

**U.S. ROUTE 101
IN
DEL NORTE COUNTY

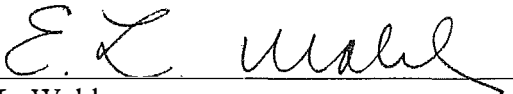
A CORRIDOR STUDY**

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION & HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT 1

1-DN-101-12.5/16.3
1-DN-101-20.3/22.3
01101 292700
01101 262300
Wilson Creek Bluffs
Cushing Creek

CORRIDOR STUDY

APPROVED BY

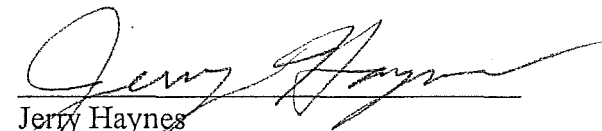


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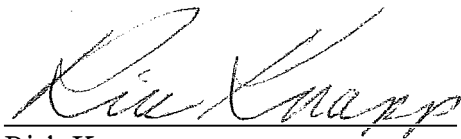
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PREFACE

Two separate highway improvement projects are included in the 1992 State Transportation Improvement Program (STIP) which propose major improvements to Route 101 in Del Norte County. The two projects are known as the Wilson Creek Bluffs and the Cushing Creek projects.

In response to the Notices of Preparation for both projects, the California Department of Parks and Recreation and Redwood National Park staff asked that individual and collective effects of both projects be analyzed to determine cumulative impacts on parklands. These sentiments were also voiced by the Save-the-Redwoods League. (See Appendices "A" through "F").

In particular, the agencies listed above were concerned about the 4-mile segment of Route 101 (Post Miles 16.3 to Post Mile 20.3) between the Wilson Creek Bluffs and the Cushing Creek projects and the feasibility of a Route 101 bypass of Del Norte Coast Redwoods State Park. Caltrans agreed to perform such a study.

An outline for this study was submitted to Project Development Team (PDT) members in May 1991. The agencies and organizations noted are represented on PDT's for both projects. Their respective responses regarding the outline are addressed herein. In addition to those noted above, others responding to the proposed study included the California Department of Fish and Game, Simpson Timber Company and the Eureka Times-Standard newspaper. (See Appendices "G" through "J").

A draft of this study was submitted to the PDT members in November 1991, and comments were received (See Appendices "K" through "Q"). A meeting was held on January 21, 1992 with the California Parks and Recreation and Redwood National Park to discuss their comments. See Appendix "R" for a summary of this meeting. This study was revised in consideration of their comments.

In November of 1992 a second draft was submitted to PDT members for their final review. Comments were received from the California Highway Patrol, California Department of Parks and Recreation, California Department of Fish and Game, and Redwood National Park (See Appendices "S" through "X"). Several comments were made regarding the current Route Concept Report. Caltrans will be revising the Route Concept Report for this segment of Route 101 in conjunction with the development of this Corridor Study, and the respective environmental documents for the Wilson Creek Bluffs and Cushing Creek Bypass projects.

Executive Summary and Conclusions

Executive Summary

This corridor study addresses all of U.S. Route 101 in Del Norte County, with special emphasis on the section within Del Norte Coast Redwoods State Park (Post Mile 12.5 to Post Mile 22.5). There are currently two projects included in the 1992 State Transportation Improvement Program (STIP) which address specific problems on Route 101 within Del Norte Coast Redwoods State Park. These projects are known as the Wilson Creek Bluffs and Cushing Creek projects.

The Wilson Creek Bluffs project (Post Miles 12.5/16.3) is being studied in an effort to avoid catastrophic road failure associated with soil creep and continual erosion caused by ocean wave action. The Cushing Creek project (Post Miles 20.3/22.3) is being studied in an effort to lessen the number and severity of traffic accidents that have been occurring on this two-mile segment of Route 101. In addition to their special problems, neither section is constructed to current highway design standards.

The section of Route 101 within Del Norte Coast Redwoods State Park does not currently meet either the Route Concept or concept level of service. The current Route Concept for Route 101 is development to 4-lane freeway/expressway for its entire length within Caltrans District 1. The current concept level of service for Route 101 is "B" in rural areas. This conventional 2 and 3-lane section of Route 101 currently operates at an "E" level of service during peak hour traffic. The Route Concept Report will be revised for portions of the route in Del Norte County where it is environmentally and financially infeasible to achieve 4-lanes.

While recognizing the transportation problems facing Caltrans at Wilson Creek Bluffs and Cushing Creek, State and National Park agencies have expressed concerns that long-range development of Route 101 via staged development will have cumulative negative effects on parkland; in addition they want to be sure that any individual transportation projects are consistent with the ultimate development plans, so that portions are not superseded in conjunction with future projects. Timber companies have likewise expressed concern that future development of Route 101 will have a cumulative negative impact on their land base by conversion of existing timberland to highway and park uses.

In an effort to predict a wide range of long-term impacts, Caltrans undertook this corridor study. In addition to reevaluating the Route Concept and concept level of service, Caltrans estimated costs and potential impacts associated with total and partial park bypasses. This corridor study does not usurp nor supersede the ongoing environmental studies for the Wilson Creek Bluff and Cushing Creek Bypass projects. The Environmental Impact Statements/Reports that are being prepared for both programmed projects will address all potential adverse environmental impacts, including, but not limited to, impacts on parks and timber companies. Both immediate and cumulative potential impacts will be assessed. The Environmental Impact Statements/Reports are the documents that will respond to the legal

requirements of the National Environmental Policy Act and the California Environmental Quality Act, including the necessary mitigation measures.

Conclusions

The following conclusions have been reached as a result of this study:

- o It is infeasible to construct a project which would completely bypass all State and Federal park land in the subject corridor. A 17-mile project, costing an estimated \$580 million, with 45 million cubic yards of excavation would be required. The overall environmental impacts would be significant and adverse, probably of a magnitude several times greater than the Redwood National Park Route 101 Bypass project.
- o The approved Route 101 Route Concept Report calls for upgrading all of Route 101 to 4-lane freeway/expressway standards. This does not appear to be environmentally feasible for portions of the route in Del Norte County, due primarily to the number of old growth redwood trees, and associated wildlife habitat that would be impacted in State and National Parks. As such, it will be necessary to revise the Route Concept Report to reflect a scaled-down concept for portions of the corridor in conjunction with the development of the Environmental Impact Statements/Reports for the Wilson Creek Bluffs and Cushing Creek projects.
- o The intervening 4-mile section of highway between the Wilson Creek and Cushing Creek projects will be adequate without upgrading to 4-lanes. Although it will be less than desirable, the alignment and passing opportunities are adequate to permit the highway to be maintained essentially as it is. The environmental impacts of widening along the existing alignment are so great as to be unacceptable.
- o Funding for major capacity-increasing projects in Del Norte County will be limited, due to relatively lower traffic volumes and funding formulae which favor more populated areas.
- o Studies for independent projects at Wilson Creek Bluffs and Cushing Creek should be continued; both projects are associated with key problems (roadway failure and traffic safety) that need to be addressed.

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Study

Route 101 in Del Norte County: A Corridor Study

1.0 Purpose of this Study

The purpose of this study is to address concerns regarding ultimate development of Route 101 in Del Norte County and how that development might affect adjacent park land and private land. It will reevaluate the Route Concept for the segment of Route 101 in Del Norte County between Klamath (Post Mile 3.6) and the Oregon border (Post Mile 46.5), with special emphasis on the segment within Del Norte Coast Redwoods State Park (Post Mile 12.5 to 22.5).

A review of the Cushing Creek and Wilson Creek Bluffs projects will detail how these two projects relate to the "Route Concept" and why they were included in the current STIP. Finally, the study will address the feasibility of a complete Del Norte Coast Redwoods State Park Bypass. Separate engineering and environmental studies would be required for a park bypass project, fulfilling all necessary requirements of both CEQA and NEPA. Studies done in support of this corridor study are not to the detail required for an Environmental Impact Statement.

2.0 Route Concept

2.1 Definition of Route Concept

Route Concepts are defined in the Caltrans Route Concept Report (RCR).

The RCR is the document which provides a basis for development of the State Transportation Improvement Program (STIP) and for determining the appropriate design concept for highway projects. In the future, the RCR will be called a Transportation Concept Report. For the purpose of this corridor study we will refer to this document as the RCR, since this is the currently adopted document.

The RCR is a planning document which describes Caltrans' basic approach to development of a given route. Considering reasonable financial constraints and projected travel demand over a 20-year planning period, the RCR defines an appropriate type of facility (e.g. 2-lane conventional highway; 4-lane freeway/expressway) and level of service for each route.

Level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream, and the perception by motorists and/or passengers of those conditions. Level of service generally defines traffic patterns in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. LOS is ranked from "A" to "F", with "A" being best and "F" worst.

Route Concepts are based on the function of each route, relative priorities between routes, and reasonable financial expectations. For each route, capacity and operational concerns are considered as well as environmental, political, or cost factors which influence route development.

Route 101 is functionally classified as a Rural Principal Arterial. Principal Arterials serve both statewide and interstate travel, link urbanized areas, and provide an integrated, statewide network. Principal arterials are expected to provide a high degree of mobility for longer trip lengths, and should provide a relatively high operating speed and level of service. The Route Concept should reflect the interregional and interstate importance of the route.

2.2 How are Route Concepts Determined and Modified?

Route Concept Reports (RCRs) are prepared by Caltrans District staff with input from local and regional planning agencies. The RCRs are approved by the Caltrans District Director. Each of the 12 Caltrans districts statewide prepares its own reports, keeping in mind the function of each particular route. Del Norte County is a part of Caltrans District 1, which also includes all of Lake, Mendocino, and Humboldt Counties, and portions of Trinity and Siskiyou Counties.

Opinions and data regarding the individual Route Concepts are provided to Caltrans by regional transportation planning agencies. In the case of Route 101, all six counties making up Caltrans District 1 participate in the Route Concept determinations. The Del Norte Local Transportation Commission (DNLTC) provides input for the Route Concepts of state highways in Del Norte County. Regional groups, such as the North Coastal Counties Supervisors Association, also provide input.

Route 101, because it runs nearly the entire length of California, has a statewide importance that requires close coordination among the separate Caltrans districts through which it traverses, in order to assure consistency between districts.

Route Concept Reports can be changed. They are updated as necessary when conditions change or new information is obtained. Periodically, but according to no fixed schedule, each route is evaluated on an individual basis to determine if there are special circumstances or concerns which would require some deviation from the basic concept. The District 1 Route 101 Concept Report was last revised in May of 1989. It will be revised on the basis of studies being undertaken for the Wilson Creek Bluffs and Cushing Creek projects.

2.3 Current & Future Route 101 Route Concept and Priority

Route 101 is known as the Redwood Highway and is considered to be the "lifeline" of the North Coast. It is considered the critical link in the transportation system for north coast counties due largely to the rural nature of the area and the limitations of reliable, alternative transportation modes. The route does function as a city street through some cities, but this local function is coincidental to its arterial function.

Within Caltrans' District 1, Route 101 is about 285 miles in length. The route is part of the California Freeway and Expressway System, and a major portion of it is eligible for inclusion

in the California Scenic Highway System. The existing Route 101 segment through Del Norte Coast Redwoods State Park is designated and signed as a scenic highway.

The existing Route 101 facility is a mixture of 4-lane freeway/expressway, and generally nonstandard 2-lane conventional highway. The existing segment of Route 101 through Del Norte Coast Redwoods State Park is generally 2 and 3-lane on curvilinear alignment, with some steep segments. The 4-mile segment between the Wilson Creek Bluffs project and the Cushing Creek project (Post Mile 16.3 to 20.3) has a generally rolling grade line and is less curvilinear due to its ridge top location. There is a 4-lane segment between Post Miles 12.3 and 12.7 immediately north of Wilson Creek Bridge No. 1-5.

The current District 1 Route Concept Report states that Route 101 should be developed to 4-lane freeway/expressway for its entire length within District 1. Ideally, Route 101 would eventually bypass all cities and would be 4-lanes. Additionally, some 4-lane expressway sections should be upgraded to freeway standards. In the next 20 years, it is recognized that much of the route will not be able to be developed to ultimate standards as such development would far exceed even optimistic funding levels. Exhibit 1, in the appendix, summarizes the status of Route 101 development in District 1.

The current concept level of service is "B" in rural areas such as the Wilson Creek and Cushing Creek areas. Level of service "B" is characterized by stable traffic flow. Speed is only slightly restricted by the volume of traffic. The presence of other motorists in the traffic stream is noticeable, but they present little restriction to maneuverability.

Upgrading Route 101 to a "B" LOS has been Caltrans District 1's highest overall State highway improvement priority. In order to achieve this, the two-lane segments of highway on nonstandard alignment would have to be upgraded to 4-lane expressway standards. However, financial and environmental constraints must be considered when assessing the ability to achieve the Route Concept "B" LOS. Consequently, the current Route Concept Report will be revised to reflect a scaled down concept, in conjunction with development of the EISs for the Wilson Creek Bluffs and Cushing Creek projects. In addition the Wilson Creek Bluffs and Cushing Creek segments have special needs, which include potential roadbed failure and safety concerns. These special needs are addressed later in this study.

3.0 The State Transportation Improvement Program (STIP)

Paramount to the discussion of any transportation project is the potential for funding. Once a transportation problem has been identified and a potential project assessed and prioritized, the project may be included in the Department of Transportation's Proposed State Transportation Improvement Program (PSTIP). The PSTIP is developed from the various statewide priority lists. Local agencies may propose projects through their respective Regional Transportation Improvement Programs (RTIPs). The PSTIP and RTIPs are considered by the California Transportation Commission (CTC) before it adopts the State Transportation Improvement

Program (STIP). Funds may only be allocated for projects that are included in the CTC's adopted STIP. The STIP includes only those projects considered "capacity-increasing". While upgrading Route 101 is the highest overall priority for Caltrans District 1, there is still a need for improvement to other routes in the District. Especially important are Routes 20, 29, 53, 199, and 299 which, like Route 101, serve as principal arterial highways.

Along with competing for funds with other District 1 routes, Route 101 has to compete on a statewide basis. Funding is allocated based on a 60/40 split (southern counties 60% and northern counties 40%). Funding is further restricted by "county minimums" implemented by statute. 70% of State transportation construction funds must be expended in accordance with a county minimum formula, which is based upon population (75%) and State highway mileage (25%).

The CTC adopts a new 7-year STIP by April 1st of each even-numbered year, after holding public hearings to review and discuss the various projects proposed for funding in the next seven years. The Wilson Creek Bluffs and Cushing Creek projects are both included in the 1992 STIP. Funding for construction of the Wilson Creek Bluffs project is not included in the 1992 STIP. There is \$2.4 million programmed for right of way acquisition in the 1995/96 fiscal year. Funds are programmed for right of way acquisition for the Cushing Creek project in the amount of \$1.6 million in 1993/94. Cushing Creek construction is scheduled for 1997 with \$20.5 million programmed for construction. Environmental and engineering studies are being performed for both projects. It is anticipated that construction funding will be added to a future STIP for the Wilson Creek Bluffs project.

4.0 Segments of Route 101 in Del Norte County Not Meeting the Current Route Concept

There are seven segments identified in the current Route Concept Report for Route 101 in Del Norte County that do not meet the current Route Concept. The Wilson Creek Bluffs and Cushing Creek projects are two of seven segments, and are the only segments included in the 1992 STIP. It is unlikely funding will become available for the remaining five segments in the foreseeable future. The project description found in the STIP for both the Wilson Creek Bluffs and Cushing Creek projects are based on projected 4-lane expressway construction; however, non-expressway alternatives are being studied for each project along with the "no action" alternative. In the case of Wilson Creek Bluffs, rehabilitation of the existing highway segment is under consideration. At Cushing Creek a 3-lane conventional highway, as well as improvements within the existing highway corridor have been studied. Couplet alternatives have also been studied for the Cushing Creek project.

Existing segments of Route 101 that do not meet the current Route Concept or the concept level of service are discussed at length in the following pages. Please refer to Exhibit 2, which depicts the seven Route 101 segments within Del Norte County. Additional detailed information on the segments can be found in the Caltrans District 1 System Management Plan, which is a long range planning document describing how Caltrans District 1 intends to maintain, rehabilitate, and improve its portion of the State highway system over the next 20 years.

If projects to upgrade the entire 43 miles of Route 101 considered in this study were undertaken, there are many factors that would need to be considered. Each project would have to be studied in the interdisciplinary method required by NEPA and CEQA. Some generalizations can be made about environmental issues that would have to be considered involving Route 101 projects in Del Norte County and are summarized as follows:

Cultural Resources

Any improvements to Route 101 in Del Norte County have the potential for impacts to cultural resources. The following facts would need to be considered:

- o An Architectural Historian would need to evaluate all structures. Some existing structures near Route 101 are potentially historic.
- o An archaeological survey would be required.
- o Consultation with local Native American communities would be required (Tolowa, Yurok).
- o Consultation with local historical societies would be required.
- o All bridges on existing Route 101 in Del Norte County are designated Category 5, which means they do not meet National Register of Historic Places criteria.

A preliminary study of potential cultural resources has been performed for the Route 101 corridor in Del Norte County and is on file in the Caltrans District 1 Environmental Planning Branch, Eureka, CA. This study identifies potentially significant cultural resources. Most of these resources consist of potentially historic ranches, Native American residences and ceremonial grounds, logging camps, roads and railways, and trail systems. More in-depth historical research may produce more historic archaeological sites than currently identified. As individual projects are added to the STIP, thorough field reviews are performed for each project.

Biological Resources

Improvements to Route 101 in Del Norte County have the potential for impacts to a wide range of biological resources, including, but not limited to:

- o Impacts to Federal and State listed, proposed, and candidate endangered, threatened, or rare wildlife species.
- o Impacts to listed, proposed, and candidate endangered plant species.
- o Impacts to old-growth trees; especially coastal redwoods.

- o Impacts to rivers and streams, which are habitat to anadromous and resident fish and amphibian populations.
- o Impacts to riparian vegetation.
- o Impacts to wetlands.
- o Impacts associated with new transportation corridors on local and regional wildlife migration corridors.
- o Impacts of new transportation corridors on local and regional biodiversity. Intensive field surveys will be required for each individual project subsequent to its inclusion in the STIP. Intensive field studies are currently under way for both the Cushing Creek and Wilson Creek Bluffs projects. These ongoing studies may serve as representative of the general area and will establish some patterns; however, subsequent projects will require their own respective detailed studies.

Socioeconomic Resources

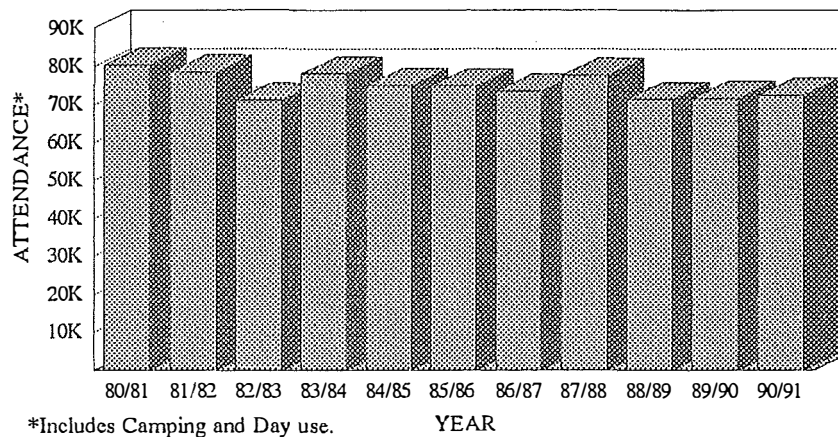
Improvements to Route 101 in Del Norte County have the potential for impacts to the existing socioeconomic resources in the area. Special attention must be given to:

- o Impacts to commercial timberland. Private timber companies with large holdings in Del Norte County include Simpson Timber Company and Miller Redwood. There are also smaller private holdings of timberland. Realignment of Route 101 which would result in the acquisition of timberland for highway purposes would decrease the economic base for these businesses.
- o Impacts to existing roadside businesses. Most businesses adjacent to Route 101 are heavily dependent on drive-by business and are very tourist-oriented. Any disruption to existing traffic patterns would probably be considered adverse to these existing businesses.
- o Impacts to commercial fisheries, due to impacts on anadromous fish habitat.
- o Impacts to State and National Parklands. The economy of northern California has increasingly become dependent on tourism. Traditional industries, such as lumber and fishing, have generally been in decline over the last decade. The number of people employed in these two industries has shrunk over the last ten years, while employment in service/tourist related industries has grown.

Tourism, while generally a growing industry, has experienced some fluctuation in growth. Tourism, like many other industries, is subject to the overall economic health of the state. When the economy is robust, tourism generates considerably more revenue for the North

Coast, than when the state and nation are in a recession. Because of the current recession, many state parks are now increasing their fees, which may be adversely affecting park attendance. Tourism is also affected by other factors. Weather plays a large part in tourism.

Below normal temperatures can negatively affect beach visitation. Attendance at Del Norte Coast Redwoods State Park has fluctuated with the economy and the weather over the last decade. See the figure below.



The following describes the 43-mile section of highway of highway in four segments, providing a description of each segment, including roadway and operating characteristics, environmental issues, and the cost to upgrade the segment to meet the current Route Concept.

4.1 Segment One: 1-DN-101-R3.6/12.5 (Klamath to Wilson Creek):

This 9-mile segment lies almost entirely outside of the boundaries of Redwood National Park and Del Norte Coast Redwoods State Park. It does enter the legislatively established National Park boundary near Post Mile 11.0, just north of the Trees of Mystery. Between Post Miles 11.0 and 12.5 Route 101 traverses a scenic portion of Redwood National Park.

The popular Lagoon Creek and False Klamath Cove areas are adjacent to Route 101 in this section.

Segment One begins just south of the Klamath River at Post Mile R3.6, which marks the end of the 4-lane section entering Del Norte County from the south (See Exhibit 3; Photos #1 and #2). From this point to Wilson Creek Bridge (Bridge No. 1-5, Post Mile 12.5) the basic cross-section is 2-lane.

There are intermittent sections of 3-lane highway consisting of one southbound lane, one northbound lane and a continuous left-turn lane. These 3-lane sections are from Post Mile 5.8 to Post Mile 7.2 and from Post Mile 9.7 to Post Mile 10.2. These continuous left-turn lanes provide egress and ingress for development adjacent to Route 101. This development consists mainly of tourist-dependent recreational vehicle parks, restaurants and novelty shops. (See Exhibit 3; Photo #3).

Existing highway right of way is generally 200 feet in width up to Post Mile 7.1. At this point it narrows for a short distance, returning to approximately 200 feet at Post Mile 8.0. At High Prairie Creek (Post Mile 9.4) it narrows again to approximately 100 feet and retains this width to Post Mile 12.0, one-half mile south of Wilson Creek.

A wider portion of existing right of way at Requa Road (Post Mile 8.2) was purchased in anticipation of constructing a future interchange. An interchange already exists at the junction of State Routes 101 and 169 in Klamath along with frontage roads on both sides of Route 101 in the immediate Klamath area.

The existing highway alignment from Post Mile R3.6 to Post Mile 12.5 is generally constructed to a 60 miles per hour design speed with all curve radii in excess of 1200 feet. The roadway is on relatively flat grades, with no grade in excess of 3%. There are some maintenance problems associated with ocean wave action at the mouth of Wilson Creek (False Klamath Cove; Post Mile 12.0). Occasionally, during winter storms, the ocean washes water and debris across the highway.

Within Segment One, during peak hour flows (as on a typical August afternoon), the motorist experiences a "D" or "E" level of service. With these levels of service, traffic is moving at a stable flow, with speeds tolerable but subject to delay by slower vehicles. Drivers experience reduced maneuverability, reduced comfort, and less convenience. Delay can range from minimal to significant.

While the general character of this segment of highway is rural in nature, there are concentrations of development which create conflict for through traffic. These concentrations exist between Post Miles 6.0 and 7.0 and also from High Prairie Trailer Park (Post Mile 9.3) to just north of Trees of Mystery (Post Mile 10.9). (See Exhibit 4; Photos #4 and #5).

The portion of Segment One between Post Mile 7.5 and 10.3 was adopted as a freeway by the California Highway Commission in October of 1955. In June of 1971, the County of Del Norte entered into a freeway agreement with the State calling for an interchange at Requa Road and grade separations and parallel frontage roads for the area north of High Prairie Creek (Post Mile 9.4). (See Exhibit 12, Freeway Agreement Map).

A project to convert this 9-mile segment of Route 101 to freeway/expressway has low priority compared to other Route 101 segments and is consequently not included in the 1992 STIP. This is largely due to its distance from urban areas, its relatively low traffic volume, high design speed, and the fact that this segment does not have unusual accident or maintenance

problems. If circumstances were to dictate upgrade of this segment, existing geometrics indicate that widening on existing alignment would provide adequate design speed, as curves are of relatively large radii and grades generally flat.

Provisions would need to be made for roadside businesses which depend heavily on tourist-related traffic. Transitional access control would be necessary in development of this segment, with interchanges and frontage roads required well in the future, probably in the vicinity of Requa Road (Post Mile 8.2) and/or High Prairie Creek (Post Mile 9.4).

The Trees of Mystery tourist attraction (Post Mile 10.9), which is adjacent to Route 101 right of way, would require special attention due to its commercial importance and potential historic status. (See Exhibit 4; Photo #5). Previous route studies looked at bypassing the Trees of Mystery area. (See Exhibit 13). A bypass of this established tourist attraction would probably be met with opposition unless the facility remained clearly visible from the new highway section. Potential impacts to Redwood National Park property in the area of Trees of Mystery would need to also be addressed, if either widening the existing alignment or a bypass were planned.

A study was done for this section of highway in the late 1960's, with Route 101 alignments both west and east of Trees of Mystery studied. (See Exhibit 13). It is now unlikely the Trees of Mystery area would be bypassed to the west, since it would mean Section 4(f) impacts to Redwood National Park property, and extensive wetland impacts in the vicinity of Lagoon Creek pond, where existing highway right of way is only 100 feet wide. Realignment to the east is addressed later in this report in the discussion of a Del Norte Coast Redwoods State Park Bypass.

Other potential biological impacts associated with upgrading Segment One to freeway/expressway standards include riparian vegetation losses with the construction of a new or widened bridge and approaches on the Klamath River, and along the west side of existing Route 101 opposite the town of Klamath. Additional riparian impacts would occur at Hoppaw, Spruce, Mynot, Panther, Hunter and High Prairie Creeks, where new crossing structures would be required. Temporary impacts to water quality and fishery resources would also be expected with new bridge construction at the above locations.

Wetland impacts could be expected to occur at the Klamath River crossing, and at permanently saturated palustrine emergent and scrub-shrub wetlands bordering Route 101 between Mynot Creek and just north of High Prairie Creek; a distance of approximately 1.8 miles. Extensive palustrine wetlands also occur in the vicinity of Lagoon Creek from approximately Post Mile 11.0 to 11.5. Portions of these wetlands could also be affected. Along the rock bluff just south of Wilson Creek Bridge is a population of Wolf's evening primrose, which is a candidate for listing as rare and endangered by the California Department of Fish and Game and U.S. Fish and Wildlife Service. Widening this segment of Route 101 could impact this population.

It is estimated to cost \$65 million (in 1992 dollars) to convert Segment One to freeway/expressway. A major cost to upgrade this segment would involve widening the

existing Klamath Bridge and Klamath Overflow Bridge or constructing new, parallel bridges. (See Exhibit 3; Photo #2).

4.2 Segment Two: 1-DN-101-12.5/22.3 (Wilson Creek through Cushing Creek)

This segment includes the section of roadway from the Wilson Creek Bridge to the northern end of the Cushing Creek project, and is entirely within Redwood National Park and Del Norte Redwoods State Parks.

Del Norte Coast Redwoods State Park lies along the coast of Del Norte County, approximately midway between the Humboldt County line on the south and the Oregon border on the north. The park contains approximately 6,375 acres and is generally triangular in shape, widest near the north end near Mill Creek Campground and tapering nearly to a point at the south end near Wilson Creek. (See Exhibit 2).

The State Park is adjacent to Redwood National Park property at its southerly and northerly ends. Technically, the State Park is within the Congressionally-legislated boundary of Redwood National Park. The park is bordered on the east by private timberland. U.S. Route 101 traverses the park in a north-south direction throughout the park's entire length from Wilson Creek at Post Mile 12.5 to just south of Hamilton road at Post Mile 22.5. Two highway improvement projects for Route 101 are currently in the development stage in this area.

The Wilson Creek Bluffs project originates at Post Mile 12.5, very near the existing Wilson Creek Bridge (Bridge No.1-5) and ends at Post Mile 16.3, approximately four miles north of Wilson Creek. The Cushing Creek project originates at Post Mile 20.3, just north of the entrance to Mill Creek Campground, and ends at Post Mile 22.3, just south of Hamilton Road. These project limits do not necessarily reflect the limits of all alternatives under consideration.

From the point where the highway leaves the beach at Wilson Creek until reaching an elevation of 1032 feet on the coastal ridge near Post Mile 16.3, the existing roadway is on a steep, winding alignment. The existing highway generally ascends on a 6 to 7 percent grade from south to north. Chronic maintenance problem areas exist from post mile 12.5 to 16.5. (See Exhibits 4,5 & 6; Photos #6 through #11). A freeway agreement was executed for the section of Route 101 between Post Miles 12.4 and 13.6, which is included in the Wilson Creek Bluffs project limits. This is the section from 0.2 mile south of Wilson Creek to one mile north of Wilson Creek. This agreement was reached subsequent to the California Highway Commission adopting this section as a freeway route in April, 1954. (See Exhibit 13).

The Wilson Creek Bypass project proposes to bypass the unstable 4-mile section of Route 101 north of Wilson Creek Bridge No. 1-5. An extensive discussion of the programmed Wilson Creek Bluffs project can be found in Section 5 of this report.

The intervening 4-mile segment between the proposed projects at Wilson Creek Bluffs and Cushing Creek project (Post Miles 16.3 to 20.3), is of special concern to both State and

National Parks, as they foresee increasing impetus to widen this section should the Wilson Creek Bluffs and Cushing Creek segments be upgraded to 4-lane freeway/expressway standards. This segment consists of alternating sections of 2, 3 and 4-lanes. Existing highway right of way varies from 80 to 300 feet in width. From Post Mile 18.2 to Post Mile 20.3 the existing right of way is a consistent 300 feet wide. The alignment of the existing roadway is generally curvilinear, with existing curve radii ranging from 500 to 2000 feet. Grades are in the 4 to 6 percent range. For much of the segment, old-growth trees are adjacent to the roadway. (See Exhibits 6 and 7; Photos #12 through #15).

Maintenance of this 4-mile segment is affected by 25 locations containing fills constructed primarily of redwood logs in the 1930's. Decomposition of the logs leads to slumping. Of the \$400,000 dollars that has been spent on maintenance in the last five years within this 4-mile segment, nearly half has been for maintenance between Post Miles 18 and 19, largely for efforts to maintain areas where log fills are failing. These maintenance efforts consist of filling failed areas with asphalt concrete.

Bicyclist safety is of increasing concern in this segment, primarily during the summer months. (See Exhibit #7; Photo #13). Bicyclists utilize the existing narrow paved shoulders (2-4 feet wide) to ride on and find themselves in close proximity to logging trucks, recreational vehicles and other large vehicles. From the Oregon border south to its junction with Route 1 near Leggett in Mendocino County, Route 101 is designated as the Pacific Coast Bike Route, a popular route for touring bicyclists. Many sections have 100 bicyclists per day on the Route during summer months.

The existing level of service is "E" during peak hour traffic. This indicates an unstable traffic flow with rapidly fluctuating speeds and flow rates during times of heaviest traffic, typically during August. However, the existence of alternating passing lanes help contribute to a tolerable facility.

Improvements to the 4-mile segment between the Wilson Creek Bluffs and the Cushing Creek projects, to meet the existing Route Concept, would require widening to accommodate four 12-foot wide lanes throughout the four miles and larger radius curves in some cases. The addition of a median with a minimum width of 14 feet and 10-foot wide shoulders would also be required to meet Caltrans and Federal Highway Administration (FHWA) standards for freeway/expressway construction. It is unlikely dramatic improvements, such as conversion to 4-lane freeway/expressway, would be programmed for this segment in the future. It is estimated that such a project would cost \$55 million, based on 1992 dollars. There are no pressing maintenance or accident or operational concerns that would expedite its programming in a near-future STIP, and severe environmental impacts would preclude major widening of this segment.

State Parks representatives have made it clear they are opposed to any widening on existing alignment required to bring this segment of Route 101 up to Route Concept 4-lane standards. This position was stated at previous Project Development Team meetings and is included in the Redwoods State Parks 1985 General Plan. Their opposition, coupled with that of the

general public preclude Caltrans from proposing major widening of this 4 mile segment. Hence, the Route Concept Report will be revised to retain the existing 2 and 3 lane conventional highway for this segment.

The Cushing Creek project proposes to upgrade the steep, winding 2-mile section of Route 101 from just north of Mill Creek Campground Road to just south of Hamilton Road. This area is experiencing an unacceptable number of serious accidents. The existing highway generally descends on a 7.5 percent grade from south to north. Shoulders range from 0 to two feet in width in this 2-mile segment and the short radius curves limit the design speed to 30 miles per hour. (See Exhibit 8; Photos #16 and #17). An extensive discussion of the programmed Cushing Creek project can be found in Section 6 of this report.

4.3 Segment Three: 1-DN-101-22.3/30.8 (Crescent City)

This segment of Route 101 begins at the north end of the Cushing Creek project. The elevation at this point is approximately 600 feet. The existing alignment is on a descending 7 percent grade from south to north before reaching "Crescent City Flats" near Endert's Beach Road at Post Mile 23.5. (See Exhibit 8; Photo #18). The "flats" extends north into the Crescent City limits.

In May 1987, a Stage 1 Work Program for widening Route 101 from Endert's Beach Road (Post Mile 23.5) to Elk Valley Road (Post Mile 25.8) was prepared by Caltrans. A Stage 1 Work Program is a preliminary document, sometimes completed prior to a Project Report and environmental document. Project Reports and environmental documents are only prepared once a project has been included in the STIP.

At the time of the Stage 1 Work Program, the project was estimated to cost \$6.6 million, including \$1.2 million for right of way and \$1.3 million for utility relocation. This estimate, in 1987 dollars, was based on construction of an 82-foot section consisting of four 12-foot lanes, two 10-foot shoulders and a 14-foot median/continuous left turn lane. The project proposed widening the existing two-lane alignment to accommodate the above mentioned 82-foot roadway width. Some preliminary environmental inventorying and impact analysis was performed for this project. At the time of the Stage 1 Work Program, the California Department of Fish and Game, the U.S. Fish and Wildlife Service and other agencies were given opportunity to address potential environmental impacts of the project. It was noted that the area which would be impacted is predominantly palustrine scrub-shrub and emergent wetland vegetation with upland habitat bordering the southern end of the project area. Scrub-shrub and emergent wetlands permanently saturated or flooded (sedge/rush and willow riparian habitats), with some open water, provide important habitat year-round for resident bird, mammal, amphibian, and reptile species. Additionally, Pacific Flyway waterfowl use these coastal wetlands as resting, feeding, and nesting grounds as do other migratory water-associated birds.

The California Department of Fish and Game, acquired wetlands along a 1.5 mile stretch of Route 101 within the proposed project area. The area is known as the "Crescent City Marshes". The marsh area is currently being passively managed by the Department of Fish and Game to protect the area's high wetland habitat values. The largest known extant population of the state-listed endangered western lily is also found within and adjacent to these wetlands. These Department of Fish and Game holdings constitute Section 4(f) property. The marshes west of the existing Route 101 may come under the care of Redwood National Park in the near future. Negotiations are ongoing between the California Department of Fish and Game and Redwood National Park to lease the westerly marshes to RNP. At the time of the Stage 1 Work Program, it was estimated that 5 acres of existing wetlands would be impacted by the highway widening project. (See Exhibit 9; Photo #20).

In addition to potential wetland impacts, regulatory agencies expressed concern for potential impacts to coastal prairie and north coastal shrub upland habitat at the south end of the project area. (See Exhibit 9; Photo #19). This area is host to a variety of migratory and resident wildlife species such as songbirds, raptors, small mammals, and deer. Deer use of the area is evidenced by the presence of a well-used game trail which intersects Route 101 near Post Mile 23.5. The widening of the existing facility to 82 feet could potentially result in a higher incidence of road kills and/or decreased use of the area by wildlife. Accommodations could be made, such as under crossings, to allow wildlife migration under any proposed highway.

In the area of the Crescent City Flats, adjacent to existing Route 101, there was until recently a group of fuel tanks. These tanks were removed, but questions remain as to the extent of any contaminated soil, which would require remediation prior to future highway construction. Little research has been done to date regarding these potential impacts.

There are no pressing accident or maintenance problems within the existing "flats" segment of Route 101; however, this area is occasionally subjected to tidal debris and blowing beach sand, especially adjacent to Crescent Beach (Post Mile 24.0). These occurrences are usually associated with winter storms.

With the recent emphasis on preservation of wetlands, it is becoming increasingly unlikely that the "Crescent City Flats" project will be built on or near existing alignment. The project was included in the STIP, but at the request of the DNLTC it was traded for the Cushing Creek project. Any project in this area is inherently tied to a Crescent City Bypass project.

Existing Route 101 through Crescent City is a 4 and 6-lane facility, which incorporates a couplet. It was adopted in 1957. There was much opposition to a freeway bypass of Crescent City when last considered seriously in 1979. Most of the opposition was voiced by business owners and political representatives who feared a deterioration of business opportunities for the city core. Since 1979, traffic volumes have increased to the point where congestion and delay are becoming more common in Crescent City on Route 101.

The increase in traffic volume and subsequent congestion are assumed to be largely due to the construction, staffing and continuing operation of Pelican Bay Prison. Auxiliary services and

businesses have grown in response to prison development. Signalization projects have been initiated for several intersections of Route 101 with local city streets, which will improve traffic flow. Transportation System Management (TSM) options, such as operational improvements, transit and "Park and Rides", could do much to increase the safety and efficiency of Route 101 through Crescent City while avoiding the capital outlay required for a freeway bypass.

In the Caltrans District 1 Status of Freeway/Expressway Development on Route 101 (Exhibit 1), a Crescent City Freeway Bypass is now considered from the Cushing Creek northerly limits (Post Mile 22.3) to the northerly limits of Crescent City (Post Mile 27.2; 0.2 mile north of Northcrest Drive), essentially bypassing the city. A preliminary cost estimate to construct such a bypass is \$32 million based on 1992 dollars. No alignment has been adopted for such a bypass and no extensive engineering or environmental studies have been performed. As such, the cost can only be considered an "order of magnitude" figure.

Several prospective alignments for a Crescent City Bypass would be considered should formal studies be initiated in the future. In an effort to bypass wetland areas, a freeway/expressway parallel and adjacent to the westerly limits of Jedediah Smith Redwoods State Park could be studied. (Refer to Exhibit 2). Such an alignment could depart easterly from existing Route 101 near Hamilton Road and stay well east of the city, traversing private land; some of which is commercial timberland owned by Miller Timber Company. This alignment might be objectionable if considering service to the city of Crescent City, as it would be more than two miles from the central part of the city. (See Exhibit 9; Photos #19 and #21).

A bypass of Crescent City has not been studied formally and is not currently a candidate project for the STIP. Before the Crescent City bypass could be considered for the DNLTTC's RTIP and the STIP, a Project Study Report for the bypass would have to be completed. To date, little support for a bypass has been voiced by local or regional agencies or organizations. The County of Del Norte has addressed freeway development in its General Plan. The General Plan, which was adopted in 1978 and updated for Local Coastal Plan purposes in 1984, does recommend that Route 101 be upgraded to 4-lane expressway or freeway standards throughout the region; no particular alignment for a freeway is indicated.

The General Plan on page 16 states that "the City and County should cooperate in the alignment of any freeway bypass of Crescent City, insuring that the following criteria are achieved:

- a) Economic impact on the City is minimized.
- b) Relocation of residences and businesses is minimized.
- c) The recreational and wildlife value of the Elk Creek Basin is maintained.
- d) A sufficient number and location of interchanges is provided to insure the economic viability of Crescent City is maintained.
- e) The relocation of business activities from the downtown area to a new freeway location is severely minimized.

It is the policy of Caltrans to work on a partnership basis with local land use authorities to accomplish early identification of transportation corridors and to explore all appropriate means for the acquisition and preservation of those corridors. For corridor preservation purposes, studies are not detailed enough to protect the right of way for a future bypass of Crescent City.

4.4 Segment Four: 1-DN-101-30.8/46.5 (Junction of Routes 101/199 to Oregon State Line)

The existing 4-lane freeway segment of Route 101 resumes at the north end of Crescent City near Post Mile 27.6 (Parkway Drive). This freeway section, with its wide unpaved median, extends northerly to Post Mile 30.8, at which point it is a 4-lane expressway until becoming a 2-lane expressway at Post Mile 31.5. The 2-lane expressway segment becomes a conventional highway at Post Mile 41 and retains this status until entering Oregon at Post Mile 46.5. (See Exhibit 10; Photos #22 through #24).

The 2-lane segment which extends from Post Mile 31.5 to Post Mile 46.5 is generally on high standard alignment with relatively large radius curves and slight grades. This segment currently operates at a "C" Level of Service at peak hour. LOS "C" is characterized by stable traffic flow but less freedom to select speed, change lanes, or pass. Comfort and convenience decrease as traffic density increases. Delays are minimal. Access management on conventional highway portions may be a future concern, as the area is developed.

Potential impacts to biological resources associated with upgrading this segment of Route 101 to 4-lane include riparian vegetation, water quality, and fishery impacts from constructing new structures and approaches at Smith River, Rowdy Creek and Dominie Creek.

The cost estimate to convert the existing 15-mile segment of Route 101 from Post Mile 31.3 to Post Mile 46.5 to 4-lane freeway/expressway standards is \$45 million in 1992 dollars, making its funding highly unlikely due to its present acceptable level of service and high conversion price tag. This segment is experiencing no chronic maintenance problems and has no accident concentrations. The segment has an accident rate less than the expected for similar facilities statewide.

The following sections of this report focus on the two STIP projects within Del Norte Coast Redwoods State Park, which are currently being studied extensively to meet both CEQA and NEPA requirements.

5.0 The Wilson Creek Bluffs Project (1-DN-101-12.5/16.3)

5.1 Project History

A Project Study Report (PSR) was prepared for the Wilson Creek Bluffs project in October 1987. At the time the PSR was prepared, the project was the number one priority project of the Del Norte Local Transportation Commission and the number two priority project for the North Coastal Counties Supervisors Association.

The project has been included in the 1992 State Transportation Improvement Program (STIP). Funding is allocated in the amount of \$2.4 million for partial right of way acquisition and Caltrans has been authorized to perform environmental and engineering studies, culminating in a Project Report and Draft EIS by 1996. The project currently cost estimates range from \$20 million to \$80 million. The Final EIS is scheduled for approval in 1998 with construction to begin in 2001. Exhibit 14 details the project area and shows alternative alignments being considered.

5.2 Project Purpose and Need

Within the project limits, Route 101 begins as a 4-lane expressway that narrows to a two-lane, curvilinear road. Here the highway is situated on a cliff to the west that has the ocean at the toe. The easterly side of the highway is a steep cut. The toe of the cliff is gradually being undermined by the constant wave action of the ocean, resulting in massive soil creep. (See Exhibits 4,5 and 6; Photos #6 through #12).

In the event the highway should be lost in the future, no local detour would be available. The reconstruction would be both expensive and time consuming. During reconstruction, the northern portion of Del Norte County would be virtually isolated from the remainder of California, with access only from the north on Routes 101 and 199 via Oregon. Exhibit 15 depicts the detour scenarios, in the case of road closure.

The stability problems with the roadway reach beyond the capability of remedial repair. After repairs are made, the roadway soon reverts back to a retrogressive state due to the continual undermining of the toe of the slope by the ocean and unstable nature of the surroundings adjacent to the existing highway. There is special concern that slides and slipouts will occur at night, when motorists' vision is limited.

Since 1981, maintenance and reconstruction costs for the Wilson Creek Bluffs segment of roadway have been as follows:

FISCAL YEAR	MAINTENANCE \$	CONSTRUCTION \$	TOTAL \$
1981/82	\$240,000		\$240,000
1982/83	\$222,000	\$861,000	\$1,083,000
1983/84	\$120,000		\$120,000
1984/85	\$30,000	\$536,000	\$566,000
1985/86	\$85,000		\$85,000
1986/87	\$116,000	\$1,240,000	\$1,356,000
1987/88	\$78,000		\$78,000
1988/89	\$196,000		\$196,000
1989/90	\$100,000		\$100,000
1990/91	\$218,000	\$838,000	\$1,056,000
1991/92	\$163,000	\$609,000	\$773,000

Total \$5,653,000

In addition to the costs associated with maintaining this segment of Route 101, there is also a great deal of inconvenience experienced by motorists. Many times over the last ten years, this segment of highway has been open only to one-way traffic. During one 16-month period in 1986 and 1987 the road was one-way controlled by a signal, while rehabilitation was ongoing. This lane restriction was especially difficult for loaded northbound trucks, which had to stop on the steep grade, and also for oversize loads, especially mobile homes.

Currently, the Wilson Creek Bluffs segment operates at an "E" level of service. The roadway in this area is characterized by steep grades, sharp curves, limited sight distance, rough roadbed and little or no shoulders.

The northerly terminus for the Wilson Creek Bluffs project has been established at Post Mile 16.3, north of the unstable bluff area of Route 101. This end point is located on a tangent segment of Route 101 atop a stable coastal ridge within Del Norte Coast Redwoods State Park. (See Exhibit 6; Photo #12).

The project limits of Post Miles 12.5 and 16.3 serve as logical termini since they are rational end points for alternatives that would correct the stability and operational problems. A new facility can be built incorporating a stable roadbed, better geometrics and providing a larger margin of safety for motorists within the 3.8-mile long area. The alternatives under consideration, while not yet totally developed or analyzed, are of such length that they provide for analysis of environmental matters on a broad scope.

If this 3.8-mile segment of Route 101 is improved, the realigned segment will in and of itself provide a significant function by replacing a highway segment that is requiring continual and expensive rehabilitation and has the potential for catastrophic failure. The new construction would connect sections of highway on either side that are experiencing no significant problems, and can be expected to function at an acceptable level for the foreseeable future.

Should the adjacent segments of Route 101 (south of Post Mile 12.5 or north of Post Mile 22.3) require upgrading the future, either to solve safety or operational problems, options will not be unduly limited by construction of the Wilson Creek Bluffs project.

6.0 Cushing Creek Project (1-DN-101-20.3/22.3)

6.1 Project History

The original Redwood Highway north of Wilson Creek (Post Mile 12.5) was constructed during the years 1917 to 1923 along the bluffs immediately adjacent to the Pacific Ocean. After years of continual maintenance and reconstruction, six miles of the highway were relocated easterly to a coastal ridge in 1933. The 2-mile Cushing Creek segment of Route 101 was part of this relocated segment. A southbound passing lane was added in 1959 to improve traffic flow for southbound traffic climbing the prevailing 7 1/2% grade.

Nearly since its original construction in 1933, efforts have continually been made to improve the safety and operation of this 2-mile segment of Route 101. In 1955, a passing lane was added to the facility. Despite the addition of a number of warning and regulatory signs and flashing yellow beacons, the accident rate is 7 times the statewide average for comparable facilities (1982-1992 data). There are currently over 40 signs within the 2-mile segment. (See Exhibit 8; Photo #16 & #17). An attempt in 1973 to increase pavement friction by placement of open-graded asphalt concrete failed to reduce the accident rate. In October of 1991, a second open-graded asphalt concrete blanket was placed in an effort to increase the pavement's coefficient of friction. After one year of data results are showing a 56% reduction in the accident rate. Although this is a large reduction the accident rate is still 3 times the expected rate for this type of facility. Caltrans will continue to monitor the accident rate, to ascertain if this reduction is a result of the open graded asphalt concrete blanket. This section of Route 101 was incorporated into a daylight/headlight test section as another measure to attempt accident reduction.

On November 18, 1983, the Del Norte Local Transportation Commission (DNLTC) identified and prioritized this location as No. 2 among segments of State Highways in Del Norte County most in need of improvement. On February 26, 1987, the California Transportation Commission requested that each Regional Transportation Planning Agency recommend the addition of one project to the STIP. By letter dated April 20, 1987, the DNLTC requested that the Cushing Creek project replace the programmed Crescent City Flats project in the STIP.

Caltrans recognized in 1987 that interim signing and surface treatments were not solving the accident problems at Cushing Creek. In order to study the widest possible range of alternatives at this location, two candidates for the 1988 STIP were proposed by Caltrans and two separate Project Study Reports were prepared. One of the Project Study Reports studied a range of HB1 (Safety Improvement) project alternatives. The other Project Study Report studied a range of HE1 (New Highway Construction/Capacity Improving) project alternatives.

The HB1 Project Study Report studied two alternatives. Both alternatives proposed to construct a 3-lane roadway with 40 miles per hour design speed and an alignment that would generally follow the existing highway. The estimated cost of these alternatives, including right of way, was in the \$5 to \$6 million range.

The Project Study Report prepared for the HE1 Candidate Project studied four alternatives. All four alternatives proposed to construct 4-lane expressways. Cost estimates for these four alternatives ranged from approximately \$13,700,000 to \$18,000,000.

In the 1988 Proposed STIP, Caltrans included the HB1 Safety Project. In commenting on the 1988 PSTIP, the Cushing Creek HE1 project was proposed by the DNLTC for inclusion in the 1988 STIP by trading two projects which were in the 1988 PSTIP; the Crescent City Flats Expressway and a Cushing Creek HB1 project. The CTC approved this trade and programmed the Cushing Creek expressway project in the 1988 STIP. The project was subsequently programmed in the 1990 STIP, and is programmed in the 1992 STIP at a cost of \$22 million in the 96/97 fiscal year. The project currently has a cost estimate ranging from \$11 million to \$63 million. Exhibit 16 and 17 detail the six "build" alternatives and cross sections being considered. Completion of a Project Report and Draft EIS/R are scheduled for 1993. The Final EIS/R is scheduled for approval in 1995, with estimated construction to begin in the 98/99 fiscal year.

Comprehensive studies made in conjunction with development of the Project Report and Draft Environmental Impact Statement have led to the conclusion that it would be imprudent to construct a safety project in the existing corridor, with substantial impacts to old-growth trees, that would not be adequate to meet the long term safety and operational needs.

The accident history on alignments similar to those proposed for the HB1 projects (500 to 600-foot radius curves on a steep downgrade) on other segments of Route 101 has been less than desirable. For example, on a 0.5 mile segment of Route 101 south of Willits on Ridgewood grade, which has vertical and horizontal alignments similar to those proposed in the Cushing Creek HB1 PSR, the accident rate is approximately 2.5 times the expected rate for similar facilities statewide.

The Cushing Creek project was originally conceptualized as a 4-lane freeway. Because of environmental impacts and cost, an attempt to compromise has led to a scaled down 2-lane (plus continuously passing lane) concept.

6.2 Project Purpose and Need

The purpose of the Cushing Creek, Route 101 realignment project is to decrease the existing high accident rate and improve the geometrics of Route 101 through the project area. The accident rate for the existing 2-mile segment of highway at Cushing Creek, between 1982 and 1992, was **seven times the statewide average** for similar facilities. In the last ten years, there has been an average of 28 reported accidents per year within the project limits of Route 101.

Between 1982 and 1992 there were over 285 accidents reported within the project limits. 144 of these caused injuries to over 235 people and 6 resulted in fatalities. The six fatalities occurred in six separate accidents. One of the six fatalities occurred when the driver hit a roadside tree. Three were the result of head-on collisions with oncoming vehicles. One resulted from the driver running off the roadway and going over the embankment, and the sixth fatality occurred when a southbound motorist collided with a northbound motorcyclist.

Historically, 80% of the accidents have involved northbound downhill traffic; in many cases the northbound motorists fail to negotiate the sharp curves and cross over the lane lines into oncoming southbound traffic. Nearly 60% of the multiple vehicle accidents have resulted from such crossover movements. Because there are little or no shoulders present and because of the trees lining the roadway, a southbound motorist has little room for maneuvering to avoid errant northbound drivers.

Primary factors contributing to the high number of accidents are the curving alignment, consisting of short radius curves (300' to 500' radii) and the prevailing 7.5% grade (downhill to the north). The absence of adequate shoulders has contributed to the accident problem, in that errant drivers may have been able to regain control or avoided collision if a paved shoulder had been provided. While some people feel the existing facility is adequate for prudent drivers, many a prudent driver has negotiated the curves at Cushing Creek only to collide with a disabled vehicle. Had stopping sight distance been greater or shoulders been present to aid maneuvering, accidents may have been prevented or severity lessened. In other cases, prudent drivers have been victimized by erratic drivers.

Another factor contributing to the high accident rate has been wet pavement. Nearly 80% of the accidents have occurred during wet pavement conditions. In the months between November and April, wet pavement is often prevalent and even occurs during foggy summer days. The canopy of trees lining the roadway shade the road surface, making it difficult for the sun to dry out the pavement. Water condenses on the needles of the trees and eventually drops to the pavement along with the litter from the trees. This creates a slick surface; compounding the problems created by the curving alignment and steep grade. Lessening the number and severity of accidents is the primary purpose of this project. With traffic volumes expected to increase to 8,000 vehicles daily by the year 2019 (daily traffic volume currently is 5,300), conflicts will be compounded.

7.0 The Feasibility of a Del Norte Coast Redwoods State Park Bypass

7.1 Park Bypass as Proposed by California Department of Parks and Recreation

The California Department of Parks and Recreation, on page 60 of their 1985 State Redwoods Parks General Plan, proposed that a major objective of their Department was to achieve the re-routing of Route 101 to a designated route which followed Wilson Creek and the upper slopes of the West Branch of Mill Creek, avoiding all memorial groves. This route was proposed by the Division of Beaches and Parks to the Division of Highways in a letter dated

July 26, 1962 and is depicted in Exhibit 2. Some engineering studies were performed by the Division of Highways (now Caltrans) on this alternative alignment in the 1960's.

The route as proposed by State Parks and previously endorsed by the Save-the-Redwoods League is not a total park avoidance alternative. It diverges from existing Route 101 very near Post Mile 12.5 (Wilson Creek Bridge No. 1-05), crossing Redwood National Park property. It then follows the Wilson Creek drainage and upper slopes of the West Branch of Mill Creek on private timberland. Rather than completely bypassing the park, the alignment veers northwesterly back onto parkland near the north end of the State Park, close to Mill Creek Campground. It then conforms to existing Route 101 in the Cushing Creek area. This alignment was proposed prior to creation and subsequent expansion of Redwood National Park.

This alignment would cost approximately **\$325 Million** to construct a 4-lane expressway. A total of 500 acres would be cleared. Ninety of these acres would be state park properties. It is estimated that **600 Redwood Trees** \geq 36" DBH would be removed for this alignment.

Redwood National Park has expressed a desire to relocate existing public utilities onto highway right of way as route development takes place. Currently, aerial utilities traverse both the State and National Park property. Utility relocation has not been studied in detail for this corridor study. Park bypass alternatives have been studied and are summarized later in this report. These alternatives incorporate segments of the 1962 proposed alignment by State Parks.

7.2 Bypass Alternatives Studied

There are an infinite number of alignments that could completely or partially bypass parkland. The alternatives under consideration have been limited to **three** for the purposes of this study. See maps #1, #2, and #3. These alternatives have some common elements. Two of the alternatives begin at Post Mile 12.5 (Wilson Creek) and one begins south of Trees of Mystery near Post Mile 9.4. Alternatives 1 and 2, as described below, are not included in the current STIP. Alternative 3 is a combination of the Wilson Creek Bluffs and Cushing Creek projects, both of which are at least partially funded.

These alternatives include construction of a 4-lane facility when outside the park and a 2 or 3-lane facility when within the park. The cost is about 20% less to construct 3-lanes rather than 4-lanes. The width of the road would be reduced from four 12-foot lanes, a 14-foot median and 10-foot outside shoulders to three 12-foot lanes, a 6-foot median, and 8-foot outside shoulders.

Alternative 1 (Map #1) represents a near total bypass of both State and National Park land. It would have to be constructed as a single 17-mile long project. It would not accommodate programmed projects at Wilson Creek Bluffs or Cushing Creek nor could the work be staged. The bypass could not be used by the public until construction was completed on the entire section. In this respect, it would be similar to the Redwood National Park/Route 101 Bypass

completed in 1992 after 8 years of construction; but in this case the magnitude would be much greater, requiring many more years to construct.

Alternative 1 would diverge from existing Route 101 at Post Mile 9.4, just north of the existing High Prairie Creek Bridge No. 1-4. The alignment would follow the High Prairie Creek drainage for approximately two miles and then head northerly through rugged terrain, before following Wilson Creek and the west branch of Mill Creek drainages. The alignment would be almost completely on Simpson and Miller Timber Company and east of State and National Park property. The only encroachment onto parkland would be at the northern end of the alignment, near Hamilton Road. The proposed bypass would conform to existing Route 101 just north of the existing intersection of Hamilton Road and Route 101 at Post Mile 23.0.

Alternative 1 is based on 4-lane expressway construction. It proposes geometrics that would provide for a minimum 55 miles per hour design speed. Grades would be generally moderate when traversing the various drainages, but would be fairly steep (6%) when traversing areas outside of the creek drainages. Construction would require **45 million cubic yards** of roadway excavation, with both cut and fill slopes at a 2:1 slope ratio. This amount of excavation is over 3 times that for the Redwood National Park/Route 101 Bypass. Maximum cut and fill heights would be in the 250-foot range. The alternative would be balanced in terms of the required earthwork, with excavation and embankment nearly equal. The proposed roadway would consist of two 12-foot wide northbound traffic lanes, two 12-foot wide southbound traffic lanes, a 14-foot wide median, and 10-foot wide outside shoulders. Bridges would be required at various locations.

Alternative 1 would require 1,086 acres of new right of way; nearly all of it Simpson and Miller Timber Company property. There would be relatively small acquisitions required from other private landowners. Only 11 acres would be required from Redwood National Park, all in the Hamilton road area.

The cost estimate for Alternative 1 is as follows:

Right of Way	\$ 29 million
Construction	\$550 million
Total	\$579 million

On the basis of cost alone, this alternative is deemed imprudent and infeasible. The cost of a 3-lane facility would be \$470 million, also infeasible. There is no way to attract that level of funding for a project in a rural county such as Del Norte.

Alternative 2 (Map #2) is a modified bypass, which would accommodate projects at Cushing Creek and Wilson Creek Bluffs and allow staged construction in such a manner that funds could be effectively utilized to best provide for the traveling public. Alternative 2 would have more impacts to parkland, but would be less expensive and have lesser overall environmental impacts than Alternative 1.

Alternative 2 assumes that, as a result of ongoing environmental and engineering studies, projects will be approved and constructed that meet the identified purpose and need of both the Wilson Creek Bluffs and Cushing Creek projects. In the segment bypassing the bluffs area, Alternative 2 is similar to Alternative "A", which was developed in a 1987 Project Study Report for the Wilson Creek Bluffs project. This alternative is one of several being formally studied for the Wilson Creek Bluffs project.

Alternative 2 would diverge from existing Route 101 at Post Mile 12.5, cross Wilson Creek approximately 200 feet east of the existing bridge (No. 1-5), cross a small private parcel and a short segment of Redwood National Park, traverse approximately 3 miles of Simpson timberland and 1/3 mile of State Park, before conforming to existing Route 101 at Post Mile 16.3. The segment within the State Park at the northern end would be constructed as 2-lane conventional highway with 8-foot shoulders, while the segment on National parkland and private timberland would be constructed as 4-lane expressway, with a 14-foot median and 10-foot outside shoulders.

By constructing only a 2-lane facility within the State Park, impacts to old-growth trees can be minimized. Alternative 2 assumes that the existing 4-mile segment of Route 101 between Post Mile 16.3 and Post Mile 20.3 (beginning of Cushing Creek project) would operate at an acceptable level of service for the foreseeable future. At some future date, as traffic demands increase, the bypass initiated at Wilson Creek could be continued northward. The proposed 2-lane portion within State Park boundaries, south of Post Mile 16.3, could be abandoned or retained as a access road and the 4-lane section continued northerly on private timberland. The alignment would veer eventually to the northwest, crossing approximately 1/2 mile of parkland, and conform to existing Route 101 near Post Mile 19.5. The 1/2 mile segment within the State Park would once again be built to 2-lane standards.

From Post Mile 19.5 to the southerly limits of the Cushing Creek project (Post Mile 20.3), the existing 2 and 3-lane segment of Route 101 would be retained with only safety and operational improvements made as required. Shoulder widening is one improvement that would have to be made for this segment, as existing shoulders are very limited. Alternative 2 assumes that one of the Cushing Creek project alternatives currently under consideration would be constructed in 1999.

Alternative 2, while offering compromises to minimize impacts on State Park property, would have substantial adverse impacts on private landholders Simpson Timber and Miller Timber. The primary socioeconomic impacts of the Wilson Creek Bluffs bypass portion would be to Simpson Timber Company. This segment could be constructed as soon as 2001, if selected as

the preferred Wilson Creek Bluffs alternative and assuming it could be cleared environmentally for construction.

The next 4-mile bypass segment (PM 16.3 to 19.5) would be built at an undetermined time in the future, only after appropriate engineering and environmental studies were completed. The impacts of this segment would be mostly to Simpson and Miller Timber Company property and to a lesser degree to State Park land before conforming to existing Route 101 at Post Mile 19.5. There would be both direct and indirect impacts to private timber properties, with private land required for actual highway construction and additional acreage isolated between the proposed roadway and the park boundary. From a timber production standpoint, this isolated land (nearly 1100 acres) would be difficult to manage and the very real possibility exists that it would eventually become parkland. This is what happened to isolated private timberland in the case of the Prairie Creek State Park/Route 101 bypass.

Alternative 2 would ultimately require approximately 8 miles of new construction, excluding the Cushing Creek segment. It proposes geometrics that would provide for a minimum 70 miles per hour design speed. Grades would be generally moderate when traversing the various drainages, but would be fairly steep (6.5%) when traversing areas outside of the creek drainages. Construction would require **22 million cubic yards** of roadway excavation, with both cut and fill slopes at a 2:1 slope ratio. Maximum cut heights would be in the 200-foot range; with maximum fill heights in the 260-foot range. The alternative would be generally balanced in terms of the required earthwork, with excavation and embankment nearly equal. The proposed roadway, outside of State Park land, would consist of two 12-foot northbound traffic lanes, two 12-foot southbound traffic lanes, a 14-foot wide median, and 10-foot wide outside shoulders. Bridges would be required at two locations, with additional bridges possibly required, depending on the Cushing Creek alternative selected.

Alternative 2 would require 679 acres of new right of way, the majority of it Simpson and Miller Timber Company property. 579 acres would be purchased from private landowners and 100 acres purchased from park agencies. An additional 1100 acres of private timberland would be isolated between the proposed roadway and the State Park.

The cost estimate for Alternative 2 is as follows:

Right of Way	\$ 23 million
Construction	\$282 million
Total	\$305 million *

* The cost estimate includes estimated costs of \$22 million (Programmed Amount) for the Cushing Creek project. Alternatives being studied for Cushing Creek currently have cost estimates ranging from \$11 million to \$63 million.

On the basis of cost alone, this alternative is deemed imprudent and infeasible. As indicated under Alternative 1, there is no way to attract that level of funding to Del Norte County.

Alternative 3 (Map #3) proposes construction of 4-lane facility at Wilson Creek Bluffs and a 3-lane facility at Cushing Creek, while retaining the existing 2 and 3-lane facility on the intervening 4-mile segment. Safety and maintenance projects would be pursued on an as-needed basis in order to be responsive to safety problems as they are identified. Under this alternative the Route Concept would be amended to reflect a 2 and 3-lane, conventional highway segment from Post Mile 16.3 to Post Mile 20.3. Changes to the Route Concept and the Wilson Creek project to reflect a scaled down concept will be done in conjunction with development of the EISs for the Wilson Creek Bluffs and Cushing Creek projects.

This alternative would fulfill identified purpose and needs of the two programmed projects. Depending upon the alternative selected for each of the projects, the needs of parks could be at least partially addressed. Impacts to adjacent timber companies would be less than those presented by Alternatives 1, and 2. Alternative 3 cost would equal the sum of the two programmed projects at Cushing Creek and Wilson Creek Bluffs. For the sake of comparison, \$22 million was used as a cost estimate for the Cushing Creek segment and \$80 million was used for the Wilson Creek Bluffs segment. Six hundred acres of private timberland could be potentially isolated between the proposed highway segments and the State Park with the Wilson Creek Bluffs realignment. Construction would require **9 million cubic yards** of roadway excavation, which is considerably less than the other alternatives.

The cost estimate for Alternative 3 is as follows:

Right of Way	\$ 11 million
Construction	\$ 91 million
Total	\$102 million

This is the only alternative considered potentially feasible based on cost. The following matrices summarize the cost estimates and property impacts for the three bypass alternatives.

**DEL NORTE COAST REDWOODS STATE BYPASS
ALTERNATIVES COMPARISON**

COST COMPARISON MATRIX

ALTERNATIVE	ROADWAY CONSTRUCTION (MILLION\$)	R/W (MILLION\$)	TOTAL COST (MILLION\$)
1	550	29	579
2	282	23	305
3	91	11	102

Note: Cost estimates include \$22 million (Programmed Amount) for the Cushing Creek project. Alternatives being studied for Cushing Creek currently have cost estimates ranging from \$11 million to \$63 million.

EARTHWORK/CLEARING/PROPERTY IMPACT COMPARISON MATRIX

ALTERNATIVE	EARTHWORK (MILLION CY)	CLEARING REQUIRED (ACRES)	PARKLAND REQUIRED (ACRES)	PRIVATE LAND REQUIRED (ACRES)
1	45	950	11	1,072
2	22	571	100	579
3	9	300	61	289

7.3 A Discussion of Cost

The question of reasonable expenditure of funds is integral to the feasibility discussion of a bypass. While subject to many variables, such as structure requirements, right of way costs, mitigation expenses, and inflation, total project expenditure will no doubt be great. It is important to have a basic understanding of state transportation funding when discussing potential bypass funding.

The resources used to fulfill the State's transportation program originate from a variety of State and Federal funding sources. Each resource has unique constraints on its use and requirements for review and approval. By law, of all State transportation construction funds expended, 60% must be expended in the south (southern 13 counties) and 40% in the north (northerly 45 counties). Additionally, 70% of State transportation construction funds must be expended in accordance with county minimum formula, which is based upon population and

State highway mileage. The current county minimum for Del Norte County is approximately \$10 million for a 5 year period. Since the estimated costs of the Cushing Creek and Wilson Creek Bluffs projects greatly exceed this amount, it will require a significant commitment of discretionary funds by the California Transportation Commission in order to construct the projects. Without the federal government declaring another "demonstration project", such as the Prairie Creek/Route 101 Bypass, it is virtually impossible to fund a total bypass project in Del Norte County. A \$579 project would consume funds in excess of all capital improvement funds which could be expected for all of the District 1 area for 20 years.

7.4 Logical Termini for a Park Bypass

When determining the logical termini for a freeway bypass of the Del Norte Redwoods State Park, it is difficult to meet the requirements of Section 4(f) law, since such an alignment would likely have to traverse Redwood National Park property at both ends. (See Exhibit 2). The possibility of future park expansion also complicates discussion and study of ultimate Route 101 development.

Highway development is a dynamic process, subject to continually changing needs. Park development is likewise a dynamic process, subject to the public's recreational demands and funding for park acquisitions. Since its birth in the 1960's, Redwood National Park has undergone one major expansion and has had periodic smaller additions. Del Norte Coast Redwoods State Park has also been expanded occasionally since the 1930's; primarily because of matching fund contributions by the Save-the-Redwoods League.

Several parcels are currently being considered as additions to Redwood National Park in the area of Del Norte Coast Redwoods State Park. Should these private parcels become parkland, it would subject Route 101 development to additional Section 4(f) restrictions; further complicating Route development.

As stated in Sections 7.2 and 7.3 complete parkland avoidance with a bypass of Del Norte Coast Redwoods State Park appears to be neither feasible nor prudent. Keeping this in mind, the following locations are considered as potential termini for a park bypass:

Potential Southerly Termini:

- a) Wilson Creek (Post Mile 12.5)
- b) South of Trees of Mystery (Post Mile 9.4)

A bypass terminus that corresponds with the Wilson Creek Bluffs project southerly terminus (Post Mile 12.5) would have the advantage of shortening the bypass by nearly 3 miles, as opposed to a point of origin south of Trees of Mystery. This would equate to a cost savings and less adverse effect on the physical environment.

A bypass that started south of Trees of Mystery would have the advantage of bypassing Redwood National Park and meeting 4(f) avoidance requirements. The Lagoon Creek/False Klamath Cove area (Post Mile 11.9), which is adjacent to Route 101, would be bypassed. This

would undoubtedly disappoint many travelers on Route 101, who currently experience spectacular ocean vistas in this area. (See Exhibit 5; Photo #7).

A freeway bypass that began south of Trees of Mystery would no doubt be opposed by proprietors of the Trees of Mystery, a major tourist attraction. Even if direct impacts on Trees of Mystery could be avoided, a change in access or visibility would probably be considered an adverse effect to the business.

The steep and heavily forested area north and easterly of Trees of Mystery would have to be cleared and excavated extensively to accommodate a freeway. Such operations would have an adverse effect on terrain, fisheries and wildlife habitat, water quality and possibly cultural resources. Private landowners easterly of existing Route 101 and existing parkland, principally Simpson Timber Company, would likely oppose any alternative which required acquisition of their property.

Potential Northerly Termini:

- a) Hamilton Road (Post Mile 22.7)
- b) Route 101 (Post Mile 33.0)

A bypass northerly terminus at Hamilton Road would have the advantage of allowing the bypass to clear the State Park limits before conforming to existing Route 101. Alternative "F" is currently being studied for the Cushing Creek project, it terminates at Hamilton Road. Other Cushing Creek alternatives end approximately 0.5 mile south of Hamilton Road. The private right of way, on which Hamilton Road is situated, is not wide enough to accommodate 4-lane construction. Hamilton Road occupies a narrow strip of private property sandwiched between State and National parkland. (See Exhibit 2). Encroachment onto Redwood National Park property would be necessary for highway construction in the Hamilton road corridor (approximately 11 acres of RNP directly impacted). Some existing and projected park trails would be impacted. Existing trails could likely be relocated, without significantly disrupting the existing trail system.

A bypass, designed to avoid all parkland, would have to diverge from Route 101 south of Trees of Mystery and conform to existing Route 101 six miles north of Crescent City near Wonder Stump Road (Post Mile 33.4), after crossing over Hamilton Road, Six Rivers National Forest, and State Route 199. Such an extensive bypass would be approximately 17 miles in length and have significant costs and severe environmental impacts associated with it.

7.5 Independent Utility of a Park Bypass

In order to determine the logical termini, a park bypass such as that proposed by State Parks must have independent utility or independent significance. In other words, the proposed project must meet the identified purpose and need, be usable upon completion, and be a reasonable expenditure even if no additional transportation improvements in the area are made.

The Department of Parks and Recreation, Redwood National Parks and Save-the-Redwoods League have identified a purpose and need for bypassing Del Norte Coast Redwoods State Park with Route 101. Their needs center on improving the environment by removing through traffic. Caltrans, which is responsible for local, regional and interstate transportation, has identified a purpose and need to improve the safety at Cushing Creek and to avoid costly maintenance and potential catastrophic road failure at Wilson Creek Bluffs.

A complete bypass of Del Norte Coast Redwoods State Park would meet the purpose and need for projects at Cushing Creek and Wilson Creek and would be usable upon completion. However, completion is unlikely since funding is highly unlikely for such an extensive project. Meanwhile, accidents would continue to occur at Cushing Creek and interim maintenance and rehabilitation projects would be required at Wilson Creek Bluffs. Catastrophic failure would continue to be a possibility at Wilson Creek Bluffs.

The purpose and need for these two projects now included in the State Transportation Improvement Program (STIP) could be met with projects not bypassing parkland; however, Section 4(f) laws require that "avoidance" alternatives be studied and that parkland is to be used only if there is no prudent and feasible alternative and all possible planning has been undertaken to minimize harm to the 4(f) lands resulting from such use.

It would be simplistic to think that there are only two viewpoints at stake with a potential park bypass. In addition to concerns of agencies and Caltrans, there are other resource agencies and conservation groups who hold that highway improvements, whether in the park or outside the park, would have environmentally unacceptable impacts. Improved highways, in their minds, are detrimental to the overall health of the environment, by removing and degrading fish and wildlife habitat and proliferating dependence on automobiles. The California Department of Fish and Game, private timber companies and local newspapers, have also expressed opposition to a complete park bypass. (See Appendices "H" and "I" and "T"). The general public, while usually supportive of efficient, safe transportation, is increasingly concerned with the wise use of tax dollars and impacts to the environment.

7.6 Disposition of Bypassed Sections of Route 101

In addition to costs associated with construction and right of way acquisitions for new highway construction, there are costs associated with future maintenance of both the new and old highway facilities. As a matter of policy, Caltrans opposes retaining parallel sections of superseded State highways, unless there are clear State highway needs which must be met by

retaining the bypassed facility. Much of this opposition is based on the additional manpower and expenses associated with maintaining parallel highways.

Section 73 of the Streets and Highways Code gives the California Transportation Commission the authority to relinquish to local agencies any portion of a State highway which has been superseded by relocation. Caltrans would pursue relinquishment or abandonment of any bypassed portion of Route 101 in Del Norte County. Prior to relinquishment, the facility must be placed in a state of good repair. The local agency may protest the relinquishment if they feel the facility is not needed for public use.

7.7 Potential Environmental Impacts

Construction of a new highway in Del Norte County is going to have a wide range of environmental impacts. This is especially true when traversing steep, wooded terrain as that in the Wilson Creek and Mill Creek drainages. The scope of this feasibility study does not allow for detailed study of any and all effects, significant or insignificant. It is probably safe to say that the effects would be similar to those being analyzed in detail for the individual Cushing Creek and Wilson Creek Bluffs projects, only on a larger scale. Effects could be similar in type to those experienced on the 12-mile long Redwood National Park/Route 101 Bypass, except that future projects will benefit from experience gained in the construction of the Redwood National Park/Route 101 Bypass.

Significant biological impacts could be expected on riparian vegetation, wetlands, endangered species, wildlife habitat, and fisheries resources. Cultural resources could be adversely affected, including Native American and historical resources. Socioeconomic impacts to private timber companies are also potentially significant.

8.0 Will the Segment of Route 101 Between Post Mile 16.3 and Post Mile 20.3 Perform Adequately in the Future?

Passing opportunities exist within the 4-mile segment for both northbound and southbound traffic. Northbound motorists have a passing lane available for a total of 1.6 miles at 4 separate locations. Southbound motorists have passing lanes available for a total of 2.2 miles at 5 separate locations.

Four-foot paved shoulders are provided for all but the northerly 0.4 mile of this segment. The most northerly 0.4 mile (Post Mile 19.9 to Post Mile 20.3) has little or no paved shoulder available.

The design speed of this existing 4-mile segment is generally above 50 miles per hour, but there are 6 horizontal curves which limit the design speed to less than 50 miles per hour. One particular curve at Post Mile 16.8 has a 500-foot radius which equates to a design speed less than 40 miles per hour. (See Exhibit 7; Photo #14). Stopping sight distance is also limited by trees on the inside of the curves.

Grades within the 4-mile segment are generally acceptable, with none over 6.25 % and most within the 2 to 3% range. Stopping sight distance is limited at two vertical crests (Post Miles 17.8 and 18.9) and one vertical sag location (Post Mile 18.3). The design speeds for these three vertical curves are 48, 36, and 41 miles per hour respectively.

Although this section of highway is less than desirable, the alignment and passing opportunities contribute to a facility which will perform adequately without upgrading to 4-lanes.

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December 16, 1991
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rare animal and plant species are excluded. Major impacts would occur in the High Prairie, Wilson and West Branch Mill creek drainages, all having significant wetland/riparian values and supporting important anadromous and non-anadromous salmonid species.

Alternatives 2 and 3 (modified Park bypass) include greater environmental impacts than Alternative 4 and lesser impacts than Alternative 1, at least preliminarily with little or no biological data available. Alternative 3 would have a greater effect than Alternative 2 because of the four lane section re-entering the State Park south of Post Mile 19.5.

We appreciate the opportunity to comment on the Corridor Study.



David A. McLeod
Fishery Biologist

Ms. Deborah L. Harmon
December 16, 1991
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Alignment alternatives being considered have been limited to four for the purposes of the study.

Alternative 1 (Near total Parks bypass) - Would entail 17 miles of new construction with 45 million cubic yards of earth excavated. Fills would be as high as 250 feet. The route would follow High Prairie Creek for two miles, follow Wilson Creek and cross it once, and follow West Branch Mill Creek crossing it twice.

Alternative 2 (Modified Parks bypass) - Would entail eight miles of new highway construction, not including the Cushing Creek segment. An estimated 22 million cubic yards of earth would be excavated, with 200 foot deep cuts and 260 foot high fills. This route would include the Wilson Creek Bluffs and Cushing Creek projects. The intervening section from Post Mile 16.3 to Post Mile 19.5 would be used in the foreseeable future. Later, a four lane section would be considered inland, affecting more of Wilson and West Branch Mill creeks.

Alternative 3 (Modified Parks bypass) - Similar to Alternative 2 with slightly greater environmental impacts caused by creating a four lane instead of a two lane section re-entering the State Park south of Post Mile 19.5.

Alternative 4 (Cushing Creek and Wilson Creek Bluffs) - This is the current route being studied extensively.

It is difficult to choose the least damaging alternative other than the No Project alternative, as environmental data are either totally lacking or preliminary. The presence or absence of endangered, threatened, or rare animal and/or plant species could have an overriding impetus in alternative selection.

Assuming the absence of endangered, threatened or rare animal and plant species when considering the alternatives, from purely a biological standpoint Alternative 4 (Cushing Creek and Wilson Creek Bluffs) appears to be the least damaging. Sub-alternative routes would have to be chosen within each of those sections. If the Cushing Creek and Wilson Creek Bluffs projects are built, that would not preclude options to upgrade the remaining route in the future.

The worst case scenario appears to be the avoidance of all parkland. This bypass would be over 20 miles long and have severe environmental impacts associated with it. Among the other alternatives discussed, Alternative 1 (near total Parks bypass) appears to be the most threatening when endangered, threatened or

Memorandum

To : Deborah L. Harmon
Department of Transportation
District 1

Date : Dec. 16, 1991

From : Department of Fish and Game
Region 1 - Eureka

Subject : Del Norte Route 101 Corridor Study

We have reviewed the U.S. Route 101 Del Norte County Corridor Study and offer the following comments.

As stated in the document, resource agencies such as the Department of Fish and Game, contend that highway projects in general have environmentally unacceptable effects. Highway improvements can be detrimental to the overall health of the environment by removing and degrading fish and wildlife habitat. Case in point are the effects the current Parks bypass has had on fish and wildlife habitats within the Redwood Creek and Klamath River basins. From this perspective, the best alternative would be a No Project alternative and the worst would be avoidance of all parkland, assuming all effects are equal when considering amounts of ground disturbing impacts.

The document lists numerous concerns to the environment such as impacts to Federal and State listed, proposed, and candidate endangered, threatened, or rare animal and plant species. Those that may be encountered include the federally threatened northern spotted owl, the State endangered marbled murrelet, and Wolf's evening primrose, petitioned for both Federal and State listing. Other concerns are impacts to rivers and streams, old growth redwoods and other conifers, riparian and wetland communities, wildlife migration corridors, and biodiversity. It might be assumed that effects of all alternatives would be similar to those being analyzed for the individual Cushing Creek and Wilson Creek Bluffs projects. The greater the land disturbance, the greater the environmental impact.

The report discusses seven segments requiring upgrading to meet the Current Route Concept. Among those, the Wilson Creek Bluffs and Cushing Creek projects are the only two included in the 1990 STIP. Funding is unlikely for the remaining five segments in the foreseeable future. Those are Segment One, Klamath to Wilson Creek; Segment Five, Crescent City Flats; Segment Six, Crescent City Bypass; and Segment Seven, Junction 101/199 to the Oregon State line. Each of these segments would have its own set of environmental impacts.

Ms. Deborah Harmon

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There is a safety problem on the existing Cushing Creek curves, according to CALTRANS studies, and nearly 60% of the multiple vehicle accidents have resulted from cross-overs. The construction of a concrete median barrier along the two - mile stretch would greatly reduce the accident rate. Such barriers are utilized very effectively on Route 17 between Los Gatos and Santa Cruz, along a roadway that has curves with radii similar to those at Cushing Creek, over a much more heavily-traveled route (during commute hours and on weekends). The Manteca Bypass also utilizes a median barrier over an even more heavily used route.

Median barriers can be installed much cheaper and sooner than any alternative can be planned, purchased and constructed. Del Norte County's current minimum funding should be adequate for this purpose. While the barriers are being cast in concrete, planning can continue on the bypass freeway, to be constructed as funds become available in the future.

The actual construction of the bypass should commence at the south end of the Corridor Study because of the danger of slip-out at the Wilson Creek Bluffs. When the project reaches a point to the east of the park in the vicinity of P.M. 16.3, a 2 - lane connector can route traffic back into the park to connect with existing Route 101. This segment would remain a 2 - lane roadway to minimize the impact on the natural features of the park. It would only be needed as a through route until the northern stretch of the bypass can be completed.

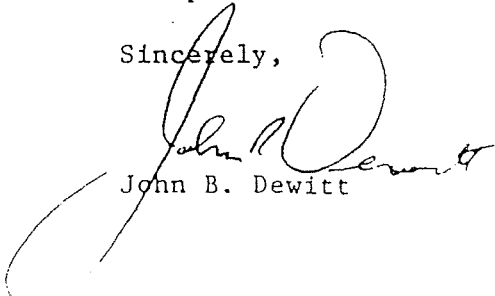
When the connection is made at or near P.M. 16.3, the road over the bluffs can be discontinued as an automotive route, and can be converted to recreational purposes such as bicycle and hiking paths.

When the full bypass is completed, the short 2 - lane segment can become the southerly entrance to the park, and motorists who wish to travel north at a more leisurely pace, enjoying the old-growth forests, can use the north half of the present route as a park-oriented road. The concrete median could remain on the 2 - mile Cushing Curve segment if deemed necessary.

In summary, the League's proposal for both long-term and short-term solutions to the dilemmas posed by the Corridor Study would protect the most important of the park values, would greatly reduce the mileage and overall impact of the bypass, would reduce the acreage of private land to be condemned, and would improve the safety factors on the Cushing Creek curves immeasurably until the bypass can be completed.

We very much appreciate the opportunity to comment on the Corridor Study. The copy you provided us is being returned under separate cover.

Sincerely,


John B. Dewitt

JBD/dp

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A logical alternative would be to locate a freeway route that avoids the old-growth almost entirely, but that would be less costly and time - consuming, and with less of an impact on private lands, than a total bypass such as outlined in Alternative 1. Such a route would require construction over park lands that had been cut-over earlier in the century, but would avoid the old-growth groves that are the reason for the park's being established.

With these considerations in mind, the League recommends the following route for a four - lane freeway, commencing at the Wilson Creek terminus:

Continue north along existing Route 101 beyond the northern limit line of the Freeway Agreement dated 2/4/57, crossing Wilson Creek on a widened bridge, then follow Alt. U or Alt. T (Exhibit 17) as a departure from the existing highway at a point opposite the Footsteps Rocks. Where Alts. U & T intersect near the corner of Del Norte Coast Redwoods State Park in Sec. 16, continue on Alt. U until it merges with Alt. R. Follow the combined alternates to a point where the route could bear northerly to the proposed location of Alt. V in the south-east quarter of Sec. 31.

From this point the route could continue along the northerly extension of Alt. V, just to the east of the park in the manner shown on your Map #2, Alternative 2. However, instead of re-entering the park to connect with existing Route 101 at P.M. 20.3 (as shown on Maps #2 & #3), the route would continue in a north-north-westerly direction, re-entering the park through the cut-over lands to the west of Mill Creek. The route would then essentially correspond with Alt. F as shown in Sec. 6 on Exhibit 16. Our proposed route would cross over the park road that leads to the Mill Creek campground and would remain well above the West Branch of Mill Creek. As Alt. F enters Sec. 1 at the Humboldt Meridian, its course could be altered to the north to a more convenient grade, crossing over Hamilton Road near P.M. 22.7 (but avoiding the Rellim developed area) and joining the existing highway at a point just to the north of the Redwood National Park boundary. It does not seem necessary to have an intersection directly with the private Hamilton Road. Drivers on that road could proceed north on existing Route 101 about half a mile to a more appropriate location for a freeway intersection.

The League proposal would remove through traffic from the memorial groves along the existing route, would require the condemnation of relatively few acres of private land, and would leave minimal acreage in "islands" of commercial forest. To the extent that second-growth forest would be cut along the proposed alignment on commercial forest lands, experience has shown that these areas are re-logged every forty to sixty years in any event. Certain forest products companies have suggested twenty-five year rotations to grow timber suitable for their purposes. The concept may spread as others in the industry find economic justification for such short rotations. Thus, the argument that road construction through the commercial lands would cause disturbances that wouldn't otherwise occur seems hollow. Moreover, our proposed route would entirely avoid the private forests and the park lands along the banks of Wilson Creek and Mill Creek.

(continued)

Save-the-Redwoods League

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‡

OBJECTS

1. To rescue from destruction representative areas of our primeval forests.
2. To co-operate with the California State Park Commission, the National Park Service, and other agencies, in establishing Redwood Parks and other parks and reservations.
3. To purchase Redwood groves by private donation.
4. To foster and encourage a better and general understanding of the value of our primeval Redwood or Sequoia and other forests of America as natural objects of extraordinary interest to present and future generations.
5. To support reforestation and conservation of our forest areas.

This is recycled paper.

December 11, 1991

Ms. Deborah L. Harmon, Chief
 Environmental Planning Branch
 CALTRANS, District 1
 Post Office Box 3700
 Eureka, California 95502-3700

Re: Del Norte Coast Redwoods State Park
 Corridor Study for U.S. Route 101

Dear Ms. Harmon:

The Save-the-Redwoods League has reviewed the draft Corridor Study prepared by CALTRANS for U. S. Route 101 in Del Norte County. We appreciate the considerable effort and thought that have gone into the presentation of the problems that must be faced for any of the alternatives selected.

While the study devoted considerable attention to the concept of a total park bypass, certain feasible alternatives were almost overlooked because of perceived Section 4(f) restrictions. Section 4(f) very correctly and appropriately requires that park lands are to be used for highways only if there are no prudent and feasible alternatives. However, it is important to keep in mind at all times that the principal reason for the creation of Del Norte Coast Redwoods State Park was to protect the old-growth Redwoods. As a corollary, visitors to the park should be able to enjoy these magnificent trees in as undisturbed a setting as is consistent with reasonable access.

Over the long history of this park, certain areas of cut-over forest lands have been included within its boundaries. More were added by the Redwood National Park expansion. It will be many generations before the second-growth Redwoods now growing on some of these lands will achieve the stature of the old-growth. In the meantime, the old-growth (trees over 200 years old) is irreplaceable, and must be protected. Yet, a freeway route that totally bypasses the park seems, from the conclusions of the Corridor Study, to be infeasible.

(continued)



Simpson

Simpson Timber Company
Redwood Division P.O. BOX 1169
ARCATA, CALIFORNIA 95521-1169 (707) 822-0371 FAX (707) 822-4429

December 6, 1991

Deborah L. Harmon, Chief
Environmental Planning Branch
CALTRANS
P. O. Box 3700
Eureka, CA 95501

Re: Draft Corridor Study - U.S. Route 101 - Del Norte Co.

Enclosed is the draft corridor study as requested by you, along with the following comments:

1. We are in general agreement with your Executive Summary and Conclusions, except we would expand those conclusions to state that, in addition to a total park bypass being unacceptable (alternative 1), that alternatives 2 and 3 are also unacceptable for much the same reasons.
2. Alternative 4, the least destructive proposed bypass, unfortunately is also detrimental to Simpson in that it not only takes productive timberland out of production, but it isolates approximately 600 acres of additional timberland between the new freeway and the park boundary.
3. We think that an additional conclusion that could be reached as a result of this study is that any bypass of the park may be unacceptable, and that alternative(s) can be chosen from those already being studied for both the Cushing Creek project and the Wilson Creek project that have significantly fewer long term impacts and are much less costly than any of the bypass locations proposed in this study.

We thank you for the opportunity to comment and commend you for the objectivity and completeness of the study.

Very truly yours,

SIMPSON TIMBER COMPANY


Neal D. Ewald
Timberlands Manager

db

cc: D. W. Kaney
T. W. Schuette

TO: RICK RAYBURN

BY: BROWN

ROB UELTZEN

ROUTE 101 - DEL NORTE COUNTY - A CORRIDOR STUDY - CALTRANS

Page 2 - If LOS is a qualitative measure describing the operational conditions within a traffic stream and the perceptions by motorists and/or passengers of those conditions, can the concept of LOS for Route 101 be accomplished only by upgrading two lane segments of highway on non-standard alignment to four lane expressway standards? Does the LOS take into account the percentage of time that the traffic is impeded? It would seem that 101 in the vicinity of Del Norte Redwoods may provide a LOS "E" only a small percentage of the time. The provision of pullouts for slower traffic, passing lanes, or acceleration and deceleration lanes for turnoffs could reduce the impediment to traffic flows during peak periods.

Page 30 - The bypass alternative studied assumes 4X12 foot lanes, 14 foot median and 2X10 foot shoulders for a total width of 82 feet. The 101 bypass through Humboldt Redwoods is 60 feet (4X12 foot lanes and 2X6 foot shoulders). The reduction in width would have a tremendous effect on the cost and environmental impacts. What justification exists for the construction of the 82 foot wide bypass if remaining sections of 101 in Del Norte County are considerably less? Prairie Creek bypass received an exception from the FHWA for the construction of a 70 foot width (6 foot median, 8 foot shoulders). Is federal funding assumed requiring federal standards? Can the width be reduced with the installation of a center guard rail in place of the 14 foot median? The alternative of constructing separate northbound/southbound segments (couplets) with narrow shoulders should be considered.

Page 32 - What are the impacts to Simpson Lumber Company? If harvesting in the R.O.W. is permitted prior to the clearing for construction, there should be no short-term economic loss.

Why is a minimum design speed of 70 MPH necessary (paragraph 5)?

Cushing Creek realignment has been justified on the basis of the accident rate. Has any analysis been made to determine if there is high correlation between vehicle type and the accident rate (i.e. logging trucks, RV's, etc.)?

RECOMMENDATIONS

The study should be revised with consideration given to a wider variety of road widths and with an examination of the LOS assumptions. These revisions should not only apply to a bypass but also to the Cushing Creek and Wilson Creek Bluff's segments.

DEC 13 1991

RPD

RECEIVED



M e m o r a n d u m

To : Deborah L. Harmon, Chief
Environmental Planning Branch
Caltrans
PO Box 3700
Eureka CA 95501

Date : June 13, 1991

From : **Department of Fish and Game** -- Region 1
619 Second Street, Eureka CA 95501

Subject: Route 101 Corridor Study/Del Norte Coast Redwoods State Park

We Have reviewed your proposed study outline to re-evaluate the Route Concept for the segment of Route 101 in Del Norte County between Klamath and the Oregon border.

Our concerns are, of course, how each alternative will affect wildlife and sensitive plants. The study should address the same concerns we have for the Wilson and Cushing creeks bypasses i.e. total wildlife losses. Exact acreages of sensitive habitats such as wetland and riparian areas should eventually be delineated. Old-growth dependent species' affects should be considered. What will be the extent of fills for each alternative?

Item 4)d of the proposal includes only anadromous fishes. Resident forms should also be included.

We realize that specific information regarding some of our concerns are not within the scope of this study (by fall of 1991), but effects might be grossly projected. For example, it appears that the most easterly route has the potential to greatly affect Wilson and Mill creeks, both important systems to fisheries.

Thank you for the opportunity to comment.



David A. McLeod
Fishery Biologist

DAM:cj

One Redwood Park bypass apparently isn't enough

Slowly, almost imperceptibly, another government project that could gobble up valuable private timberland on the North Coast is moving forward.

It's emerging from the California Department of Transportation's effort to improve two problem stretches of U.S. Highway 101 in Del Norte County.

One is just a couple of miles south of Crescent City near Cushing Creek, where a series of tight turns and a steep grade have triggered an excessive number of traffic accidents. The other is about six miles further south at the mouth of Wilson Creek, where the ocean is slowly eroding the base of a huge soil mass, causing road failure and slippages.

Although these projects were originally being studied by Caltrans independently, they are suddenly linked under a comprehensive highway realignment proposal that could create a new 11-mile stretch of U.S. 101 several miles east of the existing road, bypassing both of the problem sites.

This particular alternative, the most costly of several being considered to deal with the troublesome stretches, runs almost entirely through Simpson Timber Co. and Miller and Reilim Redwood Co. timberlands. It would require acquisition of a nearly 300-foot-wide right of way along the entire length, cutting right through the latter company's mill site.

It is incredible to imagine the government even considering another buyout of productive timberland at a time when the industry is besieged by environmental restrictions and bureaucratic hoops on every front.

Yet the route is getting careful review and is already being embraced by certain environmental groups that would like to see the highway pulled completely out of national and state parklands.

While Redwood National Park officials have yet to endorse the alternative, they were largely responsible for pushing for a study of the eastern route as an alternative to separate, shorter bypasses that would encroach on parkland.

As usual, federal law is working against private industry. The federal Department

of Transportation Act requires that new highways not encroach on parklands unless there is no feasible or prudent alternative. While economic impacts and cost can be considered in that equation, the deck is stacked against the private landowner.

Logic argues against the 11-mile "Park Avoidance" route on several fronts.

Cost alone should take it out of the running. Although no firm estimates for the project have been made, the nearly identical-length Redwood Park bypass now under construction near Prairie Creek will cost in excess of \$115 million. Original estimates for that problem-plagued highway were less than half that amount.

With work on any Del Norte highway improvements still years away and the state likely to have to chip in a greater percentage on future highway projects, an undertaking of this magnitude shouldn't even be under consideration.

Then there is the tourism issue. With old-growth redwood stands all around, the present highway alignment is far more scenic than the logged-over route to the east. If Redwood National Park is going to build on its somewhat lackluster visitor count, it should keep passing motorists as close to the park's attractions as possible. That means either staying with the existing highway alignment or an alternative very close to it.

Finally, there are the economic consequences of gobbling up more of the region's rapidly diminishing private timberland. The eastern route right of way acquisition alone would take hundreds of acres. But of equal concern are the little islands of private stands created when existing timberlands are bisected by a highway. As Simpson found out with the Prairie Creek project, it becomes almost impossible to log these areas because of their visibility from the highway. It has sold much of its timberland in that area to the park rather than struggle with trying to harvest it.

At some point government must stop its relentless and myopic assault on this region's economic base and focus its efforts on land that is already under public control. A good place to start would be for Caltrans to drop the U.S. 101 "Park Avoidance" route from further review. ■

Deborah L. Harmon

June 6, 1991

Page 2

Simpson regards the proposed park bypass as another attempt to push through a special interest project of dubious value at the expense of the taxpayer and beleaguered landowner. We therefore recommend that the feasibility study take into account these concerns. We further recommend that special emphasis be directed toward consideration of the relative costs, both environmental and social, that such an ill-conceived proposal would place upon the people of the State of California in comparison to the smaller projects.

We would appreciate notification of any meetings or study sessions that might evolve, and we thank you for the opportunity to comment. Any notification and/or information should be sent to the letterhead address in care of T. W. Schuette.

Very truly yours,



Louis A. Blaser
Timberlands Manager

hgt

CC: D. W. Kaney
T. W. Schuette



Simpson Timber Company

Redwood Division P.O. BOX 1169
ARCATA, CALIFORNIA 95521-1169 (707) 822-0371 FAX (707) 822-4429

June 6, 1991

Deborah L. Harmon, Chief
Environmental Planning Branch
CALTRANS
P. O. Box 3700
Eureka, CA 95501

Re: Route 101 Corridor Study/Del Norte Coast Redwoods State
Park - Outline Proposal

Dear Ms. Harmon:

We were supplied the subject memorandum by Scott Feller of Miller-Rellim, who is a member of the Cushing Creek Bypass Project Development Team.

Since Simpson Redwood Company would be a major player in the Wilson Creek Bluffs Bypass Project, and the subject proposal could drastically alter that proposal, we felt compelled to comment on your outline for a proposed feasibility study for a park bypass by Caltrans.

At this point, we are extremely concerned that a study such as this addresses all points of interest and the impact on everyone involved. This would include, at the very least, the owners and all employees, vendors and customers of the two major redwood companies who will be affected. In fact, the sheer magnitude of such a project, both economically and environmentally, in comparison to the two smaller projects, should raise red flags before any "scientific" study is attempted.

Simpson can, in theory, support the smaller projects because they both eliminate dangerous sections of highway and do not begin to impact the environment as drastically as the proposed park bypass would. The Wilson Creek Project, however, in itself entails considerable taking of excellent commercial timberland, a commodity which is now at a premium given the large withdrawals still taking place in the form of parks, owl reserves, and other restrictive regulations affecting private land.

Section 5) How might the present Cushing Creek and Wilson Creek Projects Accommodate a future park bypass?

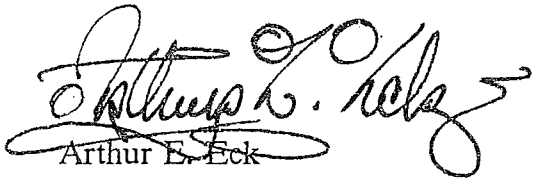
- Discuss alternates for disposition of the existing road.

Section 6) How long could the segment of Route 101 between post mile 16.3 and Post Mile 20.3 be expected to perform adequately

- What are the potential maintenance problems and costs?
- What improvements would be needed to meet current route concept?
- What are the impacts of those improvements?

Thank you for the opportunity to comment on the Route 101 Corridor concept study outline. If you have any questions, please contact John Sacklin at 822-761 1.

Sincerely,



Arthur E. Eck
Deputy Superintendent

cc: Bill Beat, California Department of Parks and Recreation
Carl Anderson, Save-the-Redwoods League
Ron Replogle, WRO
John Donahue, WASO

4) Construct partial park bypass to four lane standard. North central portion of the highway would follow West Branch of Mill Creek, bisecting portion of Del Norte Coast Redwoods State Park.

5) Construct complete park bypass to four lane standard. Park (4(f)) lands would only be utilized at interchanges (Wilson Creek, Hamilton Road).

As we review the progress of the route concept study, we will be looking at it from the perspective of these alternates, their impacts on resources, 4(f) lands, costs, and other tradeoffs.

We also have a number of specific suggestions for the outline.

Section 1) a) Definition of Route Concept

- How often (typically) are route concepts revised?
- What time frame is typically used for route concept planning?
- What are the cumulative environmental effects of implementing the current route concept?

Section 2) The Cushing Creek Bypass

- Describe land ownership patterns.
- Summarize potential environmental impacts (as quantitatively as possible), including 4(f) lands.
- Discuss alternatives for disposition of bypassed/abandoned highway segment.
- Summarize total project costs (construction, right-of-way, waste disposal)

Section 3) The Wilson Creek Bluffs Bypass

- Discuss the above items for the Wilson Creek project

Section 4) The Feasibility of a Del Norte Coast Redwoods State Park Bypass

- Discuss use of bypass for utility corridors (in particular, the PPL line from Crescent City to Klamath).
- Include estimated waste, borrow, and disposal site costs.
- Discuss alternates for disposition of the bypassed highway.
- Include impacts on stream habitat values other than anadromous fisheries.
- Include impacts on slope stability and increased erosion.
- Discuss alternate routes of a park bypass, including a full bypass and a partial bypass (our alternate four as outlined above).



United States Department of the Interior

NATIONAL PARK SERVICE
REDWOOD NATIONAL PARK
ARCATA OFFICE
1125 16th STREET
ARCATA, CALIFORNIA 95521

IN REPLY REFER TO:

D30 (Cushing Creek)

June 17, 1991

Deborah L. Harmon
Chief, Environmental Planning Branch
California Department of Transportation
District 1, P.O. Box 3700
Eureka, California 95502

Dear Ms. Harmon:

We have reviewed the Route 101 Corridor Study/Del Norte Coast Redwoods State Park outline distributed at the May 30, 1991 Project Development Team meeting for the Cushing Creek bypass.

We assume that the outcome of this study will a reevaluation of the route concept for U.S. 101 from Klamath to the Oregon border. We also assume that the existing route concept will not be taken as a given for any portion of the route, and the result of the study will be a recommendation to the State Transportation Commission to either retain the existing concept or modify the route concept. As outlined, the study appears as if it will address a key issue raised by the National Park Service in its EIS/EIR scoping comments on both the Cushing Creek and Wilson Creek Bluffs, the long-term plans for U.S. Highway 101 from Klamath to Crescent City. However, we do have a general and several specific comments regarding the study.

Conceptually, we view five alternate routes for U.S. Highway 101 from Wilson Creek to the bottom of Crescent Hill (essentially, the Del Norte Coast section of highway). Those alternates are:

- 1) Retain existing highway alignment in current two to three lane status; perform routine maintenance and safety improvements (the no-build alternate).
- 2) Construct bypasses at Wilson Creek Bluffs and Cushing Creek; retain existing two to three lane highway over four mile intervening section; perform safety and maintenance repairs on the four mile section.
- 3) Construct four lane bypasses at Wilson Creek Bluffs and Cushing Creek; eventually upgrade four mile intervening section to four lane status (the current route concept?).

Deborah Harmon
April 29, 1991
Page Three

The Departmental contact person for this project is William Beat, Klamath District Superintendent at (707) 445-6547 or ATSS 538-6547. If you have any questions regarding the environmental review processes within this Department, please contact Robert Ueltzen, Environmental Review Section at (916) 324-6417 or ATSS 454-6417.



Richard G. Rayburn, Chief
Resource Protection Division

Deborah Harmon
April 29, 1991
Page Two

- 22 The loss of any old-growth redwoods is a significant impact and must be mitigated appropriately.
- 24 Almost without exception, ground disturbing activities such as road construction initiate the colonization and spread of non-native species. This is a significant impact within the State Park. Mitigation must be discussed in the EIR/EIS.
- 29 Several migratory mammals occur in the region. The EIR/EIS must discuss the issues of habitat fragmentation and the potential disruption of migratory corridors.
- 49 Redwood National Park, including the three State Parks within its authorized boundaries, has been designated a World Heritage Site. This, in essence, is a natural landmark and needs to be a part of the EIR/EIS evaluation.
- 50 and 51 The scenic resources, natural sounds, etc. are primary resources within the State Park context. Therefore, any activities with the potential to degrade these values are significant. The treatment of cut and fill surfaces (i.e. contouring, revegetation, drainage, etc.) must be fully described in the EIR/EIS. The area of visual impact or viewshed should be delineated.
- 54 The long-term environmental goal for Del Norte Coast Redwoods State Park is essentially the preservation and protection of the natural and cultural resources within the unit. Construction of highway through the unit will conflict with that goal.
- 55 The degradation and loss of park resources should be considered an adverse effect on human beings.

Two critical elements of this EIR/EIS will be the consideration of cumulative impacts and the analyses of alternatives. The impacts resulting from the Cushing Creek and Wilson Creek Bluffs bypasses must be evaluated cumulatively as well as the impacts for the improvements and/or realignment of the intervening section between these two bypasses. It is apparent that the bypasses with their upgrades in capacity will eventually result in the desire to upgrade the intervening highway to similar capacity. In this context, the alternative analysis scope should include the bypass of the entire State Park as has been proposed in the past.

District 1 staff is aware of the significant environmental damage to Prairie Creek Redwoods SP as a result of construction of the Highway 101 bypass. The EIR/EIS must address all construction problems, for example compaction of wet soils, capacity of project retention basins, slope stability measures, that could result in high sediment loads being discharged into State Park drainages.

Memorandum

Date : April 29, 1991

To : Deborah Harmon, Chief
Environmental Planning Branch
California Department of Transportation, District 1
Post Office Box 3700
Eureka, CA 95502-3700

From : Department of Parks and Recreation
Resource Protection Division

Subject: Notice of Preparation of a Draft Environmental Impact Report/Statement
1-DN-101-125/163
01101 292700
Wilson Creek Bluffs Bypass

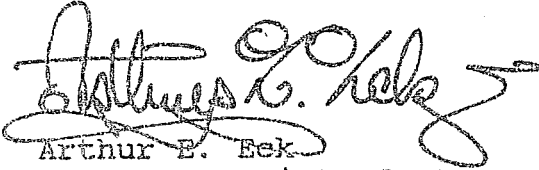
The Department of Parks and Recreation is a trustee agency as defined in the State CEQA Guidelines (Section 15386, CCR). The proposed project will affect resources within Del Norte Coast Redwoods State Park over which this Department has jurisdiction. The Department will also be acting as a responsible agency in the issuance of temporary rights-of-way/easements, and/or exchange of State lands. The EIR prepared by Caltrans will be used by this Department to determine if such permits, etc. are desirable and, if so, what appropriate mitigation should be implemented.

The lack of a map in the Notice of Preparation showing the alternative alignments impedes the Department in commenting on environmental conditions and analyses specific to the alternatives. The numbered comments following correspond to the Environmental Significance Checklist.

- 2 Unique geologic and physical features may not be known at this time. The appropriate answer should be "unknown."
- 3 The North Coast is noted for instability. The reason for the proposed project is that instability. The design of any alternative will have to consider the potential significant effect of the unstable conditions in the choice of the best alternative and in engineering requirements.
- 4 The EIR/EIS must completely describe the soil erosion features, conditions and monitoring program for the project.
- 9, 10, 11, and 13 Given the condition of stream courses on the North Coast and the experience from the Highway 101 bypass at Prairie Creek Redwoods State Park, the impacts must be considered significant.
- 19 The ambiance of the park setting, including the quality of sights and sounds, is an extremely important resource. Each alternative must consider noise to be a major factor in the determination of each alternative's compatibility or incompatibility within the park.

considered today for the Wilson Creek improvements. We expect that the knowledge gained on the Prairie Creek bypass will be fruitfully applied to better forecast the impacts of a project in the Wilson Creek area.

Sincerely,

A handwritten signature in cursive script, appearing to read "Arthur E. Eek". The signature is written in dark ink and is positioned above the typed name.

Arthur E. Eek
Deputy Superintendent

cc: Mr. Ron Replogle, WRO

Cushing Creek bypass project in this study. Planning for this intervening highway is important in assisting the National Park Service in fulfilling its obligations under the Code of Federal Regulations for granting rights-of-ways. Once a final alternate is chosen for the highway realignments, permanent and irrevocable commitments of park resources will be made, including the potential for removing old growth trees and for damaging streams, both resources that Redwood National Park was established expressly to protect and preserve. Therefore, long-term plans for the intervening highway become critical for National Park Service concurrence on the most feasible and prudent alternates for both Cushing Creek and Wilson Creek Bluffs realignments.

2. Impacts to old-growth trees. Redwood and all other old-growth species should be identified along the alternate alignments.

3. Impacts to Wilson Creek and other streams. Both short-term and long-term effects on fisheries, sedimentation, and water quality should be addressed.

4. Impacts to cultural resources. National park lands in the immediate project area have received only a cursory survey for prehistoric, historic, and contemporary Native American resources. Indian consultation regarding the specific project area have not been accomplished. Although the probability is low of identifying any sites on the steep, logged over terrain in the project area, cultural resources do exist in the vicinity of both the U.S. Highway 101 bridge across Wilson Creek and the Redwood Hostel. The project is at the southern edge of Tolowa territory and borders the northern edge of Yurok territory. As the environmental checklist indicates, the project area should be surveyed for cultural resources. In addition, we recommend the environmental checklist be modified to include Native American consultations.

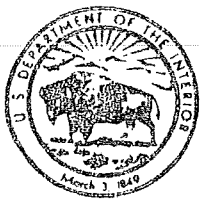
6. Impacts to any threatened or endangered species. Potential impacts to old-growth dependent species such as spotted owls and marbled murrelets should be addressed.

7. Impacts to wetlands, riparian and other vegetation types.

8. Changes in visual and noise impact levels on parklands resulting from implementing highway alternates.

9. Disposition of the length of existing highway to be bypassed.

On a more general note, the National Park Service has worked closely with the California Department of Transportation over the past decade to effect construction of the U.S. Highway 101 bypass project around Prairie Creek Redwoods State Park. Cooperation on that project began at an even earlier stage than the current Wilson Creek Bluff improvements. Despite the best efforts of both agencies during the planning and design phase, some of the observed results were neither intended nor described in that project's environmental documents. Some of the same issues are being



United States Department of the Interior

NATIONAL PARK SERVICE

REDWOOD NATIONAL PARK

ARCATA OFFICE

1125 16th STREET

ARCATA, CALIFORNIA 95521

IN REPLY REFER TO:

D30 (Wilson Creek Bluffs)

April 22, 1991

Deborah L. Harmon
Chief, Environmental Planning Branch
California Department of Transportation
District 1, P.O. Box 3700
Eureka, California 95502-3700

Dear Ms. Harmon:

The National Park Service has reviewed the notice of preparation of an Environmental Impact Statement for the improvement of U.S. Highway 101 in the vicinity of the Wilson Creek Bluffs. The Service will be participating in the preparation of this document as a cooperating agency. Depending on the alignment, this project has the potential to directly and indirectly impact both federally owned Redwood National Park lands and state park lands within the Congressionally authorized boundary of Redwood National Park. Redwood National Park has prepared these comments in cooperation with our Western Regional Office, and they represent the concerns of both staffs.

If national park lands are to be used for implementation of the preferred alternate, the California Department of Transportation would be required to apply for a right-of-way from the National Park Service under the provisions of 23 USC 317 and the specific requirements of 36 CFR Part 14. Granting such a right-of-way is discretionary and subject to prior compliance with the provisions of Section 4(f) of the Department of Transportation Act. In this regard, the right-of-way application must demonstrate that there are no feasible or prudent alternatives to the use of parklands for highway purposes and that the proposal includes all possible planning to minimize harm to the park.

Most of the primary issues that should be addressed in the Environmental Impact Statement and accompanying Section 4(f) evaluation are identified in the Environmental Significance Checklist. Key issues of concern to the National Park Service include:

1. Caltrans should include the approximately four-mile length of U.S. Highway 101 between the Wilson Creek Bluffs project and the

Ms. Deborah L. Harmon

March 3, 1989

Page 2

narrower cross-section would proportionately reduce the impact upon the second-growth forest along the route as well as the magnitude of cuts and fills and resultant erosion.

The route as projected by the League would not interfere with the need for traffic to enter Hamilton Road or the campground road from both directions. There would be no need for a cross-over along the two to three miles stretch that the roadways would be separated. As CALTRANS is aware, split roadways such as we propose are in use on Highway 101 between Salinas and Gilroy, on Interstate 80 above Baxter, and on the Grapevine.

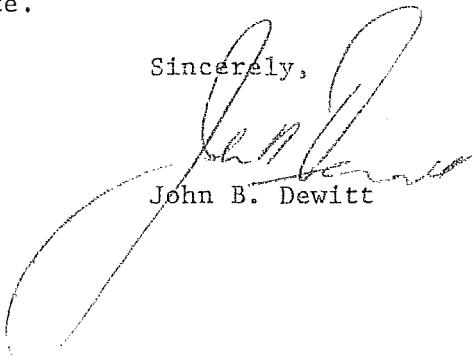
As for the existing highway, this 3-lane stretch would become the uphill direction. It would allow for a truck passing lane as well as an additional uphill passing lane, and the scenic route through the old-growth redwoods would not have to be widened to the detriment of this magnificent stretch of forest. As far as safety is concerned, the dangers of head-on collisions would be eliminated by having the separate uphill and downhill roadways. While the curves would remain on the southbound, uphill direction, the risks of missing a curve would become well within acceptable limits. In fact, the rare individual who might miss a curve while driving uphill is probably beyond redemption.

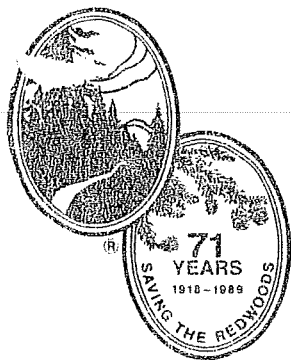
If absolutely necessary, minor modifications could be made to the proposed southbound route with some of the money saved by constructing the narrower "bypass" road.

In summary, the benefits of two widely-divided roadways would include: greatly reduced costs by utilizing the existing road for one direction of travel, and constructing a narrower northbound route to the east than would be required for a four-lane bypass; enhanced safety; and minimal impact upon the natural features of Del Norte Coast Redwoods State Park.

Please refer this letter to the appropriate engineers for a feasibility analysis of this suggested route.

Sincerely,


John B. DewittJBD/dp
Enclosures



Save-the-Redwoods League

114 SANSOME STREET, ROOM 605, SAN FRANCISCO, CA

TELEPHONE (415) 362-2352

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♣

ROBERT W. JASPERSON, *General Counsel*

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 * WILLIAM P. WENTWORTH
 MISS NANCY P. WESTON
 J. ROY WITTWER
 * *Directors*
 * *Honorary Vice President*

♣

OBJECTS

1. To rescue from destruction representative areas of our primeval forests.
2. To co-operate with the California State Park Commission, the National Park Service, and other agencies, in establishing Redwood parks and other parks and reservations.
3. To purchase Redwood groves by private subscription.
4. To foster and encourage a better and more general understanding of the value of the primeval Redwood or Sequoia and other forests of America as natural objects of extraordinary interest to present and future generations.
5. To support reforestation and conservation of our forest areas.

March 3, 1989

March 3, 1989

Ms. Deborah L. Harmon, Chief
 Environmental Planning Branch
 CALTRANS, District 1
 Post Office Box 3700
 Eureka, California 95502-3700

Re: Del Norte Coast Redwoods State Park
 Proposed Improvements to Route 101

Dear Ms. Harmon:

The Save-the-Redwoods League wishes to respond to your Notice of Preparation of a Draft Environmental Impact Report/Statement for the proposed project to improve Highway 101 in the Cushing Creek area of Del Norte Coast Redwoods State Park.

Of the alternatives stated in your Notice as being under consideration, the League would favor either taking no action (other than improved signing and the use of yellow, or even yellow-to-red traffic warning signals), or the construction of an alignment bypassing both parks to the east.

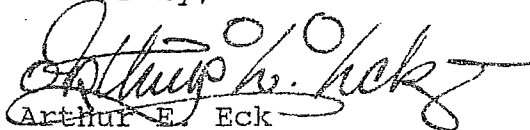
The League, however, wishes to propose that an entirely different alternative be considered, one that would save several million dollars and almost entirely relieve the problem of the severe accident rate. The alternative would be to construct a one-way road northbound departing from the existing highway at an appropriate point to the north of the turn-off to the Mill Creek campground, but before or just at Post Mile 20.3, and rejoining the existing highway at a suitable point near Post Mile 22.3, but before the intersection with Hamilton Road. The new one-way downhill road could be routed widely enough to the east through cut-over lands so that the grade would be moderate and the curves gentle, greatly enhancing the safety factor for downhill travel.

This northbound roadway could be two lanes wide to allow for passing. As such, the section would be only 44 feet instead of 72 (two 12-foot lanes and two 10-foot shoulders). The

(continued)

expect that the knowledge gained on the Prairie Creek bypass will be fruitfully applied to better forecast the impacts of a project in the Cushing Creek area.

Sincerely,

A handwritten signature in cursive script, appearing to read "Arthur E. Eck". The signature is written in dark ink and is positioned above the typed name.

Arthur E. Eck
Deputy Superintendent

cc:
Mr. James Huddlestun

Most of the primary issues which should be addressed in the Environmental Impact Statement and accompanying Section 4(f) evaluation are identified in the Environmental Significance Checklist. Key issues of concern to the National Park Service include:

1. Impacts to old-growth trees. Redwood and all other old-growth species should be identified along the alternate alignments.
2. Impacts to other vegetation types.
3. Impacts to any threatened or endangered plant species.
4. Impacts to Cushing Creek and other streams. Both short-term and long-term effects on fisheries, sedimentation, and water quality should be addressed.
5. Changes in visual and noise impact levels on surrounding parklands resulting from implementing highway alternates.
6. Impacts to bird and wildlife habitat. Potential impacts to old-growth dependent species such as spotted owls and marbled murrelets and to threatened and endangered species should be addressed.
7. Impacts to cultural resources. National Park lands in the immediate project area have received only a cursory survey for prehistoric, historic, and contemporary Native American resources. Indian consultation regarding the specific project area have not been accomplished. Although the probability is low of identifying any sites on the steep, logged over terrain in the project area, National Register cultural resources do exist downslope of the proposed highway realignment. Furthermore, the project is within Tolowa territory. As the environmental checklist indicates, the project area should be surveyed for cultural resources. In addition, we recommend the environmental checklist be modified to include Native American consultations.
8. The long-range plans by Caltrans for U.S. Highway 101 in this vicinity. That is, what does Caltrans foresee for the highway between Klamath and Crescent City, California, and how does the current Cushing Creek project fit within the scope of those concepts?

On a more general note, the National Park Service has worked closely with the California Department of Transportation over the past decade to effect construction of the U.S. Highway 101 bypass project around Prairie Creek Redwoods State Park. Cooperation on that project began at an even earlier stage than the current Cushing Creek improvements. Despite the best efforts of both agencies during the planning and design phase, some of today's observed results were neither intended nor described in that project's environmental documents. Some of the same issues are being considered today for the Cushing Creek improvements. We



United States Department of the Interior

NATIONAL PARK SERVICE

REDWOOD NATIONAL PARK

ARCATA OFFICE

1125 16th STREET

ARCATA, CALIFORNIA 95521

IN REPLY REFER TO:

D30 (Cushing Creek)

March 9, 1989

Deborah Harmon
Chief, Environmental Planning Branch
District 01
California Department of Transportation
P.O. Box 3700
Eureka, California 95502-3700

Dear Ms. Harmon:

The National Park Service has reviewed the notice of preparation of an Environmental Impact Statement for the improvement of U.S. Highway 101 in the vicinity of Cushing Creek. The Service is participating in the preparation of this document as a cooperating agency. Depending on the alignment, this project has the potential to directly and indirectly impact both Federally-owned Redwood National Park lands and State Park lands within the Congressionally-authorized boundary of Redwood National Park. Redwood National Park has prepared these comments in cooperation with our Western Regional Office and they represent the concerns of both staffs.

If National Park lands are to be used for implementation of the preferred alternate, the California Department of Transportation would be required to apply for a right-of-way from the National Park Service under the provisions of 23 USC 317 and the specific requirements of 36 CFR Part 14. Granting such a right-of-way is discretionary and subject to prior compliance with the provisions of Section 4(f) of the Department of Transportation Act. In this regard, the right-of-way application must demonstrate that there are no feasible or prudent alternatives to the use of parklands for highway purposes and that the proposal includes all possible planning to minimize harm to the park.

State of California

The Resources Agency of California

Memorandum

Date : April 3, 1989

To : Deborah L. Harmon, Chief
 Environmental Planning Branch
 California Dept. of Transportation - District
 P.O. Box 3700
 Eureka, CA 95502-3700

From : Department of Parks and Recreation
 Resource Protection Division

Subject: Notice of Preparation
 Draft Environmental Impact Report/Statement
 Proposed Improvements to Route 101 at Cushing Creek
 Post Miles 23.0/22.3 in Del Norte County

We have reviewed the subject Notice of Preparation and have the following comments:

The proposed project will impact lands and resources of Del Norte Coast Redwoods State Park. It appears the project may take lands of Del Norte Coast Redwoods State Park and, therefore, be subject to Section 4(f) evaluation requirements. As a responsible agency, we are concerned with the impact of this project on the prime resources of the State Park. There is no single feature of Del Norte Coast Redwoods State Park that is of greater significance or importance than the old growth redwood forest which the State Park was established to protect. We strongly recommend that alternatives to the proposed project be considered including (1) construction of a one-way northbound two lane roadbed east of the existing highway and conversion of the existing roadbed to one-way southbound traffic as has been proposed by Save-the-Redwoods-League, or (2) an eastern bypass of the entire State Park. We would anticipate major controversy over the proposal which would jeopardize or have a cumulative impact jeopardizing State Park System lands and particularly memorial groves within the Klamath District. Our Department would be looking at the Cushing Creek bypass in conjunction with the new bridge proposal at Jedediah Smith Redwoods State Park, as well as the Prairie Creek Bypass which is associated with the loss of hundred of trees already due to slides and slipouts. It is our hope that the Department of Transportation is considering both individual and collective effects of all activities involved in these projects.

The contact person for our Department is James M. Doyle, Supervisor, Environmental Review Section at (916) 324-6415 (ATSS) 454-6415) or Robert Ueltzen, Environmental Review Section, phone (916) 324-6417 (ATSS 454-6417).



Richard G. Rayburn, Chief
 Resource Protection Division

Deborah L. Harmon

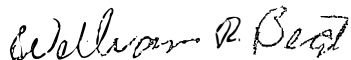
- 2 -

February 24, 1989

4. The Department of Parks and Recreation would like to see an alternative which entirely avoids old-growth Redwood areas. Again, this proposal might be a better alternative if CalTrans did some long-range plans for a 101 Highway which will be located in an area where it will meet the public's needs thirty (30) to fifty (50) years from now.
5. The EIR needs to address the accumulative effect of this and other projects, currently being proposed for Highway 101, on park lands. The EIR needs to address the loss of old-growth Redwoods, impacts on all wildlife including rare and endangered species, possible deterioration of water drainages brought about by culvert systems which dry up some drainages and increase flows in others.
6. The EIR should also address in detail the impacts to water and resources should major soil fills fail such as is presently occurring along the Prairie Creek Bypass Project.
7. The ability to waste excess fill material should not receive major consideration when selecting one alternative over another. It appears that this may be the major consideration in this project and although it will significantly affect the project's costs concerns for the natural resources must be the dominant consideration in a project such as this.

I appreciate the opportunity to respond to this "Notice of Preparation" and look forward to working with you to ensure a project which will best serve the people of California.

Sincerely,



WILLIAM R. BEAT
District Superintendent
Klamath District
Eureka Office

WRB:vh

cc: Bonnie Porter, Environmental Review Section
Carl Chavez, Northern Region Director

DEPARTMENT OF PARKS AND RECREATION

600-A West Clark Street
Eureka, California 95501
(707) 445-6547



February 24, 1989

Deborah L. Harmon, Chief
Environmental Planning Branch
CalTrans, District 1
P.O. Box 3700
Eureka, CA 95501

Dear Ms. Harmon:

In response to the Notice of Preparation of a Draft Environmental Impact Report/Statement on the Cushing Creek 101 Highway Improvement Project (1-DN-191-20.3/22.3,01101, 262300), I offer the following comments:

1. It would be much easier to support or comment on this and other scheduled Highway 101 re-alignment projects if CalTrans developed a long range route proposal that would identify where they want to see the road thirty (30) to fifty (50) years from now. This would allow landowners to develop acquisition and development plans which would compliment CalTrans route objectives. The present practice of developing small projects along the existing outdated roadway leaves a question in our mind as to just how much thought is really being given to the entire 101 planning process. The Department of Parks and Recreation feels that a long range plan to identify a corridor for future highway location should be the highest priority.
2. It is impossible to look at supporting one alternative over another until additional data is available, including how many trees will have to be removed for each of the alternatives proposed and the effects of the road on old-growth trees left behind (i.e. changes in water drainage areas and siltation will have a radical effect on trees left along new roadway).
3. More data is needed before the problems associated with getting across the Cushing Creek drainage can be addressed. The impacts of fill versus a viaduct on Flora and Fauna is needed before a decision to support or object can be made.

APPENDIX

Appendices "A" through "F".....	Responses to Project Scoping
Appendices "G" through "J".....	Responses to Corridor Study Proposal
Appendices "K" through "Q".....	Responses to 1st Draft of Corridor Study
Appendix "R"	Summary of State Parks & RNP meeting on first draft comments
Appendices "S" through "X".....	Responses to 2nd Draft of Corridor Study

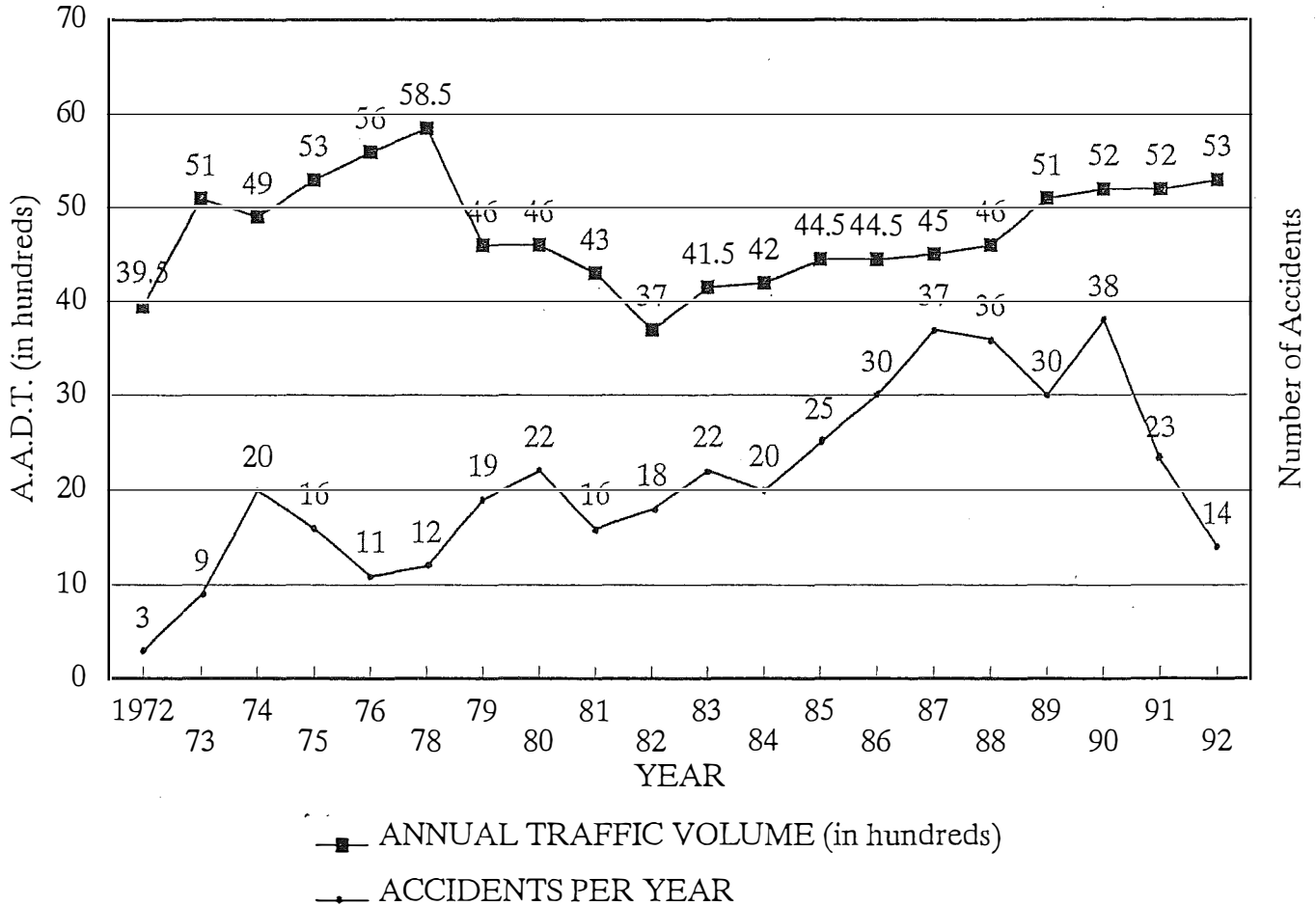
MAPS

Map #1.....Park Bypass Alternative 1

Map #2.....Staged/Partial Park Bypass Alternative 2

Map #3.....Staged/Partial Park Bypass Alternative 3

ACCIDENT ANALYSIS, 1972-92



CUSHING CREEK PROJECT

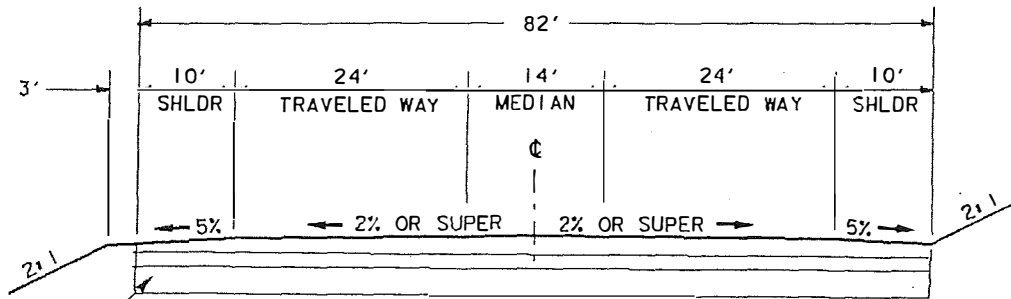
Accident History vs. Traffic Volume

Traffic volume (average annual daily traffic) is compared to the total number of reported vehicle accidents per year for a twenty (20) year period, 1972 - 1992.

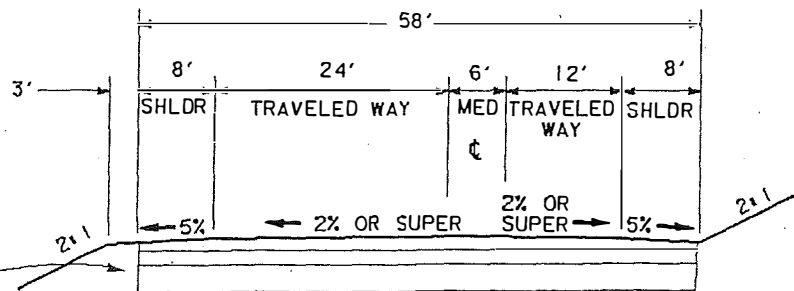
Cushing Creek segment, Highway 101, Post miles 20.3 - 22.3.

Source: Caltrans, District I

TYPICAL CROSS SECTIONS FOR BUILD ALTERNATIVES

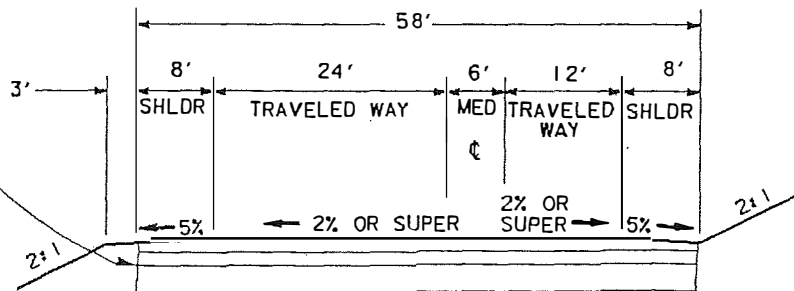


4-LANE EXPRESSWAY
ALTERNATIVES 'A', 'C-1', 'F'



NEW 2-LANE CONVENTIONAL HIGHWAY

'Preferred Alternative' (includes SB Passing Lane)
ALTERNATIVE 'D3' (Fill Design)
AND 'D3-B' (Bridge Design Option)



**2-LANE CONVENTIONAL HIGHWAY
WITH SB PASSING LANE**

ALTERNATIVES 'G', 'H'

.45 AC
.55 AB
1.30 ASB

**CUSHING CREEK
REALIGNMENT**

01-DN-101-20.3/22.3

01101 262300

NO SCALE

AUGUST 1993

POTENTIAL DETOURS OF WILSON CREEK BLUFFS

EXHIBIT 15

MILEAGE - CRESCENT CITY TO EUREKA

TRAVEL TIME

VIA ROUTE 101 : 81 MILES

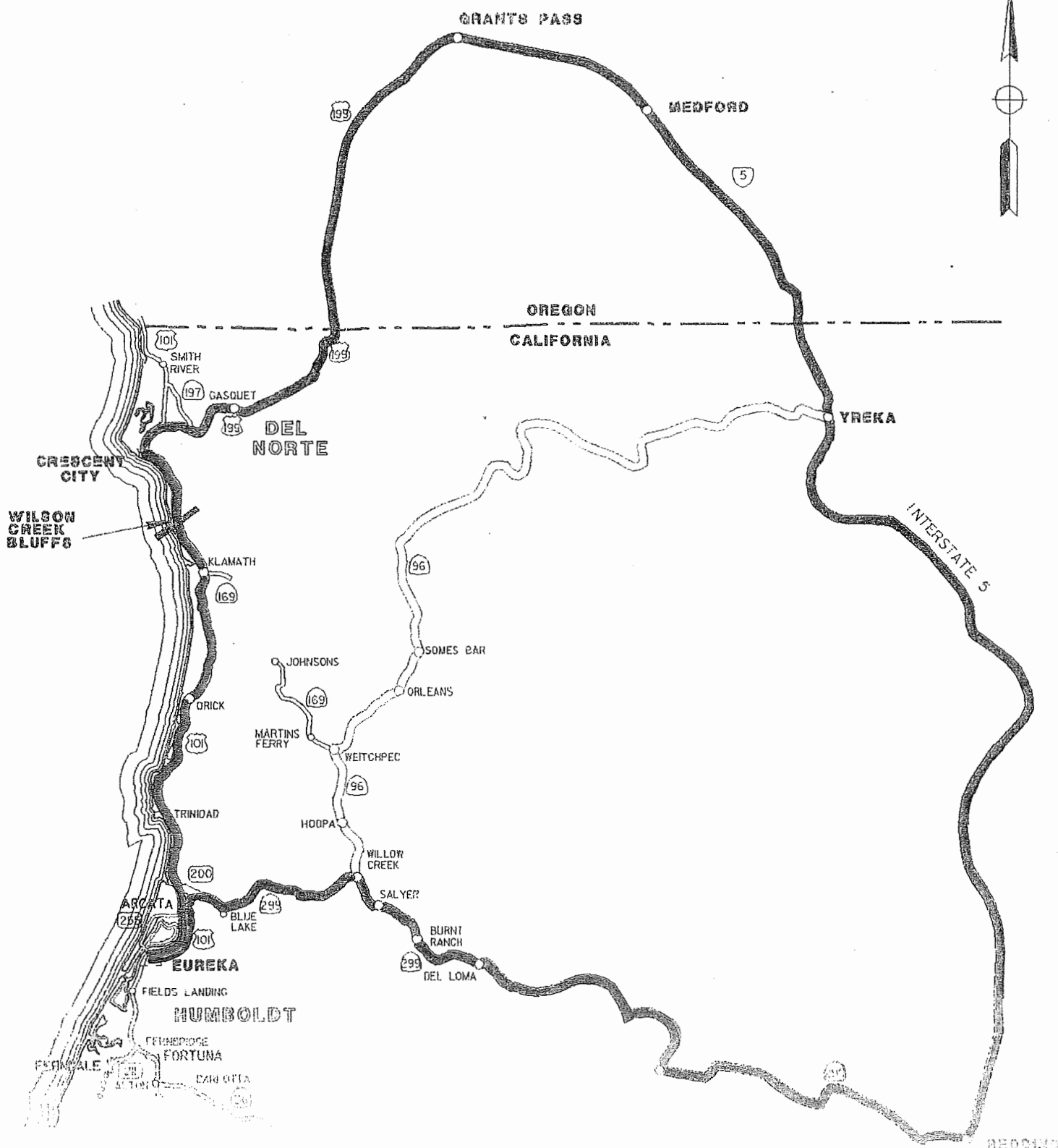
APPROXIMATELY 1 HR. 40 MINS.

VIA ROUTE 101, 199, 5, 299, 101: 461 MILES

APPROXIMATELY 9 HRS.

VIA ROUTE 101, 199, 5, 96, 299, 101: 373 MILES

APPROXIMATELY 8 HRS.



END PROJECT
POST MILE 16.3

WILSON CREEK BLUFFS BYPASS

01-DN-101-12 5/16.3
01101 292700

DEL NORTE COAST
REDWOODS STATE PARK

PACIFIC OCEAN

POST MILE 14.0

TIMBER

Footsteps Rocks
Saddle Δ

POST MILE 13.0

COMPANY

REDWOOD NATIONAL PARK

TO KLAMATH

SCALE: 1:24000

BEGIN PROJECT
POST MILE 12.5

False Klamath
Cave

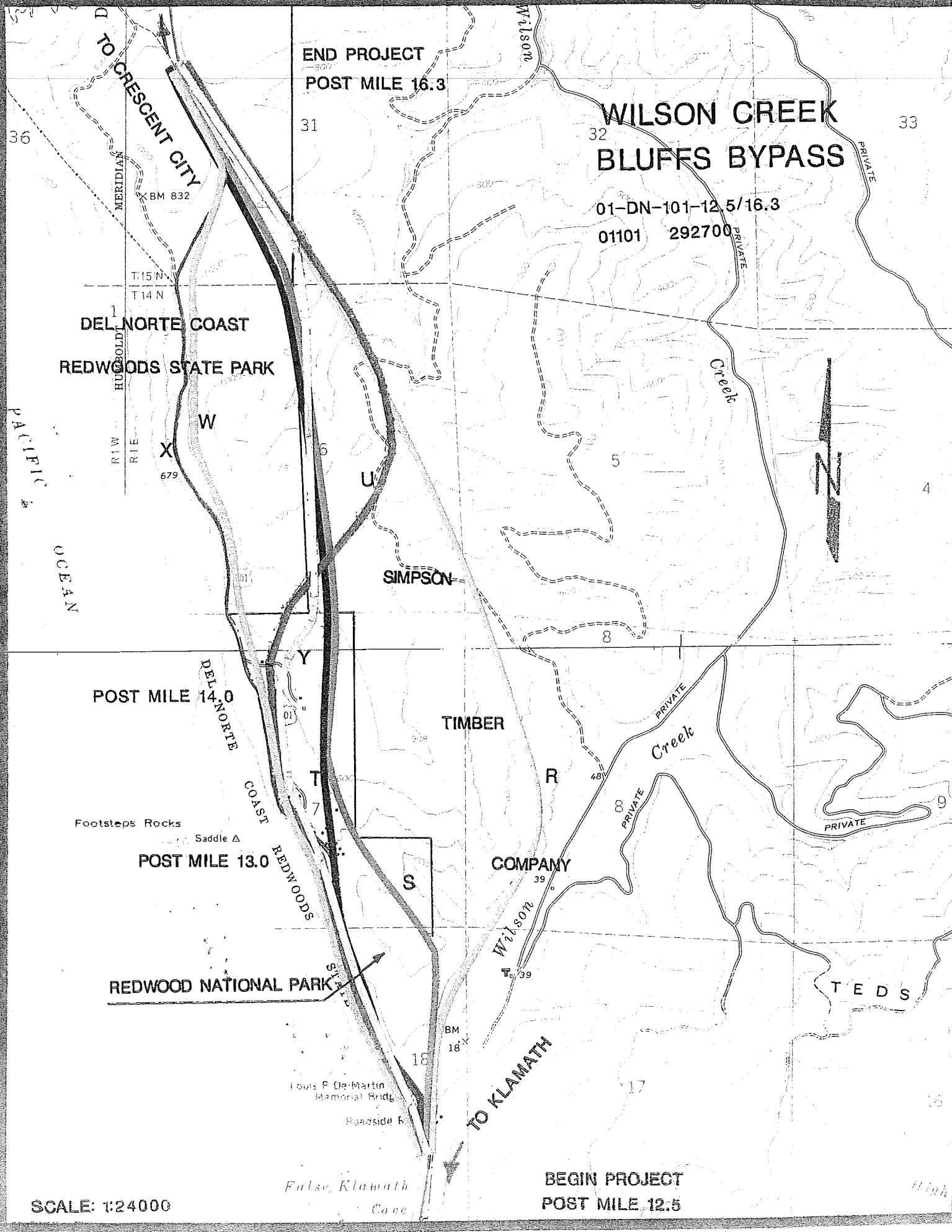




PHOTO #22

POST MILE 27.9
 4-LANE FREEWAY SECTION
 NORTH OF CRESCENT CIT

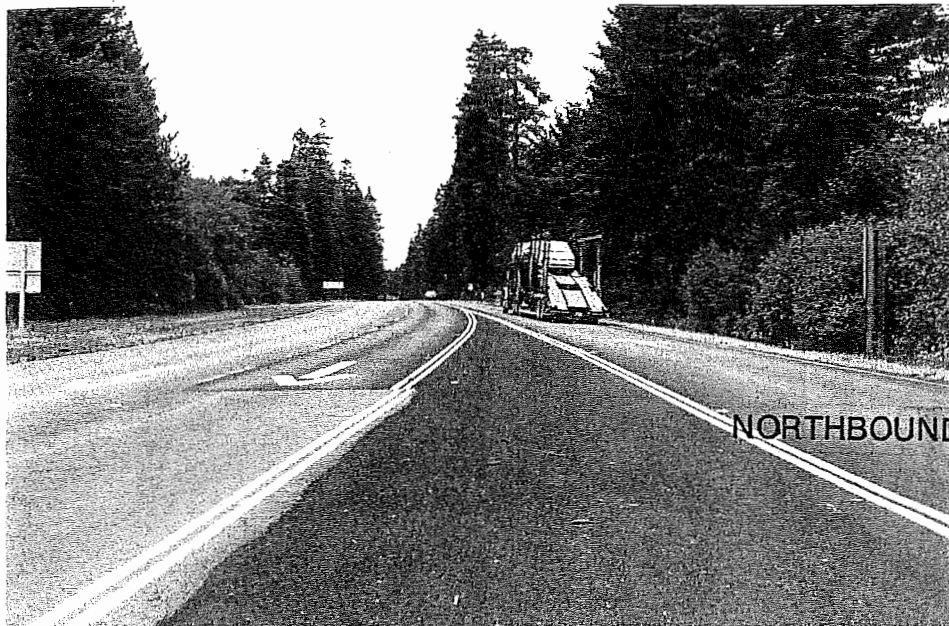


PHOTO #23

POST MILE 31.3
 END 4-LANE EXPRESSWAY
 BEGIN 2-LANE EXPRESSWAY

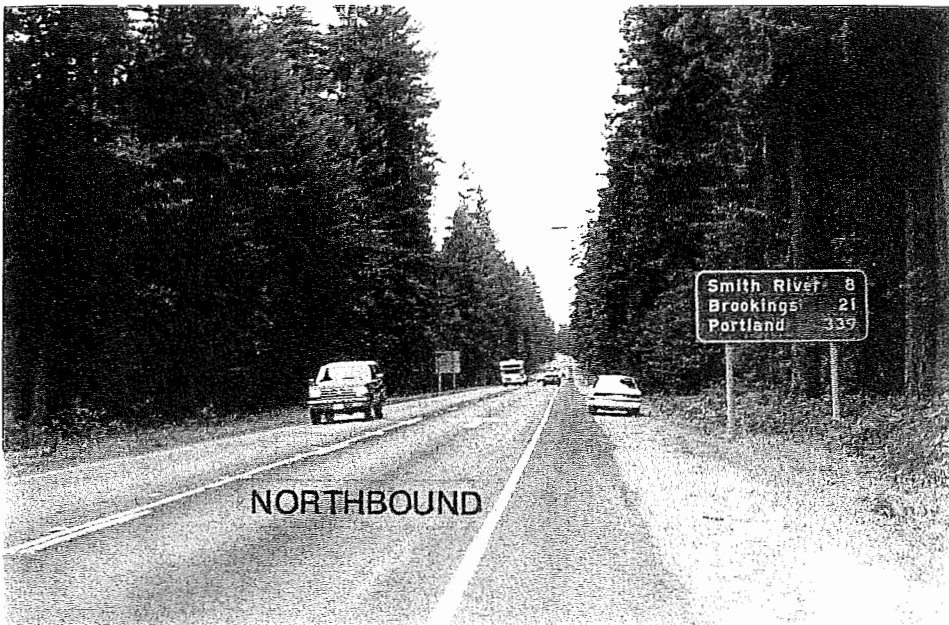


PHOTO #24

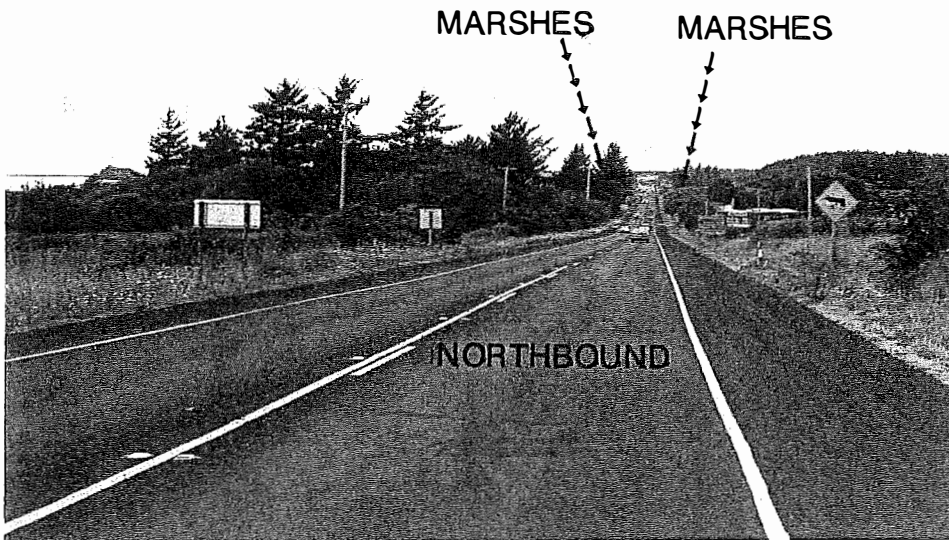
POST MILE 32.0
 TYPICAL 2-LANE SECTION
 BETWEEN CRESCENT CIT
 AND SMITH RIVER

PHOTO #19



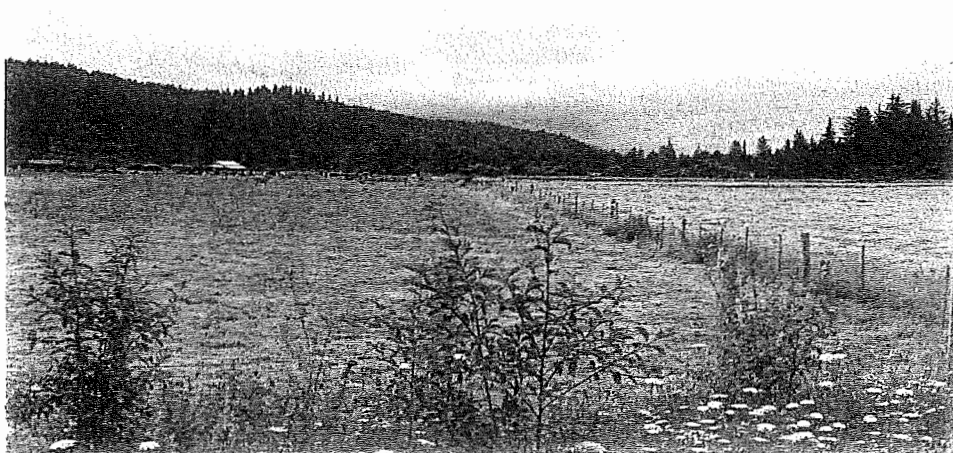
TYPICAL UPLAND TERRAIN
SOUTHEAST OF
CRESCENT CITY

PHOTO #20



POST MILE 23.5
CRESCENT CITY FLAT

PHOTO #21



UPPER ELK VALLEY
LOOKING EASTERLY
TOWARD JEDEDIAH SMITH-
REDWOODS STATE PARK

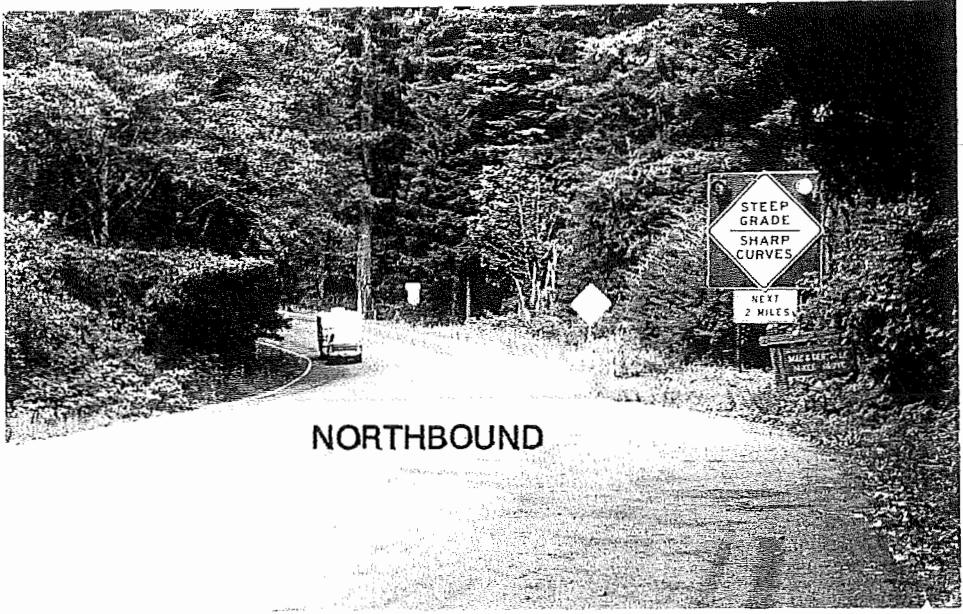


PHOTO #16

POST MILE 20.4
 NEAR BEGINNING OF
 CUSHING CREEK PROJECT

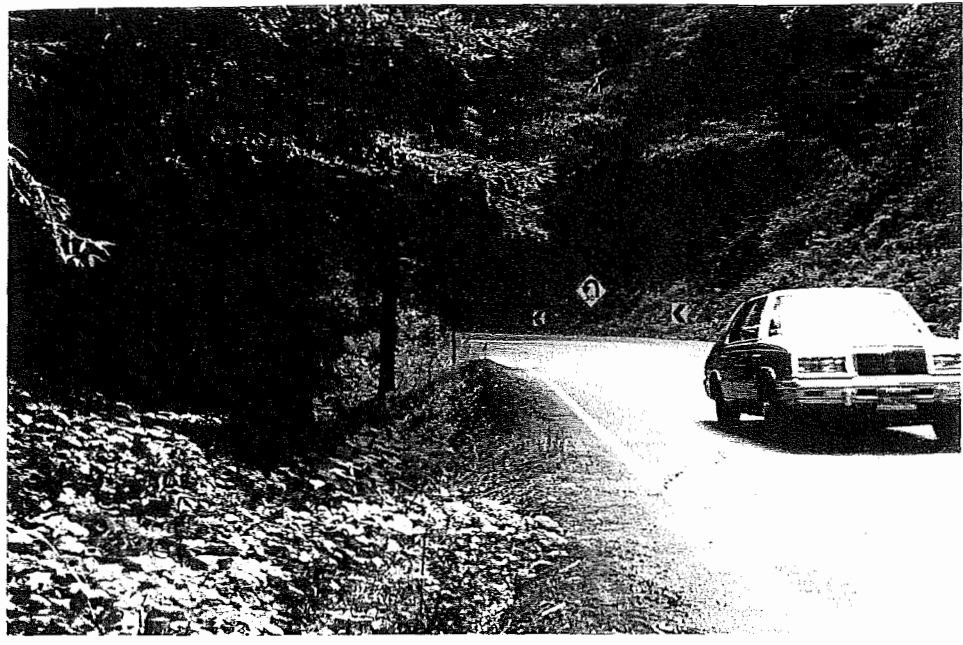


PHOTO #17

POST MILE 21.4
 CUSHING CREEK DRAINAGE

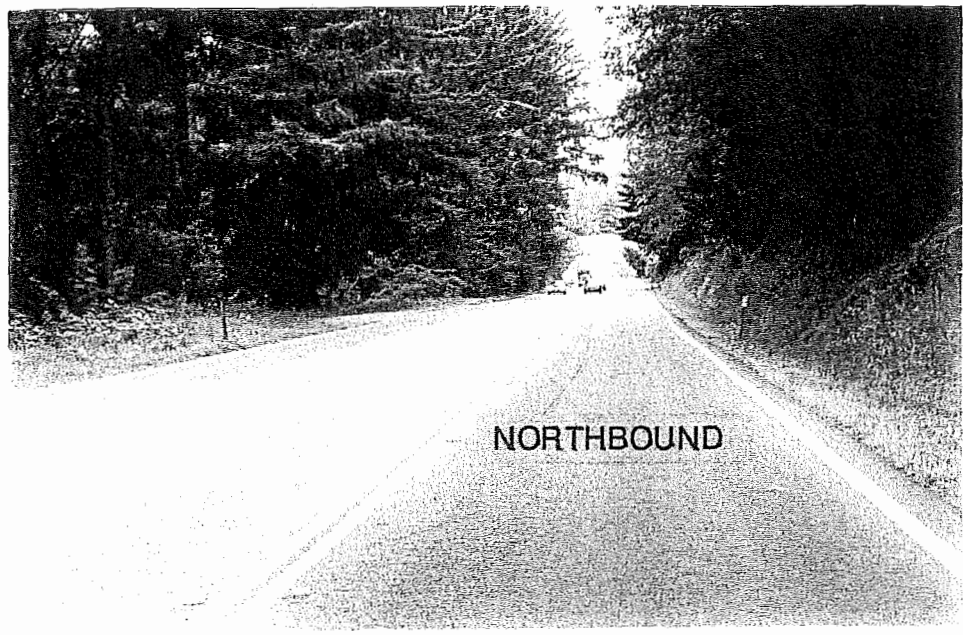


PHOTO #18

POST MILE 23.0
 7% DOWNGRADE
 TO CRESCENT CITY

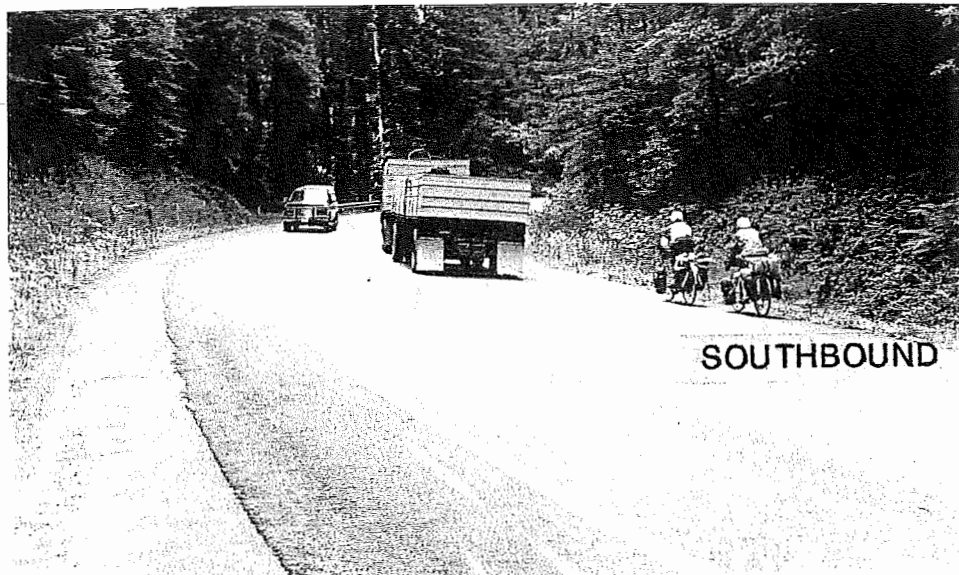


PHOTO #13

POST MILE 16.7

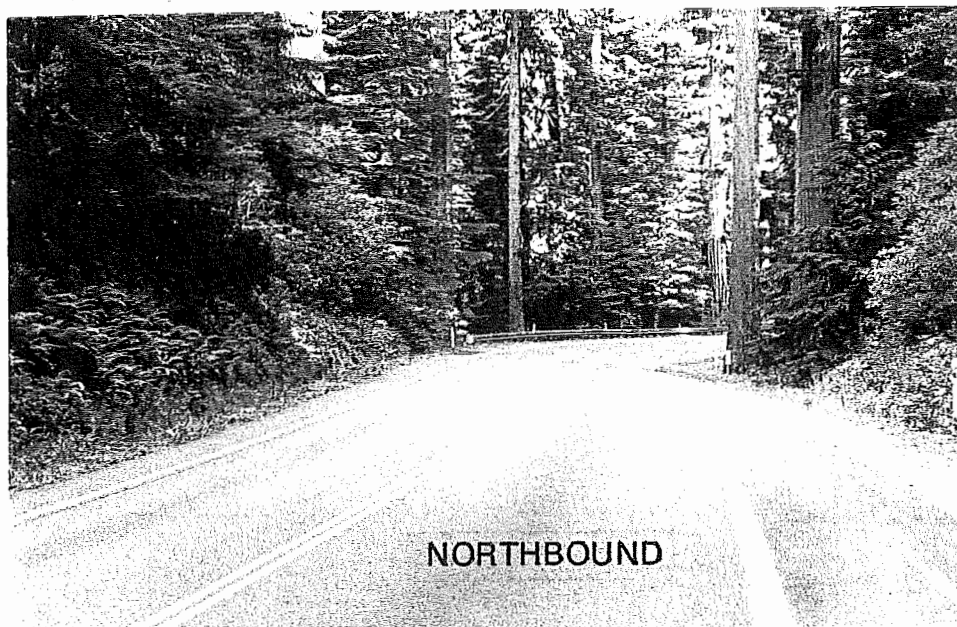


PHOTO #14

POST MILE 16.8
500-FOOT RADIUS CURVE
WITH DESIGN SPEED OF
40 MILES PER HOUR

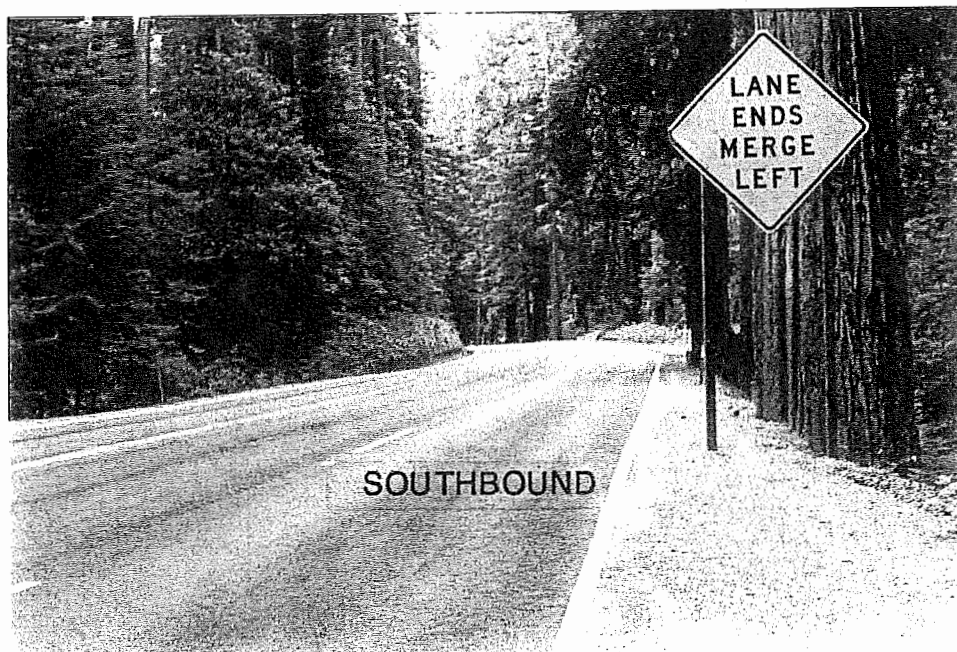


PHOTO #15

POST MILE 17.9
TYPICAL LOG FILL AREA

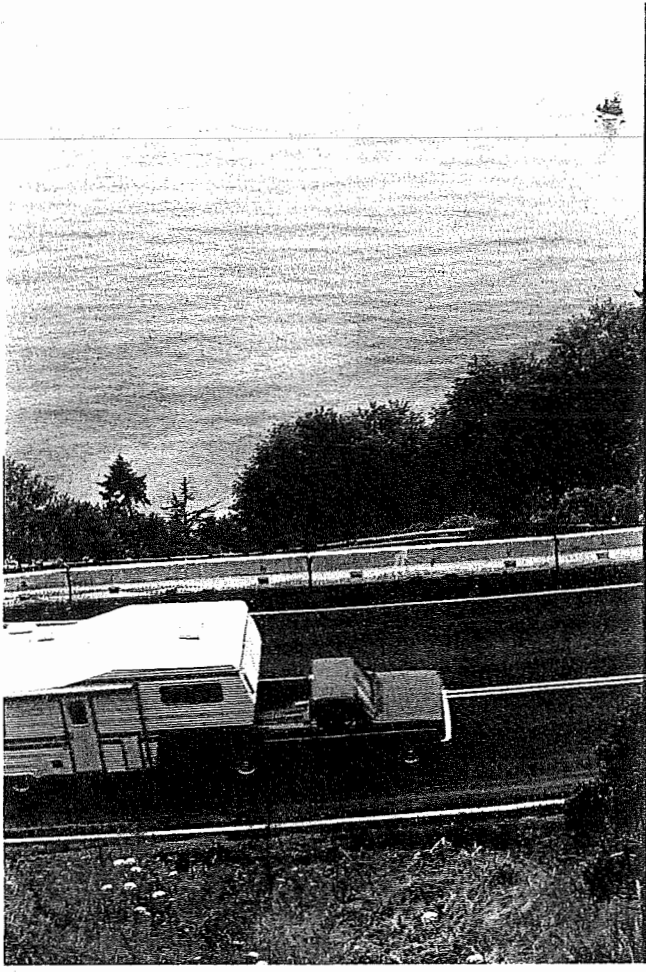


PHOTO #10
POST MILE 15.3
WILSON CREEK BLUFFS

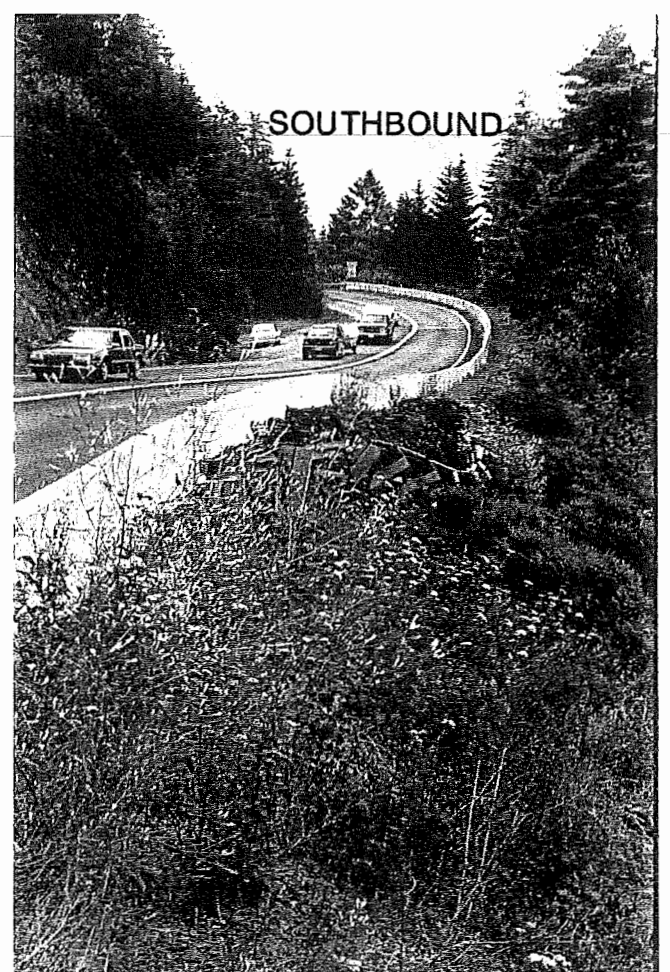


PHOTO #11
POST MILE 15.3
WILSON CREEK BLUFFS

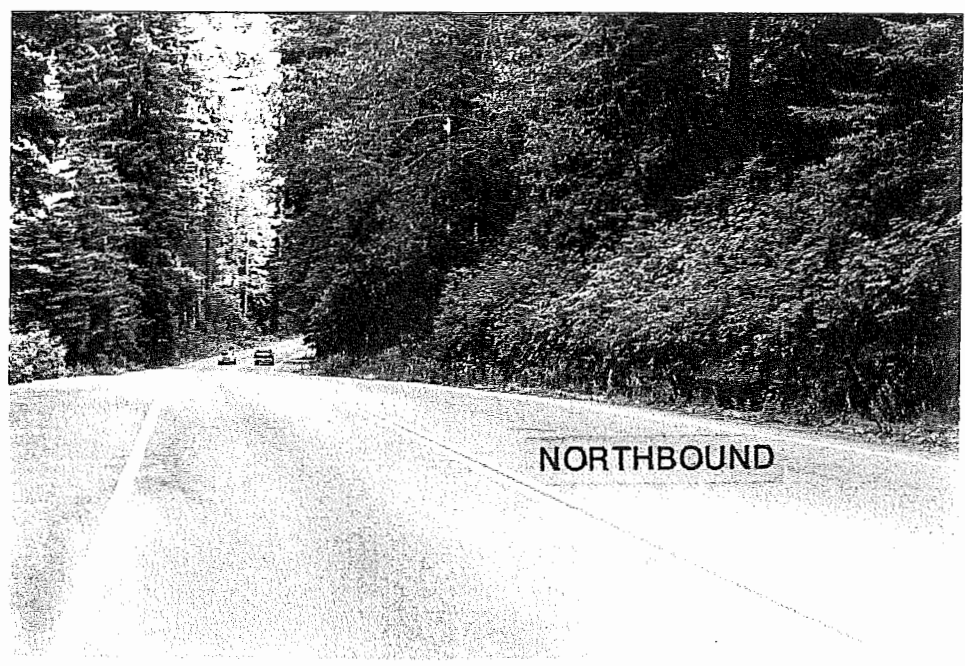


PHOTO #12
POST MILE 16.3
NEAR END OF WILSON CREEK BLUFFS PROJECT LIMITS

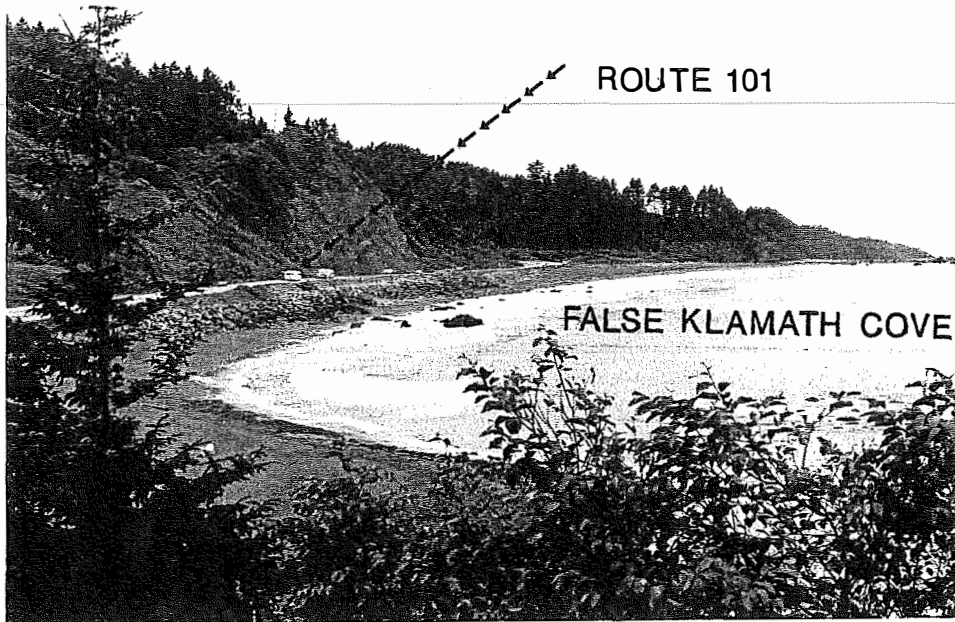


PHOTO #7

LOOKING SOUTHERLY
FROM NORTH END OF
WILSON CREEK BRIDGE

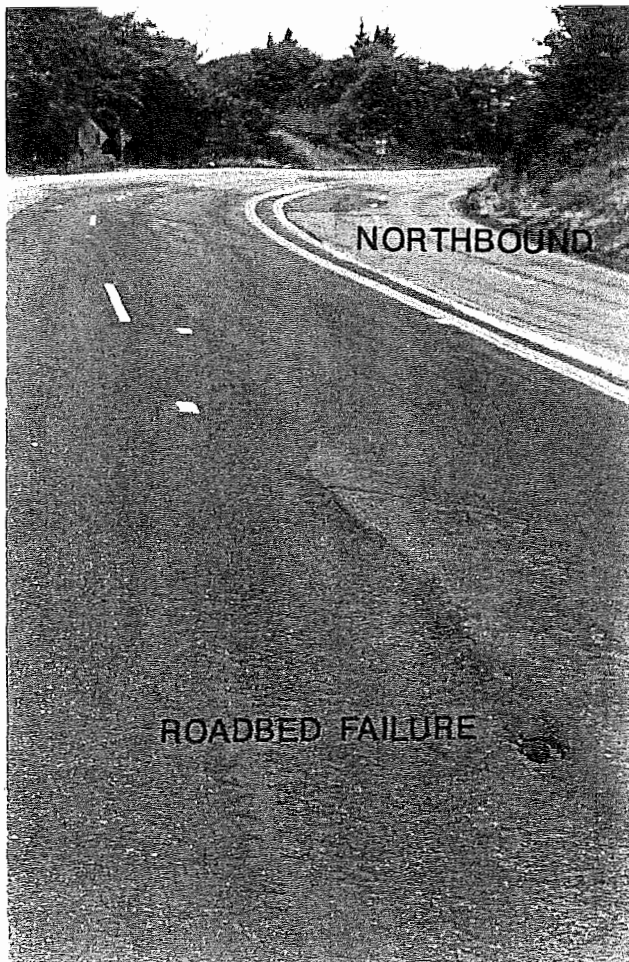


PHOTO #8

POST MILE 13.0

"LAST CHANCE GRADE"

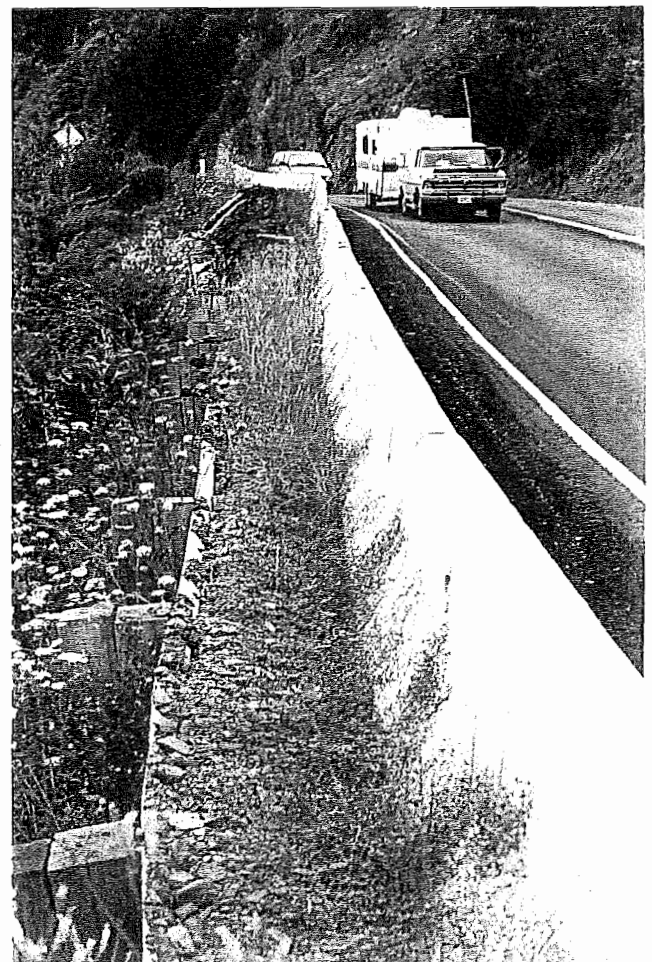


PHOTO #9

POST MILE 15.3

WILSON CREEK BLUFFS

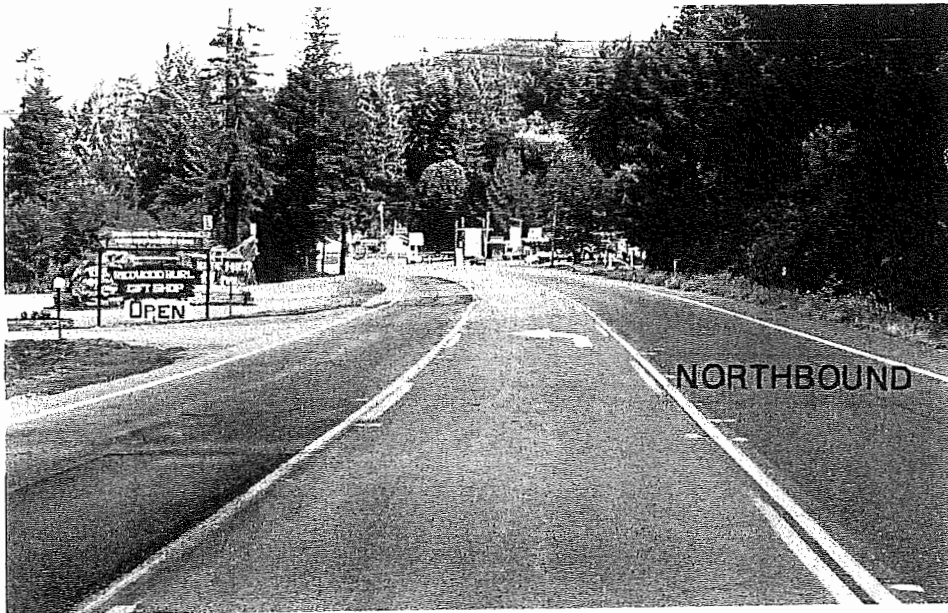


PHOTO #4

POST MILE 10.0

3-LANE SECTION

NORTH OF

HIGH PRAIRIE CREEK

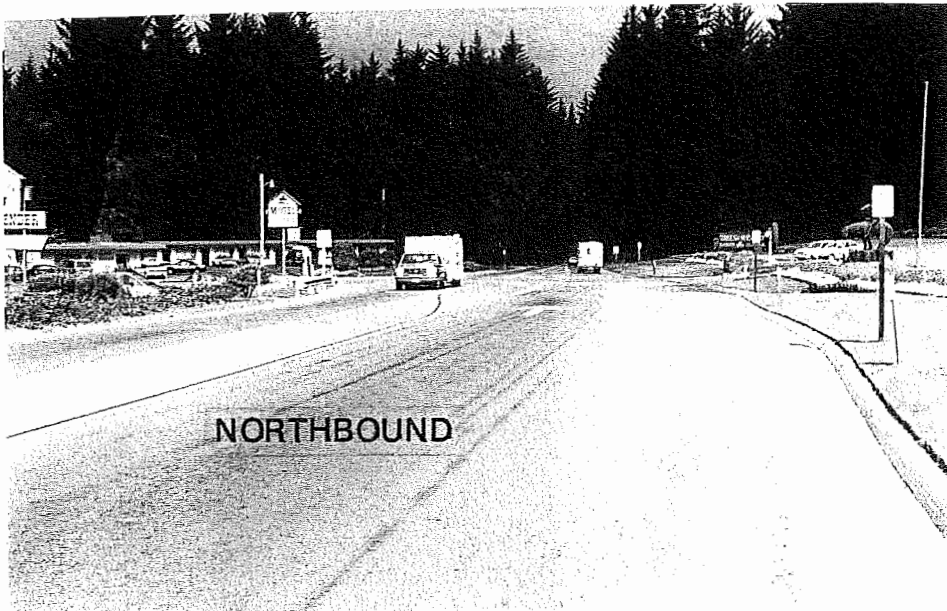


PHOTO #5

POST MILE 10.9

TREES OF MYSTERY

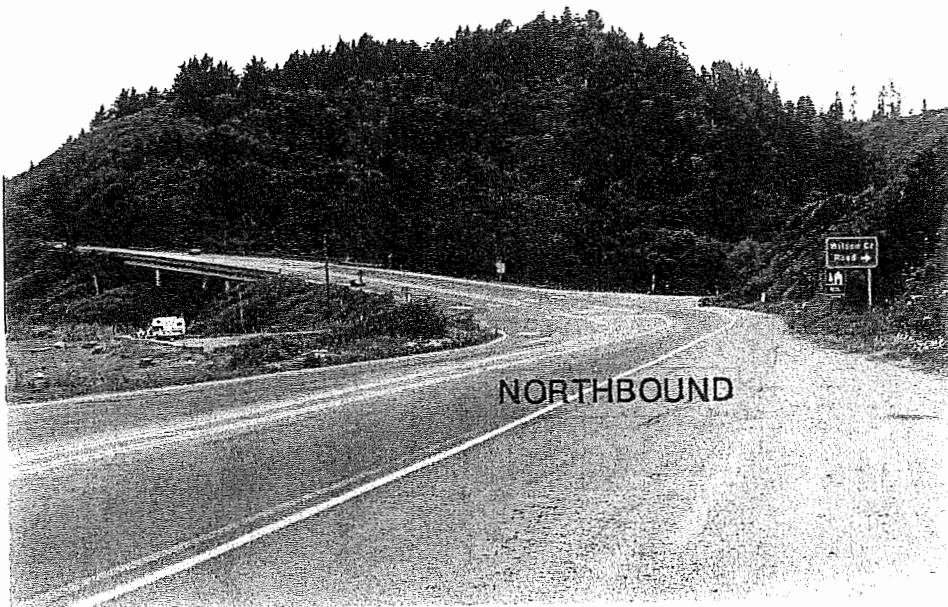
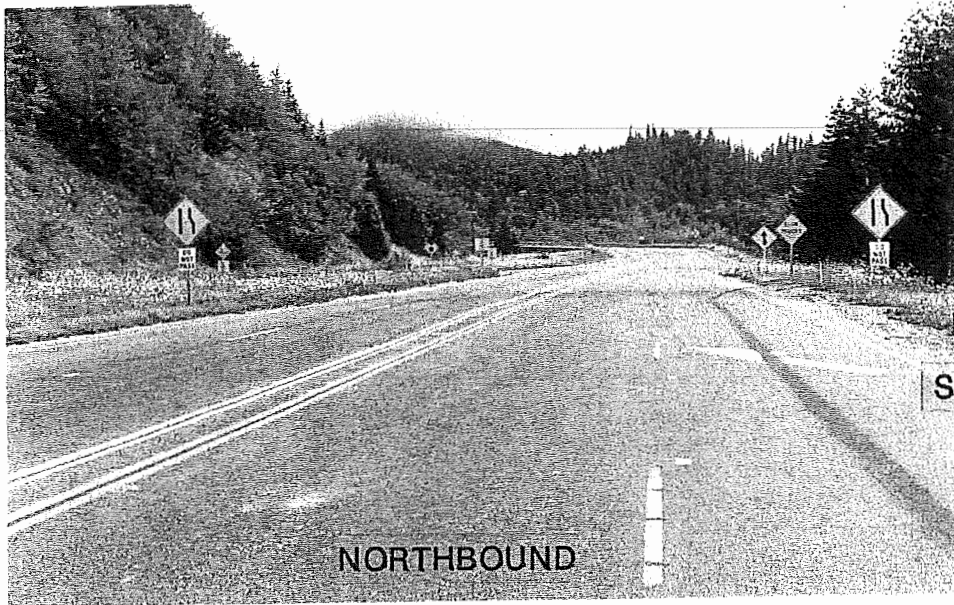


PHOTO #6

POST MILE 12.5

WILSON CREEK

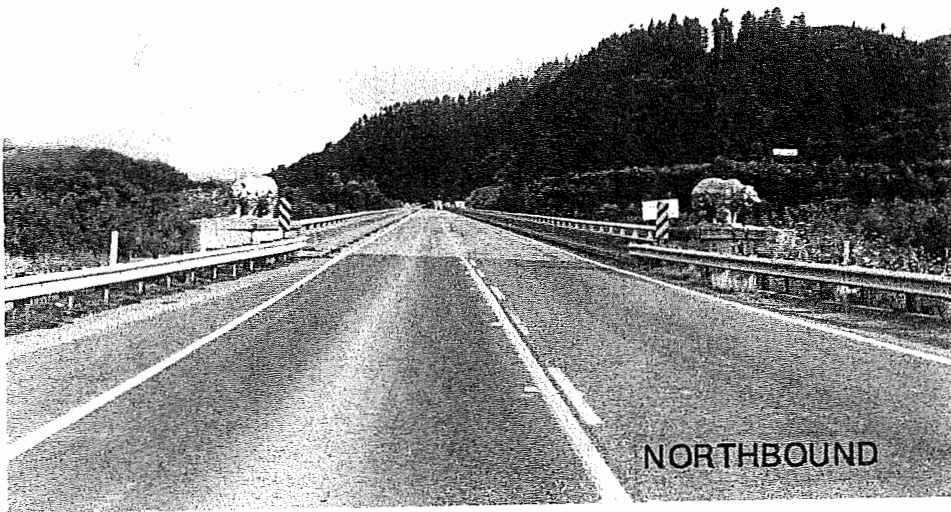
BRIDGE NO. 1-5



NORTHBOUND

PHOTO #1

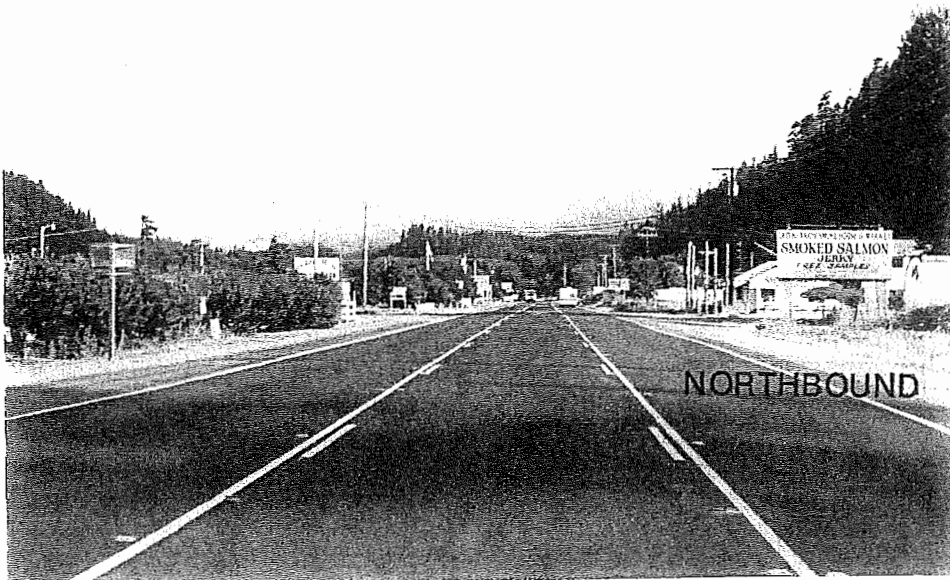
POST MILE R3.6
END OF 4-LANE FREEWAY
BEGIN 2-LANE EXPRESSWAY
SOUTH OF KLAMATH BRIDGE



NORTHBOUND

PHOTO #2

POST MILE 4.0
KLAMATH RIVER
BRIDGE NO. 1-28



NORTHBOUND

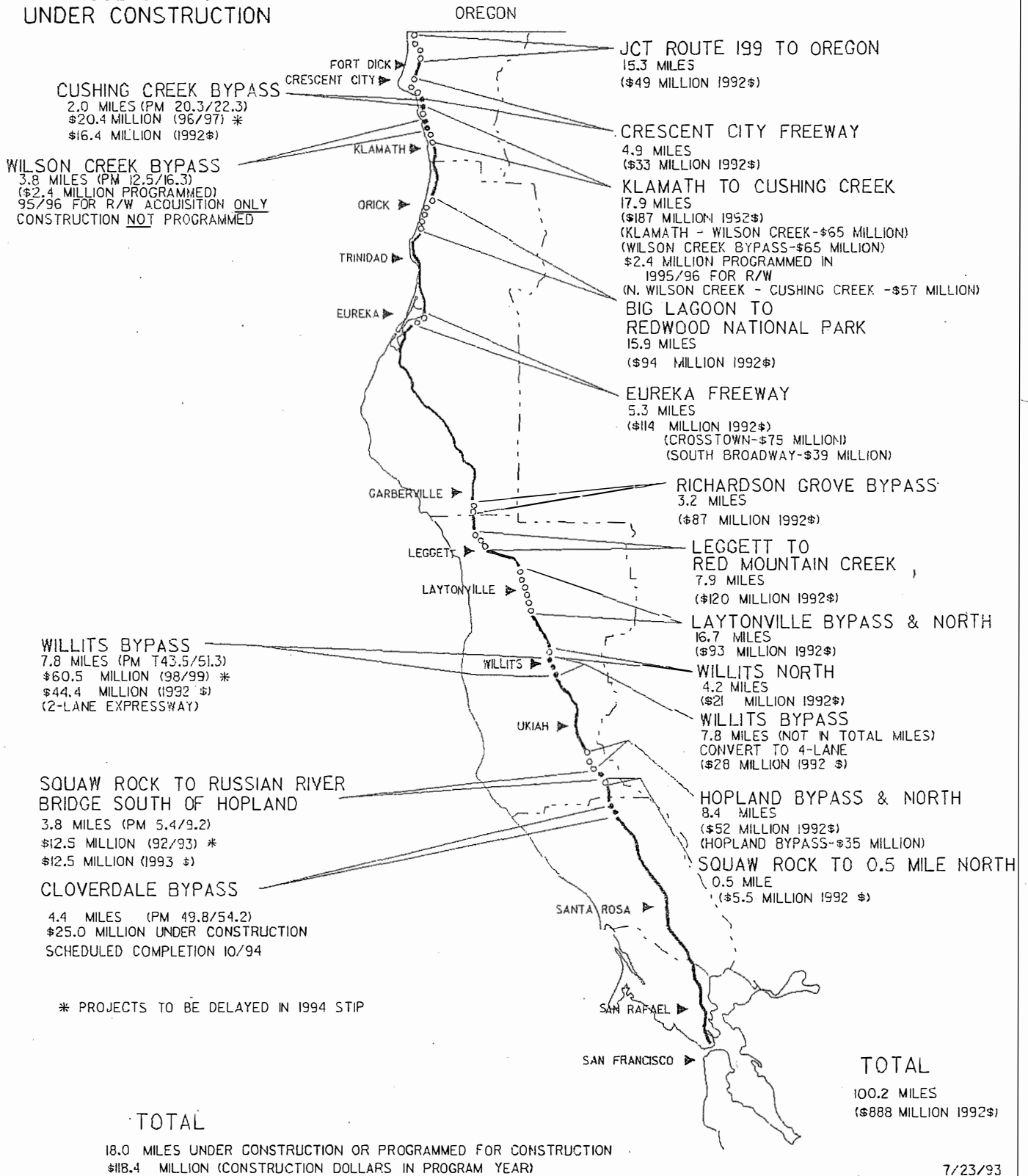
PHOTO #3

POST MILE 6.0/7.0
ROADSIDE BUSINESSES

STATUS OF FREEWAY/EXPRESSWAY DEVELOPMENT ON ROUTE 101 (Solid line represents completed freeway/expressway)

●●●●● PROGRAMMED
IMPROVEMENTS
1992 STIP &
UNDER CONSTRUCTION

○○○○○ GAPS REMAINING



EXHIBITS

Exhibit 1.....	Freeway Status of Route 101 in District 1
Exhibit 2.....	Route 101 in Del Norte County
Exhibit 3.....	Photos 1 through 3
Exhibit 4.....	Photos 4 through 6
Exhibit 5.....	Photos 7 through 9
Exhibit 6.....	Photos 10 through 12
Exhibit 7.....	Photos 13 through 15
Exhibit 8.....	Photos 16 through 18
Exhibit 9.....	Photos 19 through 21
Exhibit 10.....	Photos 22 through 24
Exhibit 11.....	Freeway Agreement Map: 1-DN-101-7.5/10.3
Exhibit 12.....	Route Study Map: 1-DN-101-10.3/12.4
Exhibit 13.....	Freeway Agreement Map: 1-DN-101-12.4/13.6
Exhibit 14.....	Wilson Creek Bluffs Vicinity Map
Exhibit 15.....	Detour Scenarios Should Route 101 Fail at Wilson Creek Bluffs
Exhibit 16.....	Cushing Creek Vicinity Map
Exhibit 17.....	Cushing Creek Accident Rate Vs. Traffic Volumes
Exhibit 18.....	Cushing Creek Typical Sections

System Management Plan...A long range planning document, which describes how Caltrans District 1 intends to maintain, rehabilitate, and improve its portion of the State highway system over the next 20 years. Copies available from Caltrans Transportation Planning Branch, 1656 Union Street, Eureka, CA.

Traffic Headway...The time in seconds between consecutive vehicles moving past a point in a given traffic lane, measured front to front.

Transportation System Management (TSM)...Making better use of existing transportation services and facilities. Benefits are realized through increasing system efficiency while decreasing capital outlay.

20-year Planning Period...In the planning of transportation facilities, proposed improvements are not based on current traffic volumes and characteristics alone, but take into consideration the type and volume of traffic that will have to be accommodated in the future. Typically, the "**design year**" is twenty years from time of construction. Estimating traffic beyond 20 years is usually not justified because of probable changes in the regional economy, population, and land development along the highway.

PSTIP...Proposed State Transportation Improvement Program: This seven-year program is developed by Caltrans for CTC approval and includes projects proposed for programming and subsequent funding.

Relinquishment...A transfer of the State's right, title, and interest in and to a highway, or portion thereof, to a city or county.

Riparian Area...Land situated along the bank of a stream or other body of water and directly influenced by the presence of water.

Route Concept Report (RCR)...The RCR is a planning document which describes Caltrans' basic approach to development of a given route. Considering reasonable financial constraints and projected travel demand over a 20-year planning period, the RCR defines an appropriate type of facility and level of service for each route.

Regional Transportation Improvement Program (RTIP)...A list of transportation projects submitted to the CTC by the regional transportation planning agency, as a request for state funding. The RTIP has a seven-year planning horizon, and is updated every two years.

Scenic Highway...An officially designated portion of the State Highway System traversing areas of outstanding scenic beauty which together with the adjacent scenic corridors requires special scenic conservation treatment.

Section 4(f)...Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303) declares a national policy that special effort be made to preserve the natural beauty of the countryside, public and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) land can only be taken if there is no feasible and prudent alternative to the use of such land, and all possible planning has been undertaken to minimize harm to the 4(f) lands resulting from such use.

Shoulders...The portion of the roadway contiguous with the traveled way for accommodations of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

Stage One Work Program...An action plan, prepared at the beginning of project studies, usually for projects requiring an environmental document. Stage One Work Program may be waived if an approved Project Study Report has been completed for the project.

Standard...A principle requiring a specific level of attainment; a rule to measure against. Examples are AASHTO, FHWA and Caltrans Standards for highway design.

State Transportation Improvement Program (STIP)...A list of transportation projects, proposed in RTIPs and the PSTIP, which are approved for funding by the CTC.

NEPA...National Environmental Policy Act. An act to establish a national policy for the environment; provided for establishment of a Council on Environmental Quality and the preparation of Environmental Impact Statements.

Nonstandard Design...Generally refers to highway geometrics that do not meet commonly accepted standards as set forth in the Caltrans Highway Design Manual or the AASHTO Policy on Geometric Design of Highways and Streets. The fact that existing highway geometrics do not meet current standards does not imply that the existing highway is unsafe.

North Coastal Counties Supervisors Association...An organization of individual members of the boards of supervisors for all coastal counties north of San Francisco, including Lake and Napa Counties.

Old-growth Trees...Trees that are generally past full maturity and show signs of decadence; the last stage in forest succession. Tree age, size, height or density will vary by species and according to growing conditions.

Open-graded Asphalt Concrete (OGAC)...A coarse surfacing used to reduce wet pavement accidents by improving wet weather skid resistance, minimizing hydroplaning, reducing water splash and spray, and reducing nighttime wet pavement glare.

Palustrine Scrub-shrub Wetlands...Wetlands containing a predominance of woody vegetation such as shrubs and small trees which are seasonally flooded.

Peak Hour Traffic...The one-hour period during which the maximum amount of travel occurs. It may be specified as the morning or afternoon or evening peak. The period when demand for transportation service is the heaviest.

Project Development Team...A multi-disciplinary group of individuals who guide a project's development; usually composed of members of Caltrans, FHWA, cooperating agencies, other agencies and the public.

Project Report...A report prepared by Caltrans, which summarizes studies of the needs, alternatives, costs and overall impacts of a proposed highway project. Usually prepared after a project's inclusion in the STIP.

Project Study Report (PSR)...Chapter 878 of Statutes of 1987 requires that any capacity increasing project on the state highway system, prior to programming in the STIP, have a completed PSR. The PSR must include a detailed description of the project scope, estimated costs and time required to develop. It serves to assure that programmed projects can be delivered as planned in the STIP.

Design Speed...A speed selected to establish specific minimum geometric design elements for a particular section of highway.

DNLTC...Del Norte Local Transportation Commission: The agency responsible for regional transportation planning in Del Norte County.

Division of Highways...The original California State highway authority; predecessor of Caltrans. Became Caltrans in 1973.

Environmental Impact Statement (EIS)...A statement of the environmental effects which would be expected to result from proposed alternative actions. The California equivalent is the Environmental Impact Report (EIR). Both EIS's and EIR's can be in draft (DEIS/DEIR) or final (FEIS/FEIR) form.

Expressway...An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.

FHWA...Federal Highway Administration: A division of the U.S. Department of Transportation, established to ensure development of an effective national road and highway transportation system. It assists in constructing highways and roads, and provides financial aid at the local level. Major projects are developed to meet acceptable standards to the FHWA in order to receive Federal funding for the respective projects.

Freeway...A divided arterial highway with full control of access and with grade separations at intersections.

Highway Geometrics...The arrangement of the visible elements of a road, such as alignment, grades, sight distances, widths, slopes, etc.

Interdisciplinary Team...A group of people with different training professional backgrounds that is assembled to solve a problem or perform a task. The task or problem is solved by the team as a whole, with each member providing insight with respect to a particular discipline or disciplines.

Level of Service...A qualitative rating of the effectiveness of a highway in serving traffic, measured in terms of operating conditions.

Median...The portion of a divided highway separating the traveled ways for traffic in opposite directions.

Memorial Groves...Particular sections of State parkland established in consideration of the gifts made by individual donors to the Save-the-Redwoods League.

Mitigation Measures...Measures used to alleviate adverse impacts that will occur as a result of a proposed action.

9.0 Conclusions

The following conclusions have been reached as a result of this study:

- o It is infeasible to construct a project which would completely bypass all State and Federal Park land in the subject corridor. A 17-mile project, costing an estimated \$580 million, with 45 million cubic yards of excavation would be required. The overall environmental impacts would be significant and adverse, probably of a magnitude several times greater than the Redwood National Park/Route 101 Bypass project.**

- o The approved Route 101 Route Concept calls for upgrading all of Route 101 to 4-lane freeway/expressway standards. This does not appear to be environmentally feasible for portions of the Route in Del Norte County, due primarily to the number of old growth trees and associated wildlife habitat that would be impacted in State and National Parks. As such, it will be necessary to revise the Route Concept Report to reflect a scaled-down concept for portions of the corridor in conjunction with the development of the Environmental Impact Statements/Reports for the Wilson Creek Bluffs and Cushing Creek projects.**

- o The intervening 4-mile section of highway between the Wilson Creek and Cushing Creek projects will be adequate without upgrading to 4-lanes. Although it will be less than desirable, the alignment and passing opportunities are adequate to permit the highway to be maintained essentially as it is. The environmental impacts of widening along the existing alignment are so great as to be unacceptable.**

- o Funding for major capacity-increasing projects in Del Norte County will be limited, due to relatively lower traffic volumes and funding formulae which favor more populated areas.**

- o Studies for independent projects at Wilson Creek Bluffs and Cushing Creek should be continued; both projects are associated with key problems (roadway failure and traffic safety) that need to be addressed.**

10.0 Glossary of Technical Terms

Accident Rate...A ratio of the number of accidents occurring and the volume of traffic in a given segment of highway. Accident rates are compared to the average rate for similar facilities statewide.

Anadromous Fish...Fish that live in saltwater and migrate to fresh water to spawn. Salmon, steelhead trout and shad are examples.

Annual Average Daily Traffic (AADT or ADT)...The average 24-hour volume, being the total number during a stated period divided by the number of days in that period; the period is a year.

Arterial Highway...A general term denoting a highway primarily for through traffic usually on a continuous route.

Best Management Practices...Management actions that are designed to maintain water quality by preventative rather than corrective means.

Bypass...An arterial highway that permits traffic to avoid all or part of a certain area such as an urban area or a .

Caltrans...California Department of Transportation. Responsible, as the owner/operator of the state highway system, for its safe operation and maintenance.

California Transportation Commission (CTC)...A body appointed by the Governor and confirmed by the legislature that reviews Regional Transportation Improvement Programs (RTIPs) and the PSTIP. The CTC adopts the STIP and allocates funding for transportation projects.

CEQA...California Environmental Quality Act: Law approved by the California State Legislature in 1970 to protect the environment. It was modeled after the National Environmental Policy Act.

Conventional Highway...A highway with no control of access (no control of access roads onto the highway) which may or may not be divided or have grade separations at interchanges.

County Minimums...The minimum share of programming money each county should receive. According to statute, 70% of the capital outlay funds must be expended in each county according to a formula based 75% on county population and 25% on state highway miles in the county. The county minimum is accounted for over a fixed five-year period called a quinquennium.

Cumulative Effects...The net result of all activities that have occurred within an area.

Deborah L. Harmon
January 22, 1993
Page Five

Page 24

Paragraph 4: This report does not make the case that a complete parkland bypass is neither feasible nor prudent. There is no basis or substantiation for such a finding.

Page 27

Paragraph 5: The description includes slope angle for cuts, cubic yards of excavation, and bridge construction, but does not describe any of the associated environmental impacts, which was the stated purpose for this report. What would the impacts be for Alternative 1?

Page 32

Paragraphs 2, 3: The biological and cultural impacts of an expressway are not seriously considered herein. This report should at least some of the specific impacts of such a construction project.

Page 33

Paragraph 3: The question posed in the paragraph heading is not answered in this report, and it should be, to the best of CALTRANS' ability. It would seem that it would be reasonable to say that the segment between mileposts 16.3 and 20.3 would perform adequately for the foreseeable future. Constructing upgraded, wider segments north and south of this section would certainly place previously non-existing pressure to improve this section, which has an acknowledged low level of problems.

DFR's Position

Our Department understands and appreciates the need for improved transportation facilities, and recognizes that at times they will affect parklands. However, when alternatives are proposed that have the potential for significant environmental consequences, especially to nationally recognized parklands, we believe that other alternatives have to be developed. We encourage CALTRANS to explore alternative approaches to improve safety at Cushing Creek, and continue to perform maintenance, as necessary to keep the roadway open at Wilson Creek Bluffs.



Richard G. Rayburn, Chief
Resource Management Division

cc: Arthur E. Eck, Deputy Superintendent, Redwood National Park
John B. Dewitt, Save-the-Redwoods League
Carl Anderson, Save-the-Redwoods League
David McLeod, Department of Fish and Game

Deborah L. Harmon
January 21, 1993
Page Four

pilot vehicles under certain circumstances, large scale publicity to increase driver awareness of conditions and increased CHP enforcement of reduced speeds.

Page 18

Paragraph 2: Wouldn't head-on fatalities be avoided altogether if a cement barrier/median were constructed?

Paragraph 4: "[M]any a prudent driver has negotiated the curves at Cushing Creek only to collide with a disabled vehicle." What do accident statistics show for these collisions?

Page 19

Paragraph 2: If reducing the number of accidents is indeed the primary purpose of this project, then there are a number of behavior-modifying actions that could be undertaken apart from construction of a wider, higher-speed roadway. See comments on Conclusion 3, page 2 of this memo, relating to reduction of the number of traffic accidents at this location.

Paragraphs 4, 5: Providing a design speed that the driver is likely to expect seems to be a mistake. As stated before, actions should be undertaken to change the drivers' expectations, rather than changing the highway to meet the unreasonable expectation of a 55-mph freeway. If drivers perceive that they are travelling at a safe speed, and are still getting into accidents, then their perception is obviously wrong and needs to be changed.

Page 20

Paragraph 3: As previously stated in this memo, the Route Concept needs to be changed away from four-lane freeway/expressway for all of Route 101 in District 1.

Page 21

Paragraph 1: Since segments on both sides of the Cushing Creek project "are experiencing no significant problems", then the Route Concept should be revised to recognize this fact.

Page 23

Paragraph 6: The justification for the Wilson Creek Bluffs project is very weak, since maintenance improvements have been made over the years, providing reasonable access along this stretch of Route 101. This section of highway has substantial geological problems, the least of which is not the ocean wave erosion at the toe of the cliff. The roadway is narrow, but functions. The only possible alternative to routine maintenance would be a bypass. Since there is no indication that there is the funding for this approach, no change in treatment is recommended.

Deborah L. Harmon
January 22, 1993
Page Three

Page 2

Paragraph 3: "Route concepts are generally uniform for an entire route, unless there is a major change in function along the route." Although Route 101 does function as a principal arterial for its entire length, a case could be made that as a park road in a scenic corridor, justification exists to modify the route concepts for those segments within state and national parks. If cities would eventually all be bypassed, why couldn't all parks eventually be bypassed?

Page 3

Paragraph 5 "It is critical that appropriate standards are applied uniformly . . . resulting in a highway with consistent standards and an integrated transportation system." This concept ignores potential key differences between areas. The area north of Eureka, for example, functions much differently and has different traffic loads than the segment south of Eureka. The highway north of Route 199 also experiences different uses than the segment between Eureka and Crescent City. Because of these differences, we believe that consideration should be given to applying different standards (for example, fewer lanes, narrower lanes, lower speed limits) within park boundaries.

Page 5

Paragraph 1: "The STIP includes only those projects considered 'capacity-increasing'". This resolution predisposes all projects to having impacts to parklands, unless a total park bypass is pursued. It also eliminates pure safety measures, which shouldn't require as a solution to increase traffic.

Page 12

Paragraph 2: Operational improvements are discussed, such as construction of additional passing lanes and the addition of wider paved shoulders, no doubt requiring removal of some old-growth trees. The level of service discussion seems to be unreasonably biased to reflect a low level during August, a peak tourist month. The slow speeds may be consistent with a high quality viewing area and recreational vehicle traffic. "Driver discomfort" may be biased judgement on the part of CALTRANS.

Page 16

Paragraph 6: The effectiveness of the second open-graded asphalt concrete surface should be available by now (January 1993).

Page 17

Paragraph 2: Because of the significance of the resources and potential for their loss, we believe that extraordinary measures, beyond the two mentioned in the report, to improve driver habits and safety conditions within the existing alignment should be vigorously pursued. These could include surface modulations, median and shoulder barriers, signals, one-way traffic with

Deborah L. Harmon
January 22, 1993
Page Two

segment westward of the existing route, since the strike and dip of the formation changes from favorable (in to the slope) to unfavorable (out of the slope).

2. The current route concept is not appropriate and it is infeasible to expect all of Route 101 to become a freeway/expressway in the next 20 to 30 years.

3. It is not necessary to provide for a high level of speed for every turn of the highway. It is believed that safety improvements could be achieved by obtaining lower speeds. (See page four comment on report page 17.)

4. The "B" level of service may be unreasonable for all sections of the roadway. It also seems that the LOS rating of E is subjectively low. Perhaps it would not be unreasonable to add the scenic aspect as an additional qualitative measure of the drivers' experience.

5. Widening of the existing route to current freeway/expressway standards would not only be very controversial, but even though it may be totally within CALTRANS' right-of-way, it would have unavoidable, significant biological and esthetic impacts.

6. The total park bypass could be constructed to reduce the environmental impacts. It appears that CALTRANS has used the maximum project footprint, cuts, and fills, and disregarded tunnels and viaducts, making the projected costs unattainable. We question CALTRANS' philosophy of improving small segments of 101, as funds are available. This amounts to a commitment to using very expensive segment improvements when an expensive total park bypass may solve the problem.

7. If a bypass is seriously pursued, additional studies on the currently programmed projects may be a waste of time and money.

8. CALTRANS should clearly state that the intervening four-mile stretch will not be widened, and amend the route concept accordingly. CALTRANS should also amend the route concept to reflect differences (narrow, scenic, slower speed limits) within State (and perhaps National) Parks.

Page 1

Paragraph 4: The stated purpose of this study is to address how the development of Route 101 might affect adjacent parkland. Unfortunately, the effects of the Wilson Creek Bluffs and Cushing Creek projects are not addressed in the report.

Memorandum

Date : January 22, 1993

To : Deborah L. Harmon, Chief
Environmental Planning Branch
Department of Transportation
Post Office Box 3700
Eureka, California 95502

From : Department of Parks and Recreation
Resource Management Division

Subject: U.S. Route 101 in Del Norte County - A Corridor Study

The Department of Parks and Recreation's mission is to provide for the health, inspiration and education of the people of California by preserving the state's most valued natural and cultural resources and by providing opportunities for high-quality recreational experiences.

The Declaration of Purpose for Del Norte Coast Redwoods State Park (State Redwood Parks General Plan, November 1985) recognizes the important role of the Department for park system protection. It describes the rugged coastline as well as the inland properties including forests of coast redwood and associated species, and Native American sites. The Declaration also states that it "shall be a major objective of the Department to achieve the rerouting of this highway [U.S. 101] to an identified route via Wilson Creek and the upper slopes of the West Branch of Mill Creek, avoiding all memorial groves." This policy was written and approved prior to the completion of the Prairie Creek Redwoods State Park Bypass. Many of the impacts which were associated with the construction of the Prairie Creek bypass were not anticipated (sedimentation of the streams even during construction, failures of cut and fill slopes, and mortality of elk drawn to the construction area habitats).

One of the Primeval Forest policies states: "No new public roads or highways shall be constructed on primeval forest land in State Parks."

With these factors in mind, the Department of Parks and Recreation offers the following comments on the U.S. Route 101 Corridor Study.

Conclusions (page iv)

1. The current route concept for U.S. 101 should be revised, since in our opinion the development to freeway/expressway standards is not appropriate. Although Del Norte County is heavily dependent on motorized vehicles, it is also heavily dependent on tourists and a high quality environment. Because of potential major environmental impacts, we believe that the solution to improving the safety rate for the Cushing Creek segment is to change drivers' behavior, rather than the route. We also believe that there may be serious geological problems with re-routing the Cushing Creek



United States Department of the Interior

NATIONAL PARK SERVICE
REDWOOD NATIONAL PARK
ARCATA OFFICE
1125 16th STREET
ARCATA, CALIFORNIA 95521

IN REPLY REFER TO:

D30 (Corridor Study)

January 15, 1993

Cindy L. Graham
Project Manager
California Department of Transportation, District 1
P.O. Box 3700
Eureka, California 95502

Dear Ms. Graham:

Thank you for this opportunity to comment on the revised draft of the Corridor Study for U.S. Route 101 in Del Norte County. We want to emphasize that our concerns expressed in comments on the outline and previous drafts are still valid.

The treatment of the intervening four-mile section (Post Miles 16.3/20.3) between the proposed Cushing Creek and Wilson Creek Bluffs projects appears to be an unresolved issue. Although the study concludes that Caltrans should commit in each environmental report to not pursue widening of the existing highway to four lanes in the intervening segment, there is no assurance that this commitment will be fulfilled as long as the route concept as described in the study remains a four-lane expressway.

We hope that we can continue to work closely with Caltrans to find a mutually agreeable solution that reduces environmental impacts to parklands and meets transportation requirements.

Sincerely,

Arthur E. Eck
Deputy Superintendent

cc:
Mr. James Huddlestun, WRO

93 JAN 20 10:11 AM

CALTRANS

responds if necessary

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- PERMITS UNIT
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- TRAINING EA
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- REG UNIT
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- MARKET
- STORIES
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- CONTR
- ENCL SERV
- LOCAL SERVICE
- DD-PROJ DEVEL
- DESIGN
- HYDRAULIC
- OFF ENCL
- MAILS
- PROJ STUDIES
- PROJ UNIT
- SURVEYS
- DD-MAINT/OPER
- MAINT
- PERMITS
- TRAFFIC
- DD-R/W
- R/W ACQ
- R/W APPR
- DD-PLNG/PROG
- ENV PLNG
- PROJ MGMT
- TRANS PLNG
- ICR
- GEN FILES

5-11-93
6 CINDY L GRAHAM

Caltrans District 1
November 25, 1992
Page 2

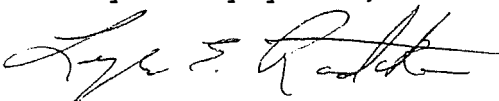
For the first three (3) hours, Northbound vehicles continually came into the scene partially out of control. After the first chip truck slid sideways toward an officer directing traffic on the South end, I reevaluated the emergency traffic controls in place to see what else could be done to protect emergency workers. My conclusion was that escorting vehicles down the hill until two way traffic could be restored, was the only method not yet employed. Unfortunately, there were insufficient resources available to deploy this technique.

Traversing Crescent City Hill during clear dry conditions is an ordinary experience. Standing on the hill during adverse conditions is a completely different experience. A significant number of drivers fail to recognize the level of hazard and exceed the safe speed. In the case of the skidding chip truck, it appeared to be traveling less than 20 MPH.

Emergency workers are often called to respond to incidents at this location. Weather, lighting and visibility are critical factors in the level of hazard present. Based on actual field experience and careful consideration of possible improvements for the existing roadway, I have concluded that additional signs, signals or devices would not significantly improve the safety of the area.

Until such time as the facility can be improved by reducing the grade and/or increasing the turn radius, it must be considered a very dangerous place to work and travel.

Very truly yours;



LYLE E. RADTKE, Lieutenant
Crescent City Area Commander

State of California—Business, Transportation and Housing Agency

PETE WILSON, Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

Crescent City Area
1444 Parkway Drive
P. O. Box 157
Crescent City, Ca. 95531
(707)464-3117

CALTRANS

'92 NOV 30 10:53

November 25, 1992

Ms. Cindy Graham
Department of Transportation
District 1
P. O. Box 3700
Eureka, Ca. 95502-3700

RE: CUSHING CREEK BYPASS PROJECT

Dear Ms. Graham:

I received a copy of your recent letter requesting comments regarding the US 101 "Corridor Study". The comments contained in this letter apply primarily to the Crescent City Hill section of US 101 but could also apply to the Wilson Creek side of the hill.

Over the past several years, personnel from my office have attended Project Development Team, PDT, meetings for the Cushing Creek and Wilson Creek Bypass projects. The primary purpose for CHP participation is for traffic safety reasons. In response to concerns relating to proposed alternatives I feel it appropriate to comment on certain recent events involving these Highway locations.

On November 18, 1992 at approximately 7 p.m. a truck tractor trailer combination, carrying lumber, was North bound on US 101 coming down Crescent City Hill (MPM 21.50). The rear trailer overturned spilling lumber on most of the 3 available traffic lanes. The accident investigation and clean up continued for the next 6 hours. The weather was intermittent showers, best described as light rain. Six (6) CHP officers, including myself, a Caltrans emergency crew, and two (2) tow trucks were needed to provide emergency traffic control and clean up. In addition to the existing signs and warning devices present there were fusee flares at frequent intervals in both directions, warning approaching traffic of a hazard. The Caltrans emergency crew established lane control with reflective cones and flashing beacons the entire length of Crescent City Hill from the summit to Vista Point. A marked CHP unit, with overhead flashing lights activated, was parked on the Northbound shoulder uphill from the scene.

- ___ DIST DIR
- ___ DDD-ADMIN
- ___ PERS/RES MGMT
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- ___ TRAINING/AA
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- ___ BUS MGMT
- ___ COMP SYST
- ___ SAFETY
- ___ STORES
- ___ DDD-CONST
- ___ MONST
- ___ ENGR SERV
- ___ LOCAL APTS/RDS
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- ___ HYDRAULICS
- ___ OFF ENGR
- ___ MAPS
- ___ PROJ SERV
- ___ PROJ MGMT
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- ___ TRANS PLNG
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Handwritten initials and signature:
SA
3-26-92

Page 4

Page 34, paragraph 2: Amending the Route Concept would be a good starting point but from State Park's perspective, it would be easy to amend again and proceed with widening this stretch to 4 lanes through the park. A more reassuring gesture would be to amend the Route Concept and deed over all right-of-way lands not currently developed as roadway.

Page 36, paragraph 1: What experience has been gained in the construction of the Prairie Creek Bypass that we can apply to a bypass of Del Norte Coast Redwoods?

Page 36: The discussion of how Cushing Creek and Wilson Creek Projects might accommodate a future park bypass should include an estimate of the cost of constructed items that will no longer be usable. Examples that come to mind are the Wilson Creek bridge and the connecting links that enter the park at various locations. In addition, is there any value being placed on the old-growth redwood trees that would be impacted other than stumpage value?

Page 37, paragraph 5: It is projected that the traffic volume will increase by approximately 50% by the year 2010, yet this will not affect its Level of Service ranking. What criteria is used to differentiate between levels "E" and "F"?

SUGGESTIONS:

1. This document is a good starting point. It should be expanded to include enough information for us to be able to decide on the most environmentally sound route the future road should take. In order to make this determination all factors must be weighed. For example, when talking about economic impacts the tourist industry must be taken in to account as well as the timber industry, the geologic impacts must be looked at as well as the cut and fill balance, etc.
2. Private, logged over property is not the same as old growth forest and should not be equated with it as this report seems to do.
3. Inconsistancies need to be eliminated from the report and attempts made to explain obvious areas of question such as if the ADT is down, why are the accidents up? And, if the ADT is down why are we projecting dramatic increases? And, what are the major causes of most of the accidents? And, why is it necessary to bring the LOS up to B at Cushing Creek when the remainder of the road through the park will be lower? Why not just do minor improvement to a LOS of C and combine this segment with a future full bypass?
4. A cursory exam of the quads in the area show a complete bypass is possible. Why has this single route been chosen?
5. State Parks has concerns about the geology of the area and would like to have it's geologists work with CalTrans in an examination of this area.

not consider the bypass alternative. If the bypass were built, old-growth redwoods would not "inevitably" be cut and parklands would not "inevitably" have to be "temporarily" used (page 36, paragraph 6). How would this "temporary" use be possible for 2,000 year old trees? Will they be potted, cared for and replanted when this "temporary" road is removed?

Page 25, paragraph 4: If a discussion of why keeping the road a two lane facility does not address the problem of future capacity is appropriate in paragraph 2 why is it not appropriate in paragraph 4?

Page 26, paragraph 1: The continued use of the expression "...can be expected to function at an acceptable level for the foreseeable future." must refer to something less than 25 years when the predicted traffic volume will have risen to 8,000 per day (page 22, paragraph 3) especially since "Major operational conflicts exist on this segment of Route 101 between heavy commercial traffic, the tourist traffic, and the local traffic." now! (page 22 paragraph 2). Also, upgrading this stretch of road to "B" LOS is CalTrans highest overall State highway improvement priority - from its current "E" LOS (page 3, paragraph 2).

Page 27, paragraph 2: The comment "This would equate to a cost savings and less adverse effect on the physical environment." is not substantiated in the document. If the entire segment is eventually upgraded (page 3, paragraph 2), it seems logical that it would cost less to do it as a single project eliminating duplicate construction of bridges. This would also have a less adverse effect on the physical environment than building one short segment and ripping it out and moving it later (including the construction of a second bridge and removing the first one).

Page 27, paragraph 3: The comment "This would undoubtedly disappoint many travelers..." is not substantiated in the document. There are no surveys to determine driver satisfaction quoted. In fact, the people that wish to visit the area for the spectacular ocean vistas may be actually pleased that the volume of through traffic and commercial trucks has drastically decreased.

Page 32, paragraph 2: The comment "Shoulder widening is one improvement that would have to be made..." gives no estimates of the number of old-growth redwoods that would be removed in this 4 mile stretch nor the amount of acres that would be impacted.

Page 33, paragraph 5: No estimate is given for the number of old-growth redwoods impacted within the 132 acres where the road enters the park. This must be added to the amount taken in the Cushing Creek development to get the cumulative impact. If this alternative is selected, the design will be less desirable for the Cushing Creek solution. The design similar to Ridgewood Grade would have an accident rate 2.5 times similar facilities (page 19, paragraph 2) This would be a 75% reduction vs. a 100% reduction for the park bypass.

Page 6, paragraph 2: Refers to Exhibit 2 which shows that 3 of the 6 "segments of Route 101 that presently do not meet either the Route Concept or concept level of service" are within Del Norte Coast Redwoods State Park. Segment 5 being effectively eliminated (page 15, paragraph 2). If other pertinent information is included in the District 1 System Management Plan about these particular segments it should be reproduced and included here. Since the entire length of Route 101 through the park (9.8 miles) is designated for improvement, the only logical conclusion is to treat this segment as a single entity and perform the studies that will examine the cumulative impacts and be necessary to meet CEQA requirements for the entire park bypass.

Since it is now unlikely that Trees of Mystery will be bypassed to the west (page 10, paragraph 3) and Wolf's evening primrose is located just south of the Wilson Creek bridge (page 10, paragraph 5), it is apparent that Segment 1 should also be included in the studies at this time in order to obtain the best possible location for the new Wilson Creek bridge.

Therefore, the "Logical Termini" (page 22, paragraph 5) for this project providing both a (1) rational end point for a transportation improvement, and (2) rational end points for a review of the associated environmental impacts are just south of the Trees of Mystery (Post Mile 10.4) and just south of the Hamilton Road/Route 101 intersection (Post Mile 22.3). These termini not only provide the most environmentally logical termini but also minimize necessary structures (highest cost items) and eliminate the construction of unnecessary segments that would later have to be abandoned.

Page 23, paragraph 2: In addition to having logical termini, this project will have independent utility. This segment will in and of itself provide a significant function by replacing a highway segment that is experiencing an unacceptable accident rate and by replacing a highway segment that is requiring continual and expensive rehabilitation that has the potential for catastrophic failure. The new construction would connect sections of highway on either side that are experiencing no significant problems, and can be expected to function at an acceptable level for the foreseeable future.

Page 23, paragraph 3: The statement "...options will not be unduly limited by construction of the Cushing Creek project." (and Wilson Creek project) is inaccurate. Both projects would require the felling of ancient redwood trees. This having been accomplished, the felling of more to connect the new freeway pieces in the most direct manner possible (through the heart of the park) would be pushed. If this were not the case, CalTrans would be willing to deed over to the Department of Parks and Recreation all the existing right of way beyond what the road surface currently occupies.

The statement "There may be potential impacts to parklands, old-growth trees, and sensitive habitats by improving adjacent segments of Route 101, but these would be inevitable, regardless of the alternative built or not built at Cushing Creek." obviously does

Memorandum

Date : December 17, 1991

To : Deborah L. Harmon, Chief
Environmental Planning Branch
CalTrans, District 1
P.O.Box 3700
Eureka, CA 95502-3700

From : Department of Parks and Recreation
Klamath District

Subject: Del Norte Route 101 Corridor Study

Thank you for the opportunity to review the draft Corridor Study prior to the Project Development Team meeting on December 17, 1991. Our comments are listed by page and paragraph number for quick reference.

Page iv, paragraph 5: To make a comment about the destructiveness of alternatives from a biological standpoint would require an analysis of biological issues. What would be the impact on the Old Growth Redwood forest ecosystem vs. the recovering cut over ecosystem vs. the riparian ecosystem etc. How would the impacts of freeway construction affect the biological diversity and genetic diversity of each ecosystem? How would the freeway impact the ability of each species to move along corridors and reproduce effectively maintaining genetic diversity throughout the bioregion.

Page v, paragraph 1: This conclusion is based on unsubstantiated bias with no factual substantiation within the document. This paragraph states in essence that the socioeconomic impacts on Simpson Timber and Miller-Rellim Timber are greater than the impacts on irreplaceable portions of California's natural heritage being held in the public trust. This paragraph refers to the cubic yards of material and amount of clearing necessary for the bypass but leaves out the cubic yards of material and amount of clearing that would take place in the ancient forest to develop the freeway through the heart of the park. What is the cost estimate based on? The current Prairie Creek bypass is 10 miles long and cost an estimated 110 to 120 million dollars.

Page v, paragraph 3: This paragraph directly contradicts CalTrans stated route concept (page 2, paragraph 3), functional classification (page 3, paragraph 4), and level of service (page 3, paragraph 3) "Upgrading Route 101 to a "B" LOS is CalTrans District 1's highest overall State highway improvement priority. In order to achieve this, the two-lane segments of highway on non-standard alignment must be upgraded to four-lane expressway standards." This conclusion is not substantiated by any material in the report, is totally inaccurate and misleading. It contradicts the statements that Route 101 is of "Statewide Importance" (page 4, paragraph 1), that Route 101 is the "lifeline" of the North Coast and a critical link in the transportation system (page 4, paragraph 3), and that "Route 101 should be developed to 4-lane freeway/expressway for its entire length within District 1" (page 5, paragraph 2).

Ms. Cindy Graham
December 15, 1992
Page Four

Thank you for your consideration of these comments. If you have any questions regarding our review of the corridor study, please contact staff biologist Mr. Dave McLeod at (707) 441-5791.

for John M. Hayes
Donald B. Koch
Acting Regional Manager

Ms. Cindy Graham
December 15, 1992
Page Three

dated September 1992. When considering a westerly alignment within the supposed cost constraints, Caltrans admits to substantial adverse impacts to local populations and temporary elimination of species including the Olympic salamander and tailed frog, both of which are California Department of Fish and Game species of special concern, and the Del Norte salamander and red-legged frog which are Federal candidate species for listing as threatened or endangered and also State species of special concern. Caltrans also admits that information exists to suggest that these species would be locally extirpated or severely permanently reduced in numbers, both of which are unacceptable. The red tree vole, a State species of special concern, has also been identified in the Cushing Creek Project area, and the Wolf's evening primrose, a candidate for listing as rare and endangered by the Department and the US Fish and Wildlife Service, is found in the Wilson Creek Bluffs Project area.

Because of the impacts associated with such a massive project, the Department disagrees with the Study conclusion that the current Route Concept, which calls for development of Route 101 to freeway/expressway standards, is appropriate. We believe that the area being considered is the most unique along the entire length of Route 101 in California, as it contains some of the last remaining old-growth redwoods, is within the State and National parks, and has many sensitive animal and plant species which could be severely impacted. State parks representatives have made it clear that they are opposed to any widening on the existing alignment required to bring segment three (1-DN-101-16.3/20.3), the "intervening four miles", up to Route Concept four-lane standards. The Study estimates such widening would result in the loss of 1,500 redwood trees greater than or equal to 36 inches in diameter.

Because of these special circumstances, the Department recommends that the Caltrans Route Concept be reevaluated and changed to less than a four-lane facility from Klamath to the Oregon border. We recommend that Caltrans consider a more moderate approach to improving existing conditions and that the driving public be made aware that because of the unique nature of the area, they need to expect different highway conditions than exist in other sections of Route 101.

Ms. Cindy Graham
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Page Two

Prairie Creek, tributary to the Klamath River, for two miles and follow Wilson Creek and West Branch Mill Creek, tributary to the Smith River (Wild and Scenic River), for a total of 17 miles. These are all important anadromous salmonid streams. About 950 acres would be cleared, with 45 million cubic yards of earth moved. Bridges would be required at two locations.

Alternative 2 would accommodate the Wilson Creek Bluffs and Cushing Creek projects and have a lesser, although extensive, environmental impact than Alternative 1. There would be eight miles of new construction, 22 million cubic yards of earthwork and 571 acres cleared. Some two-lane highway sections would be retained.

Alternative 3 would also accommodate the Wilson Creek Bluffs and Cushing Creek projects, eventually be entirely four-lane, and include eight miles of new construction. There would be 28 million cubic yards of earthwork, with 605 acres being cleared.

Alternative 4 would have the least, yet still extensive, wildlife impacts of the four alternatives. Four lanes would be incorporated into the Wilson Creek Bluffs and Cushing Creek projects. It appears this project would require four miles of new construction. There would be 13 million cubic yards of earthwork with 305 acres cleared.

Environmental studies have not yet been done to the detail needed for an adequate environmental document (EIR/EIS) required by both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). It is impossible to assess environmental impacts of any project without this information. Biological resources to be considered, as stated in the Study, include impacts to Federal and State listed, proposed, and candidate endangered, threatened, or rare animal and plant species; impacts to old-growth trees, especially redwoods; impacts to rivers and streams, associated riparian vegetation and wetlands which are essential to anadromous and resident fish and amphibian populations; and impacts on local and regional wildlife migration corridors and local and regional biodiversity.

The Department recognizes that any four-lane expressway constructed using a new alignment would have a wide range of environmental impacts. The Study recognizes that the effects would be similar to those being analyzed in detail for the Wilson Creek Bluffs and Cushing Creek projects, but on a larger scale. Expected environmental impacts of the Cushing Creek project are addressed in the Caltrans Cushing Creek Biological Studies Update

California

Memorandum

To : Ms. Cindy Graham
Project Development Team Leader
California Department of Transportation
District 1
Post Office Box 3700
Eureka, California 95502-3700

Date : December 15, 1992

From : Department of Fish and Game - Region 1
601 Locust Street, Redding, California 96001

Subject: US Route 101 in Del Norte County, a Corridor Study

The California Department of Fish and Game has reviewed the corridor study (Study) to improve US Route 101 in Del Norte County. Currently being planned are the Wilson Creek Bluffs Project (Post Mile 12.5 to 16.3) and the Cushing Creek Project (Post Mile 20.3 to 22.4). Between these two projects is a four-mile section known as the "intervening section". The entire project extends from Wilson Creek north of Klamath to near Crescent City.

The Study references seven two-lane highway segments between Klamath and the Oregon border that Caltrans believes need upgrading to four-lane. This upgrade would occur pursuant to the current "Route Concept" which states that Route 101 should be developed to four-lane freeway/expressway for its entire length in Caltrans District 1. The Study states that widening these sections would cause extensive wildlife impacts. This would include impacts to permanently saturated palustrine emergent and scrub-shrub wetlands which provide important habitat year-round for resident bird, mammal, amphibian and reptile species, waterfowl and other migratory water associated birds. Losses of coastal prairie and north coastal shrub upland habitat would occur, which is host to a variety of migratory and resident wildlife species such as song birds, raptors, small mammals and deer. There would also be water quality and fishery impacts and riparian vegetation losses.

A route that would totally by-pass Redwood National Park and Del Norte Coast Redwoods State Park would be about 20 miles in length, would require the excavation of over 45 million cubic yards of earth and the clearing of 950 acres of steep terrain. Damage from this construction, although not quantified, would likely result in unacceptable severe losses of wildlife and their habitats.

Four other alternatives discussed in the Study also have the capability to cause severe environmental impacts. Alternative 1 is a near-total parks by-pass which does not accommodate projects at Wilson Creek Bluffs or Cushing Creek. It would follow High

Cindy L. Graham
December 12, 1992
Page Five

Cumulative costs appear to be approximately \$172 million (Cushing Creek \$44 m + Wilson Creek \$83 m + Intervening 4 miles \$45 m, 1/2 cost per mile of Cushing Creek). Cumulative environmental impacts unknown.

Cumulative costs for the bypass appear to be \$175 to \$550 million. Cumulative environmental impacts for the bypass are unknown.

How can rational decisions be made comparing these alternatives when there are so many unknowns? It appears that the environmental impacts in the park (old-growth and old second-growth forests) would be greater than impacts on recently logged-over land. Therefore the most appropriate decision would be for a complete park bypass since the costs are only 1/2 again as much. Another factor favoring the complete park bypass is the ability to construct the road on geologically stable lands minimizing long-term maintenance costs.

Sincerely,



William R. Beat
District Superintendent
North Coast Redwoods District
Eureka Office

cc: Carl Chavez
Rick Rayburn, RP&D
Syd Brown, RPD

Cindy L. Graham
December 15, 1992
Page Four

Page 26, Paragraph 7: "The two projects now included in the State Transportation Improvement Program (STIP) each have identified purpose and need that does not require bypassing parkland;" is a misleading statement. It may not require bypassing parkland but there are only two alternatives: 1) develop a 4-lane highway through the center of the park as per Page iv, Conclusions, Paragraph 5 or 2) bypass the park. The paragraph continues "however, Section 4(f) laws require that "avoidance" alternatives be studied and that parkland is to be used only if there is no prudent and feasible alternative and all possible planning has been undertaken to minimize harm to the 4(f) lands resulting from such use. How can a decision be made determining how "prudent" or "feasible" an alternative is without data regarding the effects of the proposed alternative being gathered and made known? Statements such as "Bridges would be required at various locations." Page 27, Paragraph 5 doesn't give you much information about the effects they would cause. Statements such as "Alternative 2 would have more impacts to parkland, but would be less expensive and have lesser overall environmental impacts than Alternative 1." are totally unsubstantiated. What environmental impacts are we talking about?

Question 10.0 on page 33 "How long could the segment of Route 101 between post mile 16.3 and post mile 20.3 be expected to perform adequately?" is not answered. In fact, mention of upgrading this section, clearing 70 acres and cutting down 1500 old-growth Redwood trees implies it would not be a very long time.

The purpose of this study stated on page ii "...that individual and collective effects of both projects be analyzed to determine cumulative impacts on parklands." has been done to some extent but not summarized together. The overall bottom line of this report seems to be that CalTrans desires to construct a 4-lane freeway/expressway through the center of Del Norte Coast Redwoods State Park. Alternatives around the park are thought to be too expensive and therefore a serious look at the "best possible location" for the road examining all environmental considerations will not be done.

Cindy L. Graham
December 15, 1992
Page Three

2. Since two projects are currently being undertaken (Cushing Creek and Wilson Creek Bluffs) and they are estimated to cost \$127 million, now is the appropriate time to thoroughly examine the best possible long term location for Route 101.

3. The logical terminus for this project is south of the Wilson Creek Bridge and north of the Cushing Creek curves.

Page 21, Paragraph 1: Describing the "logical termini" for the Cushing Creek project states "the new construction would connect sections of highway on either side that are experiencing no significant problems, and can be expected to function at an acceptable level for the foreseeable future". This is directly contradicted by Page 20, Paragraphs 2 and 3.

Page 23, Paragraph 5: States the same thing in reference to Wilson Creek. This is contradicted by the same paragraphs.

Page 21, Paragraph 2: States the impacts to park lands, sensitive habitats and the cutting of old-growth trees "...would be inevitable, regardless of the alternative built or not built at Cushing Creek." This is absurd. How would not building the road or totally bypassing the park impact the park lands, sensitive habitats, or necessitate the cutting of old-growth trees?

Page 23, Paragraph 6: States the same thing in regards to Wilson Creek Bluffs. Again, totally absurd.

Page 24, Paragraph 4: "Complete parkland avoidance with a bypass of Del Norte Coast Redwoods State Park appears to be neither feasible nor prudent." Nothing has been said anywhere in the document to this point to substantiate this all encompassing conclusion. It is basically an opinion that is not referenced.

Cindy L. Graham
 December 15, 1992
 Page Two

Page iv, Conclusions, Paragraph 4: "The "B" concept level of service for Route 101 (through Del Norte Coast Redwoods State Park) in rural areas is appropriate and the route remains Caltrans District 1's highest overall State highway improvement priority."

Page iv, Conclusions, Paragraph 5: "Widening of existing Route 101 on or near existing alignment to current freeway/expressway standards within Del Norte Coast Redwoods State Park would require the removal of many old-growth trees, ... such an alternative might be less destructive than building a 4-lane facility on a new alignment,"

If the last paragraph on page v is true and a commitment is being made to not widen the existing highway through Del Norte Coast Redwoods State Park why has the RCR not been changed? Especially since the time frame it projects is so short (20 years). And why has the level of service not been changed?

Page 2, last paragraph: "Upgrading Route 101 to a "B" LOS is Caltrans District 1's highest overall State highway improvement priority. In order to achieve this the two-lane segments of highway on non-standard alignment must be upgraded to four-lane expressway standards."

Page 20, Paragraph 2: "With traffic volumes expected to increase to 8,000 vehicles daily by the year 2017 (daily traffic volume currently is 5,100)..." **Paragraph 3:** "...both the County of Del Norte in their General Plan and the DNLTC have expressed support for upgrading Route 101 to 4-lane freeway/expressway standards throughout the region. This is consistent with the Route Concept adopted by CalTrans for all of Route 101 in District 1."

Page 12, Paragraph 2: "...if traffic volumes continue to increase, operational improvements may be required to maintain acceptable traffic flow... Such improvements would no doubt require removal of some old-growth trees."

It is appears that:

1. Route 101 must be upgraded to a "B" LOS entirely through Del Norte Coast Redwoods State Park within the next 24 years.

Wilson Creek Bluffs area, priorities could change.

Both park agencies requested review of the revised Corridor Study before it is approved by Caltrans. Jerry Haynes conceded this was possible. Rich Krumholz emphasized that the Corridor Study would not identify a "preferred alternative", but would discuss a feasible range of options to upgrade Route 101 in Del Norte County. Both park agencies agreed that studies should continue on the Cushing Creek project as the Corridor Study is revised.

Note: Underlined sections indicate items requiring further study or action by Caltrans before the Corridor Study can be finalized.

Attachments

representatives feel that a determination should be made as to how many old-growth trees would be impacted by widening the intervening 4-mile segment on or near existing alignment. Rick Knapp acknowledged that Caltrans would do so.

Agenda Item #6

Bill Ehorn acknowledged that the two park agencies were generally in agreement on what should be done with any abandoned portions of existing highway right of way: to restore to pre-highway conditions and incorporate into the existing trail system where appropriate. Bill Beat confirmed this statement.

Deborah Harmon asked if restoration efforts would be considered as mitigation for Section 4(f) impacts of highway improvements. John Sacklin said that their proposal was not submitted with the idea of it being a mitigation package, but it could be **part** of a mitigation package. Bill Beat noted that mitigation would be dependent on the alternative selected for construction at Cushing Creek and Wilson Creek Bluffs.

Agenda Item #7

Bill Ehorn acknowledged that the Save-the-Redwoods League has historically wanted to bring the Mill Creek drainage into the park system. Bill acknowledged that talks involving RNP and Miller Redwood Company have occurred, specifically concerning 640 acres of Miller land adjacent to parkland. This 640 acres includes the Demonstration Forest and land on Rellim Ridge. There is one additional private parcel in the Wilson Creek area being considered as a park acquisition. Rich Krumholz noted that theoretically speaking, if Alternative "F" were built at Cushing Creek, it could end up being surrounded by parkland, should the Mill Creek drainage become parkland in the future.

Other Discussion Items Related to the Corridor Study

Park agencies suggested that Caltrans coordinate studies for the Cushing Creek and Wilson Creek Bluffs projects with Pacific Power and Light (PP&L). PP&L is relocating powerlines in the area of the parks, moving them from the coastline to the easterly boundaries of the park. It seems that the timing of the projects will not accommodate much coordination.

The question of document distribution was discussed. It was noted that upon approval of the Corridor Study, it would be available to the public much like current Route Concept Reports. The Del Norte Local Transportation Commission and the County of Del Norte would be given copies.

Bill Ehorn asked which project was of higher priority to Caltrans, Cushing Creek or Wilson Creek Bluffs? Rick Knapp noted that Cushing Creek, because it was safety related, was considered higher priority. Rick did note that if the highway were lost at the

101 through Del Norte Coast Redwoods State Park.

Rick also noted that adjacent segments of Route 101 either side of Richardson Grove were built to a relatively high design speed.

Rick noted that Caltrans still supports the 4-lane freeway/expressway concept, but that we recognize exceptions have to be made due to limited funding. He further noted that there will be continued evaluation of the Route Concept as projects proceed and that Caltrans will do a further detailed study of the intervening 4-mile segment (Post Miles 16.3/20.3), including potential impacts associated with widening on existing alignment. Jerry Haynes added that at this time we have no glaring problems with the intervening 4-mile segment, but we have well defined problems at Cushing Creek and Wilson Creek Bluffs.

Rick Knapp emphasized that should both the Cushing Creek and Wilson Creek Bluffs projects be built, any capacity-increasing project for the intervening 4-mile segment would have a difficult time competing for discretionary funds. Del Norte County's share of discretionary funds is only \$5 million every five years, making it difficult for Del Norte County to compete with other projects in the District that have higher traffic volumes and subsequent needs.

Both Bill Ehorn and Bill Beat felt that the Route Concept should be evaluated with a greater emphasis on tourism and the transportation needs of future tourists, as well as evaluating potential effects on traditional Del Norte County industries such as fishing and logging, which appear to be in decline. Bill Ehorn feels that greater emphasis should be placed on making improvements to State Routes 199 and 299 to improve access to Redwood National Park.

Agenda Item #4

Both park agencies agree that they are not necessarily supportive of a "total" park bypass of Del Norte Coast Redwoods State Park. They would prefer alternatives which had the least overall adverse effects on the environment. If the best alternative from an overall environmental standpoint required more parkland than another alternative they could support such an alternative. They are concerned with the continued health of the "redwood ecosystem" and not necessarily avoidance of Section 4(f) property. It should be noted that traditionally park agencies do think highly of maintaining the recreational aspects of their parks in the best setting.

Agenda Item #5

The two park agencies agree that total avoidance of old-growth trees at the expense of other natural resources is not necessarily prudent. Avoidance of old-growth trees should be a consideration, but should not take precedence over the overall health of the environment. If widening on existing alignment would be less detrimental to the overall environment than a bypass constructed on private timberland, then it should be considered. Park

National Park Superintendent, to ask just where we are in the development of the Cushing Creek project. Deborah Harmon explained that alternatives were being withdrawn from consideration and that in approximately four weeks we hoped to have a preferred alternative. Ehorn conceded that the level of detail was adequate for the Corridor Study, but some points required further discussion, i.e. the 1962 proposed alignment. Bill Beat, State Parks Klamath District Superintendent, agreed that generally speaking the detail level was adequate, but he would like further discussion of socioeconomic impacts/benefits associated with tourism and greater detailed study of upgrading the 4-mile segment of Route 101 between Post Miles 16.3 and 20.3. Rick Knapp acknowledged this could be done. Dan Goswick, Chief Ranger of the Klamath State Parks District, feels that greater discussion in the Corridor Study should be devoted to "cumulative impacts".

Agenda Item #3

It has been noted that even though the current Route Concept calls for ultimate development of Route 101 to 4-lane freeway/expressway, it is not expected that the concept will be achieved in the foreseeable future. Arthur Eck, Deputy Superintendent for Redwood National Park, feels that there will be pressure exerted in the future to obtain the Route Concept, and that there will be a cumulative effect on old-growth redwoods and parkland by staging projects.

Eck fears that these "staged" projects would have a greater adverse cumulative effect on the environment than if a complete bypass was built at this time. Bill Beat echoed these sentiments and voiced concern that pressure would be applied to widen the intervening 4-mile segment of Route 101 should the Cushing Creek and Wilson Creek Bluffs be built to 4-lane standards. John Sacklin of Redwood National Park stated that development of Route 101 to 4-lane freeway/expressway is a statewide goal and he feels the possibility of widening the intervening 4-mile segment was downplayed in the Corridor Study.

Jerry Haynes emphasized that we would construct adequate transitions with both programmed projects and we anticipated no unusual problems that would require upgrade of the intervening 4-mile segment in the foreseeable future. Rick Knapp, Deputy District Director for Planning and Programming, emphasized that we had built 4-lane projects at both ends of Richardson Grove and had made successful transitions. He added that Caltrans is exerting no unusual pressure to upgrade the Richardson Grove segment to 4 lanes on existing alignment.

Caltrans recognizes the values inherent in the Richardson Grove State Park and are not embarking on a "piecemeal" taking of old-growth trees either at Richardson Grove or other sections of Route 101. Rick noted that, while Richardson Grove's accident history was not that of Cushing Creek, it did have an accident rate over the expected and a much higher traffic volume than that of Route

PARK AGENCIES MEETING SUMMARY

1-DN-101-20.3/22.3
01101 262300
Cushing Creek

Meeting Date: 10:00 a.m., January 21, 1992
Meeting Place: Room 59, Caltrans District 1 Office

Meeting Participants: Redwood National Park
California Department of Parks and Recreation
Caltrans

This meeting was held in an effort to reach agreement on issues raised as a result of the two park agencies reviewing a draft of the Del Norte Route 101 Corridor Study. The meeting was chaired by Deborah Harmon, Chief of the Caltrans Environmental Planning Branch, and was attended by persons listed on Attachment "A". The meeting agenda (Attachment "B") was distributed to participants prior to the meeting and was followed as closely as possible.

Agenda Item #1

Rich Krumholz pointed out that the 1962 park "bypass" proposed by the then Division of Beaches and Parks and endorsed in the 1985 State Redwoods Parks General Plan had been referenced in the draft Corridor Study, but not studied in great detail. It was Caltrans' opinion that the 1962 alignment offered no distinct advantage over other alternatives developed in the Corridor Study, which would conform at Post Mile 19.5 and avoid impacts to Mill Creek resources.

John Sacklin of Redwood National Park conceded that the southern portions of other alternatives developed in the Corridor Study had distinct advantages over the 1962 alignment, but he feels that the 1962 alignment, especially at the northern end should be studied in greater detail. Jerry Haynes, Caltrans Deputy District Director for Project Development, agreed that potential impacts of the 1962 alignment should be studied in greater detail, especially to determine potential tree impacts and impacts to the Mill Creek Campground and West Branch of Mill Creek drainage.

Agenda Item #2

It has been noted throughout development of the Corridor Study that the level of detail of the associated environmental studies would not be to the level required for an Environmental Impact Statement. Rich Krumholz pointed out that we are gathering a great deal of information regarding the immediate Cushing Creek area and that some of this information may be representative of the corridor area. However, it was difficult to determine if habitats and terrain were similar enough that generalizations could be applied to southern portion of corridor. This prompted Bill Ehorn, Redwood

Pages 13-15: The current level of service for segments 5 and 6 should be stated.

Pages 17-19: The current condition of this section should be described, such as the condition of log fills and maintenance requirements.

Page 28 (second paragraph): A bypass designed to avoid all 4(f) land cannot be built. With the creation of the Smith River National Recreation Area on U.S. Forest Service lands which abut Redwood National Park to the east, it would be physically impossible to avoid all 4(f) lands with a highway bypass. Thus one focus of the analysis has to be on the degree of direct and indirect impact on 4(f) lands from highway realignment.

Page 30-33: The acreage of private land required either for right-of-way or that would be severed by different bypass alternatives do not seem to add up correctly.

Page 34a: The table should include the acreage of private land that would be isolated by each alternative.

Page 35: What is the definition of "good repair," especially as it relates to the potential for failing log fills? The potential for removal of the abandoned sections of road should also be considered for certain segments of road.

Page 36 (Section 9.0): The section should be a more detailed comparison of the various alternatives and their usefulness leading to a bypass of the intervening four miles.

Page 37: Section 10 should reiterate the State-wide goal of making U.S. Highway 101 an expressway and the basic incompatibility of retaining a two to three lane segment.

Page 39: It should be made clear in the conclusion that the intervening four miles also currently provide a service level of E. That service level will continue into the future under the Caltrans proposal.

Thank you again for the opportunity to review the route concept study.

Sincerely,



William H. Ehorn
Superintendent

cc: Regional Director, Western Region
Jim Huddleston, WRO
John Donahue, WASO

needs in the long term. Redwood National Park is approaching its 25th birthday, and projects such as the Prairie Creek Bypass have taken over 12 years of active planning and construction. Highway projects should not be dismissed just because they stretch into a twenty-year timeframe.

The 1985 State Park General Plan identified a partial bypass of Del Norte Coast Redwoods State Park, which was discussed on page 28 of the study, but not fully analyzed as an alternative. The National Park Service also suggested this alternative be considered in our review comments of the route concept study outline. Although we are not endorsing this particular route, we believe it is a reasonable alternative that deserves consideration. In particular, the northerly segment of this alternative would traverse a portion of existing Del Norte Coast Redwoods State Park, paralleling the West Branch of Mill Creek, and could tie logically in with Cushing Creek Alternative F. Such an alternative could potentially be built in three segments, with each segment having two and four lane portions, similar to Caltrans Alternative Two in the route concept study.

Alternative Four does not realistically analyze the impacts of the operational and safety improvements that would be required for the intervening four miles between the Wilson Creek Bluffs project and the Cushing Creek project (PM 16.3 to 20.3). In several places, the document refers to the need for shoulder widening projects in this area, no matter what alternative is chosen. If these improvements "would have to be made" (p. 32), then their impacts should be evaluated as part of Alternative Four. Alternative Four also does not seem to meet the long-term route concept for U.S. Highway 101 (four lane expressway/ freeway). Despite the commitment to retaining a two and three lane intervening segment, the long-term view should be taken that this segment will be four lanes. The impacts and costs should be projected accordingly.

In addition to these general concerns, we have a number of specific comments:

Preface: Redwood National Park wished to have Caltrans conduct a study that would fully evaluate the utility of the proposed highway construction projects as related to the current route concepts and long-term transportation needs. By doing so, new highway construction projects would not be abandoned in the future because they did not meet route concepts or transportation needs. Redwood National Park's management objectives relative to transportation systems are: "To provide reasonable and safe access for visitor use and enjoyment commensurate with adequate resource protection and to cooperate with other agencies in planning for improved transportation and circulation systems on or adjacent to park lands" (Statement for Management).

Page 3: A table with the different levels of service (A through F) and their criteria and local examples would be useful.

page 12: Approximately how many old-growth trees would require removal under a shoulder widening project for the intervening four miles?



United States Department of the Interior

NATIONAL PARK SERVICE
REDWOOD NATIONAL PARK
1111 SECOND STREET
CRESCENT CITY, CALIFORNIA 95531

IN REPLY REFER TO:

D30 (Corridor Study)

December 17, 1991

Deborah L. Harmon
Chief, Environmental Planning Branch
California Department of Transportation, District 1
P.O. Box 3700
Eureka, California 95502-3700

Dear Ms. Harmon:

Thank you for the opportunity to review the draft "U.S. Route 101 Del Norte County Corridor Study." This letter represents the combined review of Redwood National Park and Western Regional Office staff. We believe the study is an excellent beginning of an analysis of the long-term future of U.S. Highway 101 through Del Norte County.

However, we believe the route concept study overlooks a realistic alternative and does not adequately analyze the potential impacts of any alternative on park or private lands. Because of the importance of the study as it relates to both the Cushing Creek and Wilson Creek Bluffs projects, we request the opportunity to review and comment on the revised route concept study prior to its approval by Caltrans.

From the earliest stages of the Cushing Creek and Wilson Creek Bluffs realignment projects, the National Park Service has supported and encouraged evaluation of the problems posed in these areas. We recognize the safety considerations that are driving the Cushing Creek project as well as the potential for catastrophic failure in the Wilson Creek Bluffs area. We have fully supported Caltrans efforts to collect the kind of information needed to fully analyze the potential impacts of these projects on all resources of the park and adjacent private lands. However, through experience gained from the U.S. 101 Bypass at Prairie Creek, we also are aware of the impacts resulting from major highway construction.

The Wilson Creek and Cushing Creek projects will involve the irreversible and irretrievable commitment of park and private resources. Thus we think the best possible efforts at analyzing the alternatives for this segment of highway are needed. U.S. Highway 101 has already been relocated twice in this century in the Cushing Creek and Nickel Creek watersheds. We should make certain that this realignment serves all of our

State of California

Memorandum

Date : December 23, 1991

To : Gene ^{Wahl} ~~Wahl~~, Director
CalTrans - District 1
1656 Union Street
Eureka, California 95501

From : Department of Parks and Recreation
Northern Region Headquarters

Subject: Del Norte Route 101 Corridor Study

Thank you for the opportunity to review the first draft of the U.S. Route 101 in Del Norte County Corridor Study. I view this as a very important document that is necessary for our agencies to work together to achieve common goals in Del Norte County.

I am sure many suggestions have been made by all of the agencies involved to improve this important document. I am looking forward to reviewing the next draft when the substantive changes have been made. This document, when completed, will have a bearing on all future decisions concerning Route 101 in Del Norte County. Since many of these decisions will affect Del Norte Coast Redwoods State Park, I am vitally interested in its development.

Thank you again for the opportunity to become part of this process.

for Theodore H. Chavez
for Carl S. Chavez
Director

cc: Bill Beat, Superintendent
Klamath District

RELLIM REDWOOD CO.

Forest Operators

P O BOX 247 / CRESCENT CITY CALIFORNIA 95531 / PHONE 707 464-3144

FAX 707/464/5738

December 16, 1991

Mr. Terry A. Davis
Project Development Team Leader
Department of Transportation
P. O. Box 3700
Eureka, California 95502-3700

Dear Mr. Davis:

We appreciate the opportunity to comment on the draft Route 101 Corridor Study and offer the following comments:

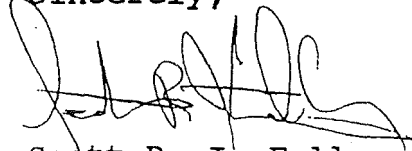
The draft document in and of itself provides a significant amount of information about Route 101 and its alternatives; however, the document does not go far enough. There is still a need to address the short term, long term effects of social, political, economic, and environmental change that may be introduced by any change in alignment of Route 101.

The study was somewhat difficult to understand with no standards and objectives for concept levels of service A-F to evaluate effects of alternatives with each other.

The current alignment has potential for modifications to provide service within the concept level approach. The comparison is made difficult when the status of existing trees within the undefined R/W is unknown. Do the existing trees come under the requirements of section 4(F) of the Department of Transportation Act of 1966 (49 USC 303)?

The draft corridor study document does not provide enough information to make an informed decision on the future of Route 101. A more detailed analysis needs to be compiled.

Sincerely,



Scott R. J. Feller
Resource Manager

SF/cw



