

8 NON-MOTORIZED SERVICE RECOMMENDATIONS

INTRODUCTION

BCAG plays a key coordination role in the development of non-motorized transportation facilities and programs across the region. BCAG does this through technical assistance and incentivizing jurisdictions to adopt best practice policies, as well as to stress grant eligibility for proposed projects. This chapter provides recommendations on how BCAG can enhance its role in promoting active transportation opportunities throughout the county.

With implementation of the BCAG Transit & Non-Motorized Plan, it is estimated that BCAG can increase the bicycle and walking mode share from 6.9% to 10%, which would represent approximately 2,600 new bicycling or walking commuters and almost one million bicycling or walking commute trips per year (assuming that commuters bicycle or walk 75% of working days and that each day includes a home-to-work trip and a work-to-home trip).

Likewise, with implementation of the Transit & Non-Motorized Plan, BCAG aims for a 10 percent reduction in bicycle and pedestrian injuries and fatalities, equivalent to 19 fewer pedestrian injuries, 30 fewer cyclist injuries, and 3 fewer pedestrian or cyclist fatalities over a five-year period.

BICYCLE PARKING

With the exception of Chico, most jurisdictions in Butte County do not have a bicycle parking policy. The *2010 California Green Building Standards Code* (California Building Standards Commission, 2010) provides a best-practice bicycle parking policy. The mandatory provisions include the following language regarding bicycle parking requirements at non-residential buildings:

- **Short-Term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 100 feet of the visitors' entrance, readily visible to passers-by, for five percent of the visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.
- **Long-Term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:
 1. Covered, lockable enclosures with permanently anchored racks for bicycles;
 2. Lockable bicycle rooms with permanently anchored racks; and

3. Lockable, permanently anchored bicycle lockers.

BICYCLE ACCESS TO TRANSIT

B-Line provides bicycle storage on buses on a first-come, first-served basis. Bike racks are available on the front of all buses in B-Line's fleet and can accommodate up to three bicycles. The agency does not advertise a policy regarding the ability of passengers to carry bikes with them onto buses. Beyond accommodating bicycles on buses, several bicycle access-to-transit options may be pursued:

- **Bike share.** A transportation service offered where bikes are available at distinct station locations throughout a city to provide customers with the short term use of a bike, which can then be dropped off at any other station in the system. Bike share systems are intended to be used as a form of transportation, with a membership including free trips for the first 30-45 minutes, in order to promote high turnover of bicycles. Bike share can provide improved access to transit, addressing the first and final mile problem. Stations generally hold 5-20 bikes and are placed at key origins and destinations throughout a city or urbanized area.
- **Bicycle station.** These are generally large, indoor bicycle storage facilities that require annual or monthly memberships, but also often offer services such as bike repair, changing rooms and showers. A finite number of memberships are available. Case studies show that the implementation of showers, bike repair stations and educational material kiosks are effective at promoting increased biking. Cities generally have one bicycle station, which is usually located in the central business district or at a major transit center.
- **Bicycle lockers.** These are boxes or lockers where one bike is stored and is generally locked with a unique key or code. Bike lockers therefore prevent both theft and vandalism. Most bike lockers are rented out either annually or monthly. Thus, when that cyclist is not using the locker, it is left empty.
- **Pay-by-the-hour bicycle lockers.** These are similar to bike lockers described above except that fees for use are on a smaller time scale, either hourly or sometimes daily. Fees are generally small, but encourage a quicker turnover of bicycles, which allows for more cyclists to use the facility.
- **Covered/uncovered bicycle racks.** These are the traditional form of bicycle parking that is not secured beyond the use of personal locks. This type of parking is much more space efficient, but does not allow the level of security as the other forms of bicycle parking. This is an especially unappealing option for cyclists leaving their bikes for extended periods of time, which is likely the case at major transit hubs.

Recommendations

- Investigate the possibility of a bike station at the downtown Chico Transit Center.
- Investigate the potential for implementing a small bike share program in Chico. A station would be provided at the Chico Transit Center, Fir Street Park & Ride, and possibly other major origins and destinations throughout Chico. This would allow users to more easily access stations without worrying about securing their own personal bikes from the weather and theft.

- Provide pay-by-the-hour bicycle lockers at transit stations through the region—Chico Transit Center (2nd and Normal), Fir Street and State Route 32 Park and Ride, Paradise Transit Center (Almond Street and Birch Street), Oroville Transit Center (Oro Dam Boulevard and Highway 70), Gridley (SR 99 and Ford Avenue), and Biggs (6th and B Street).

WAYFINDING SIGNAGE

Presently, jurisdictions in Butte County do not have wayfinding signage policies for non-motorized modes. The following wayfinding policies are recommended for jurisdictions:

- Adopt a policy in the jurisdiction’s active transportation plan to establish wayfinding signage such as the one in the City of Oakland’s policy: “Route Signage: Develop an informative and visible signage system for the bikeway network, building on existing bikeway signage, that includes directional and distance information to major destinations.”
- Bikeway signage should follow Manual of Uniform Traffic Control Devices and California Highway Design Manual standards.
- Identify locations for signs at decision points for bikeways and walkways to major destinations. Place signs at decision points approximately 1/2 mile apart within cities; distance should be lengthened for intercity bikeways.
- Identify locations for signs for pedestrian wayfinding to major destinations within areas identified as most suitable for non-motorized modes. Pedestrian signage should guide travelers to nearby, major destinations and may also be educational.

HIGH-PRIORITY PROJECTS

High-Priority Pedestrian Areas and Transit Stops

To identify high-priority pedestrian areas, as shown in Figures 8-1 through 8-3, the regional suitability score (see Chapter 4) was analyzed by calculating the top five and ten percent of scores within each jurisdiction. To provide equity among the jurisdictions, the scores were analyzed separately so that priorities could be identified for each jurisdiction. The results classified the census block data into “high” and “very high” priority pedestrian areas. Using the classified census blocks as a guide, the high priority areas were further refined based on changes in the land use and the location of dense commercial and residential development, commercial corridors, and key origins or destinations. Particularly important land uses included large multi-family complexes, B-Line transit centers, large retail complexes, schools and hospitals. The refined priority areas were classified as high or very high priority based on the influence of the regional suitability score per jurisdiction.

The major influences to the high-priority pedestrian areas from the regional suitability score for all jurisdictions were the land use diversity and urban design (intersections per square mile) variables. Land use diversity and urban design contributed equally to all jurisdictions except for the Town of Paradise and the City of Biggs, where land use diversity contributed more significantly than urban design.

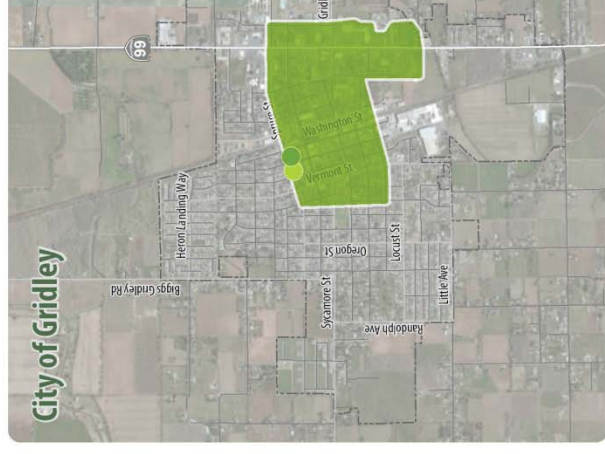
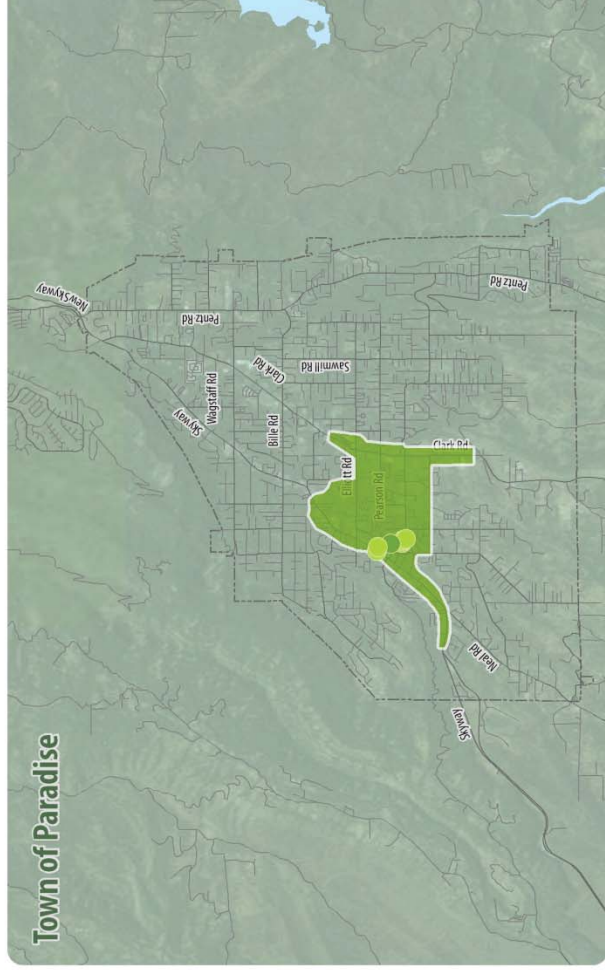
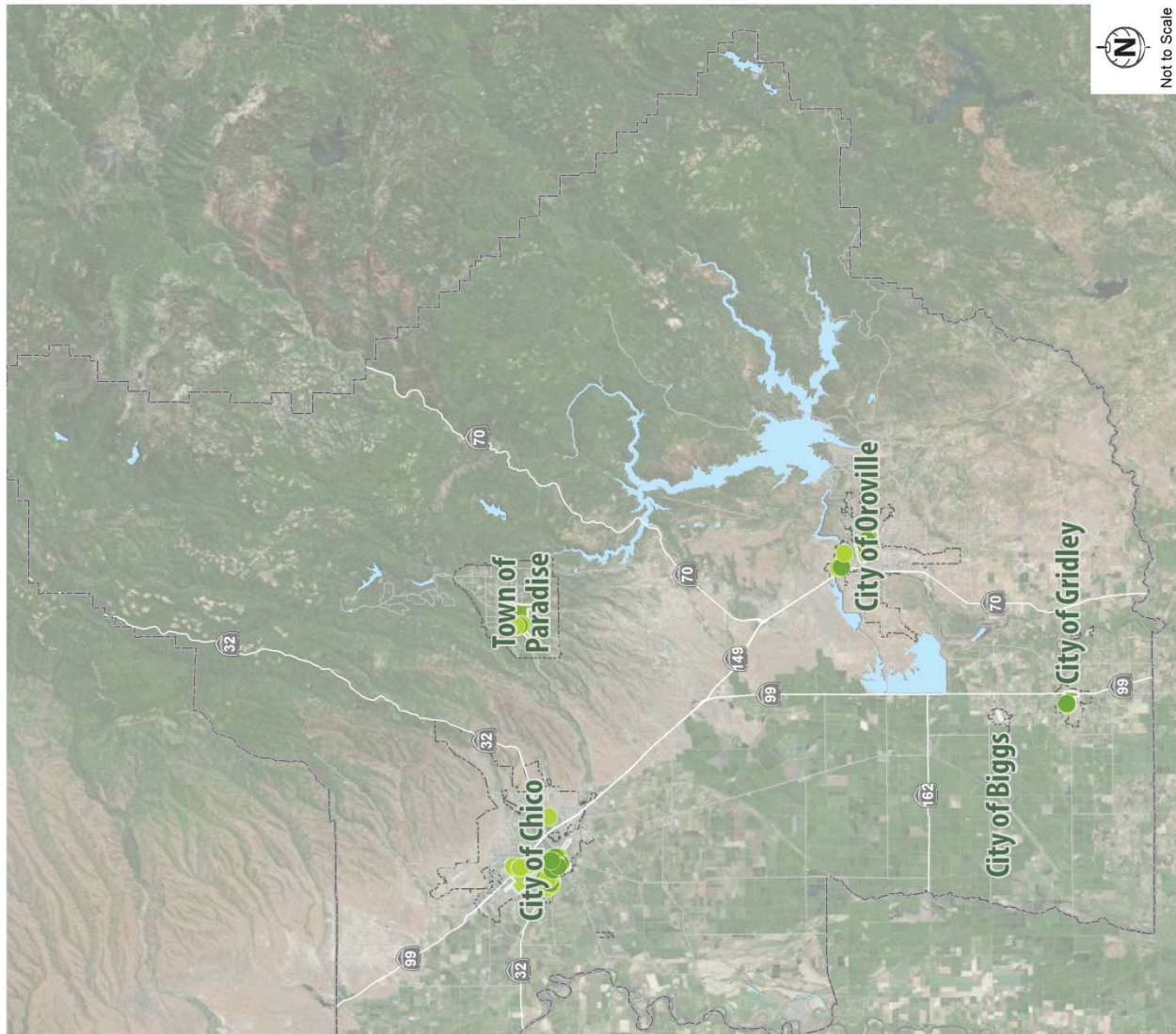
The high-priority transit stops are shown separately from the priority pedestrian areas. The regional transit access score (see Chapter 4) was also analyzed by calculating the top five and ten percent of scores within each jurisdiction. The priority transit stops demonstrate where investment in pedestrian infrastructure to and from the stops would be the most beneficial.

High-Priority Proposed Bikeway Projects

High-priority proposed bikeway projects, as shown in Figures 8-4 through 8-6, were identified by first using the priority pedestrian areas (based on the regional suitability score for walking and bicycling) to select all bikeway project segments that were contained inside or located within ½ mile of these areas. Priority bikeway segments were further refined to ensure that they created a connected and comprehensive bicycle network. High-priority facilities were further amended based on the surrounding land use. The logical termini of bikeways were identified by changes in land use and density, to serve a number of residents or provide access to a denser region of destinations. In many cases, only certain sections of proposed bikeway were designated as high priority, based on this land use criteria.

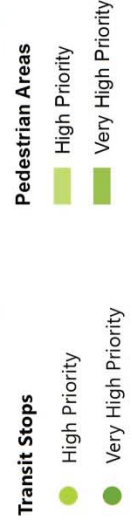
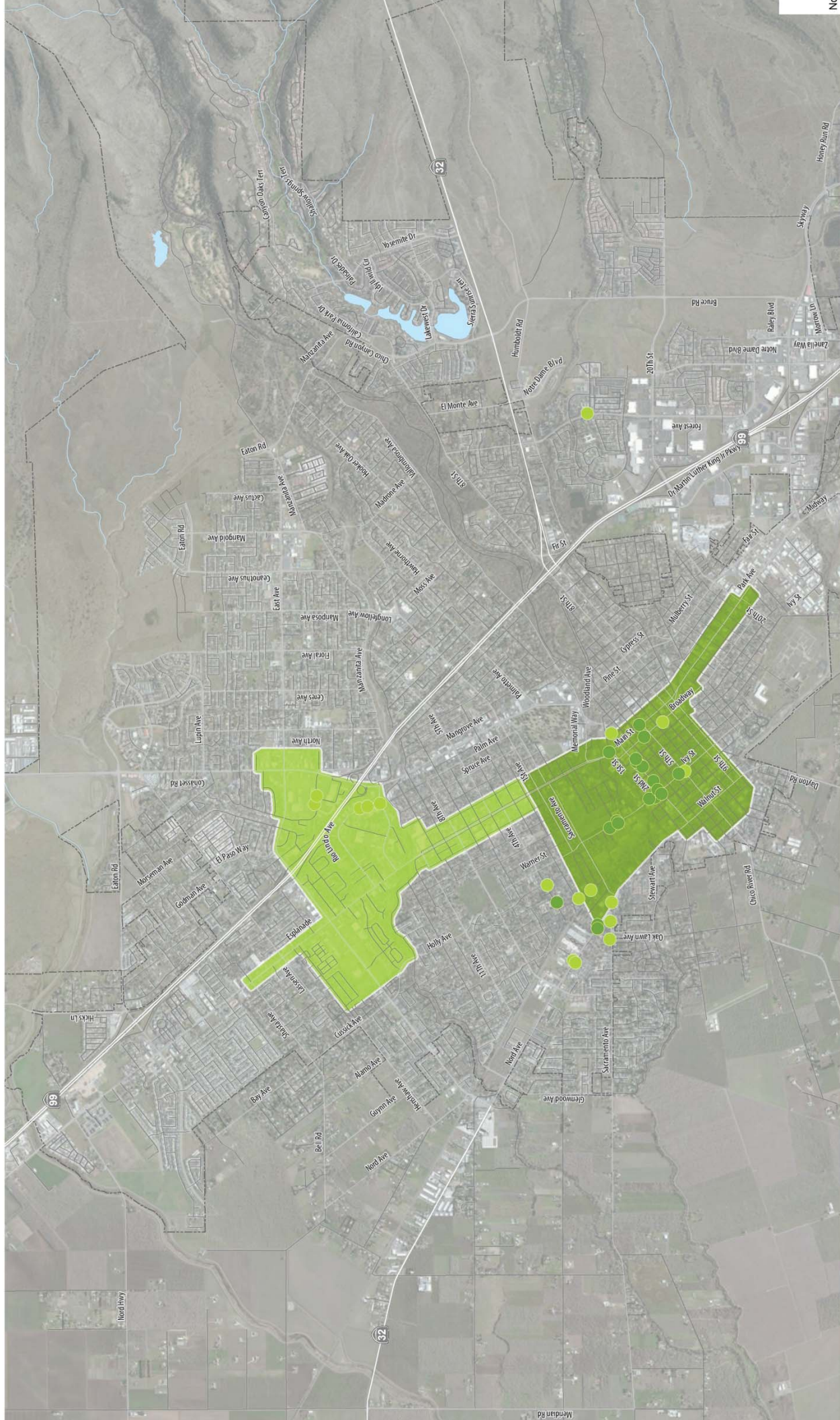
From these high-priority bikeway projects, transformative projects can be identified that will significantly improve conditions for bicyclists. These are projects that are already identified in existing plans, but would provide the greatest benefits from a regional mobility perspective:

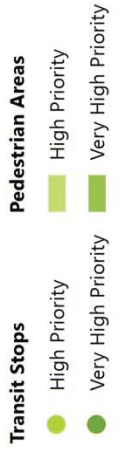
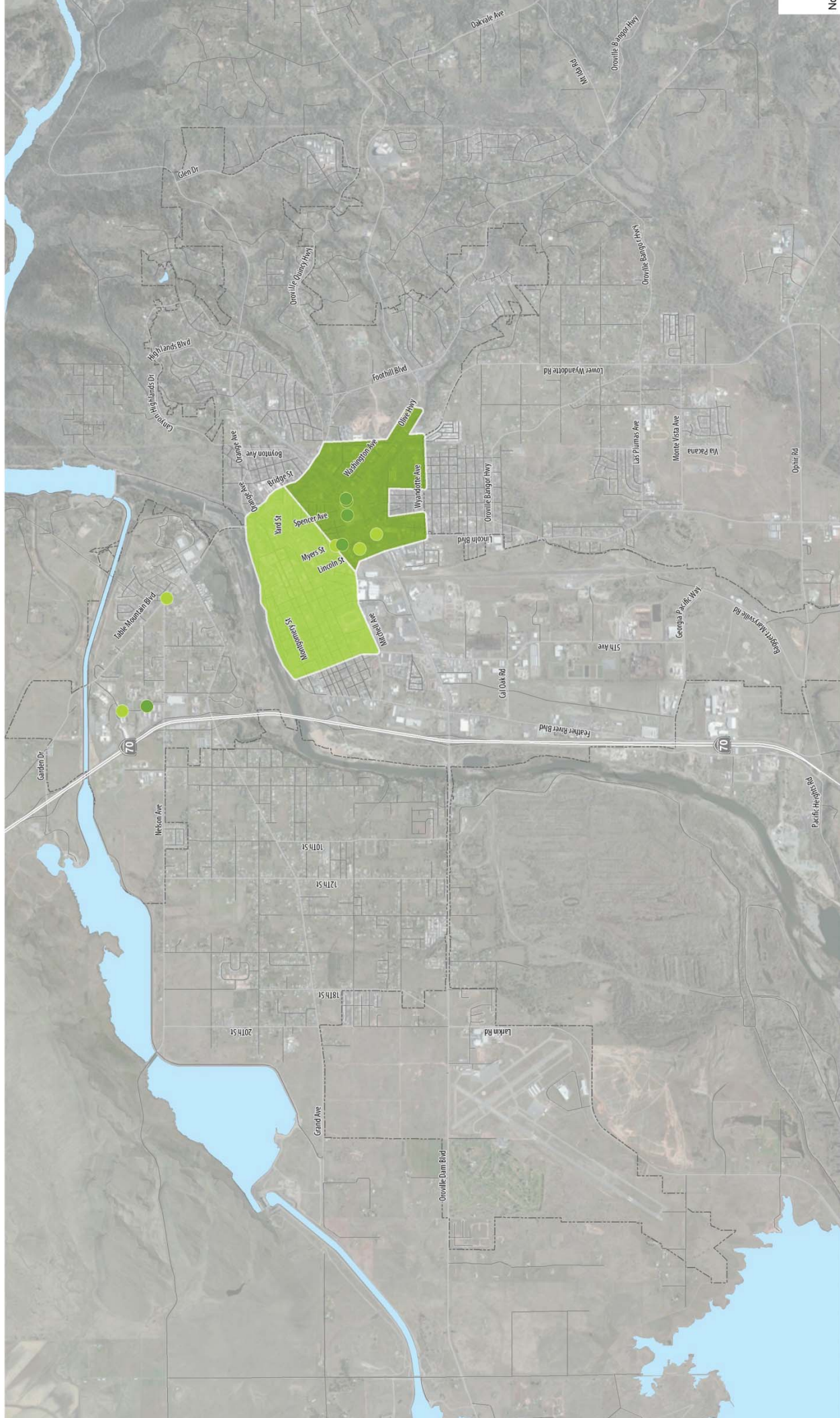
- Chico: Add a bike path along State Route 99 and bike lanes on Mangrove Avenue, Chico River Road, 5th Street, and Holly Avenue.
- Oroville: Add a bike path along the Feather River and the railroad tracks, and bike lanes on Oroville Dam Boulevard, Montgomery Street, Mitchell Avenue and Feather River Boulevard.
- Paradise: Extend the Skyway bike path to the city limits, extend the bike lane on Pearson Road, and add bike lanes to Bille Road, Sawmille Road and Wagstaff Road.
- Gridley: Add a bike path along the railroad tracks and bike lanes on Sycamore Street, State Route 99 and on either side of Sycamore Middle School.
- Biggs: Add a bike path along the railroad tracks and a bike lane on B Street.

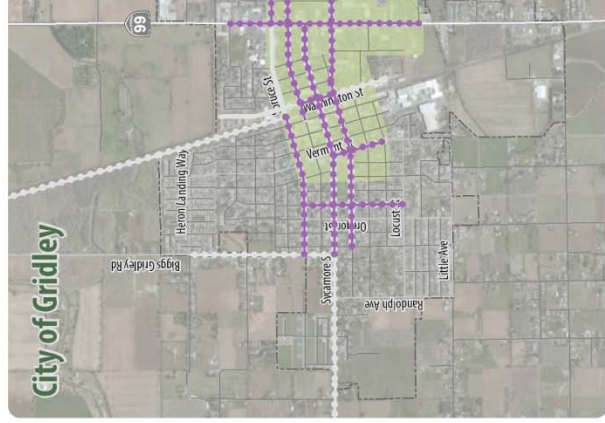
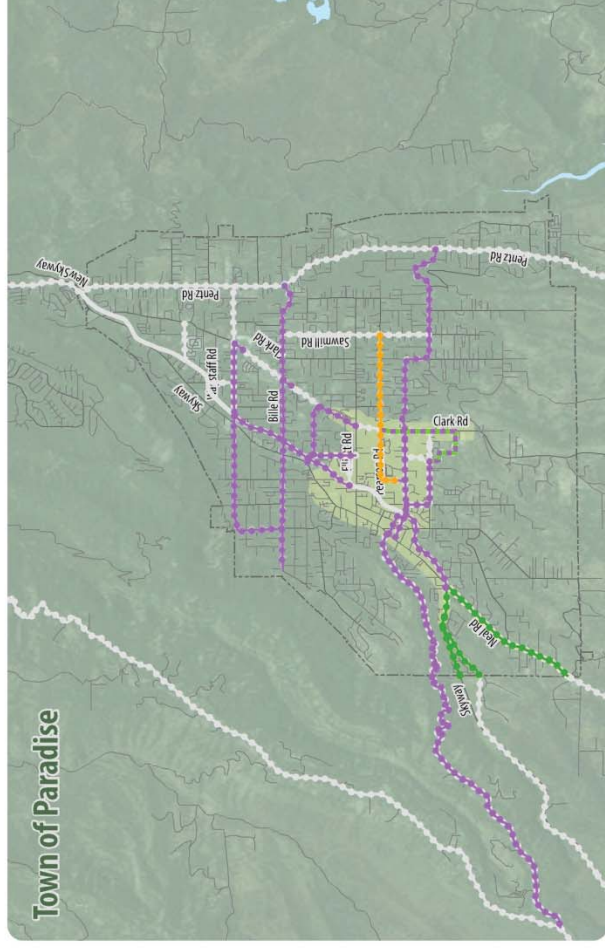
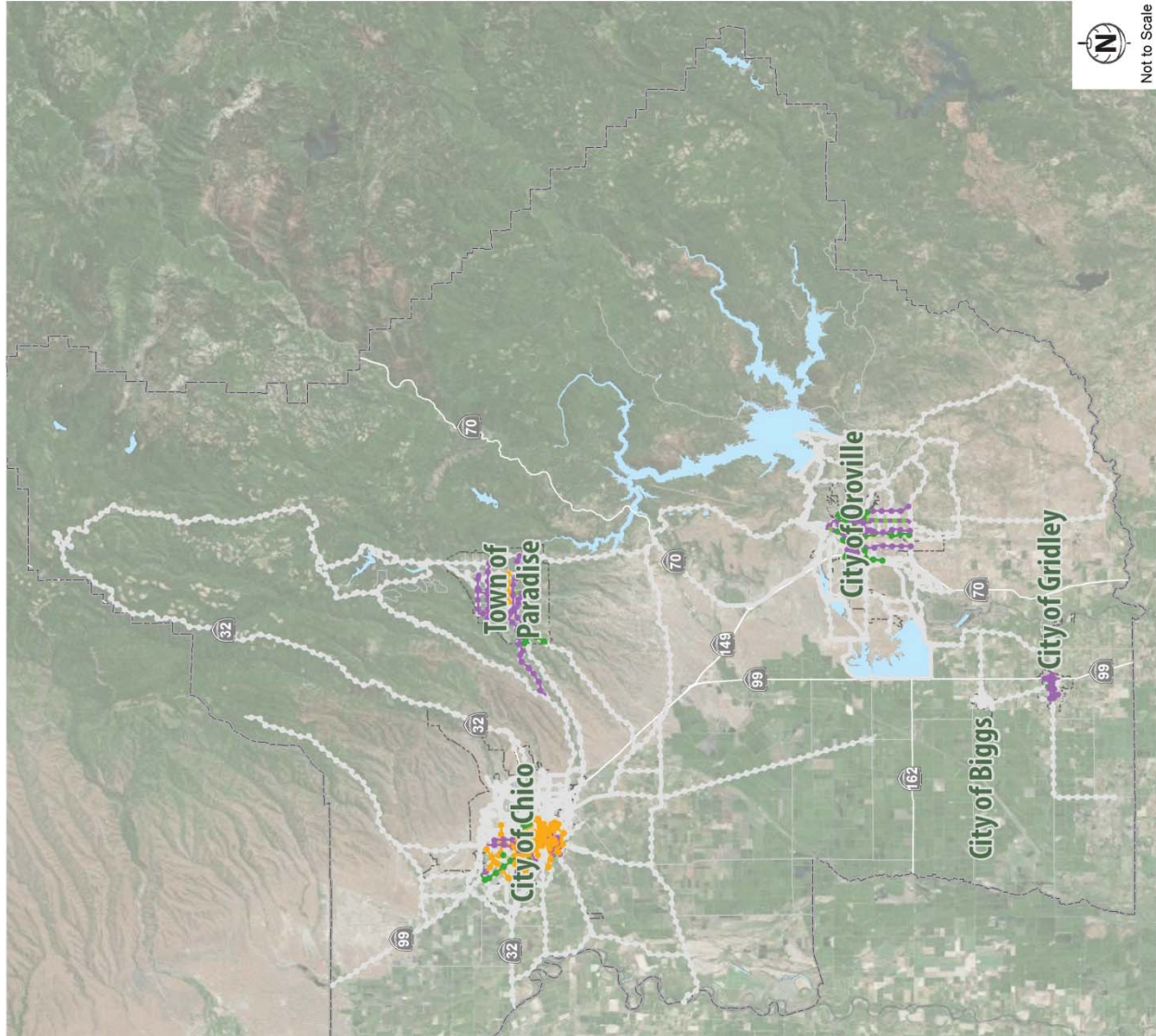


Transit Stops
 ● High Priority
 ● Very High Priority

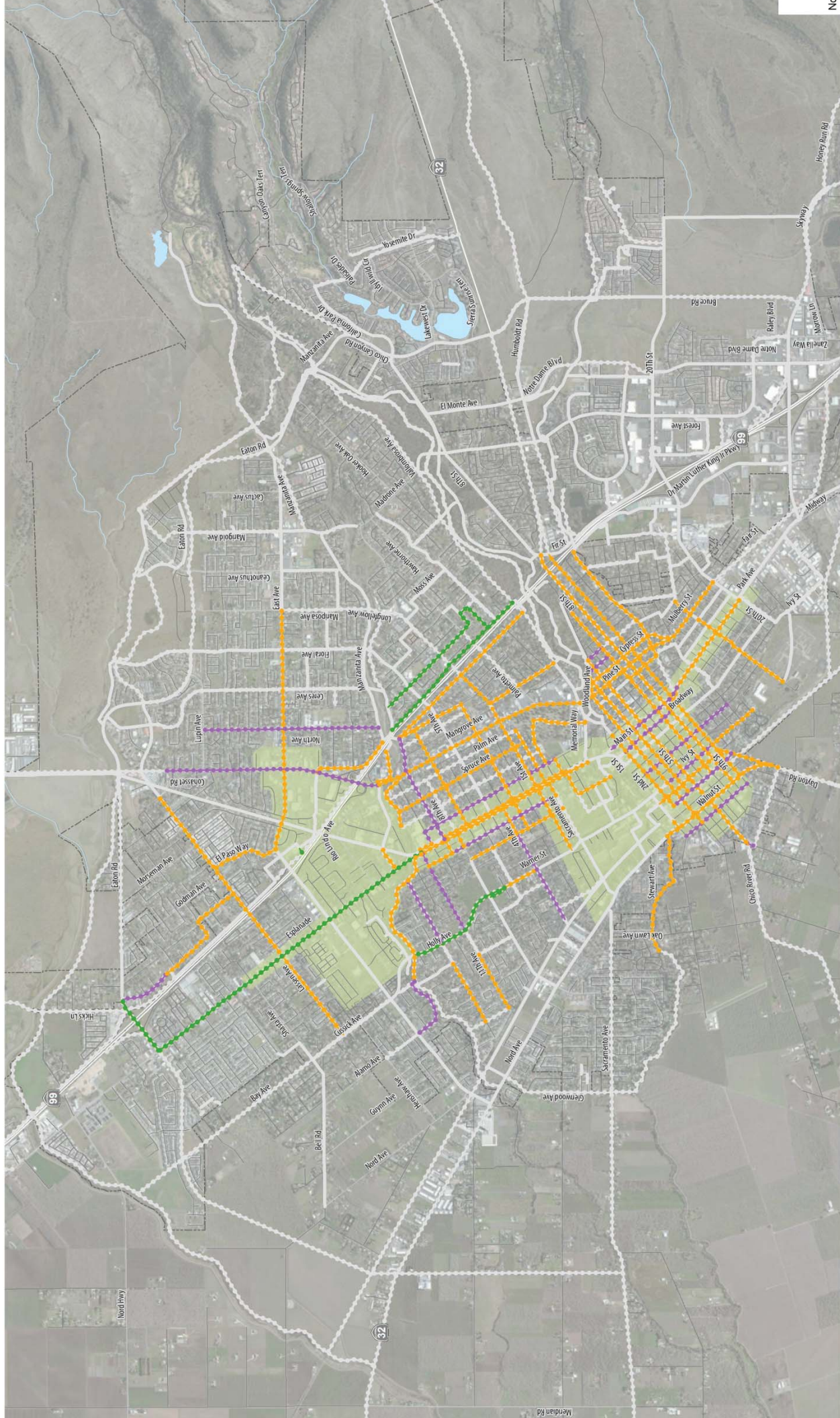
Pedestrian Areas
 High Priority
 Very High Priority





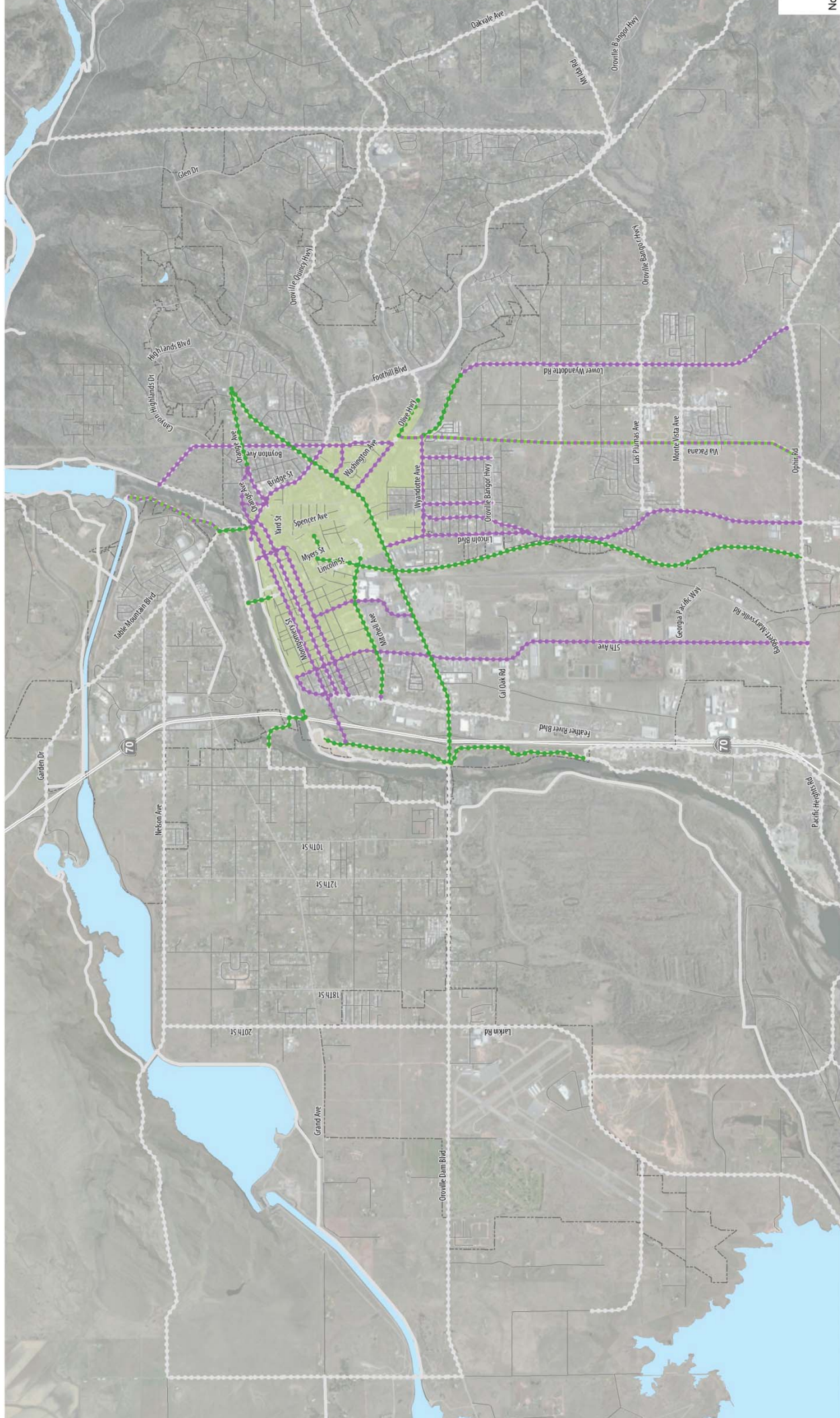


- Proposed Bikeways
- Existing Bikeways
- Priority Pedestrian Areas



- Priority Bikeway Projects**
- Class I Bike Path
 - Class II Bike Lane
 - Class III Bike Route

- Proposed Bikeways**
- - - Proposed Bikeways
 - Existing Bikeways
 - Priority Pedestrian Areas



Priority Bikeway Projects

- - - Class I Bike Path
- - - Class II Bike Lane
- - - Class I / II

Proposed Bikeways

- Proposed Bikeways
- Existing Bikeways
- Priority Pedestrian Areas

MAJOR BICYCLE & PEDESTRIAN PROJECTS

Improved Bicycle Facilities on Esplanade

Chico Airport Trail is a 3.25 mile trail that runs alongside the abandoned Sacramento Northern Railroad right of way from the Chico Municipal Airport at the northern end to the Esplanade/11th Avenue intersection at the southern end. This is a well-used trail that brings cyclists from the dense residential area north of East Avenue and east of State Route 99 to the south toward downtown. There is a frontage road on either side of Esplanade where the trail ends at the Esplanade/11th Avenue intersection. Many riders continue from the path onto the frontage road east of Esplanade, which becomes one way northbound after 9th Avenue. Therefore, wrong-way riding by southbound traveling cyclists along this frontage road occurs frequently.

To encourage southbound cyclists to cross Esplanade to the one-way southbound frontage road to the west, the City could investigate additional crossing enhancements at the Esplanade/11th Avenue intersection, where the bike path terminates. A two-stage turn queue, as described in the *NACTO Urban Bikeway Design Guide*, is a potential traffic control device that could facilitate safe bicycle crossings on the north side of the intersection and to the front of the vehicle queue at Rio Lindo Avenue with the use of a bike box. A bicycle signal head could direct the first crossing stage. Cyclists could then be able to get a head start in front of motorists for the second stage crossing, across 11th Avenue along the frontage road.

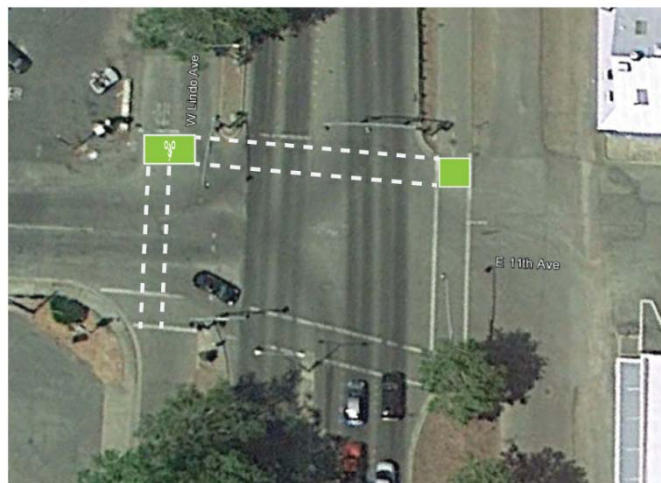
The city is currently recommending that the two frontage roads on either side of Esplanade serve as designated bike routes. By implementing sharrows, wayfinding and signage, this facility can provide a continuous, safe and accessible bicycle facility from the Chico Airport Trail into downtown Chico.

Other important considerations for making recommendations at this intersection include the signal timing along this corridor. Given that 11th

Avenue is a minor street, bicycle detection could be provided at the termination of the bike path to trigger the bicycle signal phase. This could increase bicycle compliance at the intersection and encourage cyclists to cross there, rather than ride the wrong way along the east frontage road or attempt to run the red light.

To ensure the success of a treatment along the frontage road corridors, it is important to consider the number and location of access points to address conflict points between turning vehicles and bicyclists. A closer examination of the curb-to-curb width, on-street parking and travel lane width will reveal which bike facilities are feasible along this corridor.

Lastly, both frontage roads serve as transit routes for the current B-Line Route 15N. Bicycle facility placement should consider bus stop locations as well as explore the feasibility of a left-side facility to mitigate bus-bike conflicts.



Before moving forward, these recommendations need to be considered by the City of Chico. After these suggestions are refined or supported by the City, BCAG can support the City in finding funding sources to implement this project, such as an Active Transportation Program grant or State Transportation Improvement Program (STIP) funding.

Safe Routes to Transit Plan

A Safe Routes to Transit Plan (SR2T) is a cost-effective way to increase B-Line ridership and address regional traffic relief by providing safe and accessible walking and bicycling routes to transit stops and stations throughout the region. This plan should be completed on a regional scale, covering the extent of Butte County, to capture the catchment area of the B-Line system. Recommendations for a SR2T plan include:

- Begin with the establishment of a community stakeholder group to provide insight during each stage of the process, represent the needs and interests of various local groups and ensure that recommendations are consistent with local goals and values.
- More narrowed study areas within Butte County should be defined based on a determined bicycle and walk catchment area from identified transit stops and stations.
- Extensive data collection of existing conditions within these study areas should include transit stops, stations and services, bicycle and pedestrian facilities (present and missing), bicycle and pedestrian collisions, field observations, vehicle counts, land use characteristics and population characteristics.
- Based on an existing conditions analysis, national best practices should be applied to make project recommendations that increase the safety and accessibility of biking and walking to transit. Recommendations should be made for each of the study areas identified earlier in the process.
- The project recommendations previously identified should be prioritized based on a number of criteria determined with the assistance of the community stakeholder team. These may include: gap closures, safety improvements, access to or from key origins and destinations, and end-of -trip facilities.
- To bring projects to implementation stage, coordination between BCAG, the local jurisdiction, B-Line transit and other agencies (including Caltrans) is required. Once the project is ready for implementation, funding can be acquired through a number of federal or state programs.

Sidewalks and Crossings near B-Line Stops

The area around B-Line stops and stations should have a connected network of bicycle and pedestrian facilities. If there is a large arterial adjacent to a stop or station, enhanced crossing facilities for both bicyclists and pedestrians should be implemented to ensure that users of all ages and abilities feel comfortable crossing the arterial. Large arterials near transit facilities should also have wide or buffered sidewalks, multi-use paths or comfortable on-street bicycle facilities on them. Within a ½-mile buffer from each transit facility, the sidewalk network should be comprehensive and connected, with marked crossings at appropriate locations. Bicycle facilities, which will vary depending on the speed and level of traffic of a road, should be provided within a one-mile buffer of all transit facilities. Specific recommendations include:

- Chico Transit Center (2nd Street and Normal Avenue)

- An additional east-west bike facility on 2nd Street or 3rd Street would supplement the existing north-south facilities.
- Given the large amount of pedestrian traffic coming from CSU Chico, enhanced crossings along 2nd Street would improve access to the Chico Transit Center.
- Oroville Transit Center (Spencer Avenue) – Oro Dam Boulevard is a large arterial adjacent to the transit station. Enhanced crossings should be investigated for Oro Dam Boulevard as well as other surrounding roadways such as Washington Avenue, Myers Street, and Mitchell Avenue.
- Paradise Transit Center (Birch Street and Almond Street)
 - Sidewalk gaps should be completed in the ½-mile buffer surrounding the Transit Center, including along the east side of Almond Street, Black Olive Drive, Birch Street and Foster Road.
 - Crossings should be enhanced with appropriate traffic control devices.
- Biggs Transit Center (B Street and 6th Street) – Gaps in the sidewalk network should be completed.
- Fir Avenue Park and Ride (Fir Avenue and State Route 32)
 - This Park and Ride is located between the eastbound and westbound travel lanes of State Route 32, which has high traffic volumes and speeds. Therefore enhanced crossing facilities are necessary for pedestrians to access to the Park & Ride.
 - A separated multi-use path should be considered along the north side of State Route 32, where there may be sufficient right of way.

Fir Street and Highway 32 Park & Ride Access

Complementing the relocated and expanded Park & Ride facility at Fir Street and State Route 32 as described in Chapter 7, a pedestrian and bicycle facility is recommended on the north side of SR 32 between the Chico Park & Ride and Bruce Road to provide a connection to the transit facility from the residential area to the east. The type of facility recommended will depend on the right-of-way available behind the apartment complexes west of Forest Avenue. The City is currently proposing a designated bike route on SR 32 from Bruce Avenue going west into downtown. However, a separated facility would serve as a more appropriate connection for bicycles and pedestrians, given the traffic volumes and speeds on SR 32.

Regional Bikeways

Regional bikeways play an important role in facilitating non-motorized inter-city travel. Presently, there are no regional bikeways linking jurisdictions within Butte County, however, several have been proposed and are also discussed in Chapter 4 (see page 4-5 under Unincorporated Butte County). The regional bikeways of greatest importance include the Chico-Paradise bike path, Biggs-Gridley bike path, Oroville-Biggs bike lanes, Oroville-Paradise bike lanes and bike route, and Oroville-Chico bike lanes. With the exception of the Biggs-Gridley bike path, these proposed bikeways would likely be used for recreation due to the long distances between jurisdictions.

Figure 8-7 Proposed Regional Bikeways

Bikeway Name	Description
Chico-Paradise bike path	Skyway, Honey Run Road to Paradise Town limits
Biggs-Gridley bike path	Along SPRR tracks from Gridley City limits (Orange Ave.) to Biggs City limits (8th Street)
Oroville-Paradise bike lanes	Class II bike lanes on Cherokee Road from Oroville City Limits to SR 70; Class II bike lanes on SR 70 from Cherokee Road to Pentz Road; Class II bike lanes and Class III bike route on Pentz Road from SR 70 to Paradise Town limits
Oroville-Biggs bike lanes	Class II bike lanes on Biggs East from Biggs City limit to Larkin Road and Larkin Road from Biggs East to Oroville City limits

CONCLUSION

Much of the foundation for non-motorized mode planning has already been established by jurisdictions through past bicycle plans. Through coordination by BCAG and movement toward compliance with the Active Transportation Program by jurisdictions, significant progress will be made towards enhancing opportunities for non-motorized modes.

Implementation of the recommendations will require investment in several new capital projects.