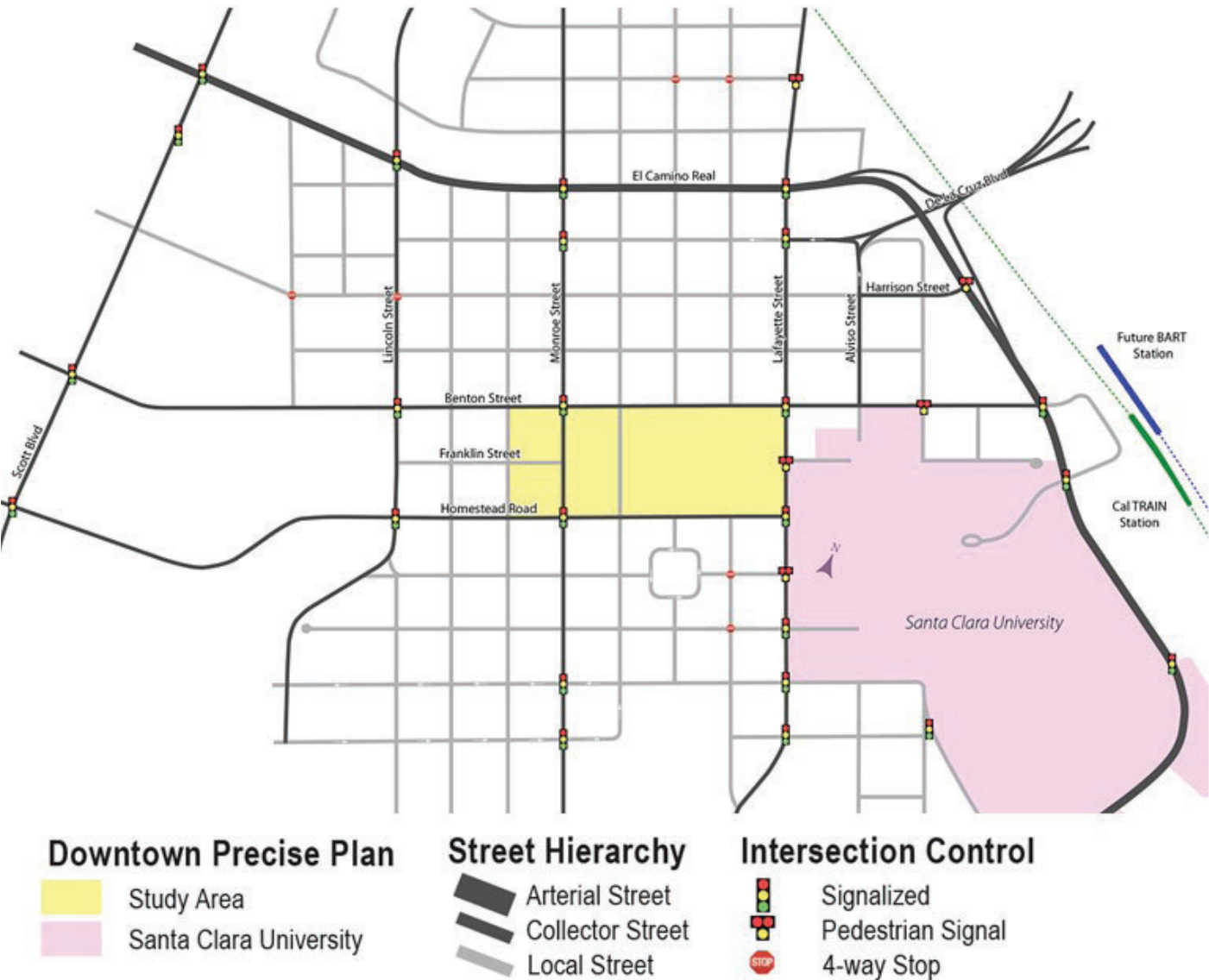




07.

MOVEMENT

STREET NETWORK

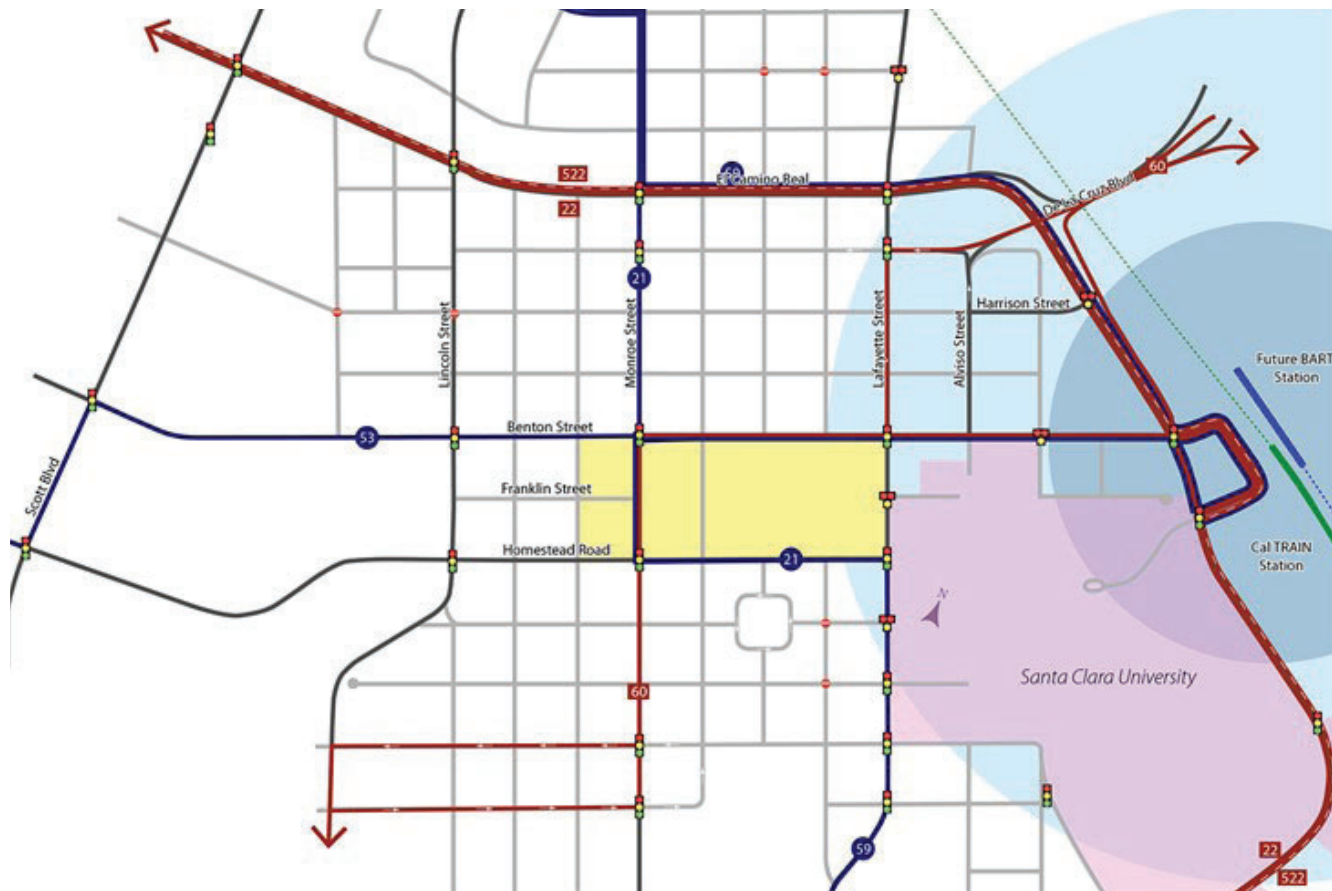


Mobility Context

The transportation elements of the Santa Clara Downtown Precise Plan (SCDPP) operate within a larger mobility context. The quality of the trip, be it in a car, on foot, on a bike, or using transit, is influenced by a larger regional transportation network designed to serve the travel origins and destinations within the SCDPP, the City of Santa Clara, and the Greater Bay Area.

The circulation element of the SCDPP examines transportation facilities within the study area and a larger area bound by Scott Boulevard to the west, El Camino Real to the north, the Santa Clara Rail Station to the east, and Market Street to the south. Major trip generators influencing the SCDPP include Santa Clara University, the El Camino Real Corridor, the Santa Clara Station and a future Bay Area Rapid Transit (BART) extension.

TRANSIT NETWORK



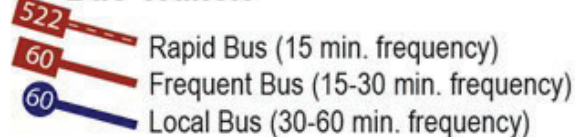
Downtown Precise Plan Walking Distance



Rail Transit



Bus Transit



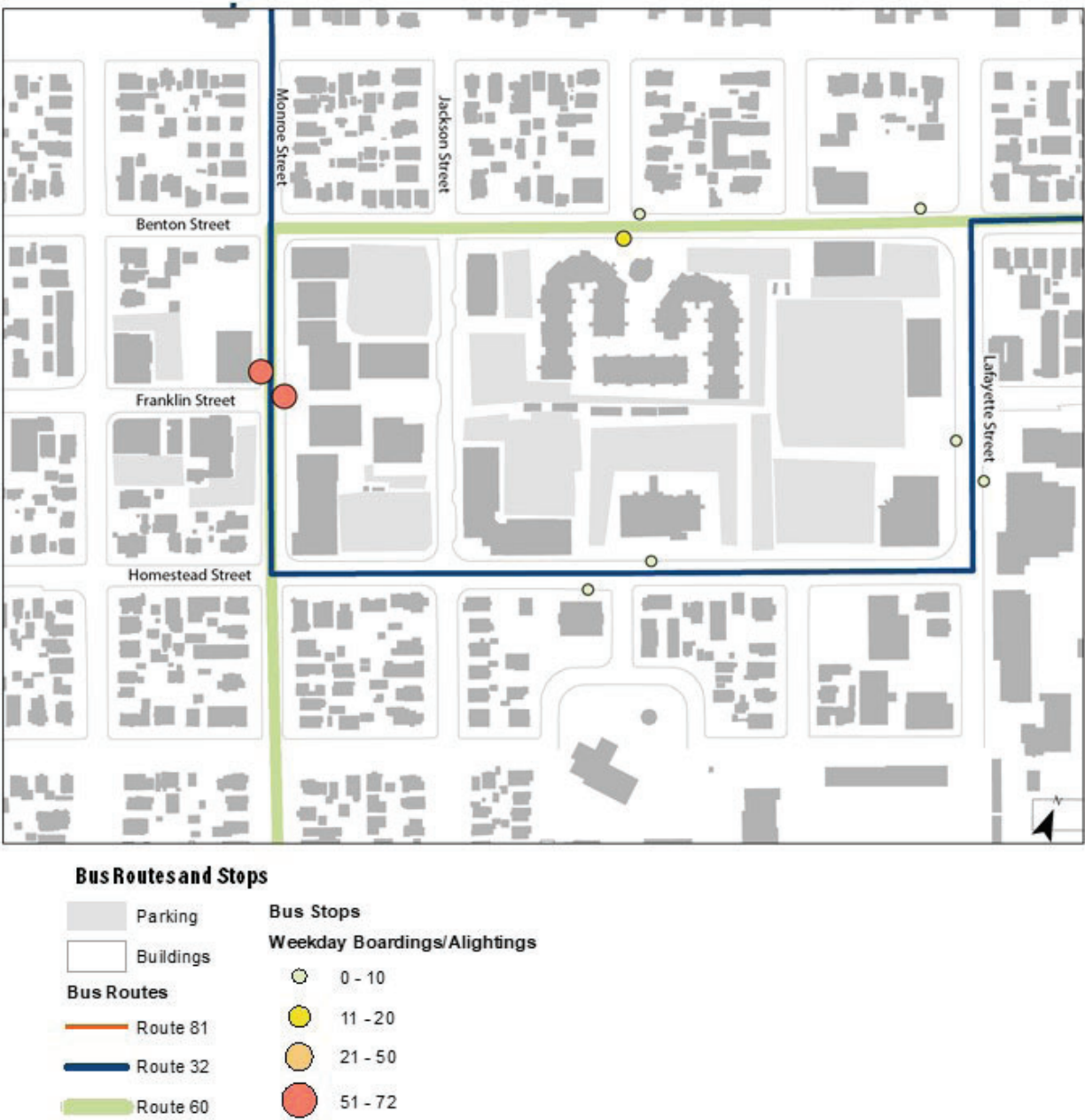
Transit Context

Downtown Santa Clara is situated within a rich transit environment. The eastern portion of the study area is within a ten-minute walk (1/2-mile) of the Santa Clara Rail Station and the future Santa Clara BART Station. Additionally, the study area is located with a five-minute walk (1/4-mile) of the Valley Transit Authority's (VTA) Rapid 522, which provides 10-15-minute service frequencies throughout the day.

Regional Transit Considerations

These exceptional regional transit services and anticipated improvements with the BART extension provide the City of Santa Clara flexibility to reconsider its transportation policies to become more transit-oriented, which would further support infill redevelopment within the SCDPP. Specific transportation policy considerations are outlined in the traffic and parking sections of this assessment.

BUS ROUTES AND STOPS



In addition to the exceptional regional transit service, the SCDPP area is served by three local VTA routes, Route 32, Route 60, and Route 81. Routes 32 and 81 are designated as a Local Bus Routes with 30-minute service frequencies. Route 60 is designated as a frequent bus route having frequencies of 15-20 minutes throughout the day. VTA local transit routes and service characteristics are further described on the following page.

There are nine stops within the SCDPP area. The most frequently used stops are located on Monroe Street, served Routes 32 and 60. Interestingly, the stops along Monroe Street serve residential areas, shops and restaurants. The more traditional transit generator, office and civic land uses, located on the southern and eastern portion of the study area, have less frequently used transit stops. The other stop that is frequently used is Route 81 stop in front of the apartment buildings along Benton Avenue.

The transit hub connecting the local VTA routes to regional transit and the larger Bay Area is located adjacent to the Santa Clara Rail Stations, a ½-mile east of the SCDPP area. While a 10-minute walk is not insurmountable, the ½-mile distance is on the fringe of what is considered a reasonable walk and the edge of the area that typically benefits economically from high-frequency premium transit service.

Transit Considerations

Several mobility actions should be considered to improve transit operations and transit benefits for the SCDPP to thrive. These include:

- The City could license a micromobility vendor to operate in City rights-of-way to bridge the gap between the SCDPP and the rail stations.
- Improve transit service between the SCDPP and the rail stations. Several opportunities worthy of consideration include:
 - Increase the service frequency of Route 60 to 10-15 minutes
 - Introduce microtransit service connecting both the SCDPP and University to the rail station
 - Develop a pilot shuttle, (possibly autonomous) with a Bay Area partner to connect to the SCDPP and the University to the rail stations
- Increase the density of land uses within the SCDPP to increase the viability of improved transit ridership and performance.
- Reduce parking requirements to increase transit success and housing affordability. This will be further explained within the

VTA ROUTES SERVING DOWNTOWN SANTA CLARA

Route Number	Type	Service Area	Start Time	Stop Time	Frequency	Annual Ridership (2018)
32	Local Bus	San Antonio Shopping Center – Santa Clara Transit Center	5:45 am	8:35 pm	30 minutes	12,516
60	Frequent Bus	Winchester – Great America	5:30 am	11:00 pm	15-20 minutes	22,446
81	Local Bus	Moffett Field/Ames Center – San Jose University	6:00 am	9:00 pm	30 minutes	21,190

Weekday Bus Route Information

Route Number	Type	Service Area	Start Time	Stop Time	Frequency	Annual Ridership (2018)
32	Local Bus	San Antonio Shopping Center – Santa Clara Transit Center	8:45 am	6:00 pm	1 hour	2,925
60	Frequent Bus	Winchester – Great America	6:50 am	10:45 pm	30 minutes	12,253
81	Local Bus	Moffett Field/Ames Center – San Jose University	9:30 am	6:15 pm	1 hour	3,568

Weekend Bus Route Information

EXISTING STREET CONDITIONS

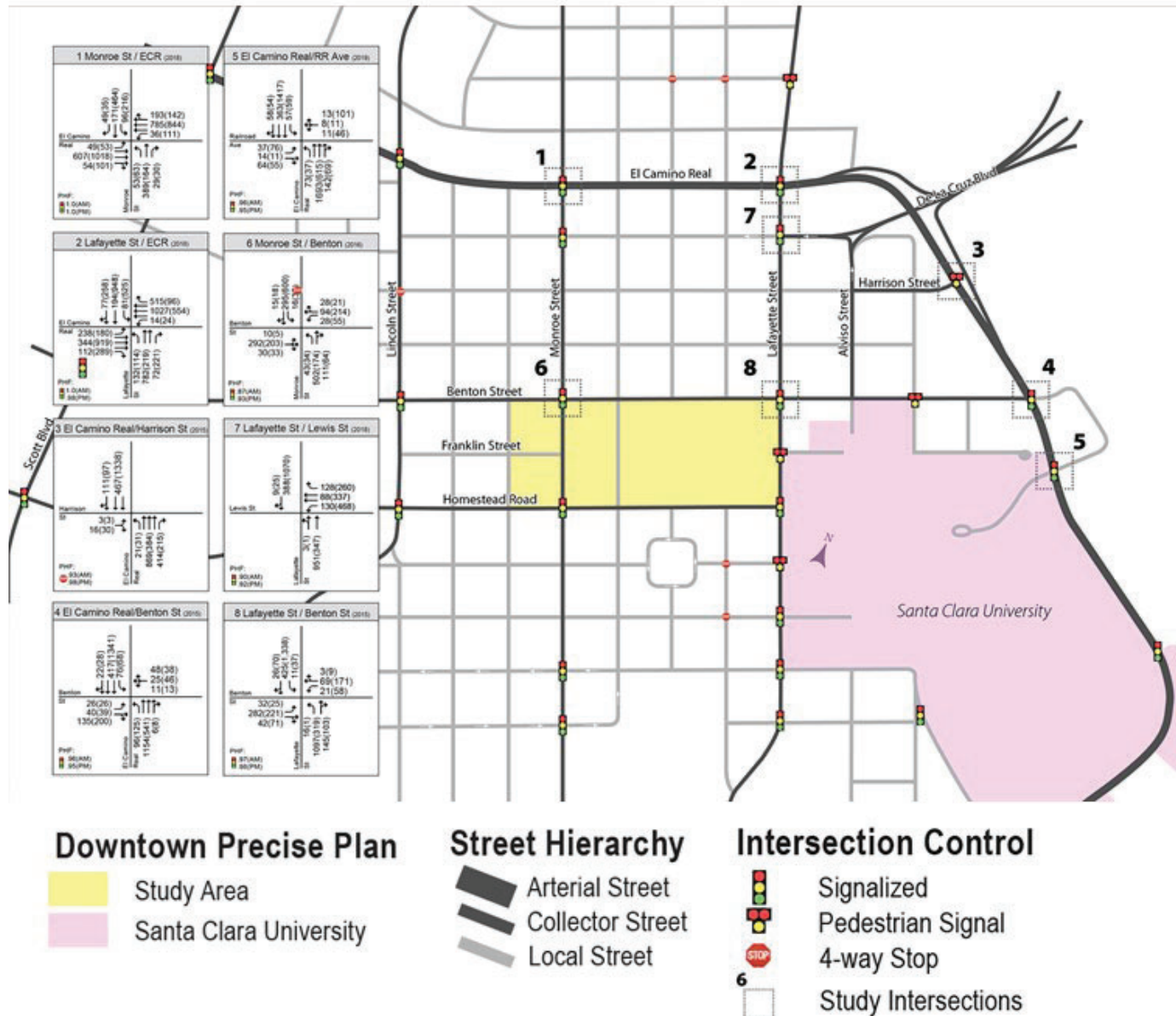
**Benton****Lafayette****Homestead****Monroe****Madison****Franklin**

Vehicular Context

The operation and design of the SCDPP study area's boundary roads, Monroe, Benton, Lafayette, and Homestead Streets influence the quality of the redevelopment potential of the area. However, of the four boundary roadways, three maintain larger regional connectivity. Homestead Street's influence is limited by its terminus at Santa Clara University.

Traffic signals at the intersections of Benton Street with Monroe and Lafayette Streets control traffic operations within SCDPP. However, vehicular circulation in and around Downtown Santa Clara also influence the SCDPP, as they are critical to the larger success of Downtown and the city at-large. This traffic analysis examines eight signalized intersections to establish the baseline for the evaluation of redevelopment scenarios within the SCDPP.

INTERSECTION LEVEL OF SERVICE

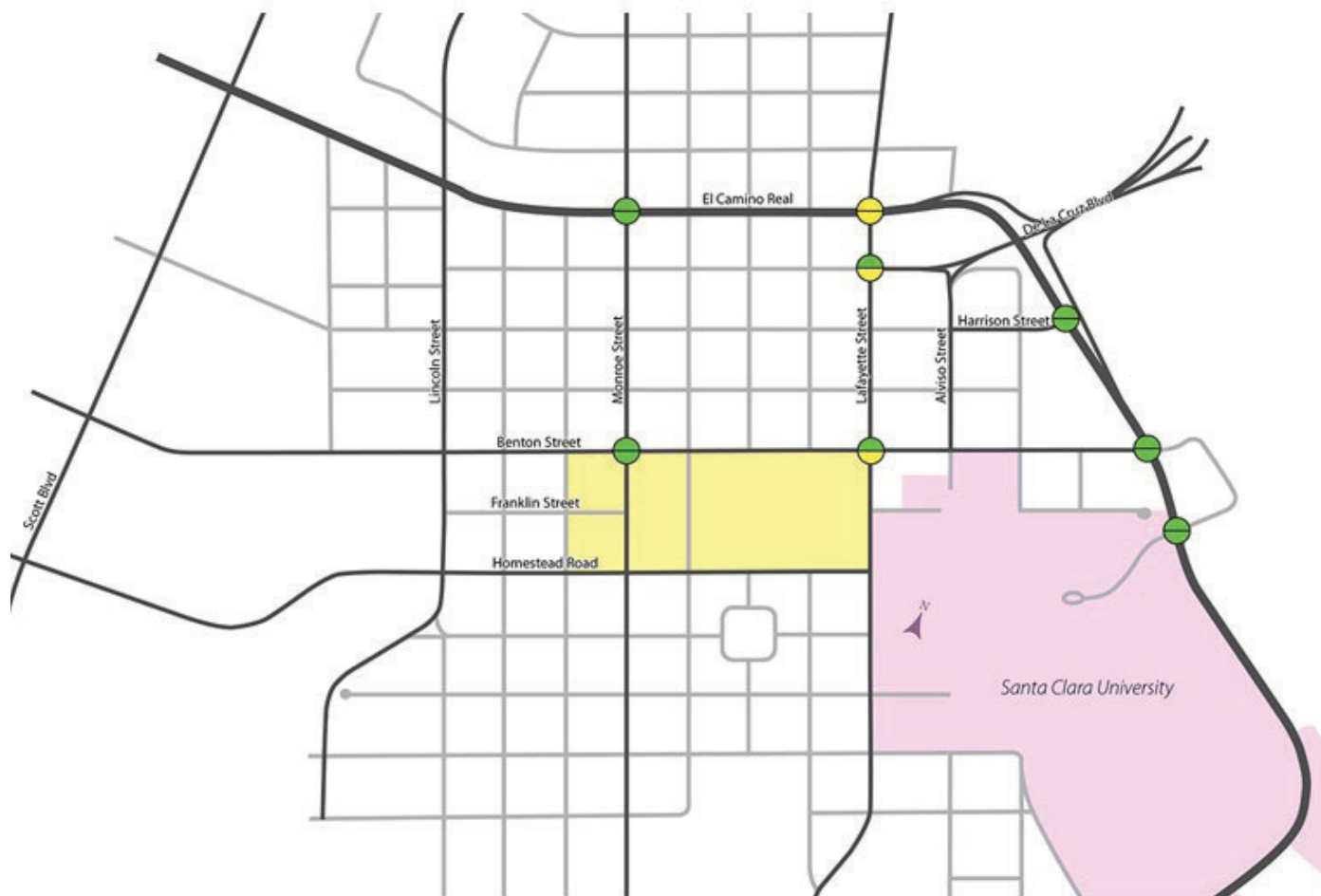


Vehicular traffic counts were collected from various traffic impact assessments (TIAs) conducted over the past several years. No single TIA incorporated all eight identified signalized intersections. Older traffic counts were standardized to match more recent traffic operations.

A traffic impact analysis was performed to evaluate these eight Downtown intersections and their current and future Level of Service (LOS) during the morning and afternoon peak hours. LOS is a measure of vehicle delay ranging from A (very little delay) to F (long delays and congestion). The acceptable intersection LOS in Santa Clara is LOS D.

The analysis shows that all eight intersections currently operate above the City's minimum acceptable LOS.

VEHICLE LEVEL OF SERVICE



Downtown Precise Plan

- Study Area
- Santa Clara University

Street Hierarchy

- Arterial Street
- Collector Street
- Local Street

Traffic Operations

- Level of Service A-C
- Level of Service D
- Level of Service E
- Level of Service F
- AM / PM Peak Hour Operations

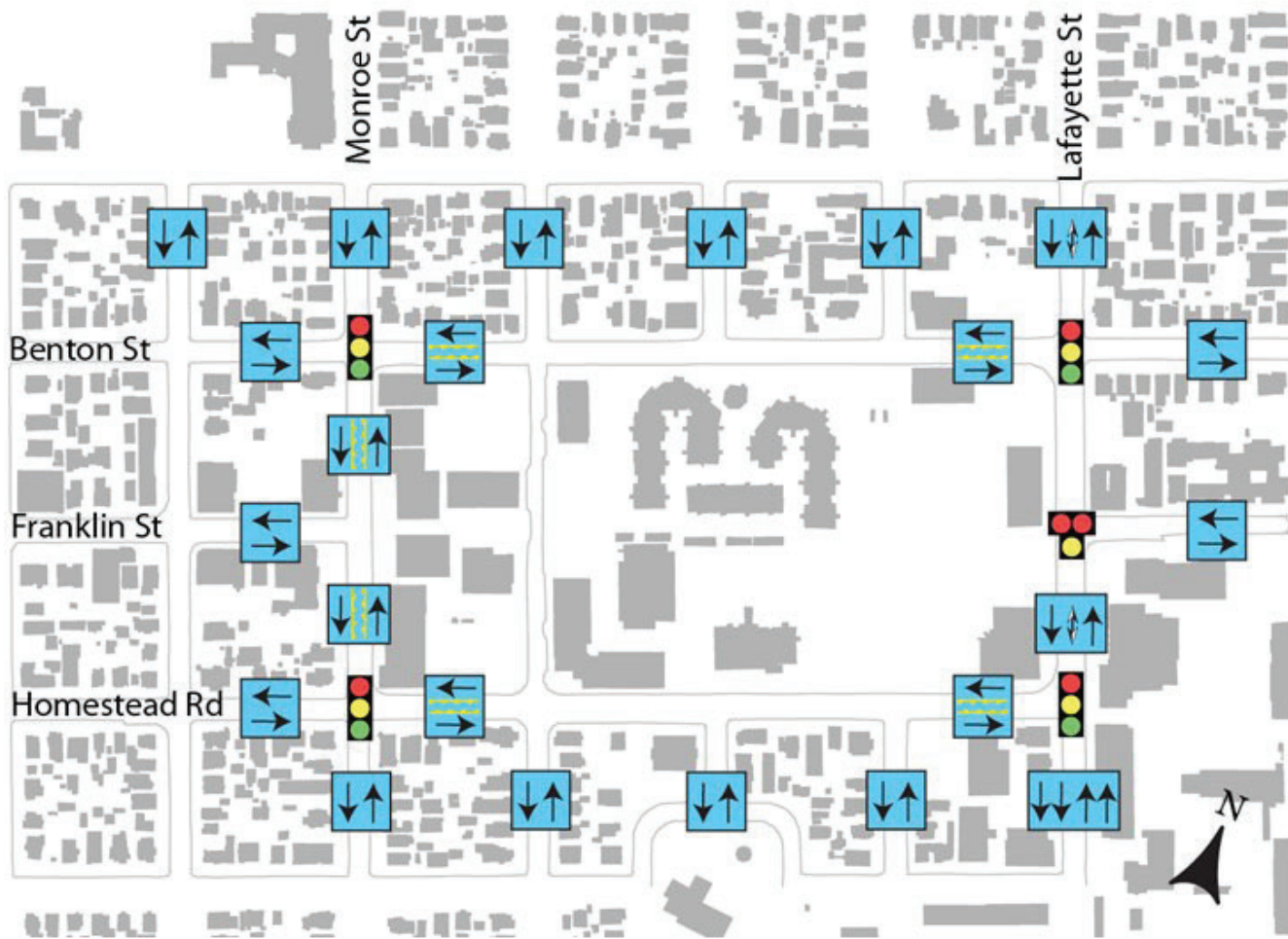
Vehicular Operational Considerations

As redevelopment is defined and modifications to the multimodal networks are desired in the SCDPP, the City should reevaluate its minimum LOS standards.

The intersections studied currently operate above the City's minimum LOS D; however, Downtown's anticipated growth will challenge the intersections' ability to maintain acceptable LOS. Maintaining LOS D will likely cause negative impacts to the physical configuration of the intersections inconsistent with the goals of the SCDPP.

The City could consider lowering its LOS expectation in exchange for improved transit service and multimodal choices. For example, the extension of the BART system to Santa Clara and improved connections to the SCDPP study area enables the City to reconsider how intersection

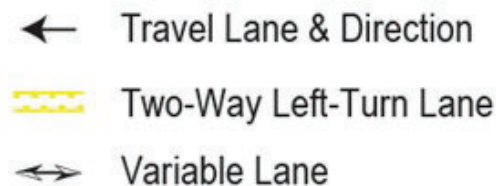
ROADWAY CONFIGURATIONS



Intersection Control Type



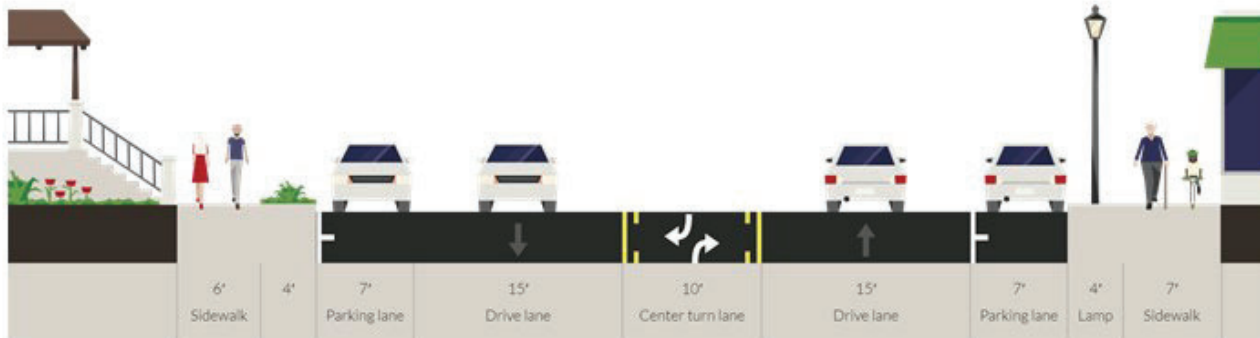
Lane Configuration



Roadway Configurations and Safety

Vehicular collision data provided by the City of Santa Clara indicates the SCDPP study area streets do not have concerns that need to be addressed. However, the City-wide Bicycle Plan Update indicates the intersection of Monroe Street and Homestead Road is one of the highest bike collision locations in the City. This is concerning as bike and pedestrian collision data is generally underreported.

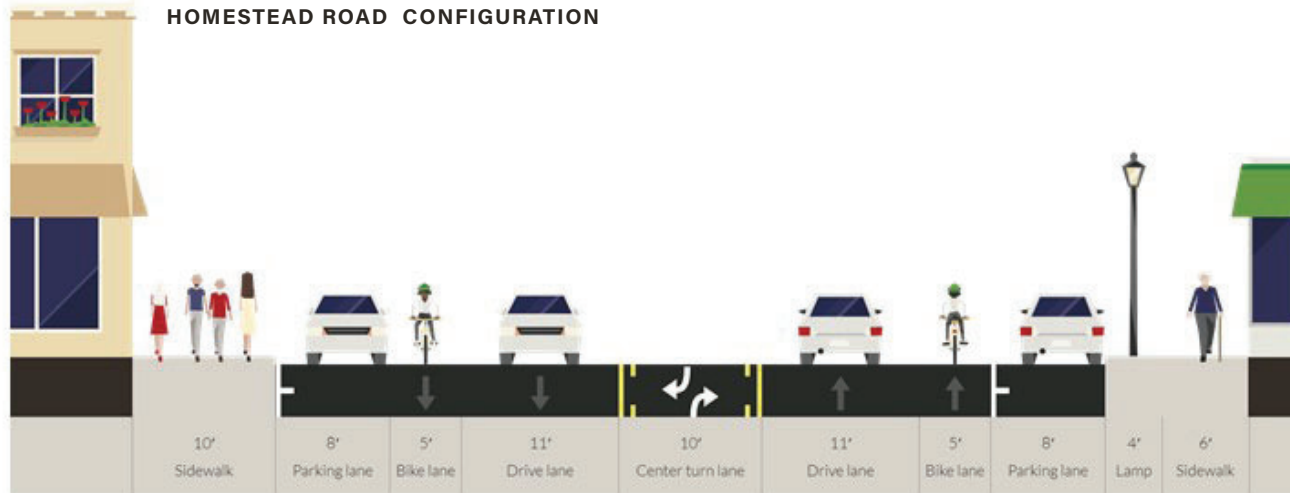
The following pages document the SCDPP study area's roadway configurations and safety concerns. All roads in the SCDPP study area are three-lane configurations with left-turn lanes or continuous center left-turn lanes, except Lafayette Street, which is four-lanes with left-turn lanes south of Homestead Road.

BENTON STREET CONFIGURATION

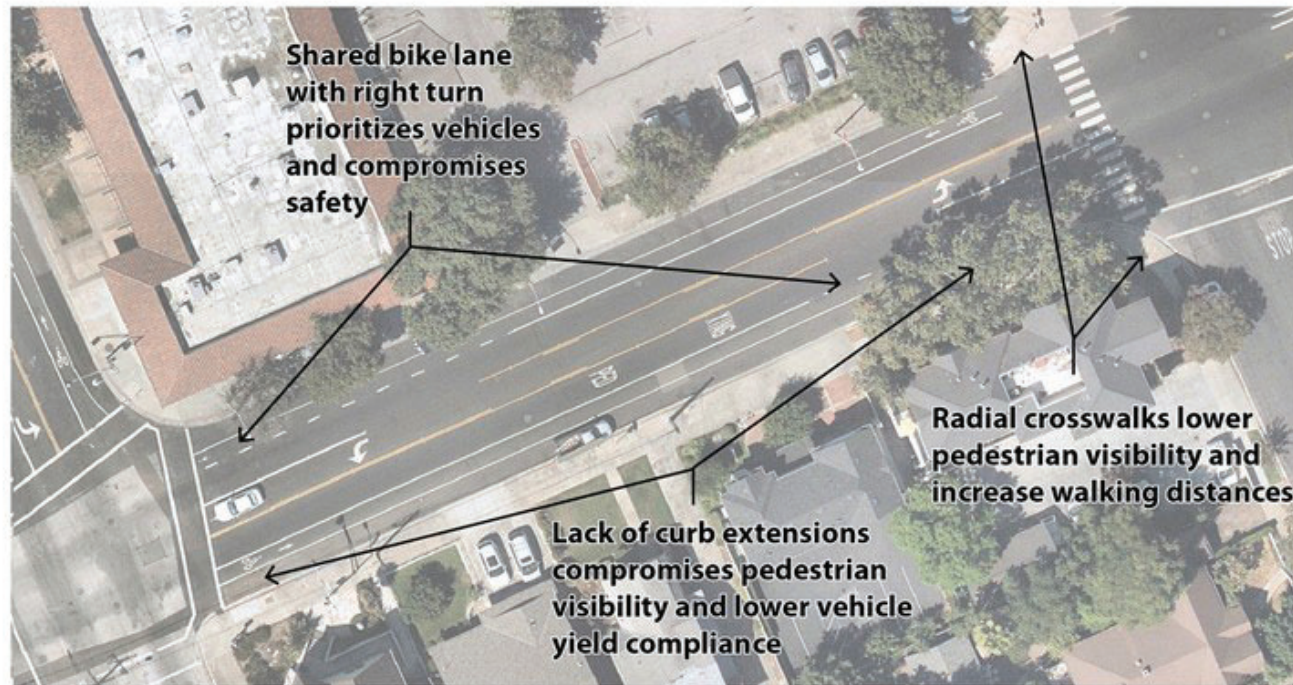
Benton Street is immediately north of the Downtown core, with a consistent cross-section along the study area. The roadway is configured as a two-lane roadway with continuous center left-turn lane and on-street parking. There is no painted delineation between the travel lane and parking lane.

**Roadway Considerations**

The Bicycle Plan update identified Benton Street as needing to be enhanced to a Class II facility bike lane. The existing 15-foot travel lanes can be reconfigured, similar to Homestead Road, with 10-foot travel lanes and five-foot bicycle lanes. Additionally, Benton Street is a key connection between Downtown and the Santa Clara Caltrain Station and future BART Station. Pedestrian improvements along the corridor and at its intersections are recommended to increase the economic influence the rail service can have on the SCDPP study area.



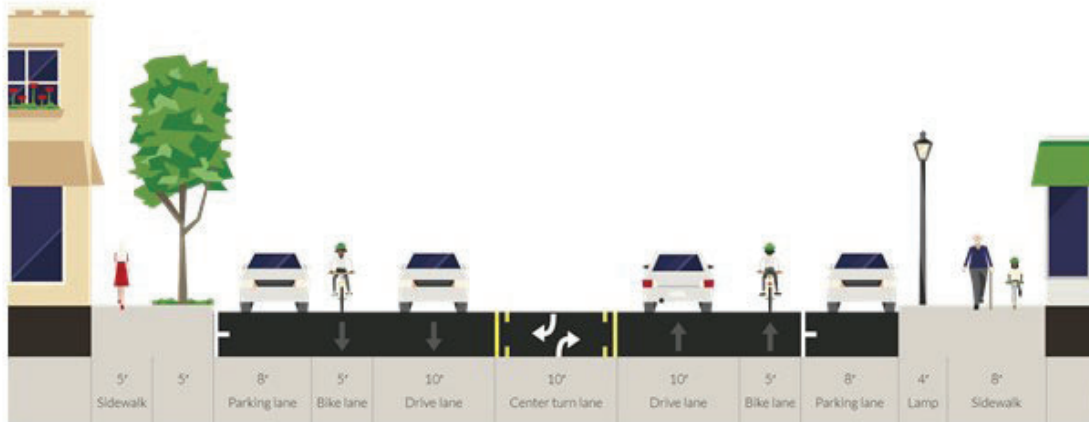
Homestead Road traverses the southern boundary of the SCDPP study area. The roadway is also configured as a two-lane roadway with a continuous center left-turn lane with Class II facility bike lanes and on-street parking. There is no painted delineation between the travel lane and parking lane.



Roadway Considerations

Homestead Road can be further improved and safety concerns addressed. Curb extensions at intersections will shorten pedestrian walking distances and improve their visibility for motorists. Additionally, Santa Clara should consider limiting shared right-turn lane with bicycle lanes along Homestead Road to improve bicycle safety. Lowering the City's minimum LOS standards could allow this to occur.

MONROE STREET CONFIGURATION



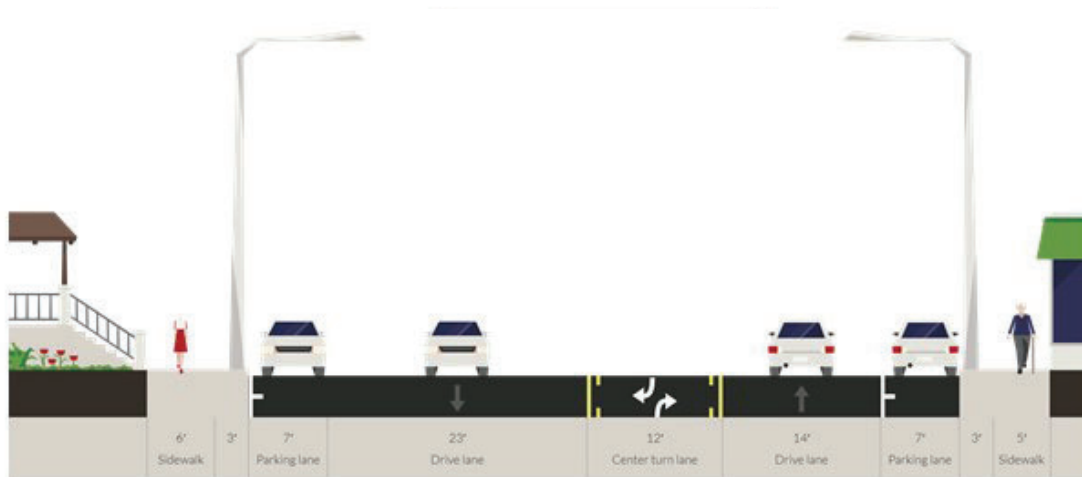
Monroe Street traverses the western portion of the study area. The street is configured as a two-lane roadway with left-turn lanes. The street has a Class II facility bicycle lanes and on-street parking. The western block face of Monroe Street between Benton and Franklin Streets has recent development with improved sidewalks and intersection designs with curb extensions and directional sidewalks.

Roadway Considerations

Monroe Street, like Homestead Road, has improved bicycle facilities, but can be improved further. Each intersection could be modified with curb-extensions and directional crosswalks where the crosswalk ramps are perpendicular to travel lanes. Also, similar to Homestead Road, the City should consider eliminating shared right-turn lanes with bicycle lanes in an effort to improve bicycle safety.



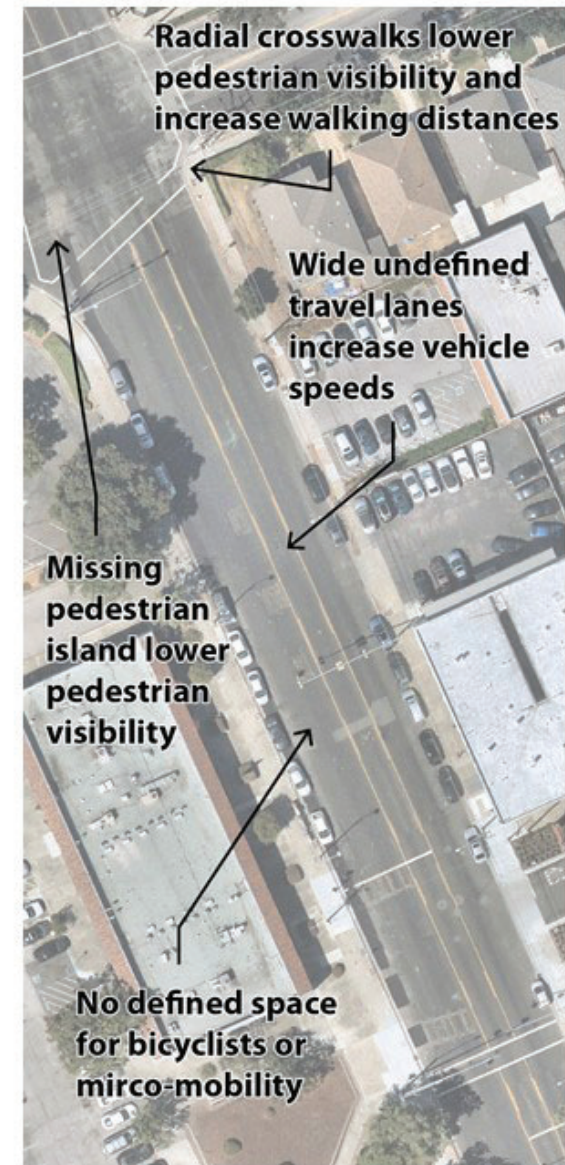
LAFAYETTE STREET CONFIGURATION



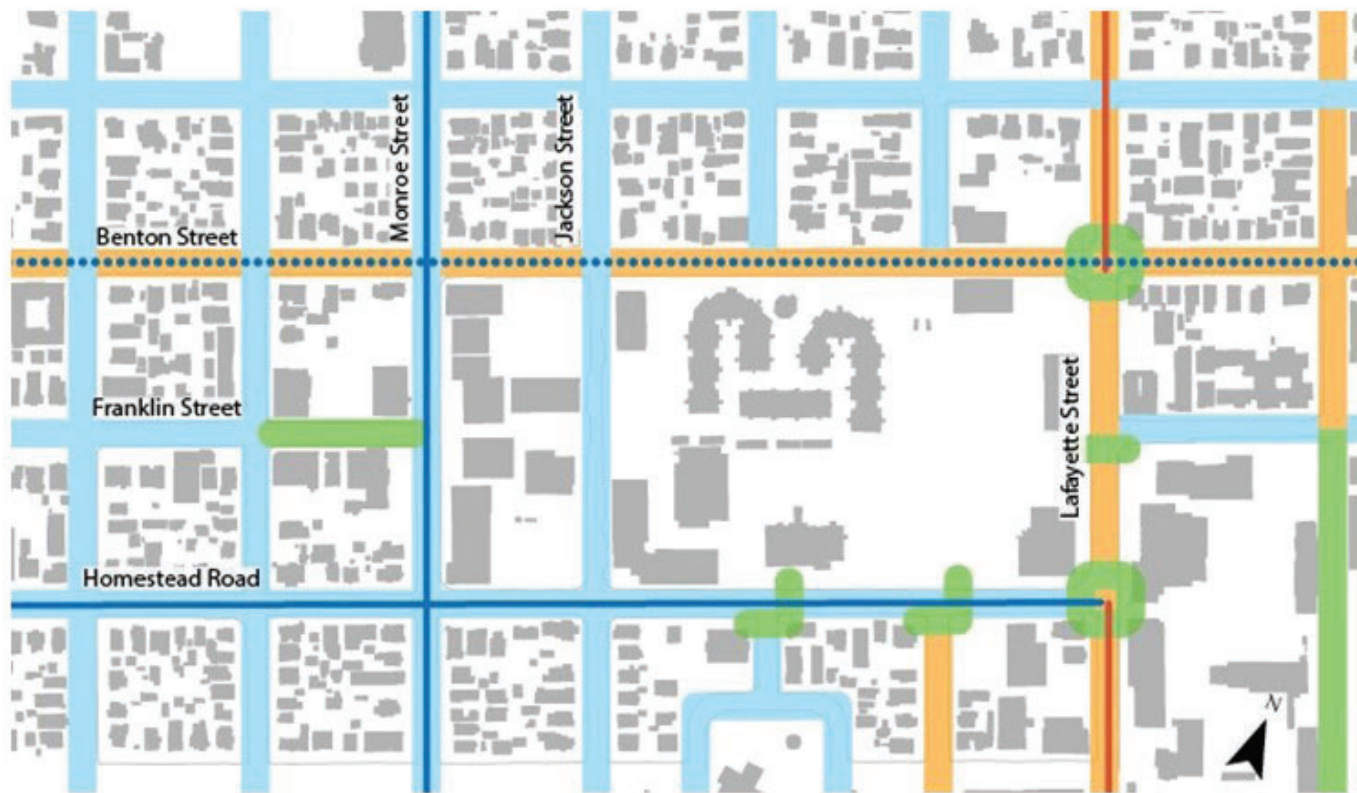
Lafayette Street operates as the eastern boundary of the SCDPP study area. Lafayette Street separates the Downtown from Santa Clara University. The roadway's configuration functions as a barrier to connecting Downtown Santa Clara to the University, and ultimately, the Santa Clara Rail Stations. The roadway operates as a two-lane roadway with continuous center left-turn lane and on-street parking. The intersection of Lafayette and Benton Streets is strangely configured, accommodating a heavy right-turn movement from eastbound Benton Street to southbound Lafayette.

Roadway Considerations

No bicycle improvements were identified for Lafayette Street in the City-wide bicycle Master Plan. Needed pedestrian improvements include the introduction of intersection curb extensions and directional, along with better clarification for southbound travel lanes.



EXISTING AND PLANNED BIKE NETWORK



Santa Clara Bicycle Plan Update 2018

Existing Bikeways

- Class II Bicycle Lane
- Class III Bicycle Route

Recommended Bikeways

- ... Class II Bicycle Lane
(recommended to remove parking from Benton Street)

Bicycling Level of Traffic Stress

- Level 1 - All Ages and Abilities
- Level 2 - Average Adult
- Level 3 - Confident Adult

Bicycle Circulation

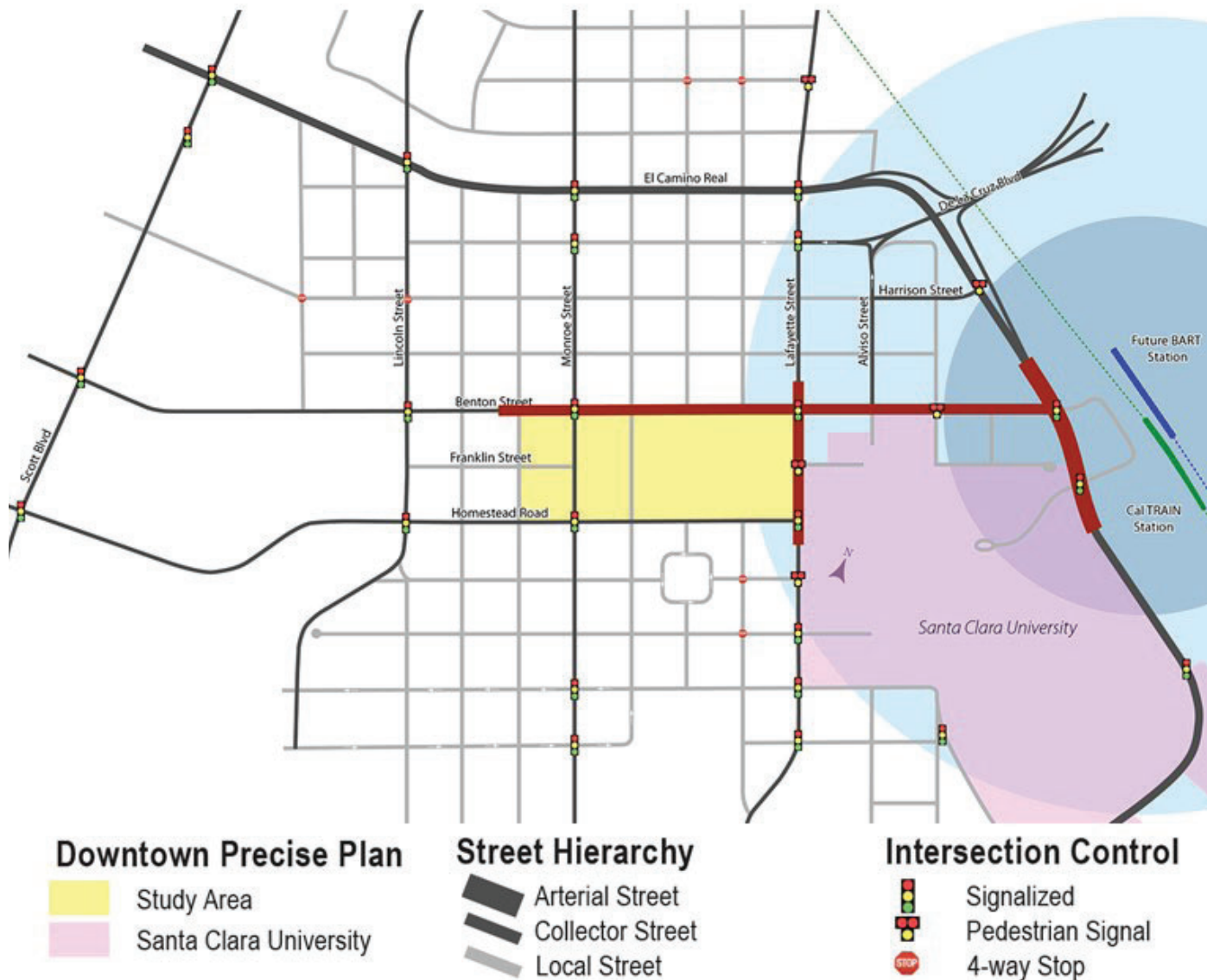
Santa Clara's Bicycle Plan update included the identification of three bicycle levels of traffic stress, scaled between Level 1 to Level 3. Level 1 indicates the bicycling experience is comfortable for bicyclists of all ages and ability levels. Level 2 indicates an experience that is comfortable to an average or better adult bicyclist. The final category indicates a comfort level appropriate only to a confident adult bicyclist.

The assessment shows the bicycling environment in Downtown Santa Clara largely comprises streets that are comfortable for Level 2 bicyclists. Benton Street and Lafayette Streets on the northern and eastern boundaries of the SCDPP area are appropriate only for Level 3 bicyclists.

Bike Considerations

The Bicycle Plan Update recommended implementation of a Class II bicycle lane along Benton Street, similar to Homestead Road. The plan also identified the Monroe Street and Homestead Road intersection as a fairly common crash site for bicyclists. The elimination of the shared vehicular right-turn lane with the bike lane at that intersection could reduce crash rates.

ACCESS BARRIERS



Access Barriers

Three transportation barriers influence the success of the SCDPP study area. The current configurations of Benton Street, Lafayette Street, and El Camino Real isolate Downtown from the University of Santa Clara, and the mobility economic benefits provided by the Santa Clara CalTrain Station and the future BART Station.

Barrier Reduction Considerations

The City should consider reducing El Camino Real from six to four lanes between Rail Road Avenue and Dela Cruz Boulevard. This lane reduction would improve pedestrian accessibility between Downtown and the Santa Clara Rail Stations. It is expected that modification to the City's LOS minimum standard will be needed to accommodate this recommendation. Like El Camino Real, Lafayette Street is also a physical barrier, separating Downtown from the University. Pedestrian improvements at both the Benton and Franklin Streets intersections with Lafayette are recommended to mitigate the barrier.