3. MOBILITY

Consistent with State Law and building on the goals of the City's *Merced Vision 2030 General Plan*, the BCP mobility plan integrates a multi-modal system comprised of automobiles, a public transit system (rubber tire or light rail), as well as bicycles and pedestrians. Each mode is a component of a comprehensive mobility plan. Hinged to this goal of Complete Streets are many supportive features that are foundational to the success of each mode of transportation. In this context, the BCP provides a greater awareness of cyclists, pedestrians and users of alternative forms of transportation as a legitimate part of the community, and for their safety as it relates to other vehicles.

The BCP is based on the "Complete Streets" concept, which emphasizes use of all forms of transportation, including automobiles, pedestrians, bicycles, and public transit.

Circulation planning is more than including a sidewalk for pedestrians, travel lanes for automobiles, a bus stop for transit or a painted marking for bikes. While these features create spaces for various transportation modes, the essential aspect of circulation planning is attracting mode users to these spaces, which is accomplished by including supportive features in the design of the BCP. Among others, supportive features for all modes of transportation include the following, and are discussed in this chapter:

- Safe travel corridors and street crossings
- Space for landscaping, particularly to provide a buffer for pedestrians and motor vehicles
- Transit-ready developments
- Connection to destinations
- Grid street pattern; and
- Parking facilities.

The use of street-related design elements vary throughout the BCP. While all forms of mobility should be represented in the design of the public rights-of-way, some areas emphasize the need to accommodate heavy loads of auto traffic, whereas others emphasize transit and associated pedestrian travel. Figure 10 indexes the various Complete Streets designs components incorporated in the BCP.

In addition, as described in Appendix D the traffic volume generated by future development in the BCP is anticipated to be almost twenty percent lower than traffic volumes projected in the General Plan. This is primarily the result of modifications to the mix of land uses in the BCP as compared to the General Plan. However, greater reductions in traffic volumes could be achieved if future traffic studies take into account more dispersed traffic patterns and mobility mode splits. The overall benefits of the potential reductions in traffic volumes are reflected in the Plan in terms of recommendations for reductions in the number of traffic lanes (and possibly right-of-way), which could result in lower capital costs for future infrastructure and lower ongoing maintenance costs.

SETTING

The BCP aims to develop an integrated roadway network which achieves the City's goals while accommodating future population growth and development in the BCP area. In order to achieve a high level of multi-modal connectivity, it is important that the BCP be fully integrated into the existing and planned local and regional circulation network. The Vision and Urban Design Chapter already highlighted important regional elements of this mobility network including the Atwater-Merced Expressway/Loop Road, the City of Merced planned transit corridor, the extension of the City's community arterial network, and the potential high speed rail line and station. The section below discusses planned mobility networks within the community plan area.

CONNECTION TO UC MERCED AND THE UNIVERSITY COMMUNITY

The BCP area borders the UC Merced campus is a key trip generator. The proximity to UC Merced, which is projected to grow to approximately 25,000 students and 6.500 employees at full buildout, will have a significant impact on the circulation network within and around the BCP area. In order to address the future growth of UC Merced and the University Community, the BCP takes a pro-active approach to accommodating additional vehicle trips. Consistent with the complete streets focus and *General Plan* principles of compact and efficient development patterns, the BCP plans for future mobility needs through a multi-modal circulation network and by dispersing automobile traffic on a connected grid system. Connection points from the Bellevue Community Plan to these plan areas to the east include Cardella Road, Foothill Road, Mandeville Lane (connecting with the planned transit center at UC Merced), and Bellevue Road. Bikeways are also planned to connect (see Figure 25). Future consideration to connect Old Lake Road with Lake Road should occur, and result in a decision as to the type of connection ranging from an off-street bike path to no more than a minor collector roadway.

Amtrak Service Through Downtown Merced

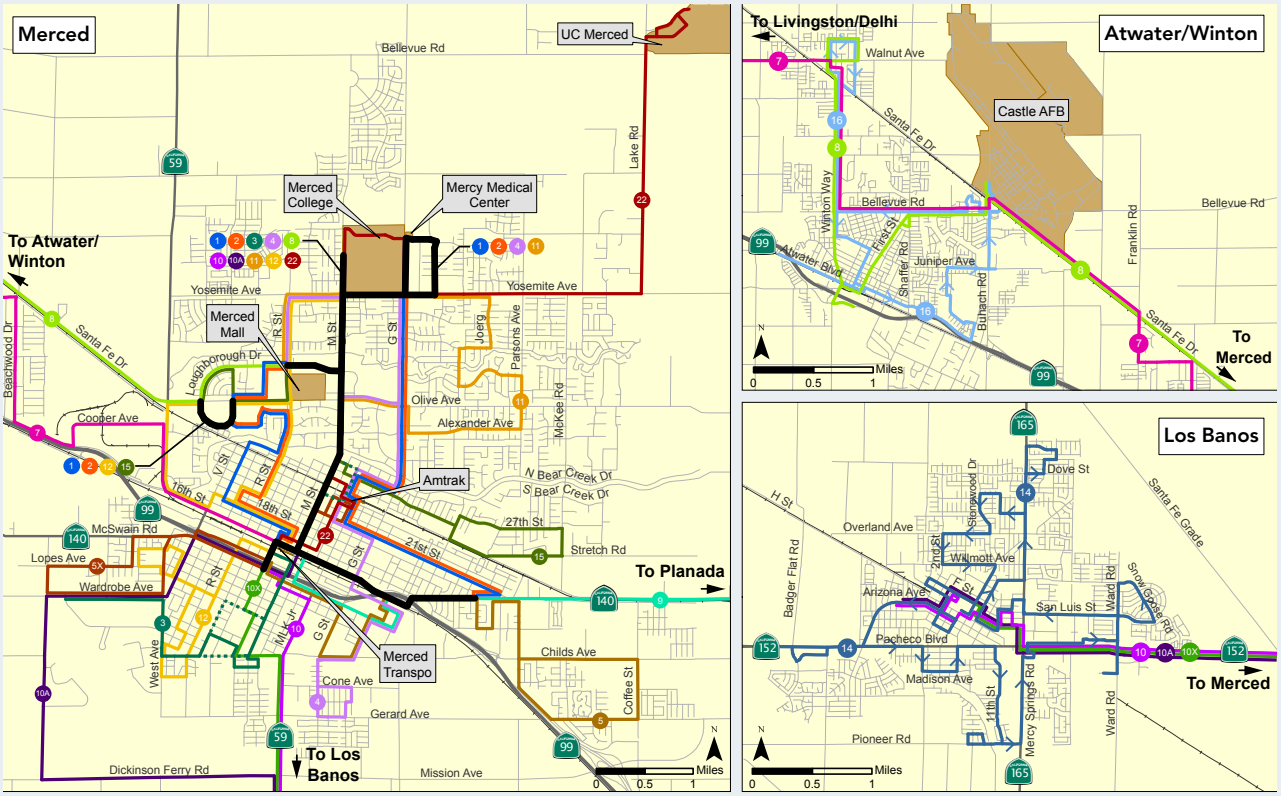
TRANSIT

The BCP provides for increased public transit options and creates a greater ability to connect other regional transit systems, such as regional rail services or bus routes, which depart from downtown Merced and connect to surrounding cities.

EXISTING TRANSIT SYSTEM

The Merced County Association of Governments (MCAG) *Short Range Transit Plan 2012-2017* shows the existing network of public transit options available in Merced. Connections also provide access to Atwater, Winton, and Los Banos. Figure 9 shows existing local and regional transit routes.

Figure 9. Existing Regional Bus Connectivity



MCAG Short Range Transit Plan 2012-2017

BICYCLE TRANSPORTATION NETWORK

Through the BCP, the City of Merced bikeway network of 22 miles of bike paths and 29 miles of bike lanes will be expanded and connect to bicycle resource rich locations, namely the Lake Road Bike Path and linkage to Lake Yosemite, and to the UC Merced campus. To match anticipated bicycle ridership at UC Merced, bicycle use within the BCP is anticipated to be extensive. Bikeways will serve pedestrian traffic too, and together support an active lifestyle within the community.

TRAFFIC REDUCTION STRATEGIES

Traffic volumes in the plan area will increase with development of the City's general plan. Bellevue Road may experience traffic volumes up to 50,000 to 60,000 daily vehicles trips (DVT) with 30,000 to 40,000 DVT on Cardella Road, and over 30,000 DVT on G Street. To maintain adequate levels of service while encouraging complete streets and walkability, the BCP emphasizes alternative strategies to meet this increased demand, including the development of a smaller street grid network. Additionally, the General Plan 50,000 to 60,000 DVT estimate is based on employees and consumers commuting from outside of Merced. The BCP addresses the imbalance between jobs and housing, reducing the inflow of vehicle trips, as many of these trips could be accommodated locally, with other forms of transportation.

COMPLETE STREETS

MULTI-MODAL

On September 30, 2008, Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act directs local jurisdictions to find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking, and use of public transit through the establishment of a balanced multi-modal transportation network.

There are many "Complete Street" Implementing Actions in the City's General Plan that also apply to the BCP area, including Implementation Action 2.1.d, which states, "The Bellevue Corridor and other important corridors should be designed using the Complete Streets concept, which emphasizes use of all forms of transportation on streets, including automobiles, pedestrians, bicycles, and public transit."

These principles emphasize planning, design, and construction for all modes in a manner that results in high usage levels. As such, roadways are treated as the essential element in the urban fabric that connects rather than separates neighborhoods located on opposite sides of a road.

CONNECTED

The full and varied use of all forms of transportation not only reduces traffic, but also enables active lifestyles, results in cleaner air, an increase in disposable income, and attracts a population that values these qualities. The degree to which people choose to utilize transit, bicycling, and walking as a viable form of transportation is grounded in the design of a community's street network, which can be summarized as "walkable-urban," and "driveable-suburban." The BCP includes both forms by providing the necessary community and regional scale arterial streets for long-distance travel, and by infusing an interconnected format of roads at the collector and local street level through the use of the grid-street pattern. Interconnected streets with pedestrian scale features create transit, bike, and pedestrian-friendly environments, and offer an amazing amount of flexibility for land use development (intensity and a horizontal and vertical mixing of land uses), and potential to remove street segments to create super blocks where necessary.

DISPERSAL

The multi-modal and connected nature of the circulation system in the BCP will also tend to disperse all modes of traffic. Not only does this reduce congestion and associated noise and pollution that tends to form with other forms of street networks, but it also maximizes the utility of land set aside as right-of-way, resulting in a cost-effective use of public funds.

TRANSIT-READY DEVELOPMENT

Transit connects passengers to destinations and is an integral component of shaping future growth into a more sustainable form. The creation of truly transit-oriented land uses along transit corridors can be a challenge and often results in transit-adjacent development (TAD) that is not truly transit oriented.

TAD characteristics include: a suburban street pattern; low densities; dominance of surface parking; limited or no pedestrian access; single-family homes; industrial land uses; segregated land uses; and gas stations, car dealerships, drive-thru stores, and other auto-focused land uses. For example, newer segments of the M Street Transitway Corridor have been developed with characteristics of TAD. Land uses are internally oriented with sound walls separating the transit corridor from adjacent residences.

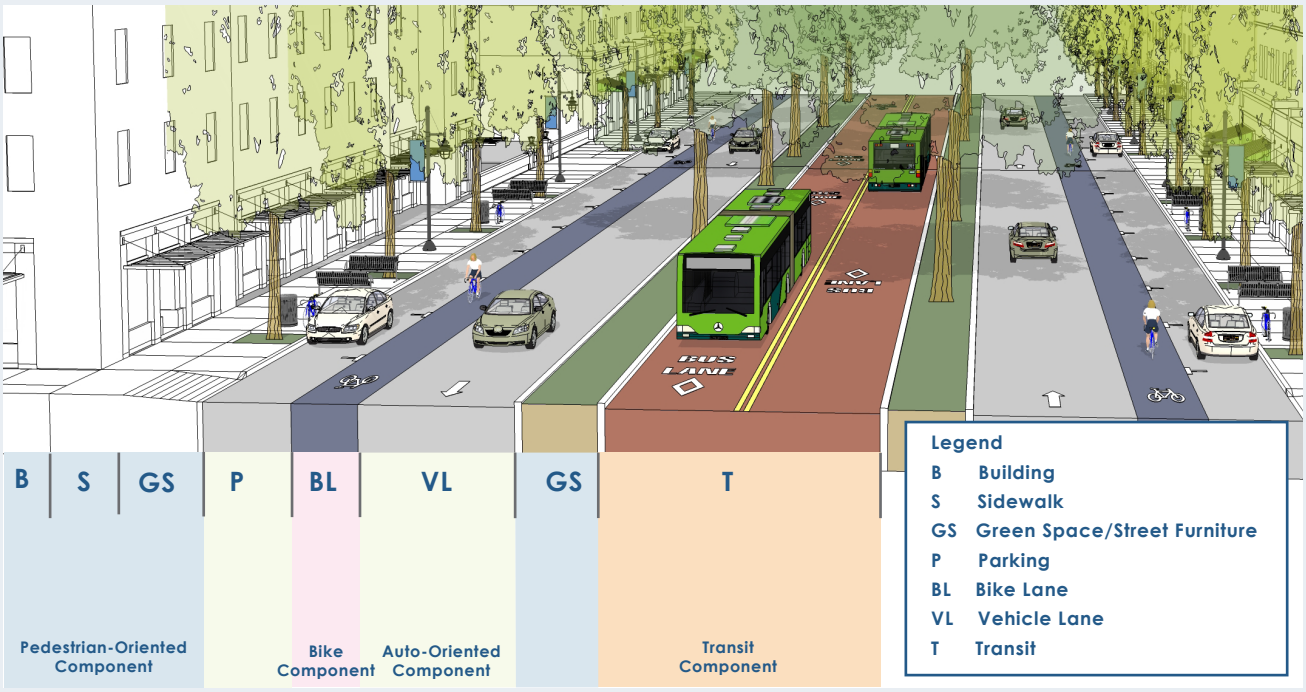
The BCP discourages the formation of TADS, and encourages the creation of transit oriented development (TOD). A TOD is characterized by land use patterns that are oriented to maximize access to transit stations within a one-quarter mile radius (a five-minute walk). Characteristics include: a grid street pattern, high densities, mostly underground or structured parking, pedestrian-focused design, bicycle access and parking, multi-family homes, office and retail land uses (especially along main streets), vertically and horizontally mixed land uses, and stores and local-servicing land uses designed for pedestrian access. Older segments of Merced's street network were developed with land uses oriented toward adjacent streets, a desirable trait for promoting TOD.

Whereas the entire BCP utilizes these strategies at varying levels, at the core of the BCP is the High Quality Mandeville Transit Corridor, one-half mile in width, and situated between Bellevue Ranch Master Planned Development and UC Merced, which maximizes these strategies to their fullest (see Figure 24 on page 54).

BCP CIRCULATION PLAN COMPONENTS

The BCP sets up the framework for an interconnected street network which can accommodate transit, bicycle infrastructure, and pedestrian amenities. This network will be the foundation for establishing and enhancing walkability of the area. A multi-modal street network is a vital component to encouraging increased and efficient use of public transit and transit oriented development. This section introduces the four components of the BCP Circulation Plan that will implement the City's Complete Streets vision, and include 1) the Auto-Oriented Component; 2) the Transit-Oriented Component; 3) the Bicycle Oriented Component; and 4) the Pedestrian-Oriented Component. Depending upon the context of the road, varying use of these modes occur throughout the Plan area. For example, the circulation network emphasizes automobiles along Bellevue Road, but emphasizes transit along Mandeville Lane. The design cross-section and streetscape design varies depending upon the street classification, its regional or community-wide context and adjacent land uses. Figure 10 depicts the BCP Complete Streets Components.

Figure 10. Complete Street Components in the Bellevue Community Plan



AUTO-ORIENTED COMPONENT

A street network can foster or constrain economic and social activity, enhance or limit social equity in ability to travel, and provide or negate a setting for high quality design at all scales: building, neighborhood, and region. The BCP proposes a grid street network which creates equality in modal type without diminishing regional connectivity or flow of traffic on major arterials. Grid circulation networks provide many route options, reduce vehicle speed, are more conducive to walking and cycling, reduce vehicle miles traveled, and are associated with compact development and conservation of open spaces.

Table 4 describes the proposed roadway network in the BCP, and Figure 11, the Official BCP Street Classification Map, illustrates the street and roadway types included in the BCP. These include arterial, collector and local streets. All roadway alignments proposed under this plan are conceptual and may be varied, curved, or otherwise realigned as appropriate. Intersections on Bellevue Road with collectors will be appropriately spaced to accommodate signalized intersections, if needed. It is important to ensure the BCP roadway network as a whole generates an interconnected network that supports pedestrian, bike, and transit travel, and that high volumes of high-speed automobile traffic, while necessary on some roads, does not preclude functional multi-modal travel on others. The proposed grid-type street network, especially at the local street scale, creates walkable pedestrian scale blocks.

Each type of roadway located within the BCP area is described in the narratives on the following pages.

Table 4 Street Classifications within the Bellevue Community Plan

Streets in the BCP	Proposed Street Classification	Right-of-Way	# of Lanes	Driveway Access Restrictions	Street Intersection Spacing	Parking
Bellevue Rd. [1]						
	Major Arterial with Side Access Roads	150' - 200' (dependent on side access roads on 1 or both sides)	6 lanes with one-way or two-way frontage roads	Full (driveway access from frontage roads)	1/4 mile for signalized intersections	No (parallel or diagonal permitted on side access roads)
Cardella Rd.	Divided Arterial	118'	4-6 lanes with median / left-turn pockets	Partial	1/4 mile to 1/2 mile (see *General Plan*)	No
G St.	Major Arterial	128'	4-6 lanes with median / left-turn pockets	Full	1/4 mile to 1/2 mile (see *General Plan*)	No
Gardner Road	Minor Arterial	94' Divided	2-4 lanes with median / left-turn pockets	Partial	1/8 mile to 1/4 mile (see *General Plan*)	No
Mandeville Lane. (New)	Transit Avenue	120' - 130'	2 lanes	No (rear alley access recommended)	As needed	Permitted
	Collectors	60' - 80'	2 lanes with median / left-turn pockets	No (rear alley access recommended)	As needed	Permitted
	Local Roads	51' - 62'	2 lanes	No	As needed	Permitted

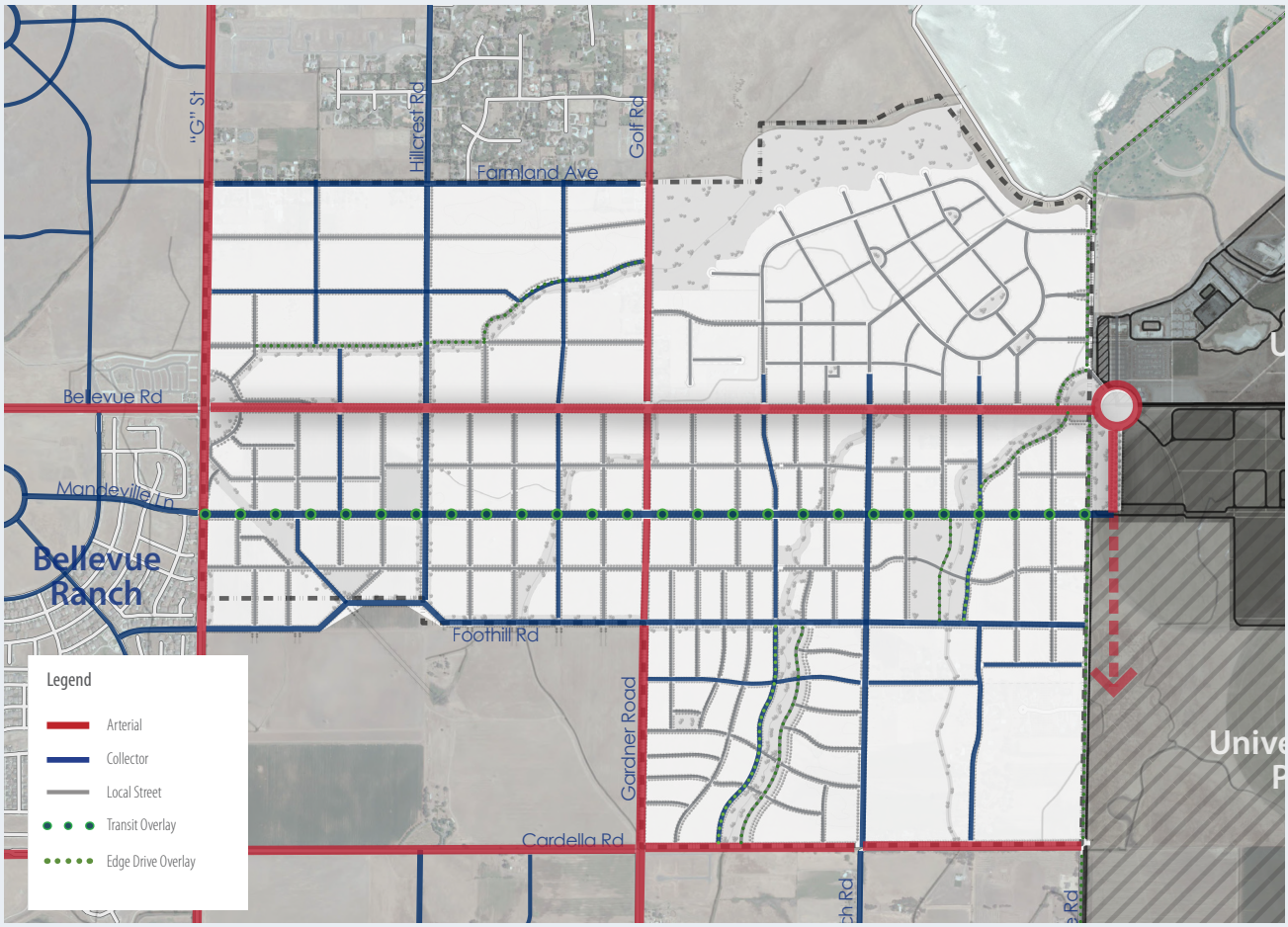
Notes:

1. The Merced Vision 2030 General Plan designates Bellevue Road as a six lane facility; however, the BCP recommends a future study to reduce Bellevue Road to a preferred four-lane facility with side access roads

2. The Merced Vision 2030 General Plan designates Gardner Road as a four lane facility; however, the BCP recommends a future study to reduce Bellevue Road to a three-lane boulevard with limited driveway access. Depending on the results of the study, Garder Avenue/ Golf Road, north of Bellevue Road, could be reduced to a two-lane street.

3. The street right-of-ways (ROWs) may vary depending on the final design characteristics chosen for each street type.

Figure 11. BCP Street Classification



Arterial Streets - RED SOLID & DASHED

Within the BCP, arterial streets fall into two categories. Class S (Standard) Arterials are those that are consistent with the City's adopted *General Plan* and Official Design Standards. These roads include G Street and Cardella Road. Class V (Variable) Arterials incorporate variations in street design that are needed to be consistent with and to support design objectives specific to the BCP, namely to create a gateway image and to create a transit supportive setting. Variable Arterials include Bellevue Road and Gardner Road. After Plan adoption, an important next step will be to set road plan lines for arterial streets in order to ensure adequate future ROW with minimal impact to existing structures.

Bellevue Road

Although Bellevue Road is a part of the regional traffic serving Merced Loop Road, it will serve future local land uses with access needs. The Bellevue Road standard balances these needs, and provides an aesthetic gateway design component. The *Merced Vision 2030 General Plan* designates Bellevue Road as a six lane facility; however, the BCP recommends a future study to reduce Bellevue Road to a preferred four-lane facility, provided that local traffic is provided for in one of the methods described below. Bellevue Road is planned to have adequate right-of-way for these features, which would also include a landscaped median, a bikeway, a parkway, and a sidewalk. Sound walls would not be allowed.

Urban design features that emphasize accessibility and views of buildings are encouraged within the BCP. In terms of accessibility, development of adjacent properties would conform to one of the following options: 1) access by internal connection to local area streets; 2) where additional side-road access is planned, required, or desired by the owner, the buildings will be located adjacent to a one-way side access slip road that branches off of and runs parallel to Bellevue Road or a two-way, larger side access road (see Figure 12, Figure 13, and Figure 14). Angled back-in parking is encouraged along one-way side access roads and parallel parking is encouraged on the side of the street adjacent to buildings for two-way side access roads, or 3) in areas where additional vehicular access is not needed, the buildings could be located along the sidewalk, provided housing units adequately buffer or shield noise impacts, and an additional (3rd) travel lame may be required pending a traffic assessment. For purposes of planning, Option 1 is considered the standard design unless changed by the City through the Neighborhood Master Planning process outlined in the Community Character Chapter. The benefits of side access roads include:

- Allows buildings to face or address the street, creating a more visually pleasing setting and gateway environment, as opposed to a long blank sound wall or loading dock;
- Creates a space for pedestrians to access buildings and to use mobility options (transit, bike lanes, sidewalks);
- Provides a place for on-street parking; and
- Provides a place for local traffic to maneuver without slowing thru-traffic on Bellevue Road.

Alternatively, creating large streets without the provision for "address making" along it, reduces development flexibility and increases the odds of creating an impaired visual environment.

Figure 12. Bellevue Road with Two-way Side Access Road

Figure 13. Example of a Boulevard with One-way Side Access Slip Road and Intersections in Berkeley, CA

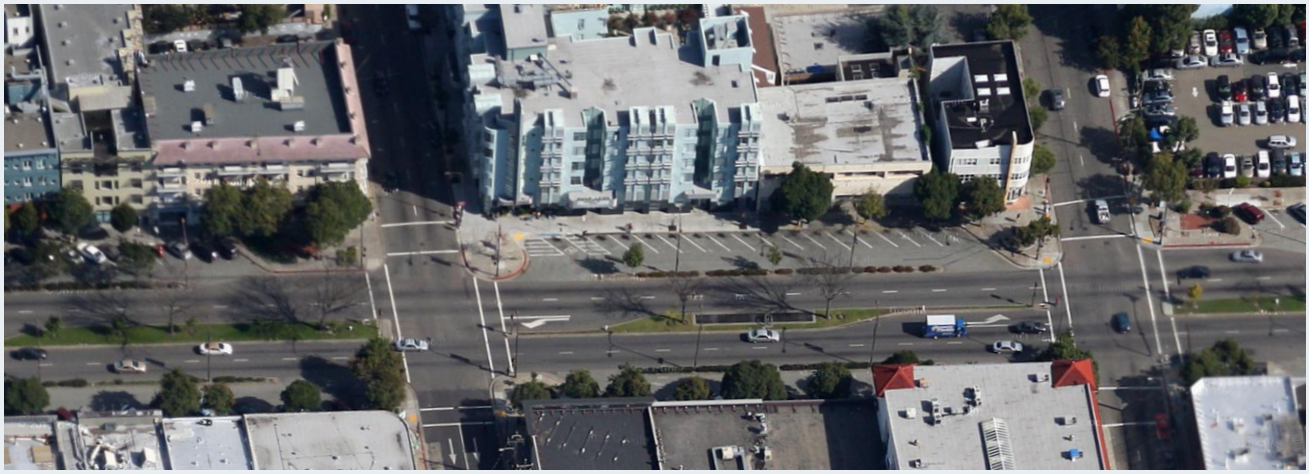


Figure 14. Example of a Boulevard with One-way Side Access Slip Road in Berkeley, CA

Gardner Road

The *Merced Vision 2030 General Plan* classifies Gardner Road as a Minor Arterial with up to four lanes and a median with left-turn pockets. Subject to future study, the BCP recommends transitioning the road, north of Foothill Drive, into a three-lane boulevard with limited driveway access, balancing the need to accommodate high-traffic capacity with neighborhood compatibility. (Note: North of Bellevue Road, Gardner Road/Golf Road could become a two-lane road subject to a future study.) The proposed lane configuration, to one lane in each direction plus a center turn lane, is compatible with the smaller block network of the residential areas north of Foothill Drive. Buildings would be oriented facing the street according to the standards of the character area. Residences would have large front yards in the Single-Family Character Area (Figure 15) and in high-intensity areas between Foothill Drive and Bellevue Road the yards would be replaced by a wider sidewalk, tree-wells and a furniture zone.

South of Foothill Drive, Gardner Road is envisioned to remain a four lane Minor Arterial as described by the General Plan. This section will have limited driveway access to adjacent properties with right-turn-in/right-turn-out access at 1/8 mile to 1/4 mile intervals.

Figure 15. Gardner Road in Single Family Character Area

Cardella Road

Consistent with Table 4.2 of the City's *General Plan*, this road is planned to be a divided arterial with a 118 foot right-of-way to contain between 4 to 6 lanes with partial driveway access restrictions. Outside of the BCP, a 6-lane segment of Cardella Road is planned between M Street and R Street. Collector street intersection spacing ranges from ¼ mile to ½ mile. On-street parking is not permitted.

G Street

Consistent with Table 4.2 of the City's *General Plan*, this road is planned to be a major arterial with a 128 foot right-of-way to contain 4 lanes with full driveway access restrictions. North of Bellevue Road, the *General Plan* plans for up to 6 lanes. Collector street intersection spacing ranges from ¼ mile to ½ mile. On-street parking is not permitted.

Collector Streets- BLUE SOLID & DASHED

Collector streets, including Foothill, Hillcrest, Paulson, Hatch, and Farmland, are generally spaced at ¼ mile intervals to facilitate traffic flow and signal timing, as needed. Collector streets should have one travel lane in each direction, bike lanes, curbside parallel parking, and parkway strips with street trees and sidewalks. Similar to major arterials, sound walls are not allowed and buildings will face the street. BCP collector streets have a unique cross section with wider parkway strips in residential areas. In high-intensity Character Areas (Mixed Use TOD, Business Park, Multifamily Neighborhood and Flex-Mixed Use), the travel lanes will be wider, bike lanes will be provided between the travel lanes and parking lanes, and the parkway strip would be replaced with a wide sidewalk (14 to 18 feet) with tree wells and street furniture. Intersections would be designed for pedestrian safety, incorporating cross walks and pedestrian bulb-outs, as appropriate. Collector roads that link newly urbanized areas of the BCP with existing rural residential neighborhoods should include design features that minimize traffic impacts anticipated to occur as a result of build-out of the BCP.

Figure 16. Collector Street through a Typical Multi-Family Character Area

Figure 17. Collector Street through a Typical Mixed-Use Character Area

Figure 18. Collector Street through a Typical Single-Family Character Area

Mandeville Lane

Mandeville Lane is a collector road, and the recommended transit route. The alignment of Mandeville Lane is designed to connect pedestrians and bicyclists to the transit route within five-minute, ¼ mile walking distances and, as shown in Figure 19, includes:

1. A dedicated bus guideway down the median east of G Street (transit west of G Street will share travel lanes with automobiles).

2. One lane of traffic each direction, bike lanes on each side of the street, and on-street parallel parking on both sides of the street.

3. Left turn lanes at controlled intersections (signal or stop-sign). The parking lane would be removed to allow for the additional lane which would improve intersection performance. This could effect the curvature of the through traffic lanes and may reduce traffic speeds.

4. Sidewalks and parkway strips. The sidewalk width and street furniture vary, depending on location. Sidewalks in residential areas shall have minimum 5 to 6 feet of walkable space area and wide landscaping strips. Along Mixed-use TOD, R&D, and Neighborhood Centers, Mandeville Lane shall have wider sidewalk widths, 12-14 feet, to accommodate tree wells and street furniture while not blocking or impeding pedestrian movement.

Over time, the Mandeville Transit corridor could transition from a bus route to Bus Rapid Transit (BRT) service. BRT improvement and service options would provide dedicated travel lanes for bus service in combination with high-occupancy transit vehicles, enhanced boarding platforms and signal pre-emption measures to minimize travel time and maximize potential ridership. A main component of BRT is a dedicated travel lane, reducing conflict between cars and buses and also reducing time delays. BRT can be phased into the BCP area by use of a vegetated median strip in the interim. This strip can be turned into the dedicated bus lane as funding becomes available. By planning ahead and establishing the BRT design framework early in the planning stages, potential future retrofitting costs can be significantly reduced.

Several traffic control options are available for Mandeville Lane, depending on the function of the roadway and the presence of BRT. The BCP recommends traffic signals where Mandeville lane intersects with collector or arterial streets. Roundabouts could be an alternative option, and would require further study. In general, roundabouts would be a more feasible option on north/south collector streets, where the roundabout would not need to accommodate a transit stop, as on Mandeville Lane.

Figure 19. Mandeville Lane- Transit Avenue - T.O.D. Center

Local Streets- GRAY DASHED

As mentioned earlier, the creation of a network of local streets with short blocks is necessary to encourage walking, biking, and transit use which is the foundation of any transit-oriented development. The Plan recommends small walkable blocks in the TOD core areas, with larger blocks permitted to accommodate larger buildings in the Research and Development Character Area. Local streets are highly interconnected to disperse traffic across the grid and provide pedestrian, vehicle, and bicycle direct access to a variety of destinations. The street cross-section is consistent with adopted City design standards. Figure 21 and Figure 22 illustrate the different characteristics depending on adjacent uses.

The local roads depicted on the Street Classification Map (Figure 11) represent a circulation concept and does not dictate specific form on any particular property. The actual location of local streets is flexible as long as it maintains a high degree of connectivity. Natural features and certain land uses may influence the trajectories of roads, and the map shows how variations may include curving roads along open space corridors or hillsides, and removal of local roads in research and development, entertainment or community commercial areas.

While continuity and interconnectedness are essential features to the overall local street network in the BCP, there may be situations where providing public spaces or accommodating new development may result in dead-end local streets. For example, in mixed-use, research and development, and commercial centers local streets may be terminated in a close or a rosewalk (pedestrian-only street/green). In Single-Family and Rural Residential Characters Areas, select streets may end as open-ended cul-de-sacs. All configurations should allow pedestrians and bicycles to pass freely to maintain the transit-oriented design of the circulation network.

Example of a Rosewalk

Example of an Open-Ended Cul-de-sac

STREET OVERLAY DESIGNATIONS

High Quality Transit Corridor (Open Green Circle)

Mandeville Lane is positioned well to offer excellent transit service to the community and points beyond. In addition to the ease of connecting to future north-south transit routes, it directly connects the transit centers planned in the Bellevue Ranch Development and UC Merced. To either side of Mandeville Lane for a distance of two miles, pedestrian-oriented land uses and street designs create a transit-ready development pattern that has the potential to generate a large demand for transit services. Mandeville Lane should be designed to allow pedestrians to easily cross the street.

These streets are highly interconnected to disperse traffic and to provide pedestrian, vehicle, and bicycle access to a variety of destinations.

Edge Drives (Green Dashed)

Edge drives are single-loaded streets (can be local or collector streets) that run along the edges of significant community open spaces providing motorists, pedestrians, and bicyclists daily access to green space, such as creek greenways, parks, and the Lake Road greenway near the UC Merced Campus. These drives have a parkway strip and sidewalk. The residential side has a curb, with tree-wells and street furniture when the drive runs along mixed-use or commercial properties. The greenway side of the street will be designed to allow for natural runoff and storm water infiltration while also contributing to the natural setting. Parking on the green space side can be provided for park visitors using pervious pavement which still maintains the natural drainage features of the greenway side of the road. A Class 1 bikeway, jogging path, or equestrian trail can also be provided along the greenway.

Lake Road is a local road that runs alongside the Rural Residential and Mixed Use TOD Character Areas. In both, the road is a two-lane road with open space on the east side. The design elements on the west side of the road reflect the nature of the character areas (see Figure 21 & Figure 22). In the Rural Residential Area, the road retains its rural character with no sidewalks and a drainage swale. In the Mixed-Use TOD Area, the urban side of the street has on-street parking, street trees, and a sidewalk. The transition from rural to urban frontages would occur around Foothill Drive.

Figure 20. Typical Edge Drive with Side Parking

Figure 21. Lake Road - Natural Rural Edge Drive

Figure 22. Lake Road - Edge Drive with Mixed-Use Character Area

Gateways

Both Lake Road and Bellevue Road are identified as scenic corridors in the *Merced Vision 2030 General Plan*. The position of UC Merced at this intersection further emphasizes the need to enhance the visual character of these roads and to create attractive entryways. In the long-term, Bellevue Road will accommodate regional vehicular traffic, whereas Lake Road will be a local road characterized by low vehicle speeds and continuous pedestrian and bicycle pathways. Bellevue Road should create a gateway design at the intersection with G Street to create a sense of arrival while travelling to UC Merced through the BCP area. Figure 23 illustrates a gateway design concept for Bellevue Road. See Chapter 2 for more information on Gateways. Collaboration between the City of Merced and Merced County is needed to craft detailed design standards for these roadways and adjacent properties.

Figure 23. BCP Gateway Overlay at Bellevue Road & G Street

PARKING

On street parking can be important in the urban environment for the success of the retail businesses that line the street and to provide a buffer for pedestrians and help calm traffic speeds. On-street parking occupies about half the surface area per car compared to off-street facilities, which require driveways and aisles for access and maneuvering.

Where angled parking is proposed for on-street parking on frontage streets, designers should consider the use of reverse-in angle (or front out) parking in lieu of front-in angled parking. Motorists pulling out of reverse-in angled parking can better see the active street they are entering. This is especially important to bicyclists. Moreover, people exiting cars do so on the curb side and aren't likely to step into an active travel lane.

Another tool for on-street parking is the park assist lane. Often when on-street parking is provided on busy roads, drivers find it difficult to enter and leave their parked vehicle. Where space is available, consideration should be given to adding a park assist lane between the parking lane and travel way to provide 3 feet of space so car doors can be opened and vehicles can enter or depart with a higher degree of safety and less delay. Parking assist lanes also narrow the feel of the travel lane and slow traffic.

Parking within the BCP area is provided through a combination of on- and off-street parking. On-street parking varies with the street classification type, where appropriate. As the population within the BCP increases into the future, the flexibility of the BCP allows gradual transition to off-street, structured parking facilities. For details on type, and location of parking, see Table 4, and the description of each street type, above.

Example of Back-in Angled Parking & Assistance Lane

Source: City of Richmond

Example of Reverse-in Angled Parking

TRANSIT-ORIENTED COMPONENT

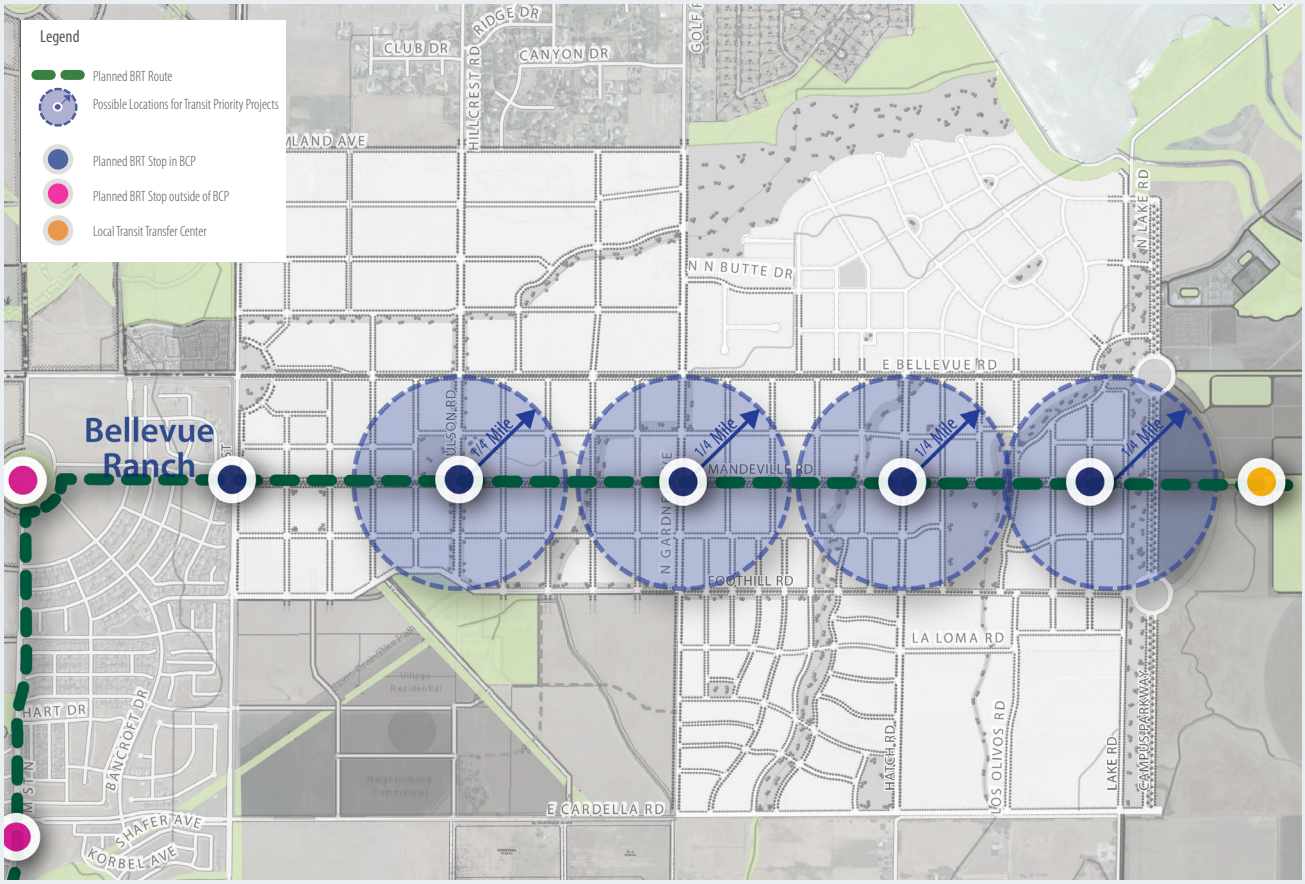
While necessary, operating buses and bus-stops do not constitute the full spectrum of a successful transit system. Land uses, from the perspective of origins and destinations, along with an environment that attracts pedestrian use are equally important. The extent of the transit system in the BCP encompasses all aspects of a successful system, which include transit-ready developments (discussed early in the chapter) and transit priority projects, a highly connected street system, transit accommodations, together with the "pedestrian-oriented" and bicycle-oriented components of the BCP Circulation Plan.

Full transit-service will be phased in over several years. Until BRT level services are provided, a wide, landscaped median will reserve a site for the BRT guideway.

CONNECTIVITY

The recommended local street layout supports functional transit nodes that can be accessed within a five minute, ¼ mile, walking radius, and is an essential component of a successful transit system. The intent is to emphasize that a high degree of interconnected roads are needed to link a variety of places so people can walk to and from home, work, transit, and other destinations without being discouraged by having to walk a long distance. The actual design and placement of local streets is flexible; the intent is connectivity.

Figure 24. Five Minute Walk from Proposed Transit Line



HIGH QUALITY TRANSIT CORRIDOR

The BCP establishes a transit route along a centralized transit-oriented avenue, Mandeville Lane. This alignment establishes a direct connection between the adjacent Bellevue Ranch Master Plan transit center and the proposed UC Merced Transit Hub. Transit stations are proposed along Mandeville Lane at ¼ mile intervals from Bellevue Ranch to the UC Merced Campus as depicted in Figure 24.

TRANSIT ACCOMMODATIONS

Public transit serves a vital transportation function for many people; it is their access to jobs, school, shopping, recreation, visitation, worship, and other daily functions. Public transit should be planned and designed as part of the street system. It should interface seamlessly with other modes, recognizing that successful transit depends on customers getting to the service via walking, bicycling, car, taxi, or transit.

Transit stops should be planned following these principles:

- The essential streetscape elements for transit include signs, shelters, and benches. Shelters should be located in a sidewalk's furniture zone so they don't conflict with the pedestrian zone.

- Transit stops should be easily accessible, with safe and convenient crossing opportunities.
- Transit stops should be active and attractive public spaces that attract people on a regular basis, at various times of day, and all days of the week.
- Transit stops should also provide other amenities to make waiting for the next bus comfortable.
- Transit stops function as community destinations. The largest stops and stations should be designed to facilitate programming for a range of community activities and events.
- Transit stops should be attractive and visible from a distance.
- Streets that connect neighborhoods to transit facilities should be especially attractive, comfortable, and safe and inviting for pedestrians and bicyclists.

TRANSIT PRIORITY PROJECTS

Transit Priority Areas were introduced in California's Senate Bill 375 (SB 375) intended to align regional transportation, land use, housing and greenhouse gas emissions planning. A key element of SB 375 is the option for regions and their local governments to provide significant California Environmental Quality Act (CEQA) regulatory streamlining incentives for Transit Priority Projects (TPP). CEQA streamlining can provide greater time certainty and reduce costs for infill and transit-oriented development. One main requirement of a TPP is that it be located within one-half mile of either a major transit stop or high-quality transit corridor included in a regional transportation plan (RTP), with service intervals of not less than 15 minutes during peak commute hours.

Transit Priority Projects (TPP) are housing or mixed-use residential projects which are located within walking distance to transit services. TPPs are eligible for CEQA streamlining under California SB 375.

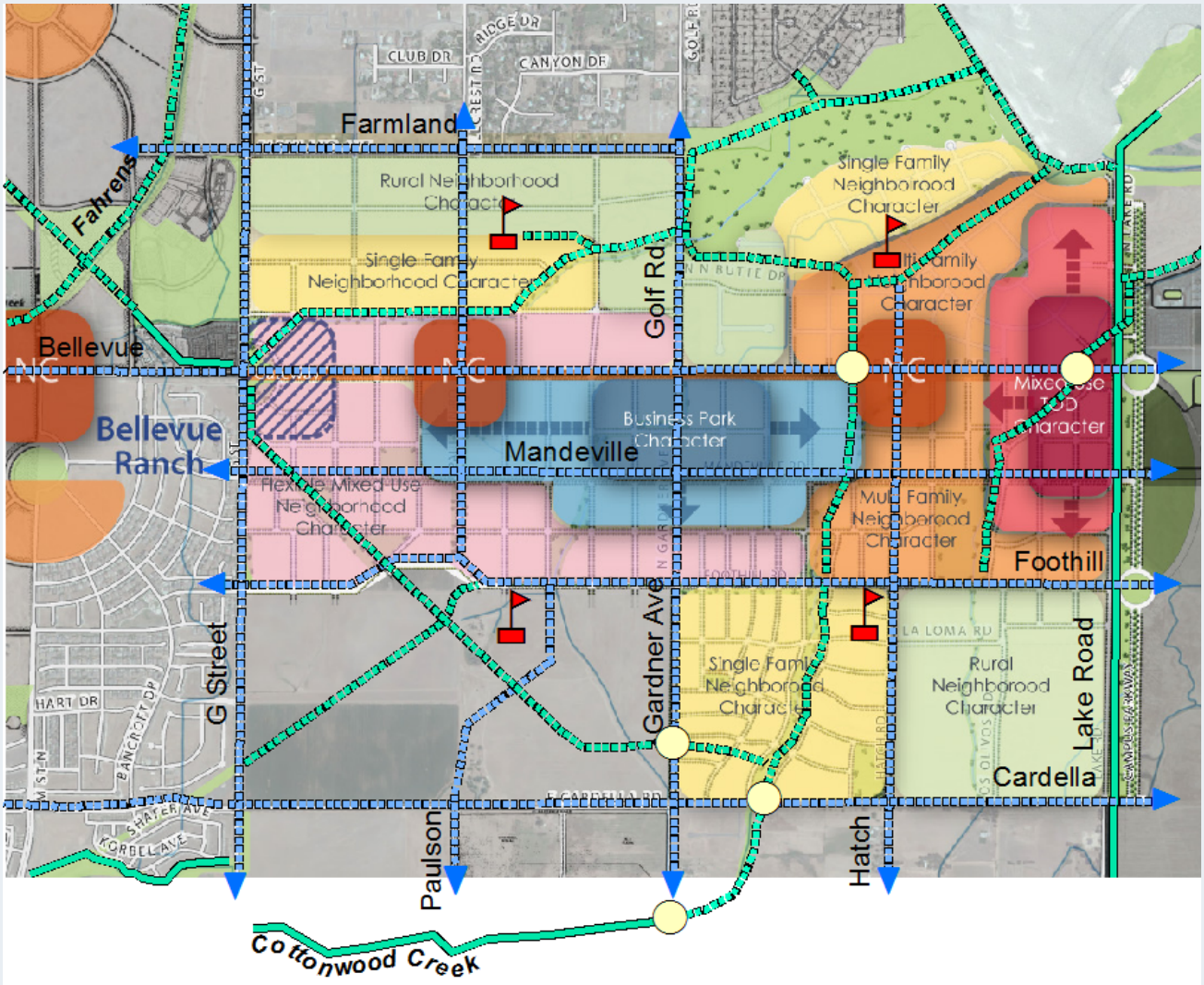
In addition to proximity to transit, a Transit Priority Project is required to be 50 percent residential, by square footage, with a minimum of 20 dwelling units per acre. If a TPP includes a commercial component, it must meet a floor area ratio (FAR) of 0.75 unless the commercial component accounts for less than 25% of the total TPP square footage. In which case, there is no minimum FAR requirement.

The BCP allows for densities and intensities to meet TPP requirements along the Madeville transit route (see also Table 9). However, since TPPs will be implemented at the project level, the exact size and locations have not been determined.

BICYCLE-ORIENTED COMPONENT

Utilizing the interconnected street and open space pattern, bikeways in the BCP should be placed along open space corridors, canal easements (where appropriate), and connect with Lake Yosemite and the Lake Road bike path. The close proximity to UC Merced supports the creation of a world-class bike system to accommodate students, residents, and employees within and surrounding the BCP area. Additionally, the City of Merced 2013 Bicycle Transportation Plan should be updated in conjunction with this plan to

Figure 25. Bicycle Transportation Map



coordinate the BCP and Citywide efforts. Planned bikeways within the BCP are detailed in Figure 25.

Important bicycle planning elements should be considered during the development of the BCP's circulation system:

- Coordinate bike planning and construction with UCM and Merced County;
- Explore provision of unpaved trails in rural residential areas;
- Placement of a bicycle boulevard in the area bounded by G Street, Bellevue Road, Lake Road and Foothill Drive;
- Connect bikeways to parks and schools; and
- Plan bike paths to encourage crime prevention through design.

PEDESTRIAN-ORIENTED COMPONENT

Merced has many senior citizens, young people, and other residents who have limited access to an automobile. The ability to access shopping, community activities, and work within safe, easy walking distances to home is essential to support the needs of the local population. People who utilize cars and trucks can go anywhere, but students, youth and seniors must walk, bike, or use transit to go places they may need or want to go.

The street classification system and grid network of the BCP is designed to promote and increase walkability of the BCP area. Walkability is not only determined by close proximity between destinations, but also the pedestrian experience while moving between locations. Creating pedestrian scale environments that encourage walking, is accomplished with the following basic design principles which are depicted in the BCP Pedestrian Transportation Map (Figure 26):

Figure 26. Pedestrian Transportation Map

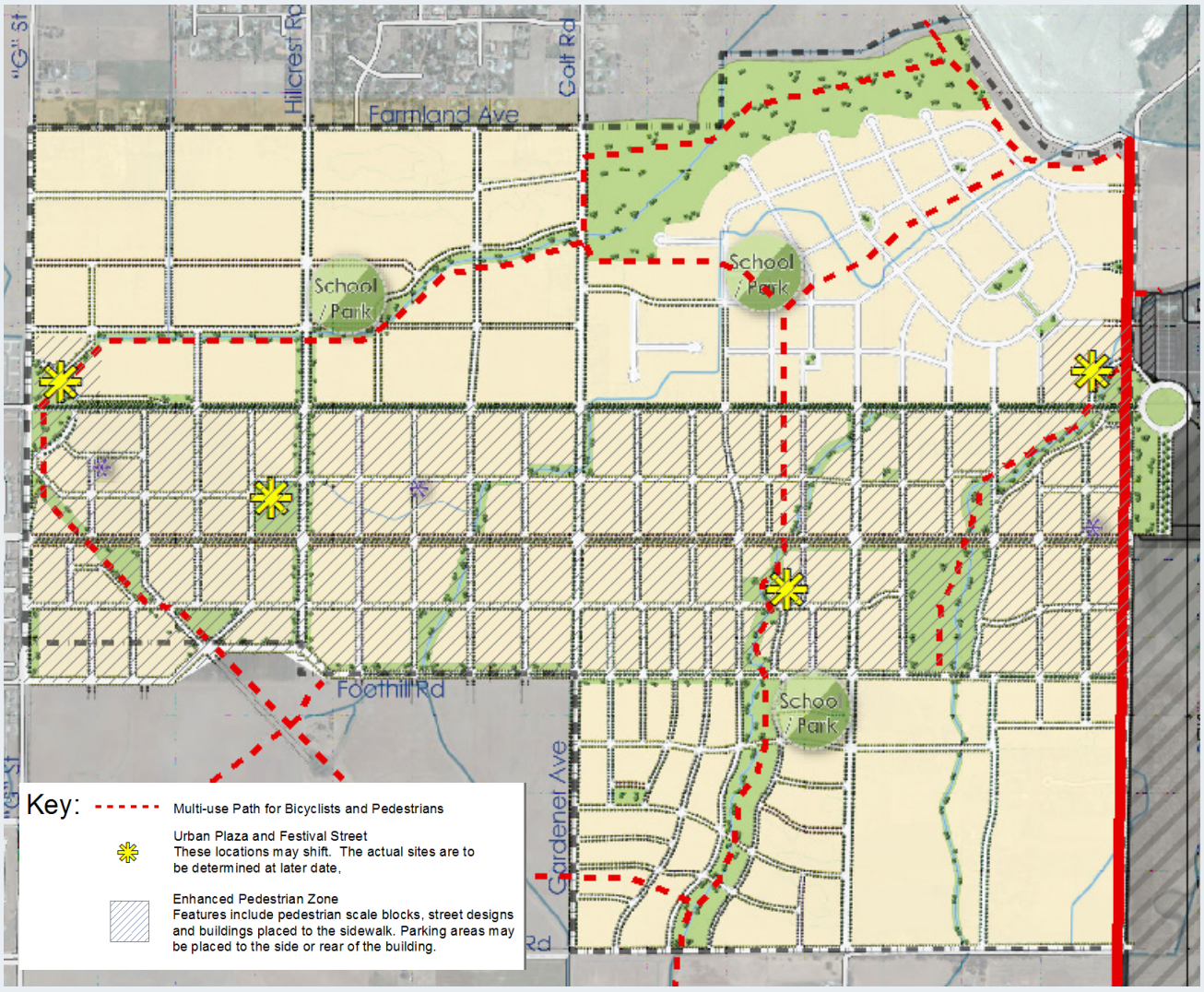


Figure 27.Examples of Street Landscape Features

Street Trees and Buffer

Stormwater Swale

Figure 28. Example of an Urban Plaza and Festival Streets

- A street block structure of closely spaced and interconnected streets with slow vehicular speed;
- Pedestrian scale development including open space, parks, and festival streets which increase pedestrian activity
- Visible cross walks, bulb outs, and other pedestrian and traffic calming designs to improve safety during street crossings;
- Appropriate walk-zone and planting/amenity zones, including sidewalks, trees, benches, and lighting; and
- Parking facilities that encourage shoppers to 'stop and walk'.

OPEN SPACE, PARKS, AND FESTIVAL STREETS

Public rights- of-way can be designed with features that support and enhance walking. These features include street trees, parkways, street furniture areas, stormwater drainage swales, and festival streets. Open-space features combined with enhanced architectural designs and urban plazas can create memorable community gathering places and gateways in the community.

Open Space

Street landscape features bring many benefits to a community including storm-water management, lower ambient air temperature, a comfortable and visually interesting environment for all users, and traffic-calming. Spaces for these open space features are provided through placement of street trees, islands, curb extensions, etc., in the right-of-way. Figure 27 shows examples of some of these features.

Parks

The urban nature of the BCP along the Mandeville Transit Corridor warrants the consideration of urban plazas. The City's 2000 Merced Park and Open-space Master Plan defines an urban plaza as a small park, usually passive, that provides an opportunity for the public to gather in urban locations. The BCP proposes at least three urban plazas (see Figure 28) to be located within or near neighborhood commercial centers, and connected to the area's open-space and bikeway network.

Festival Streets

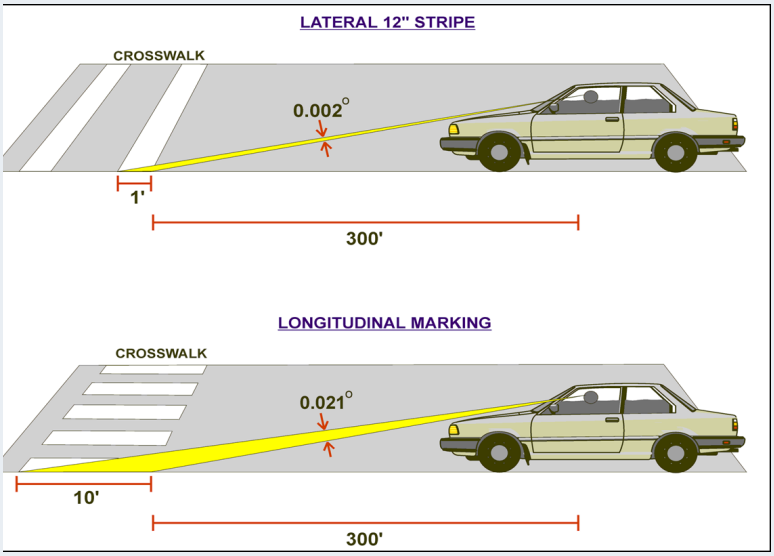
Streets are a huge part of any community's public space network, and historically served as meeting places, playgrounds for children, marketplaces, and more. As populations spread out from city centers, most American cities have come to view streets primarily as conduits for moving vehicles from one place to another. While moving vehicles is one of their purposes, streets are spaces, even destinations in and of themselves. By approaching streets as public spaces, cities redirect their attention from creating merely traffic conduits to designing a place that offers greater value to pedestrians, bicyclists, and transit riders. This comprehensive approach requires intentional positioning of urban features to create these public spaces. The BCP identifies several urban plazas in land use and roadway settings to enable future public events using City streets. Festival Streets should contain traffic calming, flush curbs, and streetscape features that allow for easy conversion to public uses such as farmers' markets and music events (other ideas can be found at the Los Angeles County Model Design Manual for Living Streets, Chapter 12).

Pedestrian Crossings/Traffic Calming

There are several methods to ensure safe and convenient pedestrian crossing, including providing crosswalks spaced at appropriate intervals, reducing crossing distance, and managing speed and flow of vehicular traffic. The following tools are options to use within the BCP to improve pedestrian safety (see Figure 29 & Figure 30):

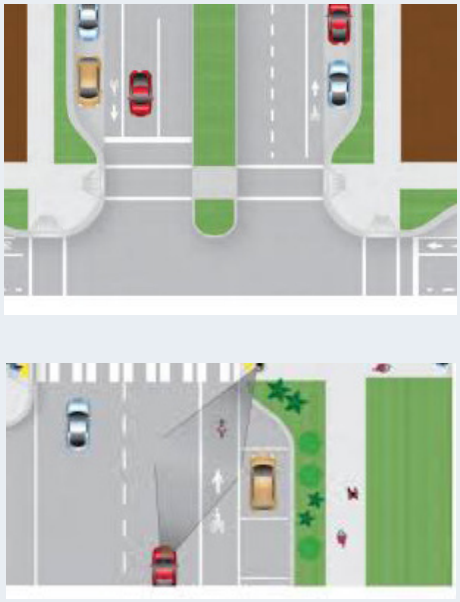
- High visibility cross walks
- Pedestrian crossing warning signs
- Medians
- Bulb-outs and curb-extensions
- Pedestrian refuge islands

Figure 29. Crosswalks



Crosswalk striping patterns with lines longitudinal to the roadway are more visible to approaching motorists than the two transverse lines used on many crosswalks. High visibility patterns are especially beneficial at uncontrolled crossing locations (i.e., where there are no stops signs or traffic signals requiring vehicles to stop).

Figure 30. Bulb-outs



Curb extensions, or bulb-outs, can reduce the distance for pedestrian crossing while still accommodating bikepaths and on-street parking. Additionally, bulb-outs reduce vehicular speed and increase visibility at busy intersections, increasing pedestrian safety.

Source: Bikepedsafe.org

Walk, Planting, and Amenity Zones

Sidewalk width is a key component of providing safe routes for pedestrian travel. Wider sidewalks within mixed-use or heavy traffic areas act as a physical buffer from vehicular traffic and provide a sense of safety and security for pedestrians. Additionally, wider sidewalks can accommodate more foot traffic and are most appropriate in commercial areas. Sidewalk characteristics, including addition of tree wells, planting strips, or street furniture varies depending on street classification and community character area. The parkway use type can be either a fully landscaped zone (L), or a furniture zone (F). There are character areas where no street furniture or

landscaping may be required in order to maintain consistency with existing neighborhoods. Figure 31 shows the location of different zones in the public realm. The sidewalk is made up of three main zones: amenity zone for landscaping and street furniture, the walk zone to allow pedestrian travel, and the frontage/setback zone which allows transition between the sidewalk and the building without blocking moving pedestrian (see Table 5 for exact standards).

While in some cases it may be appropriate to locate furniture or other landscaping amenities in places outside of the planting/amenity zone, the intent is to keep the walk zone free from obstacles to ensure easy pedestrian flow.

Figure 31. Pedestrian Realm

Table 5 Pedestrian Way Standards

Place Type	Planting/Amenity Zone Use Type	Planting/Amenity Zone Width	Minimum Walk Zone Width	Frontage/ Setback Zone Width	Total Sidewalk Width
Mixed-Use TOD	F	4 ft	8 ft	2 ft	14 ft
R&D Employment District	L	4 ft	6 ft	2 ft	12 ft
Neighborhood Centers (NC)	F	4 ft	6 ft	2 ft	12 ft
Flex-Mixed Use Neighborhood	F/L or L	4 ft	6 ft	2 ft	12 ft
Multi-Family Neighborhood	L	3 ft	6 ft	1 ft	10 ft
Single Family Neighborhood	L	7 ft	5 ft	per setback	N/A
Rural Residential Neighborhood	L	7 ft	4 ft	per setback	N/A

BELLEVUE COMMUNITY PLAN GOALS AND POLICIES

The goal headings of this BCP chapter are grouped into the same policy topics as the *Merced Vision 2030 General Plan*. This approach fosters consistency and builds on the City's broader *General Plan* guidance. In furtherance of consistency with the City's *General Plan*, Appendix C, policies specific to the BCP planning area are described in greater detail and grouped with the goals and policies it shares in common with the City's *General Plan*. In addition to the goals and policies below, Master Plans/projects/permit applications need to take into account the BCP in its entirety and be consistent with the language herein.

Table 6 Mobility Goals and Policies Specific to the Bellevue Corridor Community Plan Consistent with the City's *General Plan*

Goal Area M-1: Streets and Roads

Policy M-1.1: Pursue the completion of the City's arterial grid network.

All proposed arterial streets within and adjacent to the BCP are essential roadways that need to be completed. Bellevue to serve as an urban arterial in the loop road system; Gardner Road south of Bellevue Road to connect the BCP, UCP and UCM with the Merced Community; Campus Parkway as part of the urban fabric to the east; and Cardella Road and Yosemite Avenue providing important east-west oriented linkages knitting the long-term growth areas of the City of Merced.

Policy M-1.2: Examine the possibility to reduce the number of lanes on Gardner Road, Bellevue Road and Golf Road.

Inclusion of a broad range of transportation-related factors such as the addition of side roads along both sides of Bellevue Road for local traffic may result in a finding that would support fewer through travel lanes on plan area arterial roadways. Complete a traffic impact analysis that considers the function of all transportation modes, land use patterns and both collector and arterial street designs to examine the potential to reduce the number of through lanes from 6 to 4 on Bellevue Road, from 4 to 3 on Gardner Road (between Bellevue Road and Foothill Drive), and from 4 to 2 on Golf Road (north of Bellevue Road).

Policy M-1.3: Update the City's Standard Designs to incorporate the special cross-sections for collector roads within the BCP.

The BCP includes several special collector-street cross-sections that were designed to reconcile the competing functions of streets, and include: Lake Road (Figure 21 & Figure 22); Mandeville Lane (Figure 19); Hatch Road (Figure 17); and Paulson/Hillcrest Avenue (Figure 16.).

Policy M-1.4: In consideration of existing Rural Residential neighborhoods, the use of design features such as traffic calming and street off-set designs should be utilized to minimize traffic impacts.

Policy M-1.5: Work with Merced County to identify future right-of-way locations for plan area arterial and collector streets and intersections.

Collaboration between the City and County to define arterial street locations within the BCP should occur soon after its adoption to avoid development within these important community rights of way. The location of these roadways should be designed flexibly to avoid or minimize impacts to existing uses while (1) assuring adequate width will be provided in the long-term; and (2) minimizing impacts to natural resources such as topography, sensitive habitats and water features. Of particular note are the alignments of Bellevue Road, Gardner Road, Foothill Avenue, Hatch Road, and the intersections involving (a) Bellevue Road, Campus Parkway and Lake Road; and (b) Bellevue Road with Paulson/Hillcrest Avenues (extended).

Policy M-1.6: Develop Bellevue Road to enhance the value of adjacent properties in an urban setting, while secondarily also serving as a route for regional traffic as a link in the City's Loop Road System.

While Bellevue Road is a link in the regional loop road, and will accommodate regional traffic, it is foremost an urban arterial with important land uses that will face it. Bellevue Road is also a gateway to and from UC Merced.

Policy M-1.7: Explore the use of Traffic Circles and Roundabouts.

Fully examine the value of placing roundabouts along the BCP's various roadways, considering such factors as infrastructure and operating costs, and compatibility with transit services, and pedestrian and bicycle movements.

Policy M-1.8: Include side roads in the design of Bellevue Road.

Use of a side access road adjacent to Bellevue Road brings several benefits, including, allows buildings to face or address a street, creating a more visually pleasing setting and gateway environment, as compared to sound walls or loading docks; creates a space for other modes of mobility (transit, bike lanes, sidewalks) to access buildings; provides for on-street parking; could reduce the number of through travel lanes on adjacent arterial roadways; and maximizes access to uses without substantial slowing of through traffic on Bellevue Road. Additionally, side roads create a setting that provides more site design options for adjacent buildings, allows for very different land uses to locate on opposite sides of the road; and for building sites, overtime, to change. Note, when used in combination, the side roads and through travel lanes will total six lanes.

Policy M-1.9: Synchronize traffic signals along Bellevue Road.

Heavy traffic loads, including through traffic are anticipated on Bellevue Road. To facilitate good vehicular flow and to avoid congestion at intersections, the traffic signals along Bellevue Road should be synchronized.

Policy M-1.10: Seek to implement an interconnected street grid.

An interconnected street pattern is foundational to the achievement of many goals of the BCP, including: 1) development of a successful transit system; 2) enabling functional sites for transit priority projects; 3) increased travel by pedestrians and bicyclists; 4) formation of an innovation hub and associated population; and 5) attracting research and development offices. Figure 11 of the BCP, an important illustrative diagram, should be utilized in the design of future development projects.

Policy M-1.11: Where possible, allow and encourage parking structures especially within or near *Transit Priority Projects* and in the *Mixed-use Transit-Oriented Development* and *Research and Development Park* place types.

Goal Area M-2: Bikes, Pedestrians, and Public Transit

Policy M-2.1: Establish Mandeville Lane as the extension of the City's "M" Street Transit Corridor to UC Merced.

During the BCP planning process, there were extensive discussions about the placement of the transit corridor, either on Bellevue Road or Mandeville Lane. For many reasons described in the BCP, Mandeville Lane was selected as the appropriate roadway to develop the transit corridor. The Mandeville Lane Transit Corridor provides for multiple options to connect to or extend it as needed.

Policy M-2.2: Seek to develop an interconnected street grid on both sides of Mandeville Lane.

The interconnected roadway grid is an essential foundational component of the urban fabric to support a successful transit system. A street network with a clear block structure and relatively closely spaced cross streets, whether curved, straight or otherwise, and having slower traffic than roads built to accommodate through-traffic, enables high-levels of access to transit and nearby uses and neighborhoods.

Policy M-2.3: Update the City's Bicycle Transportation Plan by incorporating the bikeway facilities planned in the BCP.

Figure 25 depicts the bike lanes, paths, and sharrows planned in the BCP. Placing these in the City's official bike plan will maximize the community's awareness of how bikeways will connect with UC Merced and to County areas outside the City's Sphere of Influence.

Policy M-2.4: Identify a suitable location for a bicycle boulevard.

As the community plan develops and traffic patterns are formed, monitor circulation patterns and take steps to install a bicycle boulevard in the area bounded by Bellevue Road, Foothill Avenue, G Street and UC Merced.

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