

City of Arcata

Pedestrian & Bicycle Master Plan

2010



**Adopted by the
Arcata City Council
April 7, 2010**



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Pedestrian & Bicycle Master Plan
2010

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1. INTRODUCTION

Plan Vision & Purpose

Walking and bicycling are basic and vital transportation modes. When facilities are safe and accessible, these modes are more inclusive, serving a wider diversity of the community, and a larger portion of the population. Walking and bicycling modes extend the range and usefulness of public transit, help reduce motor vehicle trips, promote physical activity, promote environmental health, and promote cultural, social, and civic engagement.



VISION

The vision for the *Pedestrian & Bicycle Master Plan* arises foremost from the *Arcata General Plan: 2020*, which expresses this vision for the community's transportation landscape:

Community Vision

We move forward.

In Arcata, public and private transportation come in a variety of forms, and we seek out and use the least polluting, most efficient methods. People come first; bicycles, cars, trucks and transit vehicles share the road with us. Bikeways and pedestrian paths connect all parts of the City.

Arcata General Plan: 2020

Moving towards the vision, the Transportation Element begins with an objective to:

Create and maintain a balanced transportation system with choice of bus transit, bicycle, and pedestrian as well as private automobile modes. Reduce the percentage of trips that are made by automobile and provide the opportunity and facilities to divert trips from automobiles to other modes (General Plan Policy T-1).

When Arcata began preparing the *Pedestrian & Bicycle Master Plan* in 2003, the public and community leaders asked for a bold vision for the city that would dramatically alter conditions for those who choose to walk or bicycle. Today, at the first five-year update, Arcata reconfirms its commitment to the bold vision, stressing its desire

to make a highly walkable and bikable city, and underscoring the need to plan for and adapt to the impacts of climate change, including sea level rise, when planning our travel and transportation resources.

Becoming A Pedestrian- & Bicycle-Friendly Community

Arcata's 5-year plan will continue working towards creating a friendly place for pedestrians and bicyclists to live, work, play and visit.

Arcatans envision a city with continuous and connected walkways and bikeways that access key destinations. The connectivity will attract avid and casual recreational walkers and bicyclists as well as pedestrian/bicycle commuters who go to work or the bus stop; students on their way to school via bike, skateboard or foot; residents out for an evening stroll, pushing a stroller, walking a dog or running an errand. Friends will bicycle to birding locations or community events; joggers will run in the parks or on the trails.

With the *Pedestrian & Bicycle Master Plan*, Arcata takes measurable steps toward the goal of improving every citizen's quality of life, and creating a more sustainable environment where everyone in the community can enjoy the benefits of reducing traffic congestion, consuming less energy and land resources, and having less vehicle emissions and noise pollution.

PURPOSE OF THE MASTER PLAN

The *Pedestrian & Bicycle Master Plan* is a tool for helping the City achieve its vision of making Arcata a place where walking and bicycling are the preferred modes of travel, where half the trips within the city are by walking or bicycling. The Master Plan's role is to evaluate existing conditions and needs of pedestrians and bicyclists in Arcata, and then identify a citywide system of improvements and coherent implementation strategies for improving walking and bicycling facilities. The Master Plan must fulfill the following needs:

- Set funding priorities for bicycle and pedestrian improvements.
- Act as a resource and coordinating document.

Setting Priorities

To be most effective, plans identify priorities to provide a strategic framework for achieving the plan's goals and policies. Priorities help determine how to best to allocate limited funding. The *Pedestrian & Bicycle Master Plan* establishes priorities for pedestrian and bicycle projects to guide the City when it considers how to allocate funding and other resources.

The Master Plan sets project priorities and makes the City eligible for certain funding sources, such as California's Safe Routes to School (SR2S) program and the Bicycle Transportation Account (BTA). The SR2S program funds construction, education, and enforcement projects that will enhance safety for pedestrians and bicyclist, primarily targeting students in grades K-12 who walk and bike to school. The BTA program, which Caltrans administers, provides funds for projects that improve the safety and mobility of bicycle commuters. The Master

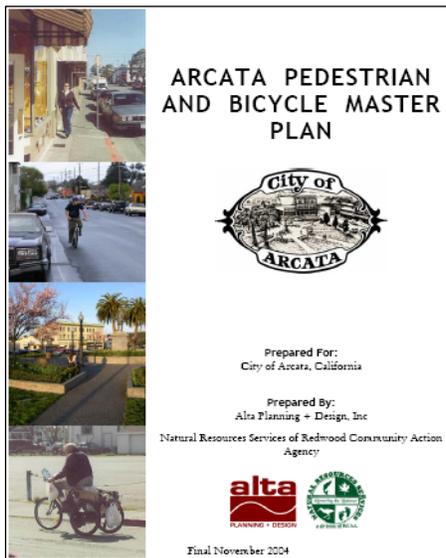
Plan meets the BTA’s funding eligibility requirements. The table below lists the requirements and where they are met in this Master Plan.

Table 1.1 Bicycle Transportation Account (BTA) Eligibility Requirements

Required in Bicycle Plan: (per California Streets and Highways Code, Section 891.2)	Included, starts on page
a. Number of existing and future bicycle commuters	3-5
b. Existing and proposed land use and settlement patterns	3-1
c. Existing and proposed bikeways	5-35 (Figs 5A-5E)
d. Existing and proposed bicycle parking facilities	5-10, 5-19
e. Existing and proposed connections to other transportation modes	5-9
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Updating the Master Plan

This *Arcata Pedestrian & Bicycle Master Plan 2009/10* is the five-year update to the Plan (of the same name) that the City adopted in January 2005. Being self-reflective, one of the Plan’s own objectives is to “Update the Plan every five years to reflect new policies and/or requirements for bicycle and pedestrian funding.”



The Plan that was adopted in 2004/05.

Public Outreach & Community Input

This update of the *Arcata Pedestrian & Bicycle Master Plan* was created through the efforts of the City of Arcata, the Arcata Transportation Safety Committee (TSC), and citizens and other organizations interested in improving the bicycling and pedestrian environment in Arcata.

The Transportation Safety Committee hosted three special meetings to share information with and get input from the community. In addition, the update was an agenda item for the TSC's regular monthly meetings from August 2009 through January 2010.

Through the update's public review process the City's other Committees also had opportunities to help develop the Master Plan update. The Transportation Safety Committee held meetings from July 2009 to January 2010 to review and receive public input on the draft update. Other City committees that reviewed the draft update at their public meetings were the Energy Committee, and Wetlands & Creeks Committee. All three committees recommended the Draft Master Plan Update for City Council review and adoption.



The City also received constructive feedback and innovative ideas from the community. The City heard from people who live, work, drive, walk, and bicycle in Arcata (including the seven volunteer members of the TSC), as well as from staff from pertinent agencies. Some of the public who gave ideas for new projects and safety improvements included members of the Humboldt Bay Bicycle Commuters Association, Green Wheels, HSU Green Wheels, and Humboldt Partnership for Active Living, although they solely participated as citizens, not organization representatives. Residents participated to voice what they agreed with and what they opposed in the draft. Public participation affected changes to the draft, including adding new proposed priority projects and deleting proposed connectivity concepts.

Major Recommendations of This Plan

The Master Plan recommends projects and programs that, if implemented over the 15-year planning horizon (2005 to 2020), will make Arcata a model community for bicycling and walking in the United States. The Master Plan recommends improvements citywide to create a pedestrian and bicycle system that will dramatically increase the number of people walking or bicycling for utilitarian trips.

The Master Plan recommends projects in three main chapters:

- **Pedestrian Facilities Chapter** — Proposed pedestrian projects plus design considerations.
- **Bicycle Facilities Chapter** — Proposed bikeway facilities including on-street bikeways, shared use trails, and bicycle support facilities (parking, air stations).
- **Programs Chapter** — Proposed educational, training, and safety programs centered around bicycling and walking; programs to promote and celebrate fun bicycling and walking; and programs to facilitate multi-modal planning.

Additionally, the **Implementation Chapter** describes how the City will generally proceed to implement a project once the *Arcata Pedestrian and Bicycle Master Plan* is adopted. This plan

describes priority projects but project details are not yet known. The projects and programs set forth in this Master Plan indicate the types of activities contemplated by the City for the next five-year period; determining design details is a subsequent implementation step.

The Implementation Chapter estimates costs and identifies potential funding resources for implementing the Master Plan's priority projects and programs. The chapter outlines a strategy for obtaining grants and competing for other funding sources. The chapter also identifies potential partners and collaborators for implementing the *Pedestrian & Bicycle Master Plan*.

Appendix A provides a "**Design Guidebook**" for specific bicycle and pedestrian facilities. Both the Pedestrian Facilities Chapter and the Bicycle Facilities Chapter also include some design standards and guidelines for the proposed improvements.

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2. PLAN GOAL & SUPPORTING POLICIES

This chapter affirms the Master Plan’s goal and objectives. It also identifies the current policies supporting the City’s aim of increasing walking and bicycling trips in order to enhance the community’s economic vitality, environmental and physical health, social vibrancy, and overall quality of life.

GOAL & OBJECTIVES

To serve as the foundation for improving the safety and attractiveness of walking and bicycling in Arcata, the *Pedestrian & Bicycle Master Plan* establishes one primary goal.

PLAN GOAL:

Work towards achieving 50% of all trips that begin and end in Arcata being made by non-motorized modes by year 2020.

An estimated 20% of trips in Arcata are done on foot or bike (Census 2000). Although this percentage is high, residents and the City feel that Arcata is capable of raising these trips to 50%.

◇ *Goals* are broad statements of purpose.

◇ *Objectives* define how the City shall achieve its goal, and outline quantifiable measures with which to assess if the City is moving toward its goal.

◇ *Actions* bridge general policy objectives and actual implementation guidelines.

Objective A: Implement the pedestrian and bicycle master plan.

Actions:

1. Allocate funds for coordinating pedestrian and bicycle projects to help implement this plan.
2. Update the Master Plan every five years to reflect new policies and/or requirements for pedestrian and bicycle funding.
3. Coordinate with the Humboldt State University campus master planning process.
4. Maximize coordination between municipalities, schools, and community organizations to review and comment on pedestrian and bicycle issues of mutual concern.

Objective B: Complete a network of bikeways that are feasible, fundable, and that serve bicyclists' needs, especially for travel to employment centers, schools, commercial districts, transit stops, and institutions.

Actions:

1. Coordinate and offer assistance to local agencies, Humboldt State University, and developers in Arcata to ensure that appropriate bicycle connections are planned, constructed, and maintained.
2. Seek funding for bikeway projects through regional, state, and federal funding programs; encourage multi-jurisdictional funding applications.
3. Implement high priority projects.
4. Develop a methodology for determining where to locate bicycle lanes and routes, with installation based, in part, on motorized traffic volumes.
5. Develop and implement a bikeway signing system that serves bicyclists.
6. Provide bicycle access to recreational areas.
7. Identify and mitigate travel impediments and obstacles on designated bicycling routes, especially along prime school routes and in commercial areas.

Objective C: Complete a network of walkways that serves pedestrian needs, especially for short trips to employment centers, schools, commercial districts, transit stops, and institutions.

Actions:

1. It shall be city policy to require sidewalks on both sides of roadways where possible and in accordance with the municipal code.
2. Identify and complete pedestrian connectivity to make direct routes for walking.
3. Identify and mitigate travel impediments and obstacles on designated walking routes, especially along prime school routes and in commercial areas.
4. Implement programs to improve access for elderly people and those with disabilities.
5. Install and upgrade pedestrian facilities as part of all new roadway improvements.
6. Require new development projects to provide pedestrian facilities that connect to nearby transit facilities.
7. Work with transit authorities to ensure that pedestrian concerns are addressed regarding access to and design of transit stops.
8. Provide opportunities for walking for health and recreational purposes.

Objective D: Maintain and improve the quality, operation, and integrity of bikeway and walkway network facilities.

Actions:

1. Undertake routine maintenance of walkway and bikeway network facilities, such as sweeping bicycle lanes and repairing sidewalks, as funding and priorities allow.
2. Ensure that repair and construction of transportation facilities minimize disruption to the walking and bicycling environment to the extent practical.
3. Regularly monitor bicycle- and pedestrian-related collision rates, and seek a significant reduction on a per capita basis over the next 20 years.
4. Regularly monitor the rate at which bicyclists and/or pedestrians comply with applicable laws. Work to increase compliance through increased education efforts and police enforcement.
5. Promote and maintain a program for sidewalk repairs, rehabilitation, and infill, which includes removing stationary obstacles that are within the pedestrian throughway. Assist citizens with annual contracting services, at their expense, for sidewalk improvements (repair, replace, infill) on or adjacent to their property.
6. Provide clean and safe restrooms and encourage development of shower facilities that serve walking and bicycling commuters and visitors.

Objective E: Provide short- and long-term bicycle parking in employment and commercial areas, in multifamily housing, at schools and colleges, and at transit facilities. (Outside bicycle racks are considered short-term bicycle parking; long-term bicycle parking includes covered parking, bike lockers, bike rooms, and other enclosed or indoor bicycle parking facilities.)

Actions:

1. Require the installation of bike racks, sheltered bike parking, and bike lockers at these locations.
2. Work with Humboldt State University and area elementary, middle, and high schools to promote bicycle commuting and to assist in purchasing and siting long- and short-term bicycle parking.
3. Consider adopting zoning requirement for lockers and showers to be added to new buildings.
4. Require secure bicycle parking at major events to help ease traffic and parking. Bicycle parking may include valet parking, racks furnished by the event sponsor, and/or racks furnished by the City.
5. Assist transit providers in providing and promoting secure bicycle racks and lockers in the transit system to encourage bicycle use.

OBJECTIVE F: Increase the number of bi-modal bicycle-transit and skateboard-transit trips.

Actions:

1. Encourage regional transit agencies to provide bike racks on buses.

2. Encourage all transit agencies to monitor and report on usage of racks and the number of riders with bicycles who they must turn away.
3. Educate bicyclists and skateboarders on what transit options exist and how to use them.

OBJECTIVE G: Provide bicycle connections outside of the city limits, linking to important destinations like Eureka and McKinleyville.

Actions:

1. Work and coordinate with neighboring City and County agencies to provide integrated bikeways.
2. Integrate with trails outside of the city limits, for example: Arcata–Eureka and Arcata–McKinleyville 101 Corridor, State Route 255, Hammond Trail, Annie & Mary Rail-Trail, and Pacific Coast Bike Route.

Objective H: Develop and implement education and encouragement plans aimed at both youth and adult bicyclists, pedestrians, and motorists, as well as city staff and business owners. Include programs to increase public awareness of the benefits of bicycling and walking and of available resources and facilities.

Actions:

1. Develop education, encouragement and safety programs for adult and youth bicyclists and pedestrians, including education and safety messages targeted to motorists. Develop education and safety programs to teach bicyclists, pedestrians, and motorists the meaning of bike signs and the proper use of bicycle facilities.
2. Educate about pedestrian- and bicycle-related laws; support the Arcata Police Department enforcing and measuring compliance.
3. Market the health and environmental benefits of walking and bicycling.
4. Expand and promote activities that encourage non-motorized travel.
5. Market Arcata as a pedestrian- and bicycle-friendly city.

Previous Pedestrian and Bicycle Planning

The precursor to today's Master Plan dates back at least to the 1973 *Arcata Pedestrian and Bicycle Planning Program and Public Transit Study*. From that study the City prepared separate pedestrian and bike plans. The *Arcata Pedestrian Plan*, adopted in 1976, recommended measures to enhance the pedestrian-friendly downtown, such as upgrading lighting and the streetscape.

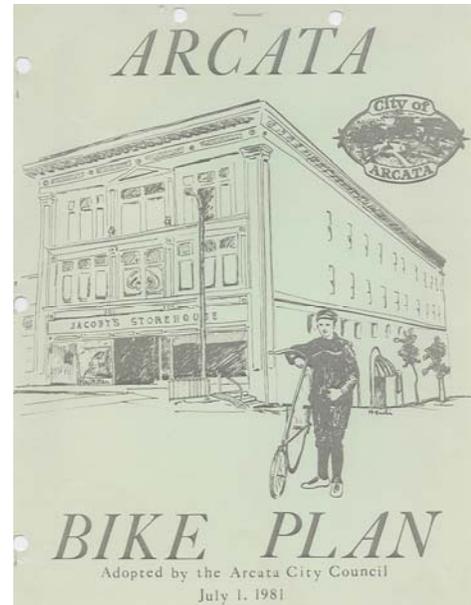
In 1981, the City adopted the *Arcata Bike Plan*. It recommended bicycle parking, bicycle signage, and shoulders for riding bicycles along Spear Avenue, Janes Road, Bayside Road, and Giuntoli Lane.

In June 1998, the City Council appointed an ad-hoc, volunteer, citizen group to advise them in matters relating to traffic problems in central Arcata. The group was called the Central Arcata Traffic Task Force (CATTF). Their charge was to look for measures to balance efficient traffic flow with neighborhood livability; their study area was defined as: bounded by Alliance Road to the west, US 101 to the east, 11th Street to the south, and the Sunset neighborhood to the north.

In March of 1999, the CATTF presented the *Central Arcata Traffic Task Force Report to Arcata City Council* (1999). Their areas of concern principally related to: the Sunset Neighborhood area; G, H and 11th Street area; K and Alliance Street corridor; 12th through 15th Street neighborhood; and the Arcata High School area. The CATTF recommended measures to reduce speeding and congestion in these areas, and identified capital expenditure for construction.

The City has carried out several of the report's recommendations, including the 25 mph speed limit, one-way couplets (Eastern and Western loop), student drop-off/pick-up zones, all-way stops, neckdown areas, and other traffic calming (speed humps on Sunset). (See Appendix C for CATTF Report excerpts.)

With this foundation of previous planning work, in 2004 the City returned to a joint planning document, preparing the *Arcata Pedestrian & Bicycle Master Plan*. This 2009/10 Master Plan revises the initial 2004 plan. Although the City will update it every five-years, the Master Plan will maintain a vision for what can be achieved in the long-term as well as the short-term.



Consistency With Current City Policies & Goals

The City of Arcata and other jurisdictions in Humboldt County have committed to programs and projects encouraging and accommodating walking and bicycling in order to offer a balanced transportation system. Several City and regional plans reinforce the *Pedestrian & Bicycle Master Plan*'s goal to increase non-motorized transportation choices. The City of Arcata has adopted the following plans that support this goal:

Current City of Arcata Plans (year adopted):

- 1) City of Arcata Goals, Objectives, and Priority Projects (2009/2010)
- 2) Arcata General Plan: 2020 (2000)
- 3) Arcata Parks and Recreation Master Plan (2009) **[Adoption pending]**
- 4) Housing Element (2009)
- 5) City of Arcata Land Use Code (2008)
- 6) City of Arcata Land Use and Development Guide (1994)
- 7) Community Greenhouse Gas Reduction Plan (August 2006)
- 8) Downtown Streetscape Master Plan – Phase 1 (2005)

Below, we summarize how each of these eight Arcata plans that support the *Arcata Pedestrian & Bicycle Master Plan*. Then, we cover what regional and County plans, and what federal and State policies, also support or complement this Master Plan's goal.

City of Arcata Goals 2009/2010

The City Council sets overarching goals for each fiscal year, following a review of the previous year's goals and how departments have progressed in accomplishing them. Council also prioritizes projects for each department. Below are the goals and priority projects (adopted in July 2009) that either complement or will directly implement the *Pedestrian and Bicycle Master Plan*. The Master Plan is intended to assist local staff in implementing their priorities, but does not mandate any particular action on their part.

ARCATA CITY COUNCIL GOAL AND POLICY OBJECTIVE 2009/2010:

- ❖ Goal II: Improve Infrastructure and Facilities.
- ❖ Goal III: Improve Transportation and Circulation Systems.
- ❖ Policy Objective C: Promote an energy efficient and pedestrian friendly transportation web between neighborhoods emphasizing pedestrian, bicycle, and alternative modes of transportation.
- ❖ Policy Objective D: Develop and implement a Capital Improvement Plan that supports improvements to City infrastructure.
- ❖ Policy Objective E: Expand opportunities to strengthen partnerships with Humboldt State University, College of the Redwoods, and local schools.

ARCATA CITY COUNCIL 2009-2010 PRIORITY PROJECTS:

Community Development Department:

- Develop Valley West Neighborhood Streetscape and Pedestrian Trail Improvement Plan.

Environmental Services Department:

- Continue to work on the climate protection campaign and energy conservation and efficiency projects, to work toward reducing City greenhouse gas emission by 20% by the year 2010 and explore renewable energy options by implementing recommendations of the Energy Committee and the Greenhouse Gas Reduction Plan.
- Develop a Recreational Trail Plan throughout City-owned properties and Humboldt Bay region which includes: supporting efforts of the Eureka/Arcata Bay Trail; Annie and Mary Trail; and maintaining the railroad right-of-way throughout the City with North Coast Railroad Authority.

Police Department:

- Reinstate the Traffic Patrol Officer to implement increased traffic enforcement citywide and assist with outreach to HSU and various community groups to improve traffic safety public information (e.g., PSAs on Access Humboldt, including bicycle and pedestrian education).

Public Works Department:

- Collaborate with Environmental Services to develop a long-range climate change preparedness plan and community education program which includes sea level rise, extreme weather conditions, and tsunami readiness.
- Complete downtown streetscape, which includes widening sidewalks, and develop a maintenance plan.
- Complete Samoa Gateways Project that includes bike and pedestrian lanes, sidewalk, bulb outs, landscaping and signage to enhance the appearance of Arcata.
- Implement a major Pavement Rehabilitation, Reconstruction, and Maintenance Program focused on prevention and maintenance
- Implement Pedestrian and Bicycle Facility Capital Improvement Plan, including securing funding for a permanent site for locating a bike library and potential locations for installation of covered bike racks in the downtown areas.
- Continue to explore bus service and pedestrian/bicycle access to Aldergrove, including modifying existing routes to include Aldergrove.

Arcata General Plan: 2020 (2000)

The *Arcata General Plan: 2020* is the planning guide for the future development and function of the City. Several General Plan elements have policies that support bicycling and walking. These policies are described below.

The **Land Use Element** encourages walking and bicycling by emphasizing mixed-use neighborhoods and infill developments. Denser, multi-purpose land use makes it easier for people to walk and bicycle to a number of destinations.

The **Transportation Element** promotes transportation choices, striving to de-emphasize dependence on the automobile. This *Pedestrian & Bicycle Master Plan* identifies activities (e.g. projects and programs) that support the Transportation Element's Guiding Principles and Goals:

- A. Provide a transportation system which allows safe and efficient travel.
- B. Create a transportation system which provides a choice of travel modes.
- C. Provide for increased use of alternatives to the single-occupant vehicle, including walking, bicycling, public transit, carpooling/vanpooling, and ridesharing.
- D. Manage the street and highway system to promote more efficient use of existing capacities rather than increase the number of travel lanes.
- E. Create a transportation system which will improve the livability of residential neighborhoods, including use of methods to calm or slow traffic and reduce through-traffic on local neighborhood streets.
- F. Educate residents, employees, and students about the importance of using alternative forms of transportation instead of the single-occupant automobile.
- G. Promote land use patterns that encourage walking, bicycling, and public transit use.
- H. Establish a set of curb parking prices that are high enough to maintain an adequate supply of available spaces.

This Master Plan primarily addresses and is consistent with the following **Transportation Element** policies:

- ❖ T-5a: Overall bicycle routes system and connectivity.
- ❖ T-5b: Class I bikeways.
- ❖ T-5c: Class II bikeways.
- ❖ T-5d: Class III bikeways.
- ❖ T-5e: Bicycle parking facilities.
- ❖ T-5f: Pedestrian enhancements.
- ❖ T-5g: Pedestrian pathways and multi-use trails.
- ❖ T-5h: Sidewalks.

The **Open Space Element** supports developing trails and other non- motorized corridors that link to open space, recreation areas, and coastal access. In general, off-street trails are less intimidating to bicyclists than on-street bikeways, so they can encourage more non-motorized commuting as well as increase recreational opportunities. The following Open Space policies are consistent with this Master Plan:

- ❖ OS-1d: Linkages between open space areas.
- ❖ OS-4b1: Coastal access policy.

The **Resource Conservation and Management Element** recommends foot trails leading to and along the Humboldt Bay. Providing pedestrian access to open space and recreational opportunities may motivate people to enjoy walking more often and form healthy lifestyles. Foot trails for public access is an allowable use under the following policies:

- ❖ RC-2c(1f): Allowable uses and activities in streamside protection areas - Outside the coastal zone.
- ❖ RC-2c(2a): Allowable uses and activities in streamside protection areas - In the coastal zone.

Raising the level of non-motorized transportation is critical to the goals of the **Air Quality Element**. To improve air quality in the area, the Air Quality Element recommends pedestrian- and bicycle-friendly land uses and employer-based transportation demand measures. This Master Plan is consistent with the Element’s policies to reduce motorized vehicle trips and air pollution emissions.

- ❖ AQ-2a: Implement land use measures to reduce vehicle trips, miles traveled, and air pollutant emissions.
- ❖ AQ-2b: Implement transportation measures to reduce vehicle trips, miles traveled, and air pollutant emissions.

The **Design and Historical Preservation Element** sets policies to maintain Arcata’s unique and valued character. Several of these policies are also particularly welcoming to pedestrians and bicyclists, for example, providing street trees and street furniture, increasing sidewalk widths, and providing or improving bike lanes. The following design policies are consistent with this Master Plan:

- ❖ D-1g: Provide for bicycles, pedestrians, and in-transit design.
- ❖ D-2b: Streetscape design.
- ❖ D-2d: Street trees.
- ❖ D-2i: Design of signs.
- ❖ D-2j: Incorporation of amenity features in new development.
- ❖ D-4a(8): Design of roadways and subdivision improvements.
- ❖ D-6a(1) & D-6a(3): Design of commercial development.

Draft Parks and Recreation Master Plan (2009) [PENDING APPROVAL]

The City released a draft update of the *Parks and Recreation Master Plan* (PRMP) in September 2009; final adoption is pending.

The PRMP’s and the *Pedestrian & Bicycle Master Plan*’s are consistent in their goals to expand and enhance pedestrian and multi-use trails in the City. The PRMP notes, “As indicated by public comments, a network of interconnected, multi-purpose trails with regional linkages is desired to link parks to key destinations.” Public comments included citywide responses to the Parks & Recreation Questionnaire (with over 1,100 respondents). Key findings include:

- 16% responded that they use City parks for walking or biking for exercise;
- 22% responded that multi-use trail corridors are a priority park need;
- the top reason (40% of respondents) to develop more trails in Arcata is to increase options for nonmotorized transportation; and
- From a list of 25 activities, the most popular recreation activities (in Arcata) are trail-related: walking, dog walking, bicycling, hiking, and jogging.

The PRMP recommends trail connectivity and proposes several multi-use and recreation trails, including:

- A north-south Class I bikeway has been proposed through Arcata Baylands. This trail should link to the proposed east-west recreation trail at this site to help meet trail needs.
- Create trail development that connects parks and natural areas with business, commercial, industrial and residential sections of town.
- To meet the demand for trails, the City should also seek additional opportunities to link City parks to other parks and key destinations.

(To see all of the *Park & Recreation Master Plan's* recommended projects, refer to PRMP's "Table 9: Recommended Improvements for Existing and Proposed Parks" [under separate cover].)

Housing Element (2009)

The General Plan's Housing Element (adopted November 2009) has policies and implementation measures that directly and indirectly promote more bicycling and walking.

- ❖ (HE-2b): Provide opportunities for in-fill development of vacant and redevelopable properties in a way that allows for gradual, rather than drastic, changes from surrounding development density or type...
- ❖ (HE-2f): Focus housing development in the downtown area to promote higher densities and levels of affordability and to create a more vibrant city center.
- ❖ (HE-2g): Encourage higher densities near the Intermodal Transit Facility and near bus stops.
- ❖ (Measure HE-10): the City will amend the Land Use Code to create an Infill Overlay or Combining Zone that will be centered on the Downtown, Northtown, and other areas connected by trails, bicycle routes, and public transit to seek the maximum density by addressing limitations related to LUC standards, upzoning, and rezoning specific parcels.

City of Arcata Land Use Code (2008)

The City implements the Land Use Code (Arcata Municipal Code, Title 9) as the primary tool to carry out the Arcata General Plan and the Local Coastal Program.¹ The Land Use

¹ The 2008 Land Use Code has been adopted by the Arcata City Council and is pending approval by the California Coastal Commission (CCC).

Code sets the City’s minimum requirements for promoting public health, safety, and general welfare. It sets development regulations and review procedures, including the Zoning Ordinance and Subdivision Ordinance.

These codes are consistent with the *Master Plan*’s goal:

- ❖ 9.26.020 Purposes of Commercial, Industrial, and Public Facility Zoning Districts -- Zoning districts CG (Commercial-General), CM (Commercial-Mixed Use Center), and IL (Industrial-Limited) either require, encourage, or allow residential uses where they are compatible within these zoning districts.
- ❖ 9.28.070 Planned Development (:PD) Combining Zone -- Allows increased densities; requires the project developer to “dedicate land for bicycle and route facilities if the project is adjacent to or contains a proposed route in the adopted *Pedestrian & Bicycle Master Plan* or in the Transportation Element of the General Plan.”
- ❖ 9.34.060 Landscape Standards -- Protect safe sight distances and access for bicycle and pedestrian ways and traffic.
- ❖ 9.36.060 Bicycle Parking -- Sets minimums for each multi-family project (3 or more dwelling units) and nonresidential land use.
- ❖ 9.36.090 Parking Design and Development Standards -- Requires shared pedestrian access between adjacent residential developments for multi-family projects and major subdivisions.

City of Arcata Land Use and Development Guide (1994)

Arcata’s *Land Use and Development Guide* (LUDG) of 1994 currently applies to lands within the State Coastal Zone, pending the California Coastal Commission approving the City’s updated 2008 Land Use Code. The LUDG supports the *Master Plan*’s goal under the following sections:

- ❖ Section 1-0222 Planned Development (:PD) Combining Zone – In a :PD combining zone, the Planning Commission has the authority to grant a project a diversity of variances otherwise not generally allowed in that land use. For example, a project may vary building heights, density and open space, architectural design, landscaping, and apply mixed uses.

Techniques that create more interesting environments often entice people to walk more. Also, bicycle facilities are required for a PD located adjacent to or containing a route proposed in the Bicycle Route System of the General Plan. If the PD is located elsewhere, the developer may be required to provide land for bicycle facilities for the safety and enjoyment of the residents.

- ❖ Section 1-0303 Off-Street Parking – This sets guidelines for the number of bicycle parking spaces required in sites with more than two residential units.

- ❖ Section 2-0601 Subdivision Improvements – §2-0601.2 “Frontage Improvements” states that each lot is required to have streets, curbs, sidewalks, drive-way approaches and transitions before a subdivider is granted approval of the Final Map.

Community Greenhouse Gas Reduction Plan (2006)

The City of Arcata is part of the International Council on Local Environmental Initiatives Cities for Climate Protection Campaign. The City’s *Community Greenhouse Gas Reduction Plan*, adopted in August 2006, supports sustainable transportation. The language and recommendations that specifically support the goal of the *Pedestrian & Bicycle Master Plan* are reproduced below.

Sustainable Transportation

- Incorporate Energy and Climate Policy into the City’s Transportation Plan and encourage policies at all levels for efficient and non-polluting transportation.
- Improve Bicycle infrastructure.
- Improve Pedestrian infrastructure (sidewalks, paths, and walkways).
- Improve Mass Transit Infrastructure.
- Educate to discourage driving and create incentives to lessen driving.
- Support local sustainable transportation efforts.
- Green the City Fleet.
- Promote “smart growth” policies and preserve rail rights-of-way where appropriate.

The transportation sector (autos, public transport, trains, airplanes, etc) is one of the largest sources nationally of greenhouse gas emissions. Likewise, in Arcata, vehicular travel is the largest source. Reduced automobile travel, more efficient vehicles and cleaner transportation fuels would help to reduce Arcata’s greenhouse gas emissions. The City should support cleaner and alternative transportation to lower emissions and energy costs, to create energy independence, and to improve citizen health.

Recommend promotion of sustainable transportation via the following measures:

1. Incorporate Energy and Climate Policy into the City’s Transportation Plan and Encourage Policies at all Levels for Efficient and Non-Polluting Transportation. Policies that address the importance of energy efficiency and lower emissions should be added to the City Transportation Plan to ensure a wide range of measures to reduce emissions.
2. Improve Bicycle Infrastructure. Create more bike lanes on existing roads and make bridges and intersections more bicycle-friendly. Bicycle parking should be easily accessible, plentiful, and protected from rain where possible.
3. Improve Pedestrian Infrastructure (sidewalks, paths, and walkways). Sidewalks need to be wide enough so people can walk comfortably side by side and be able to pass others. Walkways need to be well marked, accessible and continuous, so that walkers can safely share the roadways with cyclists and autos.
4. Improve Mass Transit Infrastructure. Bus stops and bus lanes should be convenient and efficient. Bus stops should be clearly marked, and frequently-used stops should have a covered shelter for people to stay dry while waiting. Purchase more energy-efficient

- transit buses that run on less fuel. Consider also increasing service, more effective hours, and serving unserved arteries. Schedule and coordinate with the Transit Authorities.
5. Educate to Discourage Driving and Create Incentives to Lessen Driving. For both health and environmental reasons, the City should promote walking, bicycling, taking public transportation, ride sharing, alternatively fueled vehicles, and telecommuting. Create programs that encourage and reward walking, cycling or taking public transit. Consider disincentives including parking fees, traffic taming and gas taxes.
 6. Support Local Sustainable Transportation Efforts. The City should support programs and efforts such as the Arcata Library Bike Program, the Bike-to-Work-Day and the Car-Free Day, which promote sustainable transportation.
 7. Green the City Fleet. Use fuels or energy sources which emit fewer greenhouse gases, such as electricity or natural gas. Create a purchasing policy for acquiring new City vehicles that are more fuel efficient such as hybrids. The City should purchase a variety of vehicles, such as bicycles, electric bicycles, small electric vehicles, and energy efficient automobiles, and should institute policies that require that the most energy-efficient vehicle be used for each City purpose.
 8. Smart Growth. The City should promote “smart growth” development strategies. These include: compact, mixed-use development, higher density development, and infill. The City should consider relaxing parking space requirements in new developments.
 9. Rail Right-of-Way. The City should preserve existing rail rights-of-way where appropriate and should encourage the development of existing rail rights-of-way as “rails-to and with-trails.”

Downtown Streetscape Plan (2005)

The Downtown Streetscape Plan recommended streetscape designs and amenities to transform 25 blocks of downtown Arcata into a more enjoyable place for people to convene. It recommended, for example, wider sidewalks for sidewalk dining, removing some on-street parking to allow bike lanes, and using innovative paving materials.

COMPLEMENTARY HUMBOLDT COUNTY and REGIONAL PLANS & STUDIES

- 1) These ten plans and studies complement this *Pedestrian & Bicycle Master Plan*.
- 2) Humboldt Bay Trails Feasibility Study (HCAOG, 1978)
- 3) Annie & Mary Rail-Trail Feasibility Study (2003)
- 4) Humboldt Bay Trail Feasibility Study: Eureka to Arcata (2007)
- 5) Humboldt County Regional Trails Master Plan (HCAOG, 2010-pending)
- 6) Humboldt County Regional Pedestrian Plan (HCAOG, 2008)
- 7) 2004 Regional Bicycle Transportation Plan Update (HCAOG, 2004)
- 8) Humboldt County Regional Transportation Plan (HCAOG, 2008)

- 9) Humboldt People Powered Pathways (NRS-RCAA, 2009)
- 10) Particulate Matter (PM10) Attainment Plan (NCUAQCD, 1995)

Each is summarized briefly below.

Humboldt County Trails Plan (1978)

The *Humboldt County Trails Plan* was developed as a sub-element of the Humboldt County General Plan's Recreation Element (adopted in 1979). It focuses primarily on developing both transportation and recreational community trails for bicyclists, pedestrians, and equestrians. Community trails proposed for Arcata include:

- Mad River Beach Trail
- Warren Creek Bikeway
- Bayview Levee Trail
- Old Arcata Road-Myrtle Avenue Bikeway
- Sunny Brae Bikeway
- Bayside Cutoff Bikeway

Regional, state, and national trails and bikeways are also a part of the County Trails Plan, including the Highway 101 Bicycle Route and the Highway 255-Samoa Boulevard Bikeway.

Humboldt Bay Trails Feasibility Study (2001)

The *Humboldt Bay Trails Feasibility Study* was developed to encourage non-motorized access to and around Humboldt Bay. The City's only bayside trails are at the Arcata Marsh & Wildlife Sanctuary. This study proposes several other trails and bikeways to enhance Bay access and increase recreational opportunities:

- A levee along McDaniel Slough to provide a three-mile trail from South "I" Street in the Marsh west to the Mad River Slough, terminating at SR 255.
- A connection to McKinleyville's Hammond Coastal Trail following the railroad corridor from the junction of Foster Avenue and Alliance Road, south to the Marsh.
- A rail-trail separated pathway along the out-of-service Annie & Mary corridor of the Northwestern Pacific Railroad, connecting downtown and northern Arcata, and to Blue Lake and Korbel.
- On-street bikeways in Arcata along G, H, I, and K Streets to connect to planned trails.
- Sidewalk improvements to provide better pedestrian access to the Bay.

Annie & Mary Rail-Trail Feasibility Study (2003)

The Annie & Mary railroad line begins in Arcata, travels north/northeast for seven miles through Glendale and Blue Lake, and ends in Korbel. Trains have not run on this line since 1992 and may not run for some time. A rail-trail feasibility study was completed in 2003. One of the first actions the study recommends is railbanking the corridor so it can be used for non-rail purposes. (*Reference: Humboldt County Regional Pedestrian Plan, HCAOG 2008.*)

Humboldt Bay Trail Feasibility Study: Eureka to Arcata (2007)

The *Humboldt Bay Trail Assessment Study: Eureka to Arcata* (June 2007) was a cooperative effort by what is collectively referred to as the Humboldt Bay Trail Planning Team, comprised of:

- HCAOG
- County of Humboldt
- City of Eureka
- City of Arcata
- Caltrans District 1
- North Coast Rail Authority (NCRA)
- Humboldt Bay Harbor, Recreation & Conservation District
- State Coastal Commission
- and other local partners

Among the Planning Team’s goals are that the Humboldt Bay Trail:

- Be planned for bicyclists, walkers and hikers, runners, skaters, wildlife viewers, nature educators, and other non-motorized outdoor users; and
- Be a key connection in the California Coastal Trail and Humboldt Bay Trail, promoting coastal access regionally and state-wide.

The 2007 study analyzes the feasibility of a Class I bikeway/multi-use trail between Arcata and Eureka. The study’s Executive Summary states,

In summary, the trail concept appears to have broad public and stakeholder support. Of the five options developed, there seems to be little support for the status quo, and there is broadest public support for the “Rail with Trail” option. ... At the public workshop, surveys revealed a preference to have the trail close to the bay. In addition, by 96 to 1, the respondents stated that they would prefer the trail to be constructed next to the railroad tracks rather than Highway 101...

Humboldt County Regional Trails Master Plan (2010-pending)

HCAOG is currently preparing a Regional Trails Master Plan that compiles all community trail planning efforts in Humboldt County, a task that has not been done since 1979. The plan documents a regional trails vision, outlines the existing and proposed active transportation network, and sets both trail guidelines, and a strategy for prioritizing trails. Once adopted (circa January 2010), the plan will help local governments and tribes pursue funding to plan and build multiple-use trail systems.

Humboldt County Regional Pedestrian Plan (2008)

The *Humboldt County Regional Pedestrian Plan* (HCAOG, June 2008) aims to make walking an integral transportation mode in Humboldt County by proposing improvements to the pedestrian network. The plan guides how pedestrian infrastructure will be developed countywide, while focusing on areas with the highest density of pedestrian activity, community centers, civic sites, major shopping and service destinations, and schools. For the City of Arcata, the plan recommends the pedestrian projects that were identified in the *2004 Arcata Pedestrian and Bicycle Master Plan*, but remained undeveloped at that time.

Humboldt County Regional Transportation Plan Update (2008)

The Humboldt County Association of Governments (HCAOG) is the Regional Transportation Planning Agency (RTPA) for Humboldt County. In this role, HCAOG is responsible for developing the Regional Transportation Plan (RTP) and programming transportation funding.

The overall goal of the 2008 RTP is:

To develop, operate, and maintain a well-coordinated, balanced, countywide multimodal transportation system that is safe, efficient, and provides good access to all cities, communities, and recreational facilities in Humboldt County, and into adjoining regions. A balanced multimodal transportation includes, but is not limited to, highways and local roads, public transit and paratransit, aviation facilities, marine transport, railroads, bicycle facilities, and pedestrian facilities.

The 2008 RTP included planned bicycle and pedestrian projects for the City of Arcata; all of which were generated from the *2004 Arcata Pedestrian and Bicycle Master Plan*. The RTP update designates the “Arcata Pedestrian and Bicycle Master Plan 2009 Update and Capital Improvements Plan” as a priority.

2004 Regional Bicycle Transportation Plan Update (2004)

The principal goal of the *2004 Regional Bicycle Transportation Plan Update* (HCAOG, 2004) is: “Ensure that bicycling is a convenient, safe, and practical means of transportation throughout Humboldt County for all area residents and visitors.” The plan’s stated expected benefits are:

- Reduce the injury and fatality rate for bicyclists and reduce public fear of travel by bicycle;
- Provide needed bicycle facilities and services;
- Improve the quality of life in Humboldt County;
- Improve interagency coordination;
- Maximize funding sources for implementing projects and programs; and
- Build a new era of mutual respect between motorists and people on bicycle or foot in Humboldt County.

The 2004 regional plan update proposes these six priority programs:

1. Regional Bikeway Signage Program
2. Regional Bicycle Parking Program
3. Regional Non-Motorized Education & Outreach Program
4. Regional Bicycle Guide and Map
5. Bicycle Facility Maintenance Program
6. Bicycle Loop Detector Installation & Maintenance Program

Humboldt People Powered Pathways (2009)

“Humboldt People Powered Pathways” (HP3) (Natural Resource Services Division of RCAA, 2009) is a vision to improve active transport options within and between Humboldt communities “to get more people traveling by healthy, environmentally beneficial means.” The HP3 vision was crafted by a coalition of the County of Humboldt, cities, tribes, Caltrans, and community organizations. With the Humboldt County Department of Public Works serving as the lead agency, the HP3 coalition submitted a proposal for \$50 million in federal transport funding in 2010 to implement HP3.

HP3’s quantitative goal is: *“By connecting pedestrian, bicycle and multi-use trail routes and establishing collaborative education and encouragement campaigns, the HP3 coalition will increase safe, efficient non-motorized transportation by the inactive public by at least 10% in seven years.”*

Particulate Matter (PM10) Attainment Plan (1995)

The North Coast Unified Air Quality Management District (consisting of Humboldt, Del Norte, and Trinity Counties) is classified as a nonattainment area for particulate matter under 10 microns (PM10). Under the California Clean Air Act, air quality districts must develop control measures to achieve and maintain ambient air quality standards. Among the control measures mentioned in the *1995 Attainment Plan* are programs to accommodate bicycle use and land use development practices that enable people to walk to more destinations and reduce automobile use.

COMPLEMENTARY GOALS IN FEDERAL AND STATE POLICIES

US DOT Accommodating Bicycle and Pedestrian Travel

“Accommodating Bicycle and Pedestrian Travel: A Recommended Approach” is a policy statement that was adopted by the U.S. Department of Transportation (USDOT) in response to TEA-21. USDOT encourages public agencies, professional organizations, advocacy groups, and any other groups involved in transportation issues to adopt this policy to further promote bicycling and walking as viable components of the transportation system. The four directives issued in this policy statement address measures to improve bicycle and pedestrian access, convenience, and safety in transportation projects. The policy statement notes that:

The challenge for transportation planners, highway engineers and bicycle and pedestrian user groups, therefore, is to balance their competing interest in a limited amount of right-of-way, and to develop a transportation infrastructure that provides access for all, a real choice of modes, and safety in equal measure for each mode of travel.

California Blueprint for Bicycling and Walking (2002)

This State “Blueprint” plan sets the goal of:

- ❁ A 50% increase in bicycling and walking trips in California by 2010;
- ❁ A 50% decrease in bicycle and pedestrian fatality rates by 2010; and
- ❁ Increased funding for bicycle and pedestrian programs.

The Blueprint plan calls for government agencies, elected officials, bicycle and pedestrian advocacy organizations, and the public to work cooperatively to achieve these goals. The Blueprint states that “Bicycling and walking must be considered in land-use and community planning, all phases of transportation planning, and in all project designs.”

The Blueprint plan was a report to the Legislature, prepared by Caltrans and the Business, Transportation and Housing Agency.

California Transportation Plan 2025 (2006) & 2030 Addendum (2007)

The California Transportation Plan (CTP) is the State’s long-range transportation plan. The plan has a vision of “The 3 E’s of Sustainability”:

California has a safe, sustainable, world-class transportation system that provides for the mobility and accessibility of people, goods, services, and information through an integrated, multimodal network that is developed through collaboration and achieves a Prosperous Economy, a Quality Environment, and Social Equity.

The current CTP 2025 is now being updated for a 2035 planning horizon. The CTP 2035 “addresses transportation as a focal point for sustainability and quality of life.” It is slated to be approved in September 2010.²

California Assembly Bill 1358 – California Complete Streets Act of 2008

AB 1358 (Leno) requires that the

legislative body of a city or county, upon any substantive revision of the circulation element of the general plan, modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan. By requiring new duties of local officials, this bill would impose a state-mandated local program.³

Pursuant to AB 32, the California Air Resources Board (CARB) prepared for the State of California the “Climate Change Scoping Plan” (December 2008). Among other actions, the Scoping Plan recommends “Continuing to implement sound land use and transportation policies to lower VMT [vehicle miles traveled] and shift travel modes.” The Scoping Plan states,

The key to addressing the VMT challenge is providing people with more choices through diversified land use patterns, greater access to alternative forms

² California Transportation Plan 2035, Executive Summary.

³ Assembly Bill No. 1358 (Leno), Chapter 657.

of transportation including transit, biking and walking, and promoting development patterns where people can live, work and play without having to drive great distances.

California Coastal Trail

People have been walking the pacific coast since pre-history, generations before the State of California existed. Native tribes along the coast traveled along beaches and coastal grassland bluffs, where established trails became trading routes. In its California legislative history, the concept of a designated coastal trail was formalized in 1972 by Proposition 20, which declares that “A hiking, bicycle, and equestrian trails system shall be established along or near the coast.” The Coastal Act of 1976 requires local jurisdictions to identify California Coastal Trail (CCT) alignments in their Local Coastal Programs.

The CCT is to stretch 1,300 miles along the entire California coastline, running through fifteen counties from the Oregon to Mexican border. Today, roughly half of the CCT is complete.

In its report “Completing the California Coastal Trail,” (2003) the Coastal Conservancy defines the CCT as “A continuous public right-of-way along the California coastline; a trail designed to foster appreciation and stewardship of the scenic and natural resources of the coast through hiking and other complementary modes of non-motorized transportation.”

The City of Arcata will participate to help complete the CCT. The *Arcata Pedestrian and Bicycle Master Plan* can specifically complement the State’s objectives in completing the CCT, such as:

- ⚙️ Create linkages to other trail systems and to units of the State Park system, and use the Coastal Trail system to increase accessibility to coastal resources from urban population centers; and
- ⚙️ Foster cooperation between State, local, and federal public agencies in the planning, design, signing, and implementation of the Coastal Trail.

The Coastal Conservancy report lists improvements needed for completing the CCT. For Humboldt and neighboring counties they identified the following:

Estimated Linear Mileage for Completing the California Coastal Trail:

County	Highway Corridor Improvements	Acquisition / Construction on Private Lands	Construction on Public Lands	Current Improvements Adequate
Del Norte	4	4	17	46
Humboldt	3	50	9	92
Mendocino	54	25	7	41
<i>State coast total</i>	<i>245</i>	<i>269</i>	<i>245</i>	<i>548</i>

California Assembly Bill 32 – Global Warming Solutions Act of 2006

When the legislature passed AB 32, they made California the first state to adopt an enforceable statewide emission target (since then at least 20 other states have passed targets and goals). AB 32 requires the California Air Resources Board (CARB) to develop regulations and market mechanisms that will ultimately reduce California's greenhouse gas emissions to 1990 levels by the year 2020 and to 20% of 1990 levels by the year 2050. Increasing trips made by foot and by bicycle and decreasing trips made by motorized vehicles reduces greenhouse gas emissions.

California Senate Bill 375 - Sustainable Communities and Climate Protection Act (2008)

California led the nation by passing the first bill to link transportation and land use planning with global warming. Senate Bill 375, which is part of AB 32's implementation strategy, aims to reduce greenhouse gas (GHG) emissions by discouraging sprawl development, fostering land use patterns that reduce the need to drive, and by promoting more alternative transportation options. The bill directs that housing planning be coordinated and integrated with Regional Transportation Plans.

On August 13, 2008, the Senate amended the bill so that it applies only to federally-designated metropolitan planning areas, thus eliminating some small counties.⁴ As such, the bill only requires the 18 MPOs in California to prepare a "sustainable communities strategy" to reduce the amount of vehicle miles traveled (VMT) in their respective regions and demonstrate the ability for the region to attain ARB's targets.⁵

Caltrans Deputy Directive 64-R1 (2008)

Effective October 2008, Caltrans revised Deputy Directive 64 (DD-64-R1), entitled "Complete Streets – Integrating the Transportation System." This policy relates to non-motorized travel, energy efficiency, climate change, and to the Department's use of 'Context Sensitive Solutions.' The revised policy reads:

The California Department of Transportation (Department) provides for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.

The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians,

⁴ Senate Bill 375 (Steinberg). "Bill Analysis." Subject: Transportation planning; travel demand models; sustainable communities strategy; environmental review.

⁵ Senate Bill 375: Redesigning Communities to Reduce Greenhouse Gases. "Fact Sheet."

and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating “complete streets” beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of “complete streets” requires collaboration among all Department functional units and stakeholders to establish effective partnerships.

Assembly Concurrent Resolution No. 211 (2002)

ACR 211 (introduced by Assembly Member Nation) relates to “integrating walking and biking into transportation infrastructure.” It became effective in August 2002, following the original passage of Caltrans DD-64 in 2001.

The resolution encourages all cities and counties to implement the policies of the Caltrans DD-64 and the USDOT design guidance document when building local transportation infrastructure.

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3. BACKGROUND



This chapter examines three important factors that help shape the walking and bicycling environment in Arcata. First, the city’s topography and land use patterns illustrate why some areas are more favorable for walking and bicycling, and show the difficulties of retrofitting older facilities. Second, commuting statistics indicate who bikes and walks to work now and who may do so in the future. Third, collision data for pedestrians and bicyclists suggest collision patterns in the city and what factors contribute to them.

COMMUNITY ATTRIBUTES

Setting

Arcata is situated in Humboldt County on California’s North Coast, approximately 275 miles north of San Francisco. The city is bordered by the Arcata Bay on the south, the Pacific Ocean to the west, the Mad River on the North, and Fickle Hill and forested land on the east. Most of Arcata sits on a coastal terrace – a flat setting ideal for walking and bicycling.

According to the 2000 Census, Arcata had a population of 16,651. Population projections assume a relatively low growth rate with an estimated 20,000 residents by 2020. This size gives Arcata a small-town feel that contributes to the livability of the city.



Land Use Patterns

Arcata initially developed around the Plaza, which still remains the “hub” of the city. Street patterns around the Plaza and in the older parts of the city have a traditional grid system that

BACKGROUND

is especially favorable for pedestrians. Commercial uses predominate the central core; residential areas are directly north, south, and east across U.S. 101. Industrial uses in the older part of the city are concentrated towards the west and along Samoa Boulevard.

Many residential developments such as Sunset, Sunnybrae, Preston Ridge, and Bayside were developed when the land was under County jurisdiction, which resulted in larger lots, and during a period in time where long blocks, cul-de-sacs, and winding roadways were popular subdivision designs. All of these characteristics are less favorable for bicyclists and pedestrians because they do not connect routes well, and thus often force longer, less direct trips.

Higher density residential areas are primarily concentrated near Humboldt State University (HSU), along Alliance Road, and in the Valley West neighborhood. Unfortunately, these developments have some of the largest access issues in Arcata, including sidewalk gaps on Alliance Road, the “island” effect of Valley West, and intersection safety issues near HSU.

Humboldt State University has a significant presence in Arcata as the largest employer in the city and by occupying 160 acres east of U.S. 101. Over 7,400 students are enrolled at HSU, contributing a substantial number of people walking and bicycling in the area every day.

Arcata has set aside land for natural resources that are extremely important to the community, including the Arcata Marsh and Wildlife Sanctuary and the Community Forest. These are popular destinations for visitors and residents alike, with opportunities for birding and abundant hiking trails.

Major employment centers and destinations in northeast Arcata include the Aldergrove Industrial Park, the visitor service center and commercial businesses in Valley West, and the Mad River Community Hospital and Medical Center and United Indian Health Services along Janes Road corridor. These land uses are located along the streets of West End Road, Giuntoli Lane, and Janes Road, so these streets must accommodate all forms of transportation for commuters.

South/southeast of central downtown Arcata leads to Sunnybrae and then to Bayside neighborhood. These primarily residential areas also support shopping centers hosting local businesses, schools, churches, and park and open space areas. Bayside Road and Old Arcata Road (State Route 299) access these neighborhoods and are key thoroughways that should maximize multi-modal facilities to support bicycling and walking. Old Arcata Road might even be considered “main street” in the central Bayside.

The City’s Land Use map can be found on the following page.



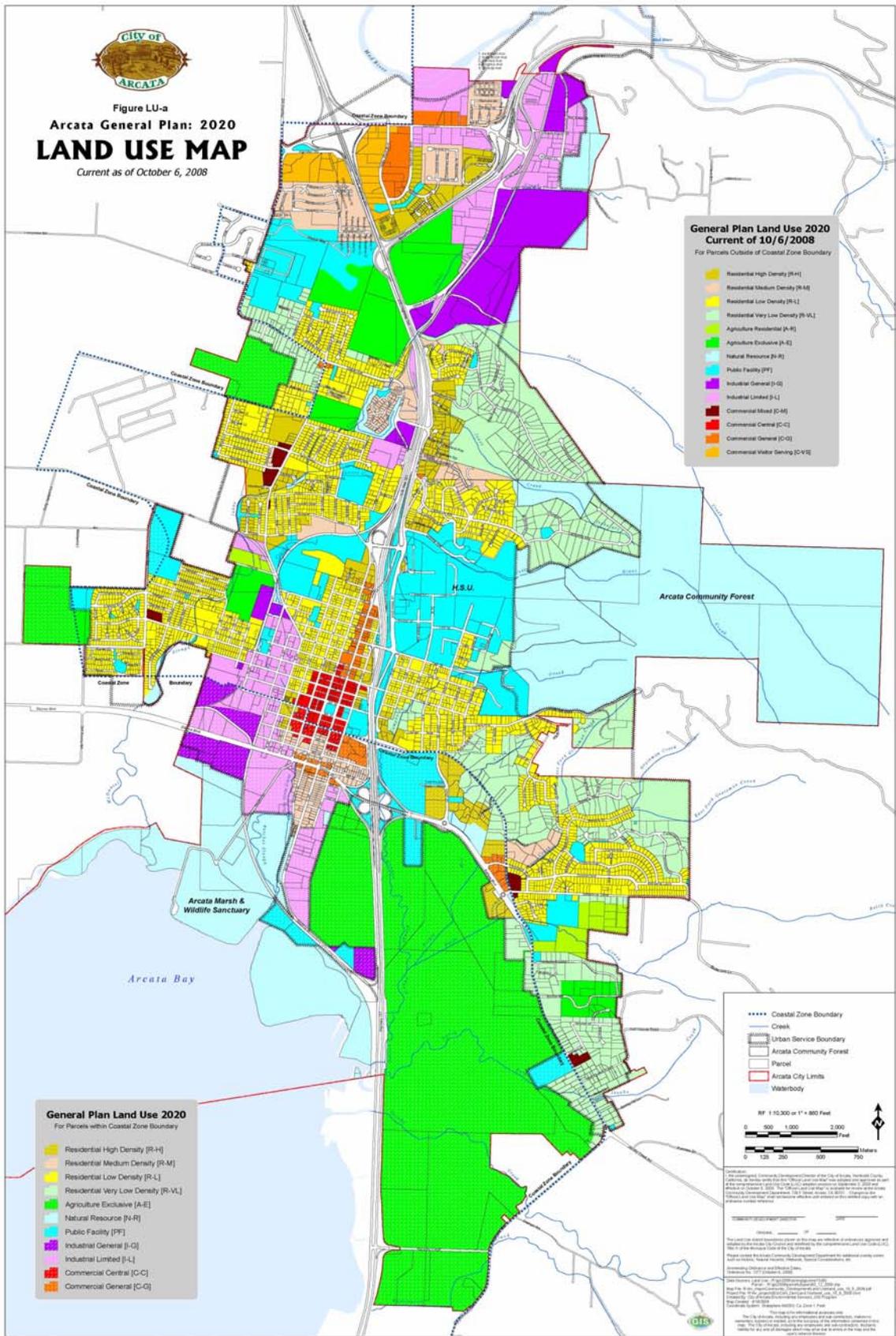


Figure 3A. Land Use Plan Map (Arcata General Plan:2020, Figure LU-a)

back of Figure 3A

PEDESTRIAN AND BICYCLE TRAVEL TRENDS & COLLISIONS

The Master Plan is a “plan of action” for promoting bicycling and walking and skateboarding as transportation modes for commuting, shopping, and other purposes. Although “commuter” bicyclists are usually associated with people bicycling to work, the category can include many trips, such as children riding to school, teenagers riding to practice, and people riding to shops and appointments.

Generally, people take bicycle trips that are shorter than automobile trips, typically averaging less than two miles one way. The average distance (nationally) for walking trips is about one-half mile (0.5 miles) one way.

In the last 50 years or so, land use and development patterns have changed to more spread-out models, made viable by huge investments in roadways and other infrastructure. In most cases that pattern resulted in increased distances between destinations that have made walking and bicycling less and less practical for a growing number of people. Access to transit can help extend the commute range of bicyclists and pedestrians, and respond to those changes in land use patterns.

Current Commuting Statistics

The transportation mode splits shown in Table 1 reveal that the automobile is the primary mode of transportation in Arcata. The 2000 U.S. Census found that almost 60 percent of drivers commuting to work in Arcata drive alone. Carpool riders make up 10 percent of commuters and transit riders total just over two percent. Non-motorized transportation comprises approximately 22 percentage of Arcata’s commuters, with walking accounting for 17 percent and biking slightly over five percent. Compared to Humboldt County and California figures, non-motorized transportation plays a substantial role in Arcata.

Table 3.1 Commute-To-Work Statistics, 2000 Census

Mode of Transportation	Arcata	Humboldt Co.	California
Car, truck, van – drive alone	59.7	71.6	71.8
Car, truck, van – carpoled	10.4	13.1	14.5
Public transportation	2.4	1.0	5.1
Bicycle	5.2	1.7	0.8
Walked	17.0	6.5	2.9
Other means	0.6	0.6	1.0
Worked at home	4.7	5.6	3.8

To compare with and complement the Census data, the City used a bicycle demand model to assess daily non-recreational bike trips. The model uses available studies from around the

country to help define other daily bicyclists, in addition to U.S. Census statistics on bicycle commuters. According to these studies, other daily bicyclists include:

- 5 % School aged children (ages 5–14) bicycle to school
- 10 % College students bicycle to campus
- 1 % Transit commuters also use bicycles
- 1.74:1 Ratio of utilitarian (non-work) bicycle trips (1.74) to each work/school trip (1).

Using these assumptions, the model estimated that there are, on average, 2,900 daily bicycle trips in Arcata, which amounts to saving over 14,065 motorized vehicle miles daily (see Table 3.2). *Note that this is simply an order-of-magnitude estimate, based on available data.*

Table 3.2 Estimated Current Bicycle Demand In Arcata, 2000

Population Group	Estimated Totals
Bicycle Commuters	420
Schoolchildren Commuting by Bike	66
College Students Commuting by Bike	603
Bike-Transit Users	11
Utilitarian Trips	1,799
Total Estimated Daily Bicycle Ridership	2,899
Reduced Vehicle Trips	4,206
Reduced Vehicle Miles	14,065

Future Commuting Potential

Based on projected increases in bicycle trips following implementation of a citywide bicycle system, future bicycle demand was predicted using the demand model. The projections are derived from studies conducted around the nation on increased bicycle rider-ship and the National Bicycling and Walking Study, which found a correlation between the number of bicycle commuters and bikeways per capita. Table 3.3 shows the number of non-recreational bicycle commuters and trips projected based on having Arcata’s bikeway system completed. The table also shows how this translates into reduced in automobile trips.

A more detailed explanation of this model can be found in Appendix B.

Table 3.3 Projected Bicycle Demand When Bikeway System Completed

	Current (2000)	Buildout
Bicycle Commute Mode Share	5.00%	13.9%
Total Daily Bicycle Commuters	2,899	8,079
Total Daily Bicycle Trips	5,797	16,157
Reduced Daily Vehicle Trips	4,206	11,722
Reduced Daily Vehicle Miles	14,065	39,202

COLLISION ANALYSIS

Data on collisions involving pedestrians and bicyclists in Arcata can help the community identify and decision-makers prioritize specific areas where policies, planning, and interventions can be focused first.

The collision data used for analysis in this plan comes from the Statewide Integrated Traffic Reporting System (SWITRS), which is maintained by the California Highway Patrol. This database consists of reports taken by officers in the field, and therefore includes only incidents that are reported by or to an officer. Thus SWITRS data represents only a portion of all collisions occurring that involved pedestrians and bicyclists.

SWITRS data indicates that the vast majority of the pedestrian and bicycle collisions occurred in downtown. This is not surprising, because downtown is a high use area for bicycles, pedestrians, and motorized activity, which increases the likelihood of collisions.

The 2004 Plan included SWITRS data for the years 1999-2002. The 2010 update has added data for the years 2003 to 2008 (the last year for which full data is available).

The data in Table 3.4 from the 2004 Plan can serve as a baseline for analyzing changes in collisions for the Master Plan's current and future updates.

- 31 pedestrian collisions with automobiles were reported: four were non-injury collisions, 27 resulted in injury.
- Bicyclists were involved in 64 collisions: 42 were with motor vehicles, and 36 of these resulted in injuries.
- 13 collisions were bicycle-only incidents.

Table 3.4 Bicycle And Pedestrian Collisions, 1999-2002

Year	Motor Vehicle vs. Pedestrian		Motor Vehicle vs. Bicycle		Solo Bicycle
	Non-Injury	Injury	Non-Injury	Injury	
1999	0	5	2	11	2
2000	2	10	4	7	5
2001	1	5	6	12	6
2002	1	7	3	6	0
Total	4	27	15	36	13

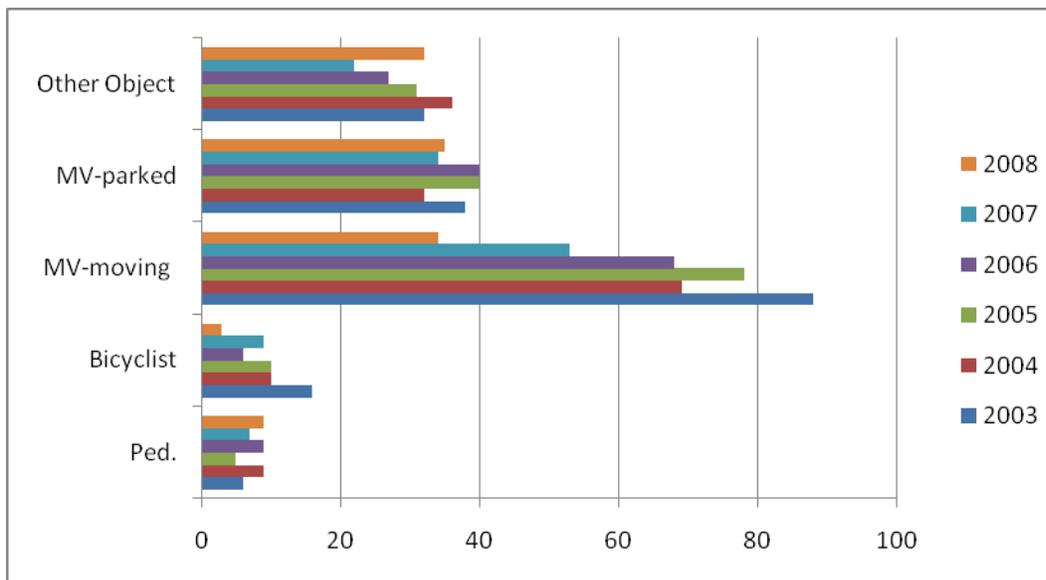
Source: State-Wide Integrated Traffic Reporting System (SWITRS), California Highway Patrol.

BACKGROUND

Table 3.5 City of Arcata Collisions Comparison, 2003-2008

YEAR	MOTOR VEHICLE COLLISION WITH:				
	Pede- strian	Bicyclist	MV- moving	MV- parked	Other Object
2003	6	16	88	38	32
2004	9	10	69	32	36
2005	5	10	78	40	31
2006	9	6	68	40	27
2007	7	9	53	34	22
2008	9	3	34	35	32
6-YR AVG.	7.5	9.0	65.0	36.5	30.0

MV = motorized vehicle.



Source: Statewide Integrated Traffic Reporting System (SWITRS), California Highway Patrol, Report 1, Arcata 2003-2008

Table 3.6 Collisions and Victims by Motor Vehicle Involved, City of Arcata, 2003-2008 [Does not include State Highway cases]

(PDO = property damage only)

(A) Motor Vehicle Involved With Pedestrian						
YEAR	TOTAL	FATAL	INJURY	PDO	INJ'D VICTIMS	SEVERE INJURY
2003	6	0	5	1	5	1
2004	9	0	8	1	8	7
2005	5	0	4	1	5	3
2006	9	0	8	1	8	2
2007	7	0	5	2	5	0
2008	9	0	6	3	6	1
6-YR AVG.	7.5	0.0	6.0	1.5	6.2	2.3

(B) Motor Vehicle Involved With Bicycle						
YEAR	TOTAL	FATAL	INJURY	PDO	INJ'D VICTIMS	SEVERE INJURY
2003	16	0	14	2	14	0
2004	10	0	8	2	8	1
2005	10	0	8	2	8	0
2006	6	0	6	0	6	1
2007	9	0	9	0	9	0
2008	3	0	2	1	2	0
6-YR AVG.	9.0	0.0	7.8	1.2	7.8	0.3

(C) Motor Vehicle Involved With Other Motor Vehicle						
YEAR	TOTAL	FATAL	INJURY	PDO	INJ'D VICTIMS	SEVERE INJURY
2003	88	0	14	74	18	2
2004	69	0	6	63	9	0
2005	78	0	12	66	18	0
2006	68	0	9	59	13	0
2007	53	0	8	45	10	0
2008	34	0	5	29	7	1
6-YR AVG.	65.0	0.0	9.0	56.0	12.5	0.5

(D) Motor Vehicle Involved With Parked Motor Vehicle						
YEAR	TOTAL	FATAL	INJURY	PDO	INJ'D VICTIMS	SEVERE INJURY
2003	38	0	3	35	3	0
2004	32	0	2	30	2	0
2005	40	0	0	40	0	0
2006	40	0	3	37	3	0
2007	34	0	3	31	3	0
2008	35	0	1	34	1	0
6-YR AVG.	36.5	0.0	2.0	34.5	2.0	0.0

(E) Motor Vehicle Involved With Fixed or Other Object						
YEAR	TOTAL	FATAL	INJURY	PDO	INJ'D VICTIMS	SEVERE INJURY
2003	32	1	5	26	7	3
2004	36	0	5	31	5	0
2005	31	0	3	28	3	1
2006	27	0	6	21	7	0
2007	22	0	4	18	4	0
2008	32	0	5	27	5	0
6-YR AVG.	30.0	0.2	4.7	25.2	5.2	0.7

(F) Motor Vehicle Involved With: Not Stated						
YEAR	TOTAL	FATAL	INJURY	PDO	INJ'D VICTIMS	SEVERE INJURY
2003	4	0	2	2	2	0
2004	7	0	3	4	3	0
2005	3	0	1	2	1	1
2006	4	0	3	1	3	0
2007	3	0	2	1	2	1
2008	2	0	1	1	1	1
6-YR AVG.	3.8	0.0	2.0	1.8	2.0	0.5

Source: Statewide Integrated Traffic Reporting System (SWITRS), California Highway Patrol, Report 1, Arcata 2003-2008

BACKGROUND

Table 3.7 City of Arcata Collisions by Primary Collision Factor, 2003-2008* [Does not include State Highway cases.]

Year	2003			2004			2005			2006			2007			2008			
	total	injury (severe)		total	injury (severe)		total	injury (severe)		total	injury (severe)		total	injury (severe)		total	injury (severe)		
Primary Collision Factor																			
Driving or bicycling under influence of alcohol or drugs	7	1		12	3		15	5	(1)	18	4		7	1		17	2	(1)	
Unsafe speed	39	8	(2)	17	6		20	4		21	8		14	4		14	6	(1)	
Following too closely	1	1		1			1			4	1		3	1					
Wrong side of road	6	4		6	3		1	1		1			1			1			
Improper passing	3	1		3			1			1									
Unsafe lane change	1			1						3						1			
Improper turning	37	8		33	6	(2)	45	5		39	4		23	1		30	5		
Automobile right-of-way	25	9	(1)	21	5	(1)	24	5		24	8		25	7		12	3		
Pedestrian right-of-way	1	1		4	4	(1)	4	3		2	2	(1)	2	1		3	1		
Pedestrian violation	2	2					1	1		2	2		1	1					
Traffic signals, signs	9	2		10	2		3	1		6	4	(2)	3			3	1		
Unsafe starting or backing	24			18			17	1		15			13	2		8			
Hazardous parking	1			2			2			1			2			2			
Other hazardous violation	7	3	(1)	1	1		7	2		3	3		4	3		4	2		
Other improper driving										2			1	1					
Fell asleep	1						1						1	1					
Other than driver	3	1		3	1		1						1	1	(1)	1	1		
Other				1	1		2						2	2		10			
Unknown	17	1	(1)	22	2		15	1		9			17	5		12	1		
Not Stated	15	6	(1)	14	1		12	1	(1)	8	1		11	3	(1)		1	(1)	
TOTAL	199	48	(6)	169	35	(4)	172	30	(2)	159	37	(3)	131	34	(2)	118	23	(3)	

*Between 2003-2008 there was one collision fatality: in 2003; the primary factor was unsafe speed.

Source: Statewide Integrated Traffic Reporting System (SWITRS), Report 1, Arcata 2003-2008



4. PEDESTRIAN FACILITIES

This chapter outlines elements and actions that are needed to create a safe, well-designed system of pedestrian facilities, a “pedestrian network,” that people will choose to use. The vision below evokes what we want of our pedestrian network. The chapter gives practical guidelines for designing and improving pedestrian facilities. The chapter describes the City’s existing pedestrian facilities, comments on existing deficiencies, and recommends priority pedestrian projects.

A VISION FOR THE PEDESTRIAN EXPERIENCE

We are all pedestrians, whether strolling through a park, using a wheelchair to get to work, skateboarding to school, or walking to the bus stop, grocery store, or post office.

The more inviting it is to *be* a pedestrian, the more we choose to travel as pedestrians. When the pedestrian option feels safe, accessible, comfortable, and practical, we are more likely to be pedestrians for our various needs—shopping, errands, exercise, commuting. When the pedestrian option is also interesting and beautiful, we may choose to be pedestrians for recreation and social outings.

A vision for Arcata is that our city have a pedestrian network that appeals to pedestrians because it is both *functional* and *dynamic*. Our pedestrian network will be an accessible, safe, sensible means of travel. It will offer pedestrians seamless links to all city neighborhoods, and it will connect to regional trail systems. Our pedestrian network will complement its surroundings: it will be vibrant in places where we want active streets and public activity; it will be tranquil in quieter places. City residents, workers, and visitors will be drawn to use our pedestrian network, and healthy pedestrian activity will enhance our quality of life.

This vision will mean designing and building City streetscapes keeping the pedestrian in mind. Appropriate to the neighborhood context and the diversity of street functions, the pedestrian network would have:

- ☞ pedestrian corridors that link well to the larger city and regional pedestrian network;
- ☞ pedestrian corridors that enhance the adjacent land use and vice-versa;
- ☞ streetscapes that a balance the pedestrian-motorist environment.
- ☞ sidewalks that fulfill the primary purpose of safe and accessible pedestrian travel;
- ☞ sidewalks that are comfortable and pleasant to travel on;
- ☞ sidewalk corridors that interface beautifully with adjacent uses;
- ☞ pedestrian corridors that activate streets and invite pedestrian activity.

A pedestrian network that draws more pedestrian use has been shown to correspond positively to economic and recreational activity in cities across the United States.¹ The direct benefits of pedestrian activity will expand to benefit our environment, our local economy, our civic events and social engagements.

PEDESTRIAN DESIGN GUIDELINES

The City of Arcata will meet and exceed minimum design standards for the benefit of all sidewalk users. The City shall design and construct pedestrian facilities to meet the needs of people with disabilities not only because it is essential to people for their independence and safety, but also because it benefits all users. For example, curb ramps aid people using wheelchair, strollers, walkers, and bicycles (especially children on bikes or trikes). Visible crosswalks help people with low vision determine appropriate street crossings and alert motorists that pedestrians may be crossing the roadway. Wide sidewalks, with roomy unobstructed zones, allow people to comfortably share the walkway and pass each other. Wide sidewalks also allow space for benches, trees, outdoor dining, art, and other displays.

Some pedestrian design guidelines have been developed or adopted at the Federal or State level. The few overarching standards that do exist are a result of the Americans with Disabilities Act (ADA) of 1990, which assures that people with disabilities will have full access to public facilities. Good sources for design guidelines include:

- Institute of Transportation Engineers (ITE), *Design and Safety of Pedestrian Facilities*, 1997.
- Beneficial Designs, Inc. *Designing Sidewalks and Trails for Access: Best Practices Design Guide*, 2001.
- USDOT, FHWA, *Pedestrian Facilities Users Guide—Providing Safety and Mobility*, 2002.
- USDOT, FHWA, *Manual of Uniform Traffic Control Devices (MUTCD)*, 2003.
- California DOT (Caltrans), *Pedestrian and Bicycle Facilities in California: A Technical Reference and Technology Transfer Synthesis for Caltrans Planners and Engineers*, 2005.
- Public Rights-of-Way Access Advisory Committee (PROWAAC), *Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations*, 2007.

¹ “The Economic Benefits of Walkable Communities,” 2009; “The Importance of Pedestrian Traffic to New York State’s Economy and Transportation Infrastructure,” 1999.

Americans with Disabilities Act of 1990

All pedestrian facilities must be constructed to accommodate people with varying abilities. The Americans with Disabilities Act of 1990 (ADA) is a civil rights law that prohibits discrimination on the basis of disability. Under this law, there shall be no discrimination in employment, telecommunications, transportation, access to facilities and programs provided by government entities, and access to goods and services provided to the public, such as health services, lodging, and recreation.

The Architectural and Transportation Barriers Compliance Board (Access Board) is a Federal agency formed in 1973 to improve accessibility for people with disabilities. The Access Board's primary duties are to develop and enforce accessibility standards on facilities funded by the federal government. The Access Board develops the *Americans With Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities* and the *Architectural Barriers Act (ABA) Accessibility Guidelines*. The ADA Accessibility Guidelines serve as the lawful design standards per Title V of ADA. These standards are minimum requirements; therefore, they are not to be considered best practices.

Streetscape

City of Arcata Street Classification System

Many individual cities have adopted detailed pedestrian design guidelines for core business districts and other dense commercial areas. Arcata has not yet formalized those types of guidelines. Currently the City has its circulation system defined primarily by a street classification system in the Transportation Element (*Arcata General Plan: 2020*). The street classifications are:

- Freeways and highways (State jurisdiction)
- Arterial streets
- Collector streets
- Local streets
- Rural roads (predominantly in the adjacent unincorporated County)

The classifications define street functions, focusing on mobility and traffic movement. A street's function is based on its traffic volumes, speeds, and its access to routes and destinations:

Arterial (and minor arterial) streets provide a high degree of mobility, emphasize traffic movement, and directly access the highways and freeways.

Collector streets provide circulation within land use areas, and collect traffic from local streets and distribute it to the arterial street system.

Local streets provide travel to and from a collector facility; local streets should have low traffic volumes and low speeds.

Table 4.1 shows which city streets are arterial, collector, or local streets.

Table 4.1 Arcata's General Plan Street Classification System

Street Functions	Designated Streets	
<p>Freeways and Highways Provide for high speed automobile and freight movement for intercity and regional travel. Highway access is highly controlled; freeway access is not as controlled as highways.</p>	<p>Freeways: State Routes 101 and 299</p>	<p>Highway: State Route 255 (also designated an arterial within the City)</p>
<p>Arterial Streets Provide a high degree of mobility and serve longer trips within the City. Arterials connect various neighborhoods within Arcata and provide direct connections to the state highway system. Arterials emphasize traffic movement over access to property.</p>	<p>Giuntoli Lane West End Road Spear Avenue L.K. Wood Blvd G Street H Street 11th Street Vaissade Road (east) V Street</p>	<p>Janes Road Alliance Road K Street Samoa Blvd Old Arcata Road minor arterials: Buttermilk Lane (west) West End Road (north)</p>
<p>Collector Streets Provide access to land use and movement of traffic, pedestrians, and bicycles within residential, commercial, and industrial areas. Collectors generally penetrate, but should not have continuity through, residential neighborhoods. Collector streets collect traffic from local streets and distribute it to the arterial street system.</p>	<p>Foster Avenue (west) Sunset Avenue Eastern Avenue Western Avenue Janes Road (south) Q Street 17th Street 14th Street (east)</p>	<p>Union Street Fickle Hill Road Shirley Blvd Beverly Drive Buttermilk Lane (east) Bayside Road Golf Course Road</p>
<p>Local Streets Provide access to adjacent land use and exist in any land use setting such as residential, commercial, and industrial areas. Movement on local streets is intended to involve traveling to and from a collector facility. Therefore, the trip length on a local street is intended to be short, volumes should be low, and speeds slow.</p>	<p>All city streets not classified otherwise are local streets.</p>	
<p>Rural Roads Serve very low density land uses (mostly agricultural and rural residential) outside of the urbanized area of Arcata. Rural roads are usually not intended to serve through traffic, but often accommodate truck traffic related to the land uses served.</p>	<p>27th Street</p>	<p>Vaissade Road (west)</p>

Source: Policy T-4 Streets and Highways Plan and Policy, Transportation Element, *Arcata General Plan: 2020*.

Recommended Streetscape Design Guidelines

For improving Arcata’s pedestrian environment, the City has set policies (Transportation Element, *Arcata General Plan:2020*) that recommend design elements with which to enhance pedestrian safety. The Transportation Element also has sidewalk requirements (Policy T-5f in text box below, and Policy T-5h in text box on page 4-11.)

The City of Arcata does not currently have a system to classify, categorize, or rank streets according to the other purposes they serve. For example, as Table 4.1 shows, G and H Streets are classified functionally as arterials, which explains part of how these streets function in daily Arcata life. G and H Streets are also part of the City's historic plaza, central commercial and business district, and Northtown commercial area. They are main travelways for students walking from Arcata High School and HSU. They are vibrant streets that draw residents and visitors to gather, shop, dine, work, study, recreate, and stroll. G and H Streets are major pedestrian routes and pedestrian destinations.

Other cities have begun to take a more “holistic” approach to defining, planning, and building streetscapes for all modes. For example, they have defined “street types,” have adopted pedestrian-level streetscapes guidelines, or have developed other ways to incorporate “complete streets” policies.

Transportation Element Policy T-5f:

PEDESTRIAN ENHANCEMENTS

Prioritize implementation of improved pedestrian facilities and enhancements in areas of the city with the greatest need including the Arcata Plaza, Westwood Center area, the Sunset Avenue neighborhood, Samoa Boulevard, Alliance Road, Spear Avenue, Janes Road in the vicinity of the Pacific Union School, and Bayside Road in the vicinity of Jacoby Creek School. The following pedestrian improvements and safety enhancements should be considered in future planning for these areas:

1. Close sidewalk gaps.
2. Install vertical curbs to keep vehicles from parking on sidewalks.
3. Reduce street crossing distance with curb extensions and smaller curb radii.
4. Use on-street parking as a pedestrian buffer.
5. Install textured crosswalks.
6. Provide adequate street lighting focused on crossings.
7. Restrict parking near crosswalks to improve sight distance.
8. Install rumble strips on approaches to crosswalks.
9. Plant street trees or place street trees in planters in the parking lane.
10. Relocate intersection stop bars five feet back from crosswalks to improve driver and pedestrian visibility.

Arcata General Plan: 2020

Design Element Policy D-2: Downtown (Central-Commercial) Design

Policy D-2b **STREETSCAPE DESIGN.**

Future changes to public street rights-of-way in the downtown shall focus on improving amenities and safety for pedestrians, bicycles, and reasonable and safe vehicle access. The following design features should be considered in future improvement projects:

1. Increase the width of sidewalks.
2. Demarcate pedestrian crosswalks with pavement marking or special paving materials or colors.
3. Provide or improve bike lanes, where appropriate.
4. Incorporate street trees in appropriate locations.
5. Use special paving materials or patterns for sidewalks at key locations or intersections.
6. Provide landscape screening between parking lots and the street.
7. Provide street and parking lot lighting that is adequate for safety but that is not overly bright.
8. Establish a uniform lighting fixture and post (or pole) design for streetlights;
9. Establish a uniform design for various items of “street furniture,” such as benches, trash receptacles, water fountains, etc.
10. Require undergrounding of utilities and elimination of poles and overhead wires.

D-2c **ALLEYS.**

The existing alleys in the downtown shall be retained and should be improved as multi-functional accessways. Businesses are encouraged to use alleys for secondary entries. Enhancements should emphasize amenities and safety for pedestrians, such as improved surfacing, lighting, landscaping, and enclosures for garbage and recycling receptacles where space permits.

D-2j **INCORPORATION OF AMENITY FEATURES IN NEW DEVELOPMENT.**

Any new development shall incorporate an appropriate combination of project enhancements in lieu thereof. Potential enhancements include, but are not limited to, the following:

- special paving materials in parking lots
- sidewalk and/or entry mosaics or decorative tile
- secondary pedestrian access from alleys
- recessed entryways
- special architectural features
- outdoor spaces for public use
- courtyards
- public art, including sculpture and murals
- street trees or street furniture
- fountains or other water features
- awnings
- flower beds,
- planted wall trellises, window boxes
- balconies or decks on upper floors

Arcata General Plan: 2020

Sidewalk Zone System

In 1998, the City of Portland, Oregon, pioneered a pedestrian design system that divides a sidewalk's functions into four zones (Portland Pedestrian Design Guide, 1998). By applying their zone system, the City of Portland determined how wide a sidewalk corridor had to be to ensure that street fixtures, such as newspaper boxes or utility poles, did not obstruct pedestrian access. Conversely, the sidewalk zone system makes it readily apparent if a sidewalk's existing width will limit how it functions.

Cities across the U.S. have adopted the sidewalk zone system in their pedestrian design guidelines, and the FHWA includes it in its guidebook, "Designing Sidewalks and Trails for Access: Best Practices Design Guide" (USDOT, 2001).

The four established sidewalk zones are defined below from curb to property line.

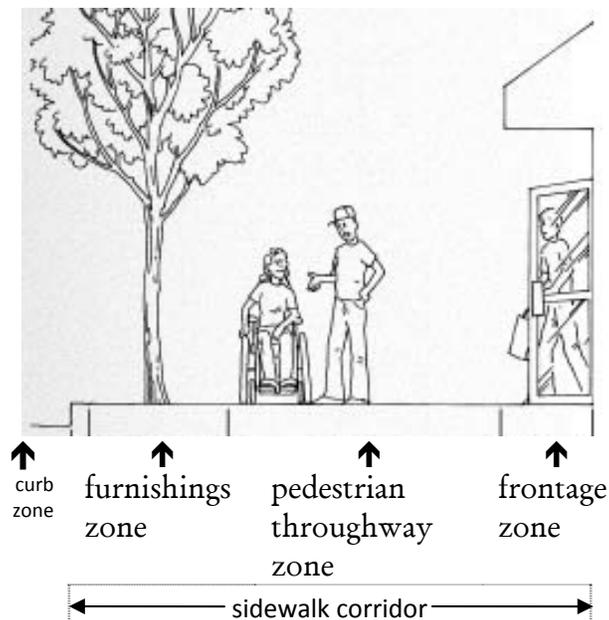


Figure 4A. Sidewalk Corridor Zones²

Curb Zone The curb zone is the vertical rise and horizontal length that serves as the edge between the roadway and walkway. The curb zone serves many purposes; e.g., it helps prevent vehicles from driving on the sidewalk, helps street sweeper trucks pick up debris, helps stormwater runoff drain to gutters, and provides space for people to get in and out of their vehicles. Curbs also help guide pedestrians with visual impairments who use canes.

² Adapted from "Designing Sidewalks and Trails for Access (Part II of II): Best Practices Design Guide" (Chapter 4). USDOT, FHWA.

The curb zone is typically a minimum of 6 inches wide. In active, high-traffic areas with on-street parking, however, the curb zone minimum should be 18 to 24 inches wide. This distance allows the curb zone to accommodate the door swing of a parked car, keeping it out of the furnishing zone.

Furnishings
Zone

The furnishings zone is the portion of the sidewalk designated for objects that are important to a streetscape but that should be out of the walkway (or “pedestrian throughway zone”). Street furnishings include (but are not limited to) street trees, art, parking meters, utility poles, bicycle racks, and transit stops. Furnishings also include street furniture such as benches, chess tables, and fountains, which can invite community use and gathering. This zone is also the place for planting strips.

A secondary function of the furnishings zone is that it buffers pedestrians from parked cars’ doors and street traffic, which can improve their level of comfort and sense of safety while walking. The furnishings zone’s width is based on traffic speeds and volumes, whether street parking is provided, and the level of pedestrian use. The “Pedestrian Facilities Users Guide” (USDOT 2002) recommends two- to four-foot buffers along local and collector streets and four- to six-foot buffers along arterial or major streets.

Pedestrian
Throughway
Zone

The pedestrian throughway zone is intended for pedestrian travel only and should be clear of obstacles. The ADA Accessibility Guidelines specify an absolute minimum clear space of four feet wide for pedestrian travel. “Overhanging” elements such as awnings, store signage, etc. may occupy this zone as long as they clear a minimum height of 80 inches (6’ 8”) from the ground, per Accessibility Guidelines.

The Transportation Element Policy T-5h (see text box below) gives the required sidewalk widths for all new developments within Arcata.

Frontage
Zone

The frontage zone is the area adjacent to the property line where the public sidewalk transitions to the space within buildings. In commercial areas it is ideal when this area is wide enough for café tables and seating, benches, plantings, outdoor displays (retail and art), and other amenities. The size and aesthetic of the frontage zone correlates positively to higher volumes of window shopping and foot traffic.

The frontage zone should provide a comfortable interface distance between the active pedestrian throughway and, for example, people entering and exiting the

frontage property (18 inches wide is a standard recommended minimum). In constrained corridors with relatively little pedestrian traffic and/or deep building setbacks, shorter distances may suffice.

SPECIAL SIDEWALK CONSIDERATIONS

Certain portions of the streetscape require special consideration in terms of the spacing and placement of streetscape elements. Special guidelines to consider include:

Corners: Corners should not have any amenities that obstruct drivers' and pedestrians' clear views of each other.

Transit Stops: Transit stops should provide sufficient room outside of the Pedestrian Throughway Zone and Frontage Zone for people waiting for buses. There must also be space for passengers to board and alight from transit vehicles, including passengers in wheelchairs.

Disabled Parking and Passenger Loading Zones: The streetscape in these zones must not impede passengers from safely getting into and out of vehicles. Guidelines might require, for example, that eight feet minimum of sidewalk (length adjacent to the curb) be kept free of street trees, furnishings, and other obstructions.

ADJOINING DESIGN

Pedestrian facilities can attract greater use where they are adjoined by buildings and spaces that provide pleasing and interesting views. Vibrant, changing window displays create a more engaging, and thus more attractive, environment. Sidewalks that are bordered by welcoming store-fronts can entice people to walk from place to place, improving both pedestrian and economic activity.

Transportation Element Policy T-5h:

SIDEWALKS.

A continuous and interconnected system of sidewalks shall be provided throughout the City. The existing standard right of way of most arterials, collectors, and local streets (fifty feet) permits a five-foot sidewalk in each direction, the minimum width to comply with Americans with Disabilities Act (ADA) requirements. Some commercial areas in downtown Arcata should have wider sidewalks to accommodate higher levels of pedestrian traffic and window-shopping. The following standards shall apply to sidewalks:

1. Sidewalk continuity. Gaps in existing sidewalks should be closed to provide a continuous pathway. Cul-de-sacs should be discouraged because they disrupt pedestrian connectivity.
2. Sidewalk widths. New development projects shall be required to construct or re-construct sidewalks along the property frontage. Required widths are shown in the table below.
3. Sidewalk Requirements. Where adequate width exists to maintain ADA minimum clearance, sidewalk pedestrian amenities should be provided in the downtown commercial area. These include benches, bicycle parking, pedestrian-scale lighting, street trees, flower boxes, trash receptacles, drinking fountains, and awnings. Private development projects shall be required to include sidewalk improvements; other landowners are encouraged to provide improvements.
4. Sidewalk Maintenance. Sidewalk facilities shall be systematically inspected and maintained to clean and repair damaged surfaces and remove impediments such as poles, newspaper racks, and other paraphernalia that interfere with pedestrian flow.

Sidewalk Functional Width Requirements

LOCATION OF SIDEWALK	MINIMUM WIDTH (feet)
Low density residential area for two-way pedestrian traffic	6
Low intensity commercial area for two-way pedestrian traffic and window shopping	8
Higher density commercial and residential area for two-way pedestrian traffic, window shopping, and street furniture allowance	10
Bus stop with bench on sidewalk, without a shelter	8
Bus stop with a shelter on sidewalk	12
High intensity commercial area with high pedestrian traffic and a variety of outdoor sidewalk uses such as shopping and dining	12 to 15

Source: Table T-5, Transportation Element, *Arcata General Plan: 2020*.

ENHANCING THE PEDESTRIAN STREETScape

As pedestrians, we are attracted to places that balance the pedestrian-motorist environment, where the streetscape is scaled to human size rather than vehicle size. To achieve such a balance, first, the street scale must not be dominated by motorist lanes, traffic, or speed, and pedestrians must have designated space. Second, streets should include amenities that invite use and show people that they are welcome. Amenities might include landscaping, pedestrian-scaled lighting, public art, benches, drinking fountains, trash receptacles, and transit shelters.

Traffic Calming

“Traffic calming” is the term used to describe an array of streetscape design elements that help balance the pedestrian-motorist environment. Traffic calming devices are designed to make motorists slow down and be more aware of bicyclists, pedestrians, and the streetscape environment around them. Driving at lower speeds reduces the likelihood of people sustaining serious injuries if and when motorists do collide. Traffic calming can also discourage motorists from cutting through neighborhoods (to beat other traffic).

Most traffic calming narrows the motorist’s travelway because when motorists drive in narrower spaces (real or perceived), they drive more carefully. Narrowing the street—or the motorist’s field of vision—can be achieved in a number of ways: street trees, pavement striping (e.g., bike lanes), contrasting pavement or texture on the roadway edges, and on-street parking.

Traffic calming devices geared toward pedestrians focus on pedestrian crossings. Crossing the street is usually the most challenging aspect of pedestrian travel, and crosswalks are where nearly all pedestrian-motorist collisions occur. One method to improve pedestrian crossing safety is to shorten the crossing distance. Traffic calming measures to reduce the width of the intersection include: pedestrian refuge islands, curb extensions, reducing curb radii, and eliminating a travel lane.

Standard Pedestrian Enhancements

The section lists standard enhancements that can be considered for improving the “pedestrian streetscape.” Most, if not all, of these enhancements are considered 'traffic calming' measures. The City designs and builds all streetscape facilities to conform to the applicable standards of the *Manual of Uniform Traffic Control Devices* (MUTCD).

❑ Curb Ramps

Curb ramps provide access between the street and the sidewalk for people using wheelchairs, strollers, and the like. Without a curb ramp, these users may be forced into the roadway.

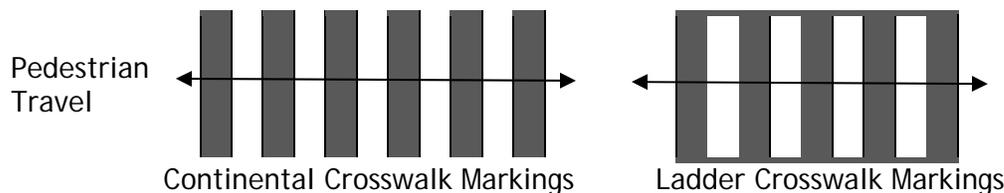
People with vision impairments, however, rely upon the curb to identify the transition between sidewalk and street. Therefore, curb ramp designs must serve both types of users.

The implementing regulations under Title II of the ADA specifically require curb ramps at all intersections and mid-block crossings, as well as for all new construction. Priorities for installing curb ramps on existing facilities should include access to government facilities, transportation, public accommodations, schools, and for employees to use to reach their place of employment.

Whenever feasible, curb ramps should align with the crosswalk, with two ramps per corner rather than a single ramp for both crosswalks. This provides orientation for visually impaired pedestrians by leading them to the opposite side of the street rather than the middle of the intersection.

❑ Marked Crosswalks

Marked crosswalks visually define the preferred pedestrian path of travel across the roadway; they also alert drivers as to where the crosswalk is located. The *Manual of Uniform Traffic Control Devices* (MUTCD) provides options for marked crosswalk designs, ranging from solid to dashed markings. However, FHWA research indicates that drivers see the “ladder” and “continental” markings the best. These longitudinal markings also guide pedestrians with low vision and cognitive impairments.



In general, marked crosswalks are appropriate at these locations:

1. At stop signs or traffic signals, where they help keep vehicles from blocking the pedestrian path.
2. At non-signalized crossings in designated school zones. These locations may also warrant crossing guards, school signs, and/or pedestrian signals.
3. Non-signalized locations where engineering judgment warrants a crosswalk in response to motor vehicle lanes, average daily traffic, speed limit, and geometry of the roadway.

It is generally best to use consistent crosswalk design in all applications; otherwise, less-visible markings may have comparatively weaker effects. However, note that an FHWA study found that crosswalk markings at uncontrolled crossings (no stop signs or signals) did not significantly improve pedestrian safety.³ More substantial treatments, such as refuge islands, curb extensions, and raised crosswalks (all described below), as well as enforcement and education, contribute to pedestrian safety at uncontrolled intersections.

³ “Safety Effects of Marked vs. Un-marked Crosswalks at Uncontrolled Locations,” 2002

❑ Diagonal diverters

Diagonal diverters prohibit through traffic by forcing motorists to turn at intersections. The diverter is typically designed to allow bicycle and pedestrian to travel through. A partial diverter can limit traffic access in one direction and allow through traffic in the opposite direction. Diagonal diverters also decrease the distance that pedestrians have to cross.

❑ Pedestrian Refuge, Refuge Island

Refuge islands are placed in the middle of the street to give pedestrians a safe space to wait before crossing the remaining half of the roadway. They should be at least four feet wide but six to eight feet is preferred. Examples of pedestrian refuge islands can be found at all roundabouts in the city and at the intersection of L.K. Wood and California Street.

❑ Medians

Medians can contribute to the aesthetic character and ecological function of the streetscape. They can add substantial greenery, decrease impermeable surface, offer opportunities for pedestrian refuges, and offer locations for lighting and some utilities. Wide medians of some streets offer opportunities for lines of trees that are otherwise difficult to achieve along sidewalks.

Sufficiently wide medians (12 feet or more) can be designed to include seating and gathering areas and other pedestrian amenities. Medians also create opportunities for pedestrian refuges at busy intersections. The intersection at H Street and Sunset Avenue has a median.

❑ Curb Extensions (A.K.A. BULB OUTS, NECKDOWNS, CHOKERS)

Curb extensions shorten the distance pedestrians must cross, as well as allow pedestrians to see and be seen better before they commit to crossing. The narrower intersections and road widths also help to slow vehicle speeds. These improvements may be applied at intersections and mid-block crossings. They are most appropriate at crosswalks where there is a parking lane adjacent to the curb. To make curb extensions more visible to bicyclists and drivers, the curb walls and/or the pavement should be painted a high-visibility color and have reflectors, and/or the pavement should be painted.

❑ Raised Treatments

Raised treatments can elevate either the roadway (e.g. speed humps) or the pedestrian path (e.g., raised intersections and raised crosswalks). Speed humps primarily function to slow vehicle speeds. Raised intersections and crosswalks, on the other hand, also make pedestrians more visible. All three treatments are described below.

■ **Speed Humps and Speed Tables.** Speed humps are sections of raised asphalt across the motor vehicle lane, which force automobile drivers to slow down or risk damage to the vehicle. Well-designed humps work well for bicyclists. Speed tables cover more area than

speed humps; they have a gradual approach and a wide flat top. Speed tables generate less vehicle noise and are generally more attractive than speed humps.

■ **Raised (or Tableized) Intersection.** A raised intersection involves building up an entire intersection, including crosswalks, to the level of the sidewalk. This decreases automobile speeds and enables pedestrians to cross the road at sidewalk level, higher than approaching vehicles. Having a raised intersection may eliminate the need for curb ramps; if so, detectable (i.e., tactile) warnings are placed at the sidewalk edge to mark the boundary between it and the street. Designs for raised intersections should also consider some sort of vertical barriers at the corners to keep vehicles off the sidewalk.

■ **Raised Crosswalks.** Raised crosswalks are similar to speed tables: they slow traffic and provide a flat surface (10 to 15 feet wide) for pedestrian crossings. The crosswalk is also built level with the sidewalk, which eliminates the need for a curb ramp. Care must be taken in the design to not inhibit drainage. These crosswalks are generally used in high-volume pedestrian areas at mid-block locations, such as Sunset Avenue at the skate park.

Because raised intersections and raised crosswalks are designed to slow traffic, the design must address designated emergency routes where they could slow emergency response time. Emergency personnel should be consulted on any proposed calming designs and installations.

□ Traffic Circles

Traffic circles are circular intersections; they apply the same general principles as roundabouts but on a smaller scale. The turning radii around traffic circles are designed to physically force motorists to slow down when approaching the intersection from all directions. In this way, traffic circles lower speeds more effectively than stop signs. Traffic circles typically have “yield to peds” signs. Some pedestrians (and bicyclists), however, find circular intersections harder to cross because it is often unclear if or when a car is going to turn.



Traffic circle on I Street

□ Pedestrian Safety Pylon

One inexpensive and effective device is the pedestrian safety pylon. Pylons are placed in the middle of an intersection to remind motorists to yield to pedestrians.

❑ Signs and Illumination

Another way to increase pedestrian safety may involve devices to alert motorists that pedestrians may be present, such as signs and lights.

■ **Signs.** Studies have shown that signs are often ineffective in altering motorist behavior and may be disrespected if overused. However, if used judiciously, they can be valuable. Overhead pedestrian crosswalk signs can help people be more aware that pedestrians are present, especially in locations where pedestrians may not be expected.

■ **Lights.** Good street lighting is one key to pedestrian safety. Illuminating the street can make it easier for motorists to see pedestrians at night. Lighting should be installed at intersections, crosswalks, and transit stops. Pedestrian alert devices include flashing beacons on overhead signs and in-pavement flashing lights (“flashers”) activated by a pedestrian button.

A nicely lit pedestrian environment influences the routes people will walk, and the places they will go. Pedestrian-scale lighting increases their comfort level and perception of personal security. In commercial areas, local businesses can help by lighting their window displays, which not only provides lighting to passersby but also encourages after-hours window shopping.

Lighting fixtures must be designed and installed to reduce light bleed to adjoining properties and the night sky, per the City’s Municipal Code.

Ensure Connectivity

Modern developments, whether commercial, industrial, or residential, present connectivity challenges or opportunities for pedestrians. They are challenges if they have barriers (e.g. walls) that cut them off from neighboring land uses, and when they have limited access points. When there is no pedestrian connectivity people may have to walk hundreds of feet out of their way to a collector street to reach the entrance of a neighboring subdivision.

By including short, direct pedestrian connections between adjoining land uses, jurisdictions can make walking (and bicycling) more attractive. These connections between adjacent land uses along access easements provide “short-cuts” not available to motorists.



Formal and informal pathways link 7th Street to the Community Center and Sports Complex.

The City of Arcata has successfully implemented these short connector paths in a number of locations, and the City should secure easements whenever possible to create better connectivity. Any future development should continue this practice.

Unpaved trails can still meet ADA requirements with materials like decomposed granite, packed soil, and other natural surfaces with proper base material preparation. Soil stabilizers can also be applied to bind soil or aggregates into a hardened, durable surface.

Traffic signals.

Traffic signals can make pedestrian crossing safer on high-traffic streets. Note, however, that the City considers new traffic signals a last resort:

Transportation Element: Arterial Streets.

Minimize the installation of new traffic signals. New traffic signals shall be provided only in instances where there is no feasible alternative to relieve a demonstrated safety problem at an intersection (based on documented accidents). Alternatives which shall be studied prior to signals include roundabouts or installation and monitoring of all-way stop signs. (Policy T-4b(5), *Arcata General Plan: 2020.*)

Traffic signals' timing is an important aspect of pedestrian crossing safety. Some pedestrians, especially the elderly and people with mobility impairments, need additional crossing time. Longer crossing times should be considered in areas expected to serve slower pedestrians, such as near retirement homes. The time allotted to pedestrians to cross and the time they must wait must be balanced to deter pedestrians from crossing during gaps in traffic, against the light. Pedestrians also benefit from pedestrian countdown signals, which display crossing times to help pedestrians cross safely.

Pedestrian-actuated signals are an option to respond to pedestrian crossing demand. When a pedestrian pushes the pedestrian button, it triggers the traffic signal to display the “walk” light when the lights change. Pedestrian-actuated signals can also be programmed to change the traffic lights to favor pedestrian crossing.

Accessible pedestrian signals provide audible (chirping, verbal, or other tones) or vibro-tactile information that is particularly helpful for individuals with vision or cognitive impairments. The signals on Samoa Boulevard have pushbuttons with a tactile arrow pointing in the direction of travel, Braille signage, and a fast tone indicating the “walk” phase.



Audible, pedestrian-actuated crossing at Samoa Boulevard and H Street.

EXISTING PEDESTRIAN FACILITIES

Arcata is a very walkable town in terms of its predominantly flat geography, centralized commercial area, and relative compact size. However, in several areas, sidewalks are discontinuous and inadequately sized for pedestrians' needs. The city can be made much more pedestrian-friendly by improving its network of sidewalks and other pedestrian walkways.

Just as arterial and collector streets are major routes for automobiles, so is the case with pedestrians. Most arterial streets in Arcata do have sidewalks, but significant gaps exist along Samoa Boulevard, Alliance Road, and are completely lacking along West End Road. Most walkways abut the street curb and do not have spatial or physical barriers against traffic, opening car doors, and splashing water.

T-5g Pedestrian pathways and multi-use trails. Pedestrian pathways or multi-use trails for the exclusive use of non-motorized transportation modes should be provided. Pathways may be long facilities located along corridors or short facilities providing direct access through development projects or connecting areas not directly accessible by streets. Pathways should be planned to serve both recreational and commuter needs.

Arcata General Plan: 2020

The most interconnected pedestrian system is in the downtown area; however, the sidewalks are particularly narrow for a commercial center. Generally, older residential neighborhoods do have sidewalks but they, too, are narrow and were rarely constructed with curb ramps. Many streets in Arcata are rural in nature and lack both curbs and sidewalks. Some streets on hills do not have sidewalks and retrofitting them with sidewalks would require retaining walls, which are big and costly investments.

Connector pedestrian pathways are prevalent. These are often narrow pathways that connect dead-end streets to arterial roadways, giving

pedestrians (and bicyclists) an advantageous alternate route over motorists. For example:

- ❁ Several paths connect Alliance Road to streets uphill, such as at the end of 14th, 16th (to Arcata High School), L, and M Streets; and a staircase and path from Alliance connects to Western Avenue/North Grant Avenue.
- ❁ A path from Alliance to Wisteria Way provides a shortcut to Westwood Manor Park.
- ❁ A path links Stewart Court and Anina Way.
- ❁ A path at the end of 13th Street at K Street gives pedestrian access to the cul de sac on K Street and leads to Stewart School Park.
- ❁ A path from Cahill Park (on Stromberg) provides an uphill shortcut to Arcata Elementary School (aka Sunset Elementary) on Baldwin Street.
- ❁ On 7th Street between F Street and Union, paths on the south side lead downhill to the Arcata Community Center and Sports Complex and HealthSport; on the north side a path connects to D Street.

- ❁ Pacific Union School can be accessed from the east on a pathway off Ribeiro Lane.
- ❁ A path exists around the Janes Creek Subdivision and there is a pedestrian connection to Maple Lane.

Several trails in Arcata provide pleasant recreational walking conditions. The Arcata Marsh and Wildlife Sanctuary has 4.5 miles of trails through the integrated wetland wastewater



This path connects Alliance Road to Arcata High School.

treatment plant and marshland that is home to over 200 species of birds. Arcata Community Forest has miles of trails winding through 600 acres of forest, along creeks, and to vista points offering views of Arcata, Eureka, Humboldt Bay, and the Pacific Ocean. Shay Park, located south of Sunset Avenue, provides trails crisscrossing Jolly Giant Creek. Recreational trails are also found on the United Indian Health Services (Potawot Village) site and around the Janes Creek Meadow subdivision.

The most heavily walked area is downtown, especially around the Plaza.

Changes/Accomplishments Since the 2004 Plan:

The 2004 Plan listed four priority pedestrian enhancements:

- Citywide Curb Ramps (citywide program)
- Infill Sidewalk Projects (14 locations identified; citywide)
- Problematic Intersections (12 intersections identified; citywide)
- Bayside Road (Between Union Street and Crescent Way)

The City has made progress on all of these projects, although none has been completed entirely as identified in the 2004 Plan. The following summarizes new “existing conditions” resulting from pedestrian projects that have been accomplished. Table 4.1, below, details the current status of all projects recommended in the 2004 Plan.

CITYWIDE CURB RAMPS

In the last five years, the Public Works Department has constructed new curb ramps along pedestrian paths to and around the following school campuses: Jacoby Creek School, Arcata Elementary School, Bloomfield Elementary School, St. Mary’s Elementary School, Sunnybrae Middle School, Pacific Union Elementary School, and Arcata High School. California’s Safe Routes To School grant money funded these projects.

In addition, the City constructed (or reconstructed) new curb ramps in conjunction with its annual sidewalk improvements and other roadway improvement projects. The streets that were improved included: the Arcata Plaza (G, H, 8th, and 9th Streets), K Street (from 17th to Samoa), F Street (8th to 10th).

INFILL SIDEWALK PROJECTS

The 2004 Plan recommended fourteen locations for Infill Sidewalk Projects. Members of the public identified the locations and mentioned most often the sidewalk gaps at four spots: Alliance Road–North, Alliance Road–Shay Park, G Street, and St. Louis Road. The City completed pedestrian improvements at three of those locations (not G Street), plus at three other recommended locations. Eight recommended in-fill locations have had no change.



BEFORE (2004) -- West side of Alliance Road, near Spear Avenue (facing south).

New sidewalks were installed along Spear Avenue with funding from a Safe Routes to School grant.



Alliance Road, eastern side near Shay Park (circa 2004)

PROBLEMATIC INTERSECTIONS

The 2004 Plan identified twelve problematic intersections. The City has accomplished pedestrian improvements at eight of the locations, and is in the design and permitting stage for another. Three of the identified intersections have had no change.

BAYSIDE ROAD

The City redesigned Bayside Road (between Union Street and Crescent Way) with wider shoulders, traffic humps, and restriping. However, this narrow, high-volume, multi-modal roadway still does not ideally serve all pedestrian, bicycle, and motorist uses. Community members and City staff continue to search for the best solutions.

Table 4.2 Status of Pedestrian Projects from the *2004 Pedestrian & Bike Master Plan*

2004 Identified Problem/Proposed Project	Status	Accomplishments To-Date (February 2010)
CITYWIDE CURB RAMPS "Next Steps" from 2004 Plan: Site Identification		
Arcata lacks curb ramps in a number of key locations. Curb ramps should be reconstructed to facilitate pedestrian mobility, particularly for people who use wheelchairs, walkers, strollers, and the like.	<i>Constructed and ongoing</i>	Public Works Dept. has constructed new curb ramps around six school campuses (five elementary schools and one high school). In addition, the City constructed (or reconstructed) new curb ramps in conjunction with its annual sidewalk improvements and other roadway improvement projects. The streets that were improved included: the Arcata Plaza (G, H, 8 th , and 9 th Streets), K Street (from Samoa Blvd. to 17 th Street).
INFILL SIDEWALK PROJECTS "Next Steps" from 2004 Plan: Identify Priorities		
[1] Alliance Road-North Sidewalk gap on west side of Alliance between 27 th Street and Spear Avenue.	<i>Constructed</i>	The City filled in sidewalk gap on the west side of Alliance from Spear to 27 th Street.
[2] Alliance Road/Shay Park Sidewalk gap east side of Alliance Road adjacent to Shay Park.	<i>Constructed</i>	The City installed new sidewalk/curb ramp on the eastern side of Alliance; new high-visibility, raised crosswalk on Alliance; new sidewalk on the west side of Alliance Road, which connects to Foster Avenue with contiguous sidewalk. The City does not plan to install sidewalk on the eastern side adjacent to Shay Park, but instead leave that as a natural area interface while providing pedestrians with the sidewalk on the western side.
[3] G Street — No pedestrian pathway from Sunset Avenue to 450 feet south; no crosswalk link to the sidewalk in front of North Pointe Apartments.	<i>No change (carried over 2010)</i>	

2004 Identified Problem/Proposed Project	Status	Accomplishments To-Date (February 2010)
[4] St. Louis Road — Sidewalk gap west of St. Louis overpass; no connection to Janes Creek Meadow residential development.	<i>Constructed</i>	
[5] Bayside Road — Infill sidewalk Union Street to Crescent Way.	<i>No change</i> (carried over 2010)	
[6] Sunset School (Arcata Elementary) — Jay Street and Grant Street and several other streets leading to the school.	<i>Constructed</i>	
[7] South I Street — Samoa Blvd. to Marsh; will be included in future redevelopment plans.	<i>No change</i> (carried over 2010)	
[8] 11th Street — Union Street to D Street: many sidewalk gaps (south side).	<i>No change</i> (carried over 2010)	
[9] West End Road — Spear Avenue to Giuntoli: pedestrians must walk in bike lanes.	<i>No change</i> (carried over 2010)	
[10] Old Arcata Road — Poor pedestrian access to Bayside Post Office.	<i>No change</i> (carried over 2010)	
[11] Fickle Hill Road — Pedestrians must walk on street alongside fast cars traveling into Arcata.	<i>No change</i> (carried over 2010)	
[12] Samoa Boulevard — No pedestrian access over U.S. 101.	<i>No change</i> (carried over 2010)	
[13] Sunset Avenue —	<i>Some Improvements</i> <i>Constructed</i>	The City infilled/replaced sidewalks and curb ramps. On the north side, there is now contiguous sidewalk from G St. to Eastern Avenue. On the south side, there is new sidewalk from the railroad tracks(Skate Park/Jay St.) eastward past Ross Street. The sidewalk gap on the south side will be filled when the adjoining vacant parcel is developed.
[14] Improved connectivity to downtown— From both the Valley West and Sunny Brae neighborhoods.	<i>Some Improvements</i> <i>Constructed</i> (carried over 2010)	The City installed sidewalks on the Guintoli overpass, from Heindon Road to Valley West (south side.)

2004 Identified Problem/Proposed Project	Status	Accomplishments To-Date (February 2010)
PROBLEMATIC INTERSECTIONS "Next Steps" from 2004 Plan: Traffic studies, Pedestrian counts, Design		
[1] F Street at 14th Street — No pedestrian connectivity from the F Street cul-de-sac on the south side of 14 th Street going east to HSU (over 101 overpass).	<i>No change</i>	
[2] D Street at 14th Street — Most pedestrians jaywalk from the D Street cul-de-sac, across the street to the footpath, rather than walking to the pedestrian crossing at L.K. Wood and 14 th , which is approximately 100' west of the HSU footpath.	<i>Constructed</i>	The City installed a raised crosswalk with high visibility striping across 14 th Street, physically and visually connecting D Street to the footpath.
[3] Sunset Avenue at L. K. Wood and G-H Streets — The City would like to have pedestrian islands/refuges installed at Sunset Avenue and L.K. Wood. The City has right-of-way for this intersection, but it is State property (HSU/CSU).	<i>Some Improvements Constructed</i>	The City is currently negotiating with HSU regarding future improvements to the intersection. On Sunset at G and H Street intersections, the City painted high-visibility zebra striping in the crosswalks, installed a pedestrian refuge between G & H, and built new sidewalk and curbs on each side.
[4] L. K. Wood at St. Louis — St. Louis US101 overpass (bridge) has sidewalk along south side. Intersection's only traffic control is a stop sign for southbound traffic on L.K. Wood.	<i>Constructed</i>	To slow traffic and provide a safe crossing for pedestrians, the City restriped the traffic lanes on L.K. Wood to channelize them, and installed a traffic table with a crosswalk at Ridge Road.
[5] Samoa Boulevard and I Street — Samoa Boulevard has no stop control at I Street (G, H, and K have stoplights).	<i>In Design & Permitting Phase</i>	The City is currently designing the "Samoa Boulevard Pedestrian, Bicycle, and Gateway Project." Construction is anticipated in 2010.
[6] 10th and G Street	<i>Constructed</i>	In the winter 2009/10, the City will install stop signs for northbound traffic on G Street at 10 th Street.

2004 Identified Problem/Proposed Project	Status	Accomplishments To-Date (February 2010)
[7] 11th and F Street	<i>Constructed</i>	The City made the intersection a 4-way stop.
[8] 11th and G Street	<i>No change</i>	No changes are anticipated for the 11 th and G Street intersection (it has had a 4-way stop and crosswalks since before 2004).
[9] 11th and I Street	<i>Constructed</i>	City installed a high-visibility crosswalk. 11 th Street can still be problematic for pedestrians to cross (e.g. above-average wait times).
[10] 13 th and G Street	<i>Some Improvements Installed</i>	City installed a high-visibility crosswalk, but crossing G Street is still problematic for pedestrians.
[11] 13 th and H Street	<i>Constructed</i>	City installed a high-visibility crosswalk (northern crossing only), but pedestrians usually have long wait times because most car drivers do not stop for pedestrians to cross.
[12] Crossings on L.K. Wood Boulevard north of HSU.	<i>Constructed</i>	This intersection was included in project #4, above.
BAYSIDE ROAD – Between Union Street and Crescent Way		
<i>“Next Steps” from 2004 Plan: Traffic studies, Pedestrian counts, Design</i>		
This section of Bayside Road has high motorized and non-motorized use both day and night. It is designated as a primary emergency route. Motorists tend to speed above the posted 25 MPH limit, especially downhill.	<i>Traffic Calming Installed</i> (carried over 2010)	In June 2003, the City repainted the street to provide bike lanes and two 10-foot traffic lanes, and also added street lights. Since then, the City has constructed new pavement to widen the shoulder (south/west side) and installed four traffic humps on Bayside Road between Fickle Hill Road and Crescent Way.

PEDESTRIAN PROJECTS

The Master Plan recommends pedestrian projects and programs consisting of improvement packages that can be implemented in specific areas or on specific corridors. This section will discuss techniques to create the safe, direct, and well-connected system of facilities needed to encourage more residents and visitors to walk.

CITYWIDE PEDESTRIAN IMPROVEMENTS PROJECT

Citywide Curb Ramps

Next Steps: Develop an up-to-date “ADA Ramp/Sidewalk Improvement Plan.”

Arcata lacks curb ramps⁴ in a number of key locations. Many existing ramps do not meet today’s required curb ramp designs and should be reconstructed to facilitate pedestrian mobility, particularly for people who use wheelchairs, walkers, strollers, and the like.

The City’s program for future curb ramp improvements is driven by three funding sources:

- City of Arcata Redevelopment Agency –
 - Redevelopment funds are applied to improve sidewalks in the central commercial area, beginning with the Arcata Plaza and spreading out concentrically.
 - Redevelopment funds will also fund curb ramp upgrades in “South of Samoa” area.
- Safe Routes to Schools (SR2S) – The City will continue to pursue State SR2S funding to apply to school areas that still lack adequate curb ramps. Project sites are chosen based on requests from the schools and need. The Transportation Safety Committee assists in evaluating and ranking requests.
- Tax Revenue –
 - Public Works receives a portion of the City’s sales tax (Measure G Transaction and Use Tax). Public Works allocates some of this money annually (e.g. \$50,000 in fiscal year 2009/10) to pay for routine sidewalk improvements in tandem with street overlays and rehabilitation. These sidewalk/curb improvement projects are complaint-driven. The Transportation Safety Committee assists in evaluating and ranking requests.
 - The Public Works Department will use some gas tax revenue to prepare a citywide “ADA Ramp/Sidewalk Improvement Plan.” The plan will include an up-to-date map of ADA curb improvements. The Transportation Safety Committee will assist in prioritizing curb ramp projects.

In addition, when applicable, the City requires private property owners to install curb ramps and sidewalks as a condition of new construction.

⁴ See page 4-11 for a description of curb ramps.

PEDESTRIAN SPOT IMPROVEMENTS

Infill Sidewalk Projects

Type: Concrete sidewalks and asphalt pathways

Miles: TBD

Next Steps: Review pending and near-future developments; prioritize segments; apply for funding.

The City of Arcata has been awarded several Safe Routes to School grants that have enabled the City to construct sidewalks along identified paths leading to K-8 schools. Nonetheless, there are still several city streets with no or non-continuous sidewalks, and the City wants to fill-in these sidewalk gaps, especially on arterial and collector roadways that lead to bus stops.

G Street – Between 18th Street/North Pointe Apartments and Sunset Avenue the north side of G Street does not have continuous walkway for approximately 450 feet or a crosswalk to access the apartment complex. Apartments.

South I Street – Sidewalk gaps exist on I Street between Samoa Boulevard and the Arcata Marsh recreation area. Pedestrian connectivity may be incorporated in future redevelopment plans.

11th Street – Sidewalk gaps at 11th and Q Street (northwest corner); 11th and D Street (southwest corner); and 11th Street between C and A Streets (south side).

West End Road – Spear Avenue to Giuntoli: pedestrians must walk in bike lanes.

Old Arcata Road – Poor pedestrian access to Bayside Post Office.

Fickle Hill Road – Pedestrians must walk on street alongside fast cars traveling into Arcata.

Samoa Boulevard – No pedestrian access over U.S. 101.

New Locations:

Improved connectivity to downtown – From the Valley West and Sunny Brae neighborhoods.

Continuous sidewalks to transit stops – In-fill existing sidewalk gaps adjacent to local fixed-route bus stops.

Union Street – Between 14th and 17th Streets.

7th Street – Between Union Street and sidewalk to Community Parkway (south side).



*G Street (east side)
heading north to Sunset
Avenue/101 Interchange.*

PEDESTRIAN SPOT IMPROVEMENTS

Problematic Intersections

Next Steps: Assess funding and design options; determine feasibility and schedule for improvements; TSC review (includes other committees and public review).

Priority pedestrian improvements are:

F Street at 14th Street

Existing Condition: Because the F Street cul-de-sac does not allow motorized vehicle access to 14th Street, F Street is a quieter, calmer, attractive alternative for pedestrians and bicyclists. Many pedestrians and bicyclists utilize F Street to reach the entrance to the HSU campus at



L.K. Wood and 14th Street. However, there is no pedestrian connectivity from the F Street cul-de-sac on the south side of 14th Street going east toward HSU (i.e. the freeway overpass).

The nearest cross-walk is at 14th and G Street, to the west, so most pedestrians cross 14th mid-block to reach the sidewalk on the north side.

Next Steps: Assess design solutions and project funding options; present findings to TSC for review; proceed with local adoption when feasible.

Sunset Avenue at L. K. Wood and G-H Streets

Existing Condition: The eastern terminus of Sunset Avenue intersects with L.K. Wood and U.S. 101 on- and off-ramps. The eastern intersection (on L.K. Wood) is State property (HSU/CSU), and the City has right-of-way.

In its current configuration, pedestrians are not protected aside from marked crosswalks. Walking this route can be a harrowing experience for pedestrians.



Sunset Ave at L.K. Wood/Hwy 101 off-ramp, facing west/southwest.

The City has improved the pedestrian environment at the western end of this corridor—at Sunset Avenue and G and H Streets. As part of a Safe Routes to School project, the City improved the pedestrian crossing with high-visibility zebra striping in the G Street and H Street crosswalks, and installed a pedestrian refuge in between them and new sidewalk and curbs at either side.

Recommended Improvements & Next Steps: The City would like to have pedestrian refuges (pedestrian islands) installed at Sunset Avenue and L.K. Wood. The City is currently negotiating with HSU regarding future improvements to the intersection.

Samoa Boulevard and I Street

Existing Condition: South I Street is a popular walking and bicycling route to the Arcata Marsh & Wildlife Sanctuary. However, the intersection of I Street and Samoa Boulevard is not stop-controlled and does not have a pedestrian crosswalk.

Next Steps: The City is currently designing the “Samoa Boulevard Pedestrian, Bicycle, and Gateway Project,” using construction funds from the federal Transportation Enhancement Act (SAFETEA-LU). The project stretches from F Street to K Street/railroad tracks, and includes installing contiguous sidewalks, adding bicycle lanes, adding landscaping and new signage. Public Works is working with Caltrans to acquire necessary permits. The City hopes to begin construction by 2010.

Additional Locations:

- 12th and H Street
- 12th and G Street

Table 4.3 Central Arcata Traffic Task Force (CATTF) Report Recommendations (1999)*

CATTF’s Recommended Improvement	Intersection
ROUNDBABOUT	US Highway 101 at Sunset Avenue 14 th Street at US 101/L.K. Wood Blvd 15 th Street at Alliance Road
NECKDOWNS	H Street at G, and 17 th through 12 th Streets G Streets at 16 th , 14 th , 13 th , and 12 th Streets H Street between G Street and 18 th Streets D Street at 12 th and 13 th Streets 14 th Street at K and J Streets 13 th Street at K and I Streets 17 th Street and Alliance Road
ALL-WAY STOP	11 th Street at I Street 17 th Street and Alliance Road

* See Appendix C for full report.

New Location: 11th Street – The City still receives requests for more traffic calming on 11th Street; priority intersections include 11th and B, D, and I (still), and points further west.

Next Steps: Review potential traffic calming designs to incorporate in future planned upgrades; public review and local adoption.

PEDESTRIAN CORRIDOR PROJECT

Bayside Road – Between Union Street and Crescent Way**Next Steps:** Local Adoption; Public Hearing

Bayside Road consistently carries a large volume of traffic between central Arcata and Sunny Brae (and points further south). Pedestrians, bicyclists, and drivers travel the road frequently. Although the City has improved the roadway in recent years—by adding lighting, speed humps, and a wider shoulder—the road still perennially makes the list of resident complaints. Residents have complained that:

- drivers speed on this road (although speed humps have alleviated part of this);
- bicyclists ride on the wrong side of the street because the north/westbound travel lane doesn't have a bikeway and is too narrow;
- having pedestrians and bicyclists share the south/eastbound path is undesirable.

Bayside Road presents several design constraints. Most of this segment of Bayside has no sidewalk or parking lane on either side. The road right-of-way is 40-feet wide and there is little to no room to widen it. Bayside Road is cut into a forested hillside, so maintaining vegetation and drainage is a prime consideration. Additionally, Bayside Road is a designated emergency response route; therefore, some traffic calming measures (like more speed humps) are not advised.

Because of space constraints, improving pedestrian and bicycle access on Bayside Road would require reconfiguring the road to have a single, one-way travel lane for motorized traffic. (The one-way would have to be for travel to Sunny Brae, so as not to interfere with emergency response calls.) This is the only solution that would allow separate travel ways for all three modes. It would give enough space for a continuous sidewalk on one side and bike lanes (Class II) on both sides of the road, or for a Class I shared-use path that is physically separated from the car travel lane.

Enhancing Bayside Road for prime pedestrian access is justifiable due to the fact that Samoa Boulevard provides a parallel alternate route with full motor vehicle access, bike lanes in both directions, as well as a separated pedestrian path. The City favors giving pedestrians the shortest and most direct routes; therefore, the City would direct cars (and bicycles), rather than pedestrians, to Samoa Boulevard. Under this project, some residents would have additional out-of-direction travel for some of their motorized trips. The City would work directly with residents/property owners along this segment to Bayside Road to design this project.

5. BICYCLE FACILITIES

Bicycling is not only a popular recreational activity in Arcata but also an essential mode of transportation for many residents. One reason for this may be the good network of bikeways already in place throughout the city. Improving upon this basic network will encourage even more people to utilize their bicycle on a regular basis. This chapter summarizes the needs of bicyclists, the current state of bicycling facilities in Arcata, and the recommendations to improve the bikeway network. Finally, the chapter ends with a description of the top priority bikeway segments for the city.



BICYCLIST NEEDS

Providing a safe, well-connected system of bicycle facilities can significantly increase levels of bicycling. More important than actual mileage, however, is how well connected those facilities are. Gaps in the bikeway system, obstacles such as bridges, and the resulting need to detour around these gaps and obstacles can make bicycling much less attractive.

Often the roads that provide bicyclists the most direct routes are also the most unpleasant and perilous, even for experienced bicyclists. Adding bicycle lanes to existing streets or including them in new streets is usually the preferred way of improving roadways for bicycle use. Bicycle lanes provide a clearly demarcated space that is understandable for both bicyclists and drivers. Rather than designating narrow streets with high traffic volumes as a bike route, an alternate parallel route along quieter roadways is a better solution (see Bike Boulevards, discussed below).

Bicycle lanes, however, are not always possible, especially in established areas. Bike routes are designated in constrained areas and to connect discontinuous bike lanes. One device that can be used to enhance a bike route is the shared lane arrow pavement stencil, thereby encouraging its use by bicycles by showing bicyclists where to ride and alerting motorists that they may need to share the lane. Where narrow lanes prevent comfortable lane sharing, posting “Share the Road” signs may help encourage motorists to make room for bicyclists

who use the road. Rather than designating narrow streets with high traffic volumes as a bike route, an alternate parallel route along quieter roadways is a better solution.

Improving existing trail facilities by widening the pavement, separating bicyclists and pedestrians, and improving signage and intersection controls also may encourage greater use of trails for transportation. Trails are preferred by novice bicyclists; therefore, they are an important amenity to encourage people to take up bicycling.

Aside from the actual bikeways, other “support” facilities can assist bicyclists along their routes and at their destinations. Three of the most essential bicycle support facilities that promote bicycling as a regular means of transportation are signage, secure bicycle parking, and locker facilities. Signage helps to direct bicyclists to suitable routes and can highlight important destinations along the way. Signs also alert motorists of the possible presence of bicyclists. Secure and safe bicycle parking at a destination is always desirable. Bicyclists who commute to work appreciate having a place to store gear, change outfits, and, ideally, take showers. For bicyclists who need to dress more formally, travel long distances, or bicycle during wet conditions, having facilities for showering and changing clothing can be as critical as having bicycle parking. Bike racks on buses encourage people with longer commutes to travel bi-modally by transit and bicycle.

BICYCLE CLASSIFICATION SYSTEM

Although commonly used interchangeably in non-technical situations, the terms “bike lane,” “bike route,” and “bike path” are defined distinctively in the transportation profession.

Moreover, the terms correlate to three tiers of bike “classes.” The two text boxes below define Class I, II, and III bikeways according to Caltrans and the City’s General Plan, respectively. Following those, the Master Plan discusses bike routes (Class III) in more detail. On roads that have no bikeway designation (not Class I, II, or III), bicyclists share the roadway with other vehicles and are allowed full use of the travel lane. These roads basically function the same way as Bike Routes (Class III), but do not have any markings or signage.



Class II Bikeway (“bike lane”) - G Street

Bikeway Classes I, II, and III

By law, bicycles are allowed on all roadways in California. (The State can prohibit bicyclists from freeways if a suitable alternate route exists.) There are three conventional “classes” of facilities to designate preferred bikeways.

Class I: Class I bikeways are typically called “bike paths” or “shared-use paths.” They provide a paved right-of-way completely separated from nearby streets or highways, designated for the exclusive use of bicycles and pedestrians. Minimum recommended widths range from 8’ to 12’, depending on anticipated usage. A minimum 2’-wide graded area is required adjacent to the path, clear of trees, poles, guardrails, etc.

Class II: Often referred to as a “bike lane,” a Class II bikeway is a restricted right-of-way on a street or highway that is designated for the exclusive or semi-exclusive use of bicycles.

Bike lanes have pavement striping and stencils, and signage. Bike lane widths are based on parking and street conditions.

Class III: Usually referred to as “bike routes,” Class III bikeways are facilities shared with motorists or pedestrians but which provide—through signage, pavement markings, design, and/or connection to other facilities—advantages to bicyclists not available on other roadways. Bicycle boulevards are a type of Class III facility that have design features that give preference to bicyclists (described more below). There are no recommended minimum widths for Class III facilities.

Resources: “Highway Design Manual,” Caltrans, 2006. “California Manual on Uniform Traffic Control Devices,” 2006. “Guide for the Development of Bicycle Facilities,” AASHTO, 1999.



At 11th Street, the Class II/bike lane on K Street (left background, with bicyclist), transitions to a Class III/bike route (foreground). The painted “sharrow marks the bike route (*described more below*).

Bikeway Policies of the Arcata General Plan: 2020

T-5b CLASS I BIKEWAYS. Class I bikeways are within completely separated right of way for exclusive use of non-motorized modes. They generally serve corridors not served by streets and provide a recreational opportunity or a high-speed commuter route. Class I bikeways can be multi-use trails serving bicyclists, pedestrians, rollerbladers, and equestrians. A Class I bikeway shall be included on the proposed Sunset-Foster arterial. The following standards shall apply to development of Class I bikeways:

1. Bikeway continuity. Off-street bikeways do not need to be continuous but need to connect to other types of facilities at each end of the bikeway to provide an interconnected system.
2. Right of way opportunities. As opportunities arise, the City shall utilize existing or acquire new easements or right of way for Class I bikeways. Such opportunities may include connecting dead-end streets in new developments with existing neighborhoods, along streets with excess width and unpaved right of way, along drainage channels or creeks, or along abandoned railroad rights of way.
3. Design standards. Two-way Class I bikeways shall be constructed with a minimum width of 8 feet and a preferred width of 10 feet (5 feet for one-way travel). Caltrans design standards shall be used for other design elements such as drainage slope, clearance, signing and striping, and control where bikeways intersect streets.

T-5c CLASS II BIKEWAYS. Class II bikeways are lanes located on the outside edge of roadways, including all arterial streets, and delineated from vehicle travel lanes with striping and pavement markings. The following standards apply to Class II bikeways:

1. Design standards. Caltrans design standards shall be used for Class II facilities. Minimum widths are 5 feet adjacent to on-street parking or vertical curb without on-street parking, and 4 feet on streets without curb and gutter. Appropriate signing and pavement markings shall be provided to identify the bicycle lane. Caltrans standards shall be used for bike lane markings or transitions at intersections.
2. Required street width. The standard street width of 40 feet curb-to-curb can accommodate Class II bike lanes in both directions if parking is eliminated from one side of the street and vehicle travel lanes are reduced to 11 feet. Bike lanes should be provided in both directions, if feasible, unless the street is one-way. Streets appropriate for Class II bike lanes include those where on-street parking needs are not critical. Alternatively, prohibition of parking on one side of the street during certain hours of the day may be considered to accommodate bicyclists.
3. Bike lanes in new development areas. New collector streets in new development areas should have a cross-sectional standard with a minimum curb to curb width of 48 feet, which can contain two 12-foot vehicle travel lanes, 7-foot-wide parking lanes, and five-foot wide bike lanes.

T-5d CLASS III BIKEWAYS. Class III bikeways are unmarked bicycle routes which share the street with other vehicles. This type of facility is usually established on low-volume local neighborhood streets, but can be located on any type of street. Many of the existing City-designated bicycle routes consist of this type of facility. Any Class III bike routes on routes to school with younger bicyclists should have wider outside lane widths (14 to 16 feet). Prohibition of parking during school hours may be considered to achieve the desired width.

Bike Routes (Class III)

With few exceptions, bicyclists feel more comfortable riding away apart from motorized traffic, preferably being physically separated from car traffic or at least having a dedicated travel lane. However, separated bike paths (Class I) and designated bike lanes (Class II) are often deemed infeasible due to space constraints and competing uses. Bike routes (Class III), alternatively, are for those roads that are preferred routes for cyclists and where bicyclists and motorists share the same travel lanes. Bike routes are differentiated by identifying signage, pavement stencils, or other roadway design elements (e.g. traffic calming). Compared to Class I and II bikeways, bike routes require less right-of-way space, cost less to install, and require less maintenance.

Bike Route Signage

Signage informs potential and existing users alike to the existence of bicycle facilities. Signs also help remind motorists to be aware that bicyclists may be on the roadway. The Caltrans *Highway Design Manual* (Index 1003.3 Class III Bikeways) recommends considering the following when deciding whether or not to install signage on a Bike Route:

- (1) *On-street Bike Route Criteria.* To be of benefit to bicyclists, bike routes should offer a higher degree of service than alternative streets. Routes should be signed only if some of the following apply:
 - (a) They provide for through and direct travel in bicycle-demand corridors.
 - (b) Connect discontinuous segments of bike lanes.
 - (c) An effort has been made to adjust traffic control devices (stop signs, signals) to give greater priority to bicyclists, as compared with alternative streets. This could include placement of bicycle-sensitive detectors on the right-hand portion of the road, where bicyclists are expected to ride.
 - (d) Street parking has been removed or restricted in areas of critical width to provide improved safety.
 - (e) Surface imperfections or irregularities have been corrected (e.g., utility covers adjusted to grade, potholes filled, etc.).
 - (f) Maintenance of the route will be at a higher standard than that of other comparable streets (e.g., more frequent street sweeping).

Below is California's standard bike route signage.



The Bike Route sign (*left*) shows bicyclists the preferred route, and directional arrows (sometimes with destination names) guide them to noteworthy places and/or other bicycle facilities. These signs are placed at intervals along the route and wherever the route changes direction.

Bike Route signs as well as the “Share The Road” signs (*right*) remind motorists that they share the road with bicyclists. “Share the Road” signs are often put up in rural settings along roadways that are favorable routes for bicyclists but have minimal or no shoulders.



Shared Lane Markings (“Sharrows”)

Bike routes can also be demarcated by shared-lane markings that are painted on the pavement, in the travel lane. Currently the common bike route marking in California is a shared right-of-way arrow, nicknamed “sharrow” (*right*). Sharrows can serve several purposes, such as giving additional visual cues to drivers to expect bicyclists in the travel lane, showing bicyclists a preferred route, and reminding bicyclists to bike away from parked cars to prevent “dooring” collisions.

The State’s design standard for sharrows limits applying them to roadways that have on-street parallel parking.¹ Guidelines recommend that sharrows be applied only to roads without marked bicycle lanes or shoulders (i.e., on a Bike Route/Class III Bikeway or “Shared Roadway” with no bikeway designation). Installing bicycle guide signs or warning signs with sharrows is optional.

The City of Arcata conforms to California’s MUTCD and Highway Design Manual standards as mandated. The City also encourages innovative solutions for bicycle safety, awareness, and education. When the City deems it worthwhile, the City will try innovative solutions that will serve a safety need, even if the innovation does not qualify for State funding. For example, the City of Arcata might install sharrows in a lane without parallel parking. (The City and County of San Francisco is another jurisdiction that has adopted such a guideline.)

CITY OF ARCATA PLACEMENT GUIDELINES

The City of Arcata considers the following information (including, but not limited to) when deciding whether or not to apply sharrows:

- Is it a Bike Route?
- Traffic volumes
- Parking turnover
- History of dooring, overtaking, and/or mid-block bicycle collisions
- Gap in otherwise continuous bike path or bike lane
- Current demand by cyclists
- Prevailing speeds by motor vehicles and cyclists

¹ (a) Caltrans Policy Directive 05-10. September 12, 2205; (b) Section 9C.103(CA). California MUTCD.

Bicycle Boulevards

One type of Class III facility that is gaining interest is the bike boulevard, a concept pioneered in Palo Alto, California. A bike boulevard is usually a street directly parallel to a major commercial corridor and is designed to promote bicycle circulation on a street that is calmer and more inviting. Common characteristics of a bike boulevard include:

- The street has relatively low traffic volumes;
- The route accesses major destinations;
- Traffic-calming devices discourage motor vehicle traffic from outside the neighborhood (i.e. through traffic);
- Traffic controls make it easier for bicyclists to cross major streets;
- Bicycles get the right-of-way through intersections, where possible, to enjoy free-flow travel;
- The bicycle boulevard has a distinctive street “look” (e.g., unique signage, stencils, traffic calming) to alert bicyclists and motorists of the purpose of the street.

EXISTING BICYCLE FACILITIES



Arcata's Only Class I: Highway 101 overpass bridge between G Street and HSU campus.

Existing Bikeways

Arcata does have a full array of bicycle facilities, although not all levels of facilities are equally represented. For example, there is just one off-street pathway built to Caltrans' Class I standards: the bridge from G Street (at 17th and 18th Streets) to Humboldt State University campus (i.e., the U.S. 101 pedestrian overcrossing to L.K. Wood Boulevard). There are now a few Class III bike routes that have pavement markings, but none that have signage. Arcata does have a fairly complete network of bike lanes on many streets in the city. There exist 12 miles of designated bike lanes (Class II), which means they run along 22% of the City's 62 miles of roadways. Table 5.1, below, shows bike lane streets and lengths.

Table 5.1 Existing Bike Lanes (Class II)

Street	From	To	Length (miles)
14th Street	F Street	L.K. Wood Blvd.	0.1
7th Street	L Street	Union Street	0.7
Alliance Road	Spear Avenue	11th Street	1.4
Bayside Road (SE only)	Union Street	Buttermilk Lane	0.7
Eastern Avenue (NB only)	Sunset Avenue	Foster Avenue	0.1
G Street	Sunset Avenue	Front Street (breaks between 9 th -10 th St.)	1.0
Giuntoli Lane	Heindon Road	West End Road	1.0
H Street	Sunset Avenue	Samoa Blvd	1.0
Janes Road	Giuntoli Lane	Spear Avenue	0.7
L. K. Wood Blvd	Redwood Avenue	14th Street	1.2
Old Arcata Road	Buttermilk Lane	Hyland Street	0.8
Samoa Blvd.	Union Street	Buttermilk Lane	0.4
Spear Avenue	Janes Road	St. Louis Road	0.7
St. Louis Road	Spear Avenue	L. K. Wood Blvd.	0.3
Sunset Avenue	H Street	L. K. Wood Blvd.	0.2
Valley East Boulevard	Giuntoli Lane	Valley West Blvd	0.4
Valley West Boulevard	Giuntoli Lane	Valley East Blvd	0.3
West End Road	Giuntoli Lane	Spear Avenue	1.2

These streets are either arterial, minor arterial, or collector streets and provide critical connectivity for bicyclists and motorists alike.

Although the bikeway system is largely in place, some challenges and gaps still exist. One problem all cities struggle with is maintenance, especially routine street sweeping and striping/restriping. One of the most challenging gaps is along Samoa Boulevard between G Street and Union Street. The U.S. 101 interchange, where automobiles quickly exit and enter the freeway, creates an inhospitable route for slower-moving bicyclists. This barrier reduces the number of people bicycling from the Sunny Brae neighborhood to downtown.

The Janes Road/Spear Avenue/Alliance Road corridor is a popular bicycling route in Arcata, but the bike lane stops at 11th Street. At this point (where Alliance Road turns into K Street), the bikeway narrows into a Bike Route with sharrows on K Street from 11th Street to Samoa Boulevard.

East-west bikeways in the downtown area are few. Only 7th Street from K Street to Union Street has bike lanes. The City is planning one of its first two bicycle boulevards for 10th Street, from “F” to “Q” Street, which will provide one more enhanced east-west route.



Bicyclists on Giuntoli Lane must contend with merging and turning cars and trucks at the U.S. 299 interchange.



Eroded pavement markings on West End Road's bike lane.

The Valley West area is particularly challenging for bicyclists and pedestrians. This neighborhood of apartment complexes, mobile home parks, hotels, and retail stores is only accessible via Giuntoli Lane.

Although Giuntoli does have bike lanes, it intersects with the U.S. 101 interchanges to the west, and SR 299 interchange or West End Road to the east. Therefore, cyclists riding from Valley West to downtown Arcata must travel on a freeway or take West End Road (a major arterial that is known to accumulate redwood bark and gravel in the bike lanes). Developing an alternate to Giuntoli Lane or improving existing conditions is essential to influence more people to bicycle in Valley West.

Unique to Humboldt County is bicycle access on *all* State Routes, including the eight-foot wide shoulders of U.S. 101, which is part of the Pacific Coast Bike Route. Daily traffic volumes average 36,000 to 38,000 vehicles between Arcata and Eureka,² and a posted speed limit of 50 (in safety corridor) or 65 miles per hour are deterrents to all but the most devoted and experienced bicycle commuters.

Planned Bicycle Boulevards (Bike Routes/Class III)

Arcata's first bicycle boulevards are to be on I Street and 10th Street. The City was awarded BTA funding (2007/08) for these proposed bicycle boulevards and will install them in February 2010. The bicycle boulevards will be distinguished by unique signage, pavement markings, and traffic calming devices intended to balance the motorized vehicle and bicycle environment.

The proposed I Street bicycle boulevard will enhance north-south connectivity for bicyclists; it will extend from 17th Street to Samoa Blvd, and connect to the Arcata Marsh and Wildlife Center. "I" Street is directly parallel to H Street and the Plaza, which are commercial and recreational destinations.

² Traffic Volumes (Annual Average Daily Traffic (AADT)) for all vehicles on California State Hwys, 2008. Caltrans.

The proposed bicycle boulevard on 10th Street will create more east-west connectivity for bicyclists in central Arcata. The 10th Street bicycle boulevard will begin at the Intermodal Transit Facility on F Street, continue west to 10th and Q Streets, and then turn onto 11th Street, which leads to the Arcata Bottom and State Route 255/Samoa Blvd, or northern Arcata. Tenth Street is directly parallel to 11th Street, which is a major city arterial that accesses commercial, business, and recreational pursuits, as well as residential neighborhoods.

Signage

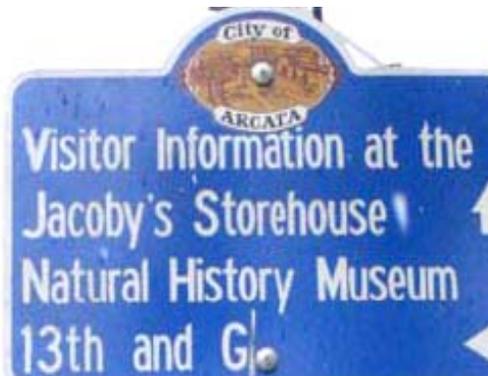
Implementing a well-planned, attractive, and effective system of network signing can greatly enhance bikeway facilities. Effective signage can encourage more people to bicycle.

Signage for bicyclists and pedestrians is sparse in Arcata. The only consistent bicycle signs are the “Bike Lane” signs that denote the presence of on-street bikeways. Directional signage is almost non-existent. There are some signs posted along streets en route to downtown that point out destinations (Downtown, Redwood Park, Chamber of Commerce, and the Wildlife Sanctuary); signs for Redwood Park are found on streets close to the park.

Bicycle Parking

Both long-term bicycle parking at transit stations and work sites, and short-term parking at shopping centers and other commercial areas, support bicycling. Secure long-term parking is valuable to commuters because bicycles parked for longer periods are more exposed to weather and theft.

The Plaza area has bicycle parking, but bicycles parked overnight are subject to vandalism or theft, and none of the racks are sheltered from the elements. City Hall has two bicycle lockers for City staff, and the Intermodal Transit Facility has public bicycle lockers for rent.



An example of directional signage near downtown Arcata

Bicycle Parking Policy of the Arcata General Plan: 2020

T-5e BICYCLE PARKING FACILITIES.

Secure bicycle parking facilities should be provided at important activity centers, civic facilities, apartment complexes, employment centers, shopping centers, major bus stops, and schools. Bicycle parking facilities include racks, lockers, and bollards.

Developers shall be required to provide a minimum number of bicycle parking devices at convenient and visible locations within the development. The required number of bicycle parking spaces shall be calculated as a proportion of the number of vehicle parking spaces.

Table 5.2 below shows how the City determines the number of required bicycle parking spaces; Table 5.3 lists several of the bicycle parking locations in Arcata.

Table 5.2 Minimum Bicycle Parking Spaces Required

Motor Vehicle Parking Spaces Required	Bicycle Parking Spaces Required
3 – 10	100% of motor vehicle parking spaces
11 +	50% of motor vehicle parking spaces

Source: Arcata Land Use Code 9.36.060

Table 5.3 Prominent Bicycle Parking in Arcata

At Public Facility/Right-of-Way	Private/Commercial Locations
Arcata City Hall	Arcata Community Pool
Arcata Branch Library	Los Bagels
Arcata Marsh Interpretive Center	Murphy's Market (Sunnybrae)
Arcata Community Center	North Coast Co-op
Arcata D Street Neighborhood Center	Sunny Brae Shopping Center
Intermodal Transit Facility and various bus stops	Uniontown Plaza
All district schools	Valley West Shopping Center
Some city parks	Wildberrie's Marketplace
Northtown business area	
* U.S. Post Office (on plaza)	
* Bike lockers at Intermodal Transit Center	
* Downtown – various street locations	
* H & 10 th (near Minor Theater)	

* *Installed since identified in the 2004 Plan.*

Facilities for Changing & Storing Equipment

Some commuter bicyclists need showers, lockers, and changing rooms at trip destinations. For bicyclists who dress more formally, travel longer distances, or bicycle during wet conditions, having showers and changing rooms available can be as critical as bicycle storage. Only a few offices currently have these facilities; the City will encourage employers to make available to their employees facilities for changing and storing clothes and equipment.

Bicycle Parking & Transit

Providing secure bicycle parking at transit centers and bus stops is one way to attract and support bicycle-transit commuters. The Intermodal Transit Facility in downtown Arcata has bicycle racks, which are heavily used. The bicycle racks are only partially covered and thus

BICYCLE FACILITIES

Bicycle parking at the Arcata Intermodal Transit Center.



not fully protected from weather or vandalism. However, the transit center does have 12 bicycle lockers that may be rented (\$10 a month in 2010).

Arcata supports the Arcata & Mad River Transit System (A&MRTS), which runs two city bus lines. Many A&MRTS bus stops around the city have bicycle parking, although the buses themselves do not have bicycle racks.

Some bicyclists may need to bring their bikes with them to finish their trip from their final bus stop. Intercity buses have bicycle racks to support these travelers. Redwood Transit System (RTS)³, Blue Lake Rancheria Transit⁴, and Redwood Coast Transit⁵ buses have front-loading bike racks that fit two to four bicycles. Passengers may load bicycles at all bus stops, including flag stops. When RTS's front bike racks are full, cyclists may be allowed to bring their bicycles aboard, at the driver's discretion. However, during the school year commute hours, RTS buses are frequently too crowded to accommodate all passengers with bicycles.

CREATING A BIKEWAY SYSTEM

A bikeway “system” is a network of bicycle routes that, for a variety of reasons including safety and convenience, provide a higher level of service for bicyclists. It is important to state that, by law, bicyclists are allowed on all streets and roads (except freeways where Caltrans can prohibit bicycles) regardless of whether they are a part of the bikeway system.

Planning and creating a bikeway system allows the City of Arcata to focus and prioritize projects that will provide the greatest community benefit. One of the major goals of the Master Plan is to build on the extensive local bikeway network already in place. The recommended bicycle system consists of a comprehensive network of utilitarian bikeways

³ Service from Trinidad to Scotia.

⁴ Service between Arcata and Blue Lake locations.

⁵ Del Norte County's public transit system; RCT offers service between Arcata, Crescent City, and Smith River.

connecting residential neighborhoods with schools, parks, downtown, employment centers, and other destinations. It focuses around a primary system of north-south and east-west corridors, using a combination of paths, lanes, and routes.

Another important criterion is input from community members and local staff familiar with the best routes and existing constraints and opportunities.

The City's Transportation Safety Committee (TSC) held five public meetings (August through November 2009) with the Master Plan update on the agenda. Two of the meetings were special meetings held for reviewing the City's bicycle (and pedestrian) system and taking public comments on revising the plan. The public comment process continued with both Planning Commission and City Council meetings for review and adoption.

TSC members, residents, and staff identified deficiencies in the existing bikeway system, discussed physical and political constraints, and offered solutions and opportunities for improvements. We considered some of the following criteria in selecting projects:

1. History of requests and/or complaints for a bike corridor or intersection.
2. Existing bicycling patterns based on personal use, experience, observation and public comment.
3. Traffic volumes and travel speeds on streets.
4. Curb-to-curb width.
5. Destinations served.
6. Topography and gradients.
7. Integration into the regional system.
8. Presence of reasonable alternatives for bicyclists.
9. Directness and connectivity to destinations.

The Arcata bikeway system was developed with the objectives of connecting existing segments of bikeways, addressing routes used by bicyclists, and creating a more balanced bicycle/pedestrian/automobile environment to increase bicycle ridership. The proposed bicycle network consists of a comprehensive system of utilitarian bikeways—both on-street and off-street—connecting residential neighborhoods with work, schools, parks, transit hubs, community centers, commercial districts, open space, and other destinations.

The proposed bikeway system is shown in Figures 5A through 5E at the end of this chapter.

Finally, it is important to remember that the bikeway system and the priority projects serve as guidelines to those responsible for implementation. The system and segments themselves may change over time as a result of changing bicycling patterns, other trail developments, infrastructure improvements, unknown constraints and new opportunities.

PUBLIC EDUCATION *See under Chapter 6, Programs.*

BICYCLE PROJECTS



The League of American Bicyclists named the City of Arcata a "Bicycle Friendly Community" in 2008

Figures 5A through 5E (at the end of the chapter) illustrate the City's proposed regional bikeway network, showing both existing and proposed bikeways and multi-use paths and trails. The maps show many miles of on- and off-street bikeways not yet on the ground. While all of the proposed new bikeways would benefit bicyclists, segments need to be ranked to determine where best to focus efforts in the near term (e.g., within the five years until the next update). (Identifying priorities in an adopted bikeway plan is a specific requirement for BTA funding.)

Potential projects are initially proposed to the City by the general public or members of the Transportation Safety Committee. Additionally, City staff and members of the City Council or Planning Commission may also recommend projects because they often hear residents' requests for improving facilities.

Project Planning Criteria

The City of Arcata prioritizes bicycle projects for the *Pedestrian and Bicycle Master Plan* based on the planning criteria below.

Land Use: Under the land use criteria, the City will rank favorably a project that provides or promotes connections or access to multiple land uses (e.g. primary generators such as dense residential neighborhoods or areas of dense employment). The City also ranks favorably projects that will provide intra- or inter-neighborhood access to shopping, transit, or public open space/parks. Longer corridor projects that "connect" more land uses will tend to rank higher than shorter projects that do not connect trip generators and destinations.

Current Bicyclist Demand: The City ranks projects higher for routes and roads that people already ride on a lot. Even though a corridor or spot location may already get high bicycle use, its current condition may not be optimally designed for safety and functionality. Such a case makes it a candidate for a bikeway improvement project. Upgrading bicycle facilities that are already in high demand will benefit a large number of existing bicyclists.

Latent Bicyclist Demand: The City gives higher ranking to projects that are likely to generate significant usage (e.g. due to their location, proximity to land use that generate lots of trips, population density, corridor aesthetics, etc.) Existing corridors or spot locations that provide great connectivity and access might still not be used if potential users deem those facilities to be undesirable from a safety or operational perspective. If safety or functionality is improved, even high-use facilities may increase use levels by drawing more potential riders.

Technical Ease of Implementation: Technical ease of implementation focuses on the actual engineering challenges of a project, as opposed to the political challenges. For example, bicycle projects might require removing car parking or a traffic lane, or re-striping lanes, none of which are technically challenging to engineer. Physical solutions are often readily apparent but may necessitate developing political support (see "Political Ease of Implementation" below). This criterion also considers if any of the proposed physical solutions would adversely impact natural resources.

Political Ease of Implementation: Maximum points are assigned for an easy, popular project. A project is ranked lower under this criteria if the City knows that the neighborhood opposes it, if local elected official are not anticipated to support it, or if there is strong opposition to the assumed engineering solution (such as removing a travel lane). Political ease of operation also considers if operational issues must be addressed to demonstrate that the engineered solution will not significantly disrupt other modes.

This criterion also weighs if a project is supported by current or adopted planning efforts by regional or local agencies. Projects that are supported by existing or anticipated funding should be ranked favorably under this criteria.

Overcomes Barrier/Connectivity: The City ranks highly recommended facilities that would address a major safety concern for bicyclists using bridges, interchanges, and other environments that are difficult for bicyclists to navigate. Generally, high rankings are assigned to roadways with high speed, high traffic volume, wide road width, difficult intersections or other obstacles to bicycle travel. High rankings should be assigned for projects that would fill a gap in the existing network.

Public Input: This is based directly on public input received during public meetings and workshops, as well as written comments submitted to the City. Rankings correlate to the number of comments for a project (for a recommended corridor, spot location, amenity, program, or other) and interest of meeting attendees.

Planned projects in the *Pedestrian & Bicycle Master Plan* are not listed or numbered in order of priority.

Below, Table 5.4 lists the nine "Priority Bikeway Projects" from the 2004 Plan, and describes what work, if any, has been accomplished for each project.

Table 5.4 Status of Previous Plan’s Priority Bikeway Projects (from 2004 Master Plan)

2004 Plan’s Priority Bikeway Projects*						Status To-Date
Street	Segment	Class	Miles	2004 Plan’s “Next Step”	“X” if done	
1) Sunset Avenue	Western Avenue to H Street	II	0.45	Feasibility Analysis	X	Bike route (Class III) sharrows (share-the-road bicycle arrows) painted on the roadway on both sides of Sunset Avenue.
2) 11th Street Corridor	Janes Road to Bayview Street	II/III	1.40	Feasibility Analysis	X	Sharrows (share-the-road bicycle arrows) painted from Janes Road to Union Street.
3) F Street	7th Street to 11th Street	II	0.35	Downtown Streetscape Plan Local Adoption	○ ○	City has made pedestrian improvements on F Street, some of which help calm traffic. The City also installed new bike racks in front of the ball park (F and 9 th Street) and adjacent to the F Street parking lot (between 8 th and 9 th Streets). F Street is not marked as a bike lane.
4) Bike Routes	Citywide (See new Project #8)	III	7.25	Feasibility Analysis Local Adoption	○ ○	No change to date; carried over in update.
5) Bike Boulevards	Citywide	III	1.65	Feasibility Analysis Local Adoption	X X	City received State BTA grant funds to make bicycle boulevards on I Street and 10 th Street; currently in planning/design stage. City hopes to install by Feb. 2010.
6) Annie & Mary Rail Trail	northern City limits to Marsh/South G Street	I	6.00	ROW Acquisition Feasibility Analysis Local Adoption	○ ○ ○	Implementing the A&MRTS from northern City limits to Blue Lake) is pending while HCAOG works out jurisdictional oversight for possible rail banking. Within the City, from West End Road to the Arcata Skate Park, the railroad may resume carrying freight; trail planning will most likely wait until the City can better anticipate conditions. From the Arcata Skate Park southward, the trail is part of the Humboldt Bay Trail project (see #8 below).
7) Hammond Trail (on RR ROW)	western City limit to Annie & Mary Rail Trail	I	1.40	Feasibility	○	No progress has been initiated. The majority of this trail segment is within the unincorporated county.
8) Arcata-Eureka 101 Corridor Bike Path	H Street to southern City limit (includes south G St.)	I/II	2.10	Feasibility and design Environmental Review	○ ○	Now referred to as the “Arcata Rail-with-Trail Connectivity Project: Skate Park to Bracut Trail” (“Bay Trail” for short). The City received a grant from State Coastal Conservancy. Project is currently in the design/permitting/ROW acquisition stage; the City hopes to begin construction in 2010.
9) Citywide Bicycle Parking	Citywide	--	--	Design Draft guidelines Site selection	X X X	The City installed new bike racks in commercial areas and transit spot. The City’s revised Land Use Code includes bicycle parking minimums for new non-residential and multi-family housing projects (recommended in 2004 plan).

* Note: Projects are not in any particular order, and the project number does not signify priority level.

Priority Bicycle Projects for 2010-2015

To determine what priority bicycle projects to revise, add, or change from the 2004 Plan, the City's Transportation Safety Committee held meetings (September through December 2009) to hear from Arcata residents and other interested parties. City staff and TSC members also have considered the feedback we received in the intervening years (since the 2004), including public comments at regular TSC meetings, letters from residents, petitions from neighborhoods, and recurring complaints about particular roadways and intersections.

The City wishes to pursue these priority projects to both enhance existing bicycle corridors and to create new bicycle support facilities.

The 2010 Master Plan update has carried-over eight bicycle projects from the 2004 Plan, and has added six new bicycle projects, as shown in Table 5.5. The bicycle projects are described in more detail below (except for the Bayside Road Project, which proposes both bicycle and pedestrian improvements; it is described under Pedestrian Projects (Chapter 4)).

Several projects will require a feasibility analysis; analyses may inform the City to modify a project's final alignment. For the bigger projects, Planning Commission or City Council adoption may be necessary. If the project proves feasible, the City then prepares detailed design plans. Then the project can be implemented (i.e. built or installed). Note that each of these "next steps" is contingent upon available funding and available staff. The Transportation Safety Committee (TSC) will review all projects and seek public input.

Table 5.5 Priority Bicycle Projects of the 2010-2015 Planning Horizon

(Projects are not ordered by priority)	
Bicycle Support Facilities	Bikeway Project
(1) Citywide Bicycle Parking	(4) 11th Street Corridor
* (2) Bicycle Air Stations	* (5) Foster Avenue Extension
* (3) Special Event Bicycle Parking	(6) Annie & Mary Rail Trail
	(7) F Street
	(8) Bike Routes
	(9) Bicycle Boulevards
	(10) Humboldt Bay Trail–Arcata Segment (<i>titled "Arcata-Eureka 101 Corridor Bike Path" in previous plan</i>)
	(11) Hammond Trail
	* (12) Sunset Avenue (east)
	* (13) Samoa Boulevard
	* (14) Bayside Road – <i>see under Pedestrian Projects</i>

* New project of the 2010 Master Plan update.

BICYCLE SUPPORT FACILITIES

(1) CITYWIDE BICYCLE PARKING

- Locations:** Citywide
- Type:** Bike racks and lockers
- Next Steps:** Select sites; install

Bicycle parking in Arcata is more prevalent now than ever, but there is always room for improvement. The City’s goal is to have adequate bicycle parking citywide, including covered bicycle parking. That means having bike racks or lockers provided and maintained at all community facilities, including libraries, parks, schools, commercial centers, and the transit center.

Bicycle Parking Needs

The table below lists locations where new, improved, or additional bike parking is needed. Some sites do not meet the current Land Use Code minimum requirement for bicycle parking spaces. These locations were identified in public meetings and through City staff observation.

Table 5.6 Bicycle Parking Needs in Arcata

Destination	Public or Private Property	Nearest City Right-of-Way
<i>Outstanding from 2004 Plan</i>		
• Bayside Post Office	Private property	Old Arcata Road
• Valley West Shopping Center	Private property	Giuntoli Lane
• Westwood Shopping Center	Private property	Alliance Road
• Uniontown Plaza	Private property	F Street & 7 th Street
• Sunny Brae Center	Private property	Bayside Road & Crescent Way
• California Welcome Center, Chamber of Commerce	State property	Heindon Road
• City Parks:	City property	---
Redwood Park		All park and parking area
Shay Park		Alliance Road
Sunny Brae Park		Virginia Avenue
Bayside Park		Arcata Educational Farm parking
Alder Grove Marsh		Alder Grove Road, Ericson Way
<i>New locations identified in 2009</i>		
• Alder Grove Industrial Park	City property	Ericson Way, Ericson Court
• Covered bicycle parking in proximity to the Arcata Plaza and at all City parking lots.	City property or right-of-way	Sidewalks and parking lots
• At all bus stops where they will not impede pedestrian/ADA access.	City property or right-of-way	Sidewalks

Bicycle Parking Guidelines



“Wave” bicycle rack. Unlike the bicycle in the photo, bikes are typically parked perpendicular to the rack.



Inverted “U” racks in the sidewalk “furniture zone.”

The City’s preferred bike rack design for all standard applications is the inverted “U” or the “wave.” Public comment during the update also asked the City to consider double-decker racks for areas with limited space.

Position racks so there is enough room between adjacent parked bicycles (wide enough for bicycles’ handle bars to fit) and between the rack and any fixtures (such as buildings, poles, newspaper racks, etc). A row of inverted “U” racks should be situated on 30” minimum centers. Position racks out of the walkway’s pedestrian-throughway zone (space reserved for walking). Racks must not pose a tripping hazard for visually impaired pedestrians.

Ideally, racks should be located immediately adjacent to the entrance to the building it serves, but without impeding pedestrian ingress and egress. Racks should be as close as or closer than the nearest car parking space. Outdoor parking should be in a covered area protected from the elements, such as under eaves or overhangs. Long-term parking should always be protected. Racks and lockers must be located in a visible area to deter vandalism and theft.

Implementation Strategies

The City has an on-going project to maintain bicycle parking at public facilities and in the public right-of-way, i.e. on sidewalks, streets, city parking lots, and city buildings. Arcata also benefits when businesses and property owners meet or surpass City bike rack requirements.

The City could also pursue a cooperative program with private entities to install bicycle parking. For example, the City could work with employers where employees have requested additional bike racks or bike lockers. One popular cooperative program is for an agency (or group of agencies) to seek funds for purchasing bicycle racks and lockers, install them within their own jurisdiction using agency crews, , and also offer to install racks at cost for private entities (e.g. for retail shops and other businesses on their own property). Bicycle parking can be funded through competitive sources such as Air District Grants, the Bicycle Transportation Account, and TEA-21 sources.

BICYCLE SUPPORT FACILITIES [NEW 2010 PROPOSED]

(2) SPECIAL EVENTS BICYCLE PARKING

Locations: Special events citywide

Type: Bike parking service/facility

Next Steps: Draft language; modify City's Special Events Permit

The Public Works Department has added this project in order to implement Master Plan Object E, Action 4: "Require bicycle parking at major events to help ease traffic and parking."

The City wants to ensure that at large special events, available bicycle parking serves the needs of the larger crowds. For events that require a Special Events Permit, the City will require event sponsors to have adequate bicycle parking capacity as a condition for traffic control. On the permit application, event sponsors will show where they will put a designated bike parking area, if necessary, and how they will compensate for bike parking if any of the permanent bike racks are temporarily obstructed (e.g. by booths or tables).

The City will also encourage innovative options for providing temporary bicycle parking. For example, an event may opt to provide bicycle valet parking, which may only require temporary fencing and responsible valet volunteers. The City is also considering investing in a portable bike rack that the City could loan to sponsors for their events.

The Public Works Department will modify the Special Events Permit application when it is next updated (annually).

BICYCLE SUPPORT FACILITIES [NEW 2010 PROPOSED]

(3) BICYCLE AIR STATIONS

Locations: City Hall and Inter-modal Transit Facility

Next Steps: Design stations; acquire equipment; install.

The City is interested in providing free, convenient, and reliable air for bicyclists to fill their bike tires. This will be a pilot project to have bicycle air stations at two locations; possible pilot locations are : City Hall, Inter-modal Transit Facility, Arcata Marsh Interpretive Center, Arcata Skatepark, Arcata Community Center, Chamber of Commerce, and/or Bayside Park. Ideally the air stations would be accessible 24-hours a day and fully self-service. If the ideal proves infeasible, both locations could have air pumps available by request at the counter.

The City will first research what type of air pump equipment and installation is most durable and least vulnerable to vandalism and theft.

The City also encourages local businesses to provide air stations (or air pumps) as a way to encourage more people to pedal to their places of business.



Public bicycle air station,
Davis, California.

Photo: David Takemoto-Weerts.
(Source: bicyclinginfo.org)

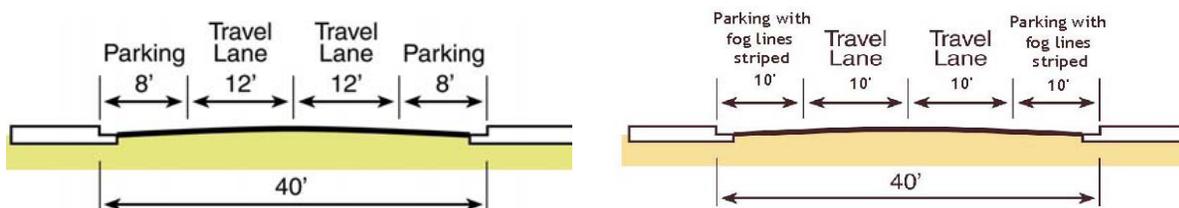
BIKEWAY PROJECT

(4) 11TH STREET CORRIDOR

Segment: Janes Road to Bayview Street
 Type: Class II/III Miles: 1.5
 Next Steps: Public input; Seek funding.

Existing Facility

Eleventh Street is a major east-west arterial street in central Arcata. Eleventh Street crosses over U.S. 101, providing access between downtown and Humboldt State University, Redwood Park and the Community Forest, and Fickle Hill Road, which leads east out of town. To the west, 11th Street also serves as a route through the Arcata Bottoms to Samoa Blvd/State Route 255.



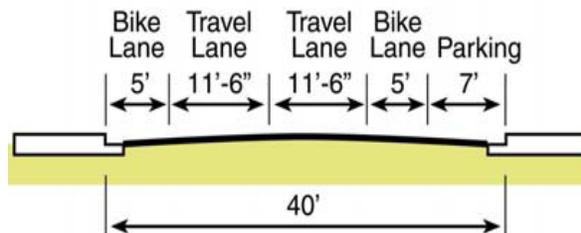
Eleventh Street is 40 feet wide and currently supports two motorized travel lanes (one each way), and on-street parking on both sides. Eleventh Street is currently a Class III bicycle route; it has “sharrows” painted from Janes Road to Union Street and a fog-line from Janes Road to K Street.

Recommended Bicycle Corridor

• 11th Street between Janes Road and K Street

The City proposes to upgrade to a Class II bike lane on one side by eliminating one side of on-street parking on this length of 11th Street. The street could then include a bike lane (5’ minimum) on one side of the street, and a shared parking lane and bike lane (11’ to 12’ minimum) on the other side of the street. This is a viable shared-use design because on-street parking is abundant along this section.

*When 10th Street becomes a designated City “bicycle boulevard,” it will connect well to the 11th Street bicycle corridor via Q Street. Upgrades to Q Street will be necessary between 10th and 11th Street; the road right-of-way is 40’ and currently there is no sidewalk.



- **11th Street between K Street and B Street**

This section of 11th Street also enjoys on-street parking on both sides; however, parking demand is higher (than in the western end) due to a higher density of housing and spillover parking demand from Humboldt State University.

To preserve both sides of on-street parking between K Street and B Street, this section could have a Class II bike lane on the eastbound (uphill) only, and sharrows (Class III) on the westbound (downhill).

- **11th Street between B Street and Bayview Street**

Bike route signs (Class III) would be sufficient along the remainder of this corridor to Bayview Street, based on current traffic volumes and the relatively steep grade.

BIKEWAY PROJECT [NEW 2010 PROPOSED]

(5) FOSTER AVENUE EXTENSION

Segment: Sunset Avenue to Alliance Avenue

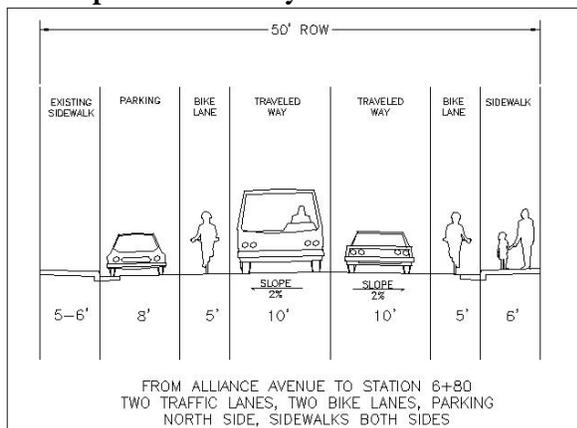
Type: Class I and II **Miles:** 0.5 miles

Next Steps: Prepare final engineering design and acquire right-of-way

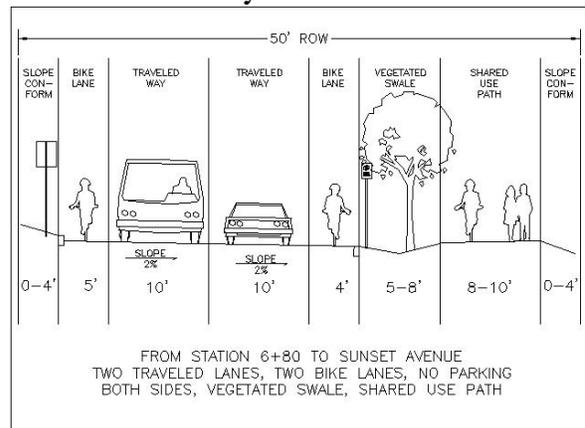
The City plans to extend Foster Avenue from its current eastern terminus at Eastern Avenue to Sunset Avenue. The conceptual designs for the new roadway include a Class I, separated, multi-use path on the southern side, and Class II bike lanes on the both sides of the roadway. When completed, the bike lanes on the Foster Avenue extension will connect the existing bike lanes on G and H Streets (to the east) with the bike lanes on Alliance Road (to the west).

The City completed the Environmental Review (April 2009) for the project and is now ready to begin work on final designs and acquiring right-of-way, pending the State releasing the STIP funds to the City.

Conceptual Roadway Cross-Sections for Foster Avenue Roadway Extension



Alliance Road to Foster Avenue alleyway (Stn6+50) [East of Eastern Avenue]



Foster Avenue alleyway (Stn 6+50) to Sunset Avenue

The conceptual designs are subject to change based on engineering and other technical analyses to be completed.

BIKEWAY PROJECT

(6) ANNIE & MARY RAIL TRAIL

Segment:	West End Road (northern City limit) to Arcata Skate Park	
Type:	Class I/II	Miles: 3.0
Next Steps:	Acquire right-of-way, feasibility analysis, local adoption	

The Northwestern Pacific (NWP) Railroad line reaches over 300 miles from San Rafael to Arcata and beyond. The Arcata & Mad River (or Annie & Mary) railroad line is the northernmost spur. It begins in downtown Arcata and runs north towards the communities of Glendale and Blue Lake, ending in Korbel. The railroad corridor is owned by the North Coast Railroad Authority (NCRA), which maintains “active” line status to Arcata’s Aldergrove Industrial Park. However, the NWP rail line has not been in service since the 1990s due to destruction caused by storms and financial difficulties.

Incorporating a trail within the Annie & Mary rail corridor in Arcata would undoubtedly attract large numbers of users, as it would offer 6.8-miles of a non-motorized, shared-use path that would connect the four communities. It would serve as an ideal recreation and transportation/commuter trail. The route would pass through the Aldergrove Industrial Park and West End Road industrial sites, as well as lead to Shay Park. It also would join with other planned trails in the area, including the Humboldt Bay Trail (see Project #11), Hammond Trail (a part of the California Coastal Trail), and the Annie & Mary Trail to Blue Lake.

The proposed rail-trail within Arcata City limits runs from West End Road (northern City limit) to the Arcata Skate Park (Sunset Avenue between H Street and Jay Street). The railroad operator, NWP, says the railroad may resume carrying freight along this corridor, for example to Humboldt Flakeboard Panels. Although the City maintains long-range plans to develop the Annie & Mary rail-with-trail in Arcata, in the short-term the City of Arcata will most likely wait for more certain railroad operating conditions before continuing major trail planning for this corridor. However, there may be an option to locate the trail on a City waterline easement adjacent to the railroad corridor through town.

The *Annie & Mary Rail-Trail Feasibility Study* (NRS/RCAA, August 2003) analyzes the proposed trail section from the Arcata city limits to Blue Lake. The study concludes that this Annie & Mary corridor should be railbanked (i.e., preserve the rail corridor for future rail use while allowing interim use and maintenance (see *railbanking* in Glossary)). The NCRA Board of Directors, which has sole authority to accept or reject individual trail proposals, is not opposed to bike and pedestrian paths on its right-of-way.⁶

The figures below illustrate basic rail-with-trail design guidelines. The width of the setback (i.e., the distance between the edge of the trail and the centerline of an active railroad track) is

⁶ “Responses to Frequently Asked Questions Regarding NCRA and NWP Co.”

designed according to the speed and frequency of trains, among other factors. In addition, a barrier is installed between the railroad tracks and the trail to limit trespassing; barriers include fencing, vegetation, ditches, and berms. If rail service is proven impractical, a shared-use trail could be easily constructed on the right-of-way.

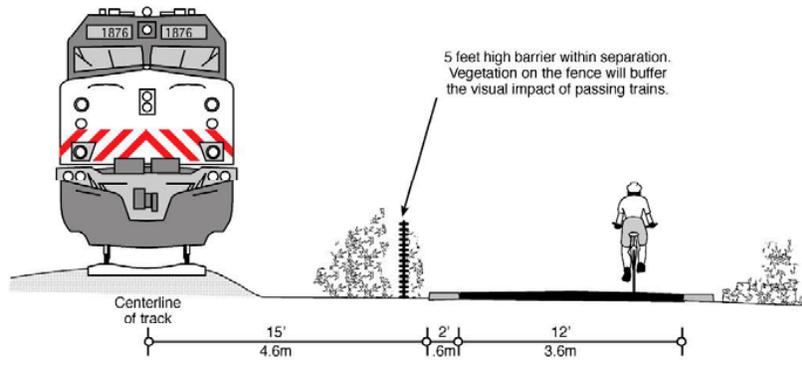


Figure 5F Constrained Rail with Trail, 15' Setback

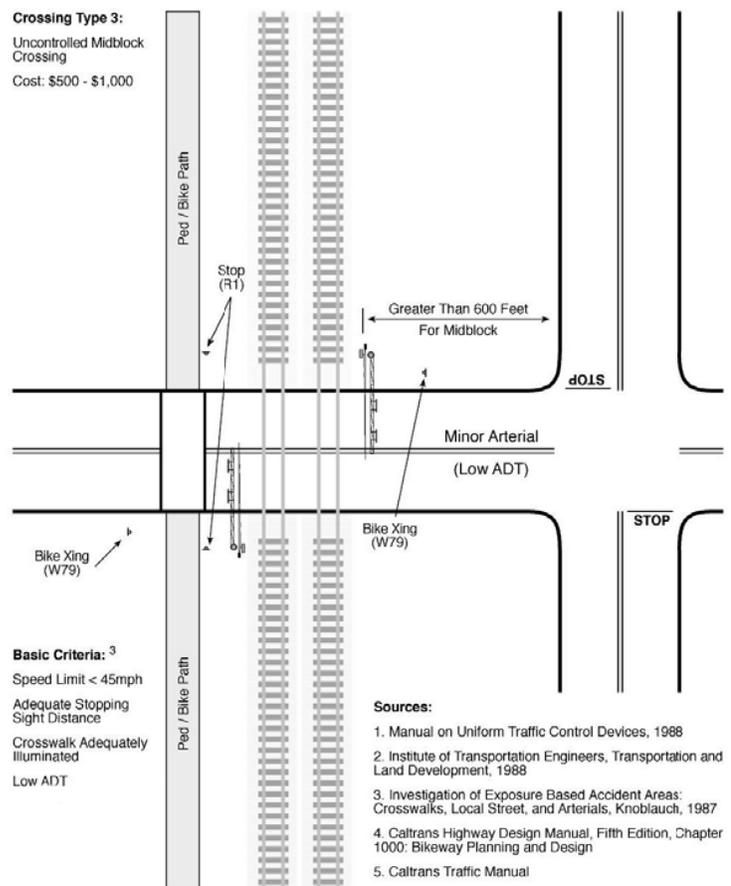


Figure 5G Unprotected Rail-with-Trail Crossing

BIKEWAY PROJECT

(7) F STREET

Segment: 7th Street to 14th Street

Type: Class II and/or III **Miles:** 0.4

Next Steps: Analyze and determine impacts; Seek public input.

The F Street Bicycle Corridor Project proposes to add bike lanes (Class II) and/or add bike route amenities (Class III) on F Street between 7th and 14th Streets. We consider this project in two sections. From 11th to 14th Street, the City proposes to add amenities for a bicycle boulevard (which is one type of bike route). From 7th to 11th Street, we propose to add bike lanes, if feasible, or otherwise make the whole corridor a bicycle boulevard.

F Street, between 7th and 11th Streets, currently has two 13-foot motorized-travel lanes, two 7-foot lanes of car parking, and 5-foot sidewalk on both sides. In order to install bike lanes, the current allotment would have to be reapportioned because the roadway is not wide enough to simply add bike lanes. The most viable alternative for bike lanes would be to trade a parking lane space for bike lane space. Alternatively, the City could make this section a bicycle boulevard.

F Street from 11th Street to 14th Street could be easily converted into a bike boulevard (see Project #9 below).

F Street is a logical alternative to G and H Streets because it receives far less traffic. Making this segment of F Street more bicycle friendly would encourage more bicycling by novices who are not comfortable on the busier arterial routes.

F Street will be an important addition to the citywide bicycle network because it will connect to existing bike lanes on 7th Street, a proposed route on 11th Street, and serve as an alternate route through downtown, parallel to G and H Streets. This bikeway will pass by Arcata City Hall, the ballpark, the Transit Center, and lead to Uniontown Plaza.

BIKEWAY PROJECT

(8) BIKE ROUTES (Class III)

- Routes:** Citywide; see table below
- Type:** Class III **Miles:** 8.2
- Next Steps:** Prioritize routes; seek funding.

(Bike Routes are defined earlier in this chapter, under “Bicycle Classification System.”)

Generally speaking, cities and other jurisdictions most commonly designate a bike route (Class III bikeway) where there is popular routes whose streets do not sufficient right-of-way for bike lanes, where removing on-street parking is not supported, or where streets have relatively low traffic volumes that don’t necessitate a bike lane. Table 5.9 lists roadways that are good candidates for bike routes for these reasons. The Master Plan recommends treatments for these streets as listed.



Example of a “sharrow”

Table 5.9 Recommended Signage for Class III Routes
(Not in order of priority)

STREET	FROM	TO	Route Sign	Share-The-Road Sign	Pavement Arrow (“sharrow”)
1) 14th Street	K Street	Union Street			X
2) 16th Street	M Street	G Street	X		
3) Aldergrove Road	West End Road	Ericson Way	X		
4) Baldwin Street	Cahill Park	Sunset Avenue	X		
5) Bayview Street	13th Street	11th Street	X		
6) Buttermilk Lane	Samoa Blvd	east Arcata city limit	X		
7) D Street	11th Street	ped trail south of 9 th			X
8) Ericson Way	West End Road	Aldergrove Road	X		
9) Foster Avenue	Janes Road	Alliance Road		X	
10) Old Arcata Road	Hyland Street	south city limit		X	
11) Q Street	17th Street	10th Street	X		
12) Samoa Blvd	west Arcata city limit	K Street		X	
13) Stromberg/Maple	Janes Creek Linear Trail	Alliance Road	X		
14) Union Street	17th Street	Samoa Blvd.			X
15) Westside Corridor (includes Janes Road, Vaissade Road, V St.)	Foster Avenue	Samoa Blvd.	X		
16) Wyatt Lane	27th Street	Stewart Avenue	X		
17) South G Street	Arcata Corp. Yard	Highway 101			X

BIKEWAY PROJECT

(9) BICYCLE BOULEVARDS

- Segments:** 🚲 F Street – 14th to 11th or 7th (Part of *F Street Bicycle Corridor Project #7.*)
 🚲 L Street – 11th to 7th Street
- Type:** Class III **Miles:** 0.6 to 1.0
- Next Steps:** Evaluate function of 10th & I Street Bike Boulevard after it is installed and in operation for at least 6 months. Use findings to design next bicycle boulevards.

(Bicycle Boulevards are described earlier in this chapter, under “Bicycle Routes (Class III).”)

Arcata’s first bicycle boulevards are to be on I Street (from 17th Street to Samoa Boulevard) and 10th Street (from F Street to Q Street), to be installed in February 2010. These are recommended locations for new bike boulevards:

- 🚲 **F Street** – 14th Street to 11th or 7th Street; parallel to G Street.

This section currently has two 12-foot motorized-travel lanes, car parking on both sides, and sidewalk on alternating sides of the street (corresponding to residences on the east side between 11th and 12th; on half of the west side between 12th and 13th; and on the west side from 13th to the 14th Street cul-de-sac). (See Project #7)

- 🚲 **L Street** – 11th Street to 7th Street; parallel to K Street.

L Street has the railroad tracks running through it. It is a narrow two-way street with sidewalks only between 8th and 9th Streets. Traffic volumes are low, and a traffic-diverter at 10th Street allows bicycles but not cars from crossing L Street.

In the future, L Street (from 7th to 12th Street) will connect the proposed Annie & Mary Trail and Humboldt Bay Trail shared-use paths. At that time the City will likely upgrade L Street above a Bicycle Boulevard, if it has not already done so.

As part of the bicycle boulevard project, the City will carry out a public awareness campaign about the form, functions, and routes of the bicycle boulevards, including messages that bicycle boulevards are preferred routes for bicyclists and pedestrians and do not exclude motor vehicle traffic.



Traffic-calming diverter on L Street at 10th Street (facing south).

BIKEWAY PROJECT

(10) HUMBOLDT BAY TRAIL—ARCATA SEGMENT

- Segment:** Arcata Skate Park to Bracut Marsh
Type: Class I/II **Miles:** 2.5
Next Steps: Comprehensive Analysis (develop and evaluate route alternatives); City to review and adopt.

Connecting neighboring communities with bikeways benefits bicycle commuters, recreational bicyclists, and touring bicyclists. Although a bike route between Eureka and Arcata technically exists on U.S. 101, the available shoulders are not attractive to many potential bicyclists.

Humboldt Bay Trail supporters would like to have a Class I shared-use facility between the two cities, potentially following the railroad corridor. The Arcata-Eureka 101 Corridor Path was one of the top priorities in the Humboldt Bay Trails Feasibility Study (2001). It was also identified as a potential dedicated corridor in the 2000-2002 Humboldt County Regional Transportation Plan.

Within Arcata, this project is comprised of both on-street and off-street bikeways. Bike lanes would be required along South G Street from the intersection of South G and South H Streets to the existing pathway on the railroad corridor in the Marsh. An off-street pathway would follow the railroad corridor south out of town. The existing path-way in the Marsh may need to be upgraded to handle increased usage.

To successfully implement this project, Arcata will need to work with the City of Eureka, Humboldt County, Humboldt County Association of Governments, Caltrans, and the North Coast Railroad Authority.

BIKEWAY PROJECT

(11) HAMMOND TRAIL

- Segment:** Hammond Bridge (western City limit), through Arcata Bottom to Humboldt Bay Trail (17th and Foster).
- Type:** Class I and II **Miles:** Approx. 4.5; 1.5 within Arcata City limits
- Next Steps:** Collaborate with local efforts (e.g. HP3, HCAOG) for regional trails.

Bicyclists riding between Arcata and McKinleyville have two route options. One route is along U.S. Route 101 which involves riding alongside highway traffic on the Mad River Bridge. The second option, suitable to pedestrians as well as bicyclists, is the Hammond Coastal Trail on the west side of McKinleyville. The Hammond Coastal Trail is the only Class I bicycle and pedestrian facility in Humboldt County. Unfortunately, the trail now ends at the southern foot of the Hammond Bridge at Mad River Road. From that point, bicyclists and pedestrians must utilize the narrow roadways in the Bottoms to reach Arcata.

Continuing the Hammond Coastal Trail as a Class I shared-use pathway through the Bottoms and into Arcata could encourage more bicycle commuters between Arcata and McKinleyville and would provide a recreational route for families to bicycle and walk together. Creating this new segment would link the regional trail network, connecting the Hammond Coastal Trail, the proposed Humboldt Bay Trail and Annie & Mary Trail, and the existing bikeway system in Arcata.

The trail can follow a variety of routes through the Bottoms. Potential routes, and their core attributes and core constraints, are discussed in the *Hammond Coastal Trail Extension Analysis: From Trinidad to Fortuna* (RCAA-Natural Resources Services Division, June 2001). The analysis identifies routes utilizing existing roads or the historic (abandoned) railroad route. The analysis notes that the most viable route come from mixing and matching segments of existing roadway and railroad grade. The following outlines potential routes.

ROADWAY ROUTE

All routes through the Bottoms begin at the southern end of the Hammond Trail Bridge (over the Mad River), which is unincorporated County jurisdiction. From the bridge, several different routes can lead from Mad River Road into Arcata. The trail route with the shortest distance into Arcata would be to split off Mad River Road by heading east onto Miller Lane to Heindon Road. Heindon Road then enters Arcata proper and connects to Giuntoli Lane/Valley West (to the east), and with Janes Road, which has Class II bikeways (bike lanes).

Alternatively, the route could stay on Mad River Road to its southern terminus, and either turn westbound onto Lanphere Road or eastbound onto Upper Bay Road. From Upper Bay Road eastward, the route would enter Arcata City limits further south along

Janes Road. From Lanphere Road, the Hammond Trail route would stay on County roads through the Bottoms all the way to State Route 255, and/or loop back eastward to the City's portion of Foster Avenue at the southernmost segment of Janes Road (Greenview neighborhood).

Some of the core attributes, as noted in the analysis, are that proposed trail utilizes existing roadways and does not require encroaching onto private land. Some core constraints are that the roads are narrow (lanes under 10' wide), rough and not maintained, and that many of the roads are subject to seasonal flooding, which temporarily narrows the passable road area or submerges them altogether.

RAILROAD GRADE ROUTE

Another option is that, where Mad River Road turns east, the trail route utilize the existing (abandoned) railroad grade south to Lanphere Road. The McKinleyville Community Services District has the easement on this section of the rail corridor. Crossing Lanphere Road, the trail route would follow railroad corridor held in private ownership by Sun Valley Floral Farms. At the time of the study, the owners expressed interest in granting a trail easement.

The trail route could continue both east into Arcata (within the "working railroad" corridor) and west toward Manila (on abandoned rail line).

The railroad route's core attributes are that it is scenic, historical, direct, that most of the railroad grade exists and is structurally sound, and is less prone to flooding than roadways in the Bottoms. The analysis notes that core constraints are primarily related to concerns about the potential conflicts with dairy operations. Many of the potential impacts can be addressed with good trail planning and design.

Ultimately, the preferred route(s) for extending the Hammond Coastal Trail south through the Bottoms will be selected based on agreements between the landowners, the County of Humboldt, and the City of Arcata.

BIKEWAY PROJECT [NEW 2010 PROPOSED]

(12) SUNSET AVENUE (East)

- Segment:** L.K. Wood Boulevard to Jay Street
Type: Class I **Miles:** 0.25
Next Steps: Consult with other agencies to determine feasibility

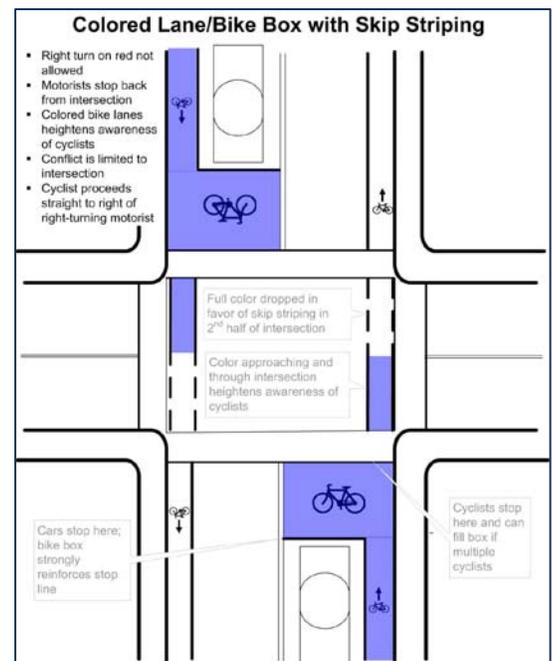
This segment of Sunset Avenue, which links the HSU campus with the Sunset Neighborhood and Northtown, gets high volumes of motor, bicycle, and pedestrian traffic. However, the existing circulation does not function well for bicyclist and pedestrian comfort and safety.

Sunset Avenue (east) is currently a Class II bike lane. The City proposes upgrading Sunset Avenue between L.K. Wood and H Street (the Highway 101 pedestrian overpass span) to a Class I shared-use path on the south side. The proposed bike path would be wide enough for two-way bicycle traffic and would have a physical barrier separating it from the adjacent car lane. This proposed path would tie into the existing bike lanes on G Street, H Street, and the future Foster Avenue extension and proposed Arcata segment of the future Humboldt Bay Trail. (Those two projects are described above.)

Sunset Avenue from H Street to Jay Street would be a Class II bike lane, which would connect to the future Foster Avenue roadway extension, which is proposed to have bike lanes (Class II) on the road and a separated, shared-use path (Class I) along the south side, to Shay Park and Alliance Road.

This project would have to be coordinated with improving pedestrian circulation at the intersection of L.K. Wood and Sunset Avenue. One possible design solution for improving bicycle circulation at this intersection would be to paint the pavement with a bike box and/or colored lane markings (see right). (See Chapter 4-Pedestrian Facilities for the Master Plan's proposed pedestrian upgrades for this intersection).

The intersection lies within the Humboldt State University campus and is therefore State property. The City is working with HSU to negotiate the City acquiring control over traffic operations at that intersection.



Example from www.bikeportland.org

BIKEWAY PROJECT [NEW 2010 PROPOSED]

(13) SAMOA BOULEVARD

Segment: From Union Street to Crescent Way

Type: Class II **Miles:** 0.25

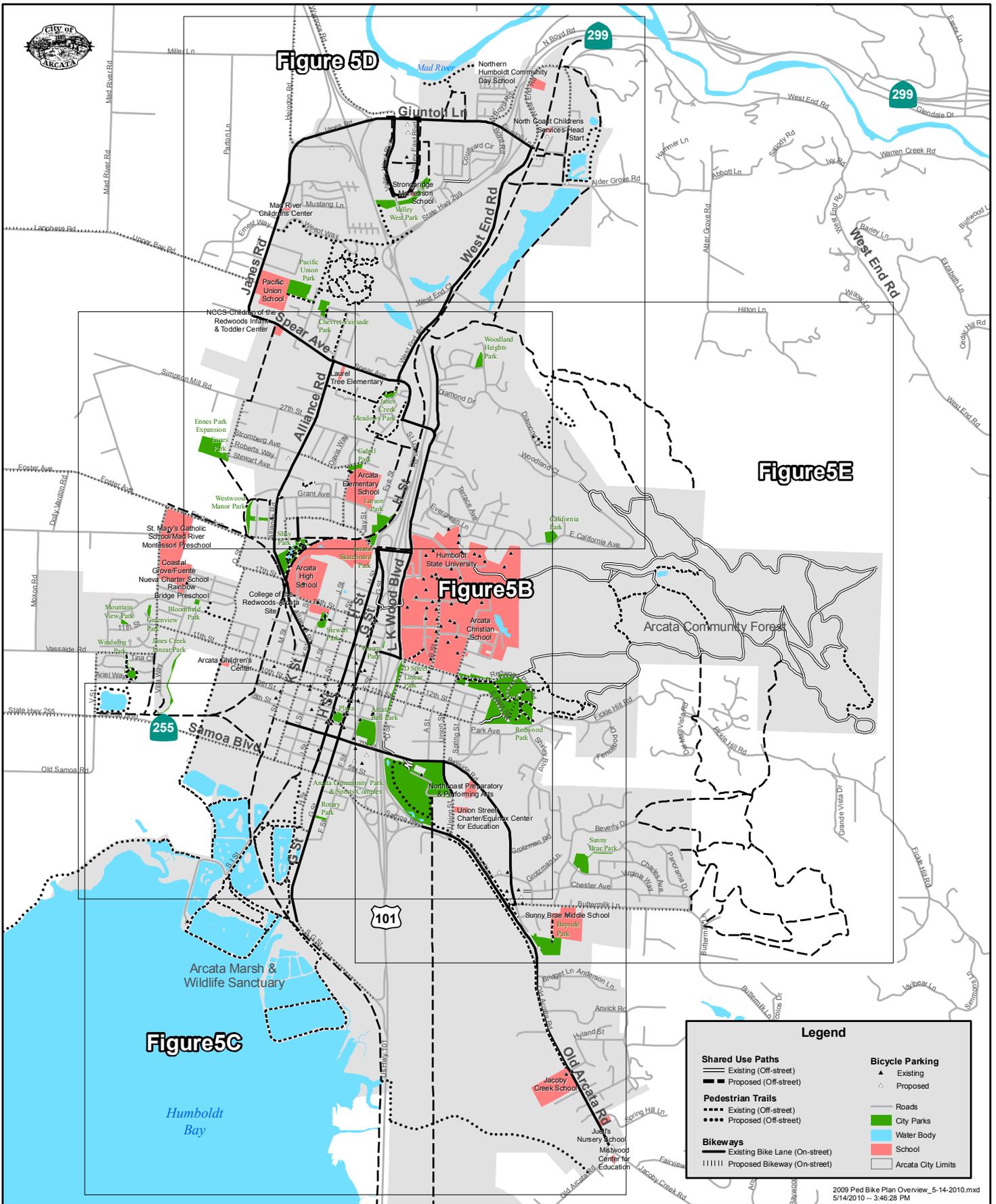
Next Steps: Implement when City does roadway overlay.

Approximately half-way between Union Street (roundabout) and Crescent Way, there is a chicane (dike) in the roadway, and a curb barrier between the bicycle lane and the vegetative swale/pedestrian path. This spot of the road narrows the bicycle lane. To improve the bicycle facility, the City will remove the dike and/or restripe the bike lane lines.

The full bike lane (Class II) corridor on Samoa Boulevard/Old Arcata Road goes from the Samoa/U.S. 101 interchange to the Bayside Post Office at the corner of Old Arcata Road and Jacoby Creek Road (Arcata City limit). In a few areas there is adjacent vegetation that grows into the bicycle lane, which temporarily narrows the bikeway. It is part of the City's ongoing maintenance program to periodically cut back vegetation, as well as restripe bicycle and motorist facilities.

Following are FIGURES 5A through 5E.

They show the City of Arcata's existing and proposed/potential network of bikeways, off-street pedestrian trails, and bicycle parking.



Legend

Shared Use Paths	Bicycle Parking
— Existing (Off-street)	▲ Existing
— Proposed (Off-street)	▲ Proposed
Pedestrian Trails	— Roads
— Existing (Off-street)	— City Parks
— Proposed (Off-street)	— Water Body
Bikeways	— School
— Existing Bike Lane (On-street)	— Arcata City Limits
— Proposed Bikeway (On-street)	

2009 Ped Bike Plan Overview_5-14-2010.mxd
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Proposed Bikeway Network - City Overview
City of Arcata
Pedestrian and Bicycle Master Plan 2010

Figure 5A





Legend

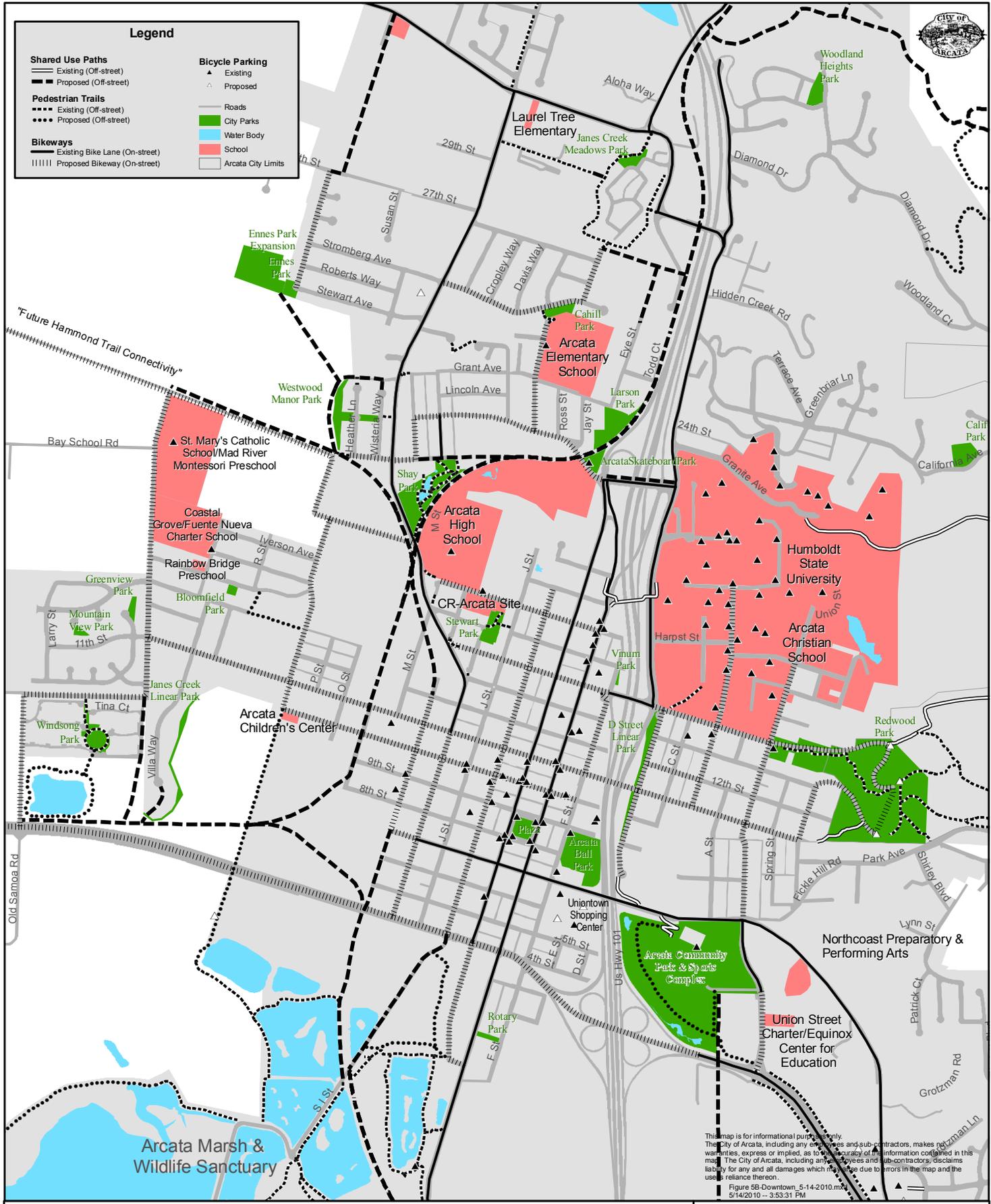
Shared Use Paths
 Existing (Off-street)
 Proposed (Off-street)

Pedestrian Trails
 Existing (Off-street)
 Proposed (Off-street)

Bikeways
 Existing Bike Lane (On-street)
 Proposed Bikeway (On-street)

Bicycle Parking
 Existing
 Proposed

Roads
 City Parks
 Water Body
 School
 Arcata City Limits

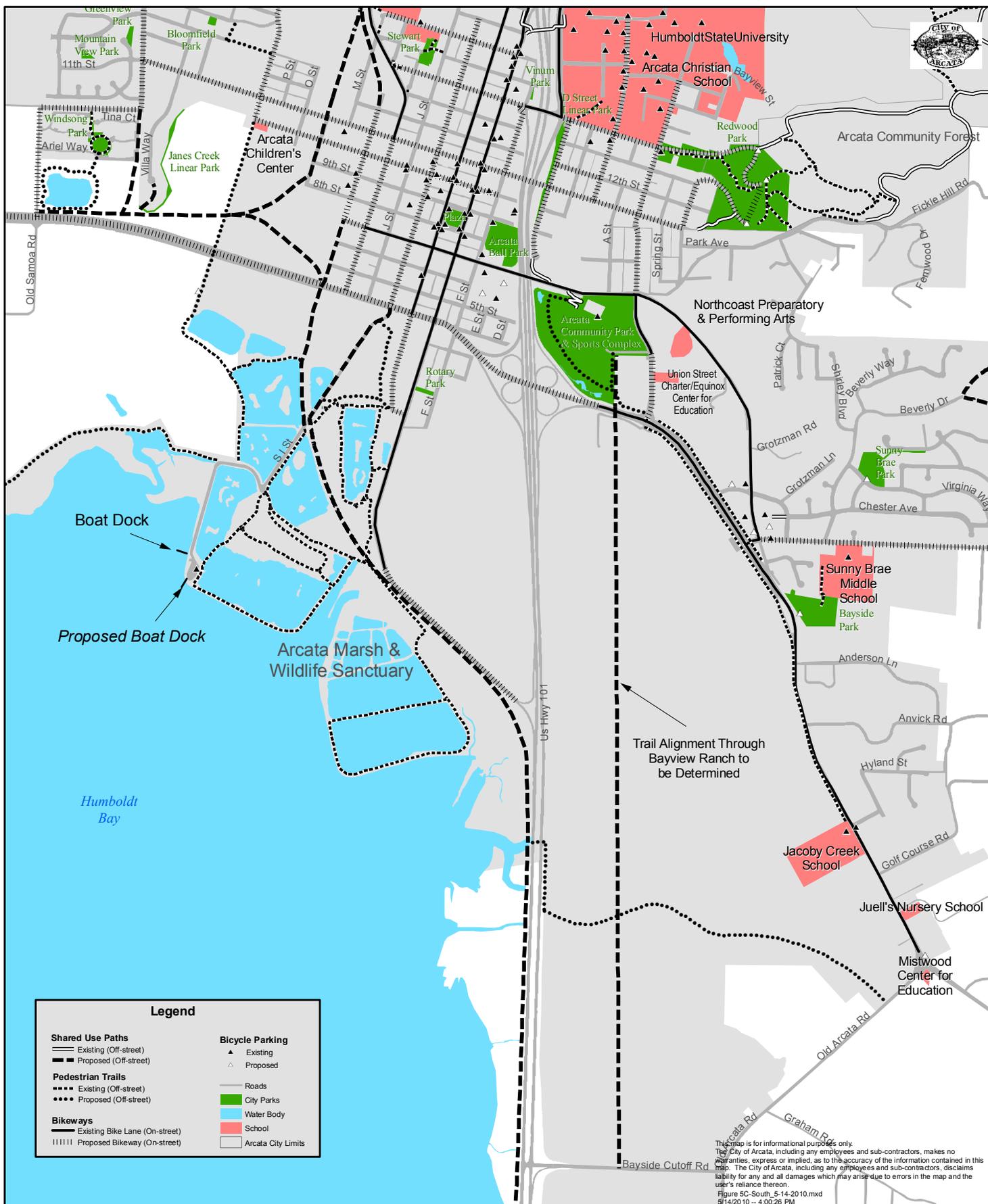


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 Figure 5B-Downtown_5-14-2010.mxd
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Proposed Bikeway Network - Downtown
 City of Arcata
 Pedestrian and Bicycle Master Plan 2010

Figure 5B





Legend	
Shared Use Paths	Bicycle Parking
— Existing (Off-street)	▲ Existing
- - - Proposed (Off-street)	△ Proposed
Pedestrian Trails	— Roads
— Existing (Off-street)	■ City Parks
- - - Proposed (Off-street)	■ Water Body
Bikeways	■ School
— Existing Bike Lane (On-street)	□ Arcata City Limits
- - - Proposed Bikeway (On-street)	

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 Figure 5C-South_5-14-2010.mxd
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Proposed Bikeway Network - South

City of Arcata
 Pedestrian and Bicycle Master Plan 2010

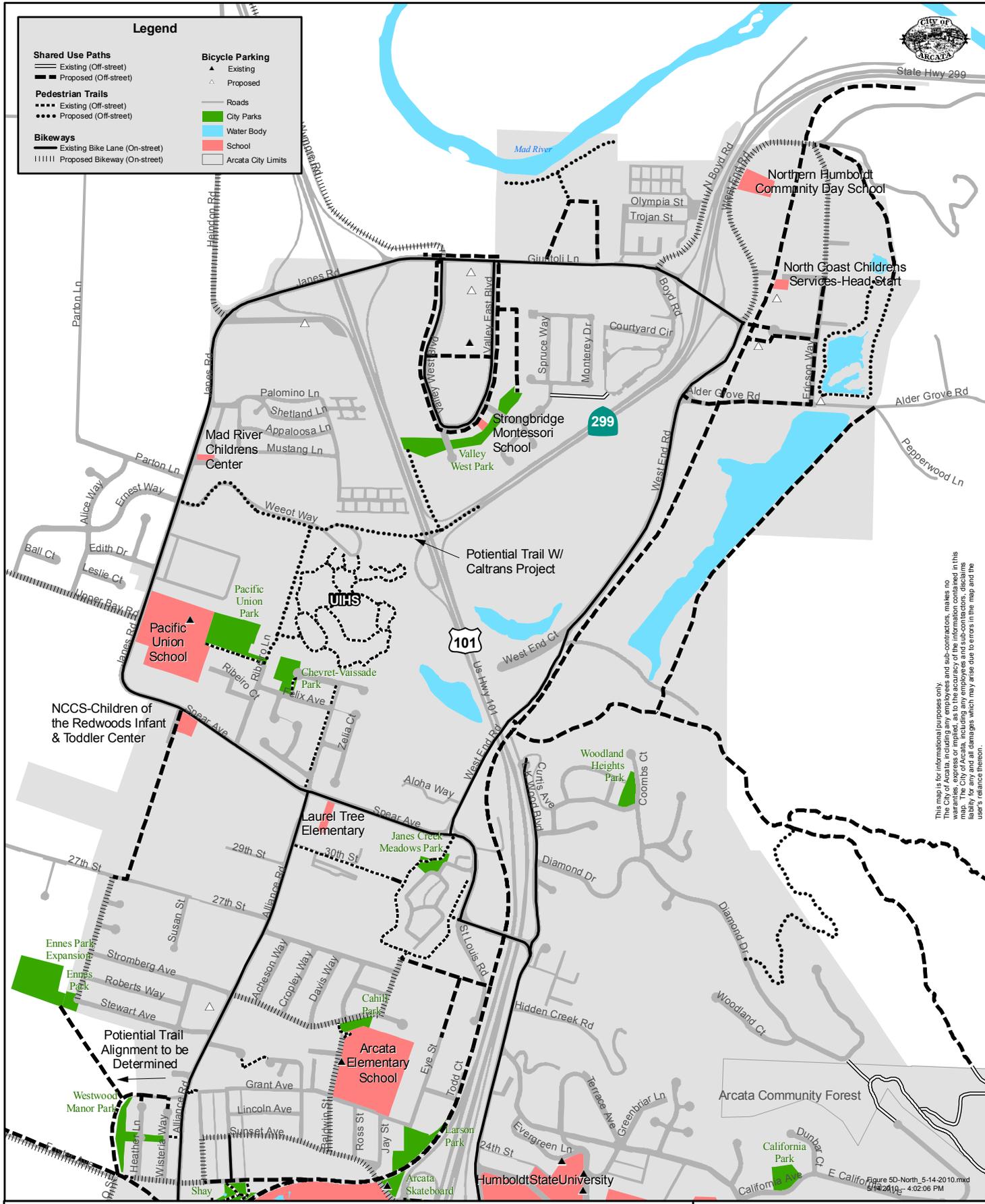
Figure 5C





Legend

Shared Use Paths	Bicycle Parking
— Existing (Off-street)	▲ Existing
— Proposed (Off-street)	△ Proposed
Pedestrian Trails	— Roads
— Existing (Off-street)	■ City Parks
— Proposed (Off-street)	■ Water Body
Bikeways	■ School
— Existing Bike Lane (On-street)	□ Arcata City Limits
— Proposed Bikeway (On-street)	

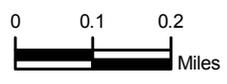


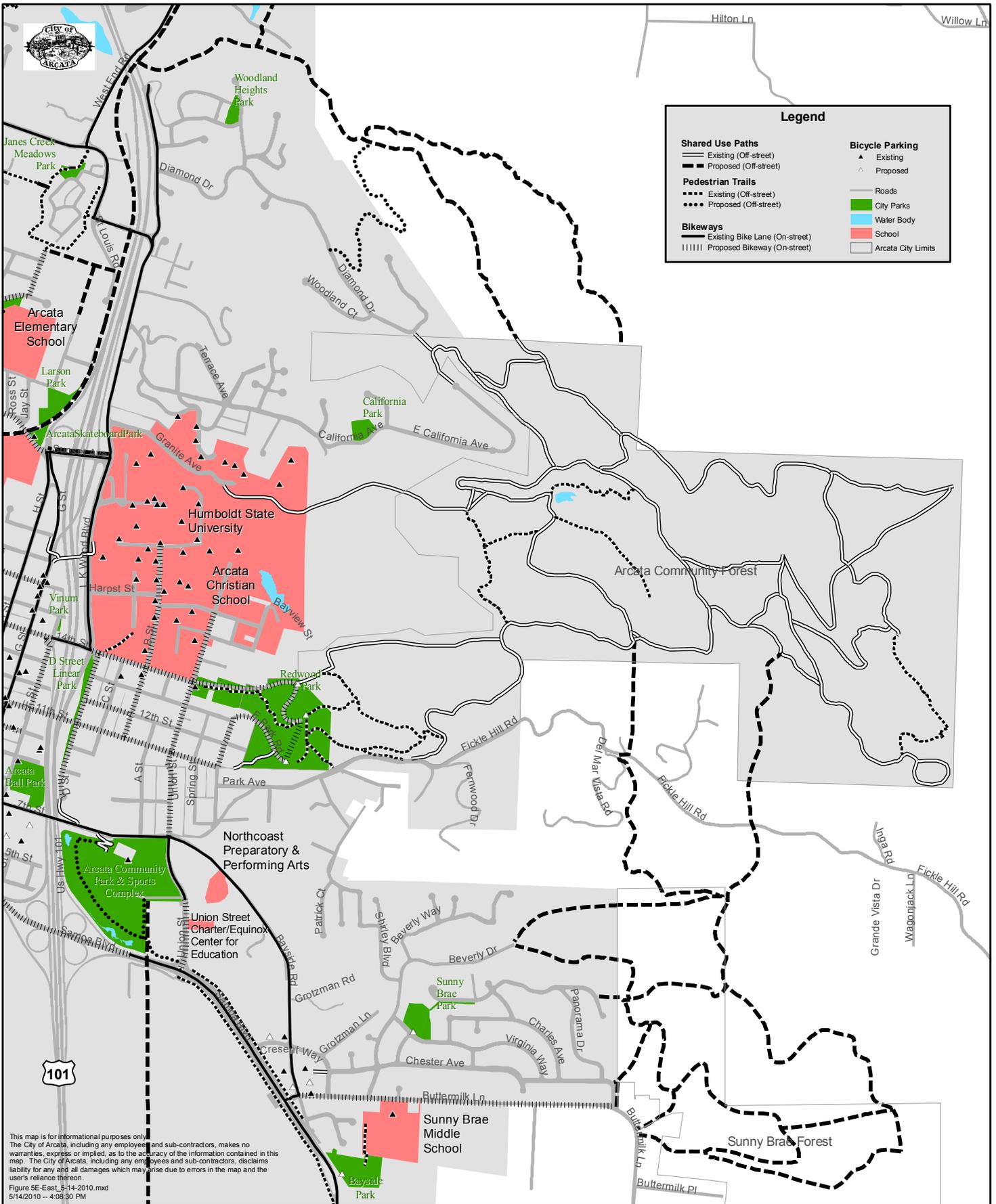
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Figure 5D-North_5-14-20-10.mxd
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Proposed Bikeway Network - North
City of Arcata
Pedestrian and Bicycle Master Plan 2010

Figure 5D





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 Figure 5E-East_5-14-2010.mxd
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Proposed Bikeway Network - East

City of Arcata
 Pedestrian and Bicycle Master Plan 2010

Figure 5E





6. PROGRAMS

This chapter highlights current programs and proposes programs that can be implemented to support and increase bicycling and walking as transportation modes in Arcata. To make the best programs, the City will have as its first strategy collaborating with allied organizations, agencies, and community members so that we can share expertise, ideas and enthusiasm, and make the best use of resources.

CURRENT PROGRAMS

There are a number of bicycle and pedestrian programs already in place in Arcata. They are designed to: engage the community; enhance safety and mobility; educate pedestrians, bicyclists, and motorists; and help people have fun walking and biking. Some programs are City-funded, some are funded by a local organization(s); some are volunteer run, but almost all are collaborative, cooperative efforts.

International Walk to School Week



The City of Arcata promotes International Walk to School Week, encouraging students to “bike, walk, or roll” to school for the benefits of physical activity, interacting with friends and neighbors, and helping decrease traffic congestion and pollution.

The Arcata City Council makes a proclamation each year, joining communities around the globe, to designate “Walk to School Week” (or month) in October.

In 2008, HSU students enrolled in the Health-Related Behavior Change class assisted the City by conducting a traffic count study that could serve as baseline data. The class designed the

study to examine the amount and type of traffic traveling to four participating elementary schools before, during, and after International Walk to School Day (Jacoby Creek School, Arcata Elementary, Coastal Grove, and Pacific Union School).

The class concluded in its “Traffic Count Report,”

Clearly, the IWTS event was a success, as indicated by the increase in the number of walkers at all schools on October 8, 2008. Surprisingly, the number of cars decreased significantly at only one of the four schools (Jacoby Creek). So, at three of the schools there was an increase in walking and biking without a significant decrease in number of cars on October 8. The intervention at Jacoby Creek School was the most intensive. Unfortunately, the intervention effects seen across all of the schools were not sustainable, as data for all transit modalities appeared to return to near baseline the week following the intervention (with a few exceptions).

At the schools, parents, teachers, staff, and principals coordinated group walks, or “walking school buses,” and group bicycle rides. Children whose parents/guardians drove them to school also had the chance to participate by walking or running laps at the school once they arrived in the morning. The City was able to give the participating schools solar-powered ped counters, temporary tattoos, and brain erasers to give to students for participating.

Safe Routes To School



The main goal of California’s Safe Routes to School (SR2S) programs is to “reduce injuries and fatalities to school children and to encourage increased walking and bicycling among students” (. Identifying and improving routes for children to walk and bicycle to school is one of the most cost effective means of reducing school-related traffic congestion. Arcata’s SR2S program has “7 E’s”: Education and Encouragement, Enforcement, Engineering, Evaluation, and Equity and Ecology:

Education and Encouragement – *Children can learn important safety skills and health lessons through safe routes to schools; we can teach students about the many benefits of safe bicycling, riding, and skateboarding.* The City of Arcata has begun developing a “Safe Routes to School Toolkit” that includes an educational flyer “Watch Out! Kids About” (see on following page) and an entire suite of resources that the City is creating for the city website. All the materials will be available for school administrators, teachers, parents, students, and others who are interested in SR2S.

Equity and Ecology – *Programs can positively impact the environment by reducing greenhouse gases and dependence on oils, and by fostering children to be more aware and appreciative of the outdoors.* SR2S can promote equity by encouraging all community members to walk, bike, skate, and bus to school, as well as by investing in projects that will help them do so safely.

Enforcement – *Law enforcement is the natural choice to partner with to develop and conduct activities highlighting school zone safety and vehicle laws.* Local law enforcement can help educate students, parents, and everyone else about behaving safely and lawfully when they

Watch Out! ... Kids About!



Do You Know Traffic Laws?



- The speed limit in a school zone is 25 mph, sometimes 15 mph.
- Speed limit is 25 mph on all roads in Arcata except at specified city edges. (G St. south of Front St; Giuntoli Lane east of Valley East Blvd; Janes Rd north of Janes Court; and West End north of Spear)
- No stopping or parking in the intersection or on crosswalks.
- No blocking a driveway.
- No parking in the fire lane or red zones or within 15 feet of a fire hydrant.
- No parking on sidewalks.
- No riding bicycles on City sidewalks in any business district.
- Pedestrians have the right of way on all Arcata City sidewalks.
- During darkness skateboarders and bicyclists riding on a street must have proper lights and reflectors.
- Skateboards and bicycles on streets have all the rights and are subject to all the rules of the road applicable to the driver of a vehicle per CA Vehicle Code division 11.

*See the California Vehicle Code for specific section numbers and any applicable restrictions/exceptions to the listed California Traffic Laws at <http://www.dmv.ca.gov/pubs/vctop/vc/vc.htm>

Teach Your Kids Traffic Safety

- Use examples: Be a role model when it comes to correct street crossing and bike riding behavior.
- Explain: Be specific when teaching your child how to cross the street. For instance, say "When I cross a street, I always stop at the curb. Whenever I can I cross within crosswalks. I look and listen for cars - first I look left, then right, then I look left again. Only when it is clear do I cross the street."
- Be visible: Make sure your child knows how to make eye contact, and see and be seen near high profile vehicles.
- Grow your child's confidence: Using small steps, encourage your child to have the confidence necessary to safely cross the street. Begin by letting them play in the front yard, to playing on the block, and on to walking around the block. Then let them cross the street.
- Encouragement: Kids need to know when they're behaving correctly - be sure to congratulate them on modeling your safe actions and words!
- Let your child lead: Once they know the traffic safety rules, let your child lead you! Ask him/her to show you how to be safe, or practice by shadowing him/her about 10 to 15 feet behind.



How Do Kids ...



... see traffic

- 1/3 narrower field of vision.
- Trouble judging distances and the speed of cars. Cannot readily tell the direction that sound comes from.
- Cannot see over parked cars - and drivers often can't see children either.



... think about traffic

- May be impulsive and impatient, and have a limited sense of danger.
- Concentrate on one thing at a time - usually not traffic.
- Imitate the behavior (good and bad) of others children and adults.

Wet Weather Walks

Remind children to be cautious in wet weather, and suit 'em up with umbrellas and raincoats.



Materials used from Safe Routes to School Alameda County and Kids About: A Safety Coalition. Clipart courtesy of Discovery Education's Clipart Gallery.



drive, walk, bicycle, and skateboard. When law enforcement officers take part in SR2S programs, more people tend to be more alert and compliant to following the rules of the road.

Engineering – *Designing and installing infrastructure to make school commute routes safer and more accessible.* Some examples of the City’s recent improvements along school routes are: installed sidewalks to fill gaps; repainted crosswalks to be more visible; added pedestrian refuge islands; and installed traffic tables to improve crosswalk safety.

Evaluation – *Gathering information (before, during, and after projects/programs) builds the City’s capacity to target and improve Safe Routes to School efforts, as well as helps the City evaluate program effectiveness.* Walkability audits survey school neighborhoods and identify infrastructure and other characteristics that hinder or help children walk or roll to school. Parent and student surveys collect data on how children get to school; where hazardous areas are along their routes; and/or why parents prefer one mode of transportation over another.

Bicycle Friendly Community

In 2008 the American League of Bicyclists ranked the City of Arcata a bronze-level “Bicycle Friendly Community.” The League evaluates municipalities on “Five Es,” -- engineering, education, encouragement, enforcement and evaluation efforts towards better bicycling facilities. The League has designed a comprehensive inquiry to yield a holistic picture of the community's work to promote bicycling.



The League recommended measures the City of Arcata could take to further promote bicycling. The City will reapply in the next round we are eligible, and intends to make Arcata more and more bicycle friendly (ranking silver, gold, or platinum!).

Arcata Bicycle Library

The Arcata Bicycle Library evolved from the “green bikes” program in the 1990s when people could borrow community bicycles throughout the city and leave them when they were done so others could utilize them. Bicycle theft and abuse of free bikes led to the current program of lender bicycles.



The mission of the Bicycle Library program is “to promote the use of bicycles as a safe, efficient and

environmentally sound means of transportation.” Supporters view this program as one solution to decrease traffic, parking, road-way maintenance, and air quality problems to make Arcata a cleaner, healthier, and more livable community. Volunteers repair and rebuild bicycles from donated parts to maintain the fleet of lender bicycles. People borrow “library bikes” long-term, like borrowing a library book. Bikes are available for check out with a \$20 deposit for a six-month period.

The Bicycle Library also promotes a “Promise Bikes” program which offers lender bicycles of higher quality either for people who vow to give up their car for trips within Arcata, or for students moving to Arcata without an automobile.

The program has gone through cycles of expanding and contracting. When most expansive, the program had a main “Hub” downtown plus four auxiliary lending stations around town. Currently, the program is working from a large storage trailer located on 12th Street (between L and M Streets). Grants, donations, and many volunteers make the program happen.

This program furthers several Arcata General Plan goals, such as encouraging recycling and reuse, diverting solid waste, facilitating energy efficient transportation, promoting transportation with lower land use impacts, and promoting opportunities for active recreation and travel.

The City is interested in finding a permanent station for the program; and has identified the D Street Community Center and the Intermodal Transit Facility as possible sites.

HSU Bicycle Learning Center

The Cycle Learning Center at Humboldt State University is a student club staffed by volunteers. The Center is dedicated to providing bicycle repairs and maintenance training. The CLC has a shop on campus (between Nelson Hall East and the Depot) with a full range of tools that club members can use, and a CLC member present to help people with their bicycle repairs, upgrades, and questions.

Bike Month-Humboldt

Evolving from “Bike to Work Day” to “Bike to Work Week,” then to “Arcata Bike Week,” this annual celebration of bicycle commuting is now promoted locally as Bike Month-Humboldt. During May, the City of Arcata participates with an ad-hoc coalition in a collaborative push to encourage and support cyclists, from beginner to expert, to commute by bike.



PROGRAMS



"Who loves Bike Month-Humboldt?" (Bike Day noon rally on the Arcata Plaza)

Annual events that have taken hold include a kick-off "Bike Gear Swap," double featured with a film festival and free bicycle maintenance workshop. Bike Month always highlights a "Bike Commute Day" (aka Bike To Work Day) in both Arcata and Eureka (so far). The a.m. commute is honored with a morning "Energizer Station" at the Northcoast Co-op; at noon commuters gather to rally on the Arcata Plaza. The noon rally has a free raffle (a ticket to each rider who arrives by bicycle wearing a helmet) sponsored by HBBCA, free minor maintenance from Revolution Bicycle Repair, contests, free snacks, and general reverie.

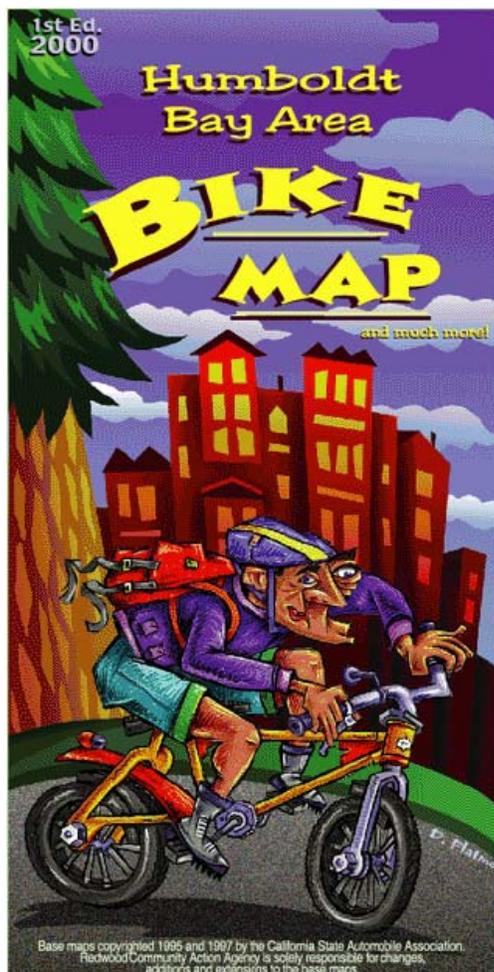
Beginning in 2009, Arcata City Hall has exhibited bike art during Bike Month, offering another destination for the Arts Arcata! crowd.

The ad-hoc, informal "Bike Month Coalition" has included: City of Arcata, Humboldt Partnership for Active Living (HumPAL), Humboldt Bay Bicycle Commuters Association, Bike Foot Bicycle Club, Green Wheels, Caltrans District 1, and Humboldt County Department of Health and Human Services–Public Health Branch, as well as participation from Arcata businesses including BikesThere.com, Revolution Bicycle Repair, The Outdoor Store, and the Northcoast Co-op.



2nd Annual Bike Gear Swap

Bike Maps



Bicycle maps are an essential education and outreach tool. They efficiently impart information on bikeways facilities, recreation and touring information, and educational and promotional information. The most effective maps are easy to read, up-to-date, and readily available.

Humboldt Bay Area Bike Map

The Humboldt Bay Area Bike Map is an exceptional example of a bike map that serves the community's needs. The map shows designated bikeways, undesignated routes that may be good route alternatives, and roadways that only skilled riders are advised to use. The map encourages responsible bicycling with riding and safety tips, applicable laws, and measures to prevent bike theft. The map also lists local cycling shops, organizations, and events.

The map was developed by the Natural Resources Service (NRS) Division of the Redwood Community Action Agency (with funding from NCUAQMD). The map is sold locally, and can also be viewed at: <http://www.naturalresourceservices.org/humbikemap.html>. NRS is updating the map for 2010, and seeking co-sponsors to help with printing costs.

District 1 Bicycle Touring Guide

Caltrans District 1 (Lake, Mendocino, Humboldt, and Del Norte counties) offers a free Bicycle Touring Guide of the area, complete with maps, points of interest, and elevation charts. Caltrans also offers a "Pacific Coast Bike Route in District 1" map. Hard copies for individual/personal use are available upon request from the District 1 office; they can also be downloaded from their website. <http://www.dot.ca.gov/dist1/d1transplan/bikeped/bikeguide/index.htm>

Cycling Skills & Safety Programs

Arcata's Kids' Bike Rodeo

The City of Arcata puts on an annual Kids' Bike Rodeo on the Arcata Plaza. The City closes off the plaza to all automobile traffic, and sets up a skills course for kids to practice their bicycle and tricycle riding skills. The rodeo is geared towards ages 4 to 12 and includes a bicycle safety inspection, helmet fitting, free helmets to those without, and skills training. Once they finish the skills course, kids can spin on the pedal-powered-blender bicycle to blend themselves a healthy fruit smoothie!



Bike Smart Youth Training Program

Free bicycle safety instruction is available in Humboldt County courtesy of the Humboldt Bay Bicycle Commuters Association (HBBCA), which provides a free two-hour bicycle safety class for kids. Qualified HBBCA members teach children about the rules of the road with a short lecture and a street training session. After completing the class, kids without bike helmets can receive a free helmet from the HBBCA.

Other Biking Promotions

Arcata Downtown Criterium

The first Arcata Downtown Criterium was held in May 2004. Team Big Foot sponsored the race, which takes place on a closed loop course around downtown Arcata (up G Street and down H and I Streets between 8th and 12th). Riders do laps until the race time is up. The Arcata Downtown Criterium has kids', women's, men's, and fat tire races, with a range of 20-, 30-, and 50-minute races. When possible, the City organizes the Criterium to happen the same day as the Kids' Bike Rodeo, and then helps sponsor the race by providing traffic control set-up and break-down.



Bike Valet

Green Wheels offers a Bike Valet Service for special major events, providing cyclists fast, friendly, no-hassle, secure bicycle parking for free. Green Wheels organizes its members to volunteer as bike valets, who will park and store the bikes and guard them for the duration of the event. They provide this service as one way to promote bicycle trips and do a favor for bike riders.



Green Wheels' Bike Valet Service at Los Bagels' 25th Anniversary Party, Arcata Community Center. [Times-Standard photo]

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Kinetic Grand Championship

The world-famous Kinetic Grand Championship, formerly called the Kinetic Sculpture Race, is a race that promotes alternative transportation in a big, community way. The race begins its 3-day course on the Arcata Plaza. The kinetic sculptures are all-terrain, human-powered art sculptures engineered to race over road, water, mud and



sand. The race course is 42-miles over streets, beach, dunes, Humboldt Bay, and highway.

The race promotes the very fun and zany side of bicycle riding. The sculptures showcase innovative and creative bicycle engineering; the teams showoff physical stamina; and the race course shows an alternative way that vehicles can use and share the right-of-way.

PROPOSED PROGRAMS

The Master Plan recommends additional programs to get even more residents bicycling and walking more often. Programs range from public awareness campaigns to land use development patterns. The following outlines each of the recommended programs. To fully implement any of the programs, the City (and/or applicable entity(ies)) will have to fully develop the program's goals, objectives, tasks, and evaluation methodology.

Program: Public Outreach, Awareness Campaigns

Public outreach through education and awareness campaigns is an integral way to promote, encourage, and support pedestrian and bicycle modes of travel.

To maximize safety, access, and mobility for all, everyone who uses the public streets must understand how to correctly use them (e.g. roundabouts), respect that they are a shared facility, and behave accordingly so as not to endanger the safety of other travelers.

To interact safely with bicyclists and pedestrians, motorists must understand and acknowledge that walking and bicycling are accepted and legitimate modes of travel. Bicyclists must know that they must obey the same vehicle code when riding bicycles as when driving a car.

Also, it is imperative that all bicyclists and pedestrians be aware of the potential hazards that exist while they travel on city streets, but also be trained with skills that make such travel safe.

National bicycle and pedestrian crash studies identify numerous crash types, a small number of which are by far the most common. For example, the most common type of reported bicycle incident in California involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road in the evening hours. Studies of incident locations around California consistently show the greatest concentration of incidents is directly adjacent to elementary, middle, and high schools. Many less-experienced adult bicyclists are unsure how to negotiate intersections and make turns on city streets. Therefore, the potential exists to improve bicycle and pedestrian safety by focusing education efforts on messages that reduce the most common crash types.

Implementation Strategies:

- Media campaigns
- Bicycle safety video on community access television
- Maps and literature
- Int'l Walk to School events
- Humboldt Bike Week events
- Promotional activities at health fairs

The best results are achieved when multiple organizations partner together, resulting in wider promotion, interest, and patronage.

Prospective Partners/Collaboration:

- Other local jurisdictions
- Humboldt County DHHS-Public Health
- Caltrans-District 1
- Local transit agencies
- Local schools
- Humboldt State University
- HumPAL
- Access Humboldt
- Local media
- and others (almost limitless possibilities)

Evaluation:

Set methodology for evaluating each public outreach campaign. Whenever possible, monitor transportation mode splits (%) associated with particular outreach campaign(s). Present data in an annual staff report to Transportation Safety Committee. Make findings in each Master Plan update (every 5 years).

Other Resources:

Potential funding: Office of Traffic Safety Grants, school safety grants, General Fund. American Automobile Association, the League of American Bicyclists, and the Federal Highway Administration can assist with planning and marketing resources.

Program: Collect Data on Transportation Modes in Arcata

The City will begin methodically collecting traffic/transportation counts in Arcata to better track how the city's mode shares are distributed. Current modes shares are based on Census data; the City intends to complement that data with more frequent counts taken on the City's own streets.

To learn what barriers keep people from bicycling and walking more for in-town trips, the City will conduct surveys on a continuing basis. Survey results will help the City monitor trends.

<p>Implementation Steps:</p> <ul style="list-style-type: none"> ✿ Designate staff position that will have the duty of managing this program (Public Works Department). ✿ Design methodology for collecting and reporting quarterly data and for preparing annual staff reports to TSC. ✿ Set up data collection points and equipment as necessary; acquire and maintain equipment as necessary. ✿ Design program and methodology for periodic counts; collect data; report data and adapt methodology as necessary. ✿ Update US Census data as available. 	<p>Prospective Partners / Collaboration:</p> <p>National Bicycle and Pedestrian Documentation Project School Districts Humboldt State University HumPAL</p>
<p>Evaluation:</p> <p>Annually (or more regularly), City staff will be able to monitor the data collection and analyses, and make adaptive changes to improve program methodology.</p> <p>This program is the primary means of evaluating how the City is progressing (or regressing) on the <i>Pedestrian & Bicycle Master Plan</i> goal for 50% bicycle and pedestrian modes share by the year 2020.</p>	<p>Other Resources:</p>

Program: Transportation Demand Management	
<p>Transportation Demand Management (TDM) is a general term for strategies to use the city’s existing transportation resources more efficiently. TDM strategies help solve traffic and parking congestion, inadequate mobility for non-drivers, and external costs from traffic. TDM strategies can be flexible and cost effective.</p> <p>Both the Arcata General Plan and HCAOG RTP suggest TDMs. The RTP suggested programs such as flexible work hours, on-site lockers and showers, and guaranteed ride home programs. The General Plan TDM Policy (T-2) focuses on land use patterns, stating “Land use planning shall emphasize high density and mixed land-use patterns which translate into higher transit and pedestrian travel in the downtown and neighborhood commercial areas.” The policy's design measures include developing: pedestrian-scale block patterns; streets designed for multi-modal use; and public and private projects that include bicycle routes,</p>	<p>pedestrian and bicycle amenities, transit stop facilities, and attractive landscaped streets and buffers.</p> <p>HSU has implemented these TDM measures:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Jack Pass – Allows HSU students to ride public transit across Humboldt County for free. The program is funded with a \$15 fee included in student registration fees. Faculty and staff may also buy into the Jack Pass program for a higher fee. <input type="checkbox"/> The University’s “Ease the Crunch” campaign informs students about the proximity of the campus to residential areas and the convenience of using non-motorized modes and public transit. <input type="checkbox"/> Provides approximately 2000 bike racks on campus. <input type="checkbox"/> Purchased bike racks for buses, enabling riders to combine bus and bicycle commutes. <input type="checkbox"/> Provides the fee for bicycle licensing.
<p>Implementation Strategies:</p> <ul style="list-style-type: none"> 🌱 Collaborate with area employers to develop useful incentives for both employers and employees. ♻️ Work with transit agencies and transportation organizations to identify, customize, and get funding for TDM programs to increase non-motorized commuting trips. 	<p>Prospective Partners/Collaboration:</p> <p>HCAOG; other local jurisdictions Local and regional transit agencies Caltrans District 1 Business community Humboldt State University HumPAL Green Wheels</p>
<p>Evaluation:</p> <p>Incorporate evaluation methodologies for each TDM program. Data and measurements will vary depending on program target, for example, land use projects or transit subsidy programs.</p>	<p>Other Resources:</p> <p>HumPAL is working with the County of Humboldt's Department of Health and Human Services to establish a TDM program to incentivize non-automobile work commute options for County employees.</p>

Program: Professional Education

To provide a safe environment for bicyclists and pedestrians, city planning and engineering staff, and law enforcement and education officials must understand the needs of bicyclists and pedestrians. These professionals should also understand current best practices, and the leading discourse on innovative ideas and experimental applications.

A cadre of informed professionals is critical to successfully plan and design local projects that authentically integrate alternative travel modes.

Implementation Strategies:

- ☼ Encourage and support staff to attend professional bicycle, pedestrian, and trail conferences to gain new ideas.
- ☼ Bring together local professionals and stakeholders for exchanging ideas and information. Activities can range from formal to informal, e.g., workshops, webinars, or brown bag lunch meetings.

Evaluation:

Outcomes may be more qualitative than quantitative. However, City could track the number of local workshops/conferences are held pertaining to alternative transportation, and the number city staff attending workshops annually (as presenters and participants).

City should also maintain a current database of professionals with knowledge in this and related fields. Include information about collaborations, resources, etc.

Prospective Partners/Collaboration:

- Local cities, county and state agencies (planning, public works, public health departments, etc.)
- Humboldt State University
- College of the Redwoods
- Local K-12 schools
- Local planning firms
- Hum PAL

Other Resources:

- Local Governments
- American Planning Association

Program: Adopt-a-Trail, -Ramp, or -Sidewalk

Adopt-a-Trail

On-going trail maintenance can be a significant expense for local agencies as weed abatement, sweeping, trash removal, and other minor repairs can cost around \$4,000 per mile annually. “Adopt-a-Trail” is one innovative program to reduce the City’s routine maintenance costs. Local businesses and organizations participate by “adopting” a trail and providing funds and/or volunteers to help maintain it (similar to the “adopted” highway segments). Small signs along the pathway would acknowledge the supporter’s contribution.

Adopt-a-Ramp or Adopt-a-Sidewalk

The City could defray some of the costs of developing a complete pedestrian network by offering a similar program for ramp and sidewalks. Businesses, individuals, or organizations could donate the cost of installing ramps or sidewalks that have been identified for the pedestrian network. A small plaque could be inlayed to recognize benefactors.

Implementation Steps:

- ✿ Seek organizational partners to help administer the program; develop program guidelines and initial list of potential trails, ramps, and sidewalks.
- ✿ Develop media/public outreach campaign.

Prospective Partners/Collaboration:

Community service organizations, local employers, or other groups could administer this program, with cooperation from the City.

Evaluation:

Success of program may be assessed by amount of City staff time is allocated to program; number of adoptions; costs saved by City.

Other Resources:

Program: Police & Vehicle Code Enforcement

Providing a safe environment for walking and biking requires law enforcement. While protecting the rights of bicyclists and pedestrians is important, police must also make sure that bicyclists and pedestrians are behaving in a safe manner.

Local police help educate violators and maintain safety by consistently enforcing proper motorist, bicyclist, and pedestrian behavior. Police should warn or cite violators, for example, for not yielding to pedestrians in crosswalks; for driving too close to bicyclists; for harassing bicyclists and pedestrians; for bicycling against traffic flow, running stop signs or stoplights; and for parking in the bicycle lane.

According to the California Bicycle Coalition, the top five reasons for “cyclist at fault” crashes are:

- Riding on the wrong side of the road (against traffic)
- Failing to yield the right of way
- Improper turning
- Unsafe turning
- Failure to stop at stop sign/signal

Implementation Steps:

- ✿ Collaborate between Public Works, Police Department, and Transportation Safety Committee to implement most efficient and effective program.
- ✿ Coordinate with a public outreach/education campaign with a focus on the leading causes of collisions and injuries.

Evaluation:

Determine evaluation methodology, i.e. what data to collect and how to analyze it. Available data includes police records of accident and citation histories, including causal factors and fault of collisions.

Prospective Partners/Collaboration:

Community service organizations, local employers, or other groups could help administer educational/safety components of this program, with cooperation from the City.

Other Resources:

7. IMPLEMENTATION

This chapter outlines the general steps for implementing the Pedestrian & Bicycle Master Plan's recommended projects and programs. The largest hurdle to overcome for implementing is funding. This chapter lists the costs for the proposed bicycle and pedestrian improvements, and presents strategies for funding and financing.



IMPLEMENTATING PROJECTS

The first step toward implementing projects (and programs) is having the Master Plan update adopted by the by the Arcata City Council after completing a full review process which includes public review and input; recommendations by the Transportation Safety Committee; and review and a recommendation by the Planning Commission.

Although the *Arcata Pedestrian and Bicycle Master Plan* provides project descriptions, specific project details are not known. The priority projects and programs set forth in this Master Plan indicate the types of activities the City is contemplating for the next five-year period.

The steps required between adopting the Master Plan and completing implementation will vary from project to project. The typical sequence of steps is outlined below.

1. Reviewing initial design concepts at Transportation Safety Committee meeting(s).
2. Completing of a feasibility study, which typically includes preliminary design and estimated costs.
3. Conducting formal environmental analysis (if not categorically exempt per CEQA and NEPA), which may require analyzing alternatives, coordinating with agencies, and a conducting the public review process per CEQA/NEPA. The final product should yield a preferred design alternative, environmental clearance, and an accurate cost estimate. The project would then go to the Planning Commission and/or City Council for approving the project and certifying the environmental document.
4. Obtaining necessary permits/entitlements.
5. Applying for and obtaining funding for the project. Typically, all environmental work must be completed, local approval obtained, and the right-of-way must be in public control.

6. Completing final Plans, Specifications, and Estimates (PS&E). Once completed, bids for construction services can be obtained.
7. Constructing the project.

Large infrastructure projects would generally follow all these steps. Smaller projects may not require step 3, and might be constructed by City crews.

All projects and programs implemented under the *Arcata Pedestrian and Bicycle Master Plan* shall adhere to applicable policies of the Arcata General Plan:2020 and Land Use Code. The City shall conform with applicable policies to protect the city's aesthetics, air quality, biological resources, cultural resource, geology/soils, and hydrology/water quality, and noise, transportation and hazards and hazardous materials environment, and any other resources potentially impacted. As necessary, the City will follow further mitigation measures if needed to avoid significant adverse impacts to resources. For developing walkways and bikeways, the City will employ best practices typical for projects that involve ground-disturbing activities, such as limiting hours of noise impacts, controlling sediment and erosion to protect slope stability and waterways, and adhering to standards for discovery of cultural resources.

COST BREAKDOWN

Table 7.1, below, shows the monies the City has expended for pedestrian and bicycle facilities in the last five years (2005-2009). Table 7.2 shows the City's estimated financial needs for future facilities; the table divides costs between priority bicycle projects, citywide pedestrian improvements, and recommended programs. (The cost estimates do not include some of the proposed bikeways and pedestrian trails shown on Figures 2-6 because they will be built as development occurs.) This list presents a "best case" scenario for the City providing a network of bicycle and pedestrian facilities and programs within the short term.

The total cost over 20 years for all projects and programs is estimated to be approximately \$7,068,00 (2009 dollars). Of the total project cost over 20 years, the City is projected to be responsible for about 13% (approximately \$ 917,150). Many of the projects can be funded with federal, state, and regional transportation, safety, and/or air quality grants; however, projects that solely serve recreational needs must be funded by non-transportation sources.

The Master Plan's priority pedestrian and bikeway projects are recommended to be implemented over the next five to ten years, or sooner if funding is available. Some of the more expensive projects, particularly the regional trail projects, may take longer to implement. Programs and infill projects should continue well into the future. It is difficult to accurately predict the exact timing of projects, due to dependence on competitive funding sources, timing of roadway and development projects, and the overall economy.

Table 7.1 City of Arcata Past Expenditures for Pedestrian and Bicycle Facilities, 2005-2009

YEAR	PROJECT	COST
Pedestrian Facilities		
2004-05	Asphalt & Concrete Projects: new concrete for sidewalks, curbs, ramps, repairs, etc.	\$ 76,000
2005	Pedestrian Walkway between F, G, 8 th , and 9 th Streets (adjacent to F Street City Parking Lot)	\$ 60,000
2006-07	Asphalt & Concrete Projects: new concrete for sidewalks, curbs, ramps, repairs, etc.	\$ 70,800
Oct. 2006	Sidewalk Infill Project (Community Development Block Grant funding)	\$ 62,500
Dec. 2006	K Street Project: ADA curb ramps [\$38K], concrete [\$83K], signage [\$10K]	\$131,000
2007	Sidewalk, curb, and gutter projects (citywide)	\$ 72,000
	Total	\$472,300
Bicycle Facilities		
2005	Bayside Road Project: asphalt, humps [\$5K]; restriping [\$6K]	\$ 11,000
Dec. 2006	K Street Project: pavement striping for bike lanes	\$ 8,500
2006-08	BTA Project ¹ : pavement striping (“sharrows” on 11 th St., Sunset Ave., Union St.), bike lockers, paving on South G Street, signage, funding for Library Bikes Program, Kids Bike Rodeo, other awareness campaigns.	\$152,000
	Total	\$163,500

¹Funds received through the State’s Bicycle Transportation Account program.

Table 7.2 Estimated City Costs of Master Plan Projects and Programs

PROJECT	TYPE	UNITS/ MILES	COST
PRIORITY BICYCLE IMPROVEMENTS*			
Citywide Bicycle Parking	Bike racks	100	\$42,500
	Bike lockers	30	\$36,000
Special Events Bicycle Parking	Portable bike rack	1	\$1,500
Bicycle Air Stations	Bike station	4	5,000
11th Street Corridor	Class II/III	1.5	\$22,500
Foster Avenue Extension (<i>does not include acquisition costs</i>)	Class I and II	0.5	\$290,000
F Street	Class II and/or III	0.4	\$7,000
Bike Routes	Class III	8.2	\$41,000
Bike Boulevards	Class III	0.6 to 1.0	\$5,000
Sunset Avenue (east)	Class I	0.25	\$137,500
Samoa Boulevard	Class II	0.25	\$7,500
<i>priority improvements subtotal 63,300</i>			
Other Community Connections			
Hammond Trail (on RR ROW)–within Arcata City limits	Class I	1.5	\$900,000
Annie & Mary Rail Trail–Arcata Reach	Class I/II	3	\$840,000
Humboldt Bay Trail–Arcata Segment	Class I/II	2.5	\$700,000
Library Bikes	20-year Program	\$2,000/yr	\$40,000
<i>other improvements subtotal 284,000</i>			
			Bike Projects Subtotal \$3,113,000
PROJECT	YEARS	UNIT COST	COST
CITYWIDE PEDESTRIAN PROJECTS			
Citywide Curb Ramp Program	20 yrs	\$50,000	\$1,000,000
Citywide Sidewalk In-Fill Program	20 yrs	\$50,000	\$1,000,000
Citywide Trails	20 yrs	\$25,000	\$500,000
Bicycle & Pedestrian Education Programs	20 yrs		\$1,200,000
		Safety Grants and Materials	\$50,000
		Promotional Materials	\$2,500
		Community Adoption Program	\$2,500
		Employer Incentives	\$2,500
		Walk to School/Bike to Work	\$2,500
Safe Routes to School	2 schools	\$125,000	\$250,000
Bayside Road Improvements		\$5,000	\$5,000
Pedestrian Projects Subtotal			\$3,955,000
TOTAL			\$7,108,000

*Costs per mile: Class I = \$550,000 / Class II = \$30,000 / Class III = \$5,000

Tables 7.3 and 7.4 show the City's planned projects for the nearer term and the long term, adopted in the 2008 Humboldt County Regional Transportation Plan (HCAOG 2008).

Table 7.3 RTP 2008 - Non-Motorized Planned Projects for City of Arcata

PROJECT DESCRIPTION	COST
Arcata Pedestrian and Bicycle Master Plan 2009 Update and CIP*	\$25,000
11th Street Q Street-Janes Road. Class II – In Progress – <i>Complete 04/08</i>	\$22,727
Alliance Rd. Spear Avenue-14th Street. Class II – In Progress – <i>Complete 08/08</i>	\$89,489
Samoa Blvd. K Street-Buttermilk Lane. Class II – K–H Streets with Samoa Blvd. Improvements (2009); Union-Buttermilk Lane – 2010 STIP	\$85,938
10th Street Q Street-L Street. Class III – <i>Fund 2008 for Bike Blvd.</i>	\$50,000
11th Street Corridor Janes Road to Bayview Street. Class II/III	\$22,500
Sunset Avenue Western Avenue to H Street. Class II/III	\$4,750
F Street 7 th Street to 11 th Street. Class II/III	\$7,650
Bicycle Parking Citywide. Bike racks & bike lockers	\$4,250
Bike Routes Citywide. Class II/III	\$217,500
Bike Boulevards Citywide. Bike boulevards w/ calming Class III	\$73,250
Hammond Trail (on RR ROW) west Arcata city limit to Annie & Mary Rail Trail. Class I	\$770,000
Annie & Mary Rail Trail Arcata Reach–north Arcata city limits to Marsh/South G St. Class I	\$700,000
Arcata-Eureka 101 Corridor H Street to south Arcata City Limit. Bike path Class I/II	\$687,000

* = Priority Project

Source: Humboldt County Regional Transportation Plan Update (HCAOG 2008).

Table 7.4 RTP 2008 - Humboldt County Long-Term Projects

PROJECT DESCRIPTION	COST
Hammond Trail Mad River Bridge to Arcata City Limits. Class I Implementation Strategy Private Property Issues/Alternatives Analysis Needed	\$797,500
Humboldt Bay Trail - East Bay Arcata Marsh & Wildlife Sanctuary to Eureka Waterfront Trail/Drive. Class I Implementation Strategy	\$3,520,000
Humboldt Bay Trail - West Bay Arcata City Limits Samoa; potential extension to Fairhaven. Class I Implementation Strategy	\$1,980,000
West End Road Giuntoli Lane to Hatchery Road. Class III	\$5,378
Mad River Rd/Upper Bay/Miller Lane/Heindon Road Mad River Beach to Arcata City Limits. Enhanced Class III	\$6,439
SR 255 US 101 to US 101. Class III	\$13,307

Source: Humboldt County Regional Transportation Plan Update (HCAOG 2008)

FUNDING SOURCES

There are a variety of potential funding sources from local, State, regional, and Federal funding programs that can be used to construct the proposed bicycle and pedestrian improvements. Local funds for bicycle and pedestrian projects typically come from Transportation Development Act (TDA) funding, which is prorated to each county based on return of gasoline taxes. Funding for many of the programs would need to be funded with some combination of TDA funds, general fund (staff time); and regional, State, and Federal sources.

Arcata has historically invested approximately \$100,000 annually in bicycle and pedestrian facilities. This money is derived from a variety of sources: TEA-21 programs, Bicycle Transportation Account (BTA), impact fees, sales tax revenue, etc. Most of the sidewalk and bikeway investments have been in the form of simultaneous roadway construction and improvement projects, while additional bike parking and sidewalks have increased as a result of new development.

Proposed improvements and programs to be developed over the next 10 years in Arcata have been analyzed to determine the annual financing requirements, and to allow the City to budget its resources and target funding applications. These funding sources are extremely competitive, and require a combination of sound applications, local support, and lobbying on the regional and state level.

Below we describe funding sources in order of federal, state, regional and local funding.

Federal

TEA-21 and SAFETEA-LU

The Transportation Equity Act for the 21st Century (TEA-21) was enacted in 1998, authorizing Federal surface transportation programs for highways, highway safety, and transit. Prior TEA programs have provided dollars from highway authorization bills in order to ensure that bicycling and walking garnered a more prominent role in the nation's transportation system. Its current successor legislation is SAFETEA-LU (Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users), which was enacted in 2005 for the 5-year period 2005-2009. It is being reauthorized for 2010.

The Humboldt County RTP states,

Under SAFETEA-LU, transportation enhancement activities continue to be funded through a set-aside of 10 percent, or the amount set aside in FY 2008, whichever is greater, from STIP funds. Assuming funding levels remain constant over 20-years, the amount would be \$6 million. (HCAOG 2008)

SAFETEA-LU transportation enhancement funding is administered through the state and regional governments (Caltrans or Resources Agency, and Authority). Most, but not all, of the funding programs are transportation oriented (as opposed to recreational), with an emphasis on (a) reducing auto trips and (b) providing an intermodal connection. Funding criteria often include a completed and adopted bicycle and/or pedestrian master plan, quantified costs and benefits of the system (e.g., saved vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and a commitment of local resources.

State

Bicycle Transportation Account

The state Bicycle Transportation Account (BTA) is an annual statewide discretionary program that funds bicycle projects through the Caltrans Bicycle Facilities Unit. Funding is available as grants to local jurisdictions for projects that benefit bicycling for commuting purposes. Statewide, available funding amounts to \$7.2 million annually.

Safe Routes to School (SB 10)

Safe Routes to School (SR2S) is a State program. (Subsequently the Federal Highway Administration authorized its own “SRTS” program under SAFETEA-LU.) It is meant to improve school commute routes through construction of bicycle and pedestrian safety and traffic calming projects. A local match of 11.5% is required for this competitive program, which will allocate \$18 million annually. SR2S funding supports programs or activities related to engineering (construction), education, enforcement, and encouragement.

- Arcata received \$329,450 during the SR2S-2nd Cycle for new sidewalks and pedestrian refuges near five public schools.
- For SR2S Cycle 3 the City improved traffic calming/pedestrian access on Guintoli Lane.
- For SR2S Cycle 5 (2005) the City received \$327,600 for improvements on routes along six school routes, including filling sidewalk gaps, installing a bike lane (Class II), providing bike racks to schools, and installing traffic calming to slow traffic on routes. The City also continued an education program, promoting the “walking school bus” and developing a traffic tamers toolkit.
- The City completed engineering, education, and enforcement improvements for SR2S Cycle 7, and will continue for SR2S Cycle 8.

One project that was funded by the Safe Routes to School program was filling in this sidewalk gap at the curve at Spear Avenue/Janes Road near Pacific Union School.



Before SR2S project.



After SR2S sidewalk infill.

Regional Transportation Improvement Program (RTIP)

These funds are a portion of the State Transportation Improvement Program. Humboldt County Association of Governments, acting as the Regional Transportation Planning Agency in the area, is responsible for allocating Humboldt County's share of the funding. Recent RTIP projects awarded to Arcata include pedestrian improvements along K Street and bicycle and pedestrian facilities along the Sunset Avenue Extension.

California Office of Traffic Safety

The California Office of Traffic Safety (OTS) has the mission to obtain and effectively administer traffic safety grant funds to reduce deaths, injuries and economic losses resulting from traffic related collisions in California. OTS grants address traffic safety priority areas including pedestrian and bicycle safety. Eligible activities include programs to increase safety awareness and skills among pedestrians and bicyclists. Concepts may encompass activities such as safety programs, education, enforcement, traffic safety and bicycle rodeos, safety helmet distribution, and court diversion programs for safety helmet violators.

Grants are used to mitigate traffic safety program deficiencies, expand ongoing activity, or develop a new program. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. OTS distributes federal funding apportioned to California under the National Highway Safety Act and the SAFETEA-LU (formerly TEA-21).

Recreational Trails Fund

The Recreational Trails Program provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses are hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. Recreational Trails Program funds may be used for:

- Maintaining and restoring existing trails;
- Developing and rehabilitating trailside and trailhead facilities and trail linkages;
- Purchasing and leasing trail construction and maintenance equipment;
- Constructing new trails (new trails on federal lands are restricted);
- Acquiring easements or property for trails;
- State administrative costs related to this program (limited to 7% of a state's fund);
- Operating trail-related educational programs to promote safety and environmental protection (limited to 5% of a state's funds).

Regional

Transportation Development Act Article III (SB 821)

Transportation Development Act (TDA) Article III funds are awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from the state gasoline tax. HCAOG distributes funds annually to local jurisdictions according to population.

Air Quality Management District (AB 2766)

The North Coast Unified Air Quality Management District (NCUAQMD) has two vehicular pollution prevention programs that could be applied to development of bicycle facilities or programs. The Air Quality Partnership (AQP) program is intended to protect public health in Humboldt, Del Norte and Trinity Counties. The program seeks to improve air quality in partnership with local public, private and non-profit entities by supporting small scale projects aimed at reducing emissions from motor vehicles. With two funding cycles per year, project funding is limited to \$3,000 and each proposing entity is limited to one funded project per six-month period.

Larger grants from the NCUAQMD are available annually through the AB 2766 program. NCUAQMD allocated about \$90,000 in fiscal year 2002-2003 for technical studies, monitoring, planning, and implementation of the District's 'Particulate Matter Attainment Plan'. Funding preference is given to projects that result in reduction of particulate matter from heavy duty diesel motor vehicles, rideshare and/or transit programs implemented by or under direct contract to local government entities, and the installation of physical devices or facilities that directly or indirectly reduce motor vehicle emissions.

Local Funding

Direct Local Jurisdiction Funding

Local jurisdictions can fund bicycle and pedestrian projects using a variety of sources. A city's general funds are often earmarked for non-motorized transportation projects, especially sidewalk and ADA improvements. Future road widening and construction projects are one means of providing bike lanes and sidewalks.

Impact fees

Another potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site pedestrian and bikeway improvements, which will encourage residents to walk and bicycle rather than drive. In-lieu parking fees may be used to help construct new or improved bicycle parking. Impact fee must be consistent with the project's impacts; the connection must be established clearly to avoid potential misinterpretations and legal dispute.

Special Taxing Districts

Special taxing districts, such as redevelopment districts, can be good instruments to finance new infrastructure – including shared use trails and sidewalks - within specified areas. New facilities are funded by assessments placed on those that are directly benefited by the improvements rather than the general public. In a “tax increment financing (TIF) district, taxes are collected on property value increases above the base year assessed property value. This money can then be utilized for capital improvements within the district. TIF’s are especially beneficial in downtown redevelopment districts.

These districts are established by a petition from landowners to a local government. The districts can operate independently from the local government and some are established for single purposes, such as roadway construction.

Other

- Local sales taxes, fees, and permits may be implemented, requiring a local election.
- Parking meter revenues may be used according to local ordinance.
- Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. For example, the California Conservation Corp offers low-cost assistance for a variety of project work; volunteer work parties can be organized to help clear the right of way.
- Local schools or community groups may use the bikeway or pedestrian project as a project for the year, possibly working with a local designer or engineer.
- A local construction company may donate or discount services.
- A challenge grant program with local businesses may be a good source of local funding, where corporations “adopt” a bikeway and help construct and maintain the facility.
- Mitigation or a condition of approval for development projects can require funds, easements or dedications, and/or construction for trails.

Other opportunities for implementing the pedestrian and bicycle the system will appear over time and may be applied as appropriate.

GLOSSARY OF TERMS & ACRONYMS

Agency Acronyms

AMRTS – Arcata & Mad River Transit Service

CTC – California Transportation Commission

DHHS – Department of Health and Human Services (Humboldt County)

FHWA – Federal Highway Administration

HCAOG – Humboldt County Association of Governments

HTA – Humboldt Transit Authority

HSU – Humboldt State University

HumpAL – Humboldt Partnership for Active Living

NRS-RCAA – Natural Resources Services Division of Redwood Community Action Agency

RCAA – See NRS-RCAA

RTS – Redwood Transit Service

Terms & Miscellaneous Acronyms

ADA – Americans with Disabilities Act.

ADT – Average Daily Traffic.

AMC – Arcata Municipal Code.

Bicycle Boulevard – Streets designed to limit or prohibit motor vehicle traffic, using barriers or other design elements, in order to enhance bicycle safety and enjoyment.

Bicycle facilities – A general term for improvements and provisions made by public agencies to accommodate or encourage bicycling, including bike racks and lockers, bikeways, and showers at employment destinations.

BAC – Bicycle Advisory Committee.

Bike lane – A striped lane for one-way bike travel on a street or highway.

Bike path – A right of way separate from a street or highway for bicycle travel, typically along rail, water, or utility corridors.

Bike route – A travelway for bicycles through a community, providing a superior route based on traffic volumes and speeds, street width, directness, and/or cross-street priority, denoted by signs only.

Bikeway – All facilities developed primarily for use by bicycles.

CEQA – California Environmental Quality Act

CDBG – Community Development Block Grant

Chicane – A chicane is a curve in the roadway specifically designed to add extra turns that will slow motorists' speeds. Most traffic-calming chicanes are created by building curb extensions (bulbouts) that alternate from one side of the street to the other, creating an S-shaped roadway.

Class I Bikeway – See Bike Path.

Class II Bikeway – See Bike Lane.

Class III Bikeway – See Bike Route.

Clearance, lateral – Width required for safe passage of a bicycle and emergency and maintenance vehicles as measured on a horizontal plane.

Congestion Management Program – A once state-mandated, now voluntary program recommending the monitoring and mitigation of increased congestion on regional highway routes and transit systems.

CMAQ – Congestion Management and Air Quality (TEA-21 funding program).

CMP – See Congestion Management Program.

Geometry – The vertical and horizontal characteristics of a transportation facility, typically defined in terms of gradient, degrees, super elevation, and travel speed.

Grade separation – Vertical isolation of travelways through use of a bridge or tunnel so that traffic conflicts are minimized.

Loop detector – A device placed under the pavement at intersections which can detect a vehicle or bicycle and trigger an actuated or semi-actuated signal to turn green.

Mode split – Percentage of trips that use a specific form of transportation. A one per-cent bicycle mode split indicates that one percent of trips are made by bicycle.

MUTCD – Manual of Uniform Traffic Control Devices.

NEPA – National Environmental Policy Act

NPTS – National Personal Transportation Survey.

Pedestrian facility – Facilities designed primarily for the use of pedestrians.

Railbanking – “Railbanking allows a rail carrier to transfer an unprofitable line—by sale, donation, or lease—to a capable public or private entity (called a “trail manager”) that is willing to assume financial responsibility for the management of the right-of-way. When a trail is railbanked, instead of abandoned, the land remains under federal jurisdiction, and any state laws that might extinguish the trail manager’s right to use the corridor are preempted” (from *Railbanking and Rail-Trails: A Legacy for the Future*, by Rails-to-Trails Conservancy, March 2005).

Reversion – Process by which bicycle facilities are removed or converted to non-bicycle use (travel or parking lanes) in the future.

Right of way – The right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian. Also, the strip of land over which a transportation facility is built.

SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

Shared pathway – A trail that permits more than one type of user, such as a trail designated for use by both pedestrians and bicyclists.

Shared roadway – A type of bikeway (typically a bike route or bike boulevard) where bicyclists and motor vehicles share the same roadway with no striped bike lane.

Sharrow – Nickname for “share the right-of-way arrows,” which are pavement markings for bike routes. Sharrows are meant to increase motorists’ attention and understanding that the travel lane is a shared right-of-way for car and bicycle travel.

Sidewalk – A paved portion of a highway, road, or street intended for pedestrians that is separated from the road surface by at least a curb and gutter.

Sight distance – The distance a person can see along an unobstructed line of sight.

SRTS – Safe Routes to School (TEA-21 funding program).

STP – Surface Transportation Program (TEA-21 funding program).

TAC – Technical Advisory Committee.

TCM – Transportation Control Measure.

TDA – Transportation Development Act.

TDM – See Transportation Demand Management.

TEA – Transportation Enhancement Activities.

TEA-21 – Transportation Equity Act for the 21st Century.

Traffic calming – Changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes in the interest of street safety, livability, and other public purposes.

Traffic control devices – Signs, signals, or other fixtures, whether permanent or temporary, placed on or adjacent to a travelway by authority of a public body having jurisdiction to regulate, warn, or guide traffic.

Traffic volume – The number of vehicles that pass a specific point for a specific amount of time (hour, day, year).

Transit center – Any major transfer point for pedestrians and bicyclists who walk or bike to transit.

TRANSPORTATION DEMAND MEASURES (TDM) – Generally refers to policies, programs, and actions that are directed towards increasing the use of high occupancy vehicles (Transit, carpooling, and vanpooling) and the use of bicycling and walking with the express purpose of reducing or limiting vehicle cold starts and miles traveled for congestion and air quality purposes.

UIHS – United Indian Health Services

Utilitarian trips – Trips that are not for work or recreational purposes, such as running errands.

VMT – Vehicle miles traveled

VT – Vehicle tip

Walkway – An area for general pedestrian use (other than a sidewalk or path) such as courtyards, plazas, and pedestrian malls.

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