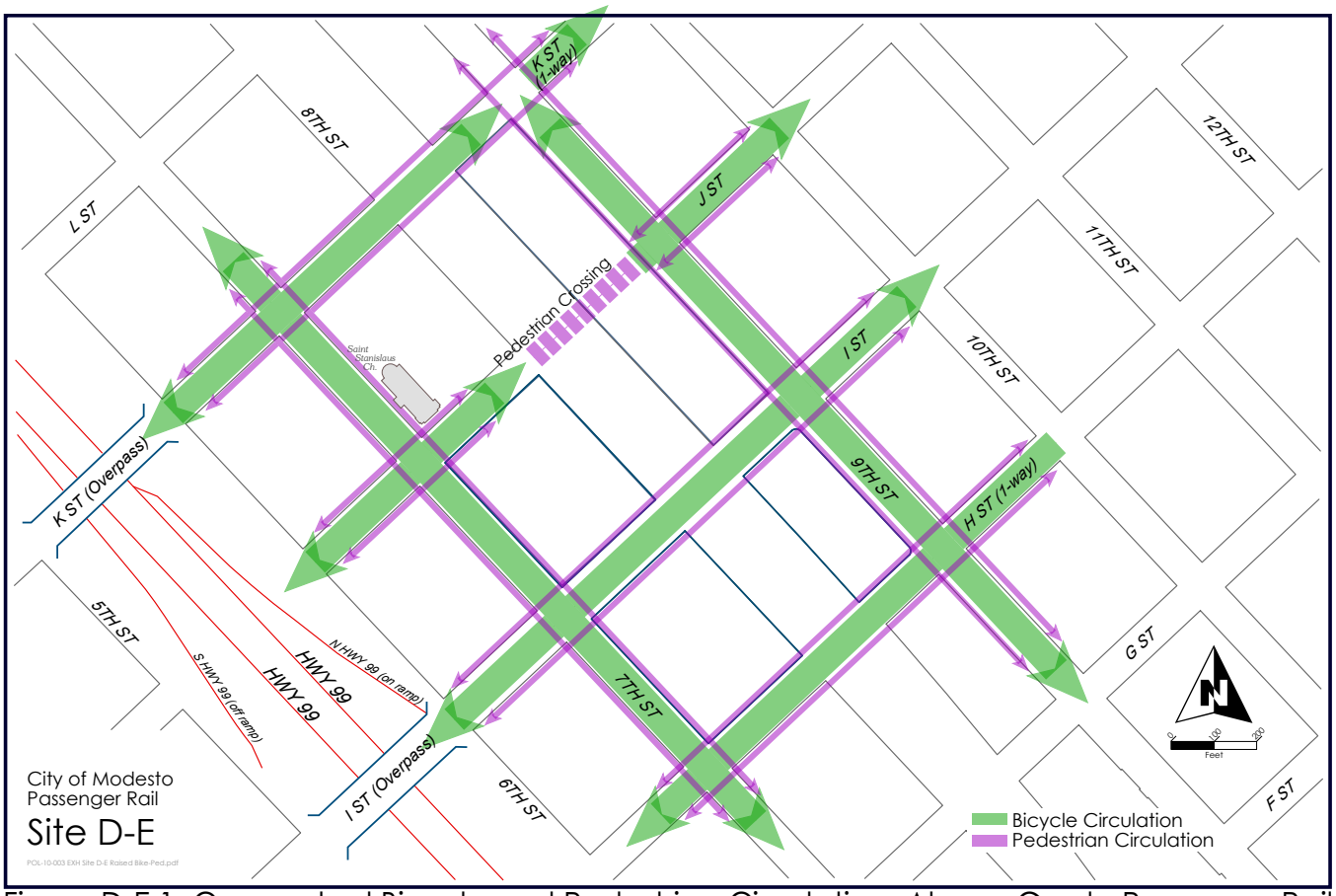


Figure D-E 1: Conceptual Bicycle and Pedestrian Circulation, Above-Grade Passenger Rail

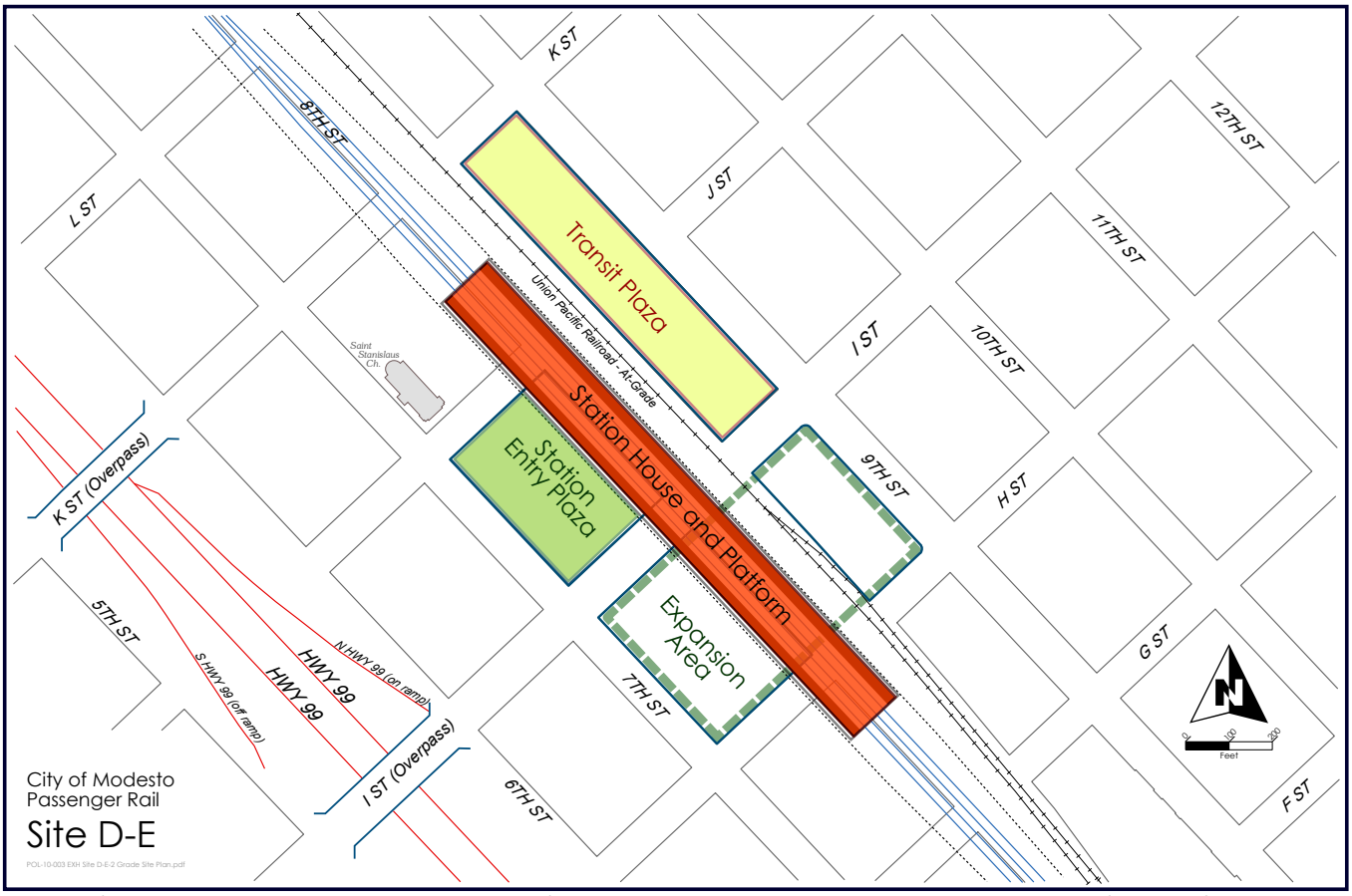


Figure D-E 2: Conceptual Site Plan, At-Grade Passenger Rail Service

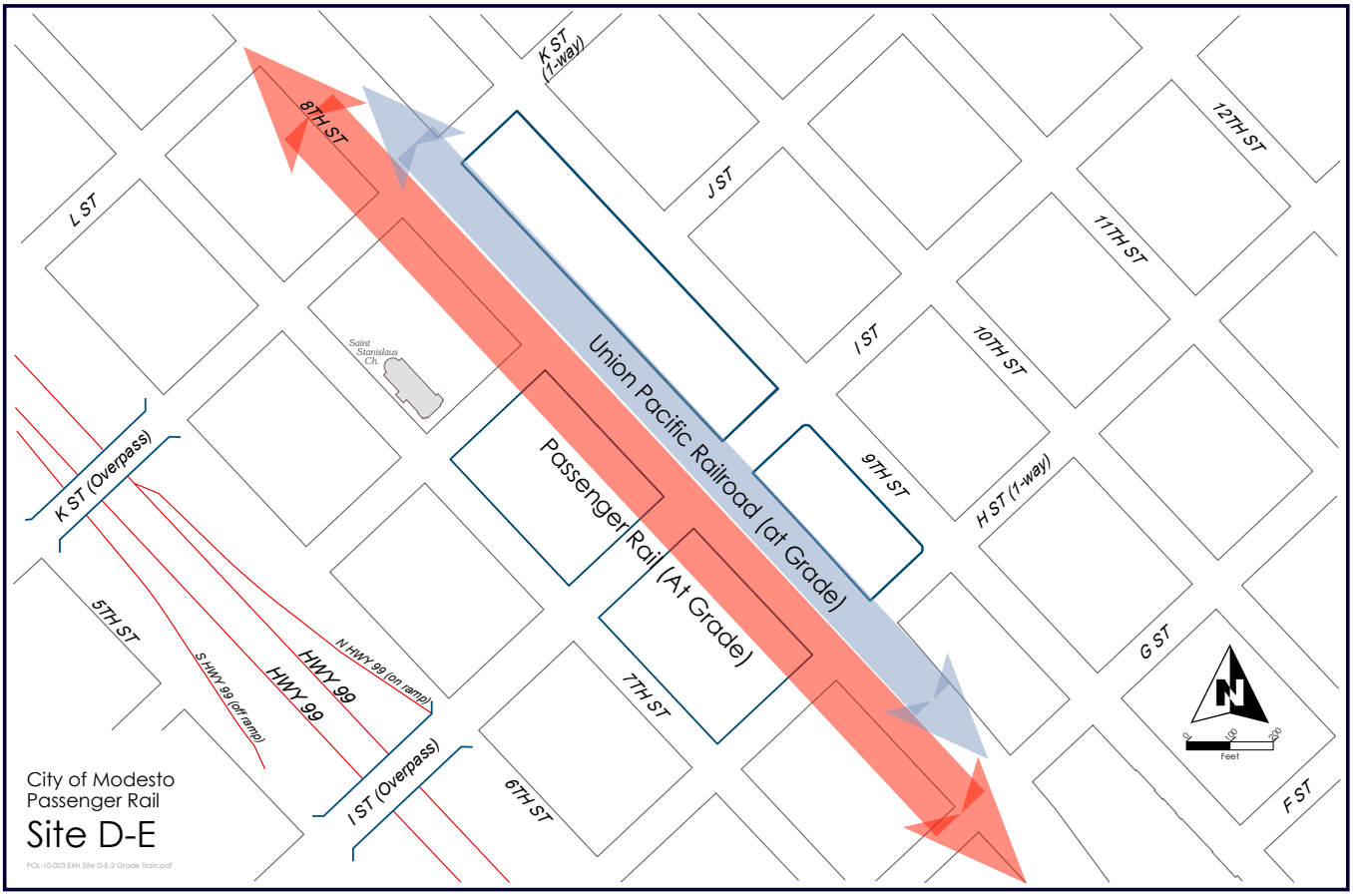


Figure D-E 2: Conceptual Train Circulation, At-Grade Passenger Rail

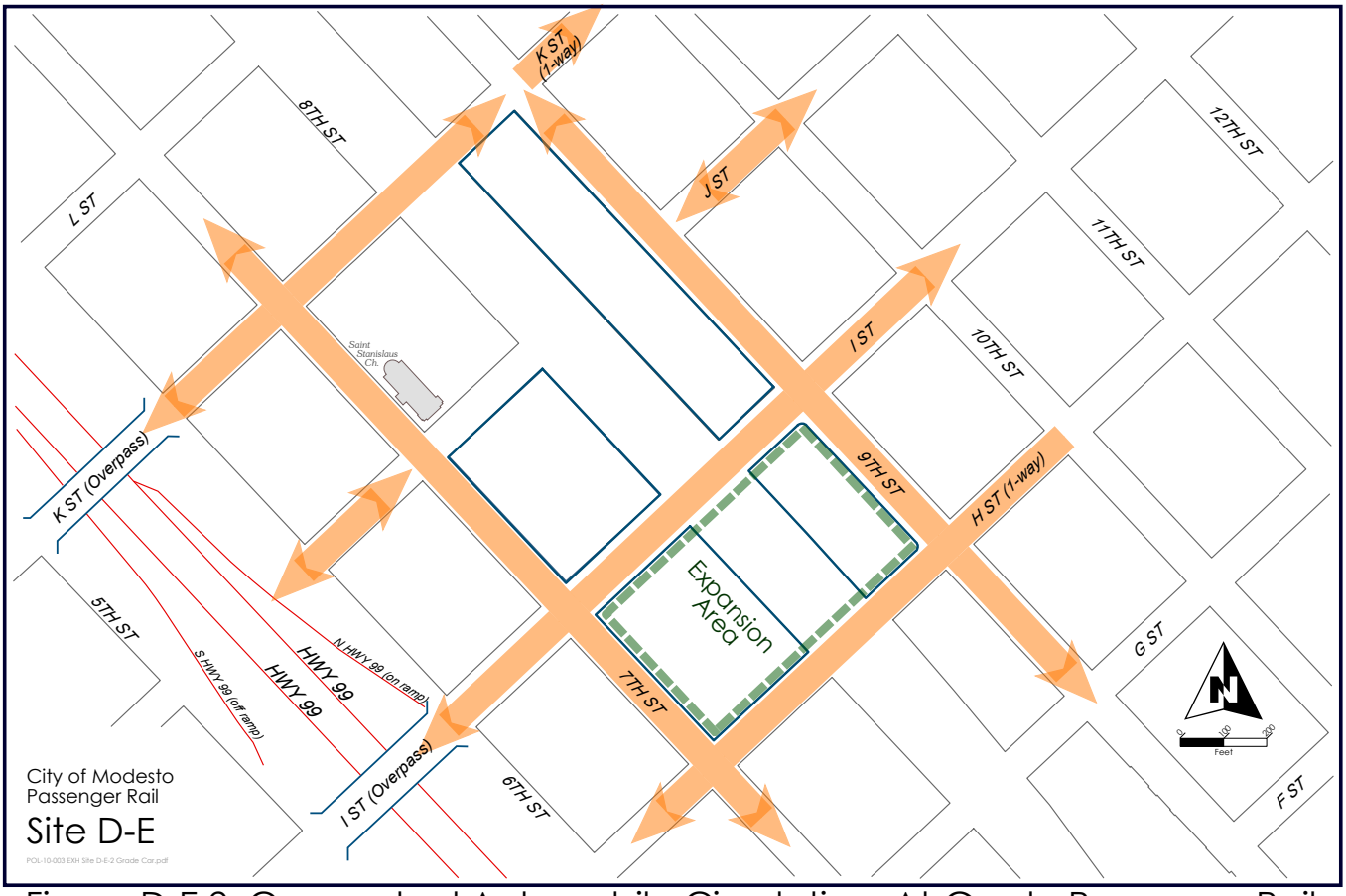


Figure D-E 2: Conceptual Automobile Circulation, At-Grade Passenger Rail

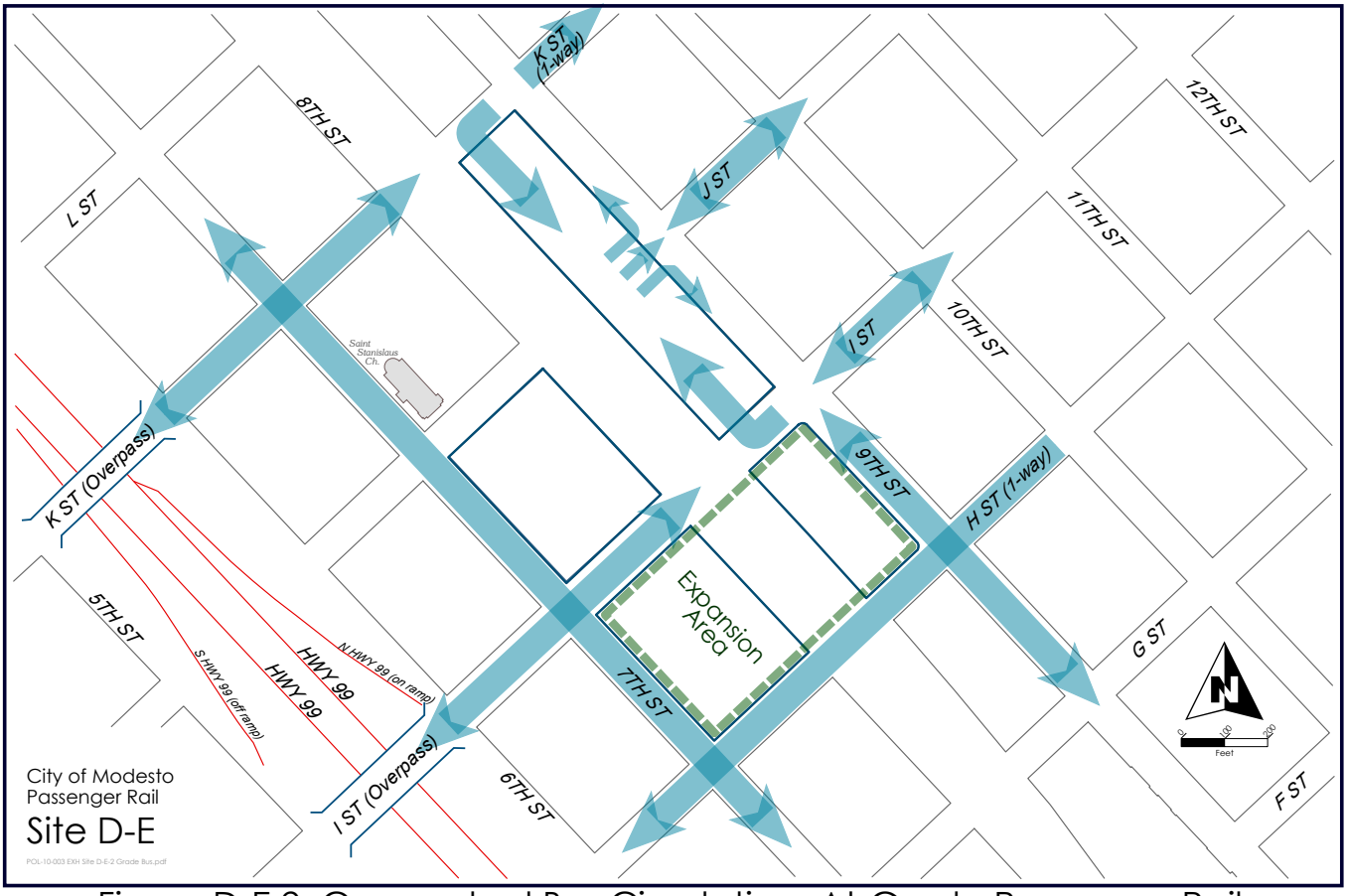


Figure D-E 2: Conceptual Bus Circulation, At-Grade Passenger Rail

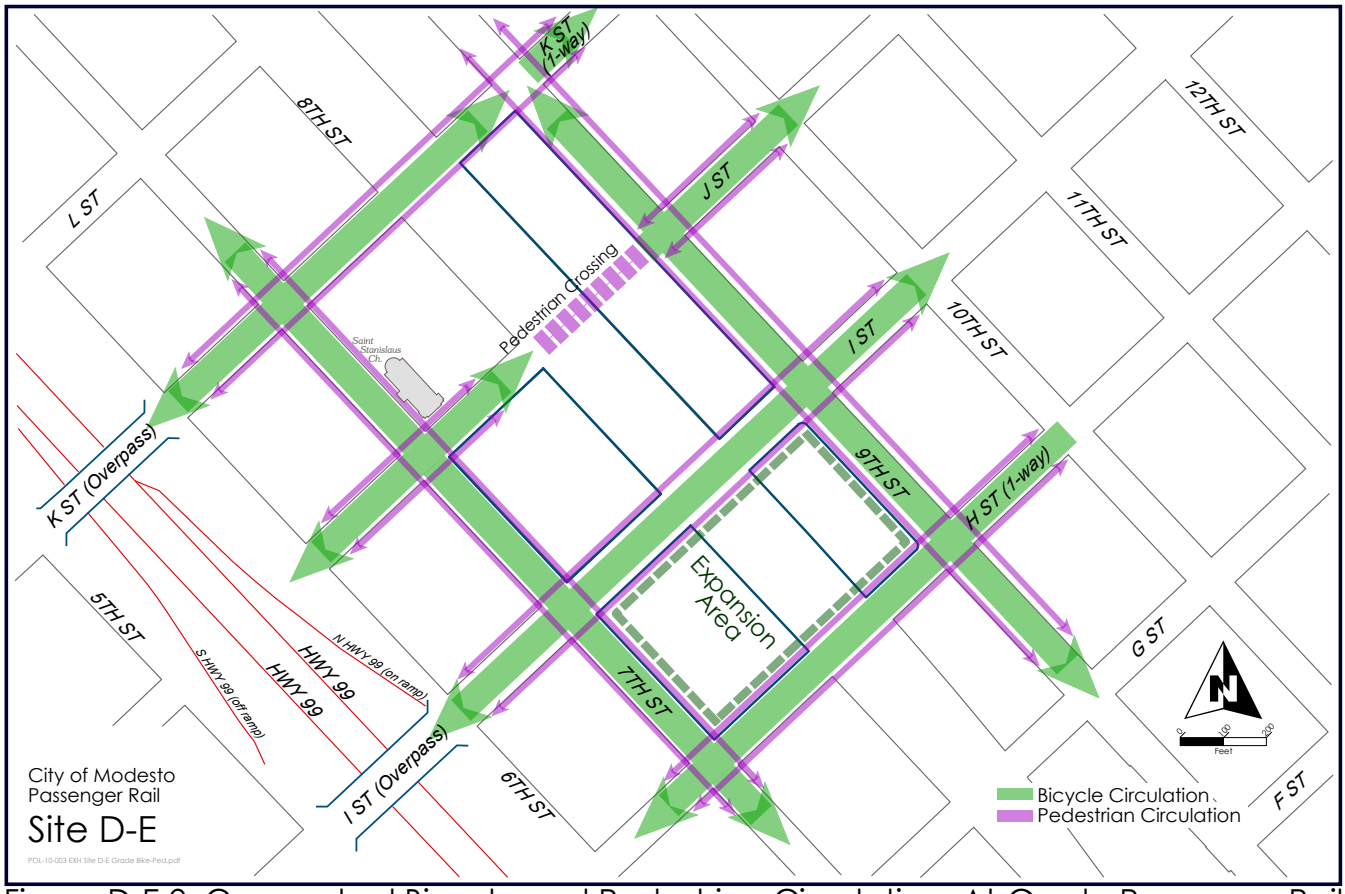


Figure D-E 2: Conceptual Bicycle and Pedestrian Circulation, At-Grade Passenger Rail