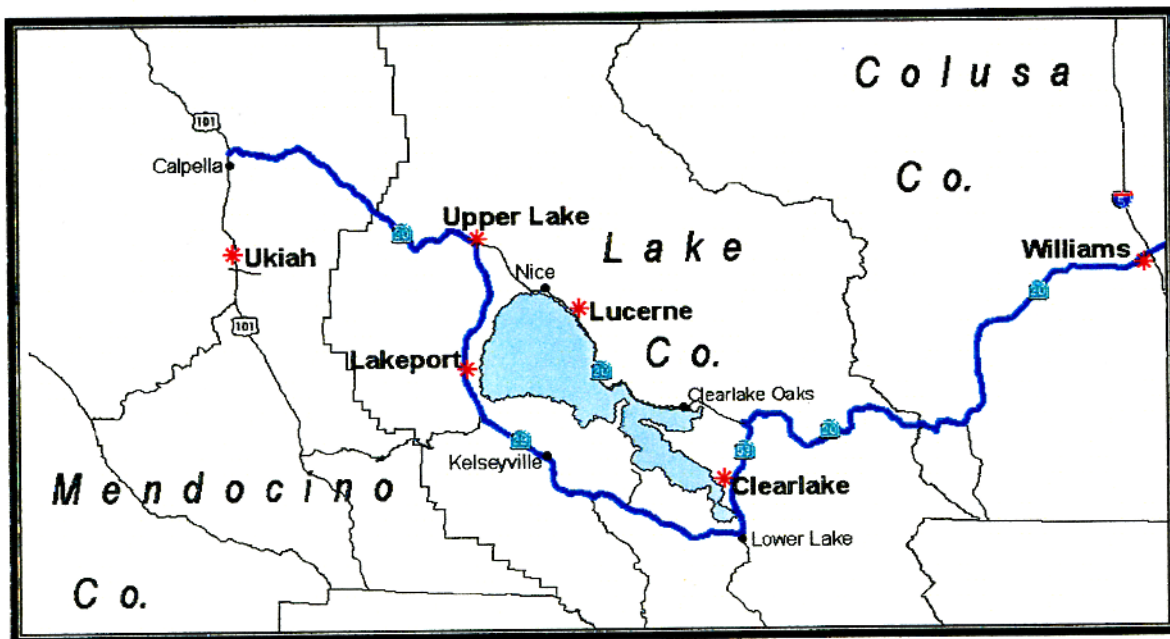


# Route 20 Corridor Study

State Route 20 Principal Arterial Corridor  
Between U.S. 101 Freeway and Interstate 5 Freeway

## Final Report

August 2000



Prepared for

**Lake County/City Area Planning Council**

by

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**TABLE OF CONTENTS**


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Executive Summary.....	4
I. INTRODUCTION	
Study Purpose.....	7
History and Background.....	7
Service Area Description.....	8
Interregional Transportation System Role.....	12
II. STUDY APPROACH AND METHODOLOGY	
Traffic Projections and Route 53 Intersection Analysis.....	13
Public Participation and Interagency Coordination.....	14
Corridor Segmentation.....	14
III. EXISTING CONDITIONS	
Roadway Geometry and Facility Conditions.....	16
Traffic Demand and Capacity Conditions.....	17
Traffic Safety.....	20
Environmentally Sensitive Areas.....	22
IV. CURRENT CORRIDOR PLANNING AND PROGRAMMED IMPROVEMENTS	
Current Concept Plan for Corridor.....	24
Current Programmed Improvements.....	27
Interregional Transportation System Implementation.....	28
V. FUTURE CONDITIONS	
Traffic Projections 10-Year and 20-Year.....	30
Corridor Level of Service and Potential Problem Areas.....	31
CORSIM Analysis – SR-53 Segment.....	32
Future Development Considerations.....	33
VI. COMMUNITY CONCERNS AND COMMENTS	
Community Based Workshops.....	35
Context for Public Participation.....	36
VII. FINDINGS AND RECOMMENDATIONS	
Recommended Facility Concept Plan for Corridor.....	39
Concept Plan Implementation Requirements.....	40
Setting Future Project Priorities – Interagency Coordination.....	41
VIII. APPENDICES.....	42

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**TABLES**

---

II-1	Corridor Segment Descriptions.....	15
III-1	Existing Facilities Definition.....	16
III-2	Existing Conditions Traffic Volumes and LOS Values by Segment.....	18
III-3	Existing Conditions-Speed and Intersections by Segment.....	19
III-4	Route 20 Principal Arterial Corridor Existing Facilities-Collision Information.....	20
III-5	Comparison with Statewide Accident Rates.....	21
IV-1	Current Concept Plan and Programmed Improvements-SR-20 State Funded.....	25
IV-2	Interregional Transportation Improvement Program-SR-20 Safety Improvements.....	28
IV-3	Interregional Transportation Improvements-Route 20 Corridor Track.....	29
V-1	Projected Traffic and LOS by Corridor Segment.....	30

**EXHIBITS**

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- I-1 Corridor Service Areas and Route Alignment
- I-2 Interregional Transportation System-SR-20 Location Map
- II-1 Corridor Study Flow Chart
- II-2 Route Alignment and Corridor Segments
- III-1 Corridor Alignment and Existing Facilities Description
- III-2 Corridor Alignment and 1998 Traffic Volumes
- III-3 Corridor Alignment and Traffic Accident Information
- III-4 Corridor Alignment and Environmentally Sensitive Areas
- IV-1 Current Corridor Concept Plan/Programmed Improvements
- IV-2 Interregional Transportation System-SR-20 Focus Route Identification
- IV-3 Interregional Transportation System-SR-20 Concept Plan
- V-1 Corridor Alignment and Future Traffic Volumes (2018)
- V-2 Corridor Segment LOS Values-Existing and Projected
- V-3 State Route 53 Traffic Study
- V-4a SR 53 Existing Peak Hour Traffic Study
- V-4b SR 53 Existing Peak Hour Traffic Study Continued
- V-5a SR 53 Future Peak Hour Traffic Study
- V-5b SR 53 Future Peak Hour Traffic Study Continued
- V-6a SR 53 Existing & Future Peak Hour Traffic Study
- V-6b SR 53 Existing & Future Peak Hour Traffic Study Continued
- VI-1 Location of Community Workshops

## EXECUTIVE SUMMARY

### Study Origins

The last time that the concept was examined for the facilities that comprise the Corridor and the alignment identified for Route 20 implementation was in 1989. The Lake County/City Area Planning Council, (LC/CAPC) and Caltrans, District 01, collaborated on a corridor study that established the present alignment and concept plan. In 1996 Caltrans began a study of the statewide transportation system in California, with the objective of evaluating the role of different modes and state routes in meeting statewide transportation needs. In 1998 the *Interregional Transportation Strategic Plan* was completed by Caltrans and adopted by the California Transportation Commission in June of 1998. Caltrans, District 01 and LC/CAPC initiated the current study effort in the fall of 1998 with preliminary discussions of corridor needs and study goals. The actual Route Concept Plan Study process began on March 2, 2000, with a steering committee meeting in Ukiah, California. At this meeting, a preliminary work program and schedule for the corridor study was presented and discussed. Preliminary existing conditions data developed by Caltrans, District 01 was also presented. The role of each of the study participants was identified and a tentative schedule for study activities was reviewed. This report is the result of the adopted work program and activities of the participants in the study process.

### What is the Fuss About?

Senate Bill 45, with its adoption in 1997 and implementation in 1998, changed funding responsibilities for transportation improvements, how projects are identified and how priorities for implementation are determined. At the heart of the change is the shifting of funding decisions for roadway and highway improvements from the state to regional agencies. The LC/CAPC is the Regional Transportation Planning Agency (RTPA) for Lake County and is now the lead entity for reexamining the planning and concept plan for the Route 20 Principal Arterial Corridor. The role of this Corridor as part of the Interregional Transportation Strategic Plan for California is also reaffirmed. As an interregional route, the Corridor provides vital east-west access between major north-south corridors. The route also provides access to local cities and communities within the regions through which the route passes. The route currently provides connections for truck freight transport between the US-101 and I-5 corridors, and is the only significant access route for local counties, cities and communities to the rest of California. The employment, economic development and investment enhancement opportunities associated with corridor improvements are as important a goal for the corridor area as meeting traffic flow and access needs. The implementation of corridor improvements will be a major step in creating the opportunity for economic development to improve the quality of life for all residents within the corridor communities. It is, therefore, extremely important that the local communities, through their elected officials, technical staff, and citizen groups have the opportunity to review planning for corridor improvements and make recommendations for changes if deemed appropriate.

### **What did the Study Process Examine?**

The examination of the current corridor concept plan and identified alignment looked at a wide range of information regarding corridor function and impacts. The descriptive title “Route 20 Principal Arterial Corridor” refers to the way interregional corridors are defined. In this case, the corridor includes portions of Route 20, Route 29, and all of Route 53 as the alignment between US-101 and I-5. The first area of information examined is everything that describes the “existing conditions” or “setting” for the possible corridor improvements. This included data for facility characteristics, number of lanes, number of intersections, terrain and topography, accidents, traffic volumes and level-of-service analysis. A CORSIM traffic simulation model for the Route 53 portion of the Corridor was used to evaluate existing and future traffic flow conditions. The topography and environmental issues associated with Corridor improvements in the Mendocino County subsection, particularly in the vicinity of Lake Mendocino and the community of Blue Lakes, will constrain improvement planning well beyond the 20-year time horizon of this Study. Traffic demand will be accommodated by the existing facilities, with minor roadway enhancements until more substantial improvements are warranted. An essential part of the corridor planning process was the examination of information collected directly for the general public. Community workshops were scheduled at six locations throughout the corridor. The workshops were not as well attended as the project team had hoped, but they did produce useful information regarding local access concerns, potential impacts of implementing the concept plan, and suggestions related to existing traffic problems along the corridor. Input was also solicited from local business groups within the corridor and from economic development commissions concerned with the impact of access changes on economic activity. All of the above information was organized and evaluated to test the continued implementation of the existing concept plan, affirmation of the existing alignment, and implementation priorities for corridor improvements.

### **What did the Study find?**

Given the history and background of the Route 20 Principal Arterial Corridor, and the general pattern of development in Northern California, it should not be surprising that the existing corridor concept and alignment continue to be valid. There are concerns with environmental impacts associated with specific project implementation, and some concerns were expressed in the community workshops about the lack of coordination between access planning, land use planning and economic development impacts at the interregional level. However, nothing was found in either the objective data evaluated, or the comments, concerns and suggestions from the public that raised objections to the corridor concept or alignment. The corridor concept continues to be:

- Route 20 east from the junction with US-101 to the junction with Route 29, south on Route 29 to the junction with Route 53, then north on Route 53 to rejoin Route 20 east of the community of Clearlake Oaks; with a facility designation as four-lane Freeway/Expressway.
- Route 20 east from the community of Clearlake Oaks (eastern junction with Route 53) to the I-5 Freeway in the City of Williams; with a facility designation of conventional two-lane highway with passing lanes.

The project priorities suggested by the study information support the implementation of a four-lane freeway on segments of Route 29 between the cities of Clearlake and Lakeport as being the primary corridor improvements over the next ten years. Coordination between Caltrans and RTPAs for the entire length of the Route 20 High Emphasis Corridor should be initiated as soon as possible. The purpose of this coordinated effort is to determine the priorities for corridor improvements, first within each county, and second corridor-wide at the interregional level.

### **What Happens Next?**

As the lead agency, and impetus for the Corridor Study, this report will be presented to the Board of Directors of the LC/CAP for acceptance. The final report will also be presented to the Colusa County Transportation Commission and the Mendocino Council of Governments (MCOG).

Multi-agency support may be indicated in several different ways. Ideally, several regional agencies would agree on a single candidate project. This may be unlikely because of the diversity of needs and interests from one end of the Corridor to the other. It is expected that multi-agency support for corridor projects can be obtained by the following actions:

- RTPAs (Lake, Mendocino, and Colusa) accept the final report.
- Regional agencies identify priority candidate capital improvement projects within the Corridor (US-101/I-5) for programming in the 2002 STIP and beyond.
- Caltrans completes a corridor study for Route 20 between I-5 and I-80.
- Regional agencies in the I-5/I-80 segment identify priority candidate projects.
- Regional agencies are able to convey support for Route 20 Corridor improvements, in general, to Caltrans and the California Transportation Commission, including support for specific projects within their respective jurisdictions.



## **I. INTRODUCTION**

### **Study Purpose**

This study has two major purposes. The first purpose is the updating and possible revision of existing concepts for ultimate roadway improvements in the corridor. The second purpose is to reaffirm the existing corridor alignment (along the south shore) with the communities through which the route passes. The deadline for completion of this study is June 30, 2000. Citizen participation and community input is important components of the study process. A primary mechanism for achieving these two purposes will be the involvement of citizen groups and local agencies from communities along Corridor alignment. Input regarding access needs, issues of concern, and proposed project priorities for regional and state agency consideration will be sought.

### **History and Background**

The Lake County/City Area Planning Council (LC/CAPC) staff led the Route 20 Principal Arterial Corridor Study. Joining the LC/CAPC staff in the study is the Mendocino Council of Governments (MCOG), the Colusa County Transportation Commission (CCTC) and support staff from Caltrans Districts 01 and 03. The Corridor to be studied extends from US-101 in Mendocino County (on the west), to the I-5 Freeway in Colusa County (on the east). The route alignment is primarily consistent with the Route 20 highway alignment, with the exception of the Lake County portion of the route. In Lake County, the Principal Arterial Route follows the Route 29 alignment and Route 53 alignment around the south shore of Clear Lake (via the cities of Lakeport and Clearlake).

In the mid-1980s Caltrans developed Route Concept Reports for all state highways. The Route Concept Report (RCR) describes the basic approach to development of a given State Highway Route. The Route Concept Report for the Route 20 Principal Arterial Corridor was last updated in 1989, after the completion of a "Cooperative Study of Highway Concepts and Priorities in Lake County" prepared by Caltrans District 01 and the LC/CAPC staff. The route concept plans are updated every ten years, or as needed, depending on changes in traffic demand in a corridor.

In 1997, the Transportation Funding Act, Senate Bill 45, gave regional transportation planning agencies (RTPAs) a greater role in programming regional transportation improvement projects. RTPAs are now responsible for programming 75% of the funds for new transportation facilities. As a result, RTPAs are taking a more active role in determining the proper Route Concepts and improvement priorities for state highways. This responsibility is particularly critical for the sparsely populated rural counties in determining the most advantageous use of regional transportation funding. The total amount of available funding for any one rural region/county is relatively small when compared with the combined maintenance and new improvement project costs of an RTPA's roadway system. This makes the role of interregional planning and programming of paramount importance when laying the groundwork for maximizing the use of transportation funds on interregional routes.

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## Unique Study Perspective

As with most corridor studies, this study evaluates facility deficiencies, quantifies future demand, identifies and evaluates future deficiencies leading to the development of capital improvements to mitigate the facility deficiencies. However, this perspective in approaching the development of a corridor study work program only addresses a portion of the need for corridor improvements. Lake County, Colusa County and Mendocino County are all rural, sparsely populated counties with a minimum of urban roadway systems (local cities) in each County. In addition, portions of each County along the corridor display characteristics of high unemployment, minimum wage employment base, sub-standard housing, a significant elderly population and large numbers of welfare recipients. Therefore issues involving growth inducement, social disruption and induced traffic demand will have a much different meaning and context in the evaluation of corridor improvements. ***From a regional/multi-regional planning perspective, the employment, economic and investment enhancements associated with corridor improvements are as important a goal for the corridor as improving the flow of interregional travel demand.***

It is recognized that this view may not be shared by all of the residents of these three counties. There are some legitimate environmental and life style concerns that will have to be addressed within the study work program. The Public Participation Program that is an integral part of the study process has provided an opportunity for all points of view to be heard and taken into consideration. However, the majority of the local agency staff and community representatives along the corridor clearly wish to see the economic quality of life in their counties improved. ***The improvement of the SR-20 corridor facilities to their maximum capability will be a major step in creating the economic development needed to improve quality of life for residents in the corridor.***

## Service Area Descriptions

The service areas described are, in general, limited to those areas where population centers are located along the Corridor route. The Corridor Service Areas in relationship to the proposed Principal Arterial Route alignment is shown in *Exhibit I-1*. Environmentally sensitive habitats, as well as areas where constraints may exist are also noted for consideration. The following areas have been selected for description, beginning at the east end (I-5) and ending at the west terminus of the Corridor (US-101):

- The City of Williams, Colusa County - The city of Williams is located immediately to the west and south of the I-5 /SR-20 junction. The city is approximately 4.2 square miles in size and has an estimated population of 3202 within its boundaries. The city provides retail and service activities to the rural agricultural areas extending several miles on either side of Route 20. The city is a population center in Colusa County that provides community services for a population of 9,000 scattered over an area of 200 square miles extending west along Route 20 to the foothills leading into Lake County. Between I-5 and SR-16 on Route 20 there are three localized areas where endangered species may be affected if route

improvements are necessary. These are areas of sensitivity, and further study and evaluation would be in order at the time that specific improvements are considered.

- City of Clearlake and Lower Lake Community, Lake County – The city of Clearlake is bisected by the SR-53 alignment segment on the south shore of Clear Lake. A significant percentage of the population is elderly and relies on the city of Clearlake for most retail and human services. Additionally, a significant percentage of the workforce in Clearlake is employed in the city of Lakeport. The section of the Principal Arterial Corridor that connects the cities of Clearlake and Lakeport reflects this relationship in the commute traffic.

The city of Clearlake is the largest population center in Lake County with an estimated 11,900 residents. It covers 10.5 square miles on the southeast shore of Clear Lake. Clearlake is 52 miles (round trip) from Lakeport, on two-lane, winding roads and is the County seat. Its population grew rapidly (41%) between 1980 and 1990, straining the infrastructure, public services, and community support systems.

Many of Clearlakes' residents are low income or living in poverty. In 1990, the city of Clearlake had the lowest per capita income (\$9,531) in Lake County. About one-third of the County's welfare dependents live here. Many residents live just above the poverty level (CEDS); 20% of the population lives in poverty (Heasley Survey). Families headed by single women form about 35% of all households in the area. About 96% of these households were low income; of these, 74% were very low income. Seniors (over 62) formed 41% of all households in 1990. Of these, 89% were lower income and 52% were very low income, according to Housing and Urban Development (HUD) Income Guidelines. A person 65 or older heads about 26% of all households. As of April 1999, Clearlake's unemployment rate was 13.1%, compared to Lake County's overall rate of 8.7%. Despite its extensive efforts at revitalization, Clearlake remains below national economic standards.

Lower Lake has a population of 1,217, and is a "crossroads" community. Lower Lake is located at the junction of Highway 29 and 53, four miles south of the city of Clearlake. It is one of the oldest towns in Lake County and was the first County seat. It has a number of historic buildings and sites, including the State's smallest historic jail.

As with the rest of Lake County, Lower Lake is predominantly Caucasian. Its Latino population is primarily Mexican-American, with Spanish the most commonly spoken language, after English.

- City of Lakeport and Community of Kelseyville - Lakeport is Lake County's other incorporated city, located on the northwest shore of Clear Lake. It is the second largest population center (estimated at 4,580 as of January 1, 1996) and is the County seat. Unlike the city of Clearlake, Lakeport has experienced only moderate growth, about 2% between 1970-1990. Recent estimates indicate a slight drop in Lakeport's population. This small city features a beautiful and highly accessible public park three blocks from the courthouse in the center of town.

The city of Lakeport is located a few miles north of Kelseyville with direct lake access for recreational purposes. The City has over 40% of the employment in Lake County and approximately 10% of the population of the County. This contributes to the work trip commute between the cities of Lakeport and Clearlake.

According to the 1990 Census data, 2,931 people or 5.7% of the County population of 50,631 live in the Kelseyville area. The County population has increased by 9% since the 1990 Census, and it appears that Kelseyville may have grown more quickly. In 1990, the Kelseyville CDP was 85% Caucasian. The largest minority group in Kelseyville is Hispanic. A significant segment of the Hispanic population is monolingual Spanish speaking. Although many of the Hispanic population came to Kelseyville as migrant farm workers, they are beginning to settle in the area.

Kelseyville is a zip code-based entity, including both the town proper and its much larger surrounding area. Kelseyville has an attractive downtown, with a number of small businesses, some owned by families who have been there for generations. The downtown and its immediate neighborhood are unfortunately, among the poorest areas of the Kelseyville area, with Section 8 supported housing and farm worker housing. Downtown Kelseyville is 16 miles round trip from Lakeport and 20 miles from the nearest hospital.

Parts of Kelseyville are quite prosperous, such as the Buckingham Park area and, to some degree, the Riviera. Buckingham and the Riviera are located within the Kelseyville zip code, but east of the town itself, adjacent to Clear Lake. The Riviera consists of three large residential subdivisions, with small local businesses and golf courses.

For purposes of this assessment, the Kelseyville Region includes the small, unincorporated community of Finley. Like Kelseyville, Finley is completely landlocked within Lake County. It has the highest Latino population in Lake County. Many are migrant farm workers, and an increasing number are settling there. Unlike Kelseyville, however, Finley does not have resort and tourism-based businesses to augment its economy.

- Communities of Upper Lake and Nice, Lake County – These two communities are in the unincorporated area of Lake County and, as with the other unincorporated communities, look to the County for infrastructure and public services.

Upper Lake is located at the junction of SR-29 and SR-20 (essentially the starting point for the Route 20 north shore alignment), and is a small agricultural town with a population of 856. Upper Lake is one of the oldest communities in Lake County. Its economy centers on its Main Street small businesses (antiques and collectibles), plus a fairly new motel. This area has had significant problems with water and sewage that have constrained its commercial and residential development. The County is in the process of rehabilitating its housing stock. The main office of the Community and Family Network (The "NET") is located in Upper Lake. This town participates in the Lake County Community Revitalization Project.

The community of Nice, while technically not part of the Route 20 Principal Arterial Corridor, does have access to the Corridor via the Nice-Lucerne Cutoff, which is a section of county road that connects SR-20 and SR-29 along the northwest shore of Clearlake. Nice is located directly on SR-20 along the shoreline of Clear Lake, and is primarily a residential and resort community.

Nice is a resort town of 2,126 located on Highway 20. It features accessible beaches, a wooded shoreline, and a protected harbor for both motor and sail boats. A recent subdivision of 129 homes has increased its population. The water system is in the process of being improved. Despite the efforts of the Lake County Transit Authority, transportation in and out of Nice remains a significant issue

- Blue Lakes Recreation Area, Lake County – The Blue Lakes Community is primarily a resort and residential oriented area, located along the shoreline of the Lake. The area lies within the unincorporated area of Lake County approximately, 10 miles north and west of the city of Lakeport. Route 20 traverses the north shore of the two lakes in a deep canyon. The alignment is constrained by the lake on the south side and steep terrain on the north of the roadway. The lake offers boating and fishing activities that provide economic support to local businesses. There are several resorts and a small year round population of approximately 700 around the two lakes. The area has had significant problems related to substandard housing and lacks most public services. The lake is considered an environmentally sensitive area related to wetlands habitat that could be disturbed by future roadway improvements.
- Calpella/Lake Mendocino, Mendocino County – Calpella is located immediately south of the junction of SR-20 and US-101 in the unincorporated area of Mendocino County. The community is primarily rural residential with a few local serving businesses. The community provides some retail and community services for the Calpella and Redwood Valley rural areas. The Calpella/Lake Mendocino service area is approximately 5.0 square miles in size and has a population of 6,640 persons. There are approximately 2,500 housing units in the area, predominantly single family and low-density rural development. The median family income in the service area is \$35,305 per year, the per capita income, however, is \$12,590 per year. While employment in this portion of the corridor is higher than Lake County, the unemployment rate is still significantly higher than the State unemployment rate at 7.2%. The statewide rate is 4.2 % for the same time period.

Lake Mendocino is immediately east of Calpella and south of the Route 20 alignment. A portion of Route 20 runs along the north shoreline of Lake Mendocino. The lake is a Corps of Engineers recreation area, with facilities for overnight camping, boating, fishing and day use. The lake is considered an environmentally sensitive area, although not from a conservation standpoint.

## **Interregional Transportation System Role**

The Route 20 Corridor Study addresses the critical need for improved access connecting I-5 in the inland valley and the US-101 coastal highway. Both of these routes are vital north-south links that serve regional and statewide access needs. East-west connectors of a comparable Level-of-Service (LOS) of the coastal routes does not exist. Without significant investment in improvements to corridor facilities, the existing routes are not capable of providing either adequate capacity or reasonable travel speeds for heavy trucks and/or passenger automobiles. This includes routes in Southern Oregon as well as California.

**Route 20 was identified by Caltrans as one of several High Emphasis Focus Routes in the Interregional Transportation Strategic Plan (June 1998), as having statewide significance. Exhibit I-2 demonstrates the role of SR-20 in relationship to the other state routes.**

In northern California there are only two east-west routes that offer opportunities for distributing north-south traffic between the I-5 and US-101 corridors: State Route 299, and State Route 20. These routes are separated by over 100 miles, and serve different regions of the state. This Corridor study will provide the basis for a revised concept plan for the route to be prepared by Caltrans, District 01. Caltrans has a legitimate need to update the 1989 Route 20 Corridor Concept Plan. However, from a regional/county perspective, there is an overriding need to place an improvement plan for SR-20 within a comprehensive planning context. Significant changes in access, combined with economic development incentives, and carefully integrated land use planning, can provide positive benefits to communities along the corridor. Statewide benefits, particularly to areas along the I-5 and the US-101 corridors that would be linked by the SR-20 corridor, would be enhanced by improved traffic flow in the SR-20 Corridor. This Study, therefore, included active leadership and participation by the RTPAs in Lake, Mendocino, and Colusa Counties as well as Caltrans, Districts 01 and 03.

## II. STUDY APPROACH AND METHODOLOGY

The approach and methodology for this Study, out of necessity, has been dynamic and subject to many revisions. As the time frame and data availability converged, the level of detail involved in completing work tasks has been adjusted to focus only on essential study elements. The development of updated traffic projections, simulation testing of SR-53 intersections with future traffic demands, and extensive local community workshops were the major focus areas of the study. The involvement of state, regional and local agency staff was an essential part of the study process. State and regional staff involvement in the Steering Committee meetings, work program development, and participation in community workshops ensured coordination between Caltrans and the RTPAs involved. Review of the draft work program and support for the community based workshops by the regional Technical Advisory Committees (TACs) brought input from the local agencies affected by SR-20 Corridor improvements. The work program flow chart shown in *Exhibit II-1* was the general guide for the evaluation of the corridor alignment and basic concept plan.

### Traffic Projections and Performance Evaluation

The methodology for the development of traffic projections is a standard approach used by Caltrans, District 01 for basic project studies. The forecast of future demand was based on expansion factors derived from Caltrans statewide forecasts of vehicle miles traveled (VMT) and fuel consumption. Traffic projections for this study are primarily based on growth factors developed from information in the November 1998 “California Motor Vehicle Stock, Travel and Fuel Forecast”. Annual statewide vehicle miles of travel projections for the State Highway System for the year 2020 were used to develop County growth factor targets. Historic traffic growth information from previous issues of “Traffic Volumes on California State Highways”, published by Caltrans was used to adjust growth factors on specific state highway routes. Routes with historically lower traffic growth rates than calculated for the November 1998 forecast were assigned appropriate lower growth factors. The state highway growth factors within each county were adjusted to meet, or very closely approach, growth factor targets developed from VMT projections.

It is important that the travel forecast reflect both the regional context and statewide demand changes associated with improvements and access system revisions. However, given the budget and time limitations for this Study, these concerns will be handled externally to the travel demand projection process for the corridor. In order to ensure the applicability of the methodology to corridor analysis, the following steps were taken:

- Existing conditions data for use in preparation of corridor segment traffic projections was reviewed, and;
- Traffic projections for reasonableness and face validity were also reviewed.

Caltrans, District 03 staff was primarily responsible for the CORSIM model development and calibration tasks. The SR-53 segment of the Principal Arterial Corridor was the top priority for traffic simulation and capacity analysis. The model development and application included the

development of future year assignments and intersection LOS analysis. The junction of the SR-53/SR-29 Highways was one of the initial intersections identified by Caltrans and LC/CAPC staff that would require turning movement analysis. After review of development issues at the intersections of Dam Road and 18<sup>th</sup> Street with SR-53, it was decided to analyze all of the intersections on this segment of the Corridor.

### **Public Participation and Interagency Coordination**

Public participation and coordination activities were identified as a central to the reaffirmation of the Principal Arterial Highway alignment and the review of concept plan alternatives for the corridor. The study approach outlined in *Exhibit II-1* had the early establishment of notification and media contacts identified in Task 3.0 to ensure the incorporation an effective input process. To the extent possible, the RTPA Technical Advisory Committees provided contacts in each of the local jurisdictions for follow up by the study team. Communication techniques used included: mailing and contact lists, media contacts, press releases, interagency notification contact lists, and web site postings. The public outreach actions were implemented in informational workshops located at key sites throughout the Corridor. These sites were selected to optimize local community input and accessibility by local agency decision-makers. The workshops were focused on gathering input and reaction to the following:

- Review of existing conditions and concept plan for the Corridor.
- Review of existing traffic and projected traffic demand in the Corridor.
- Specific problem areas and concerns related to access and Corridor improvements.

The number of meetings, location, and time would be determined after consultation with local agency officials and community representatives. The use of media for announcing workshop information to the general public would be essential to getting a good turnout at the meetings.

### **Corridor Segmentation**

The need to divide the Corridor into useful segments was recognized early in the development of the study work program. Task 5.0 in the work program flow chart identifies corridor segmentation as one of the first technical decision actions to be undertaken. The approach to segmentation was a two-step procedure: first, to divide the Corridor into major separations based on key changes in roadway classification, geographical/terrain features, and general service area characteristics; and second, to divide each of the major separations into smaller segments based on descriptive and functional criteria. Criteria considered in determining segment break points included existing facility type, roadway cross section, topography, terrain features, and jurisdictional boundaries. *Table II-1* presents the segmentation results including identification and length; and *Exhibit II-2* graphically depicts the Corridor alignment and segments. The route post mile for the segment limits are given in the table, as well as the segment length. Post mile numbering for a route begins at the south end of a route and increases northward and at the west end of a route and increases eastward.



**TABLE II - 1  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
SEGMENT DESCRIPTIONS**

<b>CORRIDOR SEGMENTATION</b>	<b>POST MILE BACK</b>	<b>POST MILE AHEAD</b>	<b>SEGMENT LENGTH (MILES)</b>
<b>SEGMENT 1 – ROUTE 20 WEST</b>			
SUB-SEGMENT 1-A MENDOCINO COUNTY	33.2	44.1	10.9
SUB-SEGMENT 1-B BLUE LAKES	0.0	3.6	3.6
SUB-SEGMENT 1-C BACHELOR VALLEY	3.6	8.3	4.7
<b>SEGMENT 2 – ROUTE 29 SOUTH SHORE</b>			
SUB-SEGMENT 2-A NORTH OF LAKEPORT	48.4	52.5	2.8
SUB-SEGMENT 2-B LAKEPORT FREEWAY	40.9	48.4	7.5
SUB-SEGMENT 2-C ROUTE 281 TO LAKEPORT	27.9	40.9	13.0
SUB-SEGMENT 2-D LOWER LAKE TO ROUTE 281	20.3	27.9	7.6
<b>SEGMENT 3 – ROUTE 53</b>			
SUB-SEGMENT 3-A CLEARLAKE EXPRESSWAY	0.0	3.0	3.0
SUB-SEGMENT 3-B NORTH CLEARLAKE	3.0	7.5	4.5
<b>SEGMENT 4 – ROUTE 20 EAST</b>			
SUB-SEGMENT 4-A ROUTE 53 TO CACHE CREEK BR.	31.6	37.1	5.5
SUB-SEGMENT 4-B CACHE CR. BR. TO COLUSA CO. LN.	37.1	46.5	9.4
SUB-SEGMENT 4-C COLUSA CO. LN. TO ROUTE 16	0.0	3.5	3.5
SUB-SEGMENT 4-D RTE 16 TO SACRAMENTO VALLEY	3.5	13.3	9.8
SUB-SEGMENT 4-E SACRAMENTO VALLEY	13.3	22.1	8.8

### III. EXISTING CONDITIONS

#### Roadway Geometry and Facility Description

The Corridor geometry and facility conditions are summarized in *Table III-1* for each major route segment and subsegment. The data in the table is intended to give the reader an overview of the physical facilities in the Route 20 Principal Arterial Corridor and is not useful for a detailed analysis. The facilities information is also presented graphically in *Exhibit III-1* by Corridor segment and subsegment.

**TABLE III - 1  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
EXISTING FACILITIES - CROSS SECTION AND TERRAIN**

CORRIDOR SEGMENTATION	POST MILE BACK	POST MILE AHEAD	FACILITY TYPE	# OF LANES	LANE WIDTH	SHOULDER WIDTH	TERRAIN	PASSING LANE (LN. MI.)
<b>SEGMENT 1 – ROUTE 20 WEST</b>								
SUB-SEGMENT 1-A MENDOCINO COUNTY	33.2	44.1	CONVENTIONAL/ EXPRESSWAY	2	12'	2-11'	MOUNTAINOUS	1.57
SUB-SEGMENT 1-B BLUE LAKES	0.0	3.6	CONVENTIONAL	2	12'	2-4'	ROLLING	0.00
SUB-SEGMENT 1-C BACHELOR VALLEY	3.6	8.3	CONVENTIONAL	2	12'	2-8'	LEVEL	0.00
<b>SEGMENT 2 – ROUTE 29 SOUTH SHORE</b>								
SUB-SEGMENT 2-A NORTH OF LAKEPORT	48.4	52.5	CONVENTIONAL/ EXPRESSWAY	2	12'	1-10'	LEVEL	0.19
SUB-SEGMENT 2-B LAKEPORT FREEWAY	40.9	48.4	FREEWAY	4	12'	10'	LEVEL	NOT APPLICABLE
SUB-SEGMENT 2-C ROUTE 281 TO LAKEPORT	27.9	40.9	CONVENTIONAL/ EXPRESSWAY	2	12'	0-10'	LEVEL	1.06
SUB-SEGMENT 2-D LOWER LAKE TO ROUTE 281	20.3	27.9	CONVENTIONAL	2	12'	2-8'	MOUNTAINOUS	2.34
<b>SEGMENT 3 – ROUTE 53</b>								
SUB-SEGMENT 3-A CLEARLAKE EXPRESSWAY	0.0	3.0	EXPRESSWAY	4	12'	2-8'	ROLLING	NOT APPLICABLE
SUB-SEGMENT 3-B NORTH CLEARLAKE	3.0	7.5	EXPRESSWAY	2	12'	2-8'	ROLLING	0.00
<b>SEGMENT 4 – ROUTE 20 EAST</b>								
SUB-SEGMENT 4-A ROUTE 53 TO CACHE CREEK BR.	31.6	37.1	CONVENTIONAL	2	12'	0-9'	MOUNTAINOUS	2.97
SUB-SEGMENT 4-B CACHE CR. BR. TO COLLUSA CO. LN.	37.1	46.5	CONVENTIONAL	2	12'	0-9'	MOUNTAINOUS	6.42
SUB-SEGMENT 4-C COLLUSA CO. LN. TO ROUTE 16	0.0	3.5	CONVENTIONAL	2	12'	0-4'	ROLLING	1.06
SUB-SEGMENT 4-D ROUTE 16 TO SACRAMENTO VLY	3.5	13.3	CONVENTIONAL	2	12'	0-8'	ROLLING	2.90
SUB-SEGMENT 4-E SACRAMENTO VALLEY	13.3	22.1	CONVENTIONAL	2	12'	2-8'	LEVEL	0.00

WIDTHS AND FACILITY TYPE FROM 1998 CALIFORNIA STATE HIGHWAY LOGS FOR DISTRICTS 1 AND 3

PASSING LANES: CALCULATED FROM THE CALIFORNIA STATE HIGHWAY LOG FOR DISTRICTS 1 AND 3

The Route 20 Principal Arterial Corridor is a two-lane conventional rural highway, with the exception of two segments: a four-lane freeway segment of 7.5 miles in length adjacent to the city of Lakeport; and a three mile length of four-lane expressway on the west approach to the city of Clearlake. These are the only four-lane pavement sections in the Corridor. The majority of the roadway is AC pavement and is in fair to good condition. The greatest variability is in availability of graded shoulders adjacent to the paved roadway section. Shoulder width range from 10 feet for the freeway segment of Route 29, to less than one foot for segments of Route 20 east of the Route 53 junction in Lake County and Colusa County. In reviewing both the information in *Table III-1* and *Exhibit III-1*, the lack of passing lanes coupled with the predominant rolling to mountainous nature of the terrain indicates that delays behind slower vehicles will occur. Where passing lanes have recently been implemented on Route 20 segments located in Colusa County, Caltrans traffic engineering staff has noted substantial improvement in traffic flow.

### **Existing Traffic Demand and Performance Analysis**

The existing performance level of Corridor roadway segments is generally measured by evaluating the traffic volume on specific roadway sections. The traffic volumes for existing conditions are collected from count stations located at strategic points along the Route. Data is collected for a typical weekday time period and a typical Peak Hour for traffic flow. The performance is measured in terms of “Level-of-Service” (LOS) grades. The 1997 Highway Capacity Manual (HCM) has proscribed methods for computing LOS grades that utilize roadway characteristics, terrain, and traffic factors for each highway segment. A discussion of the HCM recommended methods and the determination of LOS grades can be found in Appendix A at the end of this report.

**The typical capacity of a two-lane rural highway is estimated at 2,800 vehicles per hour in both directions. This is an ideal capacity that would decrease with changes in grade, curve radius, and shoulder width. A minimum standard roadway in steep terrain and restricted sight distance could have maximum effective capacity reduced to 1,500 vehicles per hour in both directions.**

The traffic volume data by Corridor segment and sub-segment along with other pertinent performance data is presented in *Table III-2*; and shown graphically in *Exhibit III-2* on the Corridor alignment.

**TABLE III - 2  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
EXISTING FACILITIES - TRAFFIC AND LEVEL OF SERVICE**

CORRIDOR SEGMENTATION	POST MILE BACK	POST MILE AHEAD	DAILY TRAFFIC	PEAK HR. TRAFFIC	% TRUCKS	LEVEL OF SERVICE
<b>SEGMENT 1 – ROUTE 20 WEST</b>						
SUB-SEGMENT 1-A MENDOCINO COUNTY	33.2	44.1	7,700- 10,000	770- 1,050	5.0%	E
SUB-SEGMENT 1-B BLUE LAKES	0.0	3.6	9,300	930	7.0%	E
SUB-SEGMENT 1-C BACHELOR VALLEY	3.6	8.3	7,000- 7,200	640- 650	7.0%	D
<b>SEGMENT 2 – ROUTE 29 SOUTH SHORE</b>						
SUB-SEGMENT 2-A NORTH OF LAKEPORT	48.4	52.5	4,950- 5,000	450- 490	3.0%	C
SUB-SEGMENT 2-B LAKEPORT FREEWAY	40.9	48.4	5,000- 11,600	490- 1,050	3.0%	A
SUB-SEGMENT 2-C LAKEPORT TO ROUTE 281	27.9	40.9	6,500- 11,000	620- 1,050	4.0%	E
SUB-SEGMENT 2-D ROUTE 281 TO LOWER LAKE	20.3	27.9	6,000- 8,600	650- 830	5.0%	D
<b>SEGMENT 3 – ROUTE 53</b>						
SUB-SEGMENT 3-A ROUTE 281 TO LAKEPORT	0.0	3.0	11,700- 13,800	1,550- 2,100	4.0%	A
SUB-SEGMENT 3-B NORTH CLEARLAKE	3.0	7.5	6,500- 6,600	620- 850	4.0%	D
<b>SEGMENT 4 – ROUTE 20 EAST</b>						
SUB-SEGMENT 4-A ROUTE 53 TO CACHE CREEK BR.	31.6	37.1	4,900- 5,500	690- 700	8.0%	E
SUB-SEGMENT 4-B CACHE CR. BR. TO COLUSA CO. LN.	37.1	46.5	3,900- 4,900	690- 700	8.0%	E
SUB-SEGMENT 4-C COLUSA CO. LN. TO ROUTE 16	0.0	3.5	3,900	700	15.0%	E
SUB-SEGMENT 4-D RTE 16 TO SACRAMENTO VALLEY	3.5	13.3	3,450	620	15.0%	D
SUB-SEGMENT 4-E SACRAMENTO VALLEY	13.3	22.1	3,450- 4,600	460- 620	15.0%	C

TRAFFIC VOLUMES: FROM 1998 TRAFFIC VOLUMES ON CALIFORNIA STATE HIGHWAYS

LEVEL OF SERVICE: CALCULATED USING PEAK HOUR VOLUMES AND M&TRANS HCM SOFTWARE

PERCENT TRUCKS: FROM 1997 ANNUAL AVERAGE DAILY TRUCK TRAFFIC ON THE CALIFORNIA STATE HIGHWAY SYSTEM

The four-lane freeway section of Route 29 has a capacity of 2000 vehicles per lane per hour in the peak hour and the four-lane expressway section of Route 53 has an estimated 1800 vehicles per lane per hour for peak hour capacity. Traffic volume on corridor roadways range from under 4,000 to over 13,000 vehicles per day, and from 450 vehicles per hour to 2,100 vehicles per hour in the peak hour period of travel. The lowest level-of-service grades (LOS “E”) are found in the two-lane mountainous segments of the corridor in Lake County. The highest level-of-service grades (LOS “A”) are found on the four-lane sections of Route 29 near the City of Lakeport, and

Route 53 in and through the City of Clearlake. In all, five corridor segments have level-of-service grades of LOS "D" or worse between US-101 and the I-5 Freeway.

Speed and number of intersections associated with each corridor segment also determine roadway capacity. *Table III-3* indicates the posted speed, design speed, measured travel speed for each sub-segment of the corridor.

**TABLE III - 3  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
EXISTING FACILITIES - SPEED & INTERSECTIONS**

CORRIDOR SEGMENTATION	POST MILE BACK	POST MILE AHEAD	MINIMUM SPEEDS			TRAVEL SPEED	# OF SIGNALS	# STOP SIGNS
			DESIGN	POSTED	WARNING			
<b>SEGMENT 1 – ROUTE 20 WEST</b>								
SUB-SEGMENT 1-A MENDOCINO COUNTY	33.2	44.1	49	55	30-35 (2 SIGNS)	57.8	NONE	NONE
SUB-SEGMENT 1-B BLUE LAKES	0.0	3.6	34	50	30-40 (6 SIGNS)	52.4	NONE	NONE
SUB-SEGMENT 1-C BACHELOR VALLEY	3.6	8.3	37	45	NONE	56.8	NONE	NONE
<b>SEGMENT 2 – ROUTE 29 SOUTH SHORE</b>								
SUB-SEGMENT 2-A NORTH OF LAKEPORT	48.4	52.5	64	55	NONE	58.3	NONE	1
SUB-SEGMENT 2-B LAKEPORT FREEWAY	40.9	48.4	72	65	NONE	64.1	NONE	NONE
SUB-SEGMENT 2-C ROUTE 281 TO LAKEPORT	27.9	40.9	50	55	NONE	56.7	2	NONE
SUB-SEGMENT 2-D LOWER LAKE TO ROUTE 281	20.3	27.9	48	45	NONE	55.4	NONE	NONE
<b>SEGMENT 3 – ROUTE 53</b>								
SUB-SEGMENT 3-A CLEARLAKE EXPRESSWAY	0.0	3.0	>66	45	NONE	45.0	4	NONE
SUB-SEGMENT 3-B NORTH CLEARLAKE	3.0	7.5	66	50	NONE	54.8	NONE	1
<b>SEGMENT 4 – ROUTE 20 EAST</b>								
SUB-SEGMENT 4-A ROUTE 53 TO CACHE CREEK BR.	31.6	37.1	50	55	NONE	57.2	NONE	NONE
SUB-SEGMENT 4-B CACHE CR. BR. TO COLUSA CO. LN.	37.1	46.5	28	55	30-45 (13 SIGNS)	55.3	NONE	NONE
SUB-SEGMENT 4-C COLUSA CO. LN. TO ROUTE 16	0.0	3.5	30	55	35	54.3	NONE	NONE
SUB-SEGMENT 4-D ROUTE 16 TO SACRAMENTO VLY.	3.5	13.3	42	55	40	58.5	NONE	NONE
SUB-SEGMENT 4-E SACRAMENTO VALLEY	13.3	22.1	55	55	55	58.9	NONE	NONE

**DESIGN SPEED:** CALCULATED BASED ON MINIMUM CURVE RADII

**TRAVEL SPEEDS:** AVERAGE OF FROM 4-12 FLOATING CAR RUNS (GPS);

AVERAGE SPEED ON ROUTE 20 NORTH SHORE SEGMENT = 46.5 MPH

**SIGN INFORMATION:** FROM SIGN LOGS AND CALTRANS VIDEO LOG

MINIMUM POSTED SPEED EXCLUDES SCHOOL ZONES

This table also indicates the number of cautionary warning signs and the traffic control devices that would interrupt traffic flow on the Corridor facilities. The location of warning signs, for example, slow to lower speeds, provides an insight into the segments, which present the most difficulty to drivers. Subsegment 1-B (Blue Lakes) has six signs in its 3.6 mile length and subsegment 4-B, (Cache Creek Bridge to Colusa Co. Line), has 13 signs in its 9.4 mile length. Traffic controls (i.e. four-way stop sign control or traffic signal control) at intersections on the Corridor facilities do not create significant delay on the Corridor routes at this time. There are a

total of six traffic signal controlled intersections, two four-way stop sign controlled intersections, and two partial access controlled intersections within the Corridor.

### Traffic Safety

Traffic safety and accident occurrences are always a concern when evaluating roadway facilities. One of the tools used in evaluating state highway routes for safety performance is the comparison of accident rates per million miles of vehicle travel. Accident data is collected from incident reports filed by law enforcement departments who have jurisdiction on state highways.

Data is collected for all types of accidents and separated into reporting categories: Property Damage Only, Injury and Fatality accidents. Traffic volumes and highway segment lengths are incorporated into the calculation of rates per million vehicle miles. *Table III-4* contains accident data for the study corridor and *Exhibit III-3* presents the location of accident “hot spots” where collision incidents indicated remedial action should be investigated.

**TABLE III - 4  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
EXISTING FACILITIES - COLLISION INFORMATION**

CORRIDOR SEGMENTATION	POST MILE BACK	POST MILE AHEAD	ACCIDENT RATES				COLLISION INVESTIGATIONS REQUIRED
			ACTUAL FATAL + INJ	STATE AVG FATAL + INJ	ALL COLLISIONS	STATE AVG COLLISIONS	
<b>SEGMENT 1 – ROUTE 20 WEST</b>							
SUB-SEGMENT 1-A MENDOCINO COUNTY	33.2	44.1	0.38	0.49	0.78	0.96	2 LOCATIONS
SUB-SEGMENT 1-B BLUE LAKES	0.0	3.6	0.27	0.63	0.68	1.18	2 LOCATIONS
SUB-SEGMENT 1-C BACHELOR VALLEY	3.6	8.3	0.27	0.46	0.70	0.85	2 LOCATIONS
<b>SEGMENT 2 – ROUTE 29 SOUTH SHORE</b>							
SUB-SEGMENT 2-A NORTH OF LAKEPORT	48.4	52.5	0.73	0.62	1.47	1.18	NONE REQUIRED
SUB-SEGMENT 2-B LAKEPORT FREEWAY	40.9	48.4	0.11	0.24	0.37	0.47	NONE REQUIRED
SUB-SEGMENT 2-C ROUTE 281 TO LAKEPORT	27.9	40.9	0.56	0.42	1.19	0.79	4 LOCATIONS
SUB-SEGMENT 2-D LOWER LAKE TO ROUTE 281	20.3	27.9	0.44	0.67	1.08	1.30	1 LOCATION
<b>SEGMENT 3 – ROUTE 53</b>							
SUB-SEGMENT 3-A CLEARLAKE EXPRESSWAY	0.0	3.0	0.73	0.50	1.65	1.00	4 LOCATIONS
SUB-SEGMENT 3-B NORTH CLEARLAKE	3.0	7.5	0.73	0.50	1.65	1.00	NONE REQUIRED
<b>SEGMENT 4 – ROUTE 20 EAST</b>							
SUB-SEGMENT 4-A ROUTE 53 TO CACHE CREEK BR.	31.6	37.1	0.44	0.72	0.82	1.39	1 LOCATION
SUB-SEGMENT 4-B CACHE CR. BR. TO COLUSA CO. LN.	37.1	46.5	0.83	0.67	1.51	1.29	5 LOCATIONS
SUB-SEGMENT 4-C COLUSA CO. LN. TO ROUTE 16	0.0	3.5	0.31	0.82	1.26	1.54	2 LOCATIONS
SUB-SEGMENT 4-D RTE 16 TO SACRAMENTO VALLEY	3.5	13.3	0.54	0.77	1.15	1.46	3 LOCATIONS
SUB-SEGMENT 4-E SACRAMENTO VALLEY	13.3	22.1	0.33	0.59	0.54	1.14	1 LOCATION

*State Route 20 Corridor Study*

August 2000

The California Department of Transportation uses the “Traffic Accident Surveillance and Analysis System” (TASAS) to monitor collision history. Based on this information, further investigation, and professional judgment, improvements are implemented to reduce the number and severity of collisions.

The collision history of each sub-segment of the Route 20 Principal Arterial Corridor was reviewed for the three year time period from July 1, 1996 through June 30, 1999. Five of the 14 subsegments were found to have collision histories that exceed statewide averages, based on similar facilities.

**TABLE III-5**

**COMPARISON WITH STATEWIDE ACCIDENT RATES**

<b>SEGMENT</b>	<b>TIMES STATEWIDE AVERAGE</b>
<u>Segment 2, Route 29 South Shore</u>	
LAK-29-48.4/52.5, North Lakeport	1.25
LAK-29-27.9/40.9, Route 281 to Lakeport	1.51
<u>Segment 3, Route 53</u>	
LAK-53-0.0/3.0, Clearlake Expressway (under construction)	1.65
LAK-53-3.0/7.5, North Clearlake	1.65
<u>Segment 4, Route 20 East</u>	
LAK-20-37.1/46.5, Cache CR. Bridge to Colusa Co. Line	1.17

The subsegments with the greatest increase in accident rates are shown in *Table III-5*. The highest collision rate for a subsegment exceeds the Statewide average by 65 percent. The relatively high accident rates on Route 53 reflect that fact that it is a signalized expressway facility with high turning movement volumes. Both signalized intersections and turning movements contribute to a high collision rate.

The TASAS system also includes an automatic data base review that “flags” areas with collision concentrations on a quarterly basis. Locations with collision concentrations may be flagged based on the number of collisions over several years, or based on a smaller number of collisions over a relatively short time period (e.g. three months). The TASAS system also identifies collision concentrations under wet conditions.

All locations with collision concentrations are monitored by Caltrans. Collision concentrations meeting certain criteria (e.g. number or severity of collisions) require an investigation. Investigations include a review of the collision history to determine if there is a pattern that might be corrected, or if the collision severity might be reduced through safety improvements.

A total of 27 locations required collision investigations on the Route 20 Principal Arterial Corridor between March 31, 1996 and June 30, 1999. Collision concentrations ranged from two collisions in a relatively short period of time and under wet conditions, to 26 collisions over the full three-year period. The accident rates for each segment for “Fatal + Injury” and “All Collisions” categories are compared with the statewide average rates for the same categories in *Table III-4*.

The comparison of the rates reveals that for the “Fatal + Injury” category, three sub-segments have actual rates significantly higher than the statewide average. Subsegments 3-A, 3-B and subsegment 4-B exhibit rates higher than the statewide average for similar roadway characteristics.

The Route 53 segments 3-A and B are influenced by the “hot spot” of collision incidents at the two state highway junctions; the SR-29/SR-53 intersection and the SR-20/SR-53 intersection. When reviewing *Exhibit III-3* the incident of accidents at these two intersections can clearly be seen.

Over a nearly five year evaluation period (1995-1999), the Route 53 junction at Route 20 was found to experience an accident rate over five times the average experienced at similar junctions throughout the state. These accidents have also tended to be more severe than similar facilities, with several fatalities.

A series of projects have been developed to reduce collisions at the Route 53/Route 20 junction. In 1999, a grading and paving project was completed at the junction and its westerly approach. The project widened the junction, modified the superelevation, and increased sight distance. In June 2000, changeable message signs were installed to increase motorists’ awareness. An eastbound to southbound ramp is scheduled for construction in 2001 to further separate movements. A Project Study Report (PSR) is being prepared in 2000 to study interchange alternatives to reduce or eliminate turning move conflicts at this junction.

A review of the “All Collisions” category reveals that five sub-segments have significantly higher rates than the statewide average. These are sub-segments 2-A, 2-C, 3-A & B, and 4-B. Three of the subsegments were previously identified in the “Fatal + Injury” category rate comparison: two subsegments of Route 53 and the mountainous subsegment in Colusa County. Again, the state highway junction intersections played a role in the higher rates for the Route 53 subsegments. Accident remediation will be significant in identifying project priorities related to concept plan implementation.

### **Environmentally Sensitive Areas**

In evaluating the future traffic demands and the economic planning for the SR-20 Principal Arterial Corridor, even at the concept plan level, the need to identify areas of environmental concern is clear. The RTPAs and Caltrans planning staff for Districts 01 and 03 have reviewed the existing environmental data bases and identified areas which could be considered environmentally sensitive. *Exhibit III-4* indicates the locations of areas of concern and the type of habitat involved. The emphasis of environmental concern ranges from specific endangered



plant species to protected wildlife habitat. Areas that may have hazardous wastes, for example, tailing deposits containing mercury from mining operations at the Abbott Mine, have also been identified on the Exhibit. The size of the location as shown in the Exhibit does not reflect the actual size or number of specific hazardous waste sites. It simply indicates that somewhere within the location boundaries one or more waste sites have been identified.

Concerns related to areas of environmental sensitivity can involve impacting or disturbing endangered species of plants and animals; or a negative affect on human population from toxic materials located within proposed project boundaries. These concerns will be addressed in detail at the time of project development for specific improvement projects.

#### IV. CURRENT CORRIDOR PLANNING & PROGRAMMED IMPROVEMENTS

##### Current Concept Plan for Corridor

The present concept plan for the Route 20 Principal Arterial Corridor was developed by Caltrans District 01 and the LC/CAPC in 1988; and was formally approved in 1989 to guide future corridor improvements. The concept plan is also documented in the “Interregional Transportation Strategic Plan”, dated June 1998. Caltrans, Headquarters Office of Planning prepared this document, for the state legislature. The concept for this portion of the State Route 20 Corridor can be stated as follows:

- Route 20 from Route 101 north of the City of Ukiah to Route 20 east of the community of Clearlake Oaks, via Routes 29 and 53 (south shore) with roadway facilities defined as four-lane Freeway/Expressway
- Route 20 from Route 53 east of the community of Clearlake Oaks to I-5 in the City of Williams with the roadway facilities defined as a two-lane conventional highway with passing lanes

When discussing the Route 20 Principal Arterial Corridor with community groups and local agency staff, this is the starting point for future concept definition. The present Concept Plan and Proposed Improvements are shown in *Exhibit IV-1* and the status of proposed improvements is presented in *Table IV-1*.

**TABLE IV - 1  
CONCEPT PLAN & STATUS OF  
CORRIDOR IMPROVEMENTS**

PROJECT LOCATION	IMPROVEMENT DESCRIPTION	CURRENT ACTIVITY	CONSTRUCTION COSTS *	CALTRANS STATUS
<b>CONCEPT: 4-Lane Freeway/Expressway</b>				
<b>Programmed</b>				
SR20 Lake/Mendocino County Line (MEN-20-43.0/44.1 & LAK-20-0.0/0.6)	Construct Passing Lanes	1st phase	\$4.3 Million	\$4.0 Million
<b>Budgeted</b>				
Lake 29 from Route 281 to Route 175 (LAK-29-27.8-31.1)	4 Lane Freeway/ Expressway	Engineering, ROW Acquisition, & Environmental Documents	\$25.5 Million	\$2.8 M Budgeted
Route 29 West of Lower Lake to Route 281 (LAK-29-23.8/27.8)	4 Lane Freeway/ Expressway	Engineering, and Environmental Documents	\$23 Million	\$3.5 M Budgeted
<b>Candidate Projects</b>				
South Lakeport (LAK-29-R34.6/R40.9)	4 Lane Freeway/ Expressway	Project Study Report Preparation	\$25 Million	Developing PSR
South Kelseyville (LAK-29-31.1/R34.6)	4 Lane Freeway/ Expressway	Project Study Report Preparation	\$15 Million	Developing PSR
North Clearlake (LAK-3.5/7.2 & LAK-20)	4 Lane Freeway/ Expressway	Project Study Report Preparation	\$35 Million	Developing PSR
<b>Future Candidate Projects</b>				
North Lakeport (LAK-29-R48.4/52.2)	4 Lane Freeway/ Expressway	None	\$15 Million	Pending
Clearlake Expressway Conversion to Fwy. (LAK-53-1.4/3.5)	4 Lane Freeway	None	\$30 Million	Pending
Lower Lake Bypass (LAK-29-19.6/21.5 & LAK-53-0.0/1.1)	4 Lane Freeway/ Expressway	None	\$30 Million	Pending
West of Lower Lake (LAK-29-21.5/23.8)	4 Lane Freeway/ Expressway	None	\$20 Million	Pending
<b>CONCEPT: 2 Lane Improved Highway</b>				
<b>Programmed</b>				
None				
<b>Candidate Project</b>				
From Williams to the Foothills	Add shoulders, curve correction & passing lanes	None	\$15 Million	Future ITIP Candidate Project

\* Construction costs identified are estimates which are subject to revision upon the completion of thorough environmental review and detailed preliminary engineering.

### Alternative Corridor Concepts

In conducting planning for the Corridor, it is important to define alternatives for consideration by the public and planning officials. While numerous facility concepts could be considered, the five below have been selected to represent a wide range of alternatives; and are listed in order of their anticipated costs and environmental impacts:

- No major improvements: This alternative would have the least cost and environmental impacts. It would not address existing operational and capacity concerns (generally the lack of passing opportunities, low peak hour level of service, anticipated future capacity concerns in some segments, and delays due to signalization at several south shore locations in Lake County). This alternative would not be consistent with previous planning efforts.
- Four-lane freeway/expressway between the cities of Lakeport and Clearlake, and two-lane conventional highway with passing lanes for the remainder of the corridor: Compared to the existing concept, this alternative would upgrade only about one-half as much of the two-lane highway to a four-lane freeway/expressway, (approximately 24 miles vs. 50 miles). Likely construction costs and environmental impacts would be substantially less than for all but the “no major improvement” alternative. Operational and capacity concerns would be addressed between the cities of Lakeport and Clearlake, but would continue to exist at other locations (mitigated somewhat by additional passing lanes). This alternative could be considered inconsistent with previous planning efforts.
- Existing concept, except two-lane segments at locations where four-lane construction would have extensive environmental impacts and high costs (generally, the Blue Lakes area in Lake County): Cost and environmental impacts for this alternative could be slightly to substantially less than for the “retain the existing concept” alternative, depending on the extent of four-lane construction. Operational and capacity concerns would probably be addressed, except for portions of the segment of Route 20 from Route 53 to I-5, where additional passing lanes would mitigate these concerns. This alternative would be generally consistent with previous planning efforts.
- Retain the existing concept: The cost and environmental impacts for this alternative would be higher than all but the full four-lane freeway/expressway alternative. Operational and capacity concerns would be addressed, except for portions of Route 20 from Route 53 to I-5, where additional passing lanes would mitigate these concerns. This alternative would be consistent with previous planning efforts.
- Four-lane freeway/expressway for the entire Principal Arterial Corridor: This alternative would upgrade about 38 more miles of two-lane conventional highway to four-lane freeway/expressway (16 in Lake County and 22 in Colusa County). It would have the greatest environmental impact and the highest cost of all the alternatives. It would also provide the best service to current and future traffic, with guaranteed passing opportunities and a high level of service. Historically, this alternative has not been supported by Colusa County or Caltrans District 03, due primarily to low traffic volumes, high improvement costs, and other improvement priorities, and would not be consistent with previous planning efforts.

The evaluation of the current Route 20 Concept Plan alignment and alternatives focused on community participation as the key element in the planning process. Community and local agency participation would be instrumental in determining priorities for the Corridor needs and

project identification. The description of alternatives, along with existing condition data, was incorporated into citizen participation workshops in communities within the Corridor.

### **Current Programmed Improvements**

The current concept plan and identified improvements for plan implementation are presented in *Exhibit IV-1* (see previous section), for the Route 20 Principal Arterial Corridor. The concept presented in this Exhibit is for the ultimate set of project improvements, which involves a time period well beyond the 20 year programming period. The concept plan review and evaluation is to ensure that the ultimate concept anticipates reasonable demand and capacity requirements; and that the concept provides for the planning needs of communities impacted by corridor operation. With an ultimate concept in mind, adequate right-of-way can be preserved and planning for future improvements can proceed with community support. Current programmed and identified candidate projects for corridor implementation are presented in *Table IV-1* as they reflect the current concept plan. There is only one fully programmed improvement project in the corridor:

- Construction of passing lanes on Route 20 at the Mendocino/Lake County line. An estimated \$4.0 million of a total cost of \$5.5 million is programmed for 2000/2001 fiscal year.

Two other improvement projects within the Corridor are partially budgeted:

- Construction of a four-lane expressway on Route 29 between Route 175 (Kelseyville-Middletown segment) and Route 281 (Soda Bay Road). A total of \$2.8 million is currently budgeted to carry this project through the Right Of Way phase.
- Construction of a four-lane expressway on Route 29 between Route 281 (Soda Bay Road) and Deines Drive. A total of \$3.5 million is programmed for a preliminary assessment and environmental documentation.

Caltrans District 01 has prepared preliminary studies for other potential projects in the Corridor. In some cases funds have been budgeted for environmental documents, preliminary engineering, and right-of-way acquisition in anticipation of project programming. Improvements completed or initiated as a result of safety investigations in the Route 20 Principal Arterial Corridor over the last three years are shown in *Table IV-2*.

**TABLE IV-2  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
SAFETY IMPROVEMENTS**

<b>LOCATION</b>	<b>POST MILE</b>	<b>SAFETY IMPROVEMENT(S)</b>
<b>Segment 1, Route 20 West</b>		
MEN-20-33.2/44.1, Mendocino Co.	34.0	Re-do striping Upgrade signing
LAK-20-0.0/3.6, Blue Lakes	1.8/2.1	Additional signing
LAK-20-3.6-8.3, Bachelor Valley	8.3	Upgrade signing Re-do striping
<b>LOCATION</b>	<b>POST MILE</b>	<b>SAFETY IMPROVEMENT(S)</b>
LAK-29-27.9/40.9, Rte 281 to Lakeport	27.9	Installed flashing beacon Vertical curve improvement initiated
<b>Segment 3, Route 53</b>		
LAK-53-0.0/3.0, Clearlake Expressway	3.0	Trim trees to increase signal visibility
<b>Segment 4, Route 20 East</b>		
LAK-20-31.6/37.1, Rte 53 to Cache Cr.	31.6	Additional signing Sight distance improvement Ramp improvement Interchange project initiated
LAK-20-37.1/46.5, Cache Cr. To Colusa	40.0/40.5 40.7/40.9 44.9/45.2	Extend guardrail Curve improvement Additional signing Shoulder widening Delineators

### **Interregional Transportation System Implementation**

The 1998 Interregional Transportation Strategic Plan (ITSP) for the implementation of improvements to the State Transportation System built on planning and programming actions was adopted in the early 1980s. The ITSP identifies a planning process for evaluation of the past programming efforts; and a basis for maintenance of the existing Interregional Transportation System as well as improvements in specified corridors. The Interregional Road System (IRRS) for planning purposes, is divided into routes defined as “High Emphasis Routes” and “Focus Routes”. There are a total of 34 High Emphasis Routes in the ITSP. In some cases, the High Emphasis Route is a series of joined portions of routes that constitute a major logical transportation corridor. Route 299 and Route 20 are two examples of High Emphasis Routes that meet this criterion. These two routes are comprised of major portions of a primary route, but

also include sub-portions of other routes. The Route 20 Corridor includes significant portions of Route 20 and portions of Route 29, 53, and in Nevada County, Route 49. The inclusion of routes, or portions of routes in an overall transportation corridor, is based on the past eight years of planning and programming experience with the legislative 1990 IRRS Plan and Caltrans' continuing statewide system planning. This Principal Arterial Corridor Study is part of the planning process for review and updating of identified High Emphasis Corridors.

The term "Focus Routes" is a phrase specific to the ITSP. Focus Routes are a subset of the 34 Emphasis Routes. The Routes represent ten IRRS corridors that should be of the highest priority for completion to minimum facility standards in the 20-year programming period. Completion of the Focus Routes to minimum facility standards (for most freeway or expressway concepts) will assure a statewide trunk system is in place for essential interregional trip movements. Focus Routes will serve as a system of high capacity primary arteries to connect gateways at the state's borders and distribute longer interregional trips to lower standard facilities. Timing for improvements will be based on a combination of qualitative and quantitative factors discussed in detail in the plan document. The routes, taken as a whole, constitute a "backbone" for additional capacity to complete the system of highways serving the states interregional transportation needs. These facilities balance north-south and east-west access and connectivity statewide. The relationship of the Route 20 Corridor to the statewide Focus Route system is presented in *Exhibit IV-2*. The Focus Routes assure rural connectivity and vital distribution routes for freight and consumer goods for the northern portion of the state. They also provide important access for urbanizing areas and urban centers to a high capacity trunk system.

The ITSP contains a one-page statement describing the interregional mobility goal for each route, the facility standards to meet the identified concept, and a strategy to develop the route concept. The statement is a plan of action for each of the Focus Routes. The concept statement for the entire Route 20 Focus Route is shown in *Exhibit IV-3*.

The improvements for implementing the concept plan for the Focus Routes are contained in what is called a "Program Track" for each route. The Program Track is a starting point toward an ongoing strategic planning and programming process that will be refined with each biennial update of the ITSP. Currently, only a Track for IRRS Focus Routes exists to bring the routes to the minimum facility standard in the nonurbanized areas, consistent with Plan objectives. The Track is not a commitment to fund a project with Interregional Improvement Program Funds, just as inclusion of a project in the Regional Transportation Plan is not a funding commitment or assignment of responsibility. It is an inventory of improvements needed to meet the route concept or route development objective. For purposes of the Focus Routes, it serves as an inventory of Project Study Report priorities to prepare projects for future programming. The Program Track for the Focus Route 20 improvements is presented in *Table IV-3*.

## V. FUTURE CONDITIONS

### Traffic Projections

The results of applying the methodology for traffic projections, discussed in Section II-A, Study Approach And Methodology, Traffic Projections, is presented in *Table V-1* along with the accompanying Level-of-Service value for the segment reported.

**TABLE V - 1  
ROUTE 20 PRINCIPAL ARTERIAL CORRIDOR  
PROJECTED TRAFFIC AND LEVEL OF SERVICE (2020)**

CORRIDOR SEGMENTATION	POST MILE BACK	POST MILE AHEAD	DAILY TRAFFIC	PEAK HR. TRAFFIC	LEVEL OF SERVICE
<b>SEGMENT 1 – ROUTE 20 WEST</b>					
SUB-SEGMENT 1-A MENDOCINO COUNTY	33.2	44.1	15,300- 19,900	1,530- 2,100	F
SUB-SEGMENT 1-B BLUE LAKES	0.0	3.6	17,500	1,750	F
SUB-SEGMENT 1-C BACHELOR VALLEY	3.6	8.3	13200- 13,500	1,200- 1,220	E
<b>SEGMENT 2 – ROUTE 29 SOUTH SHORE</b>					
SUB-SEGMENT 2-A NORTH OF LAKEPORT	48.4	52.5	8,750- 8,850	800- 870	E
SUB-SEGMENT 2-B LAKEPORT FREEWAY	40.9	48.4	9,950 23,100	980- 2,090	C
SUB-SEGMENT 2-C ROUTE 281 TO LAKEPORT	27.9	40.9	12,900- 21,900	1,230- 2,090	F
SUB-SEGMENT 2-D LOWER LAKE TO ROUTE 281	20.3	27.9	11,900 17,100	1,290- 1,650	E
<b>SEGMENT 3 – ROUTE 53</b>					
SUB-SEGMENT 3-A CLEARLAKE EXPRESSWAY	0.0	3.0	23,300 27,500	3,080- 4,180	D
SUB-SEGMENT 3-B NORTH CLEARLAKE	3.0	7.5	12,900- 13,100	1,230- 1,690	E
<b>SEGMENT 4 – ROUTE 20 EAST</b>					
SUB-SEGMENT 4-A ROUTE 53 TO CACHE CREEK BR.	31.6	37.1	9,750- 10,900	1370- 1,390	F
SUB-SEGMENT 4-B CACHE CR. BR. TO COLUSA CO. LN.	37.1	46.5	7,750- 9,750	1,370- 1,390	F
SUB-SEGMENT 4-C COLUSA CO. LN. TO ROUTE 16	0.0	3.5	7,750	1,390	F
SUB-SEGMENT 4-D RTE 16 TO SACRAMENTO VALLEY	3.5	13.3	6,850	1,230	E
SUB-SEGMENT 4-E SACRAMENTO VALLEY	13.3	22.1	6,850- 9,150	920- 1,230	D

TRAFFIC VOLUMES: PROJECTED FROM 1998 TRAFFIC VOLUMES ON CALIFORNIA STATE HIGHWAYS  
LEVEL OF SERVICE: CALCULATED USING PEAK HOUR VOLUMES AND McTRANS HCM SOFTWARE

In general, a doubling of traffic volume for both ADT and Peak Hour is projected for the entire Corridor. The traffic projections are for a 20-year horizon year. The 20-year horizon is the generally accepted forecast year based on the relative stability of projection parameters and the reliability of traffic models to predict the future.



The volumes are presented as a range for each corridor sub-segment evaluated. This provides an insight into the fluctuation of traffic on the subsegment; and also reflects the fact that the subsegments include variable access connections to the local street system. For example, traffic on subsegment 4-E ranges from 460-620 Vehicles Per Hour (VPH) in the Peak Hour for the existing conditions and grows to a range of 921-1,230 VPH in the Peak Hour for the 2020 horizon year. The higher volume end of the range reflects the connection to the I-5 Freeway in the city of Williams.

The highest traffic volume projected is on sub-segment 3-A on Route 53 between Lower Lake and the city of Clearlake. The volume here is 1,550-2,100 VPH for the existing conditions and grows to 3,080-4,180 VPH on a four-lane expressway section of the Route. As expected, the highest use segments of the Corridor are between the City of Clearlake and the City of Lakeport. These portions include subsegments 2-B, 2-C, 2-D and 3-A that utilize portions of Route 29 and Route 53. These subsegments constitute the south shore alignment of the Route 20 Principal Arterial Corridor addressed in the concept plan review.

The projected traffic volumes for the corridor on an Annual Average Daily Traffic (AADT) basis are presented in *Exhibit V-1*.

### **Corridor Level of Service and Potential Problem Areas**

Level of Service values for the corridor subsegments were calculated using the McTrans Highway Capacity Manual (HCM) software for rural highways. While the methodology for the four-lane and two-lane standard highways is well established, there is not yet an accepted procedure for calculating the increase in capacity provided by passing lanes on two-lane rural highways. The impact of passing lanes will produce a similar improvement in traffic flow as truck climbing lanes on the up-hill grades of four-lane or two-lane highways. However, the function of passing lanes is to allow faster vehicles to pass slower vehicles where sight distance is impaired due to horizontal curves and rolling terrain, as well as steep grades in mountainous terrain. Caltrans uses an internal procedure developed for evaluating passing lanes in District 01 and standard capacity analysis software using methodology from the 1994 Highway Capacity Manual, (Special Research 209) published by the Transportation Research Board National Research Council. Not surprisingly, the potential problem locations that emerged from the evaluation of future traffic demand, are the same as identified in the Existing Conditions evaluation. The LOS grades evaluated for capacity problems, as presented in *Exhibit V-2*, are for the worst-case roadway sections in each subsegment.

All of the subsegments indicate a worsening of LOS in the horizon year time period. The subsegment between the Nice-Lucerne Cutoff and Lakeport, 2-B, is the only subsegment that maintains a LOS of "C" or better through the forecast period. This subsegment reflects the capacity and traffic flow characteristics associated with four-lane freeway facilities. The existing capacity is sufficient to absorb the increase in traffic demand. The most dramatic LOS change is on the Clearlake Expressway subsegment (3-A), where the LOS changes from "A" to "D" during the 20 year time period. This subsegment is currently constructed as a four-lane expressway with at-grade intersections. The Dam Road intersection and the 40th Street intersections are a part of this subsegment and the future traffic demand analyses of these intersections indicate

significant traffic delays. Several of the subsegments change to LOS “F” during the forecast time period, and two subsegments change from LOS “D” to LOS “E”, reflecting the increase in traffic demand. In general, the changes in LOS values indicate that greater delay and traffic flow fluctuations can be expected along the Corridor.

### **CORSIM Analysis of Route 53 Subsegments**

As a more urban type roadway than other segments of the Corridor, Route 53 lent itself to analysis by CORSIM methodology. Consequently, more detailed analysis was produced and included herein than for the other, more rural, corridor segments included in this study. The disproportionate level of detail presented in this section does not suggest or imply priority or the importance of Route 53 relative to other Route 20 corridor segments.

The staff of Caltrans, District 03 performed an analysis of the Route 53 portions of the Corridor using the CORSIM software. The Route 53 alignment and intersections evaluated are depicted in *Exhibit V-3*. The analysis examined the existing condition traffic volumes and intersection turn-moves to determine if any operational deficiencies were present in the base year. For purposes of simulation modeling and analysis, the Route 53 base year is 1999 and the horizon year is 2025. The 1999 turning movement data for each of the corridor intersections is presented in *Exhibit V-4*. The existing traffic data, the projections generated from growth factors, and the Lake County QRS II model results for the Lake County Roadway Needs Study were evaluated and appropriate Horizon-Year Peak Hour turning movement estimated. The 2025 turning movement volumes are shown on *Exhibit V-5*. Base year and future year volumes were analyzed using the CORSIM and McTrans capacity analysis software. A total of nine intersections were included in the simulation model network used for the CORSIM model. Of the nine intersections, the following were evaluated for performance and LOS determination:

- Route 29/Route 53/Morgan Valley Road
- Dam Road/Route 53
- 18<sup>th</sup> Street / Route 53
- 40<sup>th</sup> Street/Route 53
- Olympic Boulevard/Route 53
- Route 53/Route 20

The results of the analysis indicate that, with the exception of the 40<sup>th</sup> Street Intersections with Route 53, with a grade of LOS “F” in the horizon year, intersections on the Route will function with minimal problems. It should also be noted that individual turning movements at other intersections will also be at LOS “F” in the horizon year. These include:

- Eastbound left-turn to northbound Route 20 from Route 53
- Southbound left-turn to eastbound Route 53 from Route 29
- Southbound left-turn from Olympic Drive to northbound Route 53

The LOS information for each intersection for the base year and the horizon year is shown in *Exhibit V-6*. Details of the intersection analysis for the base year and the horizon year are summarized in Appendix C at the end of this report.

The results of the CORSIM model evaluation of the Route 53 portion of the Route 20 Principal Arterial Corridor indicate that most of the current intersections will function at acceptable levels of service. The exceptions are at the Dam Road and 40<sup>th</sup> Street intersections with Route 53 as discussed in the previous paragraph. The intersection at 40<sup>th</sup> Street will need to be upgraded to include an eastbound left-turn lane in order to deal with the projected traffic demand. The intersection at Dam Road will have problems with the coordination of the existing two traffic signals that are closely spaced to provide control at the driveways to the shopping center east of the expressway and the traffic signal that controls the access to the expressway from Dam Road.

### **Future Development Considerations**

Employment and Income: Finding full-time work, regardless of pay scale, is difficult in Lake County. Finding full-time work that pays \$12.80/hour or better is even more difficult. The significance of \$12.80/hour is that it represents the net total of various assistance benefits for those who are eligible for public assistance. It is a salary level that emerges as the starting point for self-sufficiency. Lake County's rural character has led to chronic economic difficulties, leading to high unemployment or under-employment. The local economy is dependent on agriculture, tourism, County government, and small retail and service businesses. Agriculture and tourism share certain characteristics. They provide seasonal jobs, often limited to four to six months per year, with low average pay scales and minimal benefits. County government has been a very major employer, but its share of the job market has been decreasing steadily. Small businesses are the engine that drives the local economy, a pattern common throughout Northern California. Unfortunately, small businesses are very vulnerable to economic downturns in other sectors. These conditions combine to make finding full-time, stable, well paying employment in Lake County very uncertain. (*Comprehensive Economic Development Plan or CEDS, "Population and Labor Force", 2000.*)

The County's historically high unemployment figures confirm this economic analysis. California's economic recovery has had only limited effect on Lake County. Unemployment has dropped from an annual average of 12.6% in 1996 to 8.7% as of April 1999. During the past decade, unemployment has cycled from a high of 15.8% in 1993 to its current low. The economic growth of the last decade has allowed Lake County to return to 1990 unemployment levels. Unemployment is cyclical, matching the seasonal job availability. The current rate of 8.7% is still close to double the state rate. Further, this rate means that, on any given day, at least 2,040 people are looking for jobs (Employment Development Department, May 13, 1999).

Additional Details: Lake County's job creation rate cannot meet the need for employment. In fact, according to the California Budget Project, there are 10-14 jobless for every new job created in Lake County (California Budget Project, 1997). This figure excludes the disabled and others considered unemployable. Additional information regarding Service Area communities includes the following:

- Once a pocket of prosperity, Lakeport is increasingly subject to the same economic and social conditions as the rest of the County. An estimated 10% of its residents live at or below poverty. According to the HUD Guidelines, approximately 45% of the city's households are low or very low income. Per capita income was recently estimated at \$12,996. As of April 1999, Lakeport's unemployment rate was 8.2%. The Lake County Department of Social Services' recent move from Lakeport to Lower Lake appears to have affected the local economy (CEDS, Housing Element, Teen Parenting Services, Employment Development Department - Labor Market Information). Based on 1990 Census data, Lakeport had the 7th lowest per capita income in Lake County (\$12,701).
- The Scotts Valley Band of Pomo Indians, a federally recognized tribe in the region, is planning a development in the northeast area of Lakeport. The Big Valley Indian Rancheria lies between Lakeport and Finley (in the Kelseyville region). Big Valley is known for its lakefront view and swimming access. This Rancheria is very involved in the Pomo cultural revitalization. Big Valley has provided recreational and vocational activities for its youth. Konocti Vista Casino, an 18,000 square foot gaming facility, opened in July 1994. It employs approximately 200 people (CEDS 2000).
- Kelseyville is the business center of Lake County's active agricultural community, producing pears, walnuts, and wine grapes. In addition, it has a thriving resort economy, based on Clear Lake. Kelseyville features Clear Lake State Park, a major amenity, with its sheltered canals, boat launch facilities, 140 developed campsites, swim beach, hiking trails, and small harbor. Because so much of Kelseyville's workforce relies on resort and agricultural work, unemployment levels vary widely according to the seasons. As of April 1999, the local unemployment rate was 7.7% (CEDS, EDD). Based on 1990 Census data, Kelseyville had the third lowest per capita income in Lake County, \$10,055. The average median income for families in this region was \$22,102.
- Lower Lake, like most of Lake County, is small and economically vulnerable. The McLaughlin Gold Mine, operated by Homestake Mining Company, is located 14 miles east of town. Homestake is in the process of closing the mine, which had provided high paying, blue-collar jobs to the area. Lower Lake's small businesses are the most important elements of its economy. Economic development is constrained by limited sewage service and the need to continue rehabilitating the older buildings on Main Street. Lower Lake is participating in the Lake County Community Revitalization project. Unemployment figures are not available for Lower Lake. Based on the 1990 Census, Lower Lake had the sixth highest per capita income in Lake County. The average median income for working families in this region was \$20,476.

## **Summary**

What does all of this information mean in terms of the potential for economic development? What is the role of enhanced access in improving the lives of residents within the Corridor? As a result of this Study, it is apparent that it will take more than highway improvements to change the economic environment in the rural counties that depend on the Corridor facilities for access. Improvements to travel time and increased traffic safety along the Corridor can be a real catalyst for economic investment. Better access to markets and developable land within the Corridor may provide the incentive for job creation so badly needed along the Principal Arterial Routes involved.

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## VI. COMMUNITY CONCERNS AND COMMENTS

### Community Based Workshops

Public participation and citizen input to the corridor study process were considered essential elements of the study effort. In order to facilitate the involvement of the general public, as well as potentially affected agencies, comprehensive contact lists were compiled and notices mailed regarding the initiation of the Corridor Study. Once the date, time and location of community workshops were determined, public media were contacted via mail, fax and e-mail to provide awareness of the workshops. Media contacted included radio stations, newspapers, and television broadcast stations that provide coverage to the Corridor Service Areas. Workshops were organized at various locations. Each workshop had information stations containing display boards and handouts regarding various aspects of existing conditions and concept plan alternatives. Staff from the LC/CAPC, Caltrans Districts 01 and 03, Mendocino Council of Governments and the Colusa County Transportation Commission was available at each station to answer questions and solicit opinions as to priorities for improvements, or specific concerns about Corridor access issues. The workshops were held at the following sites on the identified dates:

<u>DATE</u>	<u>COMMUNITY AREA</u>	<u>LOCATION</u>	<u>ADDRESS</u>
April 12, 2000 4:30-7:00 PM	Lower Lake/Clearlake	Clearlake City Council Chambers	14050 Olympic Dr. Clearlake, CA.
April 13, 2000 4:30-7:00 PM	Upper Lake/Nice	Bachelor Valley Grange	9355 Government St. Upper Lake, CA
April 14, 2000 4:30-7:00 PM	Kelseyville/Lakeport	Lakeport Senior Center	527 Konocti Ave. Lakeport, CA.
April 26, 2000 5:00-7:30 PM	Ukiah/Mendocino County	Ukiah Senior Center	499 Leslie Street Ukiah, CA
April 27, 2000 4:30-7:00 PM	Lucerne/Clearlake Oaks	Lucerne Senior Center	3895 Country Club Dr. (between 9 <sup>th</sup> & 10 <sup>th</sup> ) Lucerne, CA
April 28, 2000 5:00-7:30 PM	Williams/Colusa County	American Legion Hall	860 C Street Williams, CA

The location of the community workshops is presented in *Exhibit VI-1* illustrating the distribution of opportunities for public input throughout the Corridor.

In spite of the public notification efforts through news media, contacts with local community service groups and local agency staff, the turnout at the workshops were poor to light. The workshop at Upper Lake/Nice attracted greatest attendance, approximately 25 individuals.

Ukiah's workshop attracted the least, with a total of two individuals attending for the entire evening. Comments and concerns were in general directed at specific problems, often operational or safety related, with the existing facilities. Only two individuals attending the workshops addressed the existing Concept Plan, possible alternatives, and ultimate sizing for future facilities in the corridor. One of the individuals was a professional urban planner concerned with the coordination of planning disciplines and jurisdictions to address land use and growth issues as well as access issues related to the Corridor. The other individual, representing a group from the Blue Lakes Action Committee, was concerned about the impact of construction of a four-lane facility adjacent to the Lakes and ultimate impact on the resort activities around the Lakes. Where comments addressed the south shore alignment for the Route 20 Principal Arterial Corridor, they were very supportive of the existing Concept Plan, in particular diverting truck traffic from the existing north shore route of Route 20. Appendix B contains a list of comments and concerns from each workshop and attendance sheet documenting public participation.

Each of the participating RTPAs maintain a Technical Advisory Committee (TAC) to review the work of the agency staff and to provide input regarding project needs and priorities. A brief presentation of the Route 20 Corridor Study was made to the TACs, and input regarding specific improvement priorities or changes to the Concept Plan were invited. In general, the TACs concerns were the timing and funding availability for Corridor improvements.

### **The Context for Community Participation**

The major impetus behind the design of the study work plan was to involve the citizens and concerned agencies within the Route 20 Corridor in the planning process. To the extent possible, with the resources available, a good faith effort was made to bring the involved planning staff and citizens in each of the primary service areas together. If this effort is evaluated based on numbers of people participating, it was a failure. The times for the workshops were carefully selected to make participation convenient. Meeting places were selected to provide a neutral and community related site. For the most part, the attendance was disappointing and exposure to input from a broad cross-section of each community did not occur. Does the lack of attendance at the workshops mean that the community is satisfied with the existing facilities performance? Or should the lack of participation be interpreted as lack of interest in the planning process in general? It may simply be that the competition from other daily activities is simply too great, and the priority of attending an informational workshop for route planning purposes is very low for most individuals. The answer to these questions will require careful consideration in future planning studies.

The expressions of concern and comments from those who did attend the workshops were, in general, informed and focused. How to get a broader cross-section of input in the future will require a different approach than employed for this study. Perhaps a greater use of Internet web sites, integration of information booths into community events, and scheduling informal presentations to community service groups may offer avenues for greater participation. The problem of gaining adequate broad-based citizen participation is not unique to the rural counties in Northern California. In the May 2000 issue of the "ITE Journal", Steven M. Hogan, the

Transportation General Manager for the City of Scottsdale, Arizona had this to say concerning citizen and community input to the transportation planning process:

“In Scottsdale, between October and November 1999, we held 18 community “conversations” at predetermined locations throughout the city to give citizens a chance to share and discuss their thoughts about improving transportation in the city. Despite over 5000 mailed invitations, repeated public announcements in the press and radio, an article in the city’s quarterly magazine, web site notices and press releases, attendance was disappointing. It was clear this approach did not reach the intended audience. Given the demands of modern life, we learned from the poor turnout that it is essential that the professional staff go where the people are, not the other way around. In the future, these forums will be held in conjunction with other events that draw community participation, such as festivals, church gatherings, annual homeowner’s association meetings, etc. This will necessitate continually modifying the program to reflect venue. It may need to be accomplished in less time and compete for entertainment value with the main event or attraction that brings in the crowd.”

It should also be added that many of the restrictions and public agency policies that limit the time and place of public involvement will have to change if a more effective job of outreach is to take place.



## VII. FINDINGS AND RECOMMENDATIONS

### Summary of Study Findings

The study findings provide a foundation for the continued support of the planning decisions related to the Route 20 Principal Arterial Corridor alignment, improvement concept, and priorities for project implementation. The findings reflect the objective data analysis and the opinions and views of citizens, elected officials and local agency staff from community workshops held along the corridor. The summary of findings is as follows:

- **The results of the community workshops essentially supported the existing concept plan and alignment.** The input from citizens and officials raised issues regarding the environmental impact of specific projects related to the four-lane freeway concept as implementation programs move forward. The need for coordination of land use decisions with specific corridor improvement decisions was identified as an important element in the corridor planning process. The North Shore residents, while not directly impacted by corridor planning decisions, were very supportive of the diversion of heavy trucks from Route 20 along the north shore, and identified enhancement improvements to Route 20 that would emphasize the recreational character of the north shore.
- **The traffic safety and accident data reflect several sub-segments with accident rates greater than the statewide average.** The subsegments that comprise Route 53 had the highest overall rates for all collisions at 1.65 times the statewide rate. In some instances, improvements funded from the traffic safety program have already been programmed and scheduled. In other cases, additional collision investigation is required. It is expected that as traffic on the Corridor increases, accident exposure at critical locations along the Corridor will correspondingly increase.
- **Traffic volumes throughout the Corridor will generally double in the 20 year forecast period.** The Route 53 subsegment that connects Route 29 to the City of Clearlake has the highest volumes in the horizon year. The next highest volumes will be on the sub-segments between the City of Lakeport and the Route 281 junction with Route 29. All of these links are part of the pathway connecting the two cities and it is anticipated that problems along this pathway will increase with the traffic volumes. The LOS Grades on this portion of the Corridor range from LOS “C” for the four-lane freeway section, to LOS “F” of the two-lane highway section between Lower Lake and Route 281. The LOS values on Route 20 between the junction of Route 20, Route 53, and to the junction with Route 16 will also be at LOS “F” for the horizon year period. While this two-lane portion of the Corridor does not have exceptionally high traffic, steep grades and occasional narrow pavement sections significantly reduce capacity. The topography and environmental concerns related to corridor improvements for the Mendocino County subsection, particularly adjacent to Lake Mendocino and Blue Lakes, will constrain project programming well beyond the 20-year study horizon.

- Based on evaluation of projected traffic volumes, collision data, land use, employment patterns, and review of the existing Concept Plan; **the role of the Route 20 Principal Arterial Corridor in the Interregional Transportation Strategic plan is fully supported and validated.** The Corridor continues to be a Focus Route and High Emphasis Route in the California's transportation system.
- **The review of the data involved in the assessment of the Interregional Transportation System also supports the high priority for the completion of improvements connecting the cities of Lakeport and Clearlake.** The continued implementation of the projects on Route 29 identified in the programming discussion should be a high priority for the Corridor.
- **An evaluation of corridor communities and access characteristics confirmed that economic investment and employment opportunities associated with corridor improvements are as important a goal for corridor enhancement as facilitating the movement of traffic along the route.** Significant improvement in the quality of life for residents of corridor communities will occur as corridor improvements are implemented.

### Recommended Concept Plan for the Corridor

A great deal of time and effort was expended to obtain general citizen and local community participation in the planning process. The result of this effort is documented in the preceding section regarding citizen participation and in the Appendices. This effort was not as successful as hoped in obtaining input to the planning process, however, useful comments and identification of concerns were communicated by those who participated in community workshops. The current Concept Plan alignment and alternatives were reviewed in six community workshops along the Corridor route. The technical staff of local agencies had the opportunity to review and comment through the appropriate TACs of the participating RTPAs. Local elected officials were provided the opportunity to review and comment on the Corridor Concept Plan as board members of the participating regional planning agencies. The existing facility concept for the Corridor is as follows:

- Provide a four-lane freeway/expressway – Route 20 from Route 101 (north of the city of Ukiah) east to the junction with Route 29, then southerly on Route 29 (South Shore) to the junction with Route 53, then northerly on Route 53 to the junction with Route 20 (North Shore).
- Provide a two-lane conventional highway, fully improved, with passing lanes – Route 20 easterly from the junction with Route 53 through eastern Lake County and the foothills of Colusa County to the junction with the I-5 Freeway in the city of Williams.

Alternatives were reviewed by the general public at community workshops, by technical staff of local agencies through presentations, to the RTPA TAC members, and with elected officials of local agencies in their role as board members of the RTPAs participating in the study. This is the facility concept that provides the guidance for the development of future improvements to the Route 20 Corridor.

## **Concept Plan Implementation Requirements**

While there is nothing in the Corridor study findings that would negate the Concept Plan for the Corridor, there will be significant problems at various locations along the Route alignment. As implementation of the Corridor Concept Plan moves forward, not only must the practical issues of facility design and construction be dealt with, but issues regarding environmental and local community impacts must also be resolved. The 10-year and 20 year implementation time frames suggest that the areas that present the greatest challenges are still well beyond improvement programming consideration. The Blue Lakes subsegment is an area of the Route 20 portion that is designated for an ultimate four-lane expressway or freeway facility. As discussed in the Existing Conditions section, this alignment has significant topographic and environmental constraints. The Blue Lakes Action Committee, composed of local residents and business owners, has communicated deep concern regarding the impact of construction of a four-lane facility adjacent to the Lakes. While implementation of the four-lane concept is not planned within the 20 year time frame of this study, the addition of passing lanes and other limited improvements to this roadway section will provide additional capacity and the opportunity evaluate potential future impacts.

Another area of long-term concern is the Mendocino County subsegment. Projected traffic volumes on this portion of the Corridor suggest that improvements will be needed. Of particular concern is that portion between the Route 20/101 junction and the four-lane segment at the Potter Valley Road junction. Although there are eastbound passing lanes on the hillside north of Lake Mendocino, much of this two-lane segment will remain a constraint beyond the 20-year horizon of this study. The topography of the area and the proximity of Lake Mendocino and the Eel River are expected to present a significant challenge. Remaining portions of the Mendocino County subsegment are on good alignment in flat terrain, with reasonable shoulders. Fewer obstacles are expected in the easterly portion of this segment when widening improvements are needed.

The recommended route alignment for the Route 20 Principal Arterial Corridor uses the south shore combination of portions of Route 29 and all of Route 53, bypassing the Route 29 north shore alignment immediately adjacent to the Clear Lake shore lane. As part of the concept planning for the adopted Principal Arterial Corridor, planning for the north shore portion of Route 20 must be included to ensure that goals of the ITSP related to High Emphasis Focus Routes are achieved. Improvements to the north shore alignment which will discourage heavy truck use, enhance tourist and local access to lake-front activities, and provide increased pedestrian and bicycle travel must be incorporated into the overall Corridor improvement program.

Implementation priorities for the 10-year time frame will focus on the completion of capacity improvements to the south shore subsegments between the cities of Lakeport and Clearlake. The two budgeted projects on Route 29 between Lower Lake and the junction with Route 175 will require programming by the State and budgeting for construction. These projects will provide significant development opportunities within the Corridor connecting these two cities. Careful coordination with local land use plans and attention to the impacts of local access connections to

corridor facilities will be essential to gain maximum positive impact from the implementation of corridor improvements.

The portion of the Route 20 Corridor between Route 53 and the I-5 Freeway has relatively light traffic volumes in comparison with subsegments on Route 53 and Route 29. However, this segment is severely impacted by the lack of passing opportunities and several sustained grades. Never the less, there is need for project planning related to traffic safety and capacity improvements on this section. Shoulder widening and the addition of passing lanes at selected locations will greatly enhance the traffic flow during the summer peak demand period. In addition, the programming for the grade separation of the intersection of Route 53 and Route 20 will be a critical improvement in implementing the Corridor concept.

The real test of a Corridor implementation strategy will be the ability to acquire funding in a timely manner. The current process and programming criteria requires the cooperation and agreement of many agencies before a clear programming strategy can be defined.

### **Interagency Coordination and Setting Future Project Priorities**

The strategy for setting priorities and development of an implementation program will involve the cooperative efforts of all agencies responsible for transportation programming. In order to maximize the available funding for Corridor improvements, within the framework of funding regulations, requires that the entire Route 20 Corridor identified in the 1998 Interregional Transportation Strategic Plan prepared by Caltrans be considered for programming. The strategy will be driven by the simple fact that the California Transportation Commission (CTC) will provide matching funds from the Caltrans portion of the Interregional Transportation Improvement Program (ITIP) for a Regional Transportation Improvement Program (RTIP) project if the funding from the RTPAs involved represent a commitment from the region's local system projects. In order to accumulate sufficient funding from regional sources, cooperation and agreement between the following agencies must be developed: Caltrans, District 01, Caltrans, District 03, Lake County/City Area Planning Council, Mendocino Council of Governments, Colusa County Transportation Commission, Sacramento Council of Governments (Sutter and Yuba Counties), Nevada County Transportation Commission

In addition to affirming the existing Route 20 Corridor Concept Plan and the identified Principal Arterial Alignment, communicating the requirements to identify, prioritize, and implement Corridor improvements is part of the fundamental purpose of the Study. It is anticipated that, after agency review of the findings of this report, an organizational structure to provide ongoing coordination for project programming will be developed. Until a corridor-wide programming process is in place, the Interagency Steering Committee responsible for this report will provide guidance for planning and implementation of this portion of the Interregional Transportation System.

**APPENDICES**

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- A. Level-of-Service Description
- B. Community Workshop Documentation
- C. Route 53 CORSIM Analysis Documentation