

Comments submitted by Ann Lindsay, MD Health Officer 1/30/08

Chapter 8. Circulation Element

8.1 Introduction

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, non-motorized transportation facilities, airports, and marine and rail transportation. There is a growing recognition of the need to consider public health and economic development aspects when planning transportation in the county. Reducing dependence on automobiles could increase physical activity while reducing greenhouse emissions.

Motor vehicles are the number one killer of Californians age 1 – 35. Transit is ten times safer per passenger mile. 67% percent of Humboldt County residents report they get less than the recommended amount of physical activity. Fifty-eight percent are overweight. Transportation accounts for 45% of greenhouse gases, emissions and the transportation system is almost entirely dependent on oil-based fuels, accounting for 13% of Humboldt county's gross domestic product (GDP) spending. It costs the average person \$9,000. a year to maintain an automobile. The average Humboldt County resident pays 27% percent of their income on transportation compared to 16% statewide. Nine percent of households are "carless" largely due to age, disability or income restraints. County Public Works reports road maintenance is grossly underfunded, highlighting the benefits of transportation demand management (TDM) to reduce vehicular traffic.

Relationship to Other Elements and Other Plans

The goals and policies in this Element are correlated with the Land Use Element (Chapter 5), so 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 consistent with policies in the Energy Element (Chapter 17), and the Air Quality Element (Chapter 19), to minimize energy costs and air quality impacts. The Circulation Element is also consistent with the Community Infrastructure and Services Element, which contains policies regarding infrastructure financing and level of service standards.

State laws (Government Code §65103(f) and §65080 et seq.) encourage coordination between the County's Circulation Element and transportation plans developed by other local, regional, and State agencies.

The County coordinated with the California Department of Transportation (CalTrans) and the City of Eureka to develop a Greater Eureka Area Travel Model (GEATM), a county-wide travel demand forecasting model. The model is a joint-agency planning and

decision making tool that can be used to assess impacts of land use and transportation changes, and help determine the effectiveness of potential improvements to the road system.

The County is also synchronizing with on-going transportation planning by the regional Humboldt County Association of Governments (HCAOG); in addition to the 2006 Regional Transportation Plan (RTP), HCAOG has produced a Regional Bicycle Transportation Plan (2004), a Pedestrian Needs Assessment (2003), and a Regional Parking Needs Study (2003). The 2006 RTP reviewed other local transportation planning documents as well, such as the Manila Community Transportation Plan (Phases I and II), a traffic calming and safety concept plan for Hoopa, the County's Airport Master Plan, the Port of Humboldt Bay Harbor Revitalization Plan, and a recent feasibility study for the Northwestern Pacific Railroad.

8.2 Description of Transportation Facilities

Roadway Infrastructure

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

Road Capacity

As the County's population grows over the 20 year general plan period, corresponding increases in vehicle-volumes could have impacts on the safety and functionality of County roadways unless concentrated effort is made to reduce auto trips and the current "drive alone" mode. The GEATM model predicts most vehicle trip increases will occur within the Urban Study Areas (USAs) shown in Chapter 4 (Managing Growth). In urban infill, mixed-use development context, more trips occur by transit, walking and bicycling. Urban infill could factor down auto trips by as much as 25%, according to the Sacramento County Association of Governments.

As described in the Community Infrastructure and Services Technical Report (Winzler & Kelly, 2007), the model uses a Volume to Capacity Ratio (V/C Ratio) to describe the "Level of Service" (LOS) of roads, a measure of the adequacy of the road to accommodate vehicle traffic. In several cases, roadways in the Eureka area are already operating at or above capacity during peak hours; F Street, Herrick Avenue and Harrison Avenue are among the eight (8) road segments already operating at above capacity¹.

The 2007 Technical Report also identifies other roads currently able to accommodate existing traffic volumes, but expected to have segments that reach or exceed capacity

¹ In addition to the road segments at capacity in the Eureka area predicted by the GEATM model, the 2006 RTP also identified capacity constraints along Indianola Road between Eureka and Arcata, on Blue Lake Boulevard (in the Blue Lake area), in McKinleyville on Murray Road and Sutter Road, and on Redwood Drive in Garberville. The 2006 RTP used data compiled from CalTrans to derive capacity estimates, rather than the GEATM model; they used the 1997 Route Segment Report, the 2002 California State Highway Log for District 1, and 2004 traffic volume data.

as traffic volumes increase over the next 20 years. Seven (7) roadways fall into this category; Ridgewood Drive and Elk River Road in the Eureka area, as well as School Road and Central Avenue in McKinleyville are among them. Still others are expected to remain below capacity over the next 20 years; 44 of the 64 total roads analyzed by the model fall into this category. Peak-hour auto traffic congestion could be reduced by shifting peak-hour drive-alone trips to other modes by investing in trip-reducing programs, such as expanded bicycle and pedestrian infrastructure, requiring new development to unbundle parking and encouraging employers to provide free transit passes to residents and/or facilitate car sharing programs.

Roadway capacity is generally less of an issue for rural areas due to the lower population densities, but even so there are rural roadways where existing and future capacity and functionality must be addressed. Roadway capacity is also affected by limited right-of-way width and the need to provide for vehicle travel lanes and 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 attached as Appendix XX, existing and future above-capacity road segments are in the 2007 Technical Report, and maps showing the 2006 Average Daily Traffic (and ADT) and Level of Service for the State Highways in Humboldt County are in the 2006 Regional Transportation Plan (RTP) developed by the Humboldt County Association of Governments. It should be noted that ADT is not the primary measure of a transportation system's success or failure because motorists don't perceive ADT of a particular roadway segment, but rather peak-hour congestion. Peak-hour auto trips would be a better measure and goal for mitigation than ADT.

Impacts of new development on the safety and capacity of the road network are 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 no longer accepts new roads into the County-maintained road system, but instead requires they be constructed by the developer, and a Road Maintenance Association is established to maintain them into the future.

Some developments are required to make off-site improvements as well, to mitigate for off-site impacts. Increasingly, the County is relying on the GEATM model to assess off-site impacts of new development. The model helps compare alternative improvement designs, and can be used to apportion to the new development the fair share of the selected road and/or intersection improvements. Road infrastructure financing policies and implementation measures are contained in the Community Infrastructure and Services Element (Chapter 7). Incentives should be developed to reduce drive-alone transit.

Road capacity and functionality is connected to development potential described in the Land Use Element (Chapter 5). Simply put, areas with development potential need to be adequately served by roads with sufficient capacity to accommodate the new development and multi-modal mitigations must be incentivized to reduce drive-alone automobile dependence.

Road Maintenance

Roadway maintenance is one of the biggest challenges facing the County. At the time this chapter was written, there was over \$100 million in deferred maintenance on the County's major roadways, which does not include maintenance costs for local streets. The majority of future maintenance needs will occur within in the USAs, but it is an issue system wide. Without significant increases in spending on maintenance, and/or reduction of drive-alone automobile travel roadway conditions in the County will continue to decline.

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 the following table:

Table 8-1 Roadway OCI Estimates, Maintenance Requirements and Costs

OCI	Condition	Maintenance Typically Required at this Condition Level	Average Cost (\$/ft ²) ²
70-100	Very Good	<i>Minor</i> (OCI 70-85)—Variable maintenance.	<.4
50-69	Good	<i>Chip Seal</i> —Pavement sprayed with asphalt, covered with aggregate and rolled.	.4
25-29	Poor	<i>Overlay</i> —An increase in the pavement load carrying capacity by adding additional pavement layers.	4.0
<25	Very Poor	<i>Reconstruction</i> —Complete removal and replacement of the existing pavement structure.	10.0

The OCI is used to prioritize maintenance projects for the County's arterial and collector roads. The 2007 Technical Report expands the OCI to include the other County maintained roads.

Besides the OCI, funding for roadway maintenance, upgrades and expansions is often the limiting factor for determination of project eligibility and priority. Funding issues are more fully described in the 2007 Technical Report, and is addressed by policies in the Community Infrastructure and Services Element (Chapter 7).

The County is developing a five-year Capital Improvement Program (CIP) for the years 2008-2012 to help guide the use of the County's transportation budget into the future and should increase capital development of transit and bike/ped transportation. The County is also developing a list of road projects from its pavement management system that will determine the future priorities for maintenance and rehabilitation of the County's roadways.

The 2006 RTP already includes a list of the top priority transportation improvement projects for the County. That list will be updated in future versions of the RTP with projects from the CIP and Pavement Management System.

² Cost estimates are based on 2003 CIP estimates escalated to reflect current material costs as reported by Public Works personnel.

Best Management Practices

In response to the 1997 listing of the Coho salmon as a threatened species, Humboldt County worked with four (4) adjacent counties (Del Norte, Mendocino, Trinity and Siskiyou County) to form the "Five Counties Salmonid Conservation Program" to evaluate options for County grading and road maintenance practices to provide or improve salmonid habitat and water quality overall.

From this effort, the County developed and implemented a grading ordinance in 2001 to standardize best management practices for controlling soil erosion from stormwater runoff across disturbed areas. Another outcome of this effort in 2002 was a road manual to act as a guide and framework for implementing improved road maintenance practices. County Public Works adopted this as Departmental Policy several years ago. Now that the County has an approved incidental take permit for operating under these guidelines, Public Works will be seeking formal adoption of the manual by the Board of Supervisors.

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 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 construction of an overpass at the intersection of Indianola Cutoff and U.S. Highway 101. Reducing drive-alone automobile travel would help mitigate transportation demand and have other health and environmental benefits

Policies in this Element reflect the comments made on the DEIR by the Board of Supervisors September 18, 2007 to request consideration of 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

The 2006 RTP contains a comprehensive description of public transit services of fixed route, paratransit and other 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.

Paratransit services are available through Dial a Ride/Dial a Lift, K/T Net Paratransit, Blue Lake Rancheria Dial a Ride, Fortuna Senior Transit, Humboldt Community Access and Resource Center (HCAR), Bridgeville Community Center Van, Ferndale Senior Resource Transportation Network "Bridging the Gap", Coastline Enterprises, Humboldt County Mental Health, and United Indian Health Services, Inc (UIHS).

Also described in the 2006 RTP are the services of the Redwood Coast Transit service between Crescent City and Humboldt County, Greyhound Bus Lines, AMTRAK and City Cab.

The 2006 RTP defines a threshold level of public transit service as, "a minimum level that should be provided in Humboldt County to ensure system integrity and to implement RTP transportation policies" (2006 RTP). It identifies a 1 hour weekday interval or less 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 those public transit goals, policies and implementation measures applicable to the unincorporated areas of the County. See Jeremy's paper RE: other performance measures. Add in (something ??) transit stops and setting design standards for bus stops in small town or rural context.

Non-Motorized Transportation

The term "non-motorized transportation facilities" generally refers to improvements for bicycles and pedestrians, and for the mobility-challenged, and they mostly include sidewalks, crosswalks, and bicycle lanes associated with the road system. While walking or cycling between destinations is a choice for some, it is a necessity for others that do not have access to motorized vehicles. Providing alternatives to drive-alone automobile travel would benefit public health and the environment while reducing traffic congestion and road maintenance costs. The Community Service Department should develop design standards for pedestrian and bicycle facilities, particularly with interface with public transportation.

Incentivizing mixed used development in commercial zones with modes of higher density focused around transit hubs can help reduce traffic demands and promote healthier commute modes.

Most facilities dedicated exclusively for non-motorized use are located in urban areas of the county. However, pedestrians and bicyclists frequently utilize roads in Humboldt County that lack sidewalks and/or bicycle lanes. Cyclists are also granted full access to all state route facilities in CalTrans District 1, which includes all of Humboldt County. Major new non-motorized facilities are possible along the Annie and Mary Rail Line from Arcata to Blue Lake, and along the Northwestern Pacific Railroad between Arcata and Eureka. A long-term goal should be providing a network of class I multi-use paths between all major population and employment centers in the area.

Impacts on non-motorized transportation facilities are assessed on a project-by-project basis. While the County uses LOS standards for determining impacts of new development to vehicle traffic, assessing impacts to non-motorized facilities is less standardized. Adoption of a Level of Service standard for non-motorized transportation facilities would help standardize those assessments. (The Seattle system defines roads on importance for each mode.)

For recreational use, many trails either dedicated or shared, are identified in the 1979 Trails Master Plan, and in the six (6) coastal plans. While equine use does not constitute a significant portion of daily commuter travel in Humboldt County, equestrian trails are a significant recreational resource, and are also identified in the Trails Plan. Maps and descriptions of existing and proposed future non-motorized transportation facilities are shown in Appendix XX.

The 1979 Trails Master Plan recognized the health benefits of bike paths and trails when it stated,

"It is becoming more widely accepted by doctors and health officials alike that America's increasingly sedentary life style is having a detrimental effect on its citizens. With the provision of recreation or transportation oriented trails for walking, horseback riding, and bicycling, county residents as well as north coast tourists will have increased opportunity to improve their general well-being through physical activity.

The connection between public health and non-motorized transportation is receiving increased attention both locally and nationally as childhood obesity and other health problems related to our more sedentary life styles become epidemic in our population. Non-motorized transportation and alternatives to drive-alone auto trips also reduce carbon emissions and our dependence on fossil fuels. The 1979 Trails Master Plan also looked at school access conditions for students walking and bicycling to and from county schools. It reported that parents and school administrators at the elementary school level were concerned about safe child access to schools. One of the policy initiatives that came out of the Plan was to gradually provide safe student access "trails" wherever children walk or bicycle to school regardless of the number of children involved. Schools cited in the 1979 Trails Master Plan for improved accessibility were: Cutten (Eureka area), Dows Prairie (McKinleyville), Fieldbrook, Freshwater, Jacoby Creek, Lafayette (Eureka area), Morris (McKinleyville), Orick, Pine Hill (Eureka area), Redway, Winship Jr. High (Eureka area), and Worthington (Eureka area).

The need for safe access to schools is reflected today in the "Safe Routes to Schools" funding program administered by CalTrans, which helped construct bicycle and pedestrian facilities along Central Avenue in McKinleyville. The Redwood Community Action Agency (RCAA) has also completed several "walkability audits" to assess the difficulty of walking in communities, particularly along school routes. "Walkability Audits should continue to be used to help prioritize improvements. This tool could also be used with residents in the vicinity of proposed new development to help mitigate community concerns.

Current state law exempts schools from general plan requirements to coordinate with local jurisdictions regarding transportation routes to schools. Nonetheless, a policy has been added to this Element to encourage coordination between the school districts and the County.

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, windy sections of these highways prevent larger trailers from entering the County, which increases shipping costs for both imported and exported goods.

Improvements to the road alignment of Highway 101 through Richardson Grove in the southern end of the County, 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 to Highway 299 in the Buckhorn Summit area of Trinity County could provide trucks with larger trailers access from the east, which would also have broad economic benefits for the County. Planned roadway infrastructure improvements to accommodate large trucks should not

compromise access and safety by other modes. Multi-modal street design standards should be developed to include bicycle and pedestrian facilities.

Air Transportation

The following airports presently operate in the County:

Table 8-2. Inventory of Airports of Humboldt County

Airport Name	Runway Length (in linear feet)	Runway Width (in linear feet)	Lighting	Number of Based Aircraft
Arcata-Eureka Airport	5,998	150	Yes	11
Dinsmore Airport	4,499	150	Yes	
Eureka Municipal Airport	2,510	48	No	1
Garberville Airport	2,700	60	No	16
Hoopa Airport	3,050	75	No	20
Kneeland Airport	2,325	50	No	2
Murray Field	2,270	50	No	0
Rohnerville /Fortuna Airport	3,000	50	Yes	69
Shelter Cove Airport	4,005	100	Yes	35
	3,400	75	No	0

Source: Humboldt County Aviation Division, 2007

Airports in the unincorporated areas (all except the Eureka Municipal Airport) are operated according to an Airport Master Plan, which was developed in 1992. The plan for the Arcata-Eureka Airport and the Kneeland Airport were updated in 2005, and the plans for the Garberville, Dinsmore, Murray Field and Rohnerville airports were updated in 2006. (Operation of the Shelter Cove Airport has been assumed by the Resort Improvement District, and the Hoopa Airport is being operated by the Hoopa Tribe.)

The State Airport Land Use Compatibility Plans map "Land Use Compatibility Zones", which restrict the allowed uses, and residential densities in areas that would impact aircraft operations. This is another area where the Land Use Element needs to be consistent with this Circulation Element; the development potential in the Land Use Element should reflect the residential densities allowed by the current State designated Airport Compatibility Zones. The Noise Element (Chapter 20) and Safety Element (Chapter 21) also include policies and standards to address airport noise and safety issues. Consistent with other traffic demand reduction efforts, transit, bicycle and pedestrian access to existing airports should be improved

Marine Transportation

The Moving Goods and People Report (Dyett & Bhatia, 2002) reported that 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 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. 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.

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 2006 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.

Rail Transportation

Rail transportation in the County is described in detail in the 2006 RTP and the Moving Goods and People Report (Dyett & Bhatia, 2002), which reported that the North Coast Railroad Authority (NCRA), created by the State Legislature in 1989, began acquiring the Northwestern Pacific Railroad Company (NWP) in 1992, and fully acquired it by 1996.

In 1997, the rail line effectively ceased operation. 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 was lumber being 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.

The railroad's ability to offer 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 rebuilding would be necessary if operations are to ever resume.

A potential use of the northern most portion of the rail line considered in the 2002 Moving Goods and People Report would support tourism by developing an 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 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.

8.3 Goals and Policies

The goal of the Circulation Element is to support safe transportation and movement of commercial goods while reducing drive-alone automobile trips, reduce dependence on fossil fuels, promote physical activity and possibly reduce road construction and maintenance expense.

C-G1 Roadway Safety and Functionality. 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 [FRWK].

C-G2 Multi-Modal Transportation. To provide a balanced multi-modal transportation system that accommodates motorized vehicles, public transit, bicycles, and pedestrians, and develop multi-modal quality of service (QOS) performance measures at an area-wide level.

C-G3 Interagency Cooperation. To coordinate planning among state/county/city roadway system service providers and HCAOG for improved system design, development, operations and maintenance. And adopt HCAOG Regional Transportation Plans (RTP's) as intervals updates to the General Plan.

Policies

Policy Topic #1—Roadway Classification, Safety and Functionality

C-P1. Safety Improvement. Use safety indicators and threshold criteria for capital improvements in the Capital Improvement Plan that result in levels of safety for all transportation modes on County roadways higher than statewide averages.

C-P2. Roadway Functional Classifications. Adopt and apply consistent roadway functional classifications that reflect urban/rural/community distinctions and that

maximize right-of-way use for multi-modal safety and functionality, working towards a network of class I multi-use paths between all major population and employment centers.

C-P3. Roadway Condition Thresholds. Multi-modal quality of service (QOS) performance measures should be developed and used with roadway system condition thresholds should be used to allow for maintenance project prioritization and selection based on the attainment of acceptable overall system condition levels and safety for all modes.

C-P4. Functional Efficiency and Capacity. Manage roadway systems for functional efficiency (roadway system and demand management) before functional capacity (roadway widening or new road construction) whenever possible, promoting safety and reducing drive-alone automobile use where possible.

C-P5. Pavement Management Criteria. Strive to maintain the overall condition of County-maintained roadways above the 50th percentile of the Overall Condition Index (OCI) and Modified OCI developed in the 2007 Technical Report.

C-P6. Orderly Development. Encourage 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, prioritizing co-location of residential development.
- D. Improving roads to accommodate land uses served by an inappropriate road classification. [FRWK] ?
- E. Assessing needs of bicycle, pedestrian, transit and vehicular traffic when planning new development, allowing reduction of parking requirements if demand for vehicular trips is mitigated
- F. Incentivizing mixed-use development to reduce transportation demand
- G. Planning and developing multi-use transportation hubs with higher residential density, off street parking nearby commercial and safe access for bicycles and pedestrians

C-P7. Consideration of Land Uses in Transportation Decision-making. 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. [FRWK]

- C-P8. Consideration of Transportation Impacts in Land Use Decision-making.** 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. [FRWK] and promote healthful alternatives.
- C-P9. Mitigation Measures.** Proportionate mitigation measures should be used to construct on- and off-site transportation multi-modal infrastructure improvements and dedicate rights-of-way clearly connected to impacts resulting from new development, and/or reduce transportation demand (e.g., by mixed-use development).
- C-P10. Tracking Transportation Road Improvement Requirements.** Maintain a database to track road transportation improvement requirements, including road conditions, bicycle, pedestrian Class I multi-use paths, multi-modal quality of service (QOS) measures, percentage of population within ¼ mile of a transit stop
- C-P11. Road Abandonments.** ~~The County Planning Commission shall review~~ All proposed abandonments of ownership or maintenance on County roads shall be reviewed for conformance with the County General Plan before they are approved. [FRWK]
- C-P12. Right of Ways as Public Facilities.** Road and rail right of ways are hereby designated as Public Facilities (PF) in the Land Use Element, whether or not specifically mapped.
- C-P13. Acceptance of Roads in the Circulation Element into the County Maintained Road System.** Roads whose alignment are part of the Circulation Element (generally arterial and collector roads) that are constructed to County standards approved by the Department of Public Works shall be recommended to the Board of Supervisors for inclusion into the County Maintained Road System.
- C-P14. Acceptance of Roads Outside of the Circulation Element into the County Maintained Road System.** Roads that are constructed to County standards approved by the Department of Public Works that are not a part of the Circulation Element, and are not arterial or collector roads shall not be recommended for acceptance into the County Maintained Road System unless adequate funding for the future maintenance of the road and its associated facilities is provided, subject to approval of the Department of Public Works.
- C-P15. Public Input.** Continue to consider public input in the development of the Capital Improvement Program.
- C-P16. U.S. Highway 101 Safety Corridor Improvements.** The County supports a strategy for improvements to the U.S. Highway 101 Safety Corridor that minimizes impacts to coastal resources, and 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.

Policy Topic #2—Road Construction and Maintenance and Watershed Protection

- C-P17. Best Management Practices for Grading.** New development subject to the grading ordinance shall use best management practices as described in the Grading Ordinance to prevent soil erosion and minimize impacts to watersheds from grading activities.
- C-P18. Best Practices for Road Maintenance.** Continue use of the 2002 Water Quality and Habitat Protection Manual (Best Practices Manual), or subsequent revisions to the manual, for County road maintenance and maintenance yards to minimize impacts to watersheds from roads and maintenance yard facilities.
- C-P19. Update Standards.** Recognizing that best management practices continue to evolve, the County should continue to update their procedures for grading, road maintenance and maintenance yard facilities on regular basis to incorporate advances in the state of the art.

Policy Topic #3—Public Transit

- C-P20. Coordinating Public Transit with Other Modes of Travel.** Transportation systems in the County and those which link with other areas of the State should be coordinated and integrated so that a full range of travel patterns can be supported.
- 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. 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 should be integrated with public transit by developing adequate parking facilities (preferably off street) at major bus stops and, where feasible, transporting bicycles on the buses along the intercity bus routes, and providing weather-protected and secure bicycle parking at transit hubs (expand hubs).
 - C. Multi-family housing for a range of income levels, public uses such as libraries, schools and community centers, and commercial uses should be encouraged in areas serviced by public transit where consistent with other sections of the plan. [FRWK]

Policy Topic #4—Multi-Modal Transportation

- C-P21. Roadway Capacity Expansion and Non-Vehicle Modes.** Enhance the Level of Service for non-vehicle modes when expanding roadway capacity for vehicle circulation, incorporating quality of service (QOS) evaluation.

- C-P22. Right-of-Way Design Standards.** Right-of-way design standards should incorporate design options which include facilities for bicycles, pedestrians and public transit.
- C-P23. Encourage bicycle-friendly design on all streets and roadways through new technologies, "best practices" standards, guidelines, and innovative treatments where appropriate on new roadways and multiuse paths.** Administer Resurfacing programs for local streets ~~to~~ should include appropriate provisions for bicycle facilities. [2006 RTP]
- C-P24. Right-of-Way Multi-Modal Level of Service Standards.** Right of Way Multimodal Level of Service (LOS) Standards should be used for maximizing the multi-modal suitability of County roads and intersections.
- C-P25. Efficiency and Capacity Investment Priority.** Transportation facility investments should consider functional efficiency and capacity of pedestrian, bike and public transit.
- C-P26. Capital Improvement Plan.** The County's Capital Improvement Plan shall include an assessment of the impacts on multimodal transportation for all projects considered for funding.
- C-P27. Coordination with School Districts.** The County and school districts should coordinate with one another regarding school site locations and transportation facilities.
- C-P28. Walkability Audits.** Information from walkability audits should be incorporated in the prioritization of road improvements for non-motorized modes of travel.
- C-P29. Traffic Calming.** Use of traffic calming measures where appropriate as a means of providing balanced multi-modal roadways that are compatible with adjacent land uses. Traffic calming measures include, but are not limited to, chicanes, curb extensions and traffic circles. [MCCP]
- C-P30. Landscape Maintenance Zones.** The County or other local agency should explore alternative financing mechanisms for landscape maintenance zones which will enhance street aesthetics and enable landscape strips with street trees within the public right-of-way. [MCCP]
- C-P31. Protection of Designated Trails.** The County shall review ~~land~~ development along and adjacent to designated trails and pathway corridors ~~in order to provide sufficient right-of-way~~ to ensure that adjacent new development is compatible with safety, recreational, and aesthetic qualities of the corridor. [MCCP]
- C-P32. Encourage Bicycle Storage Facilities.** Encourage the provision of secure, weather protected bicycle storage facilities at bus stops, businesses, and public buildings as needed. [FRWK]
- C-P33. Encourage Bicycle Transport racks on Public Transit.** Encourage appropriate buses to be equipped with bicycle transport racks. [FRWK]