

Appendix G

Moving Goods and People Report

HUMBOLDT 2025
GENERAL PLAN UPDATE

Moving Goods and People

A Discussion Paper for
Community Workshops

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Executive Summary

The “Moving Goods and People” report is the third discussion paper of Phase II of the Humboldt County General Plan update. This report, following the “Building Communities” and “Natural Resources and Hazards” reports, focuses on eight topic areas of transportation: marine, rail, truck, air, public transit, non-motorized transportation (bicycle, pedestrian, equestrian), rural roadway maintenance, and Humboldt Bay Traffic Safety and Congestion. The report outlines existing conditions and policies, and presents policy options for each of the eight topic areas. Also included are existing conditions discussions of the County roadway infrastructure and pipeline and energy transportation. A discussion of transportation safety is included at the end of Chapter 3. The appendices include background information on funding for roadway projects, bicycle plan requirements, an existing policies worksheet and a worksheet for policy options.

This report is intended to focus on policies and issues related to the Circulation Element of the General Plan. There is considerable overlap with the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) for Humboldt County. These documents are intended to complement each other, with the Circulation Element outlining the general policy direction and the RTP and RTIP identifying the priorities for funding infrastructure improvements. The 2000-02 RTP was a major source of background information for this report.

The major issues for each topic area identified in Phase I, the “Critical Choices” report, are summarized below; policy options are presented in the body of this report and summarized in Appendix D.

County Roadway System

The report includes a brief discussion of the current County roadway system, including maps of Average Daily Trips and Level of Services for roadway segments. Level of Service (LOS) is a standard system for measuring the flow of traffic on a roadway using a scale from LOS A (free flow of traffic) to LOS F (extreme congestion and delay). The majority of County roads currently have an acceptable LOS rating (C or better) with limited exceptions, most notably Highway 101 south of Garberville and SR 99 south of the Hoopla Indian Reservation. Additional segments fail the LOS C standard during peak summer travel months; these segments are listed in the existing conditions chapter. As part of the Sketch Plan preparation, (the next phase of the General Plan process) transportation modeling will be conducted to get an idea of the impact of new development patterns on the road system. This information will be used to identify key roadway improvements needed to ensure an acceptable LOS in the future. Considering the significant relationship between land use and transportation, different development scenarios will result in different demands on future roadways. Options for new roadway policies will depend on decisions made following the modeling of the sketch plans.

Marine Transportation

The Port of Humboldt Bay is an important transportation facility for the shipment of goods and products to and from Humboldt County and the largest marine shipping facility between

San Francisco and Coos Bay, Oregon. However, the competitiveness of the Port is closely related to its ability to adapt to changes in the shipping industry, most notably the use of larger deep draft vessels. The Humboldt Bay Harbor District and the U.S. Army Corps of Engineers have recently completed a project to deepen and widen some of the channels; other projects are being planned to complete further work.

Also closely related to the competitiveness of the Port is the need for efficient connections to truck and rail transportation modes. Concern over the Port's economic competitiveness underlined the policy issues raised in Phase I of the update:

- 1) What is the commercial potential of the Port of Humboldt Bay for shipping cargo and attraction of water-related manufacturers? and
- 2) What Plan policies might assist the Port revitalization effort?

Rail Transportation

Rail service to Humboldt County was recently suspended due to the deteriorating condition of railway infrastructure. When operating, it provided freight service three times a week and occasional passenger service on weekends. Rail service provided an option to truck transportation, carrying mostly lumber products with the potential for transporting dairy products, fish products, aggregates, and coke and calcified lime used in paper processing. In order to return competitive rail service to Humboldt County, a considerable program of roadbed, track, bridge, tunnel, and station upgrading will be necessary.

The desire to return rail service to the County was reflected in the issues raised during Phase I:

- 1) What are the benefits of resumption of rail service to the economy and the overall transportation system? and
- 2) What Plan policies would contribute to sustainable passenger and rail service?

Truck Transportation

Many industries in Humboldt County rely on truck transportation as a major component of their business, primarily relying on Route 101 and SR 299 as the main truck transportation corridors. The major portion of truck traffic is from timber operations, which use the County road system. Key concerns include the impact of heavy truckloads on deteriorating County roads (maintenance costs associated with a sustained logging operation are \$9,000 per mile) and the effect of Route 101's large truck limitations on the County's economy. These concerns were reflected in the key truck transportation issues identified in Phase I:

- 1) What effects do the Route 101 large truck limitations have on our economy? and
- 2) What are the implications of Route 101 improvements to the overall transportation system and the development of Humboldt County?

Air Transportation

Air travel is a growing transportation option in Humboldt County with passenger emplanements at Arcata-Eureka Airport expected to increase from 122,000 in 2001 to 198,000 in 2015. Currently, twenty daily flights are provided, connecting Humboldt County with San Francisco, Sacramento, Redding, Crescent City, Portland (Oregon) and Seattle (Washington). Although Humboldt County operates nine airports, only Arcata-Eureka provides scheduled passenger service. The importance of this airport and the need for further improved and affordable air service are reflected in the key aviation related issues raised in Phase I:

- 1) How would lower cost, increased passenger service benefit the County? and
- 2) What General Plan policies or development levels would contribute to improved, lower cost service?

Public Transportation

Public transportation is well established in the urban areas of Humboldt County, but providing a high level of service is difficult in the lesser populated unincorporated communities. The larger urban areas are served by three public transit systems, the Eureka Transit Service, the Arcata & Mad River Transit System, and the Redwood Transit System, all currently operating at an efficient level given their current funding. Additional services are offered through the Dial-A-Ride/Dial-A-Lift program and Care-A-Van. The major challenge of providing reliable transit to rural areas and for special populations is emphasized in the main public transportation related issues identified in Phase I:

- 1) How can additional affordable public transit be developed and maintained between rural areas and the Humboldt Bay region? and
- 2) How can public transit be integrated with other modes of travel to achieve a balanced mix correlated with the needs of special populations and development?

Non-Motorized Transportation

Bicyclists, pedestrians, and equestrian riders each have unique needs for public facilities for both regular trips and recreation. Bicycle facilities include dedicated bikeways, trails shared with pedestrians and equestrian users, routes and lanes associated with road system, and supporting infrastructure such as parking facilities and bicycle racks on buses. Most dedicated bicycle facilities are in the urban areas of the county and many of the bike lanes in the region do not meet current state standards. However, many programs are underway to improve the bicycle; network; community trails that allow bicycles are identified in the Trails Master Plan.

Pedestrian facilities, primarily sidewalks and crosswalks, are also most commonly provided in the urban areas. Most of these facilities only meet the minimum American with Disabilities Act (ADA) standards and have many obstructions which force pedestrians and wheelchair users into road shoulders or bicycle lanes. Rural areas and small communities often have no dedicated pedestrian facilities and often pedestrians must use roadways. For recreational use, many trails either dedicated or shared, are identified in the Trails Master Plan.

While equine use does not constitute a significant portion of daily commuter travel in Humboldt County, equestrian trails are a significant recreational resource. Dedicated and shared equestrian trails are identified in the Trails Master Plan.

Issues which were identified as part of Phase I were

- 1) What is the proper approach to planning for the movement of pedestrians, bicyclists, and equestrians? and
- 2) What trails policies and development standards are necessary to implement a comprehensive non-motorized transportation plan?

Rural Roadways Maintenance

At a time when competition for road maintenance funding is increasingly difficult, counties are required to become more creative in finding ways to maintain rural roadways. Low population densities and long travel distances often leave fewer funds available on a per-mile basis for roadway maintenance. Especially challenging is how to fund the costs of maintaining roads in areas dependent on logging and heavy commercial truck traffic, such as Humboldt County.

There is also concern about the impact of road maintenance and improvement on environmental conditions, particularly water quality. The Natural Resources and Hazards report discusses the impact of erosion associated with roads on the high sediment loads in many County water bodies, and suggests ways to address this issue.

The main questions related to rural roadway maintenance from Phase I are ;

- 1) How will the County address the current deficit in road maintenance? and
- 2) What policies should govern the creation and maintenance of roads that support new development?

Pipeline and Energy Transportation

There are two major pipeline systems serving Humboldt County: the PG&E gas pipeline system and the Humboldt Bay Municipal Water District (HBMWD) system which pumps water from the Mad River east of Arcata and supplies domestic water to McKinleyville, Arcata, Blue Lake, Fieldbrook, Manila, Eureka, and unincorporated areas outside Eureka's city limits and untreated water to the Samoa Pacific Cellulose pulp mill. Both systems have sufficient capacity to handle projected increases in demand. Upgrades to the HBMWD system are planned or underway to improve the system's reliability and to reduce vulnerability to earthquake

Introduction

This “Moving Goods and People” report is the third discussion paper of Phase II of the General Plan Update, following the “Building Communities” and “Natural Resources and Hazards” reports published in February 2002 and September 2002, respectively. This second stage of updating the General Plan entails gathering data, examining the changed situation since the most recent General Plan update, and preparing to look ahead to the year 2025. Concurrently, a countywide travel demand forecasting model is being prepared, the results of which are scheduled to be available in December or January 2003.

BACKGROUND

Humboldt County last revised its General Plan in 1984. In the spring of 2000, the County initiated a comprehensive General Plan Update, with a multi-phased work program. Phase I, which was completed in early 2001, focused on an extensive public outreach effort to engage the public in the General Plan Update. Through a series of over 40 public meetings, public input was received on land use issues and policy concerns. Additional public outreach efforts to engage the public included development of a web site, newsletter publication, and community survey. Phase I culminated in a compilation of public concerns and issues entitled the “Critical Choices Report”. The issues identified in the “Critical Choices Report” provide the direction for the current Phase II data collection and analysis.

As stated in the Executive Summary of the Critical Choices Report, the public desires a solid information base for General Plan decision making. The work conducted under Phase II will provide this base by developing accurate information on current conditions, thoroughly assessing issues and existing General Plan policies, and identifying a range of practical policy options that fill in the gaps where existing policies, as currently drafted or modified based on community input, do not adequately respond to the issues identified for the General Plan Update.

CONTEXT

This report describes and evaluates Humboldt County’s goods and people movement systems, addressing many of the themes and issues identified in the Critical Choices Report. The “Moving Goods and People” theme includes analysis of marine transportation, rail transportation, truck transportation, air transportation, public transit, non-motorized transportation (pedestrian, bicycle, and equestrian) and roadways. This report provides an assessment of:

- Existing Conditions;
- Planned Improvements; and
- Policy issues and options.

Each of the above assessments is organized as a separate section with individual discussions of each topic (marine, rail, road, etc.).

Four appendices are also included. Appendix A and B provide background information for sections of this report. Appendix C provides a worksheet for use by the public to provide input on whether existing policies should be maintained, modified, or deleted. Appendix D is provided as a tool for the public to evaluate these potential policy options. These worksheets, together with the worksheets in the “Building Communities” and “Natural Resources and Hazards” reports, will provide the basis for developing a policy framework for the new General Plan.

Discussion of the public infrastructure policies needed to move goods and people is required as part of the Circulation Element (one of the seven State mandated elements of a general plan). The Circulation Element is the key long-range transportation and infrastructure policy document for a jurisdiction. Closely related but separate are the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP), which are requirements of the local Regional Transportation Planning Agency, which in Humboldt County is the Humboldt County Association of Governments (HCAOG). The RTP and RTIP should continue to be the more detailed analysis and program for regional transportation whereas the Circulation Element of the Humboldt County General Plan should contain the goals and policies for the circulation system of the unincorporated county.

While the Circulation Element will be the central document for transportation policies in the General Plan, it is important to keep in mind the close relationship between all elements. Changes in land use densities and distribution, for example, have a significant effect on transportation system demands. In recognition, Humboldt County, the cities of Eureka and Arcata, HCAOG, and community based organizations, are planning a multi-jurisdictional effort to gather data and conduct land use and transportation planning activities. This project will forecast traffic patterns and peak congestion for alternative city and county land use plans, providing decision makers with helpful information for making long-range land use and transportation decisions as part of the General Plan update.

SOURCES

The primary sources for this paper have been the 2000-2002 Humboldt County Regional Transportation Plan, Caltrans 1997 Route Segment Report, 1998 California State Highway Log for District 1, Caltrans’ 1999 traffic volume data on California State Highways, the 1997 Highway Capacity Manual, the Humboldt County Trails Plan, and the 1997 Humboldt County Regional Bicycle Facilities Plan.

NEXT STEPS

The “*Moving Goods and People*” report is the last of the series of background reports for Phase II of the General Plan Update. Additionally, “sketch plans” depicting alternative land use scenarios and circulation patterns for the County are currently being developed. The primary purpose of these reports and plans is to solicit public review and comment.

I. Existing Conditions

This chapter presents existing conditions data for the eight topic areas identified for Moving Goods and People in the “Critical Choices Report”. The information below will provide the context for the policy options outlined in chapter 3 and for future decision making on the General Plan update. While considerable effort has been made to gather the most current and relevant data, it is important to note that conditions are constantly changing. Additional graphics and maps may be added in the future as more information is generated by the County Geographic Information System (GIS) staff.

ROADWAY INFRASTRUCTURE

Humboldt County’s surface highway system consists of 378 miles of state highways, including U.S. Highway 101, and approximately 1,400 miles of local city streets and county roads. These roadways provide inter-regional and intra-regional opportunities for the movement of people and goods on California’s north coast. Roadways in Humboldt County traverse varying degrees of flat, rolling, and mountainous terrain and provide for limited passing opportunities in many areas.

CURRENT OPERATING CONDITIONS

Average Daily Traffic Volumes

Figure 1 displays the 1999 average daily traffic (ADT) volumes for the major state roadways within Humboldt County. Figure 1 also displays the peak volumes for the peak month, which can be particularly important to determine the Level of Service during high recreational months. These figures show the importance of Highway 101 as the major transportation corridor for Humboldt County, carrying between 3,400 to 5,100 daily trips in and of the County (south of Garberville and north of Trinidad) and up to 37,000 daily trips through the Humboldt Bay area. In comparison, the next most heavily traveled roads in the County are SR 211 carrying between 3,500 and 5,000 ADT, SR 299 carrying between 3,450 to 4,000 ADT. All of these figures increase by approximately 1,000 to 3,500 ADT in the peak traffic month – coinciding with summer tourist travel.

One area of concern identified in Phase 1 of the General Plan update is congestion and safety along the major roadways between Eureka and Arcata. This area has a much higher than average amount of commuter traffic, as well as the regular commercial truck and tourist travel use along Highway 101. The section of Highway 101 between Eureka and Arcata, for example, is the most heavily traveled segment of the corridor along the north coast with average daily trips of 35,000 or more. This high level of traffic on Highway 101, as well as Old Arcata Road, has led to some significant traffic safety concerns, especially at at-grade crossings. The average accident rate along this segment of the Highway 101 corridor is higher-than-average, with nearly half – and all fatal accidents- occurring at at-grade crossings.

Level of Service

The quality of traffic operations is expressed in terms of level of service (LOS) ranging from LOS A (no congestion or free flow) to LOS D (high-density but stable flow, speed and freedom to maneuver are severely restricted) to LOS F (extreme congestion and delay). Level of Service on a two-lane roadway is based primarily on the amount of time motorists are delayed in making their trip. Travel time delay on two-lane roadways is influenced by the lane width, shoulder width, flatness or steepness of grades, proportion of truck traffic, directional split, peaking characteristics, and the ability to pass other vehicles.

Figure 2 presents the LOS for the major state routes in Humboldt County, which were developed by comparing traffic volume to roadway segment capacities. Most of the existing LOS falls within the A or B rating. LOS C is being experienced on some portions of SR 36, SR 96, and SR 283.

Table 1-1 summarizes the locations that currently experience LOS D or worse.

Table 1-1. Segment Deficiencies

<i>Route Segment</i>	<i>Daily LOS</i>	<i>Peak Month LOS</i>	<i>Intended LOS</i>
SR 36 - Jct. US 101/Alton to Rohnerville Road	C	D	C
SR 36 - Grizzly Creek State Park to Bridgeville	C	D	C
SR 96 - Jct. Rte. 299 to South Limits of Hoopa	D	D	C
US 101 - Mendocino Co. Line to Rte 271 South	D	E	C
US 101 - Rte. 271 to Richardson Grove	C	D	C
SR 211 - Ocean Avenue to Van Ness Avenue	C	D	C
SR 299 - Blue Lake Rd. to Berry Summit	C	D	D
SR 299 - Berry Summit to Willow Creek, Jct. 96 North	C	D	D

Source: Fehr & Peers Associates, 2001

Existing deficiencies on SR 36, SR 96, and US 101 result from limited roadway capacity due to a lack of passing areas, narrow lanes and shoulders, and vertical and horizontal road alignments. Increased activity near the Hoopa reservation coupled with the narrow two lane roadway contribute to the LOS D. State Route 211 experiences higher levels of congestion during peak summer months but operates at acceptable levels during the rest of the year. SR 299 experiences near congested operations in two locations due to its mountainous terrain, steep grades, narrow lanes and lack of opportunity to pass. Although the calculations show it to be consistent with its intended LOS, passing lanes should be considered to help alleviate some congestion.

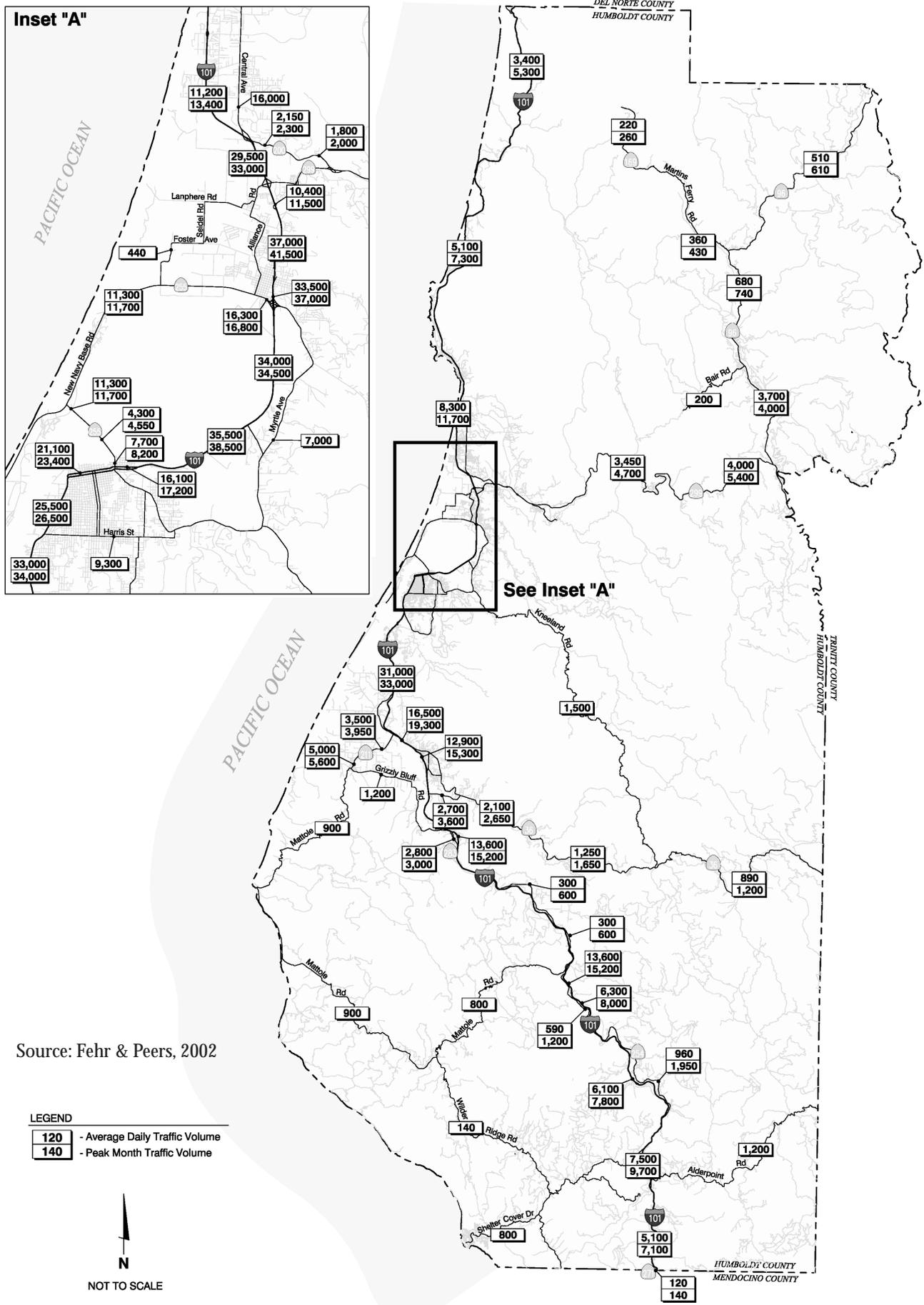
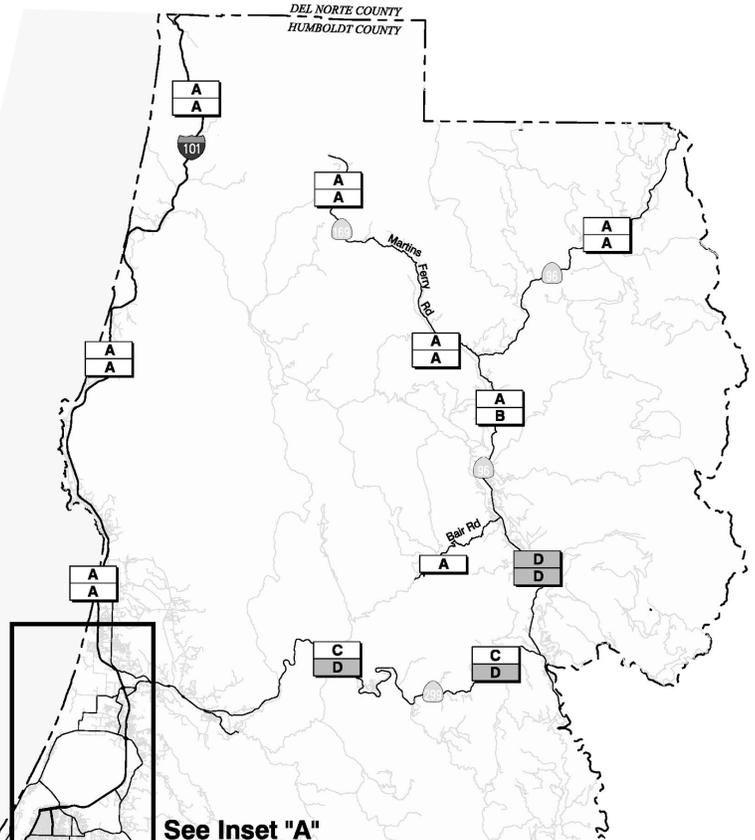
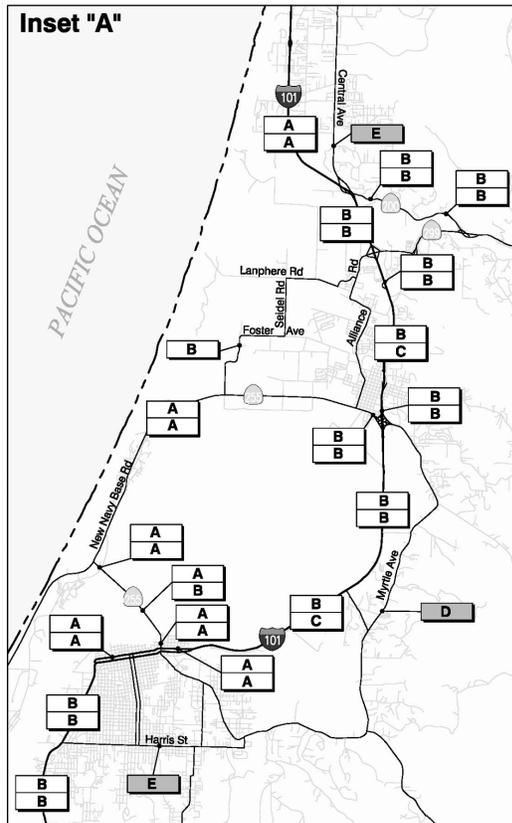


Figure 1

1999 Average Daily Traffic and Monthly Peak Volumes

October 23, 2017



Source: Fehr & Peers, 2002

LEGEND

A	- Average Daily LOS
A	- Peak Month LOS
D	- Exceeds Concept Level of Service



Figure 2
1999 Level of Service (LOS)

While the above analysis focused exclusively on highways, local road information shows almost complete operation at a LOS A or B. According to the environmental review for the McKinleyville Community Plan, only one intersection is identified at a LOS C.

The countywide travel demand forecasting model, being developed separately, will enable a more fine gradient analysis of the effects of development and planned land use on roadway levels of service.

MARINE TRANSPORTATION

The major marine transportation facility in Humboldt County is the Port of Humboldt Bay. The Port is the largest marine shipping facility between San Francisco Bay, located 225.6 nautical miles to the south, and Coos Bay, Oregon, located 156 nautical miles to the north. The port's shipping facilities consist of rock jetties, bar and entrance channels, maintained shipping channels, turning basins, and dock facilities.

MARINE TRANSPORT OF GOODS

Historically, forest products have been the highest volume commodity passing through Humboldt Bay. The export demand for forest products has fluctuated over the years, having been affected by governmental regulations, market fluctuations, and construction activity levels. Shipped commodities passing through Humboldt Bay include petroleum products (gasoline and fuel oil), wood chips, logs, lumber, and paper pulp.

The marine transport of goods has also been affected by changes in the shipping industry. Larger deep draft vessels are becoming more common for moving cargo along Pacific Ocean shipping lanes. These vessels have higher cargo capacities and require deeper and wider channels and turning basins.

In response to this need, the Humboldt Bay Harbor District and the US Army Corps of Engineers recently (April 2000) completed a project to deepen the Bar, Entrance, North Bay, and Samoa Channels and widen the Entrance Channel. In addition, the Harbor District has been working with members of Congress and the US Army Corps of Engineers to develop a companion project that would deepen and widen the Fields Landing Channel.

Upgrading and modernization of the port facilities is considered an important component of economic growth for the area. The bar and entrance channels have been deepened to a depth of 48 feet, and the North Bay and Samoa Channels deepened to a depth of 38 feet.

The growth of Humboldt Bay's marine transport industry is linked to growth in the truck and rail transportation modes. All six dock facilities identified in the RTP have railroad spurs that connect to the main North Coast Railroad facilities. Due to the current condition of railroad operations, goods loaded on and off of commercial vessels calling on Humboldt Bay are transported to and from the dock facilities by truck.

Several studies projecting future cargo volumes have been completed over the last ten years. These studies indicate that the growth in marine transport is dependent on several factors, such as: distance to the origin or destination of the shipped commodity; connections to other forms of goods movement (truck and rail); competitiveness with other port facilities, sufficient cargo volumes to spread fixed shipping costs; and adequate dockside resources for handling and utilization of cargoes and commodities.

RAIL TRANSPORTATION

The North Coast Railroad Authority (NCRA), created by the State Legislature in 1989, has either full or partial ownership of the Northwestern Pacific Railroad (NWP). NCRA owns the railroad from Arcata to Healdsburg, and is a member of the Northwestern Pacific Railroad Authority JPA (joint powers authority) for the portion south of Healdsburg. The NCRA has a Lease and Operating Agreement with Northwestern Pacific Railway Company (NWPY), who is in charge of common carrier freight operations and maintenance of the railroad.

The North Coast Railroad Authority began acquiring the Northwestern Pacific Railroad (NWP) in 1992, and fully acquired it by 1996.

When the line operated, it provided freight service three days a week and occasional excursion passenger service on weekends and holidays. Principal freight for the railroad is lumber being transported to the California and Arizona markets. Additional traffic may include dairy products, fish products, and aggregates. When the line operates, there is some inbound traffic of coke and calcified lime used in paper processing. Rail traffic has declined substantially from previous years, mostly due to lower timber production, as well as logs and farm machinery production and greater competition from trucks. The railroad's ability to offer reliable service depends largely on the condition of the track and roadbed and the availability of stations. Currently, there are six inactive stations at Willits, Ukiah, Scotia, Fort Seward, Calpella and Laughlin. A considerable program of roadbed, track, bridge and tunnel and station upgrading will be necessary if operations and competitiveness are to be improved.

NCLIA EXCURSION TRAIN

The Northern Counties Logging Interpretive Association's (NCLIA's) mission is to create a logging and timber technology museum in Humboldt County, coupled with an operating steam-powered "Humboldt Bay Scenic Railroad" excursion train.

This tourist railroad would operate from South Fork north to Samoa. The NCLIA envisions two excursion lines. One line would operate from Eureka, around the bay to Arcata, then to Samoa. Another line would originate in Arcata, and travel to Eureka, Loleta, Fernbridge, Fortuna, Scotia, and South Fork. The excursion trains would be operated under the NCLIA's non-profit (501(c)3) corporation.

According to NCLIA, the section of the railroad to be used, referred to as the "Humboldt short rail," can be profitable with limited local freight and tourist train service. The NCLIA hopes to have the Humboldt Bay Scenic Railroad, along with the "Redwood Empire Museum

of Timber Technology" in operation as soon as possible after the NCRA opens this portion of the railroad.

The NCRA Board of Directors intends to focus on updating and implementing the adopted business plan and three major areas of future need:

- Executing public policy to protect the railroad as a public transportation asset and to promote its use.
- Oversee the financial accounting and record keeping system through auditing and monitoring of all systems.
- Pursue new funding sources and new legislation, as well as continuing management of grant funding from existing local, state and federal sources to improve railroad infrastructure and operations.

TRUCK TRANSPORTATION

Truck transportation is a major component of many industries doing businesses in Humboldt County and the north coast as a whole. For example, the timber industry annually trucks millions of board feet harvested in Del Norte, Humboldt and Mendocino counties. Trucking operations rely on a sizable transportation system of state and county roads.

In Humboldt County, a major portion of truck traffic is from timber industry operations. Humboldt County's road system provides the collector road and rural access function between the forest (point of harvest), local roads, and the state highways. County roads vary from four-lane, paved expressways to one-lane, untreated, narrow, winding roads. Many county roads used for trucking timber are not designed for the heavy truckloads, and the structural condition of these roads is deteriorating. Many of the existing bridges and other structures also require additional structural support to handle the heavy loads. The County expends significant transportation funds to repair and maintain roadways used by timber trucks. For example, the estimated cost to maintain and repair the roads used during a sustained logging operation is \$9,000 per mile.

The primary arterials used by the timber industry are US 101 and SR 299. These major state highways provide the trucker adequate facilities and level of service for their operations except during summer months when periods of congestion are the highest due to recreational travel on these routes. Other State Routes experiencing significant truck volumes include SR 36, SR 96, SR 169, SR 200, SR 211, SR 254, SR 255, SR 271, and SR 283.

AIRPORT TRANSPORTATION

Airport activity is typically measured in terms of based aircraft, aircraft operations (one landing or one takeoff), passenger enplanements (paid passenger boardings), and cargo tonnage (typically separated into mail and other). An aircraft is considered based at the airport where it is stored when not in use. For most general aviation aircraft this is typically

easy to determine. For airline aircraft this may be a subjective determination that is based upon tax and other financial implications more than operational conditions. Table 1-2 identifies the number of based aircraft, runway length, runway width, and lighting availability for Humboldt County airport facilities.

Table I-2: Humboldt County Airports

<i>Airport Name</i>	<i>Runway Length</i>	<i>Runway Width</i>	<i>Lighting</i>	<i>Based Aircraft</i>
Arcata-Eureka Airport	5,998 4,499	150 150	Yes Yes	11
Dinsmore Airport	2,510	48	No	1
Eureka Municipal Airport	2,700	60	No	16
Garberville Airport	3,050	75	No	20
Hoopla Airport	2,325	50	No	2
Kneeland Airport	2,270	50	No*	0
Murray Field	3,000	50	Yes	-
Rohnerville Airport	4,005	100	Yes	35
Shelter Cove Airport	3,400	75	No	0

*Kneeland Airport’s sole function is as an alternate landing site in case of fog.

Source: Humboldt County Regional Transportation Plan, 2000.

ARCATA-EUREKA AIRPORT (ACV)

Arcata-Eureka Airport is located on the northern edge of the community of McKinleyville. It is operated by Humboldt County. This is the only airport in Humboldt County providing scheduled passenger service. Currently the airport is served by two airlines: Skywest (flying as United Express) and Horizon Air. Twenty daily flights provide service to San Francisco, Sacramento, Redding, Crescent City, Portland (Oregon), and Seattle (Washington). In calendar year 2001, enplanements totaled 122,000.¹ The Regional Transportation Plan forecasts enplanements to rise to 198,000 by 2015.

The airport has two runways: Runway 14-32, and Runway 2-20. Runway 14-32 is 5,998 feet long and 150 feet wide. Runway 2-20 is 4,499 feet long and 150 feet wide. Both have the pavement strength to accommodate narrow body air carrier aircraft. Instrument approaches are published for both runways. Runway 14-32 has the only precision instrument approach in Humboldt County. Aviation support services include: fuel, 24-hour weather, active UNICOM, and a staffed aircraft rescue and fire fighting station.

¹ Dan Horton, Arcata-Eureka Airport Manager, personal communication, 18 June 2002.

Forecasts of airport activity are typically available from three sources: the Federal Aviation Administration, the Caltrans Aeronautics Program, and locally-oriented plans (e.g., individual master plans or regional system plans). Sometimes independent forecasts of airport activity are produced by regional transportation agencies. However, as regional transportation agencies neither own airports nor provide funding for airports, these forecasts are commonly somewhat removed from the airport planning process—regardless of their technical value.

For all airports except Eureka Municipal, the Federal Aviation Administration has developed forecasts as part of its annual Terminal Area Forecasts. Caltrans developed forecasts as part of the California Aviation System Plan (CASP). However, the CASP forecasts for Humboldt County have not been updated since 1988 and are of limited usefulness for this plan. The airport master plans prepared for all airports except Eureka Municipal in 1993 also contain forecasts. Although these plans are now eight years old, they contain the only forecasts developed with a consideration of local growth patterns.

PUBLIC TRANSPORTATION

Today, Humboldt County is currently served by three public transit systems: the Eureka Transit Service (ETS), Arcata & Mad River Transit System (A&MRTS), and the Redwood Transit System (RTS). Operating data and statistics for each system were compiled from monthly operations reports provided by each system.

EUREKA TRANSIT SERVICE (ETS)

The City of Eureka offers both fixed route and demand-responsive service. The system is co-owned and co-funded by the City of Eureka and County of Humboldt through an agreement to extend service into the contiguous unincorporated areas. Per the agreement, 73 percent of system costs are to be funded by the City of Eureka and 27 percent are to be funded by Humboldt County.

The City is currently under contract with the Humboldt Transit Authority to provide drivers, maintenance, and some administrative duties. The ETS fixed route fleet now consists of eight Gillig Phantom buses, each with a seating capacity of 32. The buses range in manufacture dates from 1986 to 1999. All of the buses are wheelchair accessible. Passenger amenities include sixteen covered bus shelters and pedestrian benches along most routes.

The ETS provides one fixed route operating at 20-minute headways in central Eureka (Green Route) and four fixed routes with one-hour headways serving the greater Eureka area (Blue, Red, Gold, and Purple) Monday through Friday. Limited fixed route service operates on the Rainbow and Gold routes on Saturdays.

Passenger boardings rose 0.2 percent from 299,155 in FY 98-99 to 299,860 in FY 99-00. Dial-A-Ride service rose 4.2 percent, from 40,663 to 42,381 over the same period.²

ARCATA & MAD RIVER TRANSIT SYSTEM (A&MRTS).

The A&MRTS, the first transit system in Humboldt County, provides a two route pulsing loop system within the unincorporated boundaries of Arcata. The A&MRTS fleet consists of four 30-foot buses, and two smaller Dial-A-Lift vehicles. There are three 16-foot and ten 8-foot covered passenger shelters. Pedestrian benches are located at most stops. Passenger boardings rose 0.6 percent from 174,313 in FY 98-99 to 175,302 in FY 99-00.³

A recommendation for "basic system restructuring" is to provide service to the Aldergrove Industrial Park and to the new United Indian Health Center. A recommendation for a more extensive system redesign includes increasing service during the school year to provide half-hourly service between Sunny Brae and Humboldt State University (HSU); Westwood and HSU; and HSU and downtown. The Transit Development Plan (TDP) also recommends extending evening service to 10 p.m., primarily to serve the needs of riders attending evening classes and activities at HSU. Extended weekend service is also recommended, including hourly service on an alternate route to the Red and Gold Routes, and service on Sundays.

REDWOOD TRANSIT SYSTEM (RTS)

The RTS program provides commuter bus service along the US 101 corridor from Trinidad in the north to Scotia in the south. The County of Humboldt and the Cities of Arcata, Eureka, Fortuna, Trinidad, and Rio Dell contribute funds to the operation of Redwood Transit Service. The RTS fleet consists of ten large transit vehicles, and one smaller vehicle, which are all lift equipped. Bikes are allowed on buses and passenger amenities include sixteen covered bus stop shelters. RTS makes approximately 35 trips per day, (17 southbound and 18 northbound) Monday-Friday from 6:00 a.m. to 10:30 p.m. In FY 99-00, RTS carried 292,185 passengers, a 1.31 percent increase from the previous year.⁴

The current RTS 5-year TDP was prepared in August 1996. It was amended in August 2001 and ratified for one more year (to August 2002). The TDP includes plans for the RTS, the Southern Humboldt Rural Transit Service (The Quail), and a concept for a Eureka Intermodal Facility. However, the Intermodal Facility concept is no longer being considered.

² City of Eureka 2001 Transit Development Plan, Nelson-Nygaard Consulting, July 2001

³ Ibid.

⁴ Humboldt Transit Authority

DIAL-A-RIDE/DIAL-A-LIFT (DAR/DAL)

"Dial-A-Ride" services were established in January 1979 as an experimental system to determine the needs of elderly and handicapped people who could not use the existing public transportation system. It is a demand-responsive system providing service in and between Eureka, Arcata, and McKinleyville. The services are now funded by the cities of Eureka and Arcata, and Humboldt County on a share-of-cost format.

CARE-A-VAN

The Humboldt County Asset and Resource Center (HCAR), as the HCAOG's designated Consolidated Transportation Service Agency (CTSA), provides a complementary specialized service funded with State Transit Assistance Funds. This program provides medically related trips for mid-lower to lower income individuals who reside outside existing dial-a-ride/lift service areas, including McKinleyville, Freshwater, Bayside, Humboldt Hill, King Salmon, Fields Landing, Elk River, Fortuna, Carlotta, and Rio Dell. Fares are contributed by users or donated by the Sisters of Saint Joseph of Orange at the rate of \$0.30 per mile. The service operates from 9:00 a.m. to 5:00 p.m. weekdays. All vehicles are lift-equipped.

NON-MOTORIZED TRANSPORTATION

BICYCLE TRAILS/ROUTES

In general, there are two major types of bicycle facilities: bicycle routes and lanes associated with the road system, and community and public land trail systems either dedicated bikeways or shared with pedestrian and equestrian trails systems. Bicycle facility types are summarized in Table 1-3.

Table 1-3. Bikeway Definitions from Caltrans Highway Design Manual

<i>Name</i>	<i>Facility Classification</i>	<i>Description*</i>
Bike Path	Class I	Separated, surfaced right-of-way designated exclusively for non-motorized use. The minimum width for each direction is 1.5 meters, with a 2.4 meter minimum width for a bi-directional path.
Bike Lane	Class II	White stripe and Bike Lane sign on roadway providing 1.5 meters of road surface for preferential bicycle use (not including gutter). Vehicle parking adjacent to and motorist crossflow is allowed. Bike lanes must be on both sides of a two-way road for one-way travel only.
Bike Route	Class III	Shared roadway with motorists on through routes not served by Class I or II bikeways or to connect discontinuous bikeways. Established by a Bike Route sign.

*All roadways are open to bicycle use in Humboldt County; the listed facilities further accommodate bicycles.

Most facilities dedicated for bicycle use are in the urban areas of the County, with bicycle lanes in place in Eureka, Arcata, McKinleyville, and Fortuna. The City of Arcata provides the most interconnected system of bicycle lanes that facilitates access to and from a number of

trip-generating areas. In Eureka, the bike lane system includes both north-south and east-west lanes; however, not all trip generating areas are connected. Both McKinleyville and Fortuna have limited systems of bike lanes and designated routes.

Some existing bicycle lanes in the region do not meet current state standards. Caltrans increased bike lane width standards from four feet to 1.5 meters (approximately 5 feet) in 1997; consequently, many bike lanes constructed before 1997 do not meet the new state width standards.

The only Class I bike path in Humboldt County is the Hammond Coastal Trail in McKinleyville, which provides opportunities for non-motorized travel for both transportation and recreation purposes. There are a few other trails of significant length in or near communities that provide for both transportation and recreation. There are, however, a large number of recreational trails in parks (City, County, State, and National), the National Forest, and Bureau of Land Management land.

County residents have expressed their desire and support for a safer, more interconnected network of bicycle and pedestrian facilities. Community members have identified the need for expanded bicycle and pedestrian facilities through participation in organizations such as the Humboldt Bay Bicycle Commuters Association (HBBCA); grassroots efforts to facilitate development of trails; comments received at RTP Update Public Workshops; development of a trails element in the McKinleyville Community Plan; support for expansion of the Hammond Coastal Trail; and participation in and support of local efforts to facilitate bicycle and pedestrian facility improvement.

The need for improved bicycle parking facilities has also been identified as a important factor in accommodating the travel needs of cyclists. Parking facilities are needed at destination points and should be incorporated within the transit system to facilitate interconnections between different transit modes (for example, using bicycles to get to transit stations). Overall, few business centers in the Eureka and Arcata areas provide bicycle parking facilities, and fewer provide facilities sheltered from weather. The communities of Arcata, Eureka, and McKinleyville have installed new low-maintenance, easy-to-use bicycle parking facilities. However, many of the older bicycle parking facilities in the region either are inadequate for newer bicycle designs or have lost function as they have aged. In terms of the interconnection between bicycle and the transit system, the Humboldt Transit Authority provides bike-on-bus racks on all buses; however, only designated bus stops are available for loading and unloading bicycles. A permit is required to use the racks.

Community trails allowing bicycles identified in the Trails Master Plan include:

- **Orick Area:** Redwood Creek Levee Trail (2.9 miles)
- **Trinidad-Westhaven Area:** Trinidad Coastal Bikeway (0.5 miles)
- **McKinleyville-Fieldbrook Area:** Hammond Trail (6.3 miles); Dows Prairie Trail (4.3 miles); Baird Road Trail (2.5 miles); Clam Beach Trail (0.9 miles); Central Avenue Trail (5.9 miles); McKinley Avenue Bikeway (1.0 miles); Railroad Drive

Trail (0.5 miles); Hiller Road Trail (1.0 miles); School Road Bikeway (1.0 miles); Azalea Hill Trail (2.5 miles); Calville Trail (0.6 miles); Fieldbrook Corridor (10.0 miles)

- **Blue Lake Area:** Glendale Bikeway (3.3 miles); Sweasey Dam Trail (1.3 miles); Butler Valley Bikeway Loop (30.0 miles); Lord Ellis Bikeway Loop (9 miles)
- **Arcata Area:** Mad River Beach Trail (4.3 miles); Warren Creek Bikeway (2.5 miles); Old Arcata Road-Myrtle Avenue Bikeway (10.0 miles); Sunny Brae Bikeway (3.5 miles); Bayside Cutoff Bikeway (0.5 miles)
- **Eureka Area:** Indianola Bikeway (0.5 miles); Freshwater Bikeway (3.3 miles); Lucas Street Bikeway (0.3 miles); Cutten Trail (8.1 miles); Campton Bikeway (1.4 miles); Herrick Avenue Bikeway (20.0 miles); Meyers Road Trail (0.1 miles); Humboldt Hill Trail (1.7 miles)
- **Lolita Area:** Tompkins Hill Bikeway (3.0 miles); Eel River Drive Bikeway (5.5 miles); Table Bluff Bikeway Loop (8.2 miles)
- **Ferndale Area:** Ferndale-Blue Slide Bikeway (17.0 miles); Centerville Beach Bikeway (5.0 miles); Wildcat Bikeway Loop Trail (100.0 miles)
- **Fortuna-Carlotta Area:** Rohnerville Bikeway (20.0 miles)
- **Garberville Area:** Redwood Drive Bikeway (2.0 miles); Sprowel Creek Bikeway (1.0 miles); Benbow Bikeway (3.1 miles); Briceland Bikeway (11.6 miles)

Currently, all roads in Humboldt County, including state routes, are open to bicycle use.

PEDESTRIAN FACILITIES

Sidewalks and crosswalks, along with road and highway shoulders where sidewalks are not available, are the primary facilities designed for pedestrian travel. In a few areas, walking pathways and trails are used as transportation corridors, but are more often used for recreational purposes.

Pedestrian facilities are most commonly provided in urban areas of the county (including some unincorporated communities). Most of these facilities meet only the minimum ADA standards and existing sidewalks may be obstructed by utility poles, sign posts, street furniture and/or driveways which force pedestrians and wheelchair users into road shoulders or bicycle lanes. While the County has installed curb cuts and has otherwise improved wheelchair access in recent years, numerous sidewalk gaps and street crossings, which are difficult to negotiate in some areas, remain a challenge for the mobility-impaired.

Many smaller communities or neighborhoods in outlying areas of the county have no dedicated pedestrian facilities. A number of communities are bisected by very busy state routes or county roads with no or limited crossing facilities. In and between most of these smaller communities, pedestrians must use roadways because, for the most part, no separate pedestrian facilities exist.

The Humboldt County trails system is also an important part of the county's pedestrian network. The following trails identified in the Trails Master Plan are designated for pedestrians, either dedicated or shared:

- **Orick Area:** Redwood Creek Levee Trail (2.9 miles)
- **Trinidad-Westhaven Area:** Strawberry Rock Trail (4 miles); 6th Avenue Trail (0.2 miles); Moonstone Access Trail (1.2 miles)
- **McKinleyville-Fieldbrook Area:** Hammond Trail (6.3 miles); Dows Prairie Trail (4.3 miles); Baird Road Trail (2.5 miles); Clam Beach Trail (0.9 miles); Strawberry Creek Trail (2.8 miles); Central Avenue Trail (5.9 miles); Airport Road Trail (0.9 miles); North Widow White Creek Trail (0.9 miles); South Widow White Creek Trail (2.4 miles); Railroad Drive Trail (1.0 miles); Hiller Road Trail (1.0 miles); Mill Creek Trail (0.1 miles); Azalea Hill Trail (2.5 miles); Calville Trail (0.6 miles); Second Road Trail (0.8 miles); Simpson (1.3 miles); Fieldbrook Corridor (10.0 miles)
- **Blue Lake Area:** Sweasey Dam Trail (1.3 miles)
- **Willow Creek Area:** Community Fitness Trail (0.3 miles)
- **Arcata Area:** Mad River Beach Trail (4.3 miles); Bayview Levee Trail (5.0 miles)
- **Eureka Area:** Cutten Trail (8.1 miles); Meyers Road Trail (0.1 miles); Elk River Spit Trail (1.8 miles); Humboldt Hill Trail (1.7 miles)

EQUESTRIAN TRAILS

Equine use does not constitute a significant portion of daily commuter travel in Humboldt County. However, equestrian trails are a significant recreational resource for county residents. Trails designated for equestrian use in the Trails Master Plan, either dedicated or shared, are as follows:

- **Orick Area:** Redwood Creek Levee Trail (2.9 miles); Trinidad-Westhaven Area; Moonstone Access Trail (1.2 miles)
- **McKinleyville-Fieldbrook Area:** Hammond Trail (6.3 miles); Dows Prairie Trail (4.3 miles); Baird Road Trail (2.5 miles); Clam Beach Trail (0.9 miles); Strawberry Creek Trail (2.8 miles); Central Avenue Trail (5.9 miles); Airport Road Trail (0.9 miles); North Widow White Creek Trail (0.9 miles); South Widow White Creek

Trail (2.4 miles); Hiller Road Trail (1.0 miles); Azalea Hill Trail (2.5 miles); Calville Trail (0.6 miles); Second Road Trail (0.8 miles); Simpson (1.3 miles); Fieldbrook Corridor (10.0 miles)

- **Blue Lake Area:** Sweasey Dam Trail (1.3 miles)
- **Arcata Area:** Mad River Beach Trail (4.3 miles)
- **Eureka Area:** Cutten Trail (8.1 miles), Humboldt Hill Trail (1.7 miles)

RURAL ROADWAYS MAINTENANCE

Roadway maintenance is a key challenge for rural areas. Lower population densities and long travel distances often leave fewer funds available on a per-mile basis for roadway maintenance. Maintenance problems are even more challenging in an area dependent on logging and heavy commercial truck traffic to sustain its economy, such as Humboldt County.

Critical issues for the rural road system are safety and road rehabilitation. While roadway capacity (i.e. the number of lanes) is not an issue for all rural areas, due to the lower population densities, there are areas of the County where capacity has become an issue due to increased tourist travel, increased truck travel, and increased rural residential development. Also rugged topography often justifies truck climbing lanes, but funding for such improvements is limited and competes with funding for roadway maintenance.

A major issue regarding rural roadway maintenance is the lack of an infrastructure financing mechanism that would require developers to pay for their “fair-share” of off-site impacts in road infrastructure (as well as other infrastructure and public service needs). The difficulty of recovering the costs of public road improvements and maintenance due to new construction is exacerbated by lower density rural residential development. This development occurs in a scattered pattern requiring a more extensive road system than more compact development. The lower densities also make it more difficult to implement programs such as public transportation, which can lessen auto trips.

Another critical concern is the environmental impact, both direct and cumulative, of rural road improvements. Rural subdivision requirements often dictate widening of rural roads, which results in erosion. The watershed chapter in the “Natural Resources and Hazards” report identifies sediment delivery from erosion associated with roads as a major contributor to sediment loads in water bodies.

The County has a recent Countywide Pavement Management System report (2000) which identifies pavement distress data for all arterial, collector, and residential roads in Humboldt County. The report uses a rating system known as an “Overall Conditions Index” (OCI) to measure the condition of the road surface based on a scale of zero (failed) to one hundred (100) (excellent). This index is used to determine the maintenance needs and priorities for Humboldt County, whether the road segment is in very good condition (requiring minimal maintenance), good condition (able to be repaired with a chip seal treatment at minimal

cost), poor condition (requiring a thin asphalt overlay), or failed condition (requiring costly reconstruction). The Pavement Management System also incorporates a deterioration curve where the OCI is reduced annually as the maintenance requirements for that road segment increase over time. The Pavement Management System is an effective tool to plan for preventative maintenance, while also identifying priorities to reduce the County's backlog of rehabilitation projects.

Since the impact of heavy commercial truck traffic associated with the forest industry is a significant concern for rural road maintenance, the "Natural Resources and Hazards" report identified the potential for a Timberland Infrastructure Maintenance and Improvement Program as a policy option. A systematic approach to identifying public service needs (law enforcement and fire protection) and public improvement needs as well as cooperative funding mechanisms, including provisions for cost-sharing between the County and the forest industry, could be established. Looking at these needs on a watershed basis and a program, not a project-by-project, basis is cost-effective and more efficient.

PIPELINE AND ENERGY TRANSPORTATION

There are two regional pipeline systems of importance in Humboldt County. The natural gas transmission system operated by Pacific Gas and Electric (PG&E) provides energy to PG&E's distribution network that serves many businesses and residences in areas of relatively high population density. The Humboldt Bay Municipal Water District (HBMWD) pumps water from the Mad River east of Arcata, and supplies domestic water to McKinleyville, Arcata, Blue Lake, Fieldbrook, Manila, Eureka, and unincorporated areas outside Eureka. An industrial water pipeline is also maintained by the HBMWD, providing untreated water from the Mad River to the Samoa Pacific Cellulose pulp mill.

According to PG&E, their existing gas transmission system adequately meets Humboldt County's slowly increasing demand. Projections by the California Energy Commission (contained in the 2000-02 Regional Transportation Plan) estimate an average annual growth in gas demand for Humboldt County of 0.3 percent, compared to 1 percent statewide. However, one occasional limit on natural gas transmission is PG&E's Humboldt Bay Power Plant, which operates on natural gas. On a few occasions, rising consumer demand for gas has caused the power plant to reduce its gas consumption. Increased demand for electric power could cause PG&E to increase generation at the Humboldt Bay Power Plant, requiring the plant to upgrade their gas transmission line. The likelihood of these changes in the PG&E system is unknown because of the uncertainty in the newly restructured electric power market.

Some areas of the county, including small towns such as Manila, are not served by the PG&E gas distribution system, as the economic and environmental costs of service are not justified by the number of customers served. Under California Public Utilities Commission rules, PG&E does not provide service in such situations unless the cost of extending service is subsidized by others. In Manila, residents are currently seeking such subsidies.

Existing Conditions

The HBMWD and Eureka water supply pipeline system also has sufficient capacity for current and anticipated demand. However, improvements or replacement projects are planned. Seismic upgrades are underway for the HBMWD system and the City of Eureka is considering alternatives to improve the reliability of service to Eureka and to Humboldt Community Services District (HCSD).

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2. Planned Improvements

A considerable number of roadway improvements and maintenance programs are identified through to the Regional Transportation Plan's horizon year of 2025. These programs will not address all of the critical road maintenance needs throughout the County but need to be considered when analyzing future land use and transportation scenarios. After modeling and analysis of land use scenarios, changes to funding priorities may need to be modified. Likewise, roadway projects which have been targeted for state funding may inform additional opportunities for future development scenarios.

For funding requirements, planned improvements for highways are divided by their nature for increasing roadway capacity (i.e. increasing the number of daily trips a roadway can handle). Short-term maintenance projects of a non-capacity-increasing nature are funded through the SHOPP program and roadway projects of a capacity-increasing nature are funded through the STIP. These are discussed in greater detail below.

SHOPP Roadway Maintenance Projects

Caltrans is responsible for state-highway improvements of a non-capacity-increasing nature for rehabilitation, safety or operational improvements through its State Highway Operation and Protection Plan (SHOPP). For Humboldt County, \$51 million dollars of short term rehabilitation projects and \$83 million dollars of long term rehabilitation projects are planned. The largest of these is the bridge replacement at Mad River. Additionally, \$49 million dollars in long-term operational improvements are also being planned through the SHOPP.

Short-term STIP Funded & Candidate Roadway Projects

The State Transportation Improvement Program (STIP) is a list of projects selected from the Regional Transportation Improvement Program (RTIP) prepared by the Humboldt County Association of Governments and the Caltrans Interregional Transportation Improvement Program (ITIP). Table 2-1 lists the major (by cost) STIP-funded short-range (2000-2010) improvement projects and their associated costs for Humboldt County. This list includes the construction of an interchange and frontage road on US 101 at the SR 36 junction, construction of Old Arcata Road and Myrtle Avenue (as an alternative route between Eureka and Arcata) and various rehabilitation projects throughout the County. A complete table of STIP projects is included as Appendix A.

TABLE 2 –I. Humboldt County Funded and Candidate State Highway Projects

State Highway Projects

<i>SHORT-TERM Project Information</i>				<i>Purpose/Need</i>		
<i>Route</i>	<i>Description</i>	<i>Cost (\$1,000)</i>	<i>Year</i>	<i>Congestion Relief</i>	<i>Safety Improvement</i>	<i>Multi-Modal Improvement</i>
	Construction interchange and frontage road at SR 36 junction - Phase I	\$4,795	04-05	✓	✓	
	Eureka-Arcata Corridor PA & ED	\$2,613	01-02	✓	✓	✓
SR 299	Construct passing lanes east of Willow Creek near County line (project from previous STIP)	\$ 1,144	0-10	✓		

Humboldt County Projects

<i>Route</i>	<i>Description</i>	<i>Cost (\$1,000)</i>	<i>Year</i>	<i>Congestion Relief</i>	<i>Safety Improvement</i>	<i>Multi-Modal Improvement</i>
Old Arcata Road/ Myrtle Avenue	Arcata to Eureka - Old Arcata Rd./Myrtle Ave. - Hall Ave. to Ryan - shoulder widening and rehabilitate roadway	\$5,605	02/03	✓	✓	✓
Elk River Road	Widen and reconstruct Elk River Road between Pine Hill Road and Ridgewood Drive	\$1,445 Funded		✓	✓	✓
Union St. Eureka	Reconstruct/ widen roadway; add bike lanes between City limits and Madison Street	\$1,200		✓	✓	✓
Fieldbrook	Overlay and widen, Glendale/Murray Road	\$1,538		✓	✓	✓
Central Avenue	Widen North end of Central Ave. from Airport to 101	\$1,000		✓	✓	✓
Briceland -Thorne	Overlay and widen, Redway to Briceland	\$1,500		✓	✓	✓

3. Policy Options

Whereas Chapters 1 and 2 of this report focus on current conditions and planned improvements, this chapter looks to the future from a public policy perspective. In evaluating current and future conditions, the County must consider the various policy options for key circulation and goods movements concerns identified during Phase I of the General Plan Update effort. During Phase I, the community raised numerous issues that are summarized as key questions in the “Critical Choices Report”. These key questions from the “Critical Choices Report” help frame the issues for policy options for Moving Goods and People.

Each key question or issue related to Moving Goods and People is discussed below, followed by a listing of potential policy options to address the issue. Based on County and public input on these policy options, “sketch plans” (i.e., generalized land use plans for accommodating future development) will be drafted and published for public review.

In some cases, existing policies may require modification, expansion, or deletion. Worksheets for review of existing policies are in Appendix C. In other cases, new policy direction may be appropriate. Appendix D provides a worksheet for the public to evaluate potential policy options outlined in this chapter. The worksheet includes an assessment of each policy option with regard to four criteria: consistency with existing policies, economic benefits, environmental benefits, and public costs.

CIRCULATION SYSTEM

EXISTING POLICY FRAMEWORK

The current General Plan provides a fairly straight-forward policy framework for the Circulation Element, as follows. The main idea is to ensure that the system meets the County’s needs, that it works, and that new development does not cause adverse impacts. These policies are multi-modal, but they are not tied to standards for specific levels of service (LOS). The policies provide general direction, but may need to be augmented with more specific policies within the identified issue areas.

4220 Goal

To develop, operate and maintain a well-coordinated, balanced, circulation system that is safe, efficient and provides good access to all cities, communities, neighborhoods, recreational facilities and adjoining regions.

4230 Policies

6. *Humboldt County recognizes that the era of abundant and inexpensive energy has ended. Energy considerations must become a critical element in all policy decisions involving the selection and use of transportation systems.*

8. *Encourage the development of a road system that supports an orderly pattern of land use through:*

- a. *Using minor collector roads to provide access to higher density residential areas, local commercial facilities, neighborhood parks and schools.*
- b. *Locating lower density residential areas with frontage onto arterial or major collector roads away from through-traffic unless sufficient mitigation measures are used.*
- c. *Locating retail, service and industrial facilities, community centers, major recreational facilities, employment centers, and other intensive land uses near major collector, or arterial roads.*
- d. *Improving roads to accommodate land uses served by an inappropriate road classification.*

4237 Policies

1. *Transportation decisions in urban and rural areas should be based on a comprehensive planning approach that considers at a minimum existing land uses and future land development as proposed in adopted County plans and plans of other governmental agencies.*
2. *Decisions to change or expand the land use of a particular area should include an analysis of the impacts to existing and/or proposed transportation facilities and services so as to minimize or avoid serious operational or economic consequences.*
3. *Land use plans and policies shall be the basis for transportation facilities development.*
4. *Transportation systems in Humboldt County and those which link the County with other areas of the State are to be coordinated and integrated so that a full range of travel patterns can be supported.*
 - a. *Existing and future public transit services are to be coordinated so that service from rural areas is effectively integrated with urban service. Schedules should be designed for a smooth transfer between rural and urban buses. Fares should be integrated so that a person pays only once for the full trip. Convenience facilities should be made available so that transfer areas are protected from the weather and bus information is provided.*
 - b. *Automobile and bicycle transport are to be integrated with public transit by developing adequate parking facilities at major bus stops and, where feasible, transporting bicycles on the buses along the intercity bus routes.*
 - c. *Multi-family housing shall be encouraged in areas serviced by public transit where consistent with other sections of the plan.*
5. *The Circulation corridor requirements shall be consistent with expected traffic volumes.*

6. *County roads identified by the Public Facilities Plan Maps require improvements and roadway dedications as conditions of development as specified by Minimum Corridor Standards (see the standards 4240).*
7. *New development shall only be approved which will not significantly create or aggravate safety, capacity or parking problems on County roads.*
8. *Community Plans shall include a Circulation Plan which:*
 - a. *Establishes future locations of major roadways.*
 - b. *Minimizes dead end roads.*
 - c. *Sets requirements clearly connecting future land use developments with the provision of an adequate circulation system.*
 - d. *Considers designation of parking districts where in-lieu fees may be collected for a specified parking area.*
9. *All circulation planning shall be based on the County's very limited ability to construct new projects. To the maximum extent feasible, necessary circulation routes and facilities shall be obtained as a condition of approval for land development projects.*
10. *Access to public transit, bicycle parking and carpool parking should all be considered in circulation planning.*

COASTAL ACT POLICIES FOR PUBLIC ACCESS

The California Coastal Act includes specific policies for public access, which are incorporated into the County's Local Coastal Program.

Policies

- 30210 *In carrying out the requirement of Section 2 of Article XV of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*
- 30211 *Development shall not interfere with the public's right of access to the sea where acquired through use, or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*
- 30212 *Public access for the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. A dedicated accessway shall not be adversely affected. Dedicated accessway shall not be required to be opened to*

public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

30212.5 Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social or otherwise, of overcrowding or overuse by the public of any single area.

4.012 The complete concept of “access” to the shoreline requires the integration of three basic factors:

- a. lateral access to provide for recreational uses along the shoreline; and*
- b. vertical access to provide a means of traveling to the shoreline; and*
- c. support facilities to provide the improvements necessary to the use of the accessway.*

ISSUES AND POLICY OPTIONS

Key questions or issues identified in the “Critical Choices Report” are discussed below under the specific topic area, followed by a listing of potential policy options to address the issue. In some cases, existing policies may require modification, expansion, or deletion. In other cases, new policy direction may be appropriate. The Critical Choices report did not call out issues specifically related to the Circulation Element, the Transportation Planning Process, or Coastal Access. Topical issues, including Humboldt Bay Area traffic safety and congestion, marine transportation, rail transportation, truck transportation, air transportation, public transportation, non-motorized transportation (bicycles, pedestrian, and equestrian), rural roadway maintenance, and transportation safety are addressed in the following sections.

HUMBOLDT BAY AREA TRAFFIC SAFETY AND CONGESTION

ISSUE

- What are projected congestion levels for Highway 101 through Eureka?
- What safety improvements are necessary to Highway 101 between Eureka and Arcata and how will they affect development patterns?
- What are the long-range alternatives for traffic movement around and through Humboldt Bay?

As part of the General Plan update process and the multi-jurisdictional effort between the County, HCAOG, and the cities of Eureka and Arcata, traffic models will be developed to analyze the projected impact of alternative city and county land use plans on traffic patterns and peak congestion levels. Data from the modeling process can then be used to develop land use and transportation system alternatives and/or identify needed improvements to roads such as Highway 101. The development of alternatives will need to be coordinated with the

General Plans for the cities of Eureka and Arcata to ensure future transportation improvements work in a uniform manner.

MARINE TRANSPORTATION

EXISTING POLICY FRAMEWORK

The County's existing Marine Transportation policies emphasize support for the continued maintenance and improvement of the Humboldt Bay Harbor and Port. However, they do not provide direction on how to do so and the role of Humboldt County apart from supporting the efforts of public agencies and local private enterprises in funding improvements and building new facilities, especially for commercial fishing. Recent improvements made by the Humboldt Bay Harbor District and the U.S. Army Corps of Engineers have deepened channels serving the Port to 38 and 48 feet. As a consequence, some of the existing policies will need to be modified

4232 Policies

1. *The deepening of the ship channels in Humboldt Bay beyond a depth of 35 feet may be justified. Humboldt County supports continued maintenance of the channels to provide access to existing and planned port facilities.*
2. *Humboldt County supports the improvement and modernization of commercial fishing facilities in Humboldt County. The cities of Eureka and Trinidad, Humboldt County and Humboldt Bay Harbor District should actively and cooperatively seek to encourage private investment into commercial facilities and, where necessary, invest public funds into rehabilitation, upgrading and expanding boat marinas and public piers.*
3. *Several public agencies are responsible for the improvement of waterfront facilities on Humboldt Bay. Their efforts should be coordinated so that the public investment is effectively applied to support the commercial fishing industry and other public uses. The Humboldt Bay Harbor Recreation and Conservation District should take the lead role in coordinating this development.*
4. *Local business groups should be encouraged to work with local government to encourage private investment into facilities such as:*
 - *Boat building and repair facilities;*
 - *Fleet service facilities; and*
 - *Fish processing facilities.*

ISSUES

- What is the commercial potential for the Port of Humboldt Bay for shipping cargo and attraction of water-related manufacturers?

- What Plan policies might assist the Port revitalization effort?

The Port of Humboldt Bay has a significant impact on the competitiveness of Humboldt County and its local businesses. Upgrading and modernization of the port facilities is considered an important component of economic growth for the area as changes in the shipping industry has led to larger deep draft vessels becoming more common for moving cargo along the Pacific Ocean. The recent upgrades, including deepening the Bar, Entrance, North Bay and Samoa Channels and the widening of the Entrance Channel, will help the Port of Humboldt Bay remain competitive for shipping cargo and attracting water-related businesses. The Port now has the infrastructure in place to begin to realize more commercial potential. The challenges will be two-fold:

- To develop “niche” resource-based industries that can capitalize on the Port’s facilities. Fisheries-related industries and “green” forestry are two examples.
- To develop “value-added” industry that can capitalize on the Port’s location and use the infrastructure in a cost-effective manner.

Constraints on commercial development potential include limited containerization and intermodal rail service to other markets, both in California and elsewhere in the U.S., compared with other major ports on the West Coast, including Seattle, Portland, Oakland and Long Beach. The Port of Oakland, for example, handles 98 percent of the containerized goods moving through Northern California.

The projected growth in the County, described in the “Building Communities” paper, will generate some demand for new industries that could benefit from the Port’s facilities, but the long-term prospects are not likely to create significant commercial potential. Declines in the timber and fishing industries have led to diminished harbor activities. Offshore oil exploration, considered during the 1980s, might have made a difference, but this option is no longer politically acceptable. Recreational opportunities remain, but these do not support the economic investment needed to maintain deepwater cargo facilities.

Eureka’s General Plan outlines the City’s priorities for stimulating economic development and supporting redevelopment in the Port and Harbor environs; the County should continue to work with the City on fleshing out implementation details and identifying “niche” industries that may be located in unincorporated areas. The City also has proposed creating a “Victorian Seaport” identity for the waterfront area and expansion of the F Street pier. The County could support these efforts and incorporate these concepts into joint marketing efforts.

Option 3.1 Coordinate economic development activities to support a harbor marketing plan developed jointly with the Humboldt Bay Harbor District and the City of Eureka. The Harbor marketing plan also could include specific investment opportunities tied into the Victorian Seaport concept in the City's General Plan.

ISSUE

- What are the economic inter-relationships between marine, rail, and road transportation?

While growth in marine transport is dependent on several factors, efficient connections to other forms of goods movement are critical to ensuring marine transport is an economically viable and competitive means of transporting goods in and out of Humboldt County. Historically, rail and truck transportation have delivered goods to and from the Port. However, although all six dock facilities identified in the Regional Transportation Plan have railroad spurs that connect to the main North Coast Railroad facilities, the recent suspension of rail services in the County has meant that all goods are transported to and from the dock facilities by truck.

Road improvements, the return of rail service, and the development of a port-rail marine terminal facility with improved highway access, would have a direct impact on the competitiveness of the Port of Humboldt Bay. For example, according to the 2000-02 RTP, the Humboldt Bay Harbor, Recreation, and Conservation District believes that Humboldt Bay could become competitive with the Port of Sacramento for the export of agricultural products and minerals to the northern California Central Valley and Sierra Foothill region if truck travel times between Redding and the Humboldt Bay region via SR 299 could be reduced. Likewise, the return of rail service would provide an alternative means of transporting goods to and from the port, providing an alternative to significant increases in truck traffic, and add the capability to handle backhaul movements for export traffic through the Port. As the County looks ahead, the needs of the Port should be considered as infrastructure improvements are evaluated – focused investment can help the Port improve its competitive advantage, which will have spinoff effects for the County as a whole.

- **Option 3.2 Ensure that planned improvements to the County's road system support improved access to the port facilities and the Port's efforts to attract new shippers through its facilities.** This may include making the SR 299 project a priority.

RAIL TRANSPORTATION

EXISTING POLICY FRAMEWORK

The County General Plan's current rail transportation policies emphasize support for the maintenance and modernization of rail services and facilities. However, the policies do not provide direction on how Humboldt County can achieve or assist in achieving these goals, making implementation difficult – especially since rail service was suspended in recent years.

The new economic challenges of continued rail service may require the County to be more proactive in efforts to support the railway.

4233 Policies

1. *The railroad system connecting to points south shall be maintained and operated to support the County's economic development and maintain the diversification of the County circulation network.*
2. *The County supports the modernization of freight rail services.*
3. *Humboldt County supports efforts to have the Northwestern Pacific Rail Line included in the California State Rail Plan as a project designated eligible to receive Federal funds for rehabilitation and new facility construction.*
4. *Humboldt County supports State and Federal programs that would provide funding for railroad crossing protection devices.*

ISSUES

- What are the benefits of resumption of rail service to the economy and the overall transportation system?
- What Plan policies would contribute to sustainable passenger and rail service?

According to the 2000-02 Regional Transportation Plan, opportunities for economic development and growth of rail-freight traffic would support a fully rehabilitated rail line.⁵ As with marine transportation, the principal freight for the railroad is lumber. Currently, Humboldt County lumber mills are forced to truck their products to a transload site in Redding or Willits to remain competitive. Not only does the additional cost create an economic disadvantage for local lumber mills, the additional truck traffic on both SR 299 and US 101 has significant impacts on maintenance costs and traffic loads.

Other existing needs for a fully operational rail system are the removal of solid waste out of the county and to handle backhaul movements for export traffic through the Port of Humboldt Bay. Additional opportunities by rail also include the export of dairy products, fish products, and aggregates, and inbound traffic of coke and calcified lime used in paper processing.

Passenger rail service could support efforts to increase tourism and offer an alternative for visitors to the County to Highway 101. The projected ridership, however, is unlikely to have a significant impact on Highway 101 congestion during peak summer periods. Nonetheless, passenger rail service can be an important element of a comprehensive transportation system

⁵ 2000-2002 Humboldt County Regional Transportation Plan Final Draft, page 25

for the County. The key will be to secure state and federal funding to support railroad operations.

General Plan policies that can contribute to sustainable passenger and rail service include supportive land use in rail corridors and efforts to coordinate overall economic development activities with the cities.

- **Option 3.3 Support the North Coast Railroad Authority's efforts to reestablish of rail service.** Rail service can benefit not only the Port and the timber industry but also the County's economy in general.

TRUCK TRANSPORTATION

EXISTING POLICY FRAMEWORK

Existing policies related to truck transportation state Humboldt County's support for improvement and maintenance of roads to support the timber, agriculture, and mining industries (industries reliant on heavy trucks to transport goods). A policy is also included which supports the need for additional State revenue for the maintenance of County roads that carry heavy commercial truck traffic. Both policies are general in nature.

4321 Policies

1. *Humboldt County supports improvements and maintenance of public access roads to natural resource areas designated for timber production, agriculture and mining.*
2. *Humboldt County supports the need for additional State revenue from sources such as State Gas Tax for the maintenance and reconstruction of County roads that carry heavy commercial truck traffic.*

ISSUE

- What effects do the Route 101 large truck limitations have on our economy?

The 28-foot length restriction on Route 101 is a considerable limitation on a trucking industry moving to the use of longer trailers (53 to 56 feet) to cut costs and improve efficiency. For example, trucks designed for Federal Surface Transportation Assistance Act (STAA) designated routes (i.e. 53 to 56 feet single trailers) have 10 percent more carrying capacity than the largest trucks currently allowed on state routes in the County. While a truck operating with two 28-foot trailers carry about the same capacity as a 53-foot trailer, their operating costs are much higher. Air quality impacts are also greater with because there are more emissions. The truck length restrictions, accordingly, add to cost of goods entering and leaving Humboldt County.

In order to be able to accommodate longer trailers, significant roadway improvements including greater lane widths and curve radii will be needed. Key locations for these improvements should include US 101 from the junction of SR 1 near Leggett in Mendocino County to Benbow in Humboldt County; US 101 from Big Lagoon Park to Orick in

Humboldt County; and SR 299 from New Lewiston Road in Trinity County to the Junction of SR 273 in Redding in Shasta County. However, savings to the trucking industry provided by the improvements to US 101 needed to accommodate the longer trailers would need to be quantified to determine whether they are significant enough to warrant the cost of the improvements.

- **Option 3.4 Continue to use existing commercial truck weight fees and timber taxes for truck route improvements.** These funds would be used to maintain and reconstruct city and county truck routes with proportional revenues from commercial truck fees. This option would not provide the funding needed for larger trucks.
- **Option 3.5 Improve interregional routes for use by STAA trucks.** The concept for US 101 is that it be upgraded to a four-lane freeway/expressway throughout Humboldt County, with a desired LOS of “B” on rural segments and “D” on urban segments. The exception to the desired LOS is US 101 near Big Lagoon, where environmental considerations necessitate a two-lane facility to be acceptable. Specific costs would be determined as part of the RTIP process, if this were a County policy and priority.

ISSUE

- What are the implications of Route 101 improvements to the overall transportation system and the development of Humboldt?

Route 101 is the life-blood for Humboldt County and the north coast. Route 101 is the primary route used by the trucking industry including the timber industry. Truck length restrictions and backhaul opportunities in Humboldt County are preventing businesses from being profitable and competitive with other similar business along the West Coast. Truck manufacturers have indicated they will not totally phase out 28-foot trailers, but economics is driving the industry toward longer trailers. It is therefore imperative that Route 101 be improved to keep commerce moving into and out of the County. The following truck transportation needs are identified in the 2000-02 Regional Transportation Plan: new or upgraded sections of US 101 must include additional thickness to accommodate heavier truck weights and volumes; and improving US 101 to a four lane facility south to San Francisco would provide cost savings to the timber industry by reducing congestion and travel times.

- **Option 3.6 Promote truck route improvements and transload facilities County-wide.** The County should fulfill this policy by supporting roadway improvements for commercial vehicle access, and the development of transload facilities to eliminate barriers to freight movement.
- **Option 3.7 Balance truck route improvements with environmental considerations and needs of the tourism industry.** Truck route improvements would be made along routes where the heavier traffic could be accommodated without significant environmental impacts and in a manner which benefits the tourism industry as well. This approach would require a thorough analysis to

determine funding priorities that achieve the three goals of supporting the trucking industry, supporting the tourism industry, and minimizing environmental impacts.

AIR TRANSPORTATION

EXISTING POLICY FRAMEWORK

4234 Policies

1. *Humboldt County should regularly update and maintain the Airport Master Plan as the primary County policy document for airport development.*
2. *Humboldt County shall establish land use controls around airports as recommended by the Airports Master Plan through the Airport Land Use Commission.*
3. *Humboldt County supports efforts to expand commercial airline service to the area.*

ISSUES

- How would lower cost, increased passenger service benefit the County?
- What General Plan policies or development levels would contribute to improved, lower cost service?

The Federal Aviation Administration's most recent forecasts for Arcata-Eureka anticipate a doubling of enplanements by 2015 from a 1998 base level. The Regional Transportation Plan assumes that this growth is plausible. If the County is successful in attracting low-cost providers, such as Southwest, greater growth may occur. The recent success in both the U.S. and Europe with start-up airlines offering competitive service from regional airports (Jet Blue, ATA, Go, and Ryanair, for example) would support this idea. Lower cost, increased passenger service would not only greatly benefit the local tourism industry but would also assist business travelers, HSU faculty and students, and County residents. Increased air travel would also assist in removing trips from the roadway system and provide Humboldt County residents with a quicker and safer means of travel.

A critical concern for the airport area is the lack of sufficiently zoned land for airport support services. Allowing by-right development within the airport environs for aviation-related businesses would enable businesses to respond quickly to demands of the airport and airlines and to operate more cost-effectively, savings which would be reflected in the cost of service.

Cooperative marketing, improved freight handling capabilities and new tower facilities – needs identified in the Regional Transportation Plan – also would support efforts to attract new operators and promote competition among airlines serving the County.

- **Option 3.8 Update the Eureka-Arcata Airport Environs Land Use Plan, focusing on opportunities for airport related land use and airfreight capabilities.** After this plan is completed, a marketing plan should be prepared.

- Option 3.9 Evaluate the feasibility of creating a Free Trade Zone (FTZ) at the Eureka-Arcata Airport to support expanded airfreight services. Many airports and seaports have used Free Trade Zones as marketing tools.

PUBLIC TRANSPORTATION

EXISTING POLICY FRAMEWORK

4237 Policies

4. *Transportation systems in Humboldt County and those which link the County with other areas of the State are to be coordinated and integrated so that a full range of travel patterns can be supported.*
 - a. *Existing and future public transit services are to be coordinated so that service from rural areas is effectively integrated with urban service. Schedules should be designed for a smooth transfer between rural and urban buses. Fares should be integrated so that a person pays only once for the full trip. Convenience facilities should be made available so that transfer areas are protected from the weather and bus information is provided.*
 - b. *Automobile and bicycle transport are to be integrated with public transit by developing adequate parking facilities at major bus stops and, where feasible, transporting bicycles on the buses along the intercity bus routes.*
 - c. *Multi-family housing shall be encouraged in areas serviced by public transit where consistent with other sections of the plan.*
10. *Access to public transit, bicycle parking and carpool parking should all be considered in circulation planning.*

ISSUES

- How can additional affordable public transit be developed and maintained between rural areas and the Humboldt Bay region?
- How can public transit be integrated with other modes of travel to achieve a balanced mix correlated with the needs of special populations and development?

Transit planning, particularly in rural counties, faces an unavoidable tradeoff between two competing goals – Productivity vs. Coverage. As a goal, “productivity” attempts to maximize ridership per unit of service provided, that is, to have more people riding each bus. This goal tends to achieve maximum benefit to the community in service frequency, length of service, and vehicle trip reduction, and also minimizes the subsidy per passenger. However, a strict focus on achieving higher levels of productivity tends to place transit where population and density are the highest. As a consequence, many people living in the rural areas County would not have access to public transit.

In contrast, the goal of “coverage” addresses the social-service aspects of transit along with geographical equity. The goal is to meet the public’s expectation that they should receive some level of service in return for their financial contributions through taxes, etc. A strict focus on this goal tends to produce very spread-out service at low frequencies. Such service results in low ridership, although it is very important to the people who depend on it.

The three public transit systems in the County are currently operating at an efficient level, given their current funding. However, based on the forecasted population growth for the County, and the results of the “unmet needs” process, the systems will need to address the competing goals in order to keep pace with growth and transit demand for needy populations in the County. The most frequent complaints about service involve the relative long time between bus service (frequency of service) and the lack of evening and weekend service. Further, those with disabilities have additional “unmet needs”. These problems are not unique to Humboldt County as most public transit providers in rural areas face the same budget constraints.

Specific opportunities that have been identified for service expansion in the Regional Transportation Plan include:⁶

Public Transit

- Expand service within existing service areas by implementing evening and weekend service. This will be particularly important for students using A&MRTS to travel to and from HSU during evening hours.
- Implement daily transit service between Eureka and Redding along SR 299. The use of Private Industry Council (PIC) funds should be considered.
- Implement daily transit service in the southern portion of the county on US 101 between Garberville and Eureka or Scotia.
- Implement daily transit service in the northern portion of the county from Eureka to Orick.

Para-Transit

- Expand dial-a-ride service to rural areas
- Coordinate with existing public transit service to maximize transfer opportunities.
- Review transit threshold levels for possible local bus service as population and densities increase.

In order to meet these potential service needs and address the competing goals of service delivery, several policy options are proposed.

⁶ 2000-2002 Humboldt County Regional Transportation Plan Final Draft, page 40

- **Option 3.10 Provide ongoing support for the Social Services Transportation Advisory Council.** It is important to coordinate the transportation needs of social service agencies, non-profit agencies, and users through the Social Services Transportation Advisory Council’s ongoing, proactive forum. Through this forum, access and technical support can be provided.
- **Option 3.11 Integrate social transportation services with daily local services where possible.** At every opportunity, alternatives for providing independent client transportation services should be explored. A notification process to keep individual agencies, informed of all daily service changes in local service should be implemented.
- **Option 3.12 Promote measures to reduce social service transportation costs.** Joint purchasing ventures, group insurance programs, and consolidated maintenance programs should be considered.
- **Option 3.13 Support the use of private transit service.** The use of taxi-cabs and/or inter-city bus service can provide needed service at lower public costs for transit dependent riders.
- **Option 3.14 Re-establish transit service to east, south, and north county.** The Humboldt Transit Authority should pursue partnerships with the County of Humboldt, Native American Tribes, and non-profit transportation organizations to re-establish service to rural communities.
- **Option 3.15 Encourage community ride-share programs.** Community-based programs such as ride-share programs can be an effective tool for leveraging minimal transportation resources. These programs can benefit from County assistance in organizing and possibly training in establishing the programs.

NON-MOTORIZED TRANSPORTATION

EXISTING POLICY FRAMEWORK

4310 GOALS

1. *To provide guidelines for establishing a safe, efficient, and enjoyable County trails program for the transportation and recreation needs of bicyclists, equestrians, hikers, and joggers.*
2. *To increase participation in bicycling, horseback riding, and hiking activities which can provide physical, social, environmental, and economic benefits for County residents and tourists.*

4311 POLICIES

1. *Develop an accessible trails network as shown on trails map which includes trails within and between communities, parks and other publicly owned lands.*

2. *Provide safe bicycle and pedestrian trails to schools, when it is determined that inadequate access exists.*
3. *Encourage development of trails with varying lengths and difficulty through diverse terrain, scenery, and points of attraction.*
4. *Blend trails into the natural environment to reduce environmental disruption.*
5. *Place priority of bicycle route maintenance on routes that are most heavily used.*
6. *Encourage the provision of secure, weather protected bicycle storage facilities at bus stops, businesses, and public buildings as needed.*
7. *Encourage appropriate buses to be equipped with bicycle transport racks.*
8. *Encourage development of access and, where suitable, camping areas into existing and future recreation areas.*
9. *Encourage the placement of landscaping along horsetrails located adjacent to roadways to serve as safety and/or visual screens between trail and vehicle lanes.*

ISSUES

- What is the proper approach to planning for the movement of pedestrians, bicyclists, and equestrians?
- What trail policies and development standards are necessary to implement a comprehensive non-motorized transportation plan?

As with other transportation systems, the proper approach is to understand first how pedestrians, bicyclists and equestrians use the County's road system – where they share the roadway system with others, and where exclusive rights-of-way, such as bike lanes and sidewalks, exist for their use. This analysis would distinguish local from regional needs, and “high usage” from “low usage” areas. The Humboldt County Trails Plan, prepared in the late 1970s, provides a good historical basis, but it needs to be updated to reflect current and future needs and funding realities.

Service standards can be established to help evaluate the ability of existing facilities to meet current and future needs. The current County Trails Plan does not include service standards. These can be expressed on the same A to F scale as used for roadway planning. For bike routes, for example, standards could reflect the relationship between flow rates, density and speed (see Table 3-1). In Davis, California, standards for Class I – Bike Paths and Class II Bike Lanes address the function of the facility, access control and right-of-way requirements. In Humboldt County, these standards should reflect differences between the rural and urban environments; there also may be a need for special standards for coastal areas where bike usage is higher than in inland rural areas.

TABLE 3-1: Bicycle Flow Characteristics On Bike Paths And Bike Lanes

Characteristics	Level of Service (LOS)					
	A	B	C	D	E	F
Flow Rate ^a (bikes/min/ft)	<4.4	4.4- 6.6	6.6- 10.0	10.0- 11.9	11.9- 13.2	Variable
Density (bikes/sq.ft.)	<.005	.005- .007	.007- .012	.012- .017	.017- .025	>.025
Cycling Speed (mph)	≥11.0	10.5- 11.0	9.5- 10.5	8.0- 9.5	6.0- 8.0	<6.0

^a Minimum bike path or bike lane width for which these figures apply are: LOS A-8.0 ft; LOS B-7.5 ft; LOS C-3.5 ft; and LOS D- 3.2 ft. The greater widths shown for LOS A and B are necessary to allow free overtaking.

Source: Institute of Transportation Studies, University of California, Berkeley. *Fundamentals of Traffic Engineering, 13th Edition*. UCB-ITS-CN-92-1.

The next step is to determine existing deficiencies and future needs, based on demand estimates. Most countywide trail and bicycle plans focus on regional and countywide facilities for longer-distance trips. This makes sense in that funding for bike facilities is limited and once an overall system is created, efforts then can be focused on filling in with more local facilities. The advantage of this approach is that a clear, continuous set of bikeways and trails is created, which can encourage more bike and trail use. The disadvantage of focusing on a regional system is that it can overlook the need to provide:

- Local facilities for coastal access and for safety;
- Connecting links to city systems;
- The need for a dense network to serve local schools, parks and other activity centers; and
- Sidewalks, crosswalks, and other amenities that facilitate pedestrian movement and support safe bike use.

A comprehensive plan for trails and bikeways should also include policies and standards for coordination with school districts and for education and marketing. Bicycle and pedestrian education programs should focus on safety; they also can promote bike use as an alternative to the automobile with special events, such as Bike-to-Work day and Walk-to-School day. Corporate bike programs are successful in many communities, and zoning can be used to

help implement policies by requiring bicycle parking in new development. Some communities promote bike use by having a fleet of bikes that residents can share, with easy access at key locations. Motorist education programs also will be important, to heighten awareness of bike and pedestrian safety issues. San Francisco, for example, has “Coexist” bumper stickers with a peace logo and symbols for bicycles and cars sharing a right of way. Many of these issues are addressed in the Caltrans requirements for a Bicycle Transportation Plan, which is mandatory to be eligible for Caltrans Bicycle Transportation Account funds (see Appendix B: Bicycle Transportation Plan Requirements).

- **Option 3.16 Update the Humboldt County Trails Plan to include development standards for Class I and Class II bike facilities and regional trails to reflect differences between rural and urban areas, bicycle safety standards, including lighting and signage, an education and marketing program, and a funding program.** Pedestrian and bikeway standards should be included in subdivision requirements. The County also should ensure that the system is fully accessible to those with special needs.
- **Option 3.17 Establish level of service standards for bike paths, bike lanes, and pedestrian facilities to be used in long-range planning, facility design and development.** These standards also could be used to identify deficiencies and establish priorities for improvements.
- **Option 3.18 Require secure bicycle parking to be provided for all new multi-family housing, commercial, industrial and office development.** It also may be desirable to require that parking be covered, at least where it is used by residents and employees.
- **Option 3.19 Make bikeway and trail improvements a funding priority by incorporating bikeway improvements into the County’s Capital Improvement Program for roads and pursuing federal and state funding for bikeways.** Bike facilities should not be considered an “added-on” amenity but should be an integral part of the County’s transportation system. The County should ensure it has an current Bicycle Transportation Plan which meets Caltrans requirements for funding eligibility.
- **Option 3.20 Establish “Adopt-a-Path” and “Adopt-a-Bikeway” programs to create partnerships with local businesses and organizations.** Signs can identify supporters, and private sector funding can help pay for routine maintenance. The County Parks Department could administer the program.

RURAL ROADWAYS MAINTENANCE

The County’s existing policies regarding rural roadway maintenance are, like other Moving Goods and People related policies, general in nature. Priorities are given for road maintenance needed to support commercial trucking and for local street and road maintenance, provided funding sources such as State Gas Tax revenue can be increased.

EXISTING POLICY FRAMEWORK

4230 Policies

2. *Humboldt County supports improvements and maintenance of public access roads to natural resource areas designated for timber production, agriculture and mining.*
3. *Significant increases in traffic volumes and turning movements on and off a major expressway/freeway at high volume at grade intersections should be discouraged.*
4. *Humboldt County supports the need for additional State revenue from sources such as State Gas Tax for the maintenance and reconstruction of County roads that carry heavy commercial truck traffic.*
5. *Humboldt County shall take action to support the increase of gas tax revenues to a level adequate for local street and road maintenance.*
7. *The County Planning Commission shall review all proposed abandonments of maintenance on County roads for conformance with the County General Plan before they are approved.*

ISSUE

- How will the County address the current deficit in road maintenance?

All California counties are competing for funding to maintain existing roadways because existing revenue sources are not able to keep up with needs. State and federal funding often includes restrictions on use of funds. The Regional Transportation Plan calls for new legislation and more funding to maintain existing roadways, including uses of State Transportation Improvement Program funds to preserve and maintain the existing system until adequately funded local programs are developed.

The County currently has many demands on the General Fund and no surplus funds available to support a comprehensive road maintenance program. Other counties have had success with local programs, funded by increased sales taxes, that include not only road maintenance but also support for bicycle and trail systems and public transportation facilities. Sales tax increases do require voter approval. Another option is to expand the idea of a Timberland Infrastructure Maintenance and Improvement Program, as proposed in the *Natural Resources and Hazards* paper, to include all rural roads.

- **Option 3.21 Create a Rural Road Infrastructure Maintenance and Improvement Program.** A systematic approach to identifying rural road maintenance and improvement needs as well as cooperative funding mechanisms, including provisions for cost-sharing between the County, rural landowners, and the forest industry, could be established. This option would be an expansion of the Timberland Infrastructure Maintenance and Improvement Program.

- **Option 3.22 Establish a secure funding source for road maintenance that can not otherwise be funded under state and federal programs.** This could be done with an increased sales tax, transient occupancy tax, real estate transfer tax, or with multi-purpose assessment districts.
- **Option 3.23 Establish an “Adopt-a-Road” program to invite private sector support for road maintenance.** In return for annual contributions for maintenance for a specified segment of a rural road, the County would install signs that would identify supporters. This form of advertising may be attractive to local businesses; it has proved successful in many rural counties, and could be integrated into a rural “wayfinding” program with consistent signage.
- **Option 3.24 Create a Timberland Infrastructure Maintenance and Improvement Program.** A systematic approach to identifying public service needs (law enforcement and fire protection) and public improvement needs as well as cooperative funding mechanisms, including provisions for cost-sharing between the County and the forest industry, could be established. Looking at these needs on a watershed basis and a program, not a project-by-project basis is cost-effective and more efficient.

ISSUE

- What policies should govern the creation and maintenance of roads that support new development?

The “Building Communities” paper noted that the County has not had an infrastructure financing mechanism in place that would require developers to pay for their “fair share” of off-site impacts on infrastructure and public services and facilities. The State allows “impact fees” to be established as long as there is a clear linkage between the development and the service or facility demands it creates and the fee is established on a proportional and equitable basis. Many California counties have used these financing mechanisms quite effectively. Proposition 218 requirements for voter approval of new general taxes, assessments and certain user fees specifically exempts developer impact fees, so the Board of Supervisors can enact an impact fee program without a ballot measure.

Even if effective financing mechanisms are implemented, consideration should be given to the extent of new road construction. Currently, the conditions of approval for rural subdivisions often require widening of roads, which has both direct and cumulative adverse environmental impacts. Further, road widening can often have adverse impacts to the character of rural areas and on water quality because of increased erosion and siltation. In the Phase 1 discussions, concerns on the impact of new and improved rural roads led to public support for restricting the construction of new rural roads.

The policy options proposed in the *Building Communities* paper for infrastructure generally can be focused specifically on road needs, as follows. A policy option has been included to focus attention on the impacts of road improvements and the creation of new roads in rural areas.

- **Option 3.25 Require new development to fund road improvements needed to directly mitigate the impact of that new development.** If pedestrian and bike facilities standards are established in the General Plan and the subdivision ordinance, then road improvements can be required to include these facilities as well, where needed.
- **Option 3.26 Establish mitigation fees for road improvements in proportion to a new development’s impact (AB 1600 “impact fees”).** These mitigation fees would be in addition to the funding obligations for road improvements needed to serve new development.
- **Option 3.27 Use other funding mechanism, to augment developer and/or mitigation fees, where appropriate, to meet roadway improvement needs.** These may include reimbursement agreements, debt financing, voter-approved taxes, and assessment districts.
- **Option 3.28 Allow new rural road construction and rural road widening only where impacts on rural character and environmental quality can be effectively mitigated.** Rural road engineering design standards should be reviewed and possibly modified to incorporate provisions such as ADT volume standards and access controls established to limit new rural subdivisions in areas without sufficient road capacity. Rural road design standards should also ensure that the character of the rural areas are not jeopardized by road improvements or new road construction through these areas. Additional findings of minimal environmental impact should be required for proposed road widening projects and mitigation measures should be imposed wherever necessary to limit the impact of roadway improvements on erosion and sediment loading of waterways.

TRANSPORTATION SAFETY

Closely related to the topic of roadway maintenance is transportation safety. Although transportation safety issues were not identified in Phase 1 of the update, it is prudent to briefly address these issues here. As the County implements the General Plan, road design alternatives should be reviewed for their potential to improve the safety of roadway users, as well as users of adjacent bicycle and pedestrian facilities. Traffic calming measures such as raised crosswalks, raised intersections, textured pavements, traffic circles, realigned intersections, and medians can be very effective, especially in rural communities and urban areas, to reduce the potential for speed-related accidents.

The relationship between land use and circulation is also related to transportation safety, for example, ensuring that uses with significant traffic generation potentials are restricted to areas with sufficient road infrastructure to safely handle the additional trips. Smart growth principles, such as multiple access points to neighborhoods, can spread out traffic on smaller streets with lower speeds, reducing reliance on higher speed arterials with a higher potential for severe accidents and fewer options for safe pedestrian travel. Details would be worked out

in sketch plans and community plan updates, as well as through the on-going work of the County Department of Public Works.

- **Policy Option 3.29 Review and update roadway design standards as necessary, to improve transportation safety and allow for “traffic calming” improvements.** The upcoming Caltrans-funded Smart Growth study and development of sketch plan alternatives will provide an excellent opportunity for the County to review land use patterns and roadway engineering design standards in relation to transportation safety. Traffic calming measures, such as medians and traffic circles, should be incorporated into road design standards for residential and commercial areas.