Cloverdale Bicycle & Pedestrian Master Plan

May 2008

Prepared by:

Sonoma County Transportation Authority

In partnership with:

City of Cloverdale

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Cloverdale Bicycle & Pedestrian Master Plan

1. Introduction

This *Cloverdale Bicycle & Pedestrian Master Plan* was developed as a component of the Sonoma County Transportation Authority's (SCTA's) *2008 Countywide Bicycle and Pedestrian Master Plan*. While part of the *Master Plan,* the Cloverdale plan is also a stand-alone document to be used by the City of Cloverdale to guide implementation of local projects and programs and document city policy. It is also designed to be a component of the *SCTA Countywide Bicycle & Pedestrian Master Plan* to improve coordination in realizing the countywide bicycle and pedestrian system.

The Cloverdale plan was developed over the course of a year through the coordinated efforts of the SCTA's Bicycle and Pedestrian Advisory Committee, a focused project steering committee, Cloverdale staff, and input from the public through a series of public workshops and public review periods. The Project Steering Committee was established to oversee the development of the plan and consisted of representatives from the County and each of its cities. Public workshops were held throughout the County to collect input from interested members of the public. The workshops were advertised through various local and regional print media, mailings, the posting of public fliers, and government outreach efforts.

The primary emphasis of this planning effort is to facilitate transportation improvements for bicyclists and pedestrians.

Purposes of the Plan

The purposes of the *SCTA Countywide Bicycle & Pedestrian Master Plan* are to:

- Assess the needs of bicyclists and pedestrians in Cloverdale and throughout Sonoma County in order to identify a set of local and countywide improvements and implementation strategies that will encourage more people to walk and bicycle;
- Identify local and countywide systems of physical and programmatic improvements to support bicycling and walking;
- Provide local agencies that adopt the Plan with eligibility for various funding programs, including the State Bicycle Transportation Account (BTA);
- Act as a resource and coordinating document for local actions and regional projects; and
- Foster cooperation between entities for planning purposes and to create Geographic Information System (GIS) maps and a database of existing and proposed facilities countywide.

How Does the Plan Affect Daily Life in Sonoma County?

The *SCTA Countywide Bicycle & Pedestrian Master Plan* describes a vision for the future of these alternative transportation modes, identifies policies to help achieve that vision and contains funding strategies for implementation of the projects and programs contained within the plan. These policies affect what choices we have for travel by car, bus, and bicycle and on foot. By identifying transportation priorities and the funding to support them, the Plan determines what projects are built and what programs are pursued.

To achieve these, the Plan includes recommendations for physical improvements and programs that could be developed to enhance and expand existing facilities, connect gaps, address constraints, provide for greater local and regional connectivity, and increase the potential for walking and bicycling as transportation modes.

Vision Statement

Through a collaborative planning process, a vision, goal and objectives were approved by all ten jurisdictions of Sonoma County: Cloverdale, Healdsburg, Windsor, Santa Rosa, Cotati, Rohnert Park, Petaluma, Sonoma, Sebastopol, and the County of Sonoma. These are designed to guide the development and maintenance of bicycle and pedestrian facilities throughout Sonoma County and express the intent of SCTA and its member agencies to enhance non-motorized mobility and to improve safety, access, traffic congestion, air quality, and the quality of life of Sonoma County residents, workers and visitors.

The vision for a comprehensive bicycle and pedestrian transportation system is:

In Sonoma County bicycling and walking are:

- Important to residents' quality of life
- Integral parts of an interconnected transportation system
- Safe and convenient for all user groups
- Viable means of reaching desired destinations
- Routinely accommodated
- Encouraged by easy connections to transit
- Fostered by education and enforcement
- Advanced by actions of government, schools and the private sector
- Promoted as tourism and recreation attractions
- Mode choices that contribute to personal health
- Options that reduce vehicle miles traveled and greenhouse gas emissions

Caltrans Compliance

Bicycle Transportation Act

To be eligible for Bicycle Transportation Account (BTA) funds, a city or county must prepare and adopt a Bicycle Transportation Plan (BTP) that addresses items a – k in *Streets and Highways Code* Section 891.2. If a city plans to use a countywide BTP to establish their eligibility for BTA funds, the countywide BTP must include a discussion of items a – k for that city in addition to addressing these items for the unincorporated areas in the county. Items a – k, and their location in this Plan, are identified in Appendix A.

Bicycle Transportation Plan Approval Process

Following adoption at the local level, a city or county sends their plan to the appropriate Regional Transportation Planning Agency (RTPA) for approval. Sonoma County's RTPA is the Metropolitan Transportation Commission (MTC). RTPA approval consists of verifying that the plan is in compliance with Section 891.2 and the Regional Transportation Plan (RTP). Following RTPA approval, the local agency submits the plan, adopting resolution, and RTPA letter of approval to Caltrans' Bicycle Facilities Unit for review to ensure the plan addresses the required elements.

Caltrans Bicycle Program staff employs a checklist approach to BTP review to determine if the plan includes the required elements. While each required element should be addressed in the plan, regardless of applicability to the local agency preparing the plan, the review does not "grade" the information provided in the discussion of the required elements. BTP adoption establishes eligibility for five consecutive BTA funding cycles.

2. Setting and Context

Land Use History

In 1856, a Mr. Markle and a Mr. Miller purchased 850 acres of land, which encompassed the area that later became the City of Cloverdale. A year later, a trading-post was established on the main road, which was really just a horse pack trail to Ukiah and north. Then a tavern was established for the accommodation of travelers and pack-trains. Situated in a semi-circular valley and covered with clover, the town grew slowly. The arrival of the railroad in 1872 spurred growth.

The next major influence on transportation, and likewise land use, was the affordability of the automobile for many families and businesses. The old trail evolved into a paved road that later would be Highway 101 linking north to south. Roads were created to serve the new vehicular mode. Highway 101 was Cloverdale's main street for many decades, until it was re-routed in 1994 to the east side of town. Commercial and governmental uses were established along the old trail and 101 alignment, while residences were built just beyond this corridor. Cloverdale's downtown retains much of its walkability from the era before automobiles

Jurisdiction Overview Setting and Land Use

Cloverdale is the northernmost city in Sonoma County. It is located along US 101 at the northern end of the Alexander Valley. The Russian River flows through the center of the Valley, and the developed portion of the City is located on the valley floor west of the Russian River. Temperatures in Cloverdale are generally mild in the winter and hot in the summer. October through April is the rainy season; the City receives approximately 40 inches of rain annually.

Cloverdale is separated from its neighboring communities by distance, especially for pedestrians and bicyclists. Nearby cities are located to the north and south along the US 101 corridor. The city of Healdsburg is located approximately 16 miles to the south. The closest commercial centers are Ukiah in Mendocino County, which is located approximately 25 miles to the north; and Santa Rosa which is approximately 34 miles to the south. Cloverdale has a population of 8,517 (2007 CA Department of Finance estimate) within a land area of approximately 2.52 square miles, and an average population density of approximately 3,380 persons per square mile.

Cloverdale's compact land use pattern, relatively low-volume streets, and developed sidewalk network, coupled with its relatively small land area and mostly flat geography, create many opportunities for Cloverdale residents to walk and bicycle throughout the community. Housing is the predominant land use in Cloverdale.

Much of Cloverdale was developed along US 101 in the 20th century, and as such it is a linear community that stretches north-south for approximately 2.75 miles along Cloverdale Boulevard, formerly the state highway. The City's older residential areas are laid out in grid patterns and surround the downtown commercial district. However, in recent years new subdivisions have been added to Cloverdale's housing stock farther from downtown on the west side of town. The bulk of Cloverdale's service, professional, and government jobs are concentrated in the downtown area, daily services and retail

establishments are distributed along Cloverdale Boulevard, and commercial and industrial employment centers are grouped along the Cloverdale Boulevard corridor at the north and south ends of town Major generators and attractors include the downtown retail district, strip commercial uses along Cloverdale Boulevard South, Cloverdale's public schools that, are primarily located in the City's northwest quadrant, Cloverdale River Park, the senior center, and Cloverdale Boys and Girls Club, etc. Land use development and settlement patterns are indicated in Figure 1, the Cloverdale Land-Use Map.

Attractors and Generators

Attractors and generators in Cloverdale were identified by reviewing information from standard sources such as maps, plans, and the City's website as well as consultation with staff. The locations of the attractors and generators were considered in determining the alignments of both the local and countywide networks. They include downtown, City Hall and other government buildings, multi-modal transit centers, regional and local parks, schools, medical centers, major commercial districts, shopping centers, and other public attractions.

Schools and Safe Routes

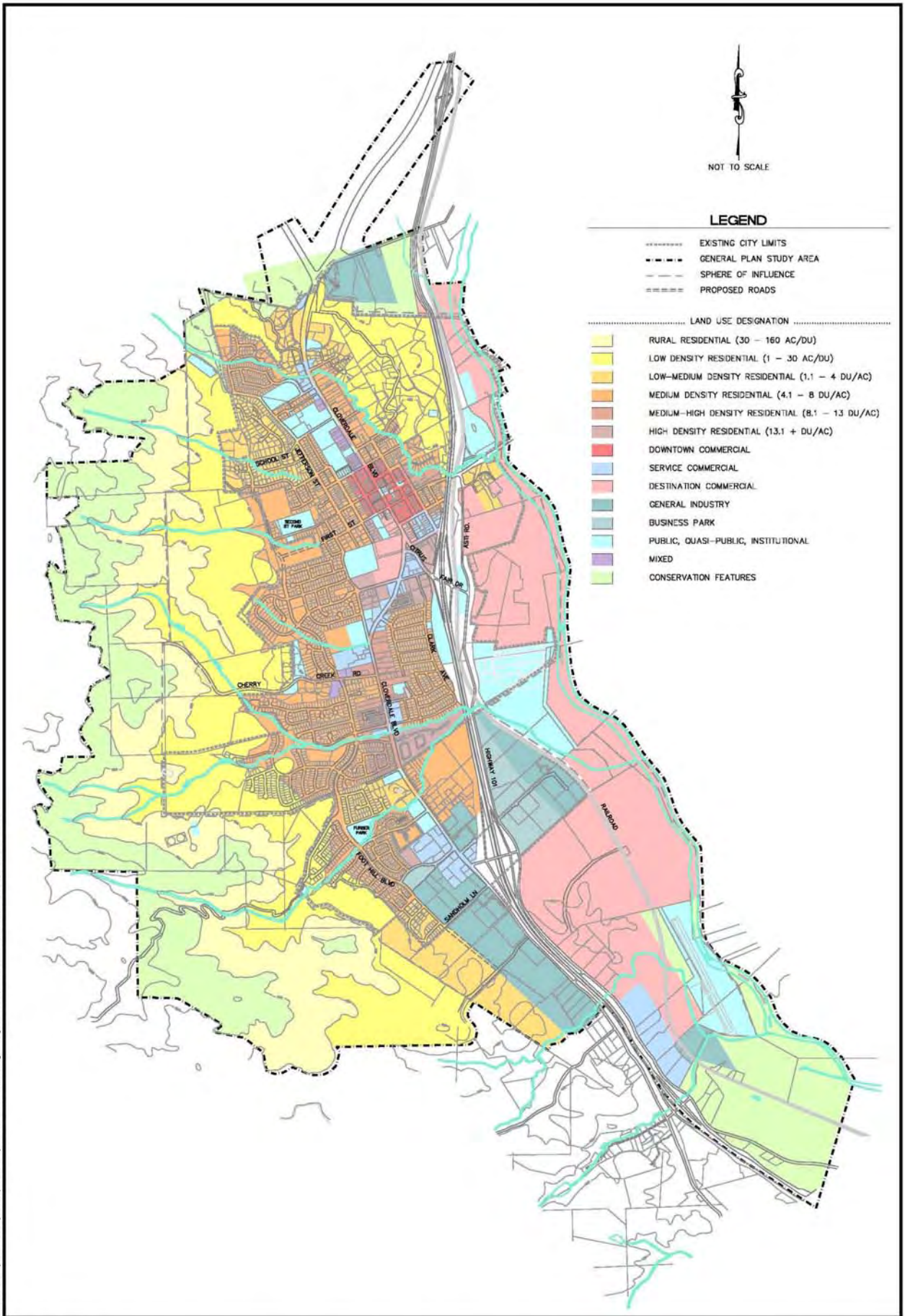
The Cloverdale Unified School District serves the community with five schools. The City's five schools include Eagle Creek Middle School and the Continuation High School, which are co-located on North Washington at the edge of downtown; Washington Middle School, a few blocks southeast of the downtown; Cloverdale High School, just north of the downtown on North Cloverdale Boulevard; and Jefferson Elementary School, just north of the High School. The schools, the grades they serve, and their addresses are listed in Table 1 below.

Table 1
Cloverdale Schools

School	Grade Levels	Location
Cloverdale High School	9 – 12	509 North Cloverdale Boulevard
Eagle Creek Community Day School	7 – 9	322 North Washington Street
Jefferson School	K – 3	315 North Street
JEH Continuation High School	9 – 12	322 North Washington Street
Washington School	4 – 8	129 South Washington Street

In addition to being the name of state and federal funding programs, safe routes to schools programs are an essential component of successful efforts to make walking and bicycling to school safer, increase the number of children walking and bicycling to school, improve children's health and fitness, and educate students and parents about the health, transportation and environmental benefits of walking and bicycling.

Safe Routes to Schools programs typically use the "five Es" to accomplish these goals: Encouragement (e.g., prizes, special events like Walk to School Day), Education (e.g., fliers on the benefits of walking,



CITY OF CLOVERDALE

LAND USE MAP

MAP REVISED	
DATE	RESOLUTION/ORDINANCE
JULY 24, 1996	General Plan Amendment 1-96
JULY 24, 2004	

maps of safe routes, classroom curriculum), Engineering (e.g., improvements to infrastructure such as roadways, intersections, sidewalks and bicycle facilities), Enforcement (making sure motorists, pedestrians and bicyclists understand and obey the rules of the road), and Evaluation (such as before/after surveys to see the effect of programs and physical improvements on mode choice for student commuters).

While a crossing guard is stationed at Cloverdale Boulevard North and School Street to assist elementary and high school students crossing Cloverdale Boulevard North on their route to and from school, no other formal Safe Routes to Schools efforts are in place in Cloverdale. The countywide component of this plan includes recommendations for the development of a Safe Routes to School Program. Such a program could take advantage of existing materials available for use through the State, County Health Department, Sonoma County Office of Education, and local organizations such as the Sonoma County Bicycle Coalition.

Parks and Community Facilities

A variety of parks and community facilities exist in Cloverdale. They include neighborhood parks, community parks, open space areas, regional parks, civic buildings, schools, and other quasi-public facilities. These facilities are distributed throughout the community and are accessible by those on foot and/or bicycle. Following is a list of the parks:

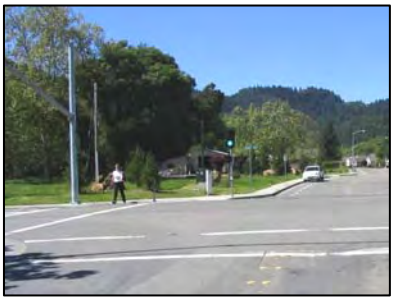
- Tarman Park – neighborhood park
- Vintage Meadows – neighborhood park
- Brookside Mini Park – neighborhood park
- City Park – community park
- Furber Park – community park
- Cloverdale River park – open space recreation
- Downtown Plaza – community center
- Senior Center – community center

Cloverdale Demographics and Commute Patterns

Local Bicycle and Pedestrian Travel Characteristics

Travel information in Cloverdale was analyzed to identify mode split and to evaluate travel time to work. The term 'mode split' refers to the form of transportation a person chooses: walking, bicycling, taking a bus, driving, etc.. The commute analysis establishes base data on the existing number of bicycle and pedestrian commuters, as well as an indication of the number of potential bicycle and pedestrian commuters in the plan area. This information can then be used by staff and local officials to develop improvement plans and set priorities, with the objective of increasing the percentage of people who choose to walk or bicycle rather than drive a car or be driven.

A review of available demographic and commute statistics was performed in order to better understand the level of walking and bicycling in Cloverdale and Sonoma County as a whole. Several data sources were reviewed, including California Department of Finance Population Estimates, the Bay Area Travel Survey, and Journey-to-Work (JTW) Data from the US Census Bureau.



Every ten years, the US Census Bureau attempts to count every person throughout the nation. As part of this survey process, the agency distributes a longer questionnaire to one in eight American households. One of the "long form" questions is, "How did you usually get to work last week?" Respondents who typically use more than one method of transportation are instructed to mark the mode used for "most of the distance." The collective responses to this question form a set of data known as Journey-to-Work (JTW).

Because of its large sample size – over 300 households in Cloverdale alone – JTW data is considered the most reliable source of transportation mode choice information available. However, while the JTW provides a glimpse of how Cloverdale residents travel to and from work, the data source only provides a partial understanding of travel characteristics. This is particularly true in assessing walking and bicycling trips since it does not reflect multi-modal trips or non-work trips. Thus the JTW data misses school, shopping, and recreational trips, which may constitute much of the bicycle and pedestrian travel by Cloverdale's senior and student populations and others. The instructions effectively eliminate any record of the pedestrian portion of walk-to-transit and walk-to-carpool trips; the wording leaves the response, for commuters who do not use the same mode every day, up to the respondent; and the survey takes place in the month of March, which can be quite rainy in Sonoma County and a deterrent to walking and bicycling.

The 2000 US Census indicates a population of 7,087 in Cloverdale; it is expected to grow to 11,000 by 2025 (ABAG Projections, 2007). According to the 2000 US Census, there are 3,027 workers in Cloverdale 16 years old or older. Of these, 2,906 work outside the home. Thirty-five percent, or 1,068 workers, have a travel time to work of 15 minutes or less. Cloverdale has a higher than average rate of workers with a commute time of less than 15 minutes, 35.2 percent, when compared to the state and nation which are at 25 percent and 30 percent respectively. This data indicates a high percentage of workers who are employed within the community and close to home, which represents an opportunity to shift travel modes, at least part of the time. Travel time to work in Cloverdale is shown in Table 2.

Table 2
Cloverdale Travel Time to Work for Workers 16 Years Old and Over

	#	%
Total Employed Persons	3,027	*100%*
Did not work at home	2,906	*96%*
Travel Time	**#**	**%**
Less than 15 minutes	1,068	35.2%
15 to 29 minutes	667	22.1%
30 to 44 minutes	730	24.1%
45 to 59 minutes	274	9.1%
60 minutes or more	167	5.5%
Worked at home	121	3.9%

Source: U.S. Census Bureau, Census 2000

As shown in Table 3 below, JTW data indicates that 74 percent of workers in Cloverdale, or 2,240 persons, drive to work alone. Approximately 0.3 percent, or 8 workers commute by bicycle, a rate that is less than half that of the County and statewide average bicycle mode share of 0.8 percent, but close to the national average of 0.4 percent. Approximately 2.3 percent of workers, or 71 persons, walk to work, a rate that is lower than the countywide average of 3.1 percent and the statewide average of 2.9 percent, but about the same as the rates in Windsor, Santa Rosa and Rohnert Park. While approximately 18.6 percent workers in Cloverdale (563 persons) carpool, more than double the statewide and national averages, the majority of workers in Cloverdale drive to work alone. Given Cloverdale's climate, topography, and percentage of commuters with a travel time to work of 15 minutes or less, a significant opportunity exists to achieve greater bicycle and pedestrian mode splits. Every motor vehicle trip or vehicle mile driven eliminated results in less air pollution, reduced green house gas emissions, and lessened traffic congestion.

Table 3
Demographic and Journey to Work Data – 2000 US Census

	Cloverdale		Countywide		California	
Population	7,087		458,614		33,871,648	
Employed persons 16 years of age +	3,027		224,947		14,525,322	
Mode Split	**#**	**%**	**#**	**%**	**#**	**%**
Drove Alone	2,240	74.0%	168,134	74.7%	10,432,462	71.8%
Bike	8	0.3%	1,744	0.8%	120,567	0.8%
Walk	71	2.3%	6,929	3.1%	414,581	2.9%
Public Transit	14	0.5%	5,507	2.4%	736,037	5.1%
Carpool	563	18.6%	28,283	12.6%	2,113,313	14.5%
Motorcycle	10	0.3%	517	0.2%	36,262	0.2%
Other	0	0.0%	1,587	1%	115,064	1%
Worked at Home	121	4.0%	12,246	5%	557,036	4%

Local Opportunities and Constraints

The primary physical barriers for pedestrians and bicyclists in Cloverdale are Cloverdale Boulevard, Highway 101, and the Russian River. If and when the Sonoma Marin Area Rail Transit (SMART) railroad corridor becomes operational – either as a multi-use trail, a passenger line or both – there will be increasing demand by bicyclists and pedestrians to cross these facilities to reach downtown Cloverdale, and for Cloverdale residents to access the rail station and trail. There are currently sidewalks and bicycle lanes on Citrus Fair Drive between the Cloverdale Depot, the fairgrounds and downtown. However, crossing the Highway 101 on- and off-ramps between the depot and Cloverdale Boulevard can be challenging. The City is interested in providing a Class I, grade separated pathway that would minimize the impacts of these ramp crossings on pedestrian and bicycle travel. A logical extension of this connection would be the designation of South Street, Clark Avenue, and Brookside Drive as Class

III bike routes, as they would provide a low-volume north-south access alternative to Cloverdale Boulevard.

Data Collection Recommendations

Bicycle and Pedestrian Counts

One of the challenges facing staff and local decision makers in the area of bicycle and pedestrian planning is the lack of documentation on usage and demand for pedestrian and bicycle facilities. Without accurate and consistent data, it is difficult to measure the positive benefits of bicycle and pedestrian investments, especially when compared to the other types of transportation such as the automobile. In order to supplement JTW data, to attain a better understanding of existing usage and travel patterns, and to be able to project demand, regular bicycle and pedestrian counts are recommended. A methodology for collecting these traffic counts is included in the Overview Section.

Proposed count locations in Cloverdale and throughout the County were identified through this planning process. The basic criteria used to select count locations included points along and intersections of primary streets in the network, area coverage, population centers, attractors and generators, and community gateways. Proposed count locations for the City of Cloverdale are included in Appendix B.

3. Vision, Goal, Objectives and Policies

Vision, Goal, Objectives, and Policies

This section defines the vision for bicycle and pedestrian transportation throughout Sonoma County, and outlines the vision, principal goal, and objectives that will serve as guidelines in the continuing development of the countywide bicycle and pedestrian transportation system[1]. Through a collaborative planning process, the vision, goal and objectives were approved by all ten jurisdictions of Sonoma County: Cloverdale, Healdsburg, Windsor, Santa Rosa, Cotati, Rohnert Park, Petaluma, Sonoma, Sebastopol, and the County of Sonoma. These are designed to guide the development and maintenance of bicycle and pedestrian facilities throughout Sonoma County and express the intent of SCTA and its member agencies to enhance non-motorized mobility to improve safety, access, traffic congestion, air quality, and the quality of life of Sonoma County residents, workers and visitors.

The vision, goal and top-tier objectives are meant to function as the mutually agreed upon common framework applicable to both the primary countywide system and local bicycle and pedestrian networks. Policies, and possibly additional objectives, that address jurisdiction-specific issues are included in the individual County and city/town plans.

The role of the SCTA is in advocating, planning, coordinating, and funding, whereas local agencies, such as cities, towns, and the County, transit agencies, Caltrans, and the non-profit and private sectors, will be chiefly responsible for implementation of objectives and policies.

The vision for a comprehensive bicycle and pedestrian transportation system is:

In Sonoma County bicycling and walking are:

- Important to residents' quality of life
- Integral parts of an interconnected transportation system
- Safe and convenient for all user groups
- Viable means of reaching desired destinations
- Routinely accommodated
- Encouraged by easy connections to transit
- Fostered by education and enforcement
- Advanced by actions of government, schools and the private sector
- Promoted as tourism and recreation attractions
- Mode choices that contribute to personal health
- Options that reduce vehicle miles traveled and greenhouse gas emissions

Principal Goal:

To develop and maintain a comprehensive countywide bicycle and pedestrian transportation system, which includes projects, programs, and policies that work together to provide safe and efficient opportunities for bicyclists and pedestrians to access public transportation, school, work, shopping, services, recreation and residences.

[1] The "*system*" is defined as the whole of all of the components – physical and programmatic.

Objectives and Policies

Objective 1.0: The Countywide Bicycle and Pedestrian Network[2]

Establish a comprehensive countywide bicycle and pedestrian transportation system.

Policies

1.1 Develop a local and countywide bicycle and pedestrian transportation network that provides access to and among major activity centers, commercial districts, schools, transportation centers, public transportation recreation, and other destinations, according to the recommendations in this plan.

1.2 Work cooperatively with responsible agencies including Sonoma County's Transportation and Public Works, Regional Parks, and Water Agency; SCTA, Sonoma Marin Area Rail Transit (SMART), and others, to close existing facility gaps and ensure the system is implemented, constructed, and maintained.

1.3 Establish a bicycle and pedestrian advisory committee to advise staff on bicycle and pedestrian issues.

1.4 Assign a bicycle and pedestrian coordinator to oversee implementation of the Bicycle and Pedestrian Plan and coordinate activities between City departments and other jurisdictions.

1.5 Double the "Journey to Work" mode split percentages for walking and bicycling, by the year 2020, using 2006 data as the baseline.

1.6 Make the development of a Class I multi-use pathway along the SMART right-of-way a high priority, independent of the re-establishment of rail operations.

Bicycle-specific policies

1.7 Consider the needs of bicyclists of all types (commuters, recreational riders, children, and families) in planning, developing, and maintaining a bikeway network that is safe and convenient.

Pedestrian-specific policies

1.8 Require new development to provide safe, continuous and convenient pedestrian access to jobs, shopping and other local services and destinations.

1.9 Create spaces and activities that invite pedestrian use and optimize the experience of walking with amenities such as landscaping, public art, seating, and drinking fountains.

1.10 Focus on improving safety of pedestrian crossings of roadways and highways, especially in pedestrian districts.

[2] The "*network*" is defined as the physical improvements that establish bicycle and pedestrian routes.

Objective 2.0: Design

Utilize accepted design standards and "best practices" for the development of bicycle and pedestrian facilities.

Policies

2.1 Utilize Chapter 1000 "Bikeways Planning and Design", from the *California Highway Design Manual,* the *California Manual of Uniform Traffic Control Devices*, the American Association of State Highway Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities* and *Guide for the Planning, Design, and Operation of Pedestrian Facilities* for the development of bicycle and pedestrian facilities.

2.2 Require that all signalized intersections include bicycle detection and are properly marked and operational for use by bicyclists.

2.3 Where minimum bike lane standards are infeasible, use striped edge lines, signs, shared lane markings, or other route enhancements to improve conditions for bicyclists.

2.4 Projects that will result in the loss of existing bicycle and pedestrian facilities or jeopardize future facilities as shown on the Bikeways Map must be mitigated.

2.5 Install way finding signage, markers, and stencils on off-street paths, on-street bikeways, local roads, and State Routes to improve way finding for bicyclists, assist emergency personnel, and heighten motorist's awareness.

2.6 Provide consistent enhanced features at uncontrolled pedestrian crossings, especially within pedestrian districts and at intersections of arterials with Class I trails.

Objective 3.0: Multimodal Integration

Develop and enhance opportunities for bicyclists and pedestrians to easily access public transit

Policies

3.1 Implement a safe routes to transit program that prioritizes pedestrian and bicycle access to transit stops and stations.

3.2 Require/encourage transit providers to provide and maintain convenient and secure bike parking facilities, all-weather shelters, and other amenities at major transit stops and transportation centers at a minimum.

3.3 Require/encourage local and regional transit agencies to accommodate bicycles on transit and plan for the need for additional bicycle storage capacity on transit to ensure capacity keeps up with demand.

Objective 4.0: Comprehensive Support Facilities

Encourage the development of comprehensive support facilities for walking and bicycling.

Policies

4.1 Require adequate short-term bicycle parking for retail, office, commercial and industrial uses.

4.2 Require adequate short-term bicycle parking and long-term bicycle storage for transportation centers.

4.3 Require employers to provide secure indoor and/or covered bicycle parking for their employees.

4.4 Require employers to provide adequate shower and locker facilities for workers.

4.5 Install high-visibility crossing treatments, pedestrian scale lighting, street furniture, drinking fountains, and other pedestrian amenities in pedestrian districts and on Class I trails.

Objective 5.0: Education and Promotion
Develop programs and public outreach materials to promote bicycle and pedestrian safety and the positive benefits of bicycling and walking.

Policies

5.1 Participate in the development and maintenance of a bicycle and pedestrian safety campaign as a countywide tool to deliver comprehensive safety awareness, driver, cyclist and pedestrian education information, and to increase the awareness of the benefits of walking and bicycling as transportation modes.

5.2 Support "grassroots" efforts that help to resolve bicycle and pedestrian transportation issues.

5.3 Distribute bicycle and pedestrian safety, educational, and promotional materials through law enforcement activities, at scholastic orientations, through drivers training and citation diversion programs, and to new political representatives.

5.4 Encourage events that introduce residents to walking and bicycling, such as bike-to-work, walk/bike-to-school days, senior walks and historic walks.

5.5 Require major employment centers and employers to encourage commuting by bicycle, including the use of flex-time work schedules to support non-rush hour bicycle commuting.

5.6 Educate the general public and the officials of state, county, and local law enforcement agencies on common Vehicle Code infractions involving bicyclists and other users of roadways or off-road pathways.

Objective 6.0: Safety and Security
Create countywide pedestrian and bicycle networks that are, and are perceived to be, safe and secure.

Policies

6.1 Reduce automobile collisions with pedestrians and bicyclists by 50 percent by the year 2020, using 2006 collision data as the baseline for analysis.

6.2 Coordinate the delivery of bicycle safety education programs to schools, utilizing assistance from law enforcement agencies, local bicycle shops, and other appropriate groups and organizations.

6.3 Focus on improving safety of intersection crossings using routine pedestrian signal cycles, pedestrian buttons, high-visibility crosswalk markings and education.

6.4 Prioritize safety improvements in the vicinity of schools, public transit and other high-priority pedestrian destinations.

6.5 Improve collection and analysis of collision data. The Public Works Department shall review this data at least annually to identify problem areas which require immediate attention

6.6 Improve pedestrian safety and security and the 'sense of isolation' with pedestrian-level lighting, where appropriate, and development of activities and facilities that encourage walking.

Objective 7.0: Land Use
Encourage smart growth land use strategies by planning, designing and constructing bicycle and pedestrian facilities in new development.

Policies

7.1 Encourage school districts to participate in providing safe and continuous bicycle and pedestrian connections from surrounding neighborhoods when constructing new or improving existing school facilities.

7.2 Consider allowing tandem parking for residential development in areas where on-street parking may conflict with development of Class II bikeways.

7.3 Encourage compact, high density pedestrian oriented development in pedestrian districts.

7.4 In pedestrian districts allow shared parking for commercial uses rather than requiring each business to provide separate parking areas.

7.5 Condition discretionary projects in pedestrian districts to provide pedestrian facilities such as sidewalks, and trails that link pedestrian routes or provide access to destinations.

7.6 Where a nexus is identified, condition discretionary projects to provide an irrevocable offer of Class I easement or land dedication and construction of Class I multi-use pathways as designated in an adopted plan provided it can be shown that such a Class I pathway will serve as loops and/or links to designated or existing Class I multi-use pathways, trails, communities, existing or proposed schools, public parks and open space areas, and existing or proposed public transit nodes (e.g., transportation centers, park and ride lots, bus stops).

Objective 8.0: Planning
Expand the countywide bicycle and pedestrian system with ongoing planning

Policies

8.1 The Bicycle and Pedestrian Advisory Committee (BPAC) shall be responsible for advising staff on the ongoing planning and coordination of the bicycle and pedestrian transportation system.

8.2 Update the Bicycle and Pedestrian Plan in accordance with the California Bicycle Transportation Act, and to coordinate with Regional Transportation Plan updates.

8.3 Incorporate policies in this Bicycle and Pedestrian Plan into all specific, master and General Plan documents and redevelopment policies.

8.4 The BPAC shall review the design of all new road widening projects in order to minimize hazards and barriers to bicycle travel on all local roads.

8.5 Refer projects that meet any of the following conditions to the BPAC for review to determine consistency with this plan:

A. Resurfacing, restoration, and rehabilitation (3R) projects, or other improvements of roads designated as Class II bikeways.

B. Resurfacing, restoration, and rehabilitation (3R) projects or other improvements of roads designated as Class III bike routes.

C. Resurfacing, restoration, and rehabilitation (3R) projects that include the installation of rumble strips, AC berms or similar barriers, and/or roadway dots in the shoulder area.

D. Traffic calming improvements.

E. Road capacity improvement projects.

F. Discretionary projects adjacent to or traversed by existing or designated Class I, II or III bikeways.

G. Discretionary projects conditioned with roadway improvements along a designated or existing Class I, II or III bikeway.

8.6 Proactively seek opportunities for acquisition of abandoned rights-of-way, natural waterways, flood control rights-of-way, utility rights-of-way, and lands for the development of new Class I multi-use pathways.

8.7 Where different classes of bikeways share the same route, Class I or II bikeways should not be constructed in a manner that reduces or eliminates other designated bikeways without consultation with the Bicycle and Pedestrian Advisory Committee.

Objective 9.0: Maintenance

Maintain and/or improve the quality, operation, and integrity of bicycle and pedestrian infrastructure.

Policies

9.1 Maintain geometry, pavement surface condition, debris removal, markings, and signage on Class II and Class III bikeways to the same standards and condition as the adjacent motor vehicle lanes.

9.2 Develop a maintenance reporting system with a central point of contact that can be used to report, track, and respond to routine bicycle and pedestrian maintenance issues in a timely manner.

9.3 Require that road construction projects minimize their impacts on bicyclists and pedestrians through the proper placement of construction signs and equipment, and by providing adequate detours.

9.4 Require that routine maintenance of local roads consider bicycle and pedestrian safety and at a minimum includes the following activities:

- Trim vegetation to provide a minimum horizontal clearance of 4 feet from the edge of pavement and a minimum vertical clearance of 8 feet.
- Clear debris from road shoulder areas to provide space for walking.

9.5 Perform periodic sidewalk inspections to ensure adequate pedestrian clearance and to address maintenance issues that could present a tripping hazard.

Objective 10.0: Funding
Maximize the amount of funding for bicycle and pedestrian projects and programs throughout Sonoma County, with an emphasis on implementation of this plan.

Policies

10.1 Work with federal, state, regional, and local agencies and any other available public or private funding sources to secure funding for the bicycle and pedestrian system.

10.2 Encourage multi-jurisdictional funding applications to implement the regional bicycle and pedestrian system.

10.3 Promote the availability of adequate regional, state and federal funding sources for bicycle and pedestrian transportation projects.

Relationship to Other Plans and Policies

Implementation of the Cloverdale Bicycle & Pedestrian Master Plan will require coordination, consistency, and cooperation among numerous jurisdictions and agencies with varied interests that share policy decisions within and immediately adjacent to Cloverdale and Sonoma County. There are myriad relevant federal, state, regional, county, and local agencies that have developed plans, programs, directives, policies, and regulations related to funding, planning, designing, operating, maintaining, and using bicycle and pedestrian facilities. These agencies and their plans, policies, etc., have been evaluated for coordination, consistency, and conformance with this Plan. Brief summaries of local plans and policies are provided below. Summaries of regional, state, and federal plans, policies, and other relevant resources are provided in the Overview section.

Cloverdale General Plan

The Cloverdale General Plan is a long-range comprehensive planning document required by state law and adopted by the City in 1992 to set policy and guide future growth, development and conservation of resources. The General Plan was designed to guide development through 2002. An update to the plan is currently underway and near completion. While the policies and goals contained in the 1992 General

Plan still apply, given the anticipated adoption of the General Plan Update in the near term, the draft update was evaluated for the purpose of this review.

The following General Plan goals are relevant to bicycle and pedestrian improvements in Cloverdale.

2.0 Land Use

Maintain and improve the design of the built environment. Improve the appearance of entries and approaches to the downtown and the community. Maintain attractive highway frontages, well designed streetscapes and sidewalks.

3.0 Circulation

Goal CE 1: Develop and Maintain a Balanced vehicular and non-vehicular transportation system to meet the mobility needs consistent with General Plan land use goals and policies. Provide a balance of land uses within the General Plan Study Area for housing, jobs, economic development, recreation, and destination commercial uses.

Design street systems in residential areas to minimize through traffic, to encourage internal movement by bicycling and walking, to provide safer and quieter neighborhoods, to minimize vehicular conflicts at intersections and to ensure that the impact of recreational traffic on local residents is minimized.

Implementation CE 1-3.a: Do not use back-on treatment at the expense of good site planning.

Implementation CE 1-3.b: Identify and provide directional signs to recreational uses that maximize use of arterial and collector streets and minimize or eliminate traffic through residential areas.

Policy CE 2-2: Create a "country road" appearance for Cloverdale Boulevard, First Street east of the freeway, and Asti Road, including narrow pavement where possible, shade trees adjoining travel lanes, parking only where necessary, and protected bicycle and pedestrian ways, including trails instead of sidewalks and on-street bike lanes where possible.

Implementation CE 2-2.a: Prepare design plans for Cloverdale Boulevard, First Street east of the freeway, and Asti Road prior to major improvements to those roads.

Goal CE 3: Promote bicycle use and walking as an alternative to automobile traffic and for community health and enjoyment.

Policy CE 3-1: Provide an extensive network of pedestrian and bicycle pathways to support community health and provide safe alternatives to automobile use.
Implementation CE 3-1.a: Implement programs for bicycle and pedestrian trails in the Parks and Recreation Element.

Implementation CE 3-1-.b: Maintain an up-to-date bikeways plan in conjunction with the Sonoma County Transit Agency Countywide bikeways plan.

Implementation CE 3-1-.c. Integrate bicycle and pedestrian routes with transit stops.

Policy CE 3-2: Provide continuous sidewalks along all streets. Maintain sidewalks in good repair. Integrate sidewalks and the pedestrian trails network in the Recreation and Open Space Element.

Implementation CE 3-2.a. Explore a program to fund sidewalk improvement or installation where no sidewalks exist, including sharing of costs with property owners, loans payable at time of sale, etc.

Implementation CE 3-2.b. Identify major pedestrian routes and, where they adjoin streets, prepare roadway sections that encourage pedestrian use.

Implementation CE 3-2.c. Repair or install sidewalks on all streets in conjunction with public works and private development projects.

Implementation CE 3-2.c. Where possible, use traditional sidewalk design with a planter strip between the curb and sidewalk.

5.0 Parks and Recreation

Policy PR1-4: Provide hillside open areas and trails on sites and trails shown in Exhibit 5.1 in planning permit approvals (see also Land Use Element and Open Space Element).

Implementation PR1-4.a: Where planning permits are issued for properties with hillside areas and land below the Base of Hill, provide development opportunities below the Base of Hill and provide for open space and trails on hillside areas above Base of Hill.

Policy PR1-5: Pursue pedestrian trails, bicycle trails, and combined pedestrian/bicycle trails with a goal of providing linked and "looped" trail systems in planning permit approvals (see also Land Use Element and Open Space Element) on sites and trails shown in Exhibit 5-1.

Implementation PR1-5.a: Where planning permits are issued for properties with hillside areas and land below the Base of Hill, provide development opportunities below the Base of Hill and provide for open space and trails on hillside areas above Base of Hill. Where appropriate, require or accept parklands, open space, and trails, including private maintenance and funding.

Implementation PR1-5.b: Investigate City purchase of property or easements to fill gaps in the trails system.

6.0 Conservation, Design, and Open Space

Where a parcel has land both below and above the Base of Hill, development rights to the hillside areas shall be transferred to the area below Base of Hill, and hillside areas will remain as visual open space with easements or other legal guarantees that include the City as a participant. Any hillside areas shall provide for trails as outlined in the Parks and Recreation Element.

Implementation CRO2-2.a. Use Policies CRO 2-2, 3, and 4 as basis for hillside review. Use traditional downtown design elements in the downtown. Design within the pedestrian-serving portion of the downtown should have pedestrian oriented retail space on the first floor (buildings

built to the sidewalk, display windows, recessed doors, and pedestrian oriented signs), with development above the first floor designed for retail, office, or residential use. Any residential use shall have the appearance of a commercial building facing the street, not that of a residential use.

Implementation CRO3-2.a. Update the Downtown Plan to reflect the urban design goals. Parking in the downtown core should emphasize shared parking, should not be located between a building and the street, and should not have individual driveways across sidewalks in areas designed for high levels of pedestrian use.

Implementation CRO3-3.a. Utilize downtown shared parking standards contained in the Zoning Ordinance.

4. The Local Bicycle and Pedestrian Transportation Network

The City of Cloverdale bicycle and pedestrian resources map is shown in Figure 2. The map includes both existing and proposed bicycle and pedestrian facilities.

Existing Conditions

Bicyclists and Bicycle Conditions

The existing bicycle network in Cloverdale consists of Class I pathways, Class II bike lanes, and Class III bike routes. Three short Class I pathways have been installed during the past decade along with new residential developments on the west side of town, including the Jefferson Springs Trail, Porterfield Creek Trail, and Cottages Trail. These pathways generally serve as recreational routes for pedestrians. A Class I pathway was recently installed by the Sonoma County Regional Parks Department with the development of the Cloverdale River Park on the east side of town. The pathway extends approximately 1 mile from Crocker Road to McCray Road. The pathway is proposed to extend south along the Russian River to the Cloverdale Airport and the proposed SMART Path. The SMART Path, a proposed regional Class I pathway, is planned to extend north-south along the Northwestern Pacific Railroad corridor through Sonoma and Marin counties. The pathway's northern terminus will be located in Cloverdale in the vicinity of McCray Road and the Cloverdale River Park. The pathway will extend south to the southern city limits and beyond, providing a regional connection to Healdsburg and communities to the south. Existing Class II bike lanes extend north south on Asti Road from approximately Crocker Road to Theresa Drive in an unincorporated area of the County. A segment by segment breakdown of existing bikeways is listed in Table 4.

Pedestrians, Pedestrian Districts, and Pedestrian Conditions

With a predominantly flat topography and small town neighborly feel, Cloverdale is generally a very pleasant place to walk. Residents of the neighborhoods surrounding downtown are close enough to walk to shops, restaurants, and government and business offices. The City's older streets in and around the downtown are tree-lined and arranged in a grid system, which creates short, pedestrian-friendly blocks, while many of its newer residential developments include sidewalks and multi-use pathways. In the wake of the US 101 bypass project, Cloverdale Boulevard in the downtown has been transformed into a pedestrian-oriented street.

In other respects, walking is a challenge in Cloverdale. Daytime temperatures are regularly in the high nineties during the summer months. Gaps in the sidewalk network impede travel, particularly for persons with certain disabilities. In contrast to Cloverdale Boulevard in the downtown, some stretches of Cloverdale Boulevard North and South are difficult for pedestrians to cross due to intermittent or non-existing sidewalks, high volumes of moderate-to-fast moving traffic, and long distances between established crossings and signals. Children, elderly persons and people with disabilities may be particularly challenged by this environment.

Table 4
Existing Bikeways

Project Corridor/ Street	Begin Point	End Point	Class	Length (Miles)	Local (L) Regional (R)	Primary Network	SF Bay Area Regional Route	Use
Cloverdale River Park	First Street	McCray Road	I	1.23	R	No	No	Rec
The Cottages Trail	Furber Park	Hot Springs Road	I	0.31	L	No	No	Trans/rec
Jefferson Springs Trail	Venezia Way	Portofino Way	I	0.18	L	No	No	Trans/rec
Asti Road	First Street	City Limits	II	2.12	R	Yes	No	Trans/Rec
Brookside Drive	Foothill Boulevard	Cloverdale Boulevard	II	0.15	L	No	No	Trans
Citrus Fair Drive	Cloverdale Boulevard	Asti Road	II	0.34	L	No	No	Trans
Cloverdale Boulevard Over Crossing	Santana Drive	Asti Road	II	0.21	L	No	No	Trans
Foothill Boulevard	Brookside Drive	Sandholm Road	II	1.04	L	No	No	Trans
Treadway Drive	Foothill Boulevard	Cloverdale Boulevard	II	0.29	L	No	No	Trans
Foothill Boulevard	Gamay Drive	Cherry Creek Road	II	0.54	L	No	No	Trans
Foothill Boulevard	Cherry Creek Road	Brookside Drive	III	0.23	L	No	No	Trans
		Class	**I**	**1.72**				
		Class	**II**	**4.69**				
		Class	**III**	**0.23**				

Although people walk throughout Cloverdale, pedestrian activity is largely focused in a few "pedestrian districts," – places where walking is prioritized as a mode of travel. Cloverdale's primary pedestrian district is the downtown, roughly bounded by Fourth, Main, Lake, and Washington Streets. The area includes the plaza, City Hall, restaurants, and local shops and services. In 2003, the Cloverdale Boulevard Redesign Project resulted in the narrowing of this roadway, which was previously the State highway through town, to include a reduced number of traffic lanes, added center refuge islands, widened sidewalks, and outdoor dining, seating, planters, and street trees. This transformation created a safe and inviting pedestrian-friendly environment along the central downtown segment of Cloverdale Boulevard.

The City's five schools also attract large numbers of pedestrians, particularly at certain times of day. (See Safe Routes to Schools discussion, below.) Other pedestrian nodes are South Cloverdale Boulevard at Healdsburg Avenue (at the senior apartments, where a traffic signal is planned) and at Hillview Drive (near the Boys & Girls Club).

City parks – Cloverdale City Park, Furber Park and Cloverdale River Park – are also popular pedestrian destinations. Civic destinations include the Cloverdale Branch Library, post office and Cloverdale Historic Museum. Outside of downtown, shops with relatively high pedestrian traffic include Ray's Food Center and Long's Drug Store. Cloverdale residents headed for the Citrus Fairgrounds often travel on foot, as do participants in Cloverdale Senior Center programs.

Beyond walking in these areas and in Cloverdale's residential neighborhoods, pedestrians increasingly use the growing network of Class I bicycle/pedestrian trails, such as the Porterfield Creek and Cottages trails on the west side of town. While the existing trail segments do not currently interconnect, they provide recreation and transportation opportunities along with access to residences, parks, and creeks.

Disabled Access – ADA

The Americans with Disabilities Act (ADA) was enacted in 1990, providing rights and protections to individuals with disabilities. To comply in the realm of the pedestrian network, local governments must bring sidewalks, curb ramps and roadway crossings up to a set of specified standards when constructing new facilities or making modifications within existing public rights-of-way. According to ADA, additions and alterations to existing facilities shall comply with R202.[3] Alterations include, but are not limited to, renovation, rehabilitation, reconstruction, historic restoration, resurfacing of circulation paths or vehicular ways, or changes or rearrangement of structural parts or elements of a facility. Pavement patching and liquid-applied sealing, lane restriping, and short-term maintenance activities are not alterations.

In addition to providing individuals with disabilities with accessible sidewalk, curb ramp and crossing facilities, many ADA requirements help other populations as well. For instance, in addition to serving people who use wheelchairs or other mobility aids, curb ramps facilitate travel by those pushing strollers and inexperienced bicyclists who are not yet ready to ride in the street. Wide sidewalks, and a lack of

[3] US Access Board; "Revised Draft Guidelines for Accessible Public Rights-of-Way," R202 – Alterations and Additions to Existing Facilities, 2005

obstructions, create a nicer environment for all pedestrians. These improvements can also reduce demand for paratransit services (demand-responsive transit for people whose disabilities prevent them from using public transit) by allowing some people with disabilities to access public transit stops.

Transit and Multi-Modal Access

Convenient multi-modal connections for bicyclists and pedestrians that are well-integrated into the transportation system are a vital component of the bicycle and pedestrian network. Transit has the potential to extend trip ranges for bicyclists and pedestrians to nearby communities and destinations outside of Sonoma County. This is especially important for Cloverdale, and Sonoma County in general, considering existing barriers to bicycle and pedestrian travel such as distances between communities, gaps in the existing bicycle and pedestrian networks between urban areas, heat during summer months and rain during winter months. While these obstacles likely serve as deterrents to existing and potential trips by bike or by foot, convenient multi-modal access can help to address these issues and extend trip ranges.

Sonoma County Transit – Cloverdale has an intermodal transit facility that serves as a hub for local and regional transit connections. Since most transit passengers in Sonoma County walk to their bus stop, pedestrian facilities leading to each stop – including completed sidewalk networks, curb cuts and safe intersection crossings – are important components of Cloverdale's pedestrian environment. Two Sonoma County Transit routes serve Cloverdale. Regional Route 60 originates at the Cloverdale Plaza, serves the Cloverdale Depot and travels south through Asti, Geyserville, Healdsburg, Windsor, Larkfield, and Santa Rosa. On weekdays, local Route 68 is timed to connect to Route 60, and loops through Cloverdale, serving downtown, medical offices and the elementary school on Cloverdale Boulevard North; Cloverdale Depot on Asti Road and Citrus Fair Drive; residences, businesses/employers, and shopping on South Cloverdale Boulevard, and the Furber Ranch Shopping Center. Sonoma County Transit provides ten bus shelters at bus stops throughout Cloverdale. Interregional transit service in Cloverdale is provided by Amtrak Thruway Bus, which stops at the Cloverdale Depot and connects to Eureka to the north and Amtrak Train Service in Oakland to the south. Mendocino Transit Authority's Route 65, which runs between Fort Bragg, Ukiah, and Santa Rosa, provides service to the Cloverdale Depot on a 'by request' basis. While an inventory of sidewalk conditions in the vicinity of bus stops is not available, access to transit is a vital component of Cloverdale's pedestrian environment.

Sonoma Marin Area Rail Transit (SMART) – The SMART District is a regional transportation district that was established in 2003 by the California Legislature with the passage of California State Assembly Bill 2224 (Nation, District 6). The SMART District was established to oversee the development and implementation of passenger rail service in Sonoma and Marin counties along the Northwestern Pacific Railway. The District holds over seventy miles of railroad right-of-way in public ownership between the cities of Cloverdale and Larkspur, and is charged with planning, engineering, evaluating and implementing passenger train service and corridor maintenance from Cloverdale to Larkspur. Additionally, the development of a multi-use bicycle and pedestrian pathway within, or adjacent to, the rail corridor is included in the project.

The SMART passenger train would serve passengers at fourteen existing or planned multi-modal train stations between Cloverdale in Sonoma County and the terminal in Larkspur in Marin County, where a connection can be made to San Francisco via the existing ferry service. SMART also proposes to provide a critical north-south transportation route for bicyclists and pedestrians, with approximately 70 miles of multi-use pathway located along or adjacent to the right-of-way between Cloverdale and Larkspur. The SMART Path project will provide a continuous north-south route through Sonoma County comprised largely of Class I multi-use pathway along with short segments of Class II bike lanes or Class III bike routes, where right-of-way constraints occur, to connect seven of the County's nine cities: Cloverdale, Healdsburg, Windsor, Santa Rosa, Rohnert Park, Cotati, and Petaluma. http://www.sonomamarintrain.org/

Support Facilities and Bicycle Parking

End-of-trip support facilities include bicycle parking, areas to change clothes and shower, and facilities for storing clothes and equipment. Bicycle parking in Cloverdale is provided at the Cloverdale Transit Center, Cloverdale schools, some downtown businesses, parks, and most civic facilities. There are no existing shower or locker facilities designated for bicyclists, and none are proposed at this time.

Safety and Security

Safety is a major concern of both current and potential bicyclists and pedestrians. For those who walk or bicycle, it is typically an on-going concern or even a distraction. For those who avoid walking and/or bicycle riding, concern about safety is one of the most compelling reasons not to do so. In discussing bicycle safety, it is important to separate perceived dangers from actual safety hazards.

Riding a bicycle on the street is commonly perceived as unsafe because of the exposure of a lightweight, two-wheeled vehicle to heavier and faster moving motor vehicles including autos, trucks and buses. Actual accident statistics, however, show that bicyclists face only a marginally higher degree of sustaining an injury than a motorist, based on numbers of users and miles traveled. Death rates are essentially the same for bicyclists as motorists. Collisions between bicycles and vehicles are much less likely to happen than bicycle-with-bicycle, bicycle-with-pedestrian, or collisions caused by roadway facilities. Additionally, the majority of reported bicycle crashes show the bicyclist to be at fault; generally, this involves younger bicyclists riding on the wrong side of the road or being hit broadside by a vehicle at an intersection or driveway.

Local Enforcement Responsibilities – *The Cloverdale Police Department enforces the California Vehicle Code and traffic laws in Cloverdale, including bicycle and pedestrian violations.*

Existing and Proposed Safety and Education Programs – *Currently there are no existing safety and/or education programs for bicyclists and pedestrians taught in Cloverdale.*

Collision Analysis

The collision history for Cloverdale was reviewed to determine any trends or patterns that could indicate safety issues. The collision data for 2002-2006 was obtained from the California Highway Patrol (CHP) as published in their State Wide Integrated Traffic Records System (SWITRS) reports. The CHP Accident Investigation Unit maintains SWITRS. It was developed as a means to collect and process data from collision scenes. The program ensures that local police departments and the CHP utilize and maintain uniform data collection tools and methods to collect and compile meaningful data and statistics that can be used to improve roadway conditions and monitor the effectiveness of enforcement efforts.

It is important to note that SWITRS only includes reported collisions, so may not reflect all conflicts that occur. A comprehensive review of the data was performed to help understand the nature and factors involved in bicycle and pedestrian collisions. A better understanding of these factors may help planners and engineers address some of the physical environments that contribute to these incidents. For example, if it is determined that a high incidence of collisions are occurring in the evening, lighting improvements may help to correct the situation. Conversely, a high incidence of collisions attributed to bicycle riding in the wrong direction or those involving children may be addressed through education and/or enforcement activities.

The following types of data were reviewed with an emphasis on the conditions indicated to better understand the factors that may have contributed to the reported collisions:

Collisions: This information includes an analysis of the major causes of each collision, the locations of collisions, and the seasonal variation of collisions.

Conditions: Environmental conditions at or near the collision site at the time of each crash were examined. This included an analysis of weather conditions, lighting conditions, and types of traffic control devices present.

Demographics: This included a determination, by gender and age, of collision rates for bicyclists and pedestrians.

Locations: This portion of the analysis includes a citywide map of bicycle and pedestrian collisions and other spatial analyses of different collision types.

For the five-year period reviewed, a total of 199 collisions were reported in Cloverdale, including 12 bicycle collisions and seven pedestrian collisions. The numbers of bicycle and pedestrian collisions by year are included in the charts below.

Chart 1
Bicycle Collisions Per Year

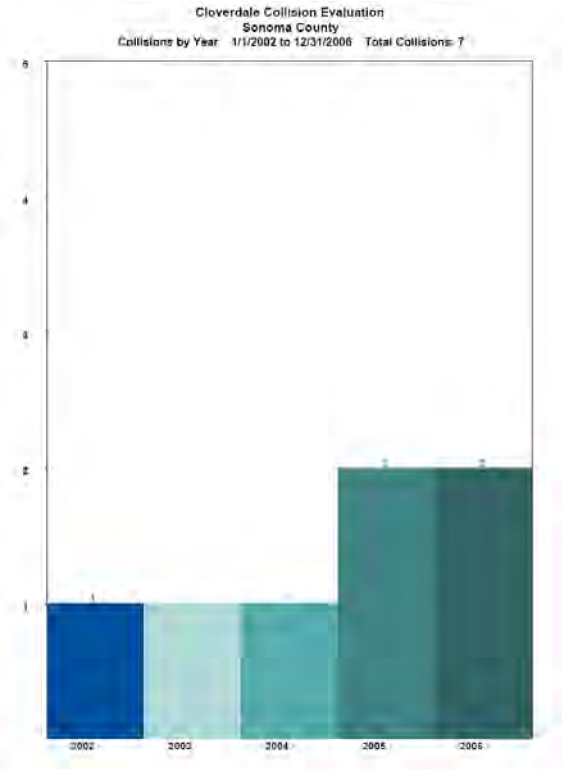
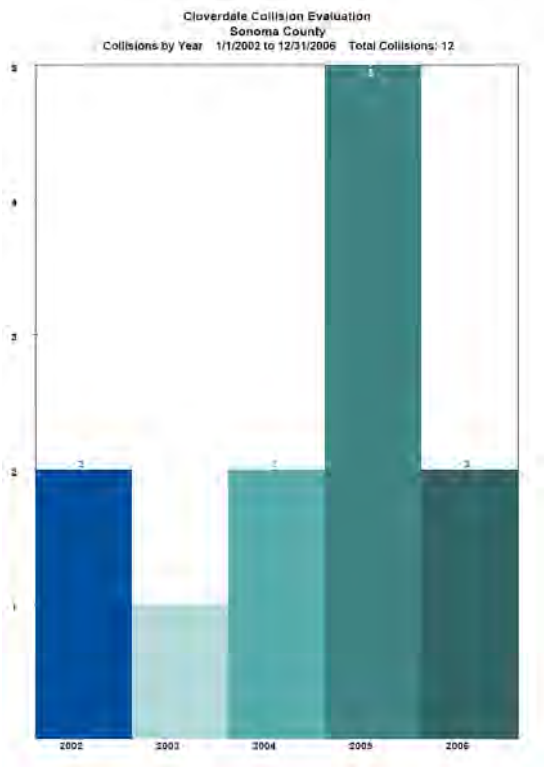


Chart 1
Pedestrian Collisions Per Year



According to a review of the California Office of Traffic Safety Collision Rankings for 2004 – 2006, Cloverdale's bicycle and pedestrian collision rates rank in the mid-range of the average number of collisions per year by population for their population group; cities with a population of 10,000 persons or fewer (which consists of 80 cities in California),

Bicycle Collisions

Over the five-year review period Cloverdale experienced a relatively steady bicycle collision rate of approximately 2.4 bicycle collisions per year, and no bicycle fatalities were recorded. By month, the highest number of bicycle collisions occurred during the summer (July, August, and September) when greater numbers of people would be expected to be riding due to the weather and available light late into the evening. By day of week, the greatest number of collisions occurred on Saturdays, which appears to reflect increased levels of recreational riding on the weekends. No clear pattern was identified as the primary collision factor, although collisions at traffic signals and improper turning movements ranked high. The predominant collision type was broadside collisions, where it appears that the bicyclist was at fault. Eleven of the 12 collisions recorded occurred during clear weather; similarly, 11 occurred during daylight hours.

Pedestrian Collisions

Over the five-year review period Cloverdale experienced a relatively steady pedestrian collision rate of approximately one to two pedestrian-related crashes per year. No pedestrian fatalities were recorded

during the review period. By month, the highest number of pedestrian collisions occurred during October; no pattern was evident. By day of the week, the greatest number of collisions occurred on Mondays and Tuesdays; however no clear pattern was evident. Furthermore, no clear pattern was identified as the primary collision factor, and the predominant collision type involved pedestrians with vehicles. Six of the seven collisions recorded occurred during clear weather, and four occurred during daylight hours.

Proposed Improvements

Bikeways

A segment by segment breakdown of the proposed bikeways including facility type, length, estimated cost of improvements, project priority, and other criteria are listed in Table 5. The proposed bikeways network has been developed to provide bicycle access to destinations throughout Cloverdale. The network consists of primary routes that connect through the City and provide access to neighboring jurisdictions, and local bikeways that provide access to neighborhoods and destinations throughout the community. While the projects in this Plan have received a preliminary feasibility evaluation, engineering and environmental studies will be required prior to project implementation to determine project specific impacts such as right-of-way, traffic operations, parking, and environmental issues.

Approximately 15.5 miles of bikeways are proposed in Cloverdale. Approximately 7.5 miles of Class I pathway are proposed, with 3.4 miles proposed along the Russian River and nearly four miles proposed along the Northwestern Pacific Rail Line. Over 4.5 miles of Class II bike lanes are proposed along various corridors including Cloverdale Boulevard, Jefferson Street, Main Street, Commercial Street, and others. Approximately 3.5 miles of Class III bike routes are proposed along many local streets that provide east-west access in Cloverdale including School Street, First Street, Healdsburg Avenue, Sandholm Lane and others. Additionally, a signing campaign of warning signs and destination based 'wayfinding' signs is proposed. Approximately 25-30 signs placed strategically at community gateways, route junctions, and regular intervals along the primary network would provide coverage for the entire community. The total cost of the bicycle facility improvements proposed in this plan is estimated at approximately $4.5 million.

Pedestrians

The Bicycle and Pedestrian Facilities map shown in Figure 2 includes the following proposed pedestrian facilities:

Pedestrian Crossing Enhancements – Several crossings of Cloverdale Boulevard should be improved with crossing enhancements. These enhancements could include measures such as traffic control, warning lights, signing, striping, pavement treatments, curb bulbouts, etc.

Pedestrian District – The Cloverdale 12 square block downtown area has been identified as a 'pedestrian district.' This district is one which experiences frequent pedestrian activity and street crossings. Therefore, the City should identify future pedestrian facilities and amenities in this district to serve this need.

Table 5
Proposed Bikeways and Project Priorities

Project Corridor/ Street	Begin Point	End Point	Class	Length (Miles)	Local (L) Regional (R)	Primary Network	SF Bay Area Regional Route	Use	Cost	Priority
Cloverdale River Trail	River Rd @ Crocker Rd	NWP Trail @ Cloverdale Airport	I	3.43	R	No	No	Rec	$ 1,886,521	Med
NWP Trail	McCray Rd	S Cloverdale City Limits	I	3.93	R	Yes	Yes	Trans	$ 2,158,772	Med
3rd St	Commercial St	Cloverdale Blvd	II	0.06	L	No	No	Trans	$4,825	High
4th St	Cloverdale Blvd	Main St	II	0.08	L	No	No	Trans	$6,151	High
Commercial St	3rd St	1st St	II	0.20	L	No	No	Trans	$15,050	High
Cloverdale Blvd	Cloverdale City Limits	3rd St	II	0.88	R	Yes	No	Trans	$66,368	High
Cloverdale Blvd	Lake St	Cloverdale City Limits	II	1.84	R	Yes	No	Trans	$138,271	High
Jefferson St	School St	1st St	II	0.43	L	No	No	Trans	$32,443	Low
Lake St	Cloverdale Blvd	Main St	II	0.08	L	No	No	Trans	$5,988	High
Main St	4th St	Lake St	II	0.36	L	No	No	Trans	$27,299	High
McCray Rd	Cloverdale Blvd	Cloverdale River Park	II	0.55	L	No	No	Trans	$40,970	Low
Healdsburg Ave	Franklin St	Cloverdale Blvd	II	0.19	L	No	No	Trans	$14,182	High
1st St	Cloverdale City Limits	Cloverdale City Limits	III	0.77	L	No	No	Trans	$11,612	High
Foothill Blvd	School St	Cloverdale City Limits	III	0.13	L	No	No	Trans	$1,908	High
Franklin St	1st St	Cloverdale Blvd	III	0.52	L	No	No	Trans	$7,841	High
Healdsburg Avenue	Foothill Blvd	Franklin St	II & III	0.30	L	No	No	Trans	$4,432	High
Sandholm Lane	Foothill Blvd	Cloverdale Blvd	III	0.25	L	No	No	Trans	$3,813	Med
School St	Foothill Blvd	Cloverdale Blvd	III	0.43	L	No	No	Trans	$6,407	Med
Washington St	School St	Citrus Fair Drive	III	0.61	L	No	No	Trans	$9,186	Med
Citrus Fair Dr	Cloverdale Blvd	Washington St	III	0.12	L	No	No	Trans	$1,785	Med
Cloverdale Blvd	3rd St	Lake St	III	0.29	R	Yes	No	Trans	$4,301	Low
3rd St	Washington St	Commercial St	III	0.06	L	No	No	Trans	$967	Med

Table 5
Proposed Bikeways and Project Priorities

Project Corridor/ Street	Begin Point	End Point	Class	Length (Miles)	Local (L) Regional (R)	Primary Network	SF Bay Area Regional Route	Use	Cost	Priority
Signing Program (Warning/ Destination Signing)	Citywide				L	Yes	No	Trans/Rec	$7,500	High
Bicycle Parking Program	Citywide				L	N	N	Trans/Rec	$5,000	High
			Class I	**7.36**				**Total**	**$4,461,592**	
			Class II	**4.67**						
			Class III	**3.48**						

5. Project Costs and Funding

Costs

Project costs for the improvement projects identified in this Plan are identified in Table 5.

Past Expenditures

Cloverdale has invested an average of approximately $95,000 per year on bicycle and pedestrian improvements throughout the City over the past ten years. This plan represents the City's first comprehensive approach to bicycle and pedestrian planning and includes approximately 15.5 miles of proposed bikeways at an estimated cost of $4.5 million dollars.

Funding Sources

The number of grants available for non-motorized transportation projects has been growing in recent years. Specific funding opportunities for the proposed facilities are shown in Table 6 while a summary of these programs is included in the Overview section.

Table 6
Project Implementation and Funding Opportunities

Project Corridor/ Street	Class	Cost	Priority	Implementing Agency	Project Partners	Potential Funding Source
Cloverdale River Trail	I	$1,886,521	Med	Cloverdale	Sonoma County Regional Parks	SCAPOSD, RBBP, TDA, Local Funds
NWP Trail	I	$2,158,772	Med	Cloverdale	SMART, NCRA, Sonoma County	SMART, SCAPOSD, RBBP, TDA, BTA, Local Funds
3rd Street	II	$4,825	High	Cloverdale		TDA, BTA, APCD, Local Funds
4th Street	II	$6,151	High	Cloverdale		TDA, BTA, APCD, Local Funds
Commercial Street	II	$15,050	High	Cloverdale		TDA, BTA, APCD, Local Funds
Cloverdale Boulevard	II	$66,368	High	Cloverdale		RBBP, TDA, BTA, APCD, Local Funds
Cloverdale Boulevard	II	$138,271	High	Cloverdale		RBBP, TDA, BTA, APCD, Local Funds
Jefferson Street	II	$32,443	Low	Cloverdale		TDA, BTA, APCD, Local Funds
Lake Street	II	$5,988	High	Cloverdale		TDA, BTA, APCD, Local Funds
Main Street	II	$27,299	High	Cloverdale		TDA, BTA, APCD, Local Funds
McCray Rd	II	$40,970	Low	Cloverdale	Sonoma County	TDA, BTA, APCD, Local Funds
Healdsburg Avenue	II	$14,182	High	Cloverdale		TDA, BTA, APCD, Local Funds
1st Street	III	$11,612	High	Cloverdale	Sonoma County	TDA, Local Funds
Foothill Boulevard	III	$1,908	High	Cloverdale		TDA, Local Funds
Franklin Street	III	$7,841	High	Cloverdale		TDA, Local Funds
Healdsburg Avenue	II & III	$4,432	High	Cloverdale		TDA, BTA, APCD, Local Funds
Sandholm Lane	III	$3,813	Med	Cloverdale		TDA, Local Funds
School Street	III	$6,407	Med	Cloverdale		TDA, Local Funds
Washington Street	III	$9,186	Med	Cloverdale		TDA, Local Funds
Citrus Fair Drive	III	$1,785	Med	Cloverdale	Caltrans	TDA, Local Funds
Cloverdale Boulevard	III	$4,301	Low	Cloverdale		TDA, Local Funds
3rd Street	III	$967	Med	Cloverdale		TDA, Local Funds

Table 6
Project Implementation and Funding Opportunities

Project Corridor/ Street	Class	Cost	Priority	Implementing Agency	Project Partners	Potential Funding Source
Signing Program (Warning / Destination Signing)		$7,500	High	Cloverdale	SCTA	RBBP, TDA, Local Funds
Bicycle Parking Program		$5,000	High	Cloverdale	SCTA	RBBP, TDA, Local Funds

Appendix A
Caltrans Checklist

		Location
a.	The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.	Section 2: Demographics and Commute Patterns
b.	A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.	Section 2: Setting and Context
c.	A map and description of existing and proposed bikeways.	Map – Section 2: Text – Section 4: Description and List of Bicycle and Pedestrian Projects
d.	A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.	Map – Page 8: Text – Section 4: Support Facilities and Bicycle Parking
e.	A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.	Map – Section 2: Text – Section 4: Transit and Multi-Modal Access
f.	A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.	Map – Section 2: Text – Section 4: Support Facilities and Bicycle Parking
g.	A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.	Section 4: Safety and Security
h.	A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.	Section 1: Introduction
i.	A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting.	Section 2: Relationship to Other Plans & Appendix B of the Countywide Plan
j.	A description of the projects proposed in the plan and a listing of their priorities for implementation.	Section 4: Project Priorities
k.	A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.	Section 5: Costs and Implementation Strategies

Appendix B – Bicycle and Pedestrian Count Locations

Cloverdale

#	*Primary Street*	*Cross Street*	*Notes*
1	River Trail	segment count (count north of main trail head)	Recreation
2	Cloverdale Blvd	School Street	Local Bikeway / School
3	Foothill Blvd	Porterfield Creek Trail	Local Bikeway / Recreation
4	Cloverdale Blvd	First Street	Downtown District
5	Asti Road	Citrus Fair Blvd.	Primary Network
6	Asti Road	Theresa Drive	Primary Network
7	Cloverdale Blvd.	US 101 Overcrossing	Primary Network