Methods of Increasing Walking and Bicycling

This chapter includes infrastructure, programmatic, and policy methods to support and encourage the goal of increasing walking and bicycling in the City of Chico and describes the approach toward implementing these methods.

Infrastructure Improvements are physical changes to the City's bicycle and pedestrian network, including construction of on- and off-street facilities like bicycle lanes, sidewalks, multi-use paths, trails, and crossing improvements, as well as studies for locations where further analysis or community outreach is necessary to determine the most appropriate improvement type for the location.

Policy Updates include changes to the municipal code, operating procedures, and other policies that will support development and maintenance of a more accessible and comfortable bicycle and pedestrian network in Chico.

Programmatic Strategies include recommended education, encouragement, engagement, equity, and evaluation programs to be pursued by the City and partner organizations to support a culture of bicycling and walking.

Infrastructure Improvements

Infrastructure improvements are physical changes to the roadway network which facilitate a connected, comfortable, and safe bicycle and pedestrian network.

Infrastructure improvement types for bicycling and walking facilities are described separately in the following sections, except for Class I Multi-Use Paths and Class I Multi-Use Path crossings. These facilities are included in both network categories because these facilities benefit bicyclists and pedestrians equally.

Crossing improvements are categorized by bicycle-specific approach/crossing improvements, pedestrian-specific crossing improvements, other crossing improvements, and Class I Multi-Use Path crossings, including at-grade and grade-separated Class I Multi-Use Path crossings. Some crossing improvements address both bicycle and pedestrian needs and are included in both sets of network options while others address only one mode of transportation and are only included in the proposed network type that benefits from the crossing improvement.

Bikeway Project Options

Bicycle facilities include on- and off-street bicycle lanes and bikeways, as well as crossing improvements.

Bikeway recommendations, when combined with existing local and regional bicycle facilities, are intended to create a well-connected and low-stress network for people riding bicycles. As future development and additional site and engineering assessments occur, some options may be added, changed, or removed in order to maximize the low-stress connectivity of the bicycle network. For example, if further assessment determines that a specific bikeway type is not feasible at one location it may be

shifted to a nearby location, or if an assessment determines that a Class IV is not feasible, a Buffered Class II might serve as a context-appropriate substitution. Ultimately, bikeway projects are intended to maximize the vision and goals set forth in the Introduction and the Goals, Objectives, and Strategies chapter.

Bikeway projects are categorized based on the four classifications recognized by Caltrans, along with several sub-classifications, described in detail in the Existing Conditions chapter. These include:

Class I Multi-Use Paths: Dedicated paths for walking and bicycling completely separate from the roadway.

Class II Bicycle Lanes: Striped lanes for bicyclists

- **Class II Bicycle Lanes with Green-Colored Pavement**: Striped lanes for bicyclists that include green-colored pavement, either as a corridor treatment along the length of a bike lane or in conflict areas
- **Class II Buffered Bicycle Lanes**: Bicycle lanes that includes a striped "buffer" area either between the bicycle lane and travel lane or between the bicycle lane and parked cars

Class III Bicycle Routes: Signed routes for bicyclists on low-speed, low-volume streets where lanes are shared with motorists

- **Class III Bicycle Boulevards**: Bicycle routes that are further enhanced with traffic calming features or other treatments to prioritize bicyclist comfort

Class IV Separated Bikeways: On-street bicycle facilities with a physical barrier between the bicycle space and motor vehicle lanes, including bollards, curbs, or parking.

In addition to on- and off-street bicycle facilities, bikeway networks can include the following bicycle crossing improvement types:

At-Grade Class I Bikeway Crossings: An intersection between a Class I Bikeway and roadway where bicyclists and motorists share the road.

Grade-Separated Class I Bikeway Crossings: An intersection between a Class I Bikeway and roadway or railroad where bicyclists are physically separated from other modes via an overcrossing or undercrossing structure.

Bicycle-Specific Approach/Crossing Improvements at intersections, including:

- **Conflict Markings**: Dashed bicycle facility markings where turning motorists cross the bike lane, typically located near intersections and on-ramps
- **Bike Boxes**: Designated area for bicyclists to wait in front of stopped motor vehicles during a red signal phase
- **Bike Ramps**: A ramp that facilitates the transition between the roadway and an off-street bicycle facility
- **Bicycle Signals/Leading Bicycle Interval**: Signal heads that provide a designated period for bicycles to enter the intersection ahead of motor vehicles

Intersection Approach Improvements: Dedicated bicycle facilities that extend through the intersection completely, located where existing facilities currently stop short of the intersection

- **Bicycle Loop and Video Detection**: Actuated signal at a bicycle crossing that detects the presence of a bicyclist

Pedestrian Network Project Options

Pedestrian network improvement options available to the City include Class I Multi-Use Paths, also discussed in the previous section, along with sidewalks and spot improvements such as crossings and curb ramps. Pedestrian improvements are intended to make walking trips safer, more comfortable, more convenient, and enjoyable for users of all ages and abilities.

SIDEWALKS AND PATHS

Sidewalks and paths are a vital element to a safe, comfortable, and connected pedestrian network. These facilities provide comfortable walking space separate from the roadway and are a fundamental element of Americans with Disabilities Act (ADA) compliance.

There are many streets in Chico with sidewalk or pedestrian paths, but the network is incomplete in some areas.

While not every street without existing sidewalk necessarily needs sidewalk added, the goal is to provide a comprehensive network of pedestrian facilities by providing a balanced menu of sidewalk and muti-use path that align with identified community concerns and neighborhood context.

CROSSING IMPROVEMENTS

Many crossing improvements benefit trail users and bicyclists in addition to pedestrians. Because many crossing improvements benefit multiple networks, they are described in greater detail in the following Crossing Improvements section.

At-Grade Class I Bikeway Crossings: An intersection between a Class I Bikeway and roadway where bicyclists and motorists share the road.

Grade-Separated Class I Bikeway Crossings: An intersection between a Class I Bikeway and roadway where bicyclists are physically separated from motorists via an overcrossing or undercrossing structure.

Crosswalks: Legal crosswalks exist at all intersections; however, crosswalk markings increase driver awareness of the crossing and visibility of people that may be crossing the street. Marked crosswalks should be as wide as or wider than the walkway it connects to so that

groups of people can pass comfortably. Crosswalk markings include:

- **Standard or Transverse Markings**: Two parallel lines that mark the edges of the crosswalk
- **Ladder Crosswalk**: Bold white bars that run perpendicular to the pedestrian path of travel
- **Advance Stop Bar or Yield Markings**: A bold white bar or triangular "shark's teeth" markings located six to eight feet in advance of a crosswalk at a controlled intersection (stop bar) or uncontrolled crossing (yield markings) to reinforce yielding to pedestrians; stop bars and yield markings are placed perpendicular to the travel lane and not necessarily parallel to the crosswalk or the adjacent street

Pedestrian waiting to cross at a high visibility crosswalk

Rectangular Rapid Flashing Beacon (RRFB): User-actuated flashing lights that supplement pedestrian crosswalk signs at unsignalized intersections and midblock crosswalks, where traffic volumes do not warrant a signal or stop. Flashing beacons can be actuated by a push-button or through passive detection. Many assemblies are relatively inexpensive, operating as stand-alone units that run on solar power rather than requiring costly wiring work.

Signalized Midblock Crossing: A signalized midblock crossing stops road traffic as needed to allow for non-motorized crossings of major streets at midblock locations where a beacon is determined to be insufficient. A traffic signal at the crossing location rests on green. When activated by a pedestrian, the signal changes to yellow and then red, and the pedestrian is shown a Walk signal.

Example of a unsignalized midblock crossing

Americans with Disabilities Act (ADA) Compliant Curb Ramp: Curb ramps must be provided at street crossings that involve a change in grade to ensure crosswalks are accessible to people using wheelchairs, people with wheeled devices, and people with low or no vision. ADA Complaint Curb Ramps are also recommended at regular and convenient locations along trails for wheelchair and wheeled device access.

Curb Extensions: Curb extensions extend the sidewalk or curb line into the parking lane on a street, reducing the street width at crossings. Curb extensions reduce crossing times and distances, which reduces potential conflicts between people in the crosswalk and motorists.

Example of a curb extension created with paint

Leading Pedestrian Interval: Signalized intersections with a walk phase that precedes the green phase for motorists by a few seconds to allow pedestrians to get a head start across the street. This improves visibility, bringing

pedestrians forward in the field of view of motorists.

Policy Updates

Vision Zero

One option that the city could consider as part of this ATP is the adoption of a Vision Zero policy. Vision Zero is a traffic safety philosophy that reframes the idea that crashes are inevitable "accidents," aiming instead to view serious injuries and fatalities as unacceptable and preventable.

Strategies to improve safety and comfort for bicyclists and pedestrians include:

- **Street Design** that recognizes safety as more important than speed.
- **Prioritize Bicyclists and Pedestrians at Crossings** by providing leading pedestrian intervals at appropriate signalized intersections, as well as bike boxes and conflict zone markings at intersections and approaches.
- **Champion Multimodal Options** that provide people with diverse choices for walking and bicycling, so they are more likely to travel without cars. Offer robust bicycle and pedestrian facilities as well as consideration of technologies such as electric bicycles (e-bikes) and bicycle parking with ample room and configuration for larger bicycles such as cargo bikes.
- **Continue to Monitor Collision Data** to uncover emerging trends and locations as driver habits, bicyclist and pedestrian behavior, and community layout change over time.

Pet Waste Stations

Residents and visitors alike are attracted to the extensive trail network in Chico. To maintain the beauty and safety of the trail system, the City has the option of managing pet waste through the adequate placement and management of pet waste stations, and through encouraging courteous community behavior for pet owners to pick up after their pets. Pet waste stations could be placed at convenient intervals and emptied regularly. Maintenance of pet waste stations could be integrated into existing park maintenance practices.

Vegetation Maintenance

Overgrown or unsightly vegetation can present challenges to motorists, bicyclists, and pedestrians. Vegetation should be maintained so that sightlines are clear and passage through trails, bikeways, and the pedestrian network remains unhindered. Careful consideration should be given to the placement and height of plantings located near crosswalks and trail entrances so that views of approaching pedestrians are unobstructed, particularly for motorists.

Repeal Bicycle License and Registration Requirement Ordinances

Bicycle license and registration requirements have historically been underutilized for their original purpose of tracking and returning lost or stolen bicycles, while instead used as

opportunities for harassment of bicyclists. With the passage of the "OmniBike Bill," AB 1909, California now prohibits jurisdictions from requiring any bicycle operated within its jurisdiction to be licensed. Repealing the City's bicycle license and registration ordinances (10.40.010 – 10.40.080), and recommending bicyclists instead register with a national online database, like www.bikeindex.org, will reduce the amount of City resources needed for such a program, remove an opportunity for bicyclist harassment, unburden bicyclists from unnecessary hurdles in bicycle usage, and improve outcomes for recovery of stolen bicycles.

Bicycle Fleets for Government

This ATP recommends the City lead by example and empower its staff to utilize active transportation for short-distance work travel by considering procuring and providing a fleet of bicycles for City employee use in conducting official business when possible, as well as personal errands during breaks, as bicycles are available. Additional trips by bicycle may reduce fuel costs and greenhouse gas emissions, promote healthy lifestyle choices, and encourage City employees to get outside and experience firsthand the City's active transportation network – the good, the bad, and the ugly – for themselves.

Lower Speed Limit in School Zones

AB 321 took effect in 2008, allowing local government to lower the speed limit at certain schools to 15 mph and extend the school zone to 1,000 ft each way from the school property. To qualify, a school must be located in a residential district on a two-lane road with an existing speed limit of 30 mph or less. For such schools, the City may, by resolution, establish the 15-mph speed limit in the area up to 500 ft from the school when children are present and erect the appropriate signs. In the extended school zone, up to 1,000 ft away, the speed limit would be 25 mph.

Lowering traffic speeds near neighborhood schools will enable more children to walk or bike to school safely. Small increases in impact speed have a significant effect on crash severity. Risk of severe injury to vulnerable road users increased from 10 percent at an impact speed of 16 mph to 90 percent at 46 mph. Similarly, risk of death to vulnerable road users increased from 10 percent at an impact speed of 23 mph to 90 percent at 58 mph.[11] Decreasing traffic speeds around schools to appropriate neighborhood speeds will prioritize safety and create an environment that supports active transportation near schools.

School zone – 15 mph speed limit

Bicycle Parking

Creating a well-connected bicycle network includes careful consideration of not just the roadway network, but also how bicyclists navigate the end-point – parking. Parking options should be adequate in quantity, quality,

[11] https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/

and placement for bicyclists. Key considerations are described below.

UNCOUPLE BICYCLE PARKING REQUIREMENTS FROM VEHICLE PARKING

The City's existing bicycle parking space requirements, as part of the City's Parking and Loading Standards, found in Table 5-4 of Section 19.70.040, states the number of required bicycle parking spaces as a proportion of the number of required vehicle parking spaces. As the City shifts more trips from motor vehicle to other modes, it is expected that the need for motor vehicle parking would decrease, while the need for bicycle parking would increase. Rather than assigning bicycle parking requirements as a proportion of vehicle parking, bicycle parking requirements should be based on expected need and use. For example, the City of Sacramento's bicycle parking code (17.608.030) establishes parking space minimums based on land use and location within four types of parking districts (Central Business and Arts and Entertainment, Urban, Traditional, and Suburban).

IDENTIFY QUANTITIES AND LOCATIONS FOR BOTH LONG AND SHORT-TERM PARKING

Bike parking on a commercial street

People have different bicycle parking needs depending on their destination and length of their stay. An employee arriving at work for an eight-hour shift needs secure parking and is less concerned with convenience than a customer arriving at the same business. The City should survey and map existing short and long-term bicycle parking, and ensure that key destinations like libraries, civic buildings, stores, and restaurants are served by adequate bicycle parking.

Chico Velo Bike Valet sign

EXPAND PARKING AT EVENTS SUCH AS FESTIVALS AND FARMERS MARKETS

This Plan recommends the City assess the need for bicycle parking at large events and consider providing additional support for or requiring secure, attended bicycle parking if large crowds are expected. Currently Chico Velo provides bicycle valet service for bicyclists at several local events including Farmers Markets, concerts, and other community events. Updating City policy to further expand secure, attended bicycle parking at small and large events could encourage additional mode shift to bicycles for special events.

The Bicycle Parking Guidelines Handbook, developed by the Association of Pedestrian and Bicycle Professionals, may be a useful resource as bicycle parking in Chico is reimagined. As the City considers other changes to bicycle parking requirements addressed in this section, it should

also consider adopting the APBP Bicycle Parking Guidelines outlined in the Handbook.[12]

Programmatic Strategies

This section describes a menu of recommended options for bicycle and pedestrian related programs for the City of Chico. As funding or partnership opportunities become available, programs could be selected from this menu for implementation.

Recommended programs are organized in three E's:

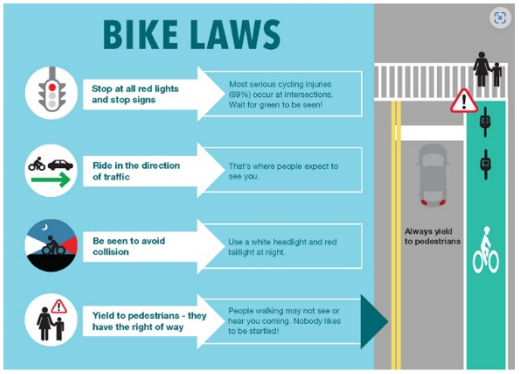
- **Education** programs are designed to improve safety and awareness. They can include programs that teach students how to safely cross the street or teach drivers where to anticipate bicyclists and pedestrians and how to share the road safely.
- **Encouragement** programs provide incentives and support to help people leave their car at home and try walking or bicycling instead.
- **Evaluation** programs measure success at meeting the goals and milestones of this ATP and identify adjustments that may be necessary.

There are two additional E's commonly included in discussions of active transportation: **Engineering** and **Equity**. Engineering is reflected by the infrastructure improvement types discussed in this chapter. Equity is a lens through which implementation of all projects and programs should be viewed, emphasizing investment in communities that are most dependent on active transportation and ensuring disadvantaged communities are not disproportionately burdened by impacts.

Programs recommended on the following pages should include outreach and materials in both English and other languages identified by Title IV Limited English Proficiency analysis as needed to serve the diverse Chico community. Given limited staff time and resources available, programs should be implemented or continued as funding and resources allow. Partnering with local organizations and other agencies is a key strategy to sustainable program activities.

Education

"STREETSMARTS" CAMPAIGN



Example bicycle safety campaign graphic from the New York Department of Transportation

A Streetsmarts campaign uses print and digital media, radio, and television to educate the community about safe driving, bicycling, and walking behavior. A Streetsmarts campaign could be used to target behaviors that are particularly prevalent in Chico. Through the outreach process of this ATP, the community identified some behaviors that create challenges for bicyclists and pedestrians walking and biking in Chico. An educational campaign could address:

- How to properly position trash cans so they don't obstruct bicycle facilities
- How to park so that bicycle facilities are left unobstructed, and how to obey "No Stopping" and "No Parking" signs
- How to stop at a Pedestrian Hybrid Beacons and Rapid Rectangular Flashing Beacons
- Bicycling with traffic

12 https://www.apbp.org/Publications

- Educational needs of youth bicyclists and pedestrians

Future Streetsmarts campaigns could also be used to educate Chico residents about new active transportation facilities as this Plan is implemented.

BICYCLE SAFETY EDUCATION FOR ADULTS

In the past, Chico Velo has offered periodic Bike Safety Skills Classes and has partnered with schools, businesses, and other organizations to prepare training programs. These courses are typically based on a curriculum from the League of American Bicyclists that focuses on how bicyclists should behave so they are safer, more predictable, and can be confident bicycling on streets, both with and without dedicated bicycle facilities.

This Plan recommends continuing these classes, which the City can support with advertising and by providing meeting space or other in-kind support.

BICYCLE REPAIR PROGRAM

A bicycle repair program could be hosted by the City, a community organization, bicycle shop, or a collaboration of multiple partners. The program could offer courses on bicycle repair and proper bicycle maintenance. The program could also gather community input on key locations where fix-it stations would be well-positioned in the City. Although a similar program does not currently exist, Chico Velo or the Chico State Bell Memorial Union Adventure Outings Program's Bike Cart might serve as a collaborator or resource for additional information. Additional examples include the Sacramento Bicycle Kitchen, which provides community bicycle repair space and is staffed by volunteer bicycle mechanics to assist with do-it-yourself repairs.

Bicycle repair program

Encouragement

HIRE A BICYCLE AND PEDESTRIAN COORDINATOR

This Plan recommends dedicating a City staff position or hiring a staff person to focus on bicycle and pedestrian projects and program coordination on a full-time basis. This position would assist planning, public works, and transportation projects in accounting for bicyclists and pedestrians. The position would also be leveraged to prepare grant applications to fund projects and programs and support coordination with the public and neighboring jurisdictions.

To support this role, the City may also consider utilizing a system to count and monitor bicycling trips taken in the City. The State of California Active Transportation Resource Center (ATRC) offers an automated counter equipment loan program and services like StreetLight Data and Remix use anonymized mobile phone data to provide information on walking and bicycling.

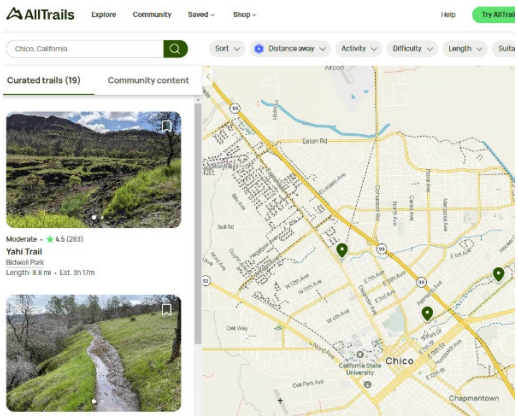
If funding is not available to create a new position, the City may consider an interim measure, including adding this as a program element of an existing position, hiring as a part time position, or dedicating lower-cost internship resources to work on bicycle and pedestrian projects until a full-time position can be funded. Some organizations and foundations will fund staff member salaries, fellowships, or contractor salaries for a set period of time. The City may consider applying for grants from one or more of these foundations.

SOCIAL WALKS/RIDES

Supporting social walks and bicycle rides in Chico can provide many benefits to the community. People who are uncomfortable walking or bicycling alone, or who are unfamiliar with the best routes to use, will benefit from having a group to show them the way. Rides can also be used as informal educational opportunities to remind participants about safe walking or bicycling behavior and sharing the road.

MOBILE-FRIENDLY BIKEWAY MAP

Currently, the map of City bikeways is made available to the public as a PDF on the City website and is outdated. An up-to-date, mobile-friendly Bikeway Map could provide a current and comprehensive wayfinding resource for people walking and bicycling in Chico. The Map could be hosted on the City website. The City could also consider providing a link on its website to an open source bikeway and trail application such as AllTrails. AllTrails is a free, mobile trail map application that provides real-time wayfinding by using the GPS in a user's mobile phone. Some Chico bikeways and trails are already mapped in the AllTrails database, but the full trail network could be added to the application through a formal partnership with AllTrails or by adding individual trails through a free user account.



AllTrails Chico map

WALKING & BICYCLING AMBASSADORS

The Guadalupe River Park Conservancy in San José, California operates a volunteer trail ambassador program, where volunteers wear green vests to identify themselves and spend at least 45 minutes each week bicycling or walking on the trail. In addition to reporting maintenance needs, ambassadors carry small kits with supplies for basic first aid, bicycle repairs, graffiti removal, or other tasks based on their interest and preference.

Guadalupe River Park Conservancy trail ambassador

An ambassador program in Chico could recruit volunteers to act as eyes on key trails or bikeways – like Bikeway 99 or those in Bidwell Park – report maintenance needs, share educational materials and maps, and provide a friendly presence on the trail and bikeway network. Staffing needs for this program could be limited to coordinating occasional volunteer training sessions. Trusted volunteers may be enlisted to help with program coordination, and grant funds could be pursued to offer a stipend to ambassadors or coordinators.

This Plan recommends Chico consider a pilot ambassador program in partnership with Chico Velo and/or other community based or neighborhood organizations.

BIKE RACK PROGRAM

City of Sacramento "branded" bicycle racks

Bicycle rack programs coordinate and streamline bicycle rack installation. The program could be managed by a staff member who would work with staff and business owners to install bicycle racks and bicycle corrals citywide. This also ensures bicycle racks are properly installed to avoid blocking sidewalks and are located to make them convenient and accessible for bicyclists.

The City could also further develop customized bicycle racks. These racks can help support the Chico "brand," highlighting the identity of Chico as a bicycle-friendly community and can double as art features.

Los Angeles Department of Transportation "branded" bicycle rack

Where appropriate, this program could also coordinate with local businesses to provide bicycle lockers or other secure parking for employees and long-term visitors. Secure long-term parking is a key component of the bicycle network to encourage employees to bicycle instead of driving and help reduce bicycle theft.

BICYCLE FRIENDLY BUSINESS PROGRAM

Bicycle Friendly Business programs recognize businesses that make it easy and convenient for both employees and customers to arrive by bicycle. This requires different strategies to accommodate the different needs of customers and employees. To accommodate customers, providing bicycle parking and supporting City bicycle infrastructure projects can make it more comfortable and easier to travel by bicycle. Some businesses also choose to offer discounts or incentives to people who arrive by bicycle.

For employees, offering secure long-term parking for bicycles is key. This could include a secure, gated bicycle parking area, indoor bicycle parking room, or access to bicycle lockers. If space is not available for dedicated secure bicycle parking, business owners and landlords can consider allowing employees and tenants to bring bicycles inside and store them in their workspace or another dedicated location. Providing changing areas, showers, or lockers to store belongings can also make it easier for employees to bicycle to work.

By recognizing businesses who support bicycling, Chico can support the local economy while fostering partnerships with the Chamber of Commerce and business owners to build community support for bicycling projects and programs. One way to highlight Bicycle Friendly Businesses could be to locate their names on future print and digital maps of Chico bikeways and trails. To note, the League of American Bicyclists does have a Bicycle Friendly Business program, while some communities have chosen to develop their own programs.

Evaluation

ANNUAL REPORT CARD

An annual report card would assess the City's progress toward the goals and milestones outlined in this ATP, implementation of the recommended projects and programs, and desired increases in active transportation. Annual report cards can also incorporate a review of effectiveness to evaluate costs and benefits of various efforts and adjust investments to maximize results.

This Plan includes an option for the City to work with the Climate Action Commission and/or the CATTAC to develop an Annual Report Card that tracks progress toward implementing this ATP and incorporates annual collision data, program participation data, and other relevant metrics to highlight successes and challenges of improving bicycling and walking each year. Specific performance measures identified by the City and the community should be included in this report card on an annual basis to track key metrics over time and better understand successes and challenge areas.

The Annual Report Card could be included as part of periodic/annual reports on the General Plan to the City Council.

ANNUAL RIDE-ALONG

An Annual Ride-Along could include City staff, Climate Action Commission members, CATTAC members, and other community stakeholders.

The purpose of the Ride-Along would be to identify new opportunities or challenges that may arise in the future as new development and this Plan are implemented. The Ride-Along would also provide on-the-ground insight into the needs of people who bicycle in Chico. Findings from the Annual Ride-Along could be included in the Annual Report Card.