

## 3.16 TRANSPORTATION

This section identifies applicable regulatory requirements related to transportation and describes the existing transportation system within and in the vicinity of the LRDP area. The transportation impact analysis presented in this chapter, identifies the environmental effects resulting from implementation of the 2021 LRDP and, if necessary, mitigation measures are set forth to reduce significant transportation impacts. Consistent with CEQA Guidelines, impacts associated with bicycle, pedestrian, and transit facilities; the generation of vehicle miles traveled (VMT); transportation hazards; and emergency access are evaluated as part of this analysis.

Comments received on the NOP (Appendix B) included concerns related to roadways and intersection operations/level of service, parking supply and management, the generation of VMT, transit availability and cost, bicycle and pedestrian facilities and safety, potential hazards related to a design feature or incompatible use, roadway and intersection infrastructure improvements, emergency access, and transportation safety. As further explained below under Regulatory Setting (under SB 743), measurements of congestion (e.g., level of service) are no longer considered environmental impacts under CEQA. Parking concerns raised in the NOP are also not considered environmental impacts under CEQA because parking shortfalls are not a physical effect on the environment. All other scoping comments are addressed in the analysis that follows.

### 3.16.1 Regulatory Setting

#### FEDERAL

There are no federal laws and regulations addressing transportation that pertain to the 2021 LRDP. However, federal regulations relating to the Americans With Disabilities Act, Title VI, which prohibits discrimination based on race, color, and national origin, and Environmental Justice (Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) are applicable to the manner in which transit service is provided.

#### STATE

##### California Building Code

The California Building Standards Code (CBC) (California Code of Regulations, Title 24) provides minimum standards for the design and construction of buildings and structures in California. Minimum standards are organized under Part 1 to 12 and include code standards for buildings, mechanical, plumbing, energy, historical buildings, fire safety, and green building standards. State law mandates that local government enforce these regulations, or local ordinances, with qualified reasonably necessary and generally more restrictive building standards than provided in the CBC. Title 24 is applicable to all occupancies, or structures, throughout California, whether or not the local government takes an affirmative action to adopt Title 24.

##### Senate Bill 743

Senate Bill (SB) 743, passed in 2013, required the California Governor's Office of Planning and Research (OPR) to develop new guidelines that address transportation metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR published its proposal for the comprehensive updates to the CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to SB 743. The updated CEQA Guidelines were adopted on December 28, 2018; and according to the new CEQA Guidelines Section 15064.3, VMT replaced congestion as the metric for determining transportation impacts. The guidelines state that "lead agencies may elect

to be governed by these provisions of this section immediately. Beginning July 1, 2020, the provisions of this section shall apply statewide.”

To provide guidance to agencies implementing the new CEQA requirements, OPR published the *Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory)* in December 2018. The *Technical Advisory* describes considerations agencies may use in selecting VMT metrics, calculation methodologies, and significance thresholds. The *Technical Advisory* does not mandate the use of specific metrics, methodologies or significance thresholds, because agencies have discretion to select those that are appropriate for the local land use and transportation context. The intent of SB 743 should be considered in these decisions:

[To] more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

## **California Department of Transportation**

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining the State Highway System. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the State Highway System within the transportation impact study area (study area) would need to be approved by Caltrans. Within the study area, Caltrans owned and operated facilities include State Route (SR) 1, SR 9, and SR 17.

### **Vehicle Miles Traveled-Focused Transportation Impact Study Guide**

On May 20, 2020, Caltrans adopted the Transportation Impact Study Guide (TISG) to provide updated guidance to Caltrans Districts, lead agencies, tribal governments, developers, and consultants based on changes to Caltrans’ review process for local development intergovernmental review under the updated CEQA Guidelines (Caltrans 2020a). This guidance is non-binding and is intended to be used as a reference and informational document. The guidance may be updated based upon need, or in response to updates of the OPR’s *Technical Advisory*. The TISG replaces the *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002) and does not apply to transportation projects on the State Highway System. The TISG does not prescribe VMT calculation methodologies, metrics, or significance criteria; but rather provides guidance based primarily on what is detailed in the *Technical Advisory*.

### **Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance**

In July 2020, Caltrans released the *Interim LDIGR Safety Review Practitioners Guidance* to provide immediate direction regarding the transportation safety analysis and review while the final guidance document is being developed (Caltrans 2020b). The interim transportation safety guidance is intended to apply to proposed land use projects and plans affecting the State Highway System. Specific effects may include, but are not limited to, the addition of new automobile, bicycle, or pedestrian trips to state roadways; modification of access to state roadways; or effecting the safety of connections to or travel on state roadways. The interim guidance does not establish thresholds of significance for determining safety impacts under CEQA. The document states that significance of impacts should be determined with careful judgment on the part of a public agency and based, to the greatest extent possible, on scientific and factual data consistent with Caltrans’ CEQA guidance contained in Caltrans’ Standard Environmental Reference, Chapter 36, “Environmental Impact Report,” and CEQA guidelines found in the California Code of Regulations, title 14, division 6, chapter 3, article 5, section 15064, “Determining the Significance of the Environmental Effects Caused by a Project.”

## **UNIVERSITY OF CALIFORNIA**

### **University of California Sustainable Practices Policy**

The University of California (UC) updated its Sustainable Practices in July 2020. The policy applies to all campuses and contains the following goals related to reducing vehicle travel (UCOP 2020):

- ▶ The UC recognizes that single-occupant vehicle (SOV) commuting is a primary contributor to commute GHG emissions and localized transportation impacts.

- ▶ By 2025, each location shall strive to reduce its percentage of employees and students commuting by SOV by 10 percent relative to its 2015 SOV commute rates.
- ▶ By 2050, each location shall strive to have no more than 40 percent of its employees and no more than 30 percent of all employees and students commuting to the location by SOV.

Each location (campus) will develop a business-case analysis for any proposed parking structures serving UC affiliates or visitors to campus to document how a capital investment in parking aligns with each campus' Climate Action Plans and/or sustainable transportation policies.

### University of California Facilities Manual

The UC updated its Facilities Manual that applies to all campuses and contains the UC policies, procedures, and guidelines for its facilities. The Facilities Manual states that UC is the Authority Having Jurisdiction (AHJ) for matters of code regulations on projects on UC campuses (UCOP 2019). The Facilities Manual contains the following with regards to transportation:

- ▶ Volume 2: Planning, Chapter 3 Long Range Development Plans, 3.1.2. LRDP Elements
- ▶ *Circulation and Transportation*. The LRDP shows how people move to and through the site in the future. All forms of travel are considered: pedestrian, bicycle, mopeds, motorcycles, cars, service and delivery vehicles, emergency vehicles, and hazardous material transportation. The LRDP indicates which paths and roads are shared by one or more forms of travel and which are segregated. Parking for all vehicle types is addressed.
- ▶ Volume 6: Plant Operations & Maintenance, Chapter 5 Energy and Water Conservation and Management, 5.1.2. Operational Guidelines
- ▶ Suggest that personnel minimize individual automobile use through carpooling and use of public transportation.

### UC Santa Cruz 2017-22 Campus Sustainability Plan

UC Santa Cruz updated the UC Santa Cruz 2017-22 Campus Sustainability Plan in 2019 that contains the following goals related to reducing vehicle travel.

- ▶ Reduce commute travel mode impacts relative to a 2017 baseline by: reducing Scope 3 commuter greenhouse gas emissions 10 percent by 2022; reducing commute VMT five percent by 2022; and reducing per capita parking demand 10 percent by 2022.
- ▶ Increase transit ridership to/from campus by 10 percent.
- ▶ Develop an outreach strategy to promote sustainable transportation culture and prioritize human-powered on-campus travel at UC Santa Cruz.
- ▶ Explore creative funding options for sustainable transportation programs that reduce vehicle trips and address social justice implications of the current fee structure being heavily supported by student fees.

### UC Santa Cruz Traffic and Parking Regulations

The UC Santa Cruz Traffic and Parking Regulations (UC Santa Cruz 2013) include provisions that promote the safe and orderly movement of traffic on all UC Santa Cruz properties, including the main residential campus and Westside Research Park. The regulations supplement the provisions identified in the California Vehicle Code to establish the 'rules of the road' for the UC Santa Cruz main residential campus and other UC Santa Cruz properties. Rules and standards included in the regulations pertain to vehicle, bicycle, and other wheeled device operations and parking, as well as emergency vehicle access within the main residential campus and other properties. The regulations note that both vehicles and bicycles shall yield the right of way to pedestrians.

## UC Santa Cruz Bicycle Plan

The UC Santa Cruz Bicycle Plan (UC Santa Cruz 2008) serves as a guide for the continued improvement and encouragement of bicycling as a significant mode of transportation to, from, and on the UC Santa Cruz main residential campus and other UC Santa Cruz properties. The plan describes existing policies and facilities related to campus bicycling and includes a list of projects and programs intended to improve the UC Santa Cruz cycling environment in the future.

## LOCAL

As noted in Section 3.0.2, "University of California Autonomy," UC Santa Cruz, a constitutionally created State entity, is not subject to municipal regulations of surrounding local governments for uses on property owned or controlled by UC Santa Cruz that are in furtherance of the UC's educational purposes. However, UC Santa Cruz may consider, for coordination purposes, aspects of local plans and policies of the communities surrounding the campus when it is appropriate and feasible, but it is not bound by those plans and policies in its planning efforts.

### Santa Cruz County General Plan

The Circulation Element of the Santa Cruz County General Plan (Santa Cruz County 1994), some pages of which were updated in 2020, contains the following objectives, policies, and programs related to transportation that may be relevant to the 2021 LRDP<sup>1</sup>:

**Objective 3.1: Vehicle Miles.** To limit the increase in VMT to achieve as a minimum, compliance with the current Air Quality Management Plan.

- ▶ **Policy 3.1.1: Land Use Patterns (Jobs/Housing Balance).** Encourage concentrated commercial centers, mixed residential and commercial uses, and overall land use patterns which reduce urban sprawl and encourage the reduction of vehicle miles traveled per person.

**Objective 3.2: Vehicle Occupancy.** To increase the average number of persons per commute vehicle to 1.35 persons per vehicle while pursuing a goal of reducing automobile trips to a maximum of 60 percent of all trips through encouragement of alternative transportation by transit, bicycles and walking.

- ▶ **Policy 3.2.1: Trip Reduction.** Require all existing and proposed development to comply with all provisions of the Trip Reduction ordinance.
- ▶ **Policy 3.2.2: Mode Split.** Encourage large employers to provide incentives to carpoolers, bicyclists, pedestrians and transit riders such as priority parking, company car use, bicycle lockers, bus passes etc. in conjunction with the Trip Reduction ordinance.
- ▶ **Policy 3.2.3: Employee Carpool Program.** Encourage large new developments to establish employee pool programs for car, van or bus pools.

**Objective 3.4: Transit Network Capacity.** To plan and develop an integrated countywide transit system which may include fixed guideway as well as buses, and is capable of accommodating as much as 30 percent of all trips and at least 10 percent in public transit and 1 percent in school transit, consistent with the Regional Transportation Plan by 2005.

- ▶ **Policy 3.4.1: Transit Facilities and Roadway Design.** Include transit facilities in the design of road improvements along designated existing and proposed bus routes.
- ▶ **Policy 3.4.2: Transit Centers/Park & Ride Lots.** Support development of additional transit centers and Park & Ride lots, as well as improving informal Park & Ride lots and making permanent where feasible.
- ▶ **Policy 3.4.4: On-Site Transit Facilities.** Require developers of major traffic generating activities to provide fixed transit facilities, such as bus shelters and pullouts, consistent with the anticipated demand. Locate these facilities in areas convenient to pedestrians' use.

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<sup>1</sup> It should be noted that since only some pages of the Circulation Element were updated, some of the horizon dates defined in the policies are outdated but were included for consistency purposes.

- ▶ **Policy 3.4.5: Bus Pullouts.** Require developers of new large projects located on transit routes to dedicate the right-of-way and construct a bus pullout bay.

**Objective 3.6: Transit Promotion.** To promote opportunities for regular transit use to commute to school, shopping, employment, and recreational resources.

#### Programs

- ▶ **(LCP) b:** Develop coordinated transit marketing efforts with the transit district, hotels, motels, restaurants, convention facilities, [UC Santa Cruz], and local merchants. Request recreation-oriented sites and developments to include publicity and scheduling information for transit use in their advertising. (Responsibility: Board of Supervisors, Planning Department)
- ▶ **(LCP) c:** Develop programs and funding which facilitate transit use by providing intermodal transportation or monetary savings such as the bicycle racks on buses and bus pass programs of the Santa Cruz Metropolitan Transit District. (Responsibility: Board of Supervisors, Planning Department, Transportation Commission, Transit District)
- ▶ **(LCP) d:** Request coordinated operations and use of transit facilities by local transit and inter-County carriers. (Responsibility: Board of Supervisors, Planning Department, Transportation Commission, Transit District)

**Objective 3.8b: Coordination.** To coordinate the County's bikeway planning efforts with local cities and adjacent counties and other agencies to provide an integrated regional bikeway system and to actively seek all available means of financing bikeways including state and federal grants.

**Objective 3.8c: Bicycle Use.** To encourage bicycle travel as a major form of transportation in order to increase bicycle use to 20 percent of all work trips and to increase general bicycle trips to 5 percent of all trips by the year 2010.

- ▶ **Policy 3.8.1: System Continuity.** Plan a bikeway network to integrate with other modes of transportation (train or transit stations and Park and Ride lots, etc.) in order to encourage and support the use of bicycling and reduce the use of motor vehicles.
- ▶ **Policy 3.8.2: Commuting.** Design regional bicycle routes to connect residential areas with major activity centers (employment, educational, civic, etc.) by including bikeway network development as part of the Capital Improvements Program to prioritize construction or retrofits for completion of specific routes.
- ▶ **Policy 3.8.3: Modal Interaction.** Encourage other modes of transportation (buses, trains, etc.) to plan for, and provide space for carrying recreational and commuting bicyclists on public transportation systems. Include secure bicycle parking facilities with development of transit shelters incorporating Santa Cruz County Transit District design approval.
- ▶ **Policy: 3.8.4 User Convenience.** Encourage the provision of bicycle racks, showers, lockers and other storage facilities at destinations, where practical and economically feasible, when reviewing discretionary permits for major activity centers and employer sites. These facilities should be provided at a level consistent with the County goal of 5 percent total bicycle travel
- ▶ **Policy 3.8.5: Regional Continuity.** Coordinate with other jurisdictions to adopt a system of bikeways that is functional throughout the County and region.
- ▶ **Policy 3.8.8: Trail Network.** Plan, develop, and maintain a network: of countywide regional trails in both incorporated and unincorporated areas, through cooperative efforts with cities, property owners, and other interested persons in Santa Cruz County.

**Objective 3.9: Bicycle Safety.** To reduce the conflict between bicycles and other modes of travel and to decrease the number of accidents involving bicycles.

- ▶ **Policy 3.9.1: Design.** Design and construct regional bikeways in accordance with County and Caltrans standards in order to maximize safety and minimize potential conflicts with pedestrians and motor vehicles.
- ▶ **Policy 3.9.3: Parking.** Limit on-street parking where the need for a clear bike lane exists. Stripe all arterials for bike lanes and strictly enforce parking limitations.

- ▶ **Policy 3.9.4: Maintenance.** Require that contractors and utility companies doing roadside work maintain the road edge in the best possible condition during construction and, upon project completion, improve the road shoulder to the pre-construction condition or better.

**Objective 3.10: Pedestrian Travel.** To encourage pedestrian travel as a viable means of transportation, by itself and in combination with other modes to achieve at least 7 percent of all trips through walking, by increasing and improving pedestrian facilities, particularly in urban areas and reducing the conflicts between pedestrians and other modes of travel.

- ▶ **Policy 3.10.3: Lighting.** Require adequate lighting for pedestrian and transit patron's movement where appropriate.
- ▶ **Policy 3.10.4: Pedestrian Traffic.** Require dedication and construction of walkways for through pedestrian traffic and internal pedestrian circulation in new developments where appropriate.
- ▶ **Policy 3.10.5: Access.** Ensure safe and convenient pedestrian access to the transit system, where applicable in new developments.
- ▶ **Policy 3.10.8: Americans With Disabilities Act (ADA) Requirements.** Incorporate ADA standards in design of new projects and reconstruction where applicable. Prohibit landscaping and all other obstacles, such as telephone poles and fire hydrants, which would prevent pedestrian movement within this walkway. Require the use of materials which will provide an all-weather surface for walking.
- ▶ **Policy 3.10.9: Americans With Disabilities Act (ADA) Existing Development.** Retrofit all existing comers to be compatible with ADA standards.
- ▶ **Policy 3.10.10: Americans With Disabilities Act (ADA) New Development.** All new development shall incorporate ADA standards into the design, where applicable.

**Objective 3.11: Roadway Network Function.** To provide a road system capable of carrying a maximum of 77 percent of all trips by automobile mode by the year 2005, consistent with the Santa Cruz County Regional Transportation Plan.

- ▶ **Policy 3.11.1: Functional Street Classification and Street Standards in Urban Areas.** Design and develop new street and interior circulation systems according to the following principles:
  - (a) Plan streets according to their functional street classification. The purposes of functional street classifications are:
    - ▶ to provide guidance in defining and prioritizing roadway improvements;
    - ▶ to provide guidance in determining which traffic control devices and signs are appropriate;
    - ▶ for funding applications; and
    - ▶ to provide guidance in identifying local streets where traffic management techniques are appropriate.
  - (b) Define street classification according to the character of the street.
  - (c) Minimize the number of intersections and side traffic interference along arterial.
  - (d) Limit driveways, mid-block access points, intersections and on-street parking along major arterial whenever possible.
  - (e) Locate and design public facilities and new developments to facilitate transit, pedestrian, and bicycle access, as well as auto access, both within the development and outside it.

**Objective 3.13: Neighborhood Traffic Control.** To protect residential neighborhoods from disruption caused by high traffic volumes and speeds through design, signs, and traffic control devices.

- ▶ **Policy 3.13.1: Limiting Traffic Volumes.** Seek to limit traffic volumes and speeds in residential neighborhoods through alignment and improvement of existing and proposed local streets.

- ▶ **Policy 3.13.2: Planning of New Residential Streets and Improving Existing Streets.** Plan roadway networks in residential areas and subdivisions to inter-connect adjacent residential areas while discouraging through traffic on local streets.
- ▶ **Policy 3.13.4: Design and Enforcement Measures.** Emphasize design and enforcement solutions to slow and discourage through traffic.
- ▶ **Policy 3.13.5: Physical Devices.** Physical devices may be used but should not unduly restrict access to neighborhoods, particularly by emergency vehicles. All devices should be consistent with the Caltrans Traffic Manual.
- ▶ **Policy 3.13.6: Street Closures.** Utilize new and existing street closures only when necessary to protect residential neighborhoods from high volumes of through traffic. Terminate all street closures with full cul-de-sac improvements and maintain emergency secondary access where feasible and where required by County design standards.
- ▶ **Policy 3.13.7: Through Auto Traffic.** Discourage inter-neighborhood and through auto traffic movement on local streets through street alignment and intersection design.

## 2040 Santa Cruz County Regional Transportation Plan

The Santa Cruz County Regional Transportation Commission (RTC) periodically completes a Regional Transportation Plan according to state guidelines to guide short- and long-range transportation planning and project implementation for the county. The 2040 Regional Transportation Plan (2040 RTP) is the RTC's comprehensive planning document that provides guidance for transportation policy and projects through the year 2040. The 2040 RTP is based on a sustainability framework using the Sustainable Transportation Analysis and Rating System (STARS) to identify the goals, policies and thus the projects and programs to achieve a more sustainable transportation system. Sustainability is defined as balancing economic, environmental, and equity interests. Individual projects listed in the 2040 RTP must still undergo separate design and environmental processes, and can only be implemented as local, state and federal funds become available. The 2040 RTP, along with those from Monterey and San Benito Counties, has also been incorporated into a metropolitan transportation plan/sustainable communities strategy (MTP/SCS) covering the three-county Monterey Bay area to comply with state and federal guidelines.

The 2040 RTP includes a list of transportation projects within the county, including the City of Santa Cruz, the County of Santa Cruz, Caltrans, and UC Santa Cruz.

For UC Santa Cruz, the projects listed are both "constrained" (i.e., projects that can be funded by 2040) and "unconstrained" (i.e., projects that will not receive funding prior to 2040 without identification of new funding sources). The total project costs for UC Santa Cruz is around \$290 million, with about \$178 million with secured funding. The funding for these projects would be provided by UC Santa Cruz and other sources. As of August 2020, an updated RTP is being prepared, and is planned for adoption in 2022.

## City of Santa Cruz General Plan

The Mobility Element of the City of Santa Cruz 2030 General Plan (City of Santa Cruz 2012) contains the following transportation goals and policies that may be relevant to the 2021 LRDP:

**GOAL M1.** Land use patterns, street design, parking, and access solutions that facilitate multiple transportation alternatives.

- ▶ **Policy M1.1:** Reduce automobile dependence by encouraging appropriate neighborhood and activity center development.
- ▶ **Policy M1.2:** Create livable streets. "Livable streets" support the intent of Section 65302(b) of the California Government Code to create "complete streets" planned, designed, operated, and maintained to provide safe mobility for all users, including "bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors."
- ▶ **Policy M1.3:** Create pedestrian-friendly frontage and streetscapes and attractive pedestrian-oriented areas.

- ▶ **Policy M1.4:** Ensure that sidewalks, transit centers, and major transit stops are conveniently located, usable, and accessible to all. This policy and Action M1.4.1 support the intent of Section 65302(b) of the California Government Code to create “complete streets.”
- ▶ **Policy M1.5:** Reduce the need for parking and promote parking efficiency.

**GOAL M2.** A safe, sustainable, efficient, adaptive, and accessible transportation system.

- ▶ **Policy M2.1:** Provide leadership on sustainable regional mobility.
- ▶ **Policy M2.3:** Increase the efficiency of the multi-modal transportation system.
- ▶ **Policy M2.4:** Support and promote the efficient use of transit.
- ▶ **Policy M2.5:** Consider innovative transportation solutions.

**GOAL M3.** A safe, efficient, and adaptive road system.

- ▶ **Policy M3.1:** Acknowledge and manage congestion.
- ▶ **Policy M3.2:** Ensure road safety for all users.
- ▶ **Policy M3.3:** Discourage, reduce, and slow through-traffic and trucks on neighborhood streets.

**GOAL M4.** A citywide interconnected system of safe, inviting, and accessible pedestrian ways and bikeways.

- ▶ **Policy M4.1:** Enable and encourage walking in Santa Cruz.
- ▶ **Policy M4.2:** Provide and maintain a complete, interconnected, safe, inviting, and efficient citywide bicycle network.
- ▶ **Policy M4.3:** Require pedestrian and bicycle improvements in major activity centers and activity areas.
- ▶ **Policy M4.4:** Assure a high level of bicycle user amenities.
- ▶ **Policy M4.5:** Support pedestrian and bicycle safety improvements.

## City of Santa Cruz Active Transportation Plan

The City of Santa Cruz Active Transportation Plan serves as a blueprint for active transportation in and around the City. Active transportation is defined as non-motorized forms of transportation, focusing on walking and biking. The Active Transportation Plan describes the existing conditions related to active transportation and outlines which projects in Santa Cruz to focus on that will promote active transportation throughout the City (City of Santa Cruz 2017). A graphic showing the existing and planned bicycle routes based on the Active Transportation Plan within the study area is included in the Environmental Setting below.

## 2040 Metropolitan Transportation Plan

Association of Monterey Bay Area Governments (AMBAG) is the federally designated metropolitan planning organization (MPO) for the counties of Monterey, San Benito, and Santa Cruz. As the MPO, AMBAG develops the MTP/SCS and updates it every four years through a bottom-up process involving numerous stakeholders. Transportation investments in the Monterey Bay Area that receive state and federal funds or require federal approvals must be consistent with the MTP/SCS and included in AMBAG’s Metropolitan Transportation Improvement Program (MTIP). The MTIP is a four-year program and represents the near-term commitments of the MTP/SCS.

The 2040 MTP/SCS is the current MTP/SCS for the Monterey Bay Area and is a technical update to the 2035 MTP/SCS which was adopted in 2014. AMBAG is currently preparing a 2045 update to the 2040 MTP/SCS, which was adopted in 2018. As part of the 2040 MTP/SCS, AMBAG worked closely with stakeholders to develop a new growth forecast and an updated multimodal transportation network with land use patterns and strategies based on reasonably available revenues. AMBAG developed the 2040 MTP/SCS in close coordination with its three regional transportation planning agencies (RTPAs). Each of the three counties in the Monterey Bay Area has a RTPA responsible for countywide transportation planning and implementation. The three RTPAs consist of the Transportation Agency for Monterey County, the Santa Cruz County RTC and the San Benito County Council of Governments. AMBAG also



worked in close coordination with the region's transit operators, local jurisdictions, Caltrans, the Monterey Bay Area Air Resources District, state and federal resource agencies, local agency formation commissions and other special purpose public agencies. The regional growth forecast expressed and included as part of the 2040 MTP/SCS identifies a growth in student enrollment by 2040 to between 27,000 and 28,000 FTE (AMBAG 2018). The MTP/SCS also considers the UC Santa Cruz transit service to be a regionally significant local transit service (AMBAG 2018:2-10)

### 3.16.2 Environmental Setting

The following section describes the roadway, bicycle, pedestrian, and transit facilities in the study area.

#### STUDY AREA

The transportation impact analysis addresses the transportation effects of the 2021 LRDP for the UC Santa Cruz main residential campus and the Westside Research Park at 2300 Delaware Avenue. The study area for transportation analysis includes the main residential campus and the Westside Research Park, and the transportation network serving both sites. Figure 3.16-1 shows the existing transportation network within the study area.

#### ROADWAY SYSTEM

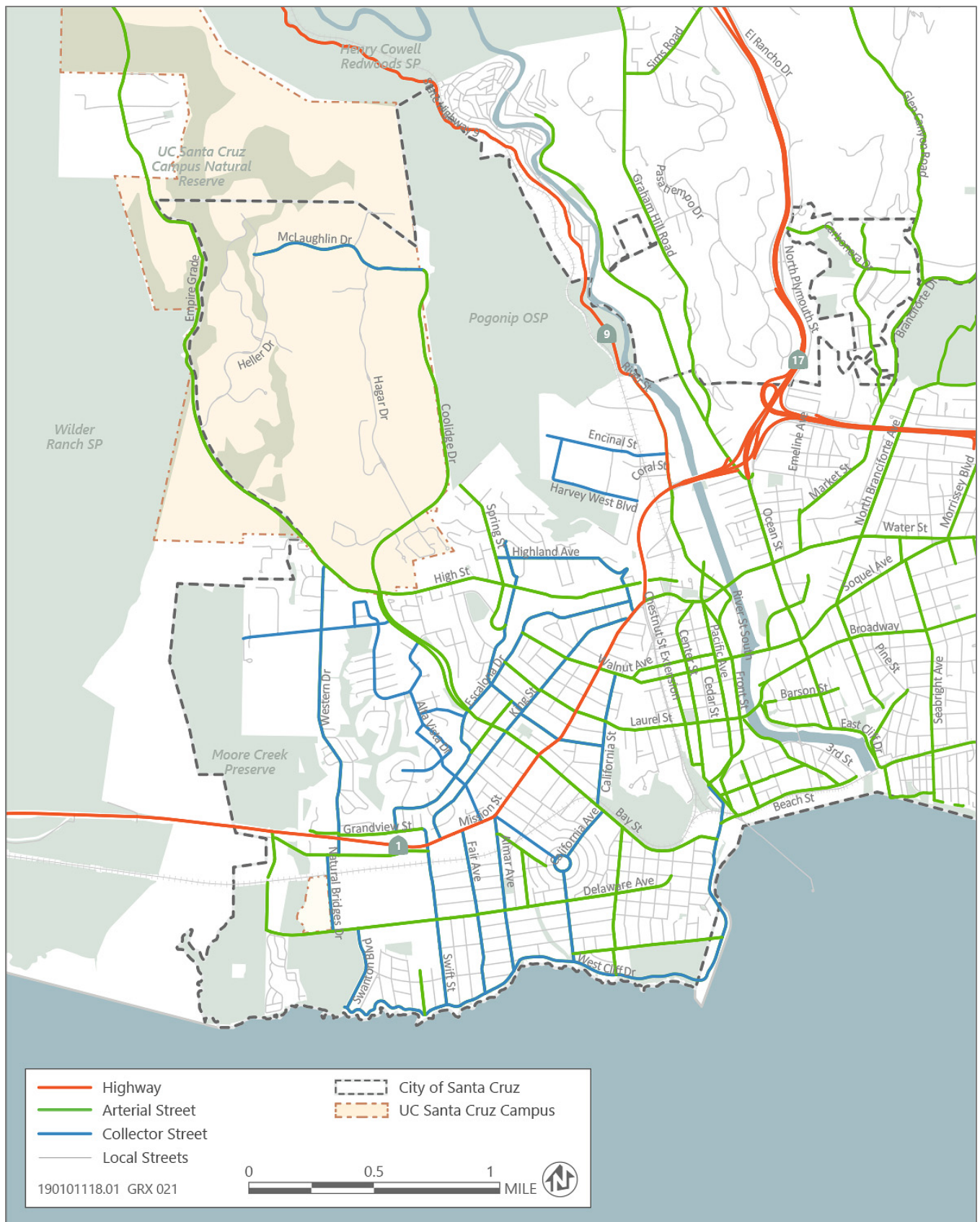
The roadway system in the vicinity of the main residential campus and Westside Research Park is comprised of arterial highways and arterial streets, collector streets, as well as local streets. In addition, truck routes have been designated. The functional roadway classifications described in the City of Santa Cruz General Plan are defined as follows:

- ▶ **Arterial Highways and Streets:** Arterial highways and streets carry the heaviest traffic volumes and provide regional and inter-city access.
- ▶ **Collector Streets:** Collector streets provide access to travel within and between residential neighborhoods and commercial and industrial areas. Collector streets provide connections between local streets and the arterial highways and streets.
- ▶ **Local Streets:** Local streets provide access to nearby properties and connect to arterial and collector streets. Transit routes are not typically located on local streets.
- ▶ **Truck Routes:** Truck routes are intended to channel trucks through the community and away from residential and other areas where they would be a nuisance.

#### Regional Roadways/Off-Campus Roadway System

Key off-campus streets used by traffic associated with the main residential campus and Westside Research Park are described below.

**State Route 1**, also referred to as Highway 1, is a State highway that runs parallel to the coast, and generally runs in an east-west alignment through the City of Santa Cruz. South of the junction with SR 17, SR 1 is a four-lane highway. North of the junction, SR 1 becomes a four-lane highway. At the intersection with Mission Street, the Highway becomes Mission Street to the southwest up to its intersection with Swift Street. At that point, the highway resumes and becomes a two-lane highway. The speed limit before the SR 17 junction is 65 miles per hour (mph) and the speed limit after the junction is 40 mph. To the west of Swift Street, the speed limit is 45 mph.



Source: City of Santa Cruz 2030 General Plan

Figure 3.16-1 Existing Circulation Roadway Network

**State Route 9** is a highway that runs north-south starting from the SR 1/River Street junction to the south and extending north of the UC Santa Cruz campus. SR 9 is a two-lane highway with a speed limit of 35 mph within the City limits.

**State Route 17** is a highway that runs north-south starting from San Jose in the north and terminating at the SR 1 junction in Santa Cruz. SR 17 is a four-lane highway with a speed limit of 50 mph.

**Bay Street/Bay Drive** is two-lane arterial street and runs northwest-southeast within the city. North of Mission Street, Bay Street is a two- to four-lane road and serves as one of the primary access routes to and from the UC Santa Cruz main residential campus. The two-lane section between Mission Street and Escalona Drive serves residential land uses. North of Escalona Drive, Bay Street becomes Bay Drive, a four-lane divided street with limited access to adjacent properties. South of Mission Street, Bay Street serves primarily residential uses and allows on-street parking. Bicycle lanes are provided in both directions from High Street to West Cliff Drive.

**Chestnut Street** is a two-lane collector street south of Laurel Drive and two-lane arterial street north of Laurel Drive extending north-south from Mission Street to Neary Lagoon Park. It serves a mix of residential and commercial uses and provides a primary access route to downtown Santa Cruz. On-street parking is provided and bike lanes are present north of Laurel Street.

**Delaware Avenue** is a two-lane arterial street extending east-west from Shaffer Road in the west to Bay Street in the east. Delaware Avenue serves a mix of residential and low-intensity commercial uses on the west end. It is a primary east-west alternative to Mission Street/SR 1 and the primary access route to Westside Research Park. On-street parking and bike lanes/bike routes are provided along the street.

**Empire Grade** is an arterial County road that extends from High Street at the City limit in the south to Alba Road in the north. It provides access to small rural communities north of the campus including the Cave Gulch and Bonny Doon neighborhoods. It also provides access to the campus - the western entrance to the main residential campus is located on this road at Heller Drive. Bike lanes and shoulders are provided south of Heller Drive. North of Heller Drive, Empire Grade becomes a winding roadway with relatively steep grades on some sections. The posted speed limit is 40 mph.

**High Street** is an arterial street that runs east-west, starting from Mission Santa Cruz in the east and turns into Empire Grade at the City limit. It is a two-lane street, with limited on-street parking, bike lanes, and a speed limit of 30 mph. Between Highland Avenue and Storey Street, High Street is a one lane, westbound street. High Street serves as one of the primary access routes to and from the campus. It also provides access to a public elementary school and numerous churches.

**Laurel Street** is a collector street west of Mission Street and is an arterial street east of Mission Street. It is a two-lane roadway extending east-west from Escalona Drive in the west to Broadway Avenue in the east. It has speed bumps, bike lanes, and on-street parking in primarily residential neighborhoods. To the east of Mission Street, Laurel Street serves a mix of uses and accommodates the most heavily traveled Santa Cruz Metropolitan Transit District (Metro) transit routes that serve the campus.

**Mission Street** is an arterial street that runs east-west through western Santa Cruz, beginning at the Water Street/Pacific Avenue intersection in the east to the Mission Street/SR 1 junction at Swift Street in the west. Mission Street becomes SR 1 at the Chestnut Street/SR 1 junction. Mission Street varies from two to four lanes to the east of SR 1, with a speed limit of 25 mph. Between Shaffer Road and Swift Street, Mission Street is a two-lane local street and has bike routes and on-street parking.

**Natural Bridges Drive** is a two-lane collector street extending north-south from Delaware Avenue in the south to Mission Street in the north. It has bike lanes, on-street parking, and provides access to Westside Research Park.

**River Street** extends north-south from Front Street in the south to SR 9 at SR 1 at the City limit in the north. South of SR 1, River Street is a two- to four-lane arterial street with bike lanes and limited on-street parking. River Street serves primarily commercial and industrial uses both north and south of SR 1, and is a primary access route to downtown Santa Cruz.

**Swift Street** is a two-lane collector street extending north-south from West Cliff Drive in the south and turns into Grandview Street in the north. On-street parking and bike lanes are provided on both sides from Mission Street to Wanzer Street/Modesto Avenue, and a bike lane only on the southbound direction south of Wanzer Street/Modesto Avenue. Swift Street serves a mix of low-intensity commercial offices and residential uses and also functions as the primary access route from Mission Street/SR 1 to the Westside Research Park via Delaware Avenue.

**West Cliff Drive** is a two-lane collector street south of Bay Street and a three-lane (two southbound) collector street north of Bay Street. The road is one-way between Pacific Avenue and Beach Street. It is adjacent to the coastline, carries sightseeing traffic, and has an adjacent off-street bike path.

**Western Drive** is a two-lane collector street extending north-south from High Street in the north to Mission Street/SR 1 in the south. On-street parking is provided intermittently along the street, along with bike lanes.

### Local Roadways/On-Campus Roadway System

UC Santa Cruz's main residential campus is served by two roadway entrances: the main entrance at the Bay Drive/Coolidge Drive/High Street intersection and the west entrance at Empire Grade/Heller Drive intersection. Internal circulation in the campus is provided by internal roadways, which include the following roadways that provide primary circulation within the campus (listed in alphabetical order):

**Coolidge Drive** is a County-owned arterial road that extends north into the campus from the main entrance, forms a portion of the eastern perimeter of the campus and then curves west to become McLaughlin Drive, a campus roadway. Coolidge Drive is a two-lane road with bike lanes on each side and no on-street parking or sidewalks for most of its length. The speed limit from High Street to Hagar Drive is 25 miles mph. Between Hagar Drive and McLaughlin Drive the speed limit is 45 mph.

**Hagar Drive** is a campus street that runs north-south, starting from the intersection with Coolidge Drive to the south and terminating at the intersection with McLaughlin Drive to the north. It is a two-lane street, with bike lanes and adjacent sidewalks for some of its length, and no on-street parking. The speed limit is 35 mph between Coolidge Drive and the East Remote Parking Lot and 25 mph from there north to McLaughlin Drive.

**Heller Drive** is a campus street that runs north-northeast from the west campus entrance at the Empire Grade/Heller Drive intersection. The street experiences high volumes of pedestrian crossings and transit vehicles in the vicinity of Rachel Carson and Porter Colleges. It is a two-lane street and has discontinuous bike lanes and sidewalks in some areas, but is served by a series of off-street paths that parallel the road or connect it to other parts of the campus. On-street parking is not allowed. The speed limit is 25 mph.

**McLaughlin Drive** is the primary east-west campus street serving the campus core, connecting with Heller Drive at its west intersection and turning into Coolidge Drive on its east side. It is a two-lane street and experiences high volumes of use by campus pedestrians, bicycles, and transit vehicles. McLaughlin Drive has sidewalks on both sides for most of its length and no bike lanes. The speed limit is 15 mph.

**Meyer Drive** is a campus street that runs east-west, starting from Heller Drive in the west to the Music Library and Webster Way Bike Path through the Great Meadow in the east. It is a two-lane road with a discontinuous sidewalk on the north side and does not have bike lanes. Meyer Drive does not currently connect Heller Drive and Hagar Drive. The speed limit is 25 mph.

**Steinhart Way** is a campus street that runs east-west, starting from the intersection with McLaughlin Drive to the west and terminating at the intersection with Hagar Drive to the east. It is a two-lane street with adjacent sidewalks for some of its length and no on-street parking. The speed limit is 10 mph.

### Truck Routes

Truck routes provide designated routes for trucks through the city so that they avoid residential and other areas (except for direct deliveries). The City has designated the following roads as truck routes in the study area:

- ▶ SR 1/Mission Street
- ▶ SR 9

- ▶ Bay Drive/Bay Street north of Mission Street
- ▶ High Street west of Bay Drive

## BICYCLE FACILITIES

Bicycle facilities are typically classified into four categories as described below:

- ▶ **Bicycle paths (Class I)** provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicle cross-flow minimized.
- ▶ **Bicycle lanes (Class II)** provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.
- ▶ **Bicycle routes (Class III)** provide right-of-way designated by signs or pavement markings for shared use with motor vehicles. These include sharrows or “shared-lane markings” to highlight the presence of bicyclists.
- ▶ **Class IV Bikeways (Class IV)** cycle tracks or “separated” bikeways provide a right-of-way designated exclusively for bicycle travel within a roadway and are protected from other vehicle traffic by physical barriers, including, but not limited to, grade separation, flexible posts, inflexible vertical barriers such as raised curbs, or parked cars.

Both UC Santa Cruz and the City of Santa Cruz have a comprehensive system of bicycle facilities, which can be seen in Figure 3.16-2.

### Existing On-Campus Bicycle Facilities and Services

Bicycle facilities within the UC Santa Cruz main residential campus include Class II and Class III bicycle facilities along the major roads on campus, and Class I bicycle facilities off-street, as can be seen in Figure 3.16-2. The primary routes to access the main campus (i.e., Coolidge Drive, Hagar Drive, and Heller Drive) include Class II bicycle facilities. Portions of Heller Drive have bike lanes, although only in the northbound direction between Meyer Drive and McLaughlin Drive.

Based on the spring 2019 cordon count conducted by UC Santa Cruz Transportation and Parking Services (TAPS), on average about 440 bicycles use the main entrance (i.e., Coolidge Drive) and about 90 bicycles use the west entrance (i.e., Heller Drive) during an average day. The roads in the northern part of campus, such as Steinhart Way, include Class III bicycle facilities. Additionally, a Class I bicycle facility runs north-south, connecting Coolidge Drive in the south to Meyer Drive in the north with another Class I bicycle facility between the East Remote Parking Lot to the Athletics and Recreation Services Wellness Center. McLaughlin Drive does not include any designated bicycle facilities, though bicycle travel is permitted on all local streets.

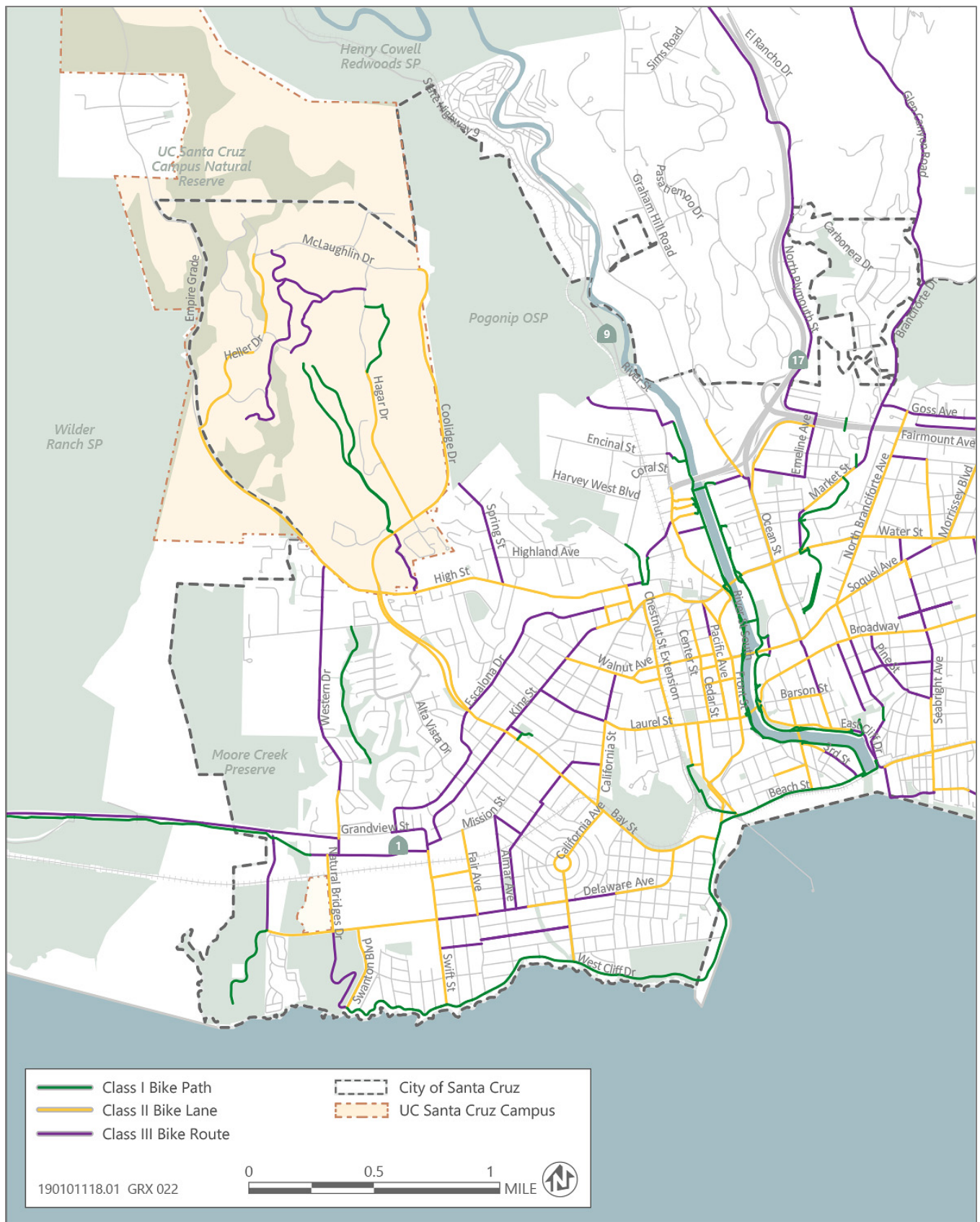
Around Westside Research Park, there are Class II Bike Lanes on Delaware Avenue and Natural Bridges Street. Along Mission Street, there is a Class III Bike Route.

Bicycle racks are provided at transit stops on campus and near most major buildings. The total capacity of on-campus bicycle parking is more than 3,300 bicycle rack spaces. Thirty-two bicycle lockers are offered at various campus locations.

TAPS operates a bicycle shuttle service from the intersection of Mission and Olive Streets to the campus, with the Lower Campus METRO stop and Engineering 2 Circle as the drop-off points. The shuttle provides service during weekday mornings and afternoons and is only provided to UC Santa Cruz affiliates.

Some Campus Transit buses and all vanpool vehicles have front-loading bicycle racks, and bicycles are not allowed inside the buses. All Santa Cruz METRO buses are equipped with front-loading bicycle racks that can fit three standard bicycles.





Source: City of Santa Cruz Active Transportation Plan

Figure 3.16-2 Existing Bicycle Circulation Network

## Campus Bicycle Programs

UC Santa Cruz offers a number of classes and events regarding biking and bike safety that are either free or low cost. The bicycle classes are meant to help new riders get acclimated to biking around the campus and Santa Cruz.

UC Santa Cruz offers a bicycle library, in which UC Santa Cruz affiliates can use a bicycle for free for a quarter. UC Santa Cruz affiliates must be accepted into the program, which includes a safety orientation, maintenance assistance, helmet, lock, and set of lights to borrow. TAPS offers a weekly bicycle maintenance clinic to help UC Santa Cruz affiliates keep their bicycles operational and safe. TAPS has also installed Fixit bicycle repair stations at Baskin Engineering, Main Entrance, McHenry Library, Performing Arts, and Athletics and Recreation.

The Bike Commuter Shower Program is available to UC Santa Cruz staff and faculty who commute to the campus via bicycle. The program provides free access to the shower facilities at the East Field House. Staff and faculty must apply online to get access; students can show their ID cards to get access to the shower facilities.

All bicycles on campus must be registered with a current California bicycle license. Bicycles can be registered for free with the Santa Cruz Police Department using an online link, with the sticker being mailed to the applicant.

UC Santa Cruz also provides a network of bike racks and lockers for secure bike parking at various destinations on the main residential campus and WRP, including 32 bike lockers on the main campus through BikeLink and an indoor bicycle parking facility at WRP.

## Existing Off-Campus Bicycle Facilities and Parking

The City of Santa Cruz Active Transportation Plan describes the existing and proposed bicycle facilities within the city. The existing bicycle facilities in Santa Cruz consist primarily of Class II and Class III bikeways. Class II bicycle lanes are present on all the primary routes leading to the campus, including High Street, Bay Drive/Street (not present between Mission Street and King Street at night due to daytime on-street parking restriction), Delaware Avenue, and Empire Grade.

On the west side of Santa Cruz, the bicycle network is linked with Class II and Class III bikeways. One of the primary difficulties for bicyclists is traveling along or crossing Mission Street to access bicycle routes leading to the campus, because the street carries heavy vehicle traffic volumes and does not include continuous bicycle lanes. The east side of Santa Cruz provides a more connected bicycle network, with bicycle lanes on many streets, especially for east-west travel to access the campus. Bicycle racks and lockers are available throughout the city. The City of Santa Cruz offers 16 bicycle lockers and bicycle racks in the parking lot adjacent to the METRO station in downtown Santa Cruz.

## PEDESTRIAN FACILITIES

### On-Campus Pedestrian Circulation

The main residential campus provides a pedestrian circulation network of pathways through forests and grasslands, and sidewalks adjacent to streets, as shown in Figure 2-8 in Chapter 2, "Project Description." While the pedestrian network connects the various colleges and destinations on campus, the topography, campus size, and various roadway crossings contribute to long walking times for many of the pedestrian routes. Manual traffic control is used at high-volume traffic/pedestrian intersections to allow pedestrians to cross during class changeovers. Additionally, some cross-campus pedestrian routes and bridges are not ADA-compliant.

Near Westside Research Park, there are sidewalks along Natural Bridges Drive and Mission Street and on the north side of Delaware Avenue to the west of Natural Bridges Drive, with a crosswalk at the intersection of Mission Street and Natural Bridges Drive. The pedestrian facilities provide access to the nearby transit stops.

### Off-Campus Pedestrian Circulation

In Santa Cruz, most of the streets have sidewalks, but there are also many streets that either do not have sidewalks or have sidewalks in need of repair. Continuous sidewalks are present on the primary roadways serving the campus, within a half-mile of the High Street/Bay Drive intersection, with the exception of Bay Drive south of Iowa Street/Nobel Drive. Between Iowa Street/Nobel Drive and Escalona Drive, Bay Street has a pedestrian walkway in the median. At the Empire Grade/Heller Drive intersection, there is a crosswalk on the east side of Empire Grade. However, Empire Grade and Heller Drive do not have sidewalks within a ¼ mile radius of the intersection.

## TRANSIT SERVICE AND FACILITIES

Due to COVID-19, both the on-campus and off-campus transit agencies have either reduced service or temporarily stopped service on some routes. This section details the transit service available in spring 2020 prior to COVID-19. Figure 3.16-3 shows off-campus transit services and Figures 3.16-4 and 3.16-5 show on-campus transit services within the study area. Table 3.16-1 shows on-campus and off-campus transit service schedules. Both on- and off-campus transit service are described in more detail on the following pages.

### **On-Campus Transit**

TAPS operates buses that serve the main residential campus. TAPS also works with other regional transit agencies (currently only SCMTD) to coordinate services. Transit services to the main residential campus and other UC Santa Cruz facilities are described below.

#### **UC Santa Cruz Campus Transit**

Campus Transit is the campus shuttle bus system operated by TAPS to serve the main residential campus. As shown in Figures 3.16-4 and 3.16-5, the three on-campus routes offered by TAPS include The Loop, Upper Campus, and the Night Core.

While it is subject to change based on a variety of factors, including but not limited to season, ridership demand and campus population, Campus Transit schedules are typically similar to the following: the Loop operates from Monday to Friday from 7:25 AM to 9:30 PM (last bus departs at 6:35 PM on Fridays), with buses every 15 minutes running in both the clockwise and counterclockwise directions. The Upper Campus route provides service only to the upper campus, to and from the West Remote and East Remote parking lots. The Upper Campus route operates from Monday to Friday from 7:30 AM to 8:45 PM (last bus departs at 5:00 PM on Fridays) with buses every 15 minutes during peak hours. The Night Core service operates every day from 8:00-11:30 PM on weekdays (starts at 6:00 PM on Fridays), and 5:00 – 11:00 PM on weekends with buses every 30 minutes.

The Loop has the most ridership of the three on-campus routes, with about 5,600 daily weekday riders, whereas Upper Campus has around 1400 daily weekday riders and Night Core has around 800 daily riders.

#### **TAPS Disability Van Service**

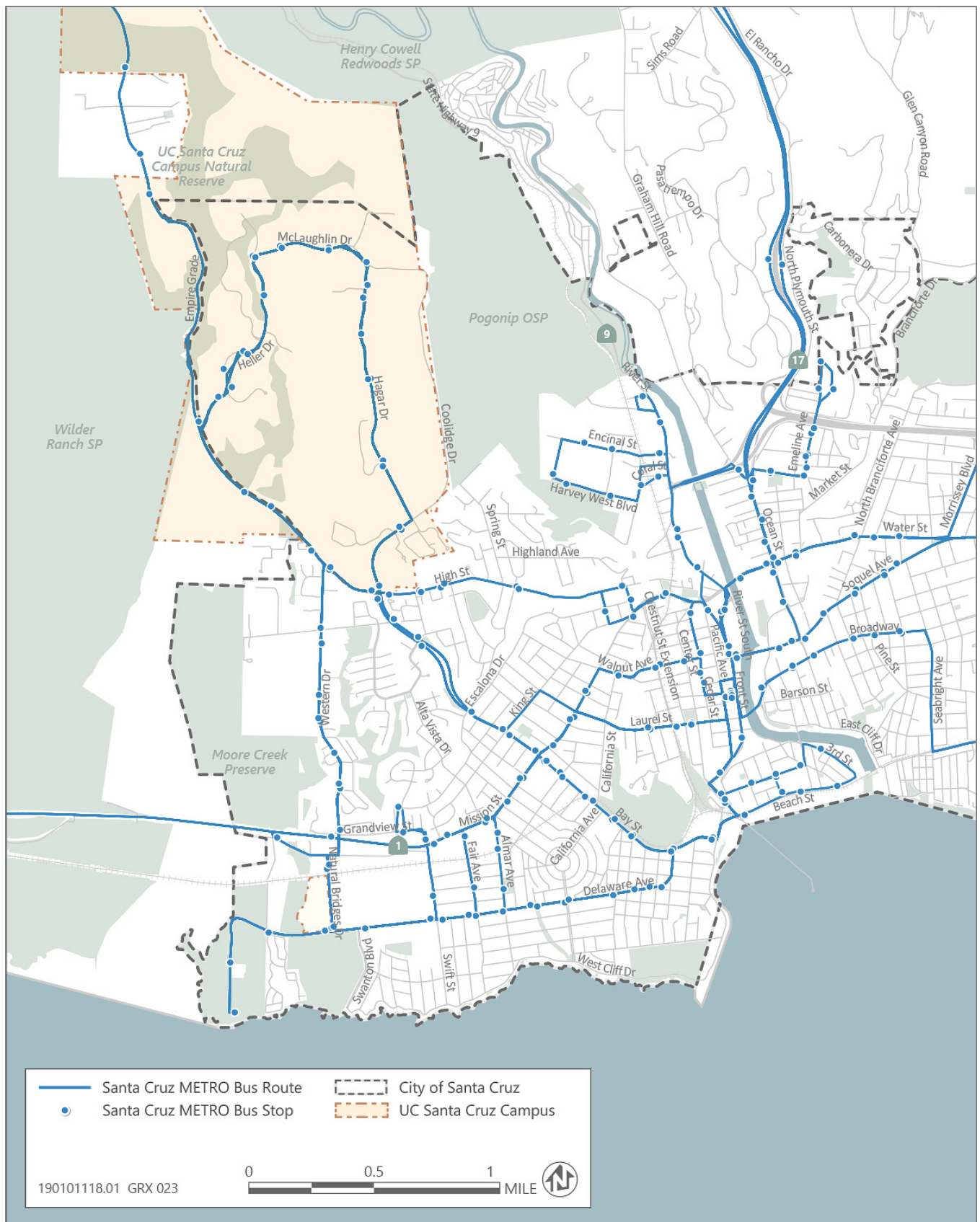
The Disability Van Service (DVS) provides on-campus wheelchair lift-equipped transportation for all employees, students, and visitors with temporary or permanent mobility impairments. No fare is charged to use the service, but rides must be arranged ahead of time and current medical documentation is required.

#### **METRO Bus Service to UC Santa Cruz**

The METRO bus system is operated by the Santa Cruz Metropolitan Transit District (SCMTD) and provides public transit for Santa Cruz County. METRO buses run both clockwise and counterclockwise routes around the campus. Bus shelters are located at most transit stops on campus.

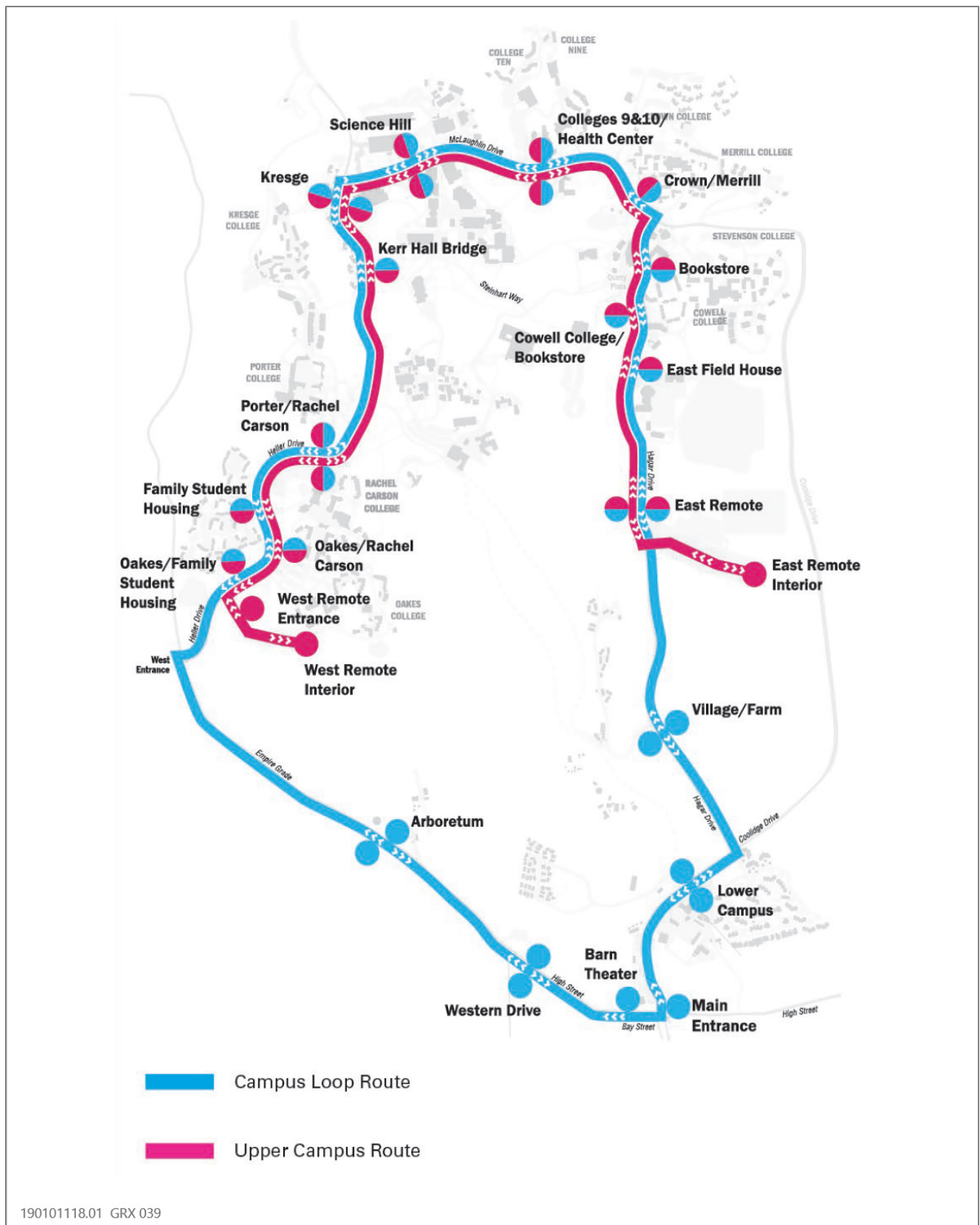
The METRO routes that serve the LRDP area (Routes 10, 15, 16, 19, 20, 20D, and 22) account for almost 60 percent of all METRO ridership and are described in more detail below.





Source: Santa Cruz METRO

Figure 3.16-3 Existing METRO Transit Routes to UC Santa Cruz (Pre-COVID-19)



Source: UC Santa Cruz Transportation Parking Services

Figure 3.16-4 Existing Campus Loop and Upper Campus Routes (Pre-COVID-19)



Figure 3.16-5 Existing Night Core Routes (Pre-COVID-19)

**Table 3.16-1 Existing Transit Service**

Route	From	To	Weekday Operating Hours	Weekday Peak Headway (minutes)	Weekend Operating Hours	Weekend Peak Headway (minutes)	Average Daily Ridership
<b>On-Campus (TAPS, Spring 2020)</b>							
The Loop (Clockwise)	Barn Theater Transit Stop	Barn Theater Transit Stop	(M-Th) 7:25 AM - 9:30 PM (Fri) 7:25 AM - 6:35 PM	15	No Weekend Service	No Weekend Service	5600 (both clockwise and counterclockwise)
The Loop (Counterclockwise)	Main Entrance Transit Stop	Main Entrance Transit Stop	(M-Th) 7:25 AM - 9:30 PM (Fri) 7:30 AM - 6:35 PM	15	No Weekend Service	No Weekend Service	See above
Upper Campus	West Remote	East Remote	(M-Th) 7:30 AM - 8:45 PM (Fri) 7:30 AM - 5:00 PM	15	No Weekend Service	No Weekend Service	1400
Night Core	Quarry Plaza	Quarry Plaza	(M-Th) 8:00 PM - 11:30 PM (Fri) 6:00 PM - 11:30 PM	30	5:00 PM - 11:00 PM	30	800
<b>Off-Campus (METRO, Spring 2020)</b>							
3	Santa Cruz Metro Center	Santa Cruz Metro Center	7:30 AM - 5:30 PM	120	9:50 AM - 5:50 PM	120	60
10	Santa Cruz Metro Center	Santa Cruz Metro Center	7:20 AM - 7:15 PM	30	9:50 AM - 4:50 PM	60	800
15	Santa Cruz Metro Center	Santa Cruz Metro Center	7:15 AM - 7:45 PM	30	No Weekend Service	No Weekend Service	2600
16	Santa Cruz Metro Center	Santa Cruz Metro Center	6:40 AM - 12:07 AM	15	8:10 AM - 11:07 PM	30	3000
19	Santa Cruz Metro Center	Santa Cruz Metro Center	7:25 AM - 11:25 PM	30	10:00 AM - 7:00 PM	60	1100
20D	Bay & Laguna	Delaware & Liberty	7:15 AM - 6:15 PM	60	No Weekend Service	No Weekend Service	600
20	Santa Cruz Metro Center	Santa Cruz Metro Center	7:15 AM - 8:20 PM	60	11:20 AM - 8:20 PM	60	700
22	Seymour Center	Seymour Center	7:15 AM - 7:35 PM	60	No Weekend Service	No Weekend Service	800
41	Santa Cruz Metro Center	Santa Cruz Metro Center	5:50 AM and 8:00 AM	Two trips	No Weekend Service	No Weekend Service	20
42	Santa Cruz Metro Center	Santa Cruz Metro Center	3:30, 5:30, and 8:30 PM	Three trips	8:30 AM and 4:30 PM	Two trips	40

1 UC Santa Cruz Transportation and Parking Services for On-Campus Schedule and Average Daily Ridership (9/1/18 – 6/30/19).

2 Santa Cruz Metropolitan Transit District for Off-Campus Schedule and Average Daily Ridership (July 2018 – June 2019).

Source: data received from UC Santa Cruz and adapted by Fehr & Peers in 2020.

## Off-Campus Transit

### METRO

The SCMTD provides the METRO bus service throughout Santa Cruz County. All METRO buses are wheelchair accessible. Monterey Salinas Transit offers service between the Santa Cruz METRO Center in downtown Santa Cruz and Monterey. The routes depart from the METRO Center. The routes within the study area include:

- ▶ Route 3 – Mission/Seymour Center/Beach (serves Westside Research Park) – provides a connection between the Santa Cruz Metro Center, Westside Research Park, UC Santa Cruz Coastal Science Campus, and Santa Cruz Wharf.
- ▶ Route 10 – UC Santa Cruz via High – provides a connection between the Santa Cruz Metro Center and UC Santa Cruz campus via High Street, going around the campus in a counterclockwise direction.
- ▶ Route 15 – UC Santa Cruz via Laurel West – provides a connection between the Santa Cruz Metro Center and UC Santa Cruz campus via Laurel Street and Bay Drive, going around the campus in a clockwise direction.
- ▶ Route 16 – UC Santa Cruz via Laurel East – this route has the most ridership of any Santa Cruz METRO route, with around 3,000 daily riders and provides a connection between the Santa Cruz Metro Center and UC Santa Cruz campus via Laurel Street and Bay Drive, going around the campus in a counterclockwise direction.
- ▶ Route 17 – Amtrak Highway 17 Express, which provides a connection from the METRO Center in downtown Santa Cruz to the Diridon Station in San Jose and San Jose State University. Diridon Station provides access to Caltrain and will serve as a future station for Bay Area Rapid Transit and California High-Speed Rail. Highway 17 serves out-of-county affiliates.
- ▶ Route 19 – UC Santa Cruz via Lower Bay - provides a connection between the Santa Cruz Metro Center and UC Santa Cruz campus via Bay Street/Drive, going around the campus in a clockwise direction.
- ▶ Route 20D – UC Santa Cruz via Delaware – the route is only provided during the school term and provides a connection between Westside Research Park and UC Santa Cruz campus, going around the main campus in a counterclockwise direction,
- ▶ Route 20 – UC Santa Cruz via Westside – provides a connection between the Santa Cruz Metro Center, Westside Research Park, and UC Santa Cruz campus, going around the main campus in a counterclockwise direction.
- ▶ Route 22 – UC Santa Cruz/Coastal Science Campus - provides a connection between UC Santa Cruz Coastal Science Campus, Westside Research Park, and UC Santa Cruz main residential campus, going around the main residential campus in a counterclockwise direction.
- ▶ Route 41 – Bonny Doon (serves Bay Street corridor, and the main and west entrances to the main residential campus as it travels up Empire Grade to Bonny Doon) – provides a connection between the Santa Cruz METRO Center, UC Santa Cruz main residential campus, and Bonny Doon via High Street/Empire Grade.
- ▶ Route 42 – Davenport/Bonny Doon (serves Bay Street corridor, and the main and west entrances to the main residential campus as it travels down south Empire Grade from Bonny Doon) – provides a connection between the Santa Cruz METRO Center, UC Santa Cruz main residential campus, Bonny Doon, and Davenport via High Street/Empire Grade.

### Greyhound

The Greyhound bus terminal is located at the METRO Center in downtown Santa Cruz and provides access to more regional destinations.

## **PARKING FACILITIES**

Although parking and the effects of a project on parking are no longer considered as potential physical environmental impacts, the following is provided for informational purposes.

### **On-Campus**

TAPS plans, manages, maintains, and monitors the campus parking supply, excluding certain residential parking which is managed by Colleges, Housing, and Educational Services (CHES), to ensure existing parking capacity is utilized before additional parking is constructed and to ensure excess parking capacity does not encourage single-occupant vehicle use. Parking capacity is managed in an area-specific manner by parking permit type to maximize utilization and turnover.

Information on parking capacity and utilization is updated annually, with the most recent information reflecting conditions observed during spring 2019. Table 3.16-2 shows the campus parking supply by type.

At the time the survey was conducted, 3,603 vehicles were parked, which is just over 60 percent of total parking capacity (with campus housing).

Variations in parking utilization appear to be due to location. and permit type. The permit-controlled parking in the central campus (e.g., Hahn Student Services, East Field House, Performing Arts, etc.) averaged 97 percent utilization, whereas Stone House and Barn Theater averaged around 58 percent utilization. Of the 75 inventoried on-campus parking lots, 22 of them had average daytime utilization rates among permit-controlled parking spaces of 90 percent or greater. This includes the parking lots at the Crown/Merrill apartments, central campus, West Remote parking lot, and Cowell/Stevenson Colleges.

A total of 306 motorcycle parking spaces are offered around the campus. The utilization of motorcycle spaces is low, with around 37percent of spaces being occupied. This percentage matches the low mode share of motorcycles on campus (less than 1 percent) observed during the spring 2019 cordon modal count conducted by TAPS.

**Table 3.16-2 Existing Main Residential Campus and Westside Research Park Parking Supply by Parking Program Category**

Parking Program Categories	Parking Capacity
Accessible	159
Medical	77
Visitor	326
Motorcycle	306
University	99
Reserved	340
Loading	28
Student Commuter	1,399
Faculty/Staff/Grad Commuter	2,284
On Campus Student Housing	326
On Campus Employee Housing	473
Total (without on campus housing)	5,018
Total (with on campus housing)	5,817

Source: data received from UC Santa Cruz and adapted by Fehr & Peers in 2020.

## Off-Campus

In the city of Santa Cruz, public parking is provided on-street and in various parking garages and lots, whereas off-street parking is both public and private. The City of Santa Cruz operates seven separate residential parking permit programs throughout the city in the following areas: Downtown, Westside, Beach Area, Lighthouse/Cowell Beach, East Side, and Seabright.

The City of Santa Cruz offers off-campus long-term parking for UC Santa Cruz students, with the Depot Parking Lot located off of Washington Street and Center Street, near bus stops that includes the UC Santa Cruz METRO routes (Routes 12,15,16,19, and 20).

### Westside Residential Parking Permit Program

The Westside Residential Parking Permit Program was established to manage short- and long-term parking on streets in the westside of Santa Cruz. The program is meant to address non-residents, such as UC commuters, from using residential street parking to avoid campus fees and restrictions and then using public transit to access the campus. The program restricts parking on certain westside residential streets to residents or short-term guest parking through



permit-controlled parking. The program is enforced Monday through Friday during the academic year (September 15<sup>th</sup> – June 30<sup>th</sup>). The program affects the area between Western Drive, Mission Street, Gharkey Street, Bay Street, California Street, High Street, and Spring Court.

## PLANNED REGIONAL TRANSPORTATION IMPROVEMENTS

The planned regional transportation improvements listed in this section are separate from the improvements identified as part of the 2021 LRDP. The 2040 RTP identifies the following planned transportation improvements and studies affecting the UC Santa Cruz campus and Westside Research Park:

- ▶ Delaware Avenue Complete Streets – Fill gaps in bicycle lanes, sidewalks, and sidewalk access ramps;
- ▶ Empire Grade Improvements – Add bike lanes, transit facilities, some sidewalks;
- ▶ SR 1/Mission Street at the Chestnut/King/Union Intersection Modification – Modify design of existing intersections to add lanes and upgrade traffic signal operations, provide access ramps and bike lanes on King and Mission;
- ▶ Monterey Bay Sanctuary Scenic Trail (MBSST) Network (Coastal Rail Trail): Segment 7 (Natural Bridges to Pacific Avenue) – 2.1 miles of MBSST Segment 7 along rail line;
- ▶ Swift Street/Delaware Avenue Intersection Roundabout or Traffic Signal – Install traffic signal or roundabout at intersection;
- ▶ West Cliff Drive/Bay Street Modifications – Install signal or roundabout to replace all-way stop; and,
- ▶ Coolidge Drive/Highway 9 Bike Path – Class 1 bike facility from Coolidge Drive to Highway 9 to provide eastern access to UC Santa Cruz (RTC 2018).

In addition to the listed improvements, the RTC recently completed the Unified Corridor Investment Study to identify multimodal transportation investments that best utilize SR 1 and the Santa Cruz Branch Rail Line to serve the community's transportation needs, which would benefit both the main residential campus and Westside Research Park by reducing the VMT for the two areas. The study recommends Bus on shoulder on Highway 1; mass transit (rail or BRT) on the rail corridor; multi-modal improvements on the Soquel Drive/Freedom Boulevard corridor). RTC is now working on a preferred alternative for the rail corridor as part of a Transit Corridor Alternative Analysis. UC Santa Cruz plans to integrate the planned mass transit and trail facilities into future mixed-used land uses at Westside Research Park.

The following projects have been identified in the City of Santa Cruz's two-year Capital Improvement Program for the fiscal years 2019-2021 for near-term construction, contingent on receiving approval and funding:

- ▶ Downtown Intersection Improvements – addressing deficiencies at Pacific/Laurel, Front/Laurel, and Front/Soquel;
- ▶ Bay Street/High Street Intersection Improvements – Install protected left-turns on High Street or a roundabout to improve mobility; and,
- ▶ SR 1/SR 9 Intersection Improvements.

## CAMPUS TRAVEL CHARACTERISTICS

### Existing Campus Trip Generation

TAPS conducts annual traffic counts on campus roadways and at the main and west entrances during fall and spring quarters. In spring 2019, the campus generated approximately 1,470 trips entering and exiting the campus during the peak AM hour and approximately 2,050 trips entering and exiting the campus during the peak PM hour. The campus generates approximately 22,700 total vehicle trips on an average weekday, as shown in Table 3.16-3.

The table below does not include counts for Westside Research Park, as no counts were recorded there.

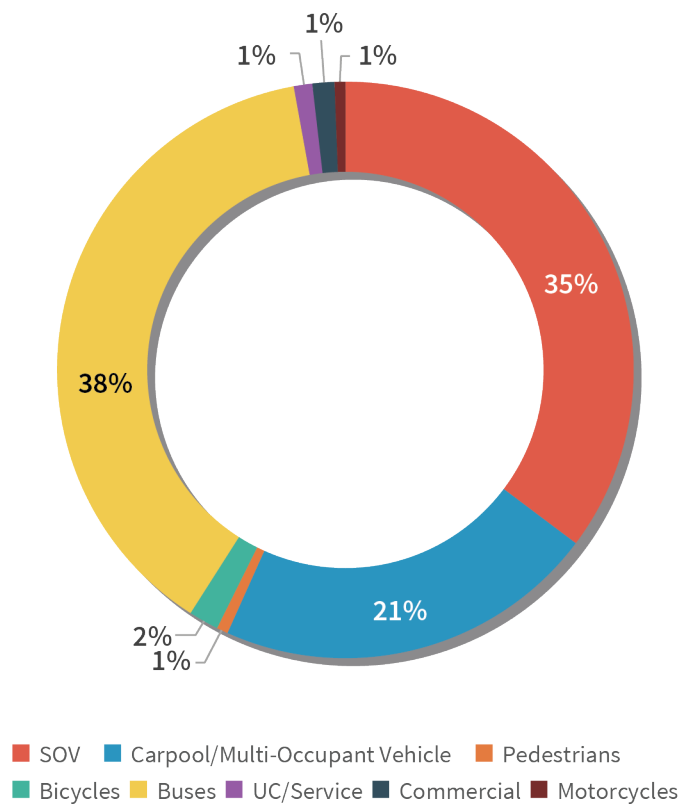
**Table 3.16-3 Spring 2019 UC Santa Cruz Campus Traffic (Total of Main and West Entrances)**

AM Peak Hour Traffic (8:30 AM – 9:30 AM) Inbound	AM Peak Hour Traffic (8:30 AM – 9:30 AM) Outbound	AM Peak Hour Traffic (8:30 AM – 9:30 AM) Total	PM Peak Hour Traffic (4:45 – 5:45 PM) Inbound	PM Peak Hour Traffic (4:45 – 5:45 PM) Outbound	PM Peak Hour Traffic (4:45 – 5:45 PM) Total	Average Daily Traffic
1,070	399	1,469	791	1,260	2,051	22,702

Source: UC Santa Cruz Transportation and Parking Services, counts taken in April – May 2019.

### Campus Mode Share

The mode split counts conducted from 7 AM – 7 PM on May 22, 2019 by UC Santa Cruz TAPS show that SOVs account for 35 percent of all person trips to and from the campus. Carpools and multi-occupant vehicles (such as Uber/Lyft) account for 21 percent, Campus and Metro buses account for 38 percent, pedestrians and bicyclists account for around 3 percent and UC, commercial vehicles, and motorcycles make up the remaining 3 percent, as shown in Figure 3.16-6. Note that mode split counts account for person trips to and from the campus, and exclude telecommuting.



Source: UC Santa Cruz Transportation and Parking Services, counts taken in May 2019.

**Figure 3.16-6 UC Santa Cruz Spring 2019 Mode Share (by person-trips)**

### Transportation Demand Management

Transportation demand management (TDM) is the practice of reducing single-occupant vehicle travel demand through different strategies to maximize traveler choices. These strategies can serve different goals, such as improving the reliability and convenience of transportation options such as transit or increasing vehicle occupancy and reducing parking demand.



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### **Existing UC Santa Cruz TDM Programs**

UC Santa Cruz manages a number of TDM programs, which are described below.

#### **Parking Management**

As is the case with all the UC campuses, UC Santa Cruz has a parking management program to manage the use of campus parking facilities. The parking management program consists of the following:

- ▶ Transportation systems and demand management (TSM/TDM) – Measures that discourage single occupant vehicles, and encourage transit, walking, and bicycling to reduce parking demand.
- ▶ Parking permits – UC Santa Cruz manages parking demand through issuing parking permits for commuters, residential parking, faculty/staff (both current and retired), graduate students, undergraduate students, reserved, and disabled/medical parking. Freshmen and sophomores living in UC Santa Cruz student housing are not allowed to purchase parking permits, except by appeal.
- ▶ Use of remote lots – The East and West Remote Lots provide parking supply for commuters and reduce demand for parking in the campus core, which are served by Campus Transit.

The construction of new parking is planned based on utilization of existing parking supply. Except for parking directly associated with housing, no new parking is allowed to be built unless TSM/TDM measures have been implemented and promoted and the utilization of the lots within a zone averages greater than 90 percent. The UC Sustainable Practices Policy also states that each location (campus) will develop a business-case analysis for any proposed parking structures serving UC affiliates or visitors to campus to document how a capital investment in parking aligns with each campus' Climate Action Plans and/or sustainable transportation policies.

#### **Transit Programs**

Since 1972, UC Santa Cruz has maintained a service agreement with SCMTD that provides any registered student access to any regularly scheduled transit route operating within Santa Cruz County without paying a fare. In 1989, this agreement was extended to include any UC Santa Cruz faculty or staff member displaying a UC Santa Cruz Employee Metro Bus Pass. Historically, compensation models have varied, and have included both a per-rider methodology and flat-fee. Currently, SCMTD bills UC Santa Cruz based on a per-trip model, which is scalable based on the level of service purchased per month. UC Santa Cruz routes account for around 50 percent of the total SCMTD ridership countywide, with average daily ridership during the 2018-19 academic year averaging around 10,100 students and 270 faculty and staff. UC Santa Cruz's payments to the SCMTD for 2019-2020 is around \$3 million. The UC Santa Cruz Student Bus Pass Program with SCMTD and the Campus Shuttle Program are funded from a self-assessed quarterly Student Transit Fee (for student ridership billings) and parking revenues/employee bus pass fee (for faculty and staff ridership billings).

In addition to SCMTD service (METRO buses), TAPS operates the Campus Transit service described under Transit Services and Facilities section above. Campus Shuttles require no fare or ID and can be used by students, faculty, staff and the public.

#### **Bike Shuttle Program**

The Bike Shuttle provides bicyclists a ride up the hill from Mission Street to the campus, with the Lower Campus METRO stop and Baskin Circle as the drop-off points, during weekday mornings and afternoons. The program helps reduce on-campus parking demand and campus-related vehicle traffic, with about 130 daily riders.

#### **UC Santa Cruz Vanpool Program**

This program provides a commute alternative for faculty, staff, and students. TAPS operates approximately 14 vanpools originating from surrounding cities and towns, such as Aptos, Campbell, Monterey, San Jose/Bascom, South San Jose, Watsonville, and Castroville, with new routes to Los Gatos, Salinas/Prunedale, San Lorenzo Valley, and Scotts Valley being developed. Demand is higher than available capacity, as evidenced by the waitlist. About a dozen parking spaces in heavily utilized parking areas have been reserved for vanpool drivers. As of 2018-2019, about 130 people participate in the UC Santa Cruz Vanpool Program.

**Emergency Ride Home Program**

UC Santa Cruz employees who commute via a non-drive-alone mode at least one day a week are eligible to participate in the UC Santa Cruz Emergency Ride Home Program. Commuters who enroll in this program can call an Uber, Lyft, or cab for an emergency ride home, and the ride expense is reimbursed after the ride is complete and the receipt submitted.

**Reserved Carpool Parking**

There are separate carpool permits and about 50 parking spaces on the main residential campus designated for the carpool program to incentivize carpooling.

### 3.16.3 Environmental Impacts and Mitigation Measures

This section describes the analysis techniques and assumptions used to evaluate the effects of 2021 LRDP implementation on the transportation system. Transportation impacts are described and assessed for their significance, and mitigation measures are recommended for impacts identified as significant or potentially significant.

#### SIGNIFICANCE CRITERIA

Based on Appendix G of the State CEQA Guidelines, the proposed project would have a significant effect related to transportation if it would:

- a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), which establishes that transportation impacts should be measured based on vehicle miles traveled (VMT) and shall not be determined based on congestion, such as effects on level of service?
- c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- d. Result in inadequate emergency access?

#### ANALYSIS METHODOLOGY

The following methodologies were used to evaluate impacts of the project.

##### **Consistency with Programs, Plans, Ordinances, or Policies Addressing Roadway, Transit, Bicycle, and Pedestrian Facilities**

As described in Chapter 2, "Project Description," Section 2.5.6, the 2021 LRDP would include several improvements to the existing on-campus roadway, bicycle, and pedestrian circulation networks, and transit-supportive improvements that would serve students, faculty, staff, and visitors accessing the main residential campus and Westside Research Park by car, bus, shuttle, bicycling, and walking. The analysis of potential conflicts with applicable planning efforts related to roadway, transit, bicycle, and pedestrian facilities was based on an assessment of other programs, plans, policies, or ordinances with which the 2021 LRDP and, through its implementation, proposed facilities under the 2021 LRDP, would interact.

##### **Vehicle Miles Traveled**

In its simplest form, VMT is a measure of the number of daily vehicle trips to and from a given location or by a particular individual multiplied by their respective trip lengths. VMT fluctuates based on the intensity and type of development, TDM at and nearby the development, and the number of people associated with the development. Stated another way, VMT is an accessibility performance metric that evaluates the effect that changes in TDM programs, and land use patterns, regional transportation systems, and other built environment characteristics have

on roadway travel.<sup>2</sup> The land use changes associated with the 2021 LRDP would affect the VMT generated by the campus and the total VMT within the region. To evaluate the potential VMT impact, UC Santa Cruz selected the appropriate metric, threshold, and methodology described below and documented in more detail in Appendix I.

CEQA Guidelines Section 15064.3, subdivision (b) is reproduced below, with emphasis added to highlight the key points relevant to this EIR:

**Criteria for Analyzing Transportation Impacts:**

- (1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
- (2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.
- (3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
- (4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

**VMT Metrics**

The OPR *Technical Advisory* sets forth guidance regarding metrics that may be calculated to evaluate VMT impacts from three types of land uses: residential, office, and retail. An institutional land use such as a university campus is not specifically addressed in the advisory. However, for purposes of this EIR, the campus is treated as a mixed-use development with its residential land uses corresponding to the residential land uses addressed in the advisory and its non-residential land uses corresponding to office use in the advisory.

With regard to metrics, the advisory recommends use of a total VMT per capita metric, which is estimated based on the total VMT generated by a project divided by the project's total service population. For VMT purposes, service population is defined as the sum of all residents and employees. Thus, residents who are also workers are counted twice within the service population. For residential land uses, the advisory suggests a metric based on only home-based vehicle trips, and for office uses, it suggests a metric based on home-based work vehicle trips.

This EIR uses all three metrics to evaluate the project impact analysis:

- 1) total project generated VMT per service population,

<sup>2</sup> For example, if you have a project with 50 people and 100 percent of them drive to work individually with an average trip length of 8 miles, the project would generate 400 VMT (50 people x 100% drive x 8 miles) or 8.0 VMT per project population (400 miles/50 people). However, if 20 percent of the people shift to walking, biking, or taking transit to work, then the project has a VMT of 320 miles (50 people x 80% drive x 8 miles) or 6.4 VMT per project population (320 miles/50 people).

- 2) home-based project generated VMT per campus resident student, faculty and staff (residential VMT), and
- 3) home-based project generated employment VMT per faculty, and staff (employee VMT).

Commuter students are accounted for in the total per service population VMT.<sup>3</sup> These metrics are consistent with the OPR Technical Advisory and appropriate for use for the land use mix on the campus, which functions both as a workplace (for commuting faculty, staff and students) and as a residence (for on-campus student and faculty/staff residents).

**VMT Significance Thresholds**

In June 2020, City of Santa Cruz adopted the VMT significance thresholds, which are consistent with those developed by Santa Cruz County. The City and County VMT thresholds are generally consistent with OPR’s *Technical Advisory* that recommends a threshold of a VMT level that is at least 15 percent below per capita baseline conditions for an established geography (typically a city, county, or MPO). The County of Santa Cruz and City of Santa Cruz established Santa Cruz County as the geography for VMT analysis. While UC Santa Cruz could develop its own VMT thresholds, the analysis presented in this chapter applies City and County of Santa Cruz thresholds for regional consistency and reflects the adopted approaches for assessing VMT impacts by both the City and the County. The specific VMT thresholds applied are presented in Table 3.16-4.

**Table 3.16-4 VMT Thresholds by Land Use**

VMT	Methods	VMT Threshold <sup>1</sup>
Residential	15% below existing county-wide average VMT per capita	8.8 miles
Employment <sup>2</sup>	15% below existing county-wide average Work VMT per employee for all employment types.	8.9 miles
Total Campus <sup>3</sup>	15% below existing campus average VMT per capita	7.7 miles

1 The VMT thresholds presented differ from those presented in the City of Santa Cruz’s June 2020 resolution adopting VMT as the new transportation measure of environmental impacts. Since adoption of the resolution, the County of Santa Cruz had updated their model and refined the VMT thresholds. The VMT thresholds presented in Table 3.16-4 are consistent with the County’s most recent model as of December 10, 2020. The County of Santa Cruz is in the process of updating its VMT thresholds and its final VMT thresholds may differ slightly from those presented. This EIR uses the best available information at the time of Draft EIR publication.

2 The campus’ faculty and staff land uses are different than standard office land uses, and the VMT threshold applied for this analysis is VMT for all employment uses in the County. This is consistent with “Other employment” threshold described in the City’s June 2020 VMT adoption resolution.

3 Since the campus uses are unique within the County, the total campus VMT per capita is compared to itself and not countywide averages.

Source: Calculated using the County model by Fehr & Peers 2020.

Additional information regarding the selected VMT metrics and VMT impact significance thresholds is provided in Appendix I.

**VMT Calculation Methodology**

As noted earlier, VMT in its simplest form is a measure of the number trips associated with a project multiplied by their trip lengths. The most common method of calculating the VMT is with a travel demand forecasting model. A travel demand forecasting model uses a specialized software tool to reflect the interactions between different land use and roadway elements in a large area, thereby producing information on the number and length of trips.

To evaluate the effects on VMT associated with implementation of the 2021 LRDP, the VMT analysis was conducted using the Santa Cruz County (SCC) Regional Travel Demand Model (SCC Travel Model). The SCC Travel Model was applied to develop baseline and future year VMT estimates, both for the project-generated VMT metrics (for the Project impact analysis) and the countywide VMT metrics (for the cumulative impact analysis presented in Chapter 4, “Cumulative Impacts”). The model was adjusted for students, faculty, staff and other employees to account for the campus growth and development described in Chapter 2, “Project Description.” The SCC Travel Model was initially developed by Santa Cruz County RTC and includes a base year of 2019 and a forecast year of 2040 based on the AMBAG’s 2018 MTP/SCS.

<sup>3</sup> Service population correlates to information included in Table 2-1 of Chapter 2, “Project Description,” and includes resident and commuter students, resident and commuter faculty/staff, and non-UC employees.

Prior to applying the SCC Travel Model to generate VMT forecasts, a validation check was performed of the model's 2019 traffic volume estimates at the High Street and Heller Drive entrances to the UC Santa Cruz campus. Based on this volume check, the model overestimated observed campus traffic volumes by 35 to 40 percent. The model was adjusted to include the following to more accurately account for UC Santa Cruz travel characteristics:<sup>4</sup>

- ▶ The SCC Travel Model assumes different trip generation rates for resident students and commuter students. Estimates from observed UC Santa Cruz data (campus gateway traffic counts and campus transportation survey results) show that resident students generate approximately 2.21 daily person trips per student (to/from the campus) and commuter students generate approximately 2.01 daily person trips per student (to/from the campus). The SCC Travel Model's commuter student trip rate was increased from 0.22 trips per commuting student to 1.83 trips per commuting student and the resident student trip rate was decreased from 6.31 trips per student to 2.06 trips per resident student to match the rates derived from campus-specific data.
- ▶ Campus employees in the SCC Travel Model were generally classified as public/government employees which assumes they generate an estimated 6.88 daily person trips per employee, which is reflective of civic government uses and not necessarily campus travel characteristics, where employees typically stay on campus from the time they arrive until they leave. Estimates based on the observed UC Santa Cruz data (i.e., spring 2019 cordon counts) for the number of trips generated suggest a more appropriate range is between 1.5 to 2.0 daily trips per employee. Therefore, campus employees were classified as industrial employees, which generate a more closely associated approximately 1.8 trips per employee within the SCC Travel Model.
- ▶ The uncongested travel speeds on High Street, Bay Drive, and Mission Street south of the UC Santa Cruz main residential campus were adjusted to prevent the model from over-estimating the volume on neighborhood roadways, consistent with the observed counts.

Appendix I includes a detailed summary of the model evaluation and adjustments that were made based on travel data collected at the campus in spring 2019.

The goals established within various UC and UC Santa Cruz sustainability planning efforts, including the Sustainable Practices Policy, that would reduce project-generated VMT, were not reflected in the model adjustments; since these goals do not mandate achievement of specific targets with respect to alternative transportation. However, the 2021 LRDP actively supports the sustainability planning efforts and if these goals that reduce vehicle travel are achieved/exceeded, VMT associated with UC Santa Cruz would be less than estimated. Therefore, the modeling provided herein is considered to be a reasonably conservative estimate of campus travel.

After the above adjustments were incorporated into the model, the number of daily vehicle trips traveling to and from campus obtained from the model run were within 10 percent of the observed count data as shown in Table 3.16-5. This result meets the California Transportation Commission (CTC) established guidelines for determining whether a model is valid and acceptable for forecasting future year auto volumes (*2017 Regional Transportation Plan Guidelines for Metropolitan Transportation Planning Organizations*, California Transportation Commission 2017). As explained in further detail in Appendix I, although there is no specified threshold for the model/count ratio, a threshold of within 10 percent is a standard engineering practice that was applied.

**Table 3.16-5 Driveway Comparison of Daily Vehicle Counts and Calibrated Model Outputs<sup>1</sup>**

Count <sup>1</sup>	Model	Percent Variation (Model values minus Count)
22,702	24,160	6%

<sup>1</sup> Values represent the sum of driveway data for the Coolidge Drive and Heller Drive entrances.

<sup>4</sup> The SCC Travel Model includes a limited number of different land use types that are meant to represent a broad range of the most common land uses. For example, the model's service employment land use category is meant to capture anything from warehousing and food services uses, which individually have a broad range of trip generation characteristics and in the model are represented as an average. Thus, when looking at specific sites within a model, it is not uncommon to make adjustment to more accurately reflect the unique travel characteristics of the proposed land use.

## Roadway Design Hazards

As noted above under criteria (c), the 2021 LRDP includes conceptual roadway, bicycle and pedestrian network changes, and UC Santa Cruz has not progressed to the stage of developing detailed designs in this program-level EIR. As a result, the evaluation of potential hazards is based on a review of applicable regulations and guidance, including documents published by UC Santa Cruz that would inform the manner in which transportation network improvements and changes under the 2021 LRDP would occur.

## Emergency Access

As noted above under criteria (d), the 2021 LRDP includes conceptual roadway, bicycle and pedestrian network changes, and UC Santa Cruz has not progressed to the stage of developing detailed designs. As a result, the evaluation of the adequacy of emergency access for campus development under the 2021 LRDP is based on a review of applicable regulations and guidance, including documents published by UC Santa Cruz and the Santa Cruz County Emergency Evacuation Plan that would inform and dictate the manner in which emergency access to the main residential campus and Westside Research Park would be maintained.

## IMPACTS AND MITIGATION MEASURES

### Impact 3.16-1: Conflict with a Program, Plan, Ordinance, or Policy Addressing Roadway, Transit, Bicycle, and Pedestrian Facilities

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The 2021 LRDP includes on-campus improvements to transit service and infrastructure, off-campus transit service, and the on-campus roadway, bicycle and pedestrian network. These improvements are consistent with relevant non-university plans related to circulation, including the 2040 RTP, the City of Santa Cruz General Plan, and the Santa Cruz County General Plan. Therefore, the 2021 LRDP would not conflict with relevant programs, plans, ordinances or policies addressing transit, roadway, bicycle or pedestrian facilities. This would be a **less-than-significant** impact.

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#### Roadway Modifications and Design

As noted above, the LRDP area is currently served by a network of on-campus and off-campus roadways. UC Santa Cruz's main residential campus is served by two roadway entrances: the main entrance at the Bay Drive/Coolidge Drive/High Street intersection and the west entrance at Empire Grade/Heller Drive intersection. Internal circulation in the campus is provided by numerous internal roadways, including Hagar Drive, Heller Drive, McLaughlin Drive, and Meyer Drive. Westside Research Park is bordered on the east and south by Natural Bridges Drive and Delaware Avenue, respectively. The existing roadway network provides access to campus facilities and residences and allows for multiple modes of travel between destinations, both on and off campus. As discussed in further detail in Chapter 2, "Project Description," the 2021 LRDP includes the following new roadways and improvements across the campus to provide multimodal connections:

- ▶ East-West Extension of Meyer Drive From Heller Drive to Coolidge Drive – An east/west extension of Meyer Drive from Heller Drive to Coolidge Drive, crossing Hagar Drive. This extension would facilitate cross campus bus travel as well as provide a new east/west walking and bicycling route.
- ▶ Northern Entrance – A connection to provide a third access and egress point to UC Santa Cruz, which will help facilitate north campus access for all campus populations, as well as emergency access.
- ▶ Western Drive Extension – Western Drive would be extended across High Street at a new signalized intersection to provide access to the Ranch View Terrace employee housing site.
- ▶ Vehicular Access Restrictions – Personal automobile access may be restricted on limited portions of upper Hagar Drive, Meyer Drive Extension, McLaughlin Drive, and internal roadways to prioritize transit, bicycle and pedestrian access and reduce vehicle/pedestrian conflicts.
- ▶ Steinhart Way Corridor – Steinhart Way would be converted from a service road to a pedestrian and bicycle priority corridor with automobile access for private automobile traffic limited to the far east and west segments accessing local parking facilities.

Because these changes would add campus access points and provide a more inter-connected internal campus roadway network, they would further improve intra-campus circulation and access to the campus from the off-campus roadway network. The planned network improvements would also reduce congestion on campus by adding new roadways; further reduce trip lengths and associated VMT on campus by providing shorter routes for some trips, such as how the Meyer Drive Extension to Coolidge Drive could provide a shorter connection; improve emergency access to the campus by adding an access point and shortening travel routes between destinations on campus; and potentially improve evacuation procedures on campus by adding a third campus entrance and new roadways on campus, as also discussed in Sections 3.9, "Hazards and Hazardous Materials" and 3.18, "Wildfire." While emergency access and evacuation capacity would be improved due to the proposed new entrance on Empire Grade, growth in typical daily vehicular travel demand would not be induced because some of the daily campus traffic that currently passes through existing intersections to the south of the proposed new access point would use the new northern entrance to access existing and proposed development north of the campus core. The changes are in alignment with the City and County goals and policies related to circulation and connectivity, including City of Santa Cruz General Plan Policy M3.1: Acknowledge and manage congestion and Policy M3.2: Ensure road safety for all users, and the associated supporting actions; and Santa Cruz County General Plan Objective 3.11: Roadway network function and its supporting policies. Therefore, the 2021 LRDP is consistent with the roadway objectives and policies of UC Santa Cruz, the City of Santa Cruz General Plan, and the Santa Cruz County General Plan.

### Transit Facilities

As noted above, UC Santa Cruz currently provides multiple transit options and facilities throughout the LRDP area. The 2021 LRDP includes several transit improvements to further enhance transit connections on-campus and to the City of Santa Cruz. As noted in Chapter 2, "Project Description," the proposed improvements include:

- ▶ Meyer Drive extension to Coolidge Drive to improve reliability and overall efficiency of the transit network;
- ▶ Enhancement of transit boarding areas at mobility hubs;
- ▶ Supporting METRO improvements to bus fleet such as route modifications and roadway improvements that enhance transit travel time and reliability; and
- ▶ Meyer Drive and East Remote mobility hubs as primary transfer points.

Due in part to the existing transit facilities and also the aforementioned planned improvements, the 2021 LRDP is in alignment with the goals set out by other plans related to transit for UC Santa Cruz, such as the UC Santa Cruz Campus 2017-22 Sustainability Plan goal of increasing transit ridership to and from the campus by 10 percent, and the 2040 RTP goal #1, Establish livable communities that improve people's access to jobs, schools, recreation, healthy lifestyles and other regular needs in ways that improve health, reduce pollution and retain money in the local economy. While UC Santa Cruz already provides adequate transit access with the Loop buses every 15 minutes running in both the clockwise and counterclockwise directions on weekdays, the Upper Campus route running buses every 15 minutes during weekday peak hours, and the Night Core service operating every 30 minutes during night hours and weekend, the proposed improvements would improve the efficiency of the transit network and encourage more people to use transit as an alternative means of transportation to access and move within the campus. For example, the proposed East-West Extension of Meyer Drive from Heller Drive to Coolidge Drive would fill gaps in the existing roadway system and facilitate cross campus bus travel. Further, proposals to create mobility hubs as multimodal transfer points by including high quality bus stops with route and timing information, and connecting them with multiple options to connect to campus destinations, including bikeshare, electric shuttles, and key bicycle and pedestrian corridors. This is consistent with the above policies; furthermore, the 2021 LRDP's proposed transit-related improvements do not conflict with future planning efforts of the Santa Cruz METRO, including projects listed in RTC's 2040 RTP, Appendix F. Additionally, the proposed 2021 LRDP transit improvements are aligned with and do not conflict with City and County transit goals and policies, including City of Santa Cruz General Plan Policy M2.4: Support and promote the efficient use of transit, and its supporting actions; and Santa Cruz County General Plan Objective 3.4: Transit Network Capacity and Objective 3.6: Transit Promotion, and their supporting policies. The 2021 LRDP transit improvements are in alignment with and do not conflict with these policies because they promote efficient and convenient transit service, and encourage transit use. Therefore, the 2021 LRDP is generally consistent

with the transit objectives and policies of UC Santa Cruz, the Santa Cruz County 2040 RTP, the City of Santa Cruz General Plan, and the Santa Cruz County General Plan.

### **Bicycle Facilities**

As noted above, UC Santa Cruz currently provides multiple bicycle facilities throughout the LRDP area, including multi-use, paved, off-street and on-street facilities throughout the central and lower campuses. In addition, bicycle lanes are located along Natural Bridges Drive and Delaware Avenue, adjacent to Westside Research Park. The 2021 LRDP includes bike network changes to improve bicycle connectivity on-campus and to off-campus facilities. The proposed improvements, described in the 2021 LRDP and shown in Chapter 2, Figure 2-9, include:

- ▶ Improved bike parking at primary campus destinations;
- ▶ Implementation of campus bicycle facilities that support mobility for all ages and abilities, such as new east-west connection on the Upper Campus north of Science Hill and a lower campus connection between Hagar Drive and East Field Services Road;
- ▶ Promotion of safe integration with transit buses and facilities through design, such as using bicycle islands or shared, raised facilities at bus stops;
- ▶ Focus on improvements that relieve demand on existing facilities, such as widening existing pathways and accommodating bicycles along existing pedestrian routes, such as bridges, where safe and feasible;
- ▶ Identification of new trail connections south of the main residential campus to provide access to Westside Research Park and Coastal Science Campus; and
- ▶ Manage North Campus recreational bike access.

The proposed 2021 LRDP bicycle improvements detailed above would be designed in accordance with UC Facilities Manual standards and interface with the City of Santa Cruz's existing bike network as well as planned facilities listed in the UC Santa Cruz Bicycle Plan (November 2008) and City of Santa Cruz Active Transportation Plan (February 2017). The proposed 2021 LRDP infrastructure improvements would further the existing opportunities for bicycle travel available to students, faculty/staff, and visitors to UC Santa Cruz. These improvements create safer bicycle environments by filling in the gaps of the existing bicycle network on the main residential campus and restricting personal automobile traffic in certain areas to create safer bicycle and pedestrian environments. The 2021 LRDP proposes Steinhart Way to be converted from a service road to a pedestrian and bicycle priority corridor with automobile access for private automobile traffic limited to the far east and west segments accessing local parking facilities in order to promote the campus core as a bicycle and pedestrian priority area. These improvements and policies are in alignment with and do not conflict with the City and County goals and policies related to bicycle improvements, including City of Santa Cruz General Plan Policy M4.2: Provide and maintain a complete, interconnected, safe, inviting, and efficient citywide bicycle network, Policy M4.3: Require pedestrian and bicycle improvements in major activity centers and activity areas, Policy M4.4: Assure a high level of bicycle user amenities, and Policy M4.5: Support pedestrian and bicycle safety improvements, and their supporting actions; and Santa Cruz County General Plan Objectives 3.8a System Development, 3.8b Coordination, 3.8c Bicycle Use, and 3.9 Bicycle Safety, and their supporting policies. The 2021 LRDP bicycle improvements are in alignment with and do not conflict with these policies because they promote safe and convenient bicycling and encourage bicycling to/from and within the campus. Therefore, the 2021 LRDP would not conflict with any bicycle objectives, plans, or policies of UC Santa Cruz, the City of Santa Cruz General Plan, or the Santa Cruz County General Plan.

### **Pedestrian Facilities**

Based on general observations, walking is the primary mode of travel for students on the campus. The 2021 LRDP includes several pedestrian network improvements to provide enhanced pedestrian connections on-campus and to the City of Santa Cruz. The proposed improvements, described in the 2021 LRDP and shown in Figure 2-8 of Chapter 2, "Project Description," include:

- ▶ construction of new pedestrian pathways and bridges;
- ▶ focus on improvements that relieve demand on existing pathways, such as widening existing pathways and adding enhanced pedestrian crossings on McLaughlin Drive, and access to transit facilities; and



- ▶ expansion of ADA accessibility and access for mobility-impaired pedestrian travel, including more direct routes to the “front door” of buildings and elevators. Barrier-free paths of travel would be evaluated and implemented on connecting pedestrian routes.

The pedestrian improvements in the 2021 LRDP would be designed in accordance with UC Facilities Manual standards and complement the City of Santa Cruz’s existing pedestrian network as well as planned facilities listed in the Santa Cruz Active Transportation Plan (February 2017). As discussed in Section 4.3 of the 2021 LRDP and in Chapter 2, “Project Description,” all new roadways are envisioned as multimodal “complete streets,” and would create safer pedestrian environments by imposing vehicular access restrictions in certain high pedestrian areas and providing a key east/west campus bicycle/pedestrian corridor along Steinhart Way. Thus, the proposed infrastructure improvements are in alignment with the City and County goals and policies related to pedestrian improvements, including City of Santa Cruz General Plan Policy M1.3: Create pedestrian-friendly frontage and streetscapes and attractive pedestrian-oriented areas, Policy M4.1: Enable and encourage walking in Santa Cruz, Policy M4.3: Require pedestrian and bicycle improvements in major activity centers and activity areas, and Policy M4.5: Support pedestrian and bicycle safety improvements and their supporting actions, and Santa Cruz County Objective 3.10: Pedestrian Travel and its supporting policies. The 2021 LRDP pedestrian improvements are in alignment with and do not conflict with these policies because they would improve connectivity of the pedestrian network and encourage more people to walk to move around the campus.

### Summary

As described above, the 2021 LRDP includes on-campus improvements to transit service and infrastructure, off-campus transit service, and the on-campus roadway, bicycle and pedestrian network. These improvements are consistent with relevant non-university plans related to circulation, including the 2040 RTP, the City of Santa Cruz General Plan, and the Santa Cruz County General Plan. Therefore, this impact would be **less than significant**.

### **Mitigation Measures**

No mitigation is required.

### **Impact 3.16-2: Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) Related to Vehicle Miles Traveled**

Implementation of the 2021 LRDP would reduce total campus VMT per capita and residential VMT per campus resident compared to baseline conditions. Residential VMT per campus resident would be below the significance threshold of 15 percent below baseline VMT per campus resident. However, commuter VMT per worker would increase relative to baseline conditions and would not meet the significance threshold of 15 percent below baseline commuter VMT per employee. Therefore, this impact would be **significant**.

### Total Campus VMT

Table 3.16-6 below summarizes the baseline and growth assumptions for the analysis scenarios and Table 3.16-7 presents the total daily VMT generated by the UC Santa Cruz main residential campus and Westside Research Park (i.e. “Total Campus” VMT). The total campus VMT per capita was calculated using the total number of people living, working, and attending school at UC Santa Cruz. This includes faculty/staff living on campus, their associated family members (i.e., spouse and child(ren)), students living on campus, any associated family members for on-campus student residents, students living off campus, non-UC employees (e.g., vendors), and visitors to campus.

As shown in Table 3.16-7, the implementation of the 2021 LRDP would result in a decrease in total campus VMT per capita from 9.1 to 7.9 miles, which represents a 13 percent reduction. The reduction in total campus VMT per capita is primarily related to the increase in available housing on campus which would reduce the number of per capita vehicular trips to and from the main residential campus. However, the project-generated total campus VMT per capita would marginally exceed the significance threshold of 7.7 miles (15 percent below 9.1 miles or  $9.1 \text{ miles} \times (1.0 - 0.15) = 7.7 \text{ miles}$ ) and the project-generated total campus VMT per capita impact would be significant.

It should be noted that the UC Santa Cruz 2017-2022 Campus Sustainability Plan includes a goal to reduce commute VMT by five percent by 2022. While the results in Table 3.16-6 do not measure VMT between the years 2017 and 2022, it does indicate that the proposed 2021 LRDP would support the goal.

**Table 3.16-6 2021 LRDP Land Use Summary and Model Inputs Vehicle Trip and Total Vehicle Miles Traveled Summary**

Land Use/Campus Population	VMT Metric Applied <sup>1</sup>	2019 Baseline	2019 Plus 2021 LRDP
Resident Students	Residential, Total Campus	9,283	17,783
Commuter Students	Total Campus	9,235	10,217
<b>Total Enrollment</b>		<b>18,518</b>	<b>28,000</b>
Resident Faculty and Staff	Residential, Employment, and Total Campus	270	828
Commuter Faculty and Staff	Employment, Total Campus	3,387	5,702
Non-UC Santa Cruz Employees (Commuters)	Employment, Total Campus	640	990
<b>Total Employment</b>		<b>4,297</b>	<b>7,520</b>
Faculty and Staff Housing	Residential, Total Campus	270	828
Non-UC Employee Housing	Residential, Total Campus	386	1,184
<b>Total Faculty and Staff Household Population</b>		<b>656</b>	<b>2,012</b>

<sup>1</sup> VMT metric (residential VMT, employment VMT, or total campus VMT) in which each land use is accounted for.

**Table 3.16-7 2021 LRDP Vehicle Trip and SB 743 Vehicle Miles Traveled Summary**

Service Population	Land Use <sup>1</sup>	VMT Metric Applied <sup>2</sup>	Calculation	2019 Baseline	2019 Plus 2021 LRDP
Residents	Resident Students + Total Faculty and Staff Household Population	Residential, Total Campus	A	9,939	19,795
Employees	Total Employment	Employment, Total Campus	B	4,297	7,520
Students	Total Enrollment	Total Campus	C	18,518	28,000
<b>Total Service Population (Residents + Employees + Students)<sup>3</sup></b>			<b>D (A + B + C)</b>	<b>32,754</b>	<b>55,315</b>
<b>Total Campus Vehicle Trips (from SCC Travel Model)</b>			<b>E</b>	<b>28,900</b>	<b>44,700</b>
<b>Average Trip Length in miles (from SCC Travel Model)</b>			<b>F</b>	<b>10.3</b>	<b>9.8</b>
<b>Total Campus Vehicle Miles Traveled (VMT) in miles (from SCC Travel Model)<sup>3</sup></b>			<b>G (E x F)</b>	<b>298,000</b>	<b>439,000</b>
<b>Total Campus VMT per Capita in miles<sup>4</sup></b>			<b>H (G/D)</b>	<b>9.1</b>	<b>7.9</b>
<b>VMT per Capita Threshold (15 percent below existing)</b>			<b>2019 Baseline H x (1.00-0.15)</b>	<b>7.7 miles</b>	

<sup>1</sup> Land use/campus population inputs from Table 3.16-6.

<sup>2</sup> VMT metric (residential VMT, employment VMT, or total campus VMT) in which each land use is accounted for.

<sup>3</sup> Service population is defined as those populations generating residential and commute activity; thus, resident students are captured both under "Residents" and "Students," because resident students generate both residential and commute trips.

<sup>4</sup> Total campus vehicle trips multiplied by average trip length (rounded to nearest thousand)

<sup>5</sup> Total campus VMT divided by total service population.

It is also critical to explain that the project impact analysis does not incorporate planned-but-not-yet-operational on-campus housing projects (Student Housing West, Crown College Major Maintenance Project, and Kresge Housing). Because these projects were approved pursuant to the 2005 LRDP and are not proposed as part of the 2021 LRDP, they are considered cumulative projects in this EIR. The aforementioned projects are expected to be constructed well before full implementation of the 2021 LRDP and collectively will provide 2,175 on-campus beds, allowing a significantly larger number of students to live on campus than are calculated in the “project” analysis for VMT. As reflected in the cumulative impact analysis, the addition of these projects would further reduce VMT per capita.

### **Residential VMT**

The VMT per capita forecasts from the modified SCC Travel Model for the campus’ residential population under the 2021 LRDP are summarized in Table 3.16-8, below.

**Table 3.16-8 2021 LRDP Generated Residential and Employment VMT Per Capita**

VMT Metric	2019 Countywide Average	15% Below Countywide Average <sup>1</sup>	UC Santa Cruz Campus 2019 plus 2021 LRDP
Residential VMT per Capita	10.4	8.8	5.6
Employment VMT per Capita	10.5	8.9	12.5

Note: 15% below Countywide average is used for impact determination.

Source: Modified SCC Travel Model

As shown in Table 3.16-8, campus development under the 2021 LRDP would generate 5.6 VMT per resident, which is below the significance threshold of 15 percent below the countywide average for residents (i.e., 8.8 VMT per resident). Thus, the impact related to the residential VMT per capita would be less than significant.

### **Employment VMT**

The employment VMT per capita forecasts from the modified SCC Travel Model for resident and commuter faculty and staff (commuters) upon full implementation of the 2021 LRDP are summarized in Table 3.16-8, above. As shown in Table 3.16-8, with the implementation of the 2021 LRDP, faculty, staff and students living off campus would generate 12.5 VMT per worker, which is above the significance threshold of 15 percent below the countywide average for workers (i.e., 8.9 VMT per worker). Therefore, the 2021 LRDP would result in a significant impact related to the employment VMT.

### **Summary**

The project-generated resident VMT per resident would not exceed the stated significance thresholds. However, the total campus VMT per capita and employment related VMT per worker with implementation of the proposed 2021 LRDP would exceed their respective VMT thresholds of significance. Therefore, the 2021 LRDP would result in a **significant impact for total campus VMT per capita and employment VMT per worker.**

## **Mitigation Measures**

### **Mitigation Measure 3.16-2: Implement TDM Program and Monitoring**

UC Santa Cruz shall prepare and implement a TDM program as part of the 2021 LRDP that will adaptively manage campus-related VMT. At a minimum, the TDM program shall include the following:

- ▶ performance standards that are deemed sufficient to demonstrate annually that UC Santa Cruz will reduce the total campus VMT per capita to 15 percent below baseline campus average and the total employment VMT per employee to 15 percent below the countywide average;
- ▶ parking management strategies that reduce the per student/faculty/staff parking rates to reduce travel and associated VMT;
- ▶ campus features and TDM measures that will be used to achieve the performance standard commitments; and
- ▶ a monitoring and reporting program.

UC Santa Cruz shall initiate preparation of the TDM program within three months of adoption of the 2021 LRDP and shall adopt and initiate program implementation within one academic year of LRDP adoption. This mitigation measure is in alignment with the goals outlined in the UC Santa Cruz 2017-22 Campus Sustainability Plan, including reducing commute VMT by five percent and reducing per capita parking demand by ten percent by 2022.

### **Performance Standard**

The TDM Program is intended to reduce the total daily VMT per capita to 15 percent below the baseline campus average and the employment VMT per employee to 15 percent below the countywide average. To accurately monitor performance, the TDM Program will develop specific VMT thresholds (i.e., VMT per capita and VMT per employee) and new baseline conditions to measure VMT thresholds against, based on the same methodology and data sources proposed for the monitoring component of the TDM program by which UC Santa Cruz may adaptively manage campus VMT. For example, if 10 percent of UC Santa Cruz employees were to work remotely, the overall target VMT and VMT per employee would be achieved (i.e., a 2-percent reduction in overall VMT). The VMT metrics presented in this chapter were developed using the SCC Travel Model, while the annual monitoring would occur using data collection. Based on current technologies, the campus' VMT performance could be most effectively monitored by using hose counts to measure the number of trips and anonymous cell phone data, which is "big data" that aggregates trip data using cellphones and navigation divides, to determine trip lengths. Since current technologies, including anonymous cell phone data, do not allow the tracking of employment trip lengths separately from the trip lengths generated by other campus uses (i.e., residential trips), the TDM Program shall develop a performance standard for the employment VMT threshold that is a weighted average of VMT generated by campus commuters and other campus users.

### **TDM Program Elements**

A reduction in daily trips and VMT could be achieved through a significantly enhanced and robust TDM program. For the campus, the TDM program includes both campus features proposed as part of the 2021 LRDP and additional programmatic TDM elements that would support employment (faculty, staff, and student) trip reductions, as outlined below, such as employee housing, additional transit, and parking management tools. The campus would have the flexibility to manage implementation of TDM measures as long as the campus is meeting the VMT performance standards. If the campus is not meeting its performance standard, it would need to evaluate the effectiveness of TDM program and implement additional TDM elements to achieve the performance standards. Potential TDM measures may include, but are not limited to:

#### Implementation Level 1

- ▶ Work with appropriate agencies to implement an intelligent transportation system (ITS) program for the Campus Transit system to provide real-time vehicle location and time-to-arrival information at major on-campus shuttle bus stops.
- ▶ Encourage SCMTD to implement ITS program for campus routes to provide real-time vehicle location and time-to-arrival information at major SCMTD bus stops on- and off-campus (*project is currently in development with delivery planned for 2021*).
- ▶ Continue to expand Commuter Vanpool program.
- ▶ Expand Bike Shuttle hours of operations, routes and increase frequency of service, as needed.
- ▶ Improve transit service between Coastal Science Campus, Westside Research Park, and the main residential campus.
- ▶ Work with local agencies to provide additional secure bike parking and/or "bike stations" at or near off-campus transit stops.
- ▶ Where feasible, implement a 4-day/10-hour or 9-day/80-hour work schedule option for staff.
- ▶ Where feasible, promote increased use of telecommuting options for students, staff, and faculty.
- ▶ Replace monthly/annual parking fee with "pay at exit" use-based, daily or other alternative, dynamic payment mechanisms and parking fee policies that encourage off-peak travel.

## Implementation Level 2

- ▶ Implement reduced on-campus parking fees for arrivals and departures occurring during off-peak hours, to better manage existing and reduce the need for new parking.
- ▶ Work with local agencies to implement a series of off-campus bike circulation improvements (bike boulevards, secure bike parking at major transit stops, etc.).
- ▶ Work with appropriate agencies to identify and develop a Westside Santa Cruz multi-modal hub, to connect Westside shuttle service with expanded automobile and bike parking and (ultimately) regional access via the adjoining rail right-of-way.
- ▶ Work with appropriate agencies to identify and develop remote Park & Ride facilities with transit service.
- ▶ Explore opportunities to construct new student/staff housing along off-campus transit corridors, including the RTC mass transit rail-trail corridor.

### **Potential VMT Reduction by Program Measure**

**Employee Housing** – The 2021 LRDP identifies sites with capacity to house as many as 25 percent of new employees, based on demand associated with the 2021 LRDP. Employee housing would be predominantly located near the main entrance to the campus at Bay and High Streets and at Westside Research Park to make trips to services such as grocery stores and schools as convenient as possible for employees and their families. Inclusion of support uses such as child-care, small park spaces, and community-use rooms located on-campus could also help reduce the number of trips taken by employees. The California Air Pollution Control Officers Association (CAPCOA) conducted a study to quantify greenhouse gas (GHG) mitigation measures, which also assess how certain policies/actions can reduce VMT, and subsequently reduce GHG. Per CAPCOA, land use/location measures could reduce VMT by up to 5 percent for a suburban development.

**Telecommuting** - Continue to allow and encourage employees to telecommute when possible. Specifically, shift work schedules such that travel occurs outside of peak congestion periods so that employees do not drive longer routes to avoid traffic or providing opportunities for employees to work from home one or a few days a week can reduce travel to the campus. While schedule shifts would still result in commute trips to campus, they could encourage use of transit by moving trips to times of day when buses are less crowded and/or allow commuters to travel outside of peak commute periods where people may choose longer routes to avoid traffic. Telecommuting is an easy and low-cost way to reduce VMT and GHG. Per CAPCOA, alternative work schedules and telecommuting could reduce work VMT by up to 5.5 percent.

**Additional Transit** - Add express service from major regional destinations or provide fair share contribution to regional mass transit improvements. Add select long-distance bus service to/from campus. Per CAPCOA, transit system improvements could reduce VMT by up to 10 percent, which is also consistent with the campus' Sustainability Plan.

**TDM Program Expansion** - Expand TDM programs and prioritize investments in transportation programs before constructing on-campus parking facilities, such as implementing multimodal transit hubs and working with partner agencies to increase transit and active transportation connectivity to the campus. Provide additional subsidies for transit use by commuters. Provide additional subsidized commuter vanpool routes to locations with concentrated employee residences, real-time ride matching, and reserved carpool and vanpool parking spaces. Per CAPCOA, a commute trip reduction program could reduce work VMT anywhere from 1 percent to 21 percent, depending on if it is voluntary or required.

**Parking Management Tools** - Improve parking management and enforcement system. Establish "no net new commuter parking" and other parking management or eligibility policies. Per CAPCOA, parking policy/pricing could reduce VMT by up to 20 percent.

Each of the TDM strategies can be combined with others to increase the effectiveness of vehicle trip and VMT reduction; however, the interaction between the various strategies is complex. Generally, with each additional measure implemented the incremental benefit of vehicle trip and VMT reduction may be less than the benefit that

measure would have if it was considered on its own.<sup>5</sup> Thus, overall, the TDM measures could reduce VMT by up to an additional 15 percent, given the land use context and anticipated effectiveness of the TDM measures.

### **Annual Monitoring Program**

Starting in the next full academic year after adoption and initiation of a TDM Program implementation, including establishment of baseline data, UC Santa Cruz shall conduct cordon counts at the two campus entrances for at least two weeks, on the fourth week of fall and spring quarters, and other methods to quantify mode choice and trip length, to determine whether the campus is achieving a 15 percent reduction in the per capita VMT over baseline to a maximum of 7.7 VMT per capita. A big data service could be used, to estimate the VMT generated by the campus during the same academic year as the cordon count data collected or other methods such as a mandatory employee travel survey. As noted earlier, the VMT generated by employees cannot be measured separately, so a ratio will be applied to estimate the VMT generated by employees, if big data is only used.

An annual monitoring report shall be developed to describe: (a) specific steps taken to implement the TDM program; (b) results of the annual cordon counts and other data collected, including the methodology used to calculate VMT; (c) findings regarding whether the campus has met the VMT performance standard; and (d) an outline of additional TDM measures (i.e., a corrective action plan) to be implemented in subsequent years should the VMT performance standard of at least 15 percent below baseline VMT levels is not reached.

### **Significance after Mitigation**

Development under the 2021 LRDP represents the type of synergistic development envisioned by SB 743 to reduce VMT, as it supports infill development, transit and multimodal travel. As demonstrated above, the VMT per resident associated with the existing campus baseline would be reduced to below the applicable significance threshold; however, total campus VMT per capita and VMT per worker would not decrease to below the applicable significance threshold. Successful implementation of Mitigation Measure 3.16-2 would reduce total campus VMT per service population to a maximum of 7.7 VMT per capita, a level which corresponds to meeting the employment VMT per worker significance threshold. With successful implementation of this mitigation (i.e., demonstrated achievement of the performance standard) as outlined above, this impact would be reduced to a **less-than-significant** level.

### **Impact 3.16-3: Substantially Increase Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)**

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The development associated with the 2021 LRDP would be subject to, and constructed in accordance with the UC Facilities Manual, and all applicable industry standard roadway design and safety guidelines. Therefore, the 2021 LRDP would not substantially increase hazards due to a geometric design feature or incompatible uses. This impact would be **less than significant**.

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The 2021 LRDP includes conceptual roadway network changes and has not progressed to the stage of developing detailed designs. Any roadway extensions and new streets would be required to comply with the UC Facilities Manual, which requires UC Santa Cruz to comply with the Title 24 California Building Standards Code, Parts 1-12, and all amendments. To the extent indicated in the UC Facilities Manual, UC Santa Cruz would also comply with state of the practice roadway design guidance such as the Caltrans Highway Design Manual and the California Manual on Uniform Traffic Control Devices.

Though UC Santa Cruz is the Authority Having Jurisdiction (AHJ) for matters of code regulations on university projects, local jurisdictions can review the emergency access plans for UC Santa Cruz projects, analyzing items such as road location, configuration, turning radius, and width. This would be particularly important for locations where the UC Santa Cruz and City/County networks interface. As the AHJ, UC Santa Cruz would ensure all proposed on-campus transportation network changes meet the above-mentioned code requirements, and would work collaboratively with the City of Santa Cruz and Santa Cruz County to ensure that connections to non-university facilities are appropriately

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<sup>5</sup> For example, a theoretical TDM measure A and B may have an effectiveness of 10 percent each when they are considered on their own. However, if the two measures are combined, the reduction may only be 15 percent and not the 20 percent expected by adding the two measures together.

designed to minimize hazards and meet the local jurisdictions' standards. Therefore, development of the 2021 LRDP would be subject to, and constructed in accordance with, applicable UC and industry standard roadway design and safety guidelines and would not create hazards due to geometric design or incompatible uses. This impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Impact 3.16-4: Result in Inadequate Emergency Access

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Implementation of the 2021 LRDP would not result in inadequate emergency access. Future roadway modifications would be designed in a manner consistent with applicable regulations, including those related to roadway widths and turning radii. In addition, UC Santa Cruz would coordinate with other agencies, as appropriate and consistent with the 2021 LRDP and per City/County policies, to ensure the safe transition between UC Santa Cruz facilities and other infrastructure. This would be a **less-than-significant** impact.

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Efficient operations of UC Santa Cruz roadways help to reduce response times for emergency responders. The emergency access analysis was conducted to determine if the 2021 LRDP has the potential to impact emergency vehicle access by creating conditions that would substantially affect the ability of drivers to yield the right-of-way to emergency vehicles, or preclude the ability of emergency vehicles to access streets within the study area. Potential impacts associated with temporary road closures due to construction activities within the LRDP area are addressed in Section 3.9, "Hazards and Hazardous Materials."

The 2021 LRDP proposes three new roadways across the campus to provide multimodal connections, as shown in Figure 2-6 in Chapter 2, "Project Description," and are listed below:

- ▶ East-West Extension of Meyer Drive to Coolidge Drive – an east-west extension of Meyer Drive from Heller Drive to Coolidge Drive, crossing Hagar Drive. This extension would facilitate cross campus bus travel as well as provide a new east/west walking and bicycling route.
- ▶ Northern Entrance – A connection to provide a third access and egress point to UC Santa Cruz, which may help facilitate Upper Campus and emergency access.
- ▶ Western Drive Extension – Western Drive would be extended across High Street at a new signalized intersection to provide access to the Ranch View Terrace employee housing site.
- ▶ Steinhart Way is proposed as a pedestrian and bicycle priority corridor with restricted automobile access.

Any roadway extensions and new streets would be designed and constructed to include bicycle, pedestrian and transit facilities, where physically feasible, and in a manner consistent with the UC Facilities Manual, which notes that the UC system, as a whole and inclusive of UC Santa Cruz, complies with the Title 24 California Building Standards Code, Parts 1-12 and all amendments. UC Santa Cruz would also comply with applicable federal and state regulations related to roadway and transportation facility design, and with local regulations where campus roadways connect to city and county facilities.

While adequate emergency access within the LRDP area is already provided, the proposed roadway extensions and new streets would provide improved network connections that could improve emergency vehicle access throughout the LRDP area. Adding an access point to Empire Grade could help provide additional emergency access to and from the campus. Similarly, the Meyer Drive extension to Coolidge Drive would improve internal campus circulation and emergency egress by enhancing overall campus access and interconnections of different areas of campus. Even though Steinhart Way would be closed to most vehicle traffic, emergency vehicles could use either McLaughlin Drive or Hagar Drive to access those areas.

As noted in Sections 3.9, "Hazards and Hazardous Materials" and 3.18, "Wildfire," UC Santa Cruz currently has an adopted EOP (adopted in 2016) that outlines campus-wide emergency preparedness and response procedures, including those related to evacuation. The existing roadway network and proposed new primary connections provide redundancy for travel pathways and options if one or more roadways are closed.

The increases in automobile, bicycle, and pedestrian demand associated with the 2021 LRDP would not substantially affect emergency vehicle access patterns; however, additional vehicles associated with 2021 LRDP implementation could increase delays for emergency response vehicles during peak commute hours, especially in the immediate vicinity of the study area. However, emergency responders maintain response plans which include use of alternate routes, sirens and other methods to bypass congestion and minimize response times. In addition, California law requires drivers to yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicle passes to ensure the safe and timely passage of emergency vehicles.

Additionally, the City of Santa Cruz 2030 General Plan specifies policies to ensure the City maintains adequate emergency response times, and that developments of emergency facilities and delivery keep pace with development and growth in the city. Specific General Plan policies include:

- ▶ **M3.2.3:** Ensure that street widths are adequate to safely serve emergency vehicles and freight trucks
- ▶ **CC7.3:** Cooperate with other agencies [including UC Santa Cruz] in ensuring public safety and emergency preparedness.
- ▶ **HZ1.1.3:** Ensure that new development design, circulation, and access allows for maintaining minimum emergency response times.
- ▶ **HZ1.2.2:** Make continuous operational improvements in an effort to arrive on emergency scenes within an average time of 4 minutes or less and within 5 minutes or less 90 percent of the time.

As described in the Analysis Methodology section above, the 2021 LRDP includes a new internal roadway connection and a new access point on Empire Grade, which would improve emergency access to the campus and evacuation capacity. The existing roadway network and proposed new primary connections provide redundancy for travel pathways and options if one or more roadways are closed. As a result, the 2021 LRDP is not anticipated to result in inadequate emergency access, and the impact would be **less than significant**.

### **Mitigation Measures**

No mitigation is required.