

SUMMARYROUTE CONCEPT REPORT
ROUTE 116

(04-Son-116 PM 0.00 to 46.76)

This report defines the concept for development of Route 116 in District 4 for a 20-year planning period (1985-2005).

Segment A: Son 0.00 to 26.73 2-lane conventional C-40

Segment B: Son 26.73 to 35.03 4-lane divided C-45

Break in Route: See Route 101 Concept Report

Segment C: Son 35.04 to 39.29 4-lane divided C-45

Son 39.29 to 46.76 2-lane conventional C-45

CONCEPT RATIONALE

Route 116 is a recreational, commuter and commercial route. It can be broken into two distinct sections that are separated by 9 miles of the Route 101 freeway system.

The northern section provides access to the Russian River recreational area and is the major transportation route into Sebastopol from the surrounding small communities. It also acts as a collector for the Sebastopol/Santa Rosa corridor (Route 12). The southern section of Route 116 is the main transportation corridor between Sonoma and Petaluma/Route 101 and has a high percentage of truck traffic.

AREAS OF CONCERN

The steady commercial/industrial growth in the Santa Rosa/Rohnert Park area during the next 20 years may tax the surrounding highways beyond their present capabilities. This may be particularly true of Route 116 from Sebastopol to Route 101 as more people move into the Sebastopol area and begin commuting to the industrially expanding Rohnert Park/Cotati area.

The first two segments (PM 0.00 to 35.03) have an accident rate significantly higher than the state average (see Exhibit D).

IMPROVEMENTS

Install traffic signals between PM 0.00 and PM 26.73 at critical locations, and between PM 34.92 and 35.03 at three locations.

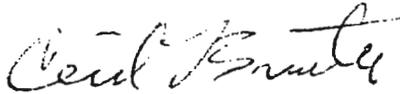
Widen from 2 to 4 lanes from Sebastopol to Route 101 (PM 26.73 to PM 35.03) and from Route 101 to Lakeville Road (PM 35.04 to 39.29).

Investigate partial route relocation from PM 14.05 east along River Road, and from PM 39.29 southeast along Lakeville Road.

ROUTE CONCEPT REPORT

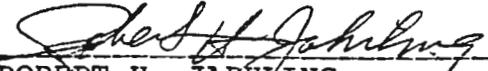
ROUTE 116

Prepared under the direction of:



CECIL L. SMITH, Chief
Transportation Planning, District 4

Recommended Approval:



ROBERT H. JARHLING
Deputy District Director
Planning and Programming

I approve this Route Concept Report as the guide toward which today's decisions and/or recommendations should be directed.

Approved:



BURCH C. BACHTOLD
District Director of Transportation

Approved:

D. L. WIEMAN, Chief
Division of Transportation
Planning

Approved:

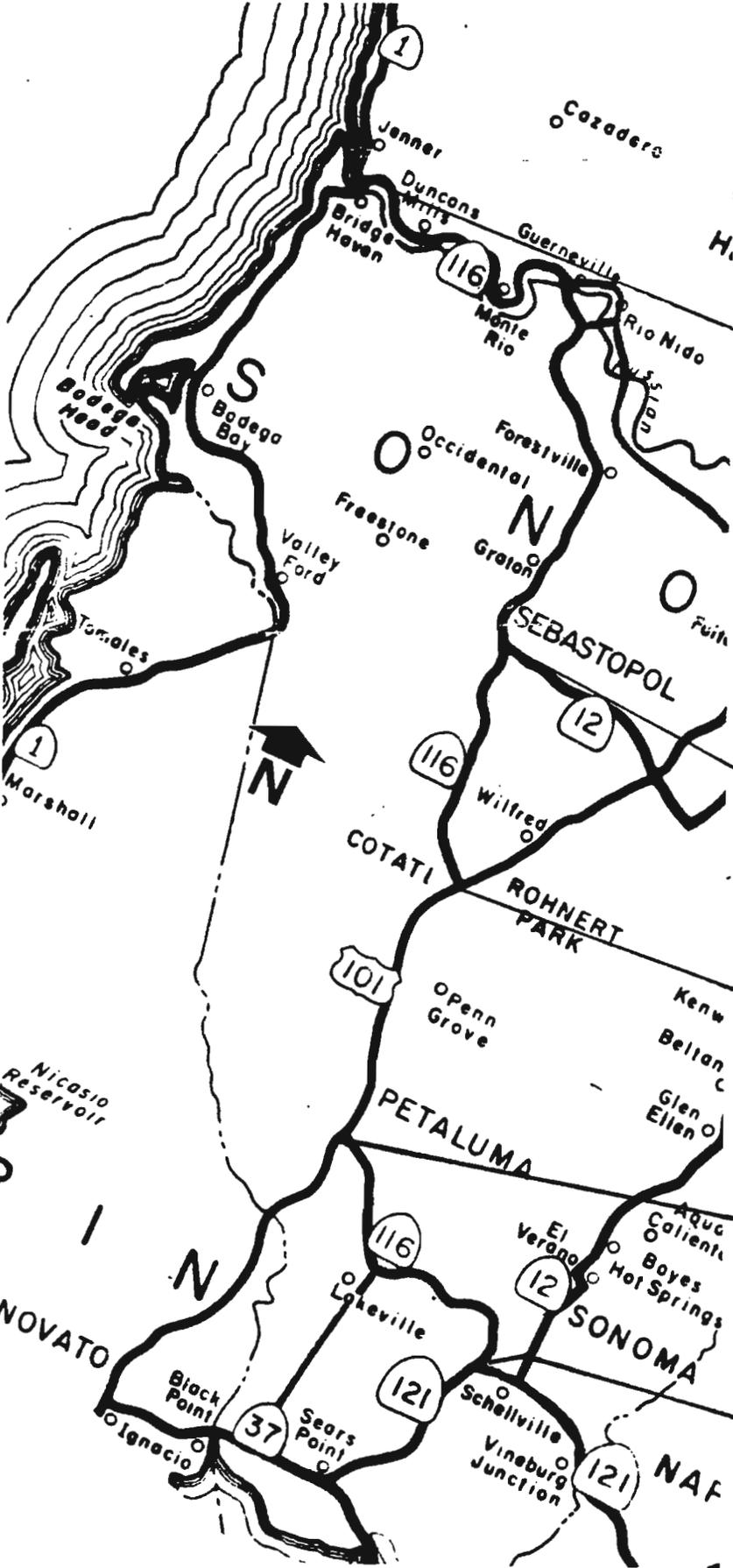
DONALD L. WATSON, Chief
Division of Highways and
Programming

Approved:

JACK KASSEL, Chief
Division of Project
Development

LOCATION MAP

Route 116



SON 0.00	A
SON 26.73	
SON 35.03	B
BREAK IN ROUTE	C
SON 35.04	
SON 46.76	

1. Route Description

Route 116 is approximately 46 miles long and is contained entirely within the County of Sonoma. It begins at Route 1 near Jenner and runs northeasterly to Guerneville. From Guerneville, Route 116 runs southeasterly via Forestville and Sebastopol to the northern 101/116 junction at Cotati where there is a break in the route. It resumes approximately 9 miles to the south at Petaluma, at the southern 101/116 junction. Route 116 then proceeds easterly to the 121/116 junction near Schellville.

The legislative description is as follows:

Route 116 is from:

- a. Route 1 near Jenner to Route 101 near Cotati.
- b. Route 101 near Petaluma to Route 121 near Schellville.

Route 116 is part of the State Freeway and Expressway system:

- (a) From Route 181 near Forestville to Route 101 near Cotati.
- (b) Route 101 near Petaluma to Route 121 near Schellville.

Route 116 is a part of the State Scenic Highway System from Route 101 near Cotati to Route 1 near Jenner.

The break in Route 116 will be discussed in the Route 101 Route Concept Report.

Route 116 is part of the Federal Aid Primary System. It is functionally classified as a rural minor arterial.

2. Purpose of Route

The northern section of Route 116 is primarily a recreational and commuter route. The commuter traffic is heaviest between Forestville and Cotati. As would be expected, that part of the route above Forestville has heavier traffic on the weekends as people travel to the river and the coast.

The southern section of Route 116 is used mainly by commuter and commercial truck traffic with some recreational traffic due to the nearby Sonoma and Napa wine regions.

3. Route Segments

A. Segment A (04-Son-116 PM 0.00-26.73)

This segment of Route 116 begins at Route 1 near the coast and winds its way inland paralleling the Russian River. At Guerneville, it leaves the river and heads south into Sebastopol where the segment ends at the Route 12/116 junction. The development adjacent to the route is characterized by small communities that are scattered along the highway and nestled in the surrounding hills. The traffic is largely recreational and commuter. Sonoma County has suggested further study on relocation of the route from Guerneville to Sebastopol along River Road from Guerneville to Route 101 because of congestion on Routes 116 and 12 through the city of Sebastopol; relocation along the adopted Route 181 corridor from Forestville to Route 101 could also be evaluated.

(1) Existing Facilities

(a) Highway Facility

This segment of Route 116 is a narrow 2 lane highway except from PM 26.49 to PM 26.80 where the road is expanded to 3 lanes. The shoulders along the segment range from 0 to 8 feet. The segment traverses rolling and flat terrain with a 0-6% grade.

(b) 1984 STIP Projects

FY 84-85
PM 6.3 Install horizontal drains
PM 12.1/17.3 Roadway reconstruction

FY 85-86
PM 1.1/3.5 AC Overlay

FY 86-87
PM 8.0/11.8 Roadway reconstruction

FY 88/89
PM 12.1/12.7 Bridge replacement

(c) Public Transit

At the present time, Sonoma County Transit has a bus service that runs between Santa Rosa and Occidental, stopping in Sebastopol and other communities along Route 116. There is also Sebastopol Transit Service that caters solely to downtown Sebastopol and the very immediate area. Paratransit services are available, generally on a demand-response basis, throughout this segment, serving the elderly and handicapped.

(d) Bicycle

There are presently no bike paths in Sebastopol or along any other part of this segment. As the shoulder is 4-8 feet along most of the route, a bike path would be a practical and economical solution to part of the growing traffic problems in the Sebastopol area. This is also in agreement with the Sonoma County General Plan which highly promotes the use of the bicycle as an effective daily transportation vehicle. The Sebastopol General Plan also advocates a system of bicycle paths for the entire Sebastopol planning area, including along Route 116 and Route 12 within the city limits.

For other proposals, see the Route 12 Route Concept Report.

(e) Park and Ride

There are no facilities along this segment of Route 116 and none are presently planned.

(f) Rail

There is no rail system at this time. A study has been completed regarding the rail right-of-way between Santa Rosa, Sebastopol and Graton to evaluate the possibilities of using that corridor for light rail commuter services, tourist railway or freight railway. Other alternatives for the rail corridor would be for bicycle/pedestrian/equestrian trails. See the Route 12 Route Concept Report for more information.

2. Current Operating Conditions

This segment is basically used by recreational travelers and commuters. The commute traffic occurs during the week and is relatively light, whereas the recreational traffic on the weekend can be very heavy throughout the entire segment and is common throughout most of the year.

The 1982 weekday AADT ranges from 2,000 east of the Russian River (PM 12.10) to 18,000 west of Route 12 (PM 26.73). Eastbound AM peak hour traffic ranges from 100 to 1,000 and westbound traffic ranges from 200 to 800. The V/C and LOS are 0.13 and A-45 at the coast (PM 0.00), and 0.53 and B-45 west of Healdsburg Avenue (PM 26.51).

3. Accident Rate (1/81-12/83)

There were a total of 607 accidents, 11 causing fatalities and 283 causing injury. This resulted in 12 deaths and 432 injuries. The peak accident hours occurred between 3:00 PM and 7:00 AM, accounting for 37% of the total number of accidents. The accident rate is constant over the week with a 2-5% increase on the weekends. The fatality rate is 0.067/MVM and the total accident rate is 3.73/MVM; the latter exceeds the statewide average by 43.5%.

Replacing the Russian River Bridge (FY 88/89) and improving portions of this segment by widening and realignment should reduce the high accident rate to a more reasonable level. Installing traffic signals at critical locations would also contribute enormously toward making this route a safer highway.

4. Future Operating Conditions

The projected 1995 (2005) AADT ranges from 3,000 (3,000) at the coast (PM 0.00) to 26,000 (29,000) west of the 116/12 junction (PM 26.73). Eastbound AM peak hour traffic ranges from 100 (200) at the coast to 1,400 (1,800) east of Healdsburg Avenue. Westbound AM peak hour traffic ranges from 300 (400) to 1,100 (1,400) vehicles at those same locations. The D/C and LOS are 0.20 (0.27) and A-45 (A-45) at the coast and 0.73 (0.93) and C-40 (E-25) west of Healdsburg Avenue.

Peak hour traffic projections for 2005 from Monte Rio to Guerneville, and from Forestville to Sebastopol, indicate possible problems of congestion on this 2-lane, often narrow, road. Since no capacity improvements are currently planned in this segment, other measures to alleviate problems will need to be proposed. Realignment along River Road or Route 181 corridor are possible considerations for Sebastopol. Other measures such as passing and turn lanes and wider shoulders could also be considered.

The City of Sebastopol has recently been reviewing different alternatives to their growing congestion problems in the downtown area. The alternatives were a north-south couplet (See Exhibit E), a northeast bypass from High School Road to Route 12, a southeast bypass from Route 116 to Route 12, and various combinations of all of the above. It was determined that the couplet was the most practical solution for the present time, and will be installed in 1984-85. The traffic projections for the current and future operating conditions were based on the assumption that this couplet is already in operation.

If the Santa Rosa and Rohnert Park/Cotati area expand as expected, by the year 2005 it may be necessary to review additional alternatives. Since 1980, Santa Rosa has been one of the fastest growing cities of its size in the region.

5. Route Concept

Maintain the existing two lane conventional highway.

6. Improvements

Install traffic signals at critical locations. Provide bicycle lanes from Mirabel Road (PM 19.39) to Sebastopol (PM 26.73). Investigate partial relocation along River Road from Guerneville to Route 101, or along the Route 181 corridor.

B. Segment B (04-Son-116 PM 26.73 to 35.03)

This segment of Route 116 begins at the City of Sebastopol and ends at the northern 101/116 junction. Small businesses are located along the route with most of the surrounding land used for agriculture and single family residences. Peak hour traffic is mainly due to commuters, and some recreational traffic. The areas of Rohnert Park and Cotati are growing rapidly. A sharp increase in commuters from Sebastopol can be expected as these areas continue to develop.

1. Existing Facilities

(a) Highway Facility

There is one lane in each direction with 0 to 8 feet shoulders. There is a passing lane PM 32.77 to 33.16. The segment runs through mostly flat terrain with a grade of 3% or less.

(b) 1984 STIP Projects

FY 84/85

PM 26.5/27.5 Signals, lighting, restriping,
and signs.

(c) Public Transit

The Sonoma County Transit offers bus service between Sebastopol and Cotati via Route 116 two times each way in the morning and two times each way in the evening. Paratransit services for the elderly and handicapped are provided by several agencies to residents in Sebastopol and surrounding communities.

(d) Bicycle

A bike path exists on the Redwood Highway that extends onto Route 116 for about a mile past the 101/116 junction. This is the only bikeway at the present time and no others are planned. Should a path or bike lane be proposed, there should be no difficulty in construction as there appears to be ample room on both sides of the route.

(e) Park and Ride

There is one state-owned facility located at the northern 101/116 junction with approximately 186 spaces. No others have been proposed.

(f) Rail

See Route 12 Concept Report. If a tourist railroad operation is implemented along the abandoned railway line through Sebastopol, the flow of traffic along Main Street (Rte 116), where the tracks run in the middle of the street, might be severely impacted.

2. Current Operating Conditions

The 1982 weekday AADT ranges from 11,000 west of Lone Pine Road to 16,000 east of Route 12. AM peak hour traffic ranges from 500 to 900 eastbound and from 400 to 800 westbound. The V/C and LOS range from 0.30, A-50 east of the 116/12 intersection to 0.47, B-50 east of Petaluma Avenue. It should be noted that the calculations for V/C and LOS for downtown Sebastopol have been done with the assumption that the north-south couplet complete with signals and all other modifications has already been installed.

3. Accident Rate

There was a total of 351 accidents, 6 causing fatalities and 161 causing injuries. This resulted in 6 deaths and 248 injured. The peak accident hours are between 11:00 AM and 8:00 PM. Friday, Saturday, and Sunday account for 55.7% of the accidents.

The fatality rate is 0.052/MVM and the total accident rate is 3.05/MVM. The latter exceeds the statewide average by 19.6%

4. Future Operating Conditions

The projected 1995 (2005) AADT ranges from 14,000 (15,000) west of Lone Pine Road to 24,000 (27,000) east of the Route 12 junction. The AM peak hour traffic ranges from 700 (900) to 1,200 (1,600) eastbound, and from 500 (700) to 1,100 (1,400) westbound. The D/C ratio and LOS range from 0.40 (0.53) and A-50 (B-50) east of the 116/12 intersection to 0.61 (0.78) and C-40 (C-40) west of the 116/101 junction.

5. Route Concept

A four lane expressway is needed from the 12/116 junction to the northern 101/116 junction, with bike lanes on both sides of the highway.

6. Route Improvement

Widen existing 2 lanes into a four lane expressway with room enough for parallel bike lanes. Add traffic signals at PM 34.92, 34.994, and 35.03. A project to widen to 4 lanes from PM 34.92 to 35.03 is being proposed for the 1985 STIP.

C. Segment C (04-Son-116 PM 35.04 to 46.76)

This segment of Route 116 begins at the southern 101/116 junction and ends at Route 121 near the town of Schellville. From the 101/116 junction to Frates Road, the land north of Route 116 is used for single and multiple family residences. The land south is made up of agriculture and light industrial parks. The rest of the segment is primarily agricultural. Sonoma County has suggested the partial relocation of a portion of this segment along Lakeville Road south to Route 37. The possibility of relocating part of Route 116 along Frates and Adobe Roads had been previously studied; the project is not currently active.

1. Existing Facilities

(a) Highway Facility

There is one lane in each direction with 0 to 8 feet shoulders and no median. The segment runs through rolling terrain with a 3-6% grade.

(b) 1984 STIP Projects

FY 83/84	
PM 36.55	Left turn channelization
FY 84/85	
PM 36.73	Left turn channelization

(c) Public Transit

Sonoma County Transit has nine lines running daily between Petaluma and Sonoma. Five lines run eastward and four westward. Of the nine lines, seven are during commute hours. Several local agencies provide paratransit services to the elderly and handicapped along this segment.

(d) Bicycle

There are no bikeways at this time. See Segment A.

(e) Park and Ride

There are two state-owned facilities; one at the 101/116 (PM 35.04) junction and the other at the 121/116 (PM 46.76) junction. The first has 89 spaces and the latter 47 spaces.

(f) Rail

No rail line parallels this route.

2. Current Operating Conditions

The 1982 AADT range from 1,000 west of Adobe Road, to 15,000 east of the southern 101 junction. The AM peak hour traffic ranges from 100 to 600 eastbound and from 100 to 900 westbound. The V/C and LOS vary from 0.07, A-55 to 0.60, C-40 at the same locations mentioned above.

3. Accident Rate (1/81 - 12/83)

There were a total of 170 accidents, 3 causing fatalities and 72 causing injuries. These resulted in 3 deaths and 114 injuries. Peak accident hours were between 12:00 AM and 6:00 PM, with 58.1% of all accidents occurring on Friday, Saturday and Sunday. The accident report indicates that 41% of the collisions were due to a vehicle hitting some type of object other than another vehicle. The fatality rate is 0.032/MVM and the total accident rate is 1.81/MVM. Both of these are less than the statewide average of 0.071 and 2.07 respectively.

4. Future Operating Conditions

The projected 1995 (2005) AADT ranges from 3,000 (4,000) west of Adobe Road to 21,000 (25,000) east of the southern 101 junction. The AM peak hour traffic ranges from 100 (200) to 800 (1,100) eastbound and from 100 (200) to 1,200 (1,600) westbound. The D/C and LOS range from 0.07 (0.13), A-55 (A-55) to 0.80 (1.07), C-40 (F-15) at the same locations as above.

5. Route Concept

A four lane expressway is needed from the southern 101/116 junction (PM 35.04) to PM 39.29 (Lakeville Road south), with bike lanes on both sides of the highway.

From PM 39.29 to 46.76 the concept is for a 2-lane conventional highway.

6. Route Improvements

Widen existing 2 lanes into a four lane expressway with room for parallel bike lanes from PM 35.04 to PM 39.29. Investigate partial relocation of route to Lakeville Road south to Route 37. Another possible relocation reviewed in 1982 was the realignment of Route 116 along Frates Road and Adobe Road south of Petaluma. This proposal is not currently active.

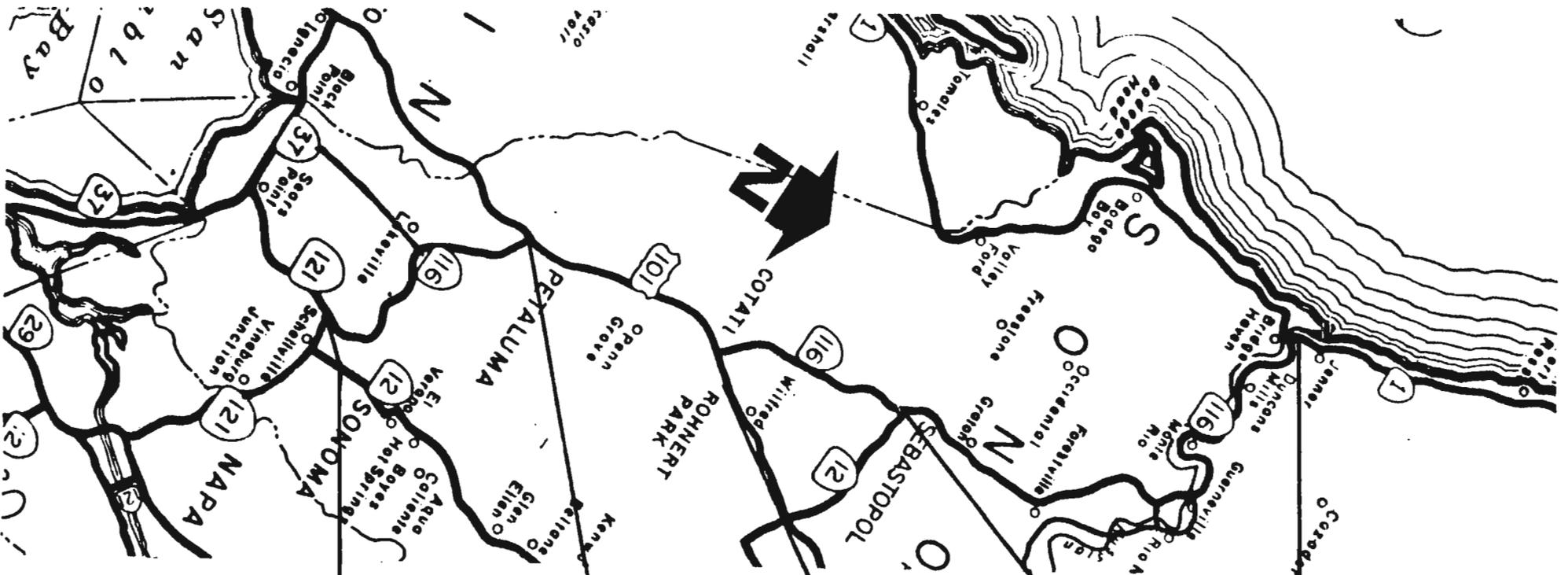


EXHIBIT B

SEGMENT		C SON 46.76	B SON 35.03	A SON 26.73	SON 0.00
AADT. (.000)	1982	1-15	11-16	2-18	
	1995	3-21	14-24	3-26	
	2005	4-25	15-27	3-29	
P.H.V. (00)	1982	1-9	4-8	1-10	
	1995	1-12	7-12	1-14	
	2005	2-16	9-16	2-18	
AVE. HWY SPEED		55	50	45-55	
OPERATING SPEED		28-37	27-33	27-46	
V/C	1982	0.07-0.60	0.30-0.47	0.13-0.53	
	1995	0.07-0.80	0.40-0.61	0.20-0.73	
	2005	0.13-1.07	0.53-0.78	0.27-0.93	
YEAR CAPACITY WILL BE REACHED		—	—	—	

Refer to 101 Route
Concept Report

EXISTING FACILITY (HIGHWAY)

<u>Route Segment</u>	<u>County</u>	<u>From P.M.</u>	<u>To P.M.</u>	<u>Segment Length (Miles)</u>	<u>Traveled Way Width (Feet)</u>	<u>Number of Lanes</u>	<u>Shoulder Width (Feet)</u>	<u>Median Width (Feet)</u>
A	Son	0.00	26.73	26.73	9 to 26	2C	0 to 8	0 to 12
B	Son	26.73	35.03	8.3	10 to 25	2C	0 to 8	0 to 12
SEE ROUTE 101 ROUTE CONCEPT REPORT								
C	Son	35.04	46.76	11.72	9 to 20	2C	0 to 8	0

EXHIBIT D

ROUTE 116 ACCIDENT REPORT (1/81 to 12/83)

Location P.M.	Segment No.	No. of Accidents		Persons Killed	Persons Injured	Accident Rate *		Statewide Rate * °					
		Total	Fatal			Fatal	F+I	Fatal	F+I	Total	Total		
Son 0.00 to 26.73	A	607	11	283	294	12	432	0.067	1.81	3.73	0.070	1.32	2.60
	B	351	6	161	167	6	248	0.052	1.45	3.05	0.059	1.15	2.55

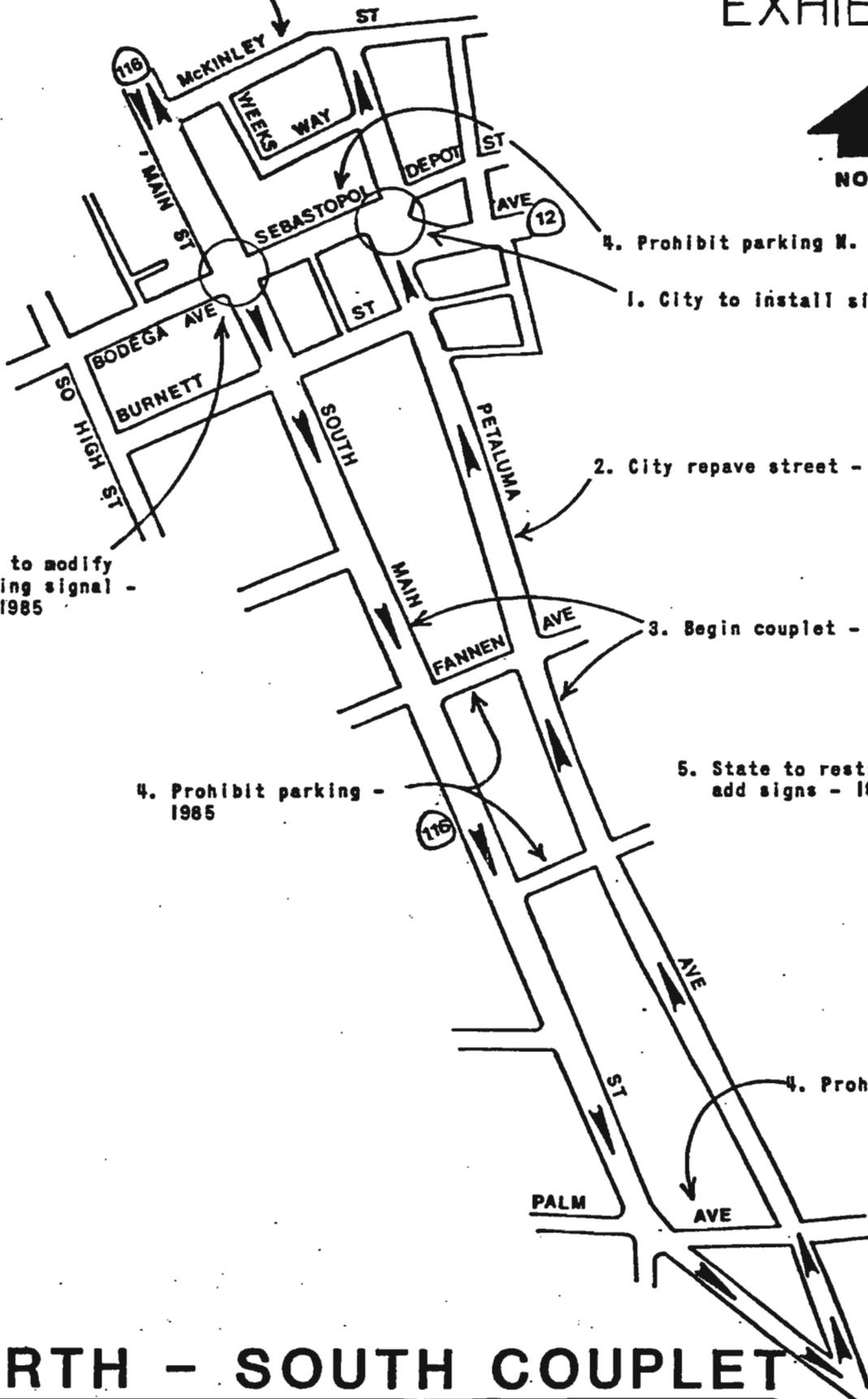
SEE ROUTE 101 ROUTE CONCEPT REPORT

Son 35.04 to 46.76	C	170	3	72	75	3	114	0.032	0.80	1.81	0.071	1.01	2.07
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* Rates are per MVM (Million Vehicle Mile).
 ° Statewide averages for this type of facility in comparable terrain.

2. City repave street 1984

EXHIBIT E



4. Prohibit parking N. side - 1985
1. City to install signal - 1984

2. City repave street - 1984

3. Begin couplet - 1985

4. Prohibit parking - 1985

5. State to restripe and add signs - 1984-1985

4. Prohibit parking - 1985

NORTH - SOUTH COUPLET

1984-1985
ONE-WAY STREET SYSTEM
CITY OF SEBASTOPOLE

Job No. Engr. S-66
July 3, 1984

COMPARISON OF FUTURE LOS WITH ROUTE CONCEPT

SEGMENT	NO. LANES/LOS			ROUTE CONCEPT		NEEDS	
	1982	1995	2005	Proposed Lanes	LOS	Lanes	Target Los
A Son 00.00 to 26.73	2 / A45-B45	2 / A45-C40	2 / A45-E25	2	C-40	4	B-50
B Son 26.73 to 35.03	2 / A50-B50	2 / A50-C40	2 / B50-D35	4	C-45	4	C-45
		SEE ROUTE 101 ROUTE CONCEPT REPORT					
C Son 35.04 to 39.29	2 / C-40	2 / C-40	2 / F10	4	C-45	4	C-45
Son 39.29 to 46.76	2 / A-55	2 / A-55	2 / A-55	2	B-55	2	B-55

EXHIBIT G

1983/4 Route Concept Study Route 116 - Sheet 1 of 4		Truck %		1982						1995						2005											
CO	POST MILE	DESCRIPTION	AA	PK	HR	AAADT	AM	PK	NO	V/C	L	L	AAADT	AM	PK	NO	V/C	L	L	AAADT	AM	PK	NO	V/C	L	L	
			DT				AH	BK	L		O	S	N	AH	BK	L		O	S	N	AH	BK	L		O	S	N
Son	0.00	Jct Rte 1 Jenner	5	4	3		2	2	1	0.13	A	1	3	3	3	1	0.20	A	1	3	4	4	1	0.27	A	1	
Son	4.93	Austin Creek																									
Son	7.78	Monte Rio Rd	5	4	4		4	3	1	0.27	A	1	6	5	4	1	0.27	A	1	8	7	5	1	0.47	B	1	
			2	2	7		5	4	1	0.33	A	1	10	7	5	1	0.47	B	1	12	9	7	1	0.60	C	2	
Son	11.16	Guernewood Park	2	2	9		6	4	1	0.40	A	1	11	8	5	1	0.53	B	1	14	11	7	1	0.73	C	2	
Son	12.08	Armstrong Woods	2	2	5		3	2	1	0.20	A	1	8	4	3	1	0.27	A	1	10	5	4	1	0.27	A	1	
Son	12.10	Russian River Br	5	4	2		1	2	1	0.13	A	1	3	1	3	1	0.20	A	1	3	2	4	1	0.27	A	1	
Son	14.05	Santa Nella Winery Road	5	4	3		1	2	1	0.13	A	1	5	1	3	1	0.20	A	1	5	2	4	1	0.27	A	1	
Son	19.39	Mirabel Road	7	5	3		7	4	1	0.47	B	1	12	9	5	1	0.60	C	2	14	13	7	1	0.87	D	2	

1983/4 Route Concept Study Route 116 - Sheet 2 of 4		Truck #		1982						1995						2005									
		AA PK		AADT	AM PK NO		V/C	L L O S N	AADT	AM PK NO		V/C	L L O S N	AADT	AM PK NO		V/C	L L O S N							
		DT	HR		AH	EK				L	AH				EK	L			AH	EK	L				
CO	POST MILE	DESCRIPTION																							
Son	21.80	Guerneville Rd	7	5	7	4	3	1	0.27	A	1	9	5	4	1	0.33	A	1	10	7	5	1	0.47	B	1
Son	23.05	Graton-Frei Rd																							
Son	24.07	Occidental- Molino Road	7	5	10	4	5	1	0.33	A	1	14	5	7	1	0.47	B	1	15	7	9	1	0.60	C	2
Son	25.69	Covert Lane	7	5	12	4	5	1	0.33	A	1	17	5	7	1	0.47	B	1	19	7	9	1	0.60	C	2
Son	26.51	Healdsburg Ave	4	3	14	8	6	1	0.53	B	1	23	11	8	1	0.73	C	2	26	14	11	1	0.93	E	2
Son	26.73	Jct Rte 12 East Sebastopol Ave	3	3	18	10	8	2	0.33	A	2	26	14	11	2	0.47	B	1	29	18	14	2	0.60	C	3
Son	27.30	Petaluma Ave	3	3	16	9	8	2	0.30	A	2	24	12	11	2	0.40	A	2	27	16	14	2	0.53	B	2
			3	3	15	7	7	1	0.47	B	1	21	9	9	1	0.60	C	2	24	13	13	1	0.87	D	2

1983/84 Route Concept Study Route 116 - Sheet 3 of 4		Truck %		1982						1995						2005									
		AA PK		AADT	AM PK NO		V/C	L L O S N	AADT	AM PK NO		V/C	L L O S N	AADT	AM PK NO		V/C	L L O S N							
		DT	HR		AH BK	L				AH BK	L				AH BK	L			AH BK	L					
CO	POST MILE	DESCRIPTION																							
Son	28.56	Bloomfield Rd	3	3	11	5	5	1	0.33	A	1	14	7	7	1	0.47	B	1	15	9	9	1	0.60	C	2
Son	30.33	Lone Pine Rd																							
Son	33.61	Stoney Point Rd	3	3	12	5	4	1	0.33	A	1	14	7	5	1	0.47	B	1	17	9	7	1	0.60	C	2
Son	35.03	North Jct 101	6	4	15	6	8	1	0.44	B	1	17	8	11	1	0.61	C	2	20	11	14	1	0.78	C	2
		Break in Route																							
Son	35.04	South Jct 101																							
Son	36.41	Frates Road	10	4	15	6	9	1	0.60	C	2	21	8	12	1	0.80	C	2	25	11	16	1	1.07	F	2
Son	39.29	Lakeville Road	10	4	9	3	5	1	0.33	A	1	14	4	7	1	0.47	B	1	16	5	9	1	0.60	C	2
			10	4	1	1	1	1	0.07	A	1	3	1	1	1	0.07	A	1	4	2	2	1	0.13	A	1

This chart indicates the relationship between Level of Service and minimum operating speed for a given facility type.

<u>Assigned Level of Service</u>	<u>Facility Type</u>	<u>Minimum Operating Speed</u>
B	Freeways, expressways, or multilane conventional highways	55 MPH
B	Two-lane conventional highways	50 MPH
C	Freeways or expressways	50 MPH
C	Multilane conventional highways	45 MPH
C-45	Two-lane conventional highways	45 MPH
C	Two-lane conventional highway	40 MPH
D	Freeway or expressways	40 MPH
D	Conventional Highways	35 MPH
D	Conventional Highways with controlling traffic signals	15-30 MPH*

* This condition is shown on the tabulation of route segments under the "LOS" headings as D35.

Operating level of service on a roadway is a measure of the speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, convenience, and operating cost. A roadway designed for a certain level of service will actually operate at different levels throughout the day. The level of service on a roadway varies inversely as some function of the traffic volume.

EXPLANATION TO TRAFFIC VOLUME TABLES

<u>COLUMN</u>	<u>DESCRIPTION</u>
SEGMENT	Description of the Route Segment
CO	County Abbreviations
MILE POST	Mile Post in County
AADT	Annual Average Daily Traffic Count
AM PK	Morning Peak Hour Traffic
AH	Volumes Ahead Direction
BK	Volumes Back Direction
NO L	Number of Lanes (Existing) One Direction
V/C	Volume/Capacity: Ratio Volume Traffic to Max. No. of Traffic/Hr.
LOS	Level of Service According to the Functional Classification of the Route Relative to the Terrain and Facility
LN	Number of Lanes Needed to Meet LOS "D" One Direction/Urban
	Number of Lanes Needed to Meet LOS "B" One Direction/Rural
% Truck AADT	Truck % of Average Annual Daily Traffic Count
% Truck PK HR	Truck % at Peak Hour

TRAVEL DEMAND PROJECTIONS METHODOLOGY (ABSTRACT)

1995 & 2005 Demand Person Trips Projections
34 x 34 ABAG/MTC Region Superdistricts Matrix
Computer-Assisted Four-Step Conventional Gravity
Model. (Housing & Employment based on ABAG's "Projections 83")

December 1983

INTRODUCTION: This modeling procedure developed traffic volume expansion factors and applied them to "census" volumes ("1980 Traffic Volumes on California State Highways") of State Highway segments at ABAG/MTC superdistrict (SD) borders (screenlines).

These projected 1995 and 2005 volumes were the basis for projecting volumes on all mainline segments for the 1983/84 "Route Concept Reports."

In essence, this methodology is consistent with the elements of the conventional "four-step" procedure for travel demand forecasting as summarized in the FHWA/UMTA outline for UTPS models and as described in the NCHRP guide for urban travel estimations ("Quick Response").

SUMMARY: Criteria and methods used in each one of the four "steps":

1. Trip Generation: Based on ABAG projections per 34 MTC "superdistrict." Productions per MTC-observed person trips produced and households; attractions per employment (and housing), adjusted to observed attractions.
2. Trip Distribution: Based on zonal trips produced and attracted, distribution factors based on travel times, and calibration factors derived from MTC-observed vs. simulated 1980 trip interchanges.
3. Assignment: Based on zonal trip interchanges, "fastest path" criteria and experience of travel patterns.
4. Modal Split: Implies; it was assumed that, on the segments evaluated, modal percentages and occupancy rates would remain essentially unchanged.

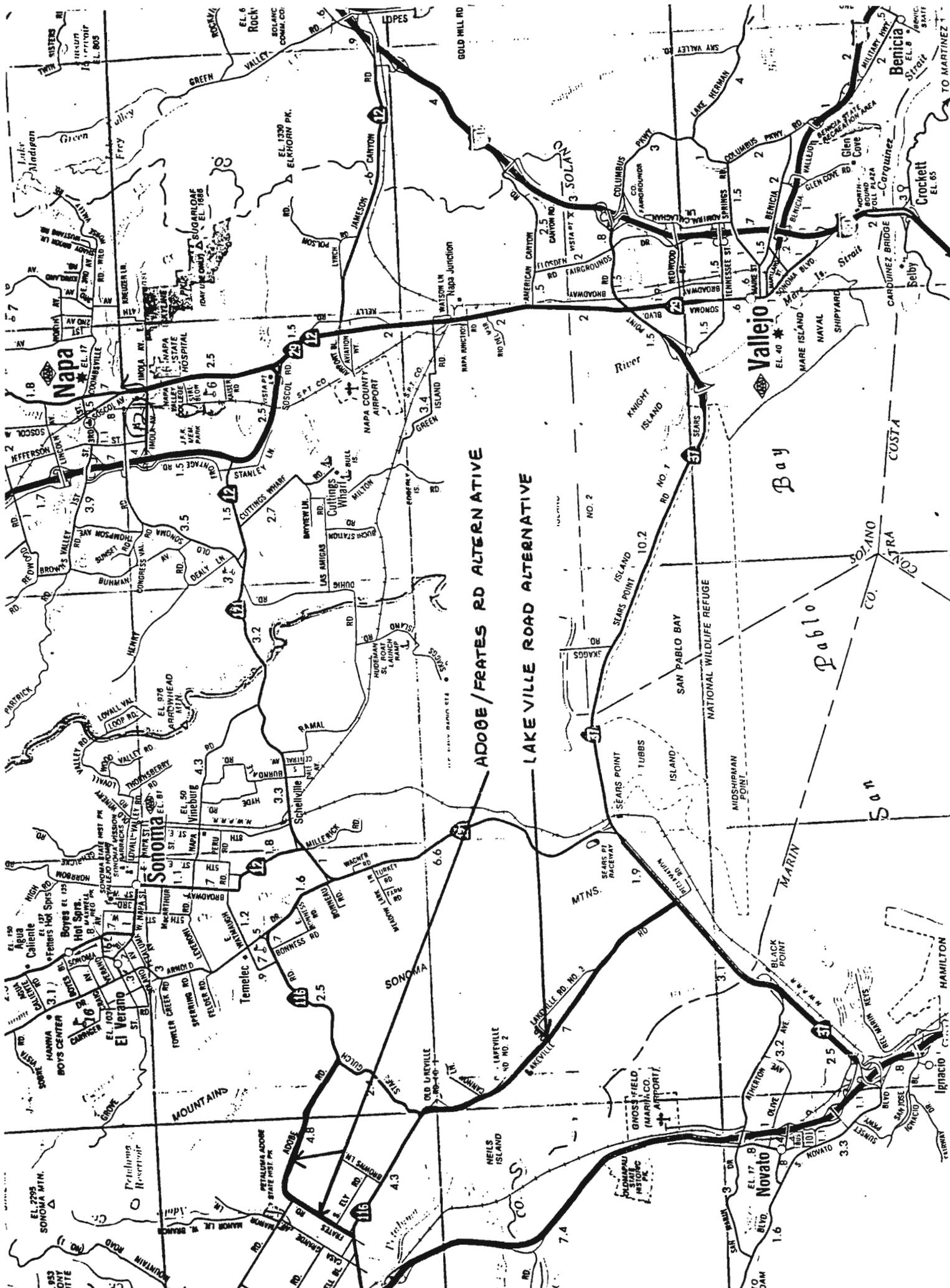
ASSUMPTIONS: The following parameters would remain essentially unchanged between 1980 and 2005:

1. Trip production rates, as functions of the number of households and their superdistrict of location.
2. Trip attraction rates and adjustment factors, as functions of jobs, housing units and superdistrict of location.
3. Speeds: Change in corridor speeds may be proportional to regionwide speed changes, or may differ without significantly affecting distribution or assignment.
4. Time vs. Distribution Factor Functions, and Calibration Factors. Increased socio-economic densities vs. higher fleet efficiencies and/or real earnings would have compensatory effects on trip lengths.

EXHIBIT H

EXISTING FACILITY (BRIDGES)

ROUTE SEGMENT	BRIDGE NUMBER	NAME OR DESCRIPTION	COUNTY	POST MILE	CITY	LENGTH (FOOT)	WIDTH	SIDEWALKS OR CURBS LT RT	
		JCT RTE 1	SON	0.00					
	20 45	SHEEPHOUSE CR	SON	1.10		14			
	20 12	AUSTIN CREEK	SON	4.93		380	28	2.0	2.0
	20 256	RUSSIAN RI SHV	SON	5.73		917	20		
	20 258	MONTE RIO WALL	SON	8.27		120			
	20 71	RUSSIAN RI VIA	SON	10.38		253	26		4.0
	20 72	RUSSIAN RI VIA	SON	10.46		257	26		4.0
	20 49L	HULBERT CREEK	SON	11.16		172	21	5.0	5.0
	20 49R	HULBERT CREEK	SON	11.16		177	26		5.0
A	20 74	TIM ST RET WA	SON	11.30		170			
	20 75	TIM ST RET WA	SON	11.35		174			
	20 89	FIFE CREEK	SON	11.82		128	26	5.0	5.0
	20 91	RUSSIAN RIVER	SON	12.10		948	17	4.5	4.5
	20 149	POCKET CREEK	SON	15.52		18	28		
	20 150	POCKET CREEK	SON	16.42		14	29		
	20 92	GREEN VALLEY C	SON	18.66		187	24		
	20 94	JONES CREEK	SON	19.90		22	28		
	20 87	HOWARD CREEK	SON	21.31		16	28		
	20 95	MILLS GR XNG	SON	24.99		2K			
	20 96	HLDSBRG AV GX	SON	26.51	SEB	10			
		JCT RTE 12 LT	SON	26.73	SEB				
B	20 98	SEBSTOPL DP GX	SON	26.80	SEB	1X			
	20 101	PALM AV GR XNG	SON	27.19	SEB	10			
	20 64	JERSEY CREEK	SON	28.37		15			
	20 103	BLUCHER CREEK	SON	29.83		34	36		
	20 104	GOSSAGE CREEK	SON	33.39		45			
	20 169L	RT 101 116 SEP	SON	35.03	COTI	145	28	2.0	2.0
	20 169R	RT 101 116 SEP	SON	35.03	COTI	145	28	2.0	2.0
BREAK IN ROUTE									
	20 155R	101 116 S OH	SON	35.04	PET	641	28	1.9	1.9
C	20 155L	101 116 S OH	SON	35.04	PET	534	28	1.9	1.9
	20 62	ADOBE CR CTRP	SON	36.14		33	40		
	20 110	ELLIS CREEK	SON	37.49		62	40		
	20 143	WHEAT CREEK	SON	38.36		11			
	20 142	STAGE GULCH CR	SON	39.25		15	47		
	20 230	CHAMPLAIN CR	SON	44.43		14	24		
		JCT RTE 121	SON	46.76					



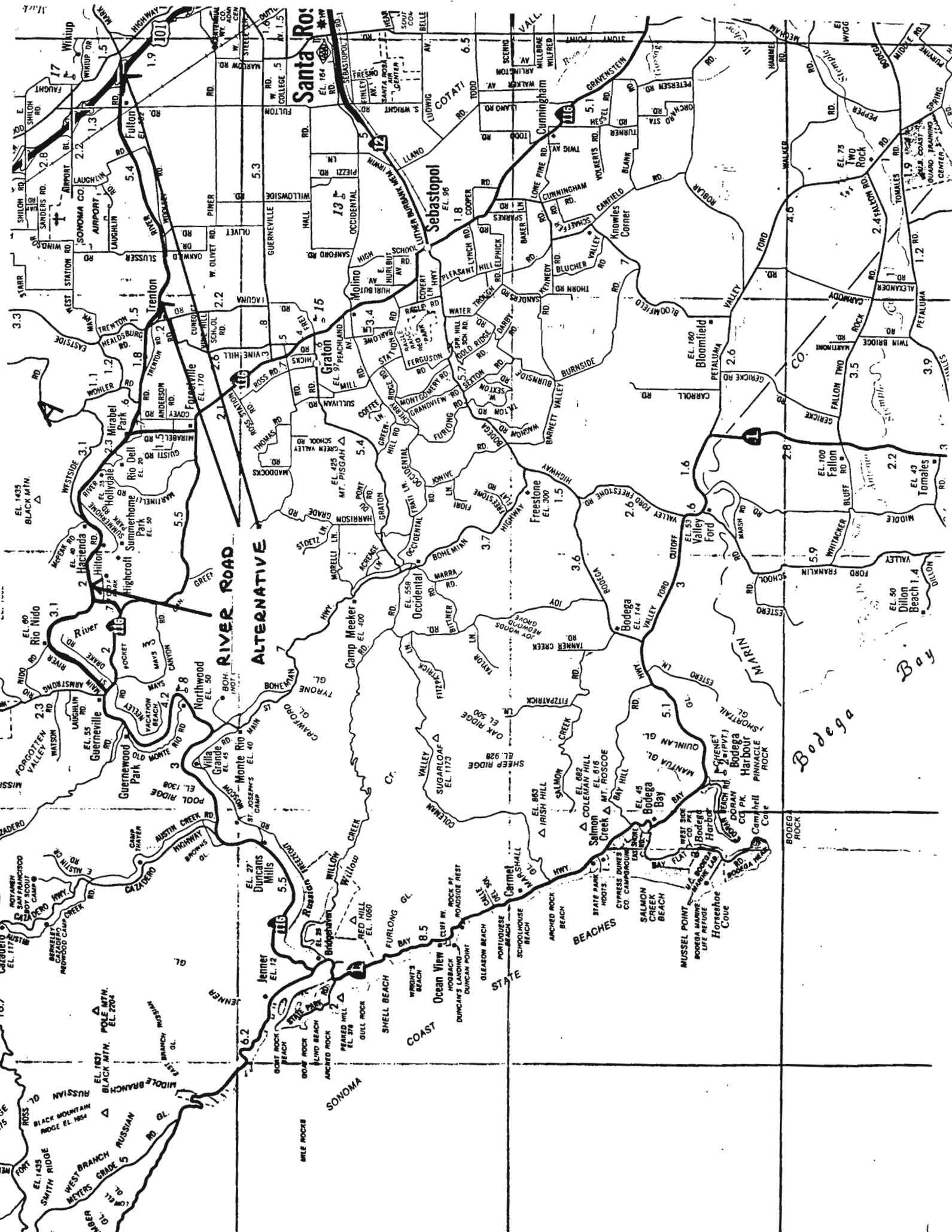
ADOBE / FRATES RD ALTERNATIVE

LAKE VILLE ROAD ALTERNATIVE

Pablo

SUD

953 ONLY JITE



Santa Rosa

Sebastopol

Graton

Bloomfield

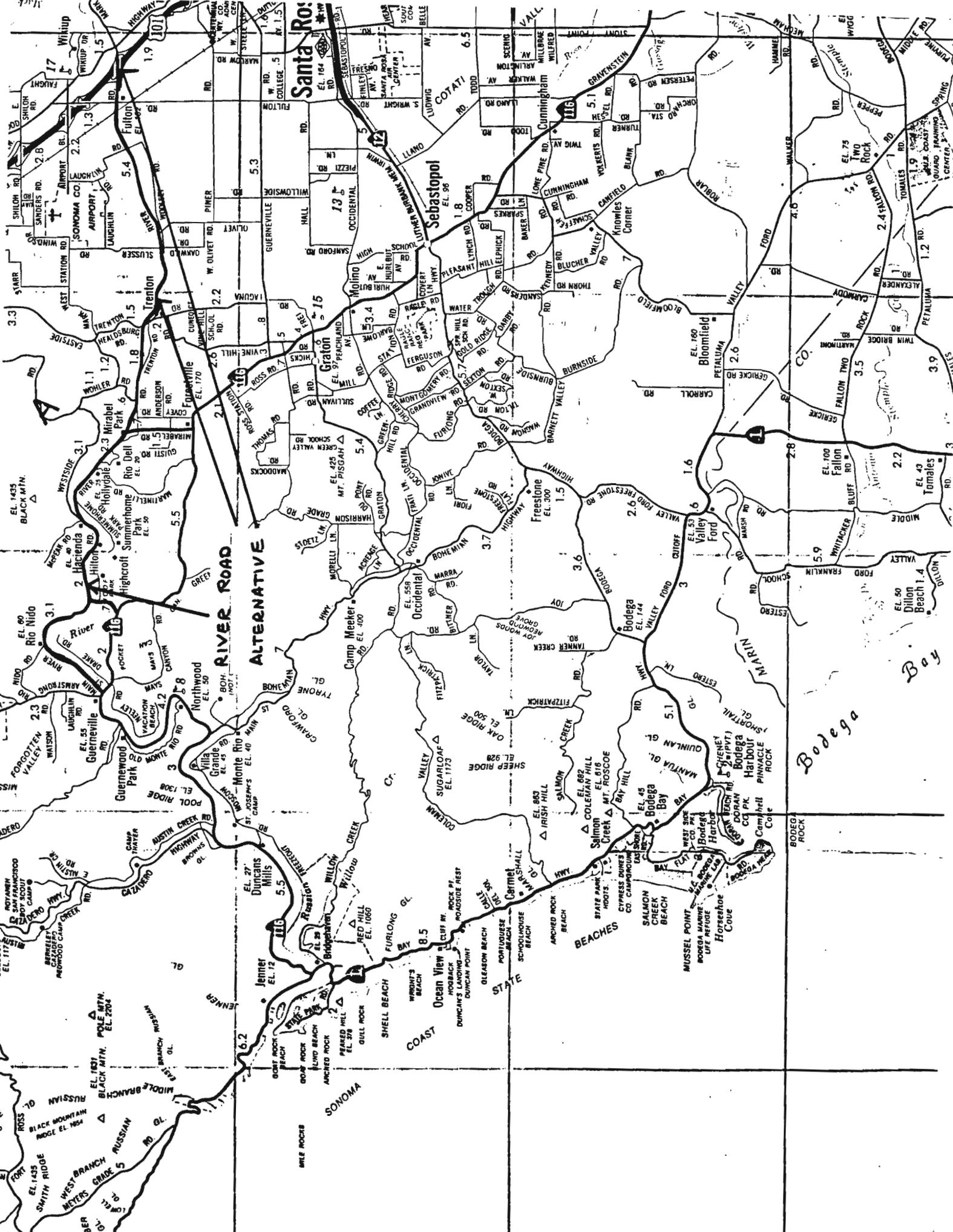
RIVER ROAD
ALTERNATIVE

Bodega Bay

COAST

SONOMA

BEACHES



Santa Rosa

Sebastopol

Graton

Bloomfield

RIVER ROAD
ALTERNATIVE

Bodega Bay

COAST

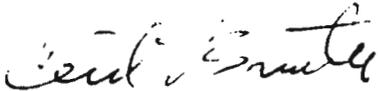
SONOMA

BEACHES

ROUTE CONCEPT REPORT

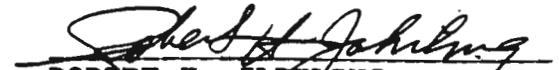
ROUTE 116

Prepared under the direction of:



CECIL L. SMITH, Chief
Transportation Planning, District 4

Recommended Approval:



ROBERT H. JARHLING
Deputy District Director
Planning and Programming

I approve this Route Concept Report as the guide toward which today's decisions and/or recommendations should be directed.

Approved:



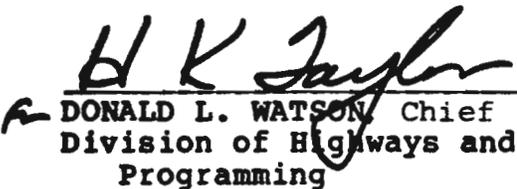
BURCH C. BACHTOLD
District Director of Transportation

Approved:



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Division of Transportation
Planning

Approved:



DONALD L. WATSON, Chief
Division of Highways and
Programming

Approved:



JACK KASSEL, Chief
Division of Project
Development