Chapter 7. Circulation Element

7.1 Purpose

This chapter describes the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local transportation facilities. It includes consideration of roads, public transportation, bicycle and pedestrian travel, airports, and marine and rail transportation.

7.2 Relationship to Other Elements

The goals and policies in this Element are directly correlated with that of the Land Use Element and Housing Element so that new and existing development will be adequately served by the transportation system, and will not interfere with existing or planned improvements. Transportation policies in this Element are also closely related to policies in the Energy Element and the Air Quality Element to minimize energy costs and air quality impacts. This Element is also directly related to the Community Infrastructure and Services Element, which contains policies regarding infrastructure financing and level-of-service standards. The Noise Element and Safety Element also include policies and standards to address airport noise and safety issues. The requirements set forth in the Land Use Element and Safety Element also reflect the residential densities allowed near airports.

7.3 Background

Circulation and Land Use

Coordinating land use and circulation decisions is necessary to achieve many of the goals of this Plan. For example, adequate roads and safe bicycle and pedestrian routes within Urban Development Areas are essential to accommodate growth. If circulation problems are fixed and improvements are made as development occurs, growth can be accommodated without creating traffic and traffic safety problems for existing residents. Land use planning must also complement transportation planning by locating uses in areas that can be cost effectively served, and by conditioning projects to mitigate impacts.

Synchronizing the County's efforts with local cities, California Department of Transportation (Caltrans), Native American Tribes, and the ongoing transportation planning of the regional Humboldt County Association of Governments (HCAOG) is a high priority of this Plan. The best results will be achieved through seamless coordination between all the land use and transportation service and planning agencies in the County. The Caltrans, City of Eureka, and County partnership to use the ~~Greater Eureka Area~~ Humboldt County Travel Model (~~GEA~~HCTM) as a joint-agency planning and decision-making tool is a good example of interagency coordination. Another good example is the recent grant funding proposal for a $50 million regional trails system put

together by the Redwood Community Action Agency; Humboldt County; the cities of Eureka, Arcata, Blue Lake, and Rio Dell; Caltrans; and the Hoopa and Karuk Tribes.

Roadway Infrastructure

The roadway network in Humboldt County includes 1,400 miles of County maintained roads and city streets, 378 miles of state highways (including U.S. Highway 101), and numerous roadways on federal lands. These roadways provide for the movement of goods and people on California's north coast. The Humboldt County–maintained roadway system is primarily made up of two-lane roads that traverse varying degrees of flat, rolling, and mountainous terrain.

Level of Service

Level of Service (LOS) is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. The quality of traffic operations is expressed in terms of LOS A (no congestion) through LOS F (extreme congestions). LOS definitions generally describe traffic conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Typically, level of service D is used as the design standard in urban areas and level of service C is used as the design standard in rural areas.

LOS	Description
A	Free-flowing conditions with no delay.
B	Free-flowing conditions; however, speed and maneuverability are slightly restricted due to the presence of other vehicles.
C	Stable traffic flow, with less freedom to select speed, change lanes, or pass. Some delay may be experienced.
D	A traffic stream approaching unstable flow, with reduced speed and maneuverability.
E	Unstable traffic flow with rapidly fluctuating speeds and flow rates.
F	Forced traffic flow, where speed and flow may drop to zero with high densities.

Roadway Capacity

As the County's population grows over the 20-year General Plan period, corresponding increases in vehicle volumes will have impacts on the safety and functionality of County roadways. ~~As described in the Community Infrastructure and Services Technical Report, T~~the ~~GE~~AHCTM model can be used to assess a roadway's "level of service" — a qualitative measure of a roadway's peak hour performance, where a letter grade from "A" to "F" is assigned as a measure of traffic congestion (see text box for additional information). In several cases in the Eureka area, roadways are already operating at or above capacity during peak hours.

~~The Community Infrastructure and Services Technical Report also identifies other roads currently able to accommodate existing traffic volumes, but that are expected to have segments that reach or exceed capacity as traffic volumes increase over the next 20 years. Addressing these capacity limitations is critical to the implementation of the General Plan.~~ The HCTM was used to evaluate traffic conditions during the General Plan Update planning period. U.S. 101 between 6th Street and S.R. 255; U.S. 101 in Eureka between 6th Street and Herrick Avenue; Main Street Fortuna, between 7th Street and 13th Street; and Kenmar Road in Fortuna, between U.S. 101 and Fortuna Blvd are projected to fall below level of service "C" due to cumulative growth during the General Plan Update planning period

Roadway capacity is generally less of an issue for rural areas due to the lower population densities, but there are rural roadways where capacity and functionality must be addressed, especially to comply with Fire Safe—State Responsibility Area standards. Rural roadway capacity is usually limited by right-of-way width, lack of secondary

roadway alternatives, roadway conditions, debris slides, and a lack of facilities for other transportation modes, including public transit, bicycles, and walking.

Several map series provide details of the County's road system. Maps showing existing and planned future County roads and multimodal transportation facilities are shown in the Map Book Appendix, existing ~~and future~~ above-capacity road segments are in the Community Infrastructure and Services Technical Report, and maps showing the 2006 average daily traffic and level of service for the state highways in Humboldt County are in the *2006 Regional Transportation Plan* prepared by HCAOG (this mapping was not included in the 2008 RTP or the 2014 Update, which is the current plan).

Impacts of new development on the safety and capacity of the road network are currently assessed on a project-by-project basis. Developments are required to make on-site improvements to the road frontage and to provide safe access to the new development. The County has been unable to fund road construction to support new development and generally has not accepted privately constructed roads into its maintained road system. Instead, new roads constructed to County standards must be maintained by a Home Owner or Road Maintenance Association. Recently the County developed a "Permanent Road Division" Program that allows a private road to be accepted into the County system if the property owners pay an annual fee to cover the long-term maintenance costs of the road.

Funding improvements to solve area-wide capacity problems is one of the most significant Circulation Element implementation challenges. Designing the improvements, estimating costs, and apportioning costs on a fair share basis through fees or assessments will be necessary to address area-wide capacity limitations. If capacity limitations are not addressed, there will not be sufficient capacity to accommodate new development and individual projects will have difficulty gaining approval because of cumulative traffic impacts and neighborhood concerns.

Roadway Maintenance

Roadway maintenance is currently one of the more significant challenges facing the County. At present there is over $100 million in deferred maintenance on the County's major roadways, which does not include maintenance costs for local streets. Without significant increases in maintenance spending, roadway conditions will continue to decline and the costs of repair will escalate.

In 2000, Humboldt County's arterial and collector roadways were inspected and rated as part of the County's new Pavement Management System (PMS). This system relies on assessments of roadway condition and helps roadway maintenance managers identify thresholds for maintenance measures. The PMS generates pavement distress data for a representative sample of arterial and collector roadways in Humboldt County. This data forms the basis for the creation of an Overall Condition Index (OCI), which rates roadway surfaces on a scale from 0-100 as shown in Table 7-A.

Table 7-A. Roadway OCI Estimates, Maintenance Requirements, and Costs			
OCI	**Condition**	**Maintenance Typically Required for this Condition**	**Avg. Cost ($/ft²)**
70-100	Very Good	Minor (OCI 70-85)—Variable maintenance.	<$0.4
50-69	Good	Chip Seal - Pavement sprayed with asphalt, covered with aggregate and rolled.	$0.4
25-49	Poor	Overlay - An increase in the pavement load carrying capacity by adding additional pavement layers.	$4
<25	Very Poor	Reconstruction - Complete removal and replacement of the existing pavement structure.	$10
Source: Five Year Road and Bridge Capital Improvement Program, 2003.			

The County is updating the five-year *Road and Bridge Capital Improvement Program* (CIP) for the years 2008-2012 to help guide the use of the County's transportation budget into the future. The County is also developing a list of road projects from its Pavement Management System that will determine future priorities for maintenance and rehabilitation of its roadways. The Community Infrastructure and Services Element contains policies to establish transportation system funding sources for both construction and maintenance that are intended to reduce the maintenance deficit over time.

Watershed Protection

In response to the 1997 listing of Coho salmon as a threatened species, Humboldt County joined Del Norte, Mendocino, Trinity, and Siskiyou counties to form the Five Counties Salmonid Conservation Program (see the Water Resources Element for more discussion of the 5Cs program). This program works in a number of ways to protect salmon habitat, including the development of grading and road maintenance protocols.

In 2007, the National Marine Fisheries Service approved the *Five County Water Quality and Stream Habitat Protection Manual for County Road Maintenance*. Road maintenance activities carried out in accordance with the manual are considered to be adequate to protect threatened salmon and steelhead.

Greater emphasis must be placed on reducing sediment contributions from roads throughout the County to comply with the Clean Water Act's Total Maximum Daily Load targets and salmon recovery efforts. In addition, the Grading, Excavation, Erosion, and Sedimentation Control regulations (Title III, Land Use and Development, Division 3) contain requirements to reduce sediment transport off the site through the use of best management practices from sources such as the *State Water Resources Control Board Best Management Practices Construction Handbook*.

U.S. Highway 101 Safety Corridor Project

Arguably the single largest transportation project with the most potential impact on Humboldt County residents during the timeframe of the General Plan is the Caltrans U.S. Highway 101 Safety Corridor Project between Arcata and Eureka. The *2007 Draft Environmental Impact Report* (DEIR) described the alternatives under consideration, and the preferred alternative involves constructing an overpass at the intersection of Indianola Cutoff and U.S. Highway 101.

Policies in this Element reflect the comments made on the DEIR by the Board of Supervisors on September 18, 2007 to request consideration of land use and a strategy that treats all three main roads between Arcata and Eureka as one system. The strategy would develop an overall improvement plan that phases improvements on a prioritized basis between the three roads: U.S. Highway 101, State Route 255, and Old Arcata Road/Myrtle Avenue.

Public Transportation

Providing adequate public transportation to serve the needs of people who prefer or require public transportation for mobility is a priority of the Circulation Element. Increased use of public transportation will reduce air pollution, greenhouse gas emissions, traffic congestion, parking demand, energy consumption and the cost of personal transportation. The 2008 RTP contains a comprehensive description of public transit services of fixed and flexible route providers. The following fixed-route systems serve the County's public transit needs: Redwood Transit System, Eureka Transit System, Southern Humboldt Rural Transit System, Arcata & Mad River Transit System, Klamath/Trinity Non Emergency Transportation (K/T Net), and Blue Lake Rancheria.

Flexible route services are available through Dial-a-Ride/Dial-a-Lift, K/T Net Paranet, Blue Lake Rancheria Dial-a-Ride, Fortuna Senior Transit, Humboldt Community Access and Resource Center, Bridgeville Community Center Van, Ferndale Senior Resource Transportation Network "Bridging the Gap," Coastline Enterprises, Humboldt County Mental Health, and United Indian Health Services, Inc. Also described in the 2008 RTP are the services of Redwood Coast Transit (linking Crescent City and Humboldt County), Greyhound Bus Lines, AMTRAK, and City Cab.
The 2008 RTP identifies a 1-hour or less weekday service interval as the appropriate level of service for the urban areas of Eureka and Arcata, and an interval of 1.5 hours for the U.S. Highway 101 corridor between Trinidad and Scotia. This Element carries forward these public transit goals, policies, and implementation measures applicable to the unincorporated areas of the County.

Bicycle and Pedestrian Travel

This Plan supports improvements that accommodate bicycles, pedestrians, and the mobility-challenged population. These improvements mostly include sidewalks, crosswalks, trails, and bicycle lanes. While walking or cycling between destinations is a choice for some, it is a necessity for others who do not have access to motorized transport. Development of bicycle and pedestrian facilities can reduce vehicle miles traveled, enhance communities, increase the opportunities for an active and therefore healthy lifestyle, and reduce greenhouse gas emissions.

Most facilities dedicated to bicycles and pedestrians are located in urban areas of the County, for example, the Hammond Trail in McKinleyville. In rural areas, pedestrians and bicyclists typically use County roads that lack sidewalks and bicycle lanes. Cyclists also use Caltrans-maintained state routes. Major new trails are in the planning stages along the Annie and Mary Rail Line from Arcata to Blue Lake, along U.S. Highway 101 between Arcata and Eureka, and around Humboldt Bay. An ambitious new $50 million grant proposal was recently submitted to the Federal Highway Administration to develop a regional trail system linking together these trails with others to the north in McKinleyville, to the south in Rio Dell and greater Southern Humboldt, and to the east in Willow Creek, Hoopa Valley and the Klamath Valley.

The need for bicycle and pedestrian transportation facilities is assessed on a project-by-project basis. While the County uses LOS standards for determining impacts of new development to vehicle traffic, assessing needs and the impacts to bicycle and pedestrian facilities has been less standardized.

HCAOG's 2008 Humboldt County Regional Pedestrian Plan and the 2004 Regional Bicycle Transportation Plan Update are the latest assessments of pedestrian and bicycle conditions and needs in the County. Maps and descriptions of existing and proposed future non-motorized transportation facilities are shown in the Map Book Appendix.

The connection between public health and pedestrian and bicycle transportation is receiving increasing attention both locally and nationally as childhood obesity and other health problems related to a more sedentary lifestyle become epidemic in our population. A Health Impact Assessment (2008) of General Plan alternatives generally concludes that reductions in vehicle miles traveled and increases in walking and biking would yield significant public health benefits.

2008 General Plan Update Health Impact Assessment Safe and Healthy Transportation Indicators:

- Average vehicle miles traveled by Humboldt residents per day
- Average minutes traveled to work by zip code
- Proportion of commute trips made by public transit
- Proportion of households with 1/4-mile access to local bus service
- Proportion of average income spent on transportation expenses
- Ratio of miles of bike lanes/ pedestrian facilities to road miles
- Proportion of commute trips and trips to school made by walking or biking
- Number and rate of bicycle/pedestrian injury collisions
- Proportion of population living on residential streets with speed limits greater than 35 mph.
- Percent of population who have access to pedestrian facilities.

Access conditions for students walking and bicycling to and from County schools is a major concern, especially at the elementary school level. Development of safe student access routes wherever children walk or bicycle to school is critical. "Walkability" audits have been used locally to identify problem areas and solutions. Caltrans administers a "Safe Routes to Schools" funding program, which has helped construct bicycle and pedestrian facilities in Humboldt County and can be a funding source in the future. This Element includes a policy to encourage coordination between school districts and the County on this important issue.

Truck Transportation

The primary routes into and out of the County used by commercial trucks are U.S. Highway 101 and State Route 299. These major highways provide many trucks adequate facilities and level of service for their operations. However, narrow, winding sections of these highways legally prevent larger trailers from entering the County, which increases shipping costs for both imported and exported goods.

Improvements to the road alignment of U.S. Highway 101 through Richardson Grove south of Garberville, combined with recent state regulatory reforms, may eliminate the constraint on large truck access. This would reduce costs of shipping and may help local businesses become more profitable. ~~Future~~ Improvements underway to State Route 299 in the Buckhorn Summit area of Trinity County could provide trucks with larger trailers access from the east.

The benefits to existing businesses are significant and large truck access is critical to new business development, especially marine industrial use of Humboldt Bay. The shrinking nationwide fleet of smaller trailers that are legally allowed access to Humboldt County will make these improvements a necessity over time.

Air Transportation

The Arcata-Eureka Airport located in McKinleyville is the County's sole commercial airport. Maintaining a wide selection of carrier, flight, and destination options is a high priority of this Element. Given the County's remote location, providing convenient travel connections to urban centers is an important quality of life amenity and is essential to maintaining Humboldt's connections to the world economy.

Inventory of Airports of Humboldt County

Airport	Runway Length (ft)
Arcata-Eureka Airport	5,998 and 4,499
Dinsmore Airport	2,510
Eureka Municipal Airport	2,700
Garberville Airport	3,050
Hoopa Airport	2,325
Kneeland Airport	2,270
Murray Field	3,000
Rohnerville Airport	4,005
Shelter Cove Airport	3,400

With the exception of Shelter Cove and Hoopa, airports in the unincorporated areas are managed by the Aviation and Airport Division of the County Public Works Department and operated according to Airport Master Plans. Airport Land Use Compatibility Plans have been prepared for the County operated Arcata-Eureka, Dinsmore, Garberville, Kneeland, Murray Field, and Rohnerville airport, and include maps that display "Land Use Compatibility Zones." These zones restrict the allowed uses and residential densities in areas that would impact aircraft operations. The Airport Land Use Compatibility Plan also contains policies and criteria that regulate allowed uses and residential densities around the Hoopa and Shelter Cove airports.

Marine Transportation

The Port of Humboldt Bay is a key fixture of the local economy. Shipped commodities passing through Humboldt Bay include petroleum products (gasoline and fuel oil), wood chips, logs, lumber, and paper pulp. Forest products remain the highest volume marine shipments passing through Humboldt Bay. The marine export of forest products has fluctuated over the years based on supply and demand and competition with trucking options. Occasionally whole logs are imported through Humboldt Bay as feed stock for local mills.

The marine transport of goods has 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 U.S. Army Corps of Engineers completed a project in 2000 to deepen the bar, entrance, North Bay, and Samoa channels and widen the entrance channel. 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. In addition, the Harbor District has been working with members of Congress and the U.S. Army Corps of Engineers to develop a companion project that would deepen and widen the Fields Landing channel.

The 2003 Harbor Revitalization Plan, prepared jointly by the Humboldt Bay Harbor District, City of Eureka, and County to encourage the economic development potential of the Port, focuses on improvements to marine facilities, landside access, diversification opportunities and marketing. Significant new opportunities were identified for Humboldt Bay, including marine-dependent industrial projects, niche dry and liquid bulk cargoes, and the potential for tourism and marine science development. Opportunities for expansion or continuation of existing aquaculture and commercial fishing operations were also identified. The growth of Humboldt Bay's marine transport industry is linked to growth in the truck and rail transportation modes. All dock facilities have railroad spurs that connect to the main North Coast Railroad Authority 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.

Rail Transportation

Rail service on the North Coast has a long history. Railroads were introduced to Humboldt County in the late 1800s by timber companies to carry logs from the forest to the mills. Eureka and San Francisco were connected by rail in 1914. Private carriers offered varying degrees of passenger and freight service along the line until the bankruptcy of Eureka Southern in 1986. In 1989 the California Legislature created the North Coast Railroad Authority (NCRA) in an effort to maintain rail service. In 1997, the rail line effectively ceased operation.

In the latter years of operation, it provided freight service to Humboldt County three days a week and occasional excursion passenger service on holidays. The principal freight was lumber transported to the California and Arizona markets. Additional traffic included dairy products, fish products, and aggregates. There was also some inbound traffic of coke and calcified lime used in pulp processing.

Future rail transportation in the County depends on demand for rail service relative to trucking and marine transportation and the availability of capital to rebuild the line and fund the operation. Based on the conclusions of The Long Term Financial and Economic Feasibility of the Northwestern Pacific Railroad (2003), a considerable program of roadbed, track, bridge and tunnel, and station rebuilding would be necessary if operations are to resume. Maintaining the line in an operational condition through the Eel River Canyon also represents a challenge due to geologic instability and environmental concerns. When the Southern Pacific Railroad entered abandonment proceedings for the line in 1982, they estimated that the Northwestern Pacific cost them 2 to 3 times their normalized maintenance costs for all other Southern Pacific railroads across the country. In terms of market potential, the report found the greatest opportunity for growth in rail related shipments in solid waste, aggregate, and port-related marine industrial activities.

A potential use of the northern most portion of the rail line considered in the 2002 Moving Goods and People Report would be to support tourism by developing an excursion train. The Northern Counties Logging Interpretive Association (NCLIA) seeks 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 Humboldt Bay Trails Feasibility Study (2007) evaluated several options for using the railroad easement for a pedestrian and bike pathway between Eureka and Arcata.

The NCRA Board of Directors intends to focus on updating and implementing their 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.
- Overseeing the financial accounting and record keeping system through auditing and monitoring of all systems.
- Pursuing 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.

The County has been involved in preliminary planning for a potential trail that would connect Arcata and Eureka that could include the NCRA right-of-way. There are many examples of successful rails with trails projects that are in operation across the United States and the Federal Highway Administration has published a document entitled *Rails with Trails - Lessons Learned*, which includes a wealth of information regarding the safety of bicycle and pedestrian pathways along rail lines around the country. Consideration should be given to the use of rails with trails as a means to preserve the rail corridor between Eureka and Arcata for future rail use.

7.4 Goals and Policies

Goals

C-G1 **Circulation System Safety and Functionality.** A safe, efficient, accessible and convenient circulation system in and between cities, communities, neighborhoods, hamlets, and adjoining regions taking into consideration the context-specific needs of all users*, consistent with urban, suburban, rural or remote community character.

**All users is defined in the Complete Streets Law to include: motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan.*

C-G2. **Diverse Transportation Opportunities.** A transportation system that provides the availability of options among modes of travel by considering the needs of all users* in a context sensitive manner that is appropriate to urban, suburban, rural or remote community character.

*See above definition

C-G3. **Interagency Cooperation.** Coordinated planning between the County, transportation system service providers and HCAOG for improved system design, development, operations, and maintenance.

C-GX. **Access to Active Transportation.** Improved access to non-motorized modes of transportation, including walking, bicycling, horseback riding and hiking.

C-GXXX. **Movement of Goods**. A circulation system with improved opportunities, reliability, connectivity, and cost-effectiveness for businesses and producers to move goods within, into and out of Humboldt County.

Policies

Circulation and Land Use

C-P1. **Circulation System.** Encourage development of a circulation system that supports:

A. Access to higher density residential areas, local commercial facilities, neighborhood parks and schools, while maintaining maximum bicycle and pedestrian connectivity.

B. Designing access to residential areas to minimize disruptions to the flow of traffic while providing for user safety and connectivity on arterial or collector roads.

C. Improving connectivity between interrelated areas such as neighborhoods and common destinations.

D. Planning retail, service and industrial facilities, community centers, major recreational facilities, employment centers, and other intensive land uses that consider the location of collectors or arterial roads consistent with the Land Use Element.

C-P2. **Consideration of Land Uses in Transportation Decision Making.** Transportation decisions shall be based on a comprehensive planning approach that considers existing land uses, principally permitted land uses and future land development as proposed in adopted County plans and plans of other governmental agencies.

C-P4. **Mitigation Measures.** Development with potentially significant circulation impacts as determined by CEQA review shall be conditioned to proportionally mitigate such impacts through payment of impact fees, construction of on- and off-site improvements and dedication of rights-of-way or a combination of impact fees, improvements and dedications.

C-P5. **Level of Service Criteria.** The County shall strive to maintain Level of Service C operation on all roadway segments and intersections, except for U.S. 101, where Level of Service D shall be acceptable. Level of Service improvements for automobiles should not adversely affect Level of Service and/or Quality of Service for other modes of transportation, if possible.

C-P6. **Jurisdictional Coordination and Integration.** Use HCAOG, formal Memorandums of Understanding, and informal project level cooperation to integrate countywide transportation planning and implementation efforts.

C-P7. **Joint Use of Traffic Models.** The County-Wide Transportation Plan (CWTP) and projects with potentially significant transportation impacts should integrate transportation planning through joint use of area-wide traffic models, including but not limited to the Greater Eureka Area Travel Model (GEATM) or the Humboldt County Traffic Demand Model (HCTDM). Develop travel demand models with methods and inputs that incorporate walking, biking

and transit. Support coordination with agencies to maintain the accuracy and utility of such models.

C-P8. **Coordination Between County Agencies.** County Public Works shall coordinate with Community Development Services and consider suggestions from other County departments to encourage uniform implementation of the Circulation Element and County-Wide Transportation Plan.

C-Px. **Circulation Planning for Bicycles, Pedestrians and Transit.** Circulation planning and project review shall include an assessment for bicycle, pedestrian and public transit access.

Roadway Infrastructure

C-P9. **Acceptance of Roads into the County Maintained Road System.** Circulation Element roads, as specified by the County-Wide Transportation plan, shall be recommended to the Board of Supervisors for inclusion into the County Maintained Road System. Other roads shall not be recommended for acceptance into the County Maintained Road System unless an exception for public interest is supported by Public Works and adequate funding for the future maintenance of the road and its associated facilities is provided.

C-P10. **Rail Rights-of-Ways.** All contiguous rail rights-of-way currently held by the North Coast Railroad Authority, and those along the former Annie and Mary Railroad rail corridor between Arcata and Blue Lake, shall be planned Railroad in the Land Use Element.

C-P11. **Roadway Functional Classifications.** Adopt and consistently apply roadway design and right-of-way standards as part of a Countywide Transportation Plan according to functional classifications that consider all modes of travel in the context of road location and applied usage, e.g. urban, suburban, rural or remote.

C-P13. **Prioritization of Investments.** Use objective criteria consistent with this Plan that can be applied uniformly and countywide to prioritize transportation capital and maintenance expenditures. Work to reduce overall deferred maintenance liability. Subject to state law, maintenance of existing roads shall be a priority.

C-P17. **Highway Improvements.** Encourage state and federal highway improvements that promote safety and connectivity for all users, especially for communities with highway arterials.

C-P18. **County Feedback to School Districts Regarding Transportation Planning.** The County shall provide feedback to school districts with new school site locations, opening or re-using closed school sites, and significant changes in attendance levels or hours of operation, to give advice on mitigating traffic impacts and promoting multimodal school site access.

C-P19. **Best Management Practices.** The County shall periodically update its grading ordinance to assure it is using best management practices.

C-P21. State and Federal Consistency. Road construction and maintenance activities shall be consistent with and support approved state and federal salmon or steelhead recovery plans, Clean Water Act Total Maximum Daily Loads (TMDLs), and the National Pollution Discharge Elimination System Stormwater Program.

Public Transportation

C-P22. Public Transit. The County shall support the implementation of guiding goals, policies, and objectives of the Public Transit and Paratransit Service Element of the Regional Transportation Plan as amended, to the extent they are consistent with the General Plan.

C-P23. Public Transit Service. The County shall coordinate and integrate with transportation providers so that a full range of travel patterns and connectivity with other modes of transportation are provided.

A. Existing and future public transit services should 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. Convenience facilities should be made available so that transfer areas are attractive, well lit, protected from the weather and have bus information posted.

B. Automobile and bicycle transport should be integrated with public transit by developing adequate parking facilities at major bus stops and, where feasible, by transporting bicycles on intercity and regional buses.

C. Public transportation should support access to social services and mitigate the impacts of service changes to social service clients.

C-Pxx. Long Term Transit Plan. The County shall support HCAOG's long term transit planning with the goal of increasing the percentage of public transit trips compared to automobile trips.

C-PX5. County-Wide Transportation Plan. The County shall maintain a clear plan for development and improvement of multi-modal transportation infrastructure consistent with land use plans, intended community character and community priorities.

Bicycle and Pedestrian Travel

C-P24. Investment in Improvements. The County's Capital Improvement Plan shall be consistent with the County-Wide Transportation Plan. It will prioritize, assess and address existing road conditions consistent with the goal of increasing the safety, functional network and facility efficiency, and capacity for all modes. The level of service and quality of service for all users shall not be diminished, and where practical, shall be increased when expanding roadway capacity for motorized circulation. Road resurfacing projects should provide improved access and safety for bicycles.

C-P25. Multimodal Level of Service (LOS) and Quality of Service (QOS) Standards. Use objective methods and criteria to formulate Level of Service (LOS) and Quality of Service (QOS) standards, which consider "walkability audits" and

"bikeability audits" suitable for the locality, to assess and plan the multi-modal quality and capacity of County roads and intersections.

C-P26. **Bicycles and Pedestrian Facilities in New Subdivisions**. Bicycle and pedestrian facilities should be encouraged to connect neighborhoods. Standards for urban, suburban, rural and remote contexts shall be developed.

C-P27. **Right-of-Way Design Standards.** The County shall develop and include in the Countywide Transportation Plan right-of-way design standards incorporating the needs of all users, consistent with urban, suburban, rural or remote community character. The County shall develop incentives for development of multi-modal facilities to offset any potential loss of developable land.

C-P28. **Landscape Buffer Strips**. The County Wide Transportation Plan shall provide landscape buffer strip standards as part of the road cross-section standards and according to the context of urban, suburban, rural and remote. Landscape buffer strips should be used, where feasible, to segregate pedestrian walkways from arterial and collector roadways.

C-P29. **Removal of Obstacles in Pathways.** Where feasible and consistent with the County-Wide Transportation Plan, new pathways and sidewalks shall be free of obstacles such as utility poles and mailboxes. Where obstacles are unavoidable on existing sidewalks or pathways, pedestrian facilities shall be widened or otherwise designed to provide the least amount of obstruction to users.

C-P30. **On-Street Parking**. Design on-street parking to minimize conflicts with all users consistent with the County-Wide Transportation Plan. Where appropriate, creative on-street parking arrangements such as parking pockets or bays shall be considered to improve design flexibility.

C-P31. **Design Standards for All Pathways**. Design standards appropriate to urban, suburban, rural and remote character shall be used by the County Public Works Department for the design and construction of pedestrian and bicycle facilities.

C-P32. **Traffic Calming**. Use traffic calming measures, where feasible and appropriate, as a means of improving safety for all users. Traffic calming measures may include, but are not limited to, roundabouts, chicanes, curb extensions, and traffic circles.

C-P33. **Protection of Designated Pedestrian and Bicycle Routes**. New development along and adjacent to planned and designated pedestrian and bicycle routes shall consider and incorporate those routes.

C-P34. **Bicycle Facilities.** Encourage the planned placement of secure and/or weather-protected bicycle storage facilities at public buildings and bus stops, where appropriate. Incentivize placement of bicycle parking and storage at businesses, new or modified bus stops and multi-family housing.

C-P35. **Preservation of Railroad Right-of-Ways.** The County shall work to preserve railroad rights-of-way as a contiguous corridor for rail and other public transportation uses**.**

C-P36. Develop a Regional Trails System. Support efforts to establish and connect regional trails, particularly in the greater Humboldt Bay and lower Mad River areas, the Eel River Valley, along the Avenue of the Giants and in the Klamath-Trinity area. The System should include the California Coastal Trail system and consist of multi-use trails where feasible.

C-P?. Encourage Bicycle and Pedestrian-Friendly Development: Incentives should be given to developers who provide non-motorized facilities that connect neighborhoods in a design appropriate to the character of those neighborhoods.

Marine Transportation

C-P38. Channel Maintenance. Support continued maintenance of harbor channels to provide deep water access to existing and planned port facilities.

C-P39. Commercial Fishing Facilities. Support the improvement and modernization of facilities that provide support and access to markets for the commercial fishing industry.

C-P40. Public Infrastructure Supporting Private Investment. Support investments in public infrastructure that increase readiness and facilitate private initiatives and investment into port enterprises such as marine-dependent industrial use, boat building and repair facilities, fleet service facilities, tourism, recreation, and fish processing facilities.

C-P41. Marine Transportation. Encourage marine transport options and associated facilities.

Rail Transportation

C-P42. Re-establishing Regional Rail Service. Support and encourage rail service in and out of the County and connected to other parts of the state and the national rail system. Public investment to re-establish regional rail service should be contingent on a private or public demand for sustained rail service and an analysis of net benefits to the County's economy, transportation systems, and environment.

Air Transportation

C-P44. Expansion of Airline Service. The County shall work to sustain and expand commercial passenger airline and freight service to and from the County consistent with the Airport Master Plan and the economic development goals of the County.

C-P45. Commercial Areas. Where feasible, commercial projects should be encouraged to develop inter-connecting traffic features with other commercial projects.

C-P47. Frontage Improvements. As properties are developed, all road frontages of the property shall be improved to the appropriate standard for the road according to the County-Wide Transportation Plan. Exceptions may be granted by the Planning Commission. Current standards will be used in

evaluating frontage improvements until they are superseded by the approved Countywide Transportation Plan.

C-P49. **Bus Turnouts**. Bus turnouts are preferred over in-lane bus stops. Projects constructing curbs on Collector and Arterial roads shall be coordinated with the local transit authority to determine if bus turnouts are warranted to meet the current and future needs of the transit authority. Additional right-of-way may be required for the turnouts, including areas for sidewalks and bus shelters.

C-PX7. **Highway Improvement:** Encourage state and federal highway improvements that promote safety and connectivity for all users, especially for communities with highway arterials.

C-PX8. **Discretionary Road Funds:** First priority for discretionary road funds shall be used to address deferred maintenance.

7.5 Standards

C-S1. **Functional Classifications.** Roadway functional classifications and standards are shown in Table 7-B (pages 7-20 and 7-21), and further specified in Title III—Land Use and Development Division 2 Subdivision Regulations.

C-S2. **Neighborhood Connectivity.** Local roads shall be planned to allow for orderly development of the community. Standards for neighborhood connectivity shall be those specified in Title III - Land Use and Development Division 2 Subdivision Regulations. Connectivity standards shall govern:

A. Intersection spacing
B. Block sizes
C. Cul-de-sacs and dead-end roads
D. Secondary access requirements
E. Gated communities and other restricted access roads
F. Access connections between local, connector and arterial roads
G. Pedestrian and cycling connections
H. Construction and connection of street "stubs," to adjacent parcels

The Department of Public Works shall approve all road alignments.

C-S3. **Traffic Thresholds of Significance.** Apply objective measures, such as roadway capacity and level of service from the Transportation Research Board Highway Capacity Manual or its equivalent, to make determinations on the significance of traffic impacts for CEQA purposes.

C-S4. **Pavement Management Criteria.** Strive to maintain the Pavement Condition Index (PCI) of 68th percentile or above.

C-S5. **Prioritizing Transportation Capital Expenditures.** Objective criteria shall be used to prioritize transportation capital expenditures. Criteria shall be developed to reflect consideration of:

A. Accident data and multi-modal traffic engineering safety analysis for safety projects.

B. System preservation.

C. Multi-modal LOS and Quality of Service (QOS) measures for congestion relief projects.

D. Analysis of future development potential based on the Housing Element land inventory for growth accommodating projects.

E. Reductions in roadway system maintenance costs.

F. Community demand and public interest.

C-S6. Prioritizing Road Maintenance Projects. Use and refine the PCI rating system to prioritize road maintenance projects for roads that have been assessed under this system.

C-S7. Transit, Bicycle, and Pedestrian Quality/Level of Service Standards. Bicycle and pedestrian Quality of Service and Level of Service Standards shall be specified in County code land use planning purposes. The County shall reference Transit Level of Service standards specified in the Public Transit Service Element of the Regional Transportation Plan as amended.

C-S8. Pedestrian and Bicycle System. A Board adopted Pedestrian and Bicycle System Plan consistent with the Regional Transportation Plan shall identify trails and routes considered a part of the County maintained circulation system. Development projects proposed on lands that include a County maintained trail or route may be required to dedicate easements or make improvements if an individualized determination is made that the dedication is related both in nature and extent and is roughly proportional to the impact of the proposed development, consistent with standards specified in Title III - Land Use and Development Division 2 Subdivision Regulations. The Pedestrian and Bicycle System Plan should be coordinated with a Long-term Transit Plan, and the as CWTP.

C-S9. Prioritization of Pedestrian and Bicycle Facilities and Routes. Objective criteria shall be used to prioritize construction of pedestrian and bicycle facilities and routes. Criteria shall be developed to reflect consideration of:

A. Providing safe and continuous connections between:
   1. Neighborhoods and public schools
   2. Residential areas and workplaces, shopping districts, daily retail and social services
   3. Transit stops and public facilities
   4. Adjacent open spaces or recreation areas

B. Reductions in motorized vehicle miles traveled

C. Community demand and public interest

C-S10. Equestrian Trails. The Federal Highway Administration "Equestrian Design Guidebook for Trails," or its equivalent, shall be used as a guide for the analysis and design of equestrian trails.

C-SX. Developer's Preference. Developer's preference shall be considered by the Planning Commission or the Board of Supervisors in determining whether developers mitigate impacts on the circulation system by installing the required improvements or paying a development fee that will result in construction of the required improvements.

7.6 Implementation Measures

C-IM1. County-Wide Transportation Plan. The County shall adopt a clear plan for development and improvement of multi-modal transportation infrastructure consistent with land use plans, intended community character and community priorities in unincorporated Humboldt County. The plan will include a review and update of roadway, pedestrian, and bicycling facility standards in the Humboldt County Roadway Design Standards Manual, Title III—Land Use and Development Division 2 Subdivision Regulations, and other appropriate ordinances. The plan shall be reviewed and updated as needed.

C-IM2. Tracking Road Improvement Requirements. Develop, maintain, and publish an inventory of road segments and intersections that do not meet LOS or road classification standards given existing traffic levels or number of currently developed parcels. The inventory shall also include needed multimodal transportation improvements, including bicycle and pedestrian Class I multi – use paths, using multi-modal quality of service (QOS) measures.

C-IM3. Road Abandonment. Proposals to vacate or abandon ownership or maintenance of County roads shall include a General Plan consistency review and analysis.

C-IM4. Regional Coordination. Support and participate in joint circulation system and land use planning with HCAOG, affected cities, Caltrans, and other transportation agencies and providers.

C-IM5. Roadway System Construction. Develop funding mechanisms to complete construction of critical segments of the roadway system designated in the Circulation Element and identified in the Capital Improvement Plan. Include bicycle and pedestrian infrastructure funding in all appropriate requests.

C-IM7. Transit Infrastructure. Work with regional transit providers to situate transit stops and hubs at locations that are convenient for transit users, and promote increased transit usage through the provision of shelters, benches, and other amenities.

C-IM8. Park and Ride Facilities. Support Caltrans' efforts to add park-and-ride lots at locations as appropriate.

C-IM9. Adoption of Water Quality and Stream Habitat Protection Measures. Formally adopt and maintain the Five County "Water Quality and Stream Habitat Protections Manual for County Road Maintenance", or its equivalent, to guide the following activities:

A. Routine and emergency road repair

B. Maintenance of County roads and related facilities, including actions taken to prevent erosion and/or the deterioration of a roadway, such as activities affecting the cutbank, road surface, fillslope, and all drainage structure

C. Maintenance and replacement of bridges and culverts

D. Activities on County-owned maintenance yards

E. Measures to protect the traveling public, such as snow and ice removal

C- IM11. Transit Service to East, South and North County. Pursue funding and partnerships with the Humboldt Transit Authority, Native American tribes, and non-profit transportation organizations to establish and sustain transit services to rural communities.

C-IM12. Pedestrian and Bicycle System Plan. Prepare a Pedestrian and Bicycle System Plan consistent with the Regional Transportation Plan and incorporate appropriate implementation standards in Title III – Land Use and Development Division 2 Subdivision Regulations. The Pedestrian and Bicycle System Plan should be coordinated with a Long-term Transit Plan and the CWTP.

C-IMX. Joint Use of Traffic Models. The County-Wide Transportation Plan (CWTP) should integrate joint use of area-wide traffic models, including but not limited to the Greater Eureka Area Travel Model (GEATM) or the Humboldt County Traffic Demand Model (HCTDM). Develop travel demand models with methods and inputs that consider all users. Support coordination with agencies to maintain the accuracy and utility of such models. Applicants may use studies and reports done by others, including the County, to develop mitigation for their proposed projects for reasons including, but not limited to, reducing costs and making projects affordable.

C-IMX1. Humboldt County ~~Greater Eureka Area Transportation~~ Travel Model. Maintain, update, and validate the Humboldt County ~~Greater Eureka Area Transportation~~ Travel Model or its equivalent on a regular basis, and use the model to evaluate development-related multi-modal transportation impacts on the existing and proposed circulation system.

C-IMX2. Safe Routes To School. The County shall seek funding through Safe Routes to Schools Programs, grants and other non-fee based funds to make non-motorized improvements around schools.

C-IMX3. Municipal Advisory Committee Review. The County shall utilize the municipal advisory committees in those areas where they exist when updating community plan circulation components.

C-IMX4. Direct Driveway Access: Avoid, where feasible, direct residential driveway access off of arterials and collectors.

C-IMX5. Mapping of Rail Rights-of-Way as Railroad. All contiguous rail rights-of-way currently held by the North Coast Railroad Authority, and those along the former Annie and Mary Railroad rail corridor between Arcata and Blue Lake, shall be designated Railroad in the Land Use Element and shown as a line

symbol on the land use maps. A combining zone shall be applied to these properties to protect the rail rights-of-way from development that may interfere with the use of the rights-of-way for transportation purposes.

Table 7-B. Right of Way Requirements for Roads - Urban

Functional Classification		Recmnd. ROW	Min. ROW	Sum =>	Sidewalk	Landscape Strip	Parking Lane	Travel Lanes				Median / CLT	Travel Lanes				Parking Lane	Landscape Strip	Sidewalk
								Bike	No. 3	No. 2	No. 1		No. 1	No. 2	No. 3	Bike			
Urban[3]	Arterial - Other Principal (6 lane + Median/CLT)	129[1]	129	129	6	10		5	12	12	12	15	12	12	12	5		10	6
Urban[3]	Arterial - Minor (4 lane + Median/CLT)	105[1]	105	105	6	10		5		12	12	15	12	12		5		10	6
Urban[3]	Arterial - Minor (2 lane + Median/CLT)	81[1]	81	81	6	10		5			12	15	12			5		10	6
Urban[3]	Collector (4 lane + Median/CLT)	97[1]	97	97	6	6		5		12	12	15	12	12		5		6	6
Urban[3]	Collector (2 lane + Median/CLT)	86[1]	86	86	6	6	8	5			12	12	12			5	8	6	6
Urban[3]	Local	62[2]	62	62	5	6	8				12		12				8	6	5
Urban[3]	Local up to 400 parcels	62[2]	60	60	5	6	8				11		11				8	6	5
Urban[3]	Local up to 300 parcels	62[2]	58	58	5	6	8				10		10				8	6	5
Urban[3]	Local up to 80 parcels	62[2]	56	56	5	6	8				9		9				8	6	5
Urban	Local (non-SRA) up to 12 parcels	62[2]	54	54	5	6	8				8		8				8	6	5
Urban	Local (non-SRA) up to 6 parcels	62[2]	50	50	5	6	8				6		6				8	6	5
Urban[3]	Alley	20	20	20							10		10						

[1]Additional right of way for Arterial Roads and Collector Roads will be needed at intersections for dedicated right turn lanes and bus stops.
[2]Recommended Right of Way should always be used. Minimum Right of Way may be used when it is demonstrated that a road will never be able to serve more than the parcels shown.
[3]Meets County Fire Safe Regulation Ordinance regarding minimum roadway width.
[4]Rural roads assume that all parking will be provided on-site (no on street parking is permitted). If on street parking is expected, then an urban road should be built.

Table 7-B. Right of Way Requirements for Roads - Rural

Functional Classification		Recmnd. ROW*	Min. ROW	Sum =>			Shoulder	Travel Lanes				Median / CLT	Travel Lanes				Shoulder
								Bike	No. 3	No. 2	No. 1		No. 1	No. 2	No. 3	Bike	
Rural[3,4]	Arterial - Other Principal (6 lane + Median/CLT)	129[1]	129	113			8	5	12	12	12	15	12	12	12	5	8
Rural[3,4]	Arterial - Minor (4 lane + Median/CLT)	105[1]	105	89			8	5		12	12	15	12	12		5	8
Rural[3,4)]	Arterial - Minor (2 lane + Median/CLT)	81[1]	81	65			8	5			12	15	12			5	8
Rural[3,4]	Collector - Major (4 lane + Median/CLT)	97[1]	97	81			4	5		12	12	15	12	12		5	4
Rural[3,4]	Collector - Minor (2 lane + Median/CLT)	86[1]	86	54			4	5			12	12	12			5	4
Rural[3,4]	Local	62[2]	62	40			8				12		12				8
Rural[3,4]	Local *up to 400 parcels*	62[2]	60	34			6				11		11				6
Rural[3,4]	Local *up to 300 parcels*	62[2]	58	30			5				10		10				5
Rural[3,4]	Local *up to 80 parcels*	62[2]	56	26			4				9		9				4

[1]Additional right of way for Arterial Roads and Collector Roads will be needed at intersections for dedicated right turn lanes and bus stops.
[2] Recommended Right of Way should always be used. Minimum Right of Way may be used when it is demonstrated that a road will never be able to serve more than the parcels shown.
[3]Meets County Fire Safe Regulation Ordinance regarding minimum roadway width.
[4]Rural roads assume that all parking will be provided on-site (no on street parking is permitted). If on street parking is expected, then an urban road should be built.