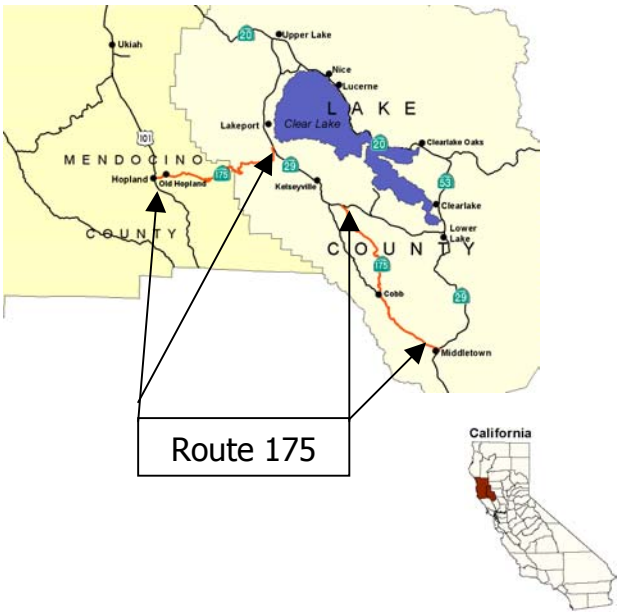
ROUTE CONCEPT REPORT



ROUTE 175 CORRIDOR

01-MEN-175-KP 0.0/15.9 (PM 0.0/9.9)
01-LAK-175-KP 0.0/45.1 (PM 0.0/28.0)

All information in this Route Concept Report is subject to change as conditions change and new information is obtained.

I approve this Route Concept Report as an analysis and conceptual long-range guide for Caltrans, our Regional Transportation Planning Partners, local entities, and the public.

Approval Recommended:

CHARLIE FIELDER Date
Deputy District Director
Program/Project Management

Approval Recommended:

CHERYL S. WILLIS Date
Deputy District Director
Planning

Approved:

RICK KNAPP Date
District Director
District 1

JANUARY 2002

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ROUTE CONCEPT REPORT

Statement of Planning Intent

The Route Concept Report (RCR) is a planning document which describes the Department's conceptual improvement options for a given transportation route or corridor. Considering reasonable financial constraints and projected travel demand over a 20-year planning period, the RCR considers transportation facility needs for each route or corridor. The RCR is a tool for implementing interregional and statewide continuity of the State's transportation network, and will be updated as needed as conditions change, or new information is obtained.

Purpose of the Route Concept Report

The objective of the RCR is to have local, regional, and state consensus on route or corridor concepts, improvement goals, and strategies. This document provides concept information only and does not determine policy nor establish a course of action. Route Concept Reports are prepared by District staff in cooperation with local and regional agencies.

Assumptions

The following assumptions form the basis for the development of Route Concept Reports:

1. The relative importance of State highways in the District is generally based on functional classification. In general, higher priority is given to major improvements on principal arterial routes as compared to minor arterials and collectors.

2. State highways with improvement concepts must have realistic concept levels of service. Concept levels of service are not established on State highways that will only be maintained (since improvements would not be made to address level of service concerns).

3. Levels of service calculations are based on the 1997 Highway Capacity Manual (see Appendix A).

4. Determinations of future level of service for State highways in District 1 are based in part upon Statewide and Regional forecasts of State highway travel developed by the Department.

5. Route concepts apply generally to an entire route or corridor, unless there are overriding considerations (e.g. a major change in function along the route or feasibility concerns).

6. Major projects will be developed to meet design standards acceptable to the Federal Highway Administration in order to receive Federal funding for projects. Otherwise, a "design exception" must be secured during the project development process.

7. Safety projects will be pursued on an on-going basis in order to be responsive to safety concerns as they are identified.

8. No planned or programmed improvements were assumed to be complete in analyzing present and future operating conditions. The Route Concept Report details programmed improvements in the 2000 STIP.

9. Environmental documents are not required for Route Concept Reports. Individual improvement projects identified in Route Concept Reports will follow established environmental processes when development is proposed as required by law.

ROUTE CONCEPT REPORT

ROUTE 175

01-MEN-175-KP 0.0/15.9 (PM 0.0/9.9)
01-LAK-175-KP 0.0/45.1 (PM 0.0/28.0)

I. ROUTE CONCEPT AND RATIONALE

FACILITY CONCEPT

Route 175 should remain a 2-lane conventional highway on its existing alignment.

The Rural Minor Arterial portion of Route 175 between Route 101 at the community of Hopland and Route 29 south of the City of Lakeport is the shortest route between Route 101 and Lake County. The kilometer post description of this portion of the Route is: 01-MEN-175-KP 0.0/15.9 (PM 0.0/9.9) and 01-LAK-175-KP 0.0/R13.2 (PM 0.0/R8.2). It serves the small farming and tourist oriented community of Hopland and the small farming community of Old Hopland, local traffic near the City of Lakeport, and through traffic between Routes 101 and 29.

The Rural Major Collector portion of Route 175 (between south of the community of Kelseyville and Bottle Rock Road in the community of Cobb) primarily serves local traffic and the recreational traffic of the Cobb Mountain Resort communities. Larger volumes of traffic use Bottle Rock Road for similar trips in this area, as it generally has better alignment. The kilometer post description of this portion of the Route is: 01-LAK-175-KP 13.4/31.5 (PM 8.3/19.6).

The Rural Minor Arterial portion of Route 175 between the community of Cobb and Route 29 at the community of Middletown serves local traffic in the Cobb area, and through trips between Middletown and Kelseyville (via both 175 and Bottle Rock Road). The kilometer post description of this portion of the Route is: 01-LAK-175-KP 31.5/45.1 (PM 19.6/28.0).

While Route 175 is important to the area, it cannot effectively compete for capacity improvement funds with other more important Routes in the District (generally Rural Principal Arterials).

LEVEL OF SERVICE CONCEPT

No level of service concept has been selected for Route 175.

Route 175 currently operates at a "C" to "D" level of service during peak hour periods. With projected traffic increases, level of service on the Route is expected to deteriorate to "D" or "E" by the year 2020. No improvements are planned to address level of service reductions.

ROUTE CONCEPT FUNCTION

This Route Concept should serve as a guide for long range planning for Route 175. It will protect the state's investment in this Route, while recognizing financial constraints, which will not allow the programming of extensive improvements for all highways.

II. ROUTE MANAGEMENT STRATEGIES

REHABILITATION STRATEGY

Route 175 should be maintained as necessary.

Based on functional classification, traffic volumes, and maintenance service levels, Route 175 in District 1 should be maintained as necessary, at its present width and on existing alignment.

The minor arterial portions should be rehabilitated as necessary. The minor arterial portions include segments 1 and 2 from Route 101 at the community of Hopland to Route 29 near the City of Lakeport, and segment 3 from the community of Cobb to Route 29 at the community of Middletown.

The Rural Major Collector portion of the Route (Segment 3, between Route 29 near the community of Kelseyville and the community of Cobb) should be rehabilitated on an exception basis, and only when maintaining the facility would be less cost effective than rehabilitating it.

Current rehabilitation standards (3-R) in the Department's Highway Design Manual indicate that Route 175 is wide enough to permit rehabilitation at present width over most segments with rehabilitation concepts. Widening segments that do not meet "3-R" standards may not be prudent for the following reasons:

1. Costs to widen narrow sections would be inordinately high because of rugged terrain (particularly in the Mayacmas Mountains, on the segments between the community of Hopland and the City of Lakeport).

2. Existing vertical and horizontal alignment does not meet current standards. Widening without improving alignment could result in collision concerns. If the pavement is wide,

the general expectation is that highway alignment will be good (e.g., no short radius curves and good sight distance).

3. Environmental impacts could be significant. Widening could impact biological, historic, or archeological resources.

4. Committing extensive funds for widening in conjunction with correcting pavement deficiencies would divert funds from higher priority improvements on other Routes.

SAFETY AND OPERATIONAL IMPROVEMENT STRATEGY

Three of the four segments (all but segment 4, from the community of Cobb to the community of Middletown (LAK-175-KP 31.5/45.1 or PM19.6/28.0) of Route 175 have collision rates greater than 1.5 times (150% of) the statewide average, based on similar facilities. The District has an established collision surveillance and monitoring program, which identifies locations with collision concerns and recommends safety improvements when warranted. **Safety improvements at spot locations will be considered as necessary.**

In the late 1980's, Caltrans barrier striped two-lane highways to comply with Federally mandated standards. This reduced the number of passing opportunities (and the level of service) on most two-lane State highways, including Route 175. The barrier striping effects on Route 175 can be mitigated by the construction of turnouts along the Route.

Bridge replacement and storm damage projects will also be considered as necessary, and operational improvement projects will be considered on an exception basis. These projects, in addition to safety projects, should be constructed to appropriate State and/or Federal standards. It is anticipated that the effects of barrier striping can additionally be mitigated by the construction of additional "turnouts" on Route 175.

GOODS MOVEMENT STRATEGY

Route 175 primarily serves local traffic, with generally low truck volumes. Through trips with large trucks (California legal length - 40 feet kingpin to rear axle) are prohibited on the rural minor arterial segment from Route 101 at the community of Hopland to Route 29 south of the City of Lakeport. Upgrading these segments to accommodate large trucks would be very expensive, due to the rugged terrain. No goods movement improvement projects are planned for Route 175 at this time.

NON-MOTORIZED FACILITIES STRATEGY

Route 175 experiences generally low volumes of non-motorized traffic, concentrated around the communities of Hopland, Old Hopland, Cobb, and Middletown, and the segment near the City of Lakeport. While no bicycle or pedestrian improvements are planned for Route 175 at this time, Department staff will work with the Regional Transportation Planning

Agencies in Mendocino and Lake Counties to implement high priority non-motorized improvements as they are identified.

CORRIDOR PRESERVATION STRATEGY

It is anticipated that Route 175 will remain as it exists (a 2-lane conventional highway). No substantial long-term right of way needs are anticipated.

III. ALTERNATIVE CONCEPTS CONSIDERED

No alternative concepts were considered for Route 175 in District 1.

IV. ROUTE ANALYSIS

DESCRIPTION

Route 175 in District 1 begins at Route 101 within the community of Hopland in Mendocino County. It proceeds easterly, traversing the Maycamas Mountains, to Route 29 near the City of Lakeport in Lake County. This segment is approximately 29 kilometers (18 miles) in length, and has a kilometer post description of: MEN-175-KP 0.0/15.9 (PM 0.0/9.9) and LAK-175-KP 0.0/R13.2 (PM 0.0/R8.2). This section includes segments 1 and 2 in Table 1, Route 175 Segmentation, on the following page.

The easterly section of Route 175 begins at Route 29, just south of the community of Kelseyville, in Lake County, and extends southeasterly to Route 29 at the community of Middletown. It is approximately 32 kilometers (20 miles) in length, and has a kilometer post description of: LAK-175-KP 13.4/45.1 (PM 8.3/28.0). This section includes segments 3 and 4 in Table 1, Route 175 Segmentation, on the following page.

ROUTE PURPOSE

The Rural Minor Arterial portion of Route 175 between Route 101 at the community of Hopland and Route 29 south of the City of Lakeport is the shortest route between Route 101 and Lake County. It serves the small farming and tourist oriented community of Hopland and the small farming community of Old Hopland, some local traffic near the City of Lakeport, and through traffic between Routes 101 and 29. Greater volumes of traffic would use this portion of Route 175 if it were constructed to modern standards. Upgrading this Route to modern standards would be very expensive, due to the rugged and potentially unstable terrain it traverses (the Maycamas Mountains).

The Rural Major Collector portion of Route 175, between Route 175 south of the community of Kelseyville, and Bottle Rock Road in the community of Cobb primarily serves local traffic and the recreational traffic of the Cobb Mountain Resort communities. Larger volumes of traffic use Bottle Rock Road for similar trips in this area, as it generally has better alignment.

ROUTE 175 RCR

The Rural Minor Arterial portion of Route 175 between the community of Cobb and Route 29 at the community of Middletown serves local and recreational traffic in the Cobb area, and through trips between Middletown and Kelseyville (via both Route 175 and Bottle Rock Road). It also serves geothermal energy generation related activities in this area.

ROUTE SEGMENTATION

Table I below shows the segmentation of Route 175 for System Planning purposes:

TABLE 1
ROUTE 175 SEGMENTATION

SEG #	HUM 175		DESCRIPTION
	KP	PM	
1	0.0/15.9	0.0/9.9	Route 101 to MEN/LAK County Line
2	0.0/13.2	0.0/R8.2	MEN/LAK County Line to Route 29 South of the City of Lakeport
3	13.4/31.5	8.3/19.6	Route 29 South of the community of Kelseyville to the community of Cobb
4	31.5/45.1	19.6/28.0	From the community of Cobb to Route 29 in the community of Middletown

LAND USE

Land use around Route 175 is primarily open space and agricultural. Residential land use is concentrated in and near the communities along the route, and near the City of Lakeport. Much of the commercial land use is in the Cobb Mountain area, and is visitor serving commercial. The area east of Old Hopland may be expected to develop to increased densities in the future.

EXISTING FACILITIES

Table 2 below summarizes existing facility characteristics for the Route 175 corridor in District 1.

TABLE 2
EXISTING FACILITY CHARACTERISTICS
ROUTE 175

SEG #	HUM 175		DESCRIPTION	EXISITNG FACILITY
	KP	PM		
1	0.0/15.9	0.0/9.9	Route 101 to MEN/LAK County Line	2-lane conventional
2	0.0/13.2	0.0/R8.2	MEN/LAK County Line to Route 29 South of the City of Lakeport	2-lane conventional
3	13.4/31.5	8.3/19.6	Route 29 South of the community of Kelseyville to the community of Cobb	2-lane conventional

4	31.5/45.1	19.6/28.0	From the community of Cobb to Route 29 in the community of Middletown	2-lane conventional

EXISTING FACILITY CHARACTERISTICS (cont.)

Functional Classification	Rural Major Collector (Segment 3, South of the community of Kelseyville to the Community of Cobb) Rural Minor Arterial (all other Segments)
Eligible for Federal Funding	Yes
Freeway and Expressway System:	No
Eligible for Scenic Highway Designation:	No
Subsystem of Highways for Extra Legal Loads (SHELL)	No
Surface Transportation Assistance Act (STAA) Trucks Allowed:	No
Strategic Highway Network:	No
National Highway System:	No
Interregional Road System:	No
Public Airports Served:	None
Rail Service	None
Intercity Bus Service:	None
Intersecting State Highway Routes:	101, 29
Park and Ride Lot	Near the Route 29/175 junction

OPERATING CONDITIONS

Present and future operating conditions, including traffic volume ranges, level of service, and volume to capacity ratios for both existing and anticipated future conditions for Route 175 are shown on Map 1 on the following page. Further information regarding specific operating and geometric conditions may be found in the Department's source documents (e.g., the State Highway Inventory, the State Highway Log, and Traffic Volumes on California state Highways, etc.)

MAP 1
PRESENT AND FUTURE OPERATING CONDITIONS
ROUTE 175

ROUTE 175 RCR

MEN-175	**LAK-175**	**LAK-175**	**LAK-175**
KP 0.0/15.9	KP 0.0/R13.2	KP 13.4/31.5	KP 31.5/45.1
PM 0.0/9.9	PM 0.0/R8.2	PM 8.3/19.6	PM 19.6/28.0
Terrain: Mountainous	Terrain: Mountainous	Terrain: Mountainous	Terrain: Mountainous
Gradeline: Mountainous	Gradeline: Mountainous	Gradeline: Mountainous	Gradeline: Rolling
Existing (2000)	**Existing (2000)**	**Existing (2000)**	**Existing (2000)**
2-Lane Conventional	2-Lane Conventional	2-Lane Conventional	2-Lane Conventional
5.5-8.5m or 18'-28' pvd	6.1-12.2m or 20'-40' pvd	6.1-11.0m or 20'-36' pvd	6.7-12.2m or 22'-40' pvd
1100-2500 AADT	1100-1700 AADT	610-3150 AADT	2100-2650 AADT
"D" LOS	"D" LOS	"D" LOS	"C" LOS
V/C = .30	V/C = .20	V/C = .26	V/C = .19
Collision Rate: Over 1.5 times Statewide avg.	Collision Rate: Over 1.5 times Statewide avg.	Collision Rate: Over 1.5 times Statewide avg.	Collision Rate: Less than 1.5 times Statewide avg.
Future (2020)	**Future (2020)**	**Future (2020)**	**Future (2020)**
1950-4450 AADT	1950-3000 AADT	1150-5900 AADT	3950–5000 AADT
"E" LOS	"D" LOS	"E" LOS	"D" LOS
V/C = .50	V/C = .33	V/C = .42	V/C = .31

PROGRAMMED IMPROVEMENTS

While there are no improvements to Route 175 programmed in the 2000 State Transportation Improvement Program, the Hopland bypass project on Route 101 may include an interchange at Route 175. The 2000 State Highway Operation and Protection Program includes one roadway rehabilitation project on Route 175 in Lake County, with an estimated construction cost of $1.4 million.

V. ENVIRONMENTAL CONSIDERATIONS

The primary environmental considerations for this Route are rare and sensitive plant species, water quality, and archaeological sensitivity (particularly on the segments between the communities of Kelseyville and Middletown).

VI. REGIONAL TRANSPORTATION PLANNING

Both the Mendocino Regional Transportation Plan and the Lake County Regional Transportation Plan include information regarding Route 175. No improvements on the Route are identified in these documents, however it is noted that envisioned Highway 29 realignments would improve two intersections with Route 175: near Lakeport and at the Cobb Junction. The Lake County Regional Transportation Plan notes that safety and operational improvements may be warranted, particularly on the westerly segments.

VII. AREAS OF CONCERN

The following criteria are used to identify areas of concern on Route 175, based on an analysis of level of service and collision history:

1. A segment is considered to be a "level of service concern" if the concept level of service (LOS) will not be achieved under present or future traffic conditions, or the segment operates at capacity during peak hour.

2. A segment is considered to be a "safety concern" if the total collision rate for a five year period for that segment exceeds one and one-half times the Statewide average for similar facilities.

Based on these criteria, three segments have been identified as "safety concerns" on Route 175 in District 1, as follows:

- Segment 1, MEN-175-KP 0.0/15.9 or PM 0.0/9.9 (165% of the Statewide avg.)
- Segment 2, LAK-175-KP 0.0/R13.2 or PM 0.0/R8.2 (195% of the Statewide avg.)
- Segment 3, LAK-175-KP 13.4/31.5 or PM 8.3/19.6 (156% of the Statewide avg.)

The District has an established collision surveillance and monitoring process, which investigates and recommends safety improvements for specific locations with historic collision concerns as they are identified.

VIII. IMPROVEMENTS NECESSARY TO ACHIEVE THE ROUTE CONCEPT

Consistent with the Route Concept of maintain as necessary, no new facility improvements will be required. Safety improvements should be made as necessary and operational improvements should be considered as necessary on the rural minor arterial segments, and on an exception basis for the rural major collector segments.

IX. TRANSIT AND HIGH OCCUPANCY VEHICLE (HOV) CONSIDERATIONS

Route 175 is not served by bus transit. A State-owned park and ride lot is located adjacent to Route 29, near the intersection of Routes 29 and 175. Historically, this park and ride lot has experienced relatively light use.

X. ACCESS MANAGEMENT

Access management involves managing where vehicles are allowed to enter the highway to improve highway operations and reduce collisions. Access management concerns are minimal over most of the Route due to low development densities and low traffic volumes. Access management techniques may be feasible for Route 175 near the City of Lakeport, and in the vicinity of the communities of Old Hopland, Cobb, and Middletown.

XI. ADOPTIONS, RESCISSIONS AND RELINQUISHMENTS

ROUTE 175 RCR

New or changed highway routings generally require adopting a new route and rescinding the previously adopted route. The Route may also be relinquished to a city, county or other public entity.

No significant adoptions, rescissions, or relinquishments are anticipated on Route 175 in District 1.

ROUTE 175 RCR

APPENDIX A

Level of Service (LOS)

LOS		Description of Typical Traffic Conditions	Delay	Service Rating
A		Highest quality of service. Free traffic flow, low volumes and densities. Little or no restriction on maneuverability or speed, and a high level or comfort and convenience.	None	Excellent
B		Stable traffic flow – speed becoming slightly restricted. the presence of others in the traffic stream begins to be noticeable. Low resistance on maneuverability.	None	Very Good
C		Stable traffic flow, but less freedom to select speed, change lanes or pass. Comfort and convenience Decreasing as density	Minimal	Good
D		Approaching unstable flow. Speeds tolerable, but subject to sudden and considerable variation. Reduced maneuverability, driver comfort and convenience.	Minimal	Adequate
E		Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability and low driver comfort and convenience.	Significant	Fair
F		Forced traffic flow. Speed and flow may drop to zero with high densities. Queues tend to form behind such locations since arrival flows exceed traffic discharges.	Considerable	Poor