FINAL
OCT 04 1985

SUMMARY

ROUTE CONCEPT REPORT
ROUTE 13

ALA PM 0.00 - PM 14.80

This report defines the route concept for Route 13 in Alameda County for a twenty year planning period, 1985 - 2005.

SEGMENTS

Segment A	Ala	PM 00.00-04.26	Route 61 - Route 580 (Doolittle Dr.)	4-6-lane F	
Segment B	Ala	PM 04.26-09.62	Route 580 - Route 24	6-lane F	D-35
Segment C	Ala	PM 09.62-13.93	Route 24 - Route 80	2-4-lane C	F-15
Segment D	Ala	PM 13.93-14.81	Route 80 - Route 61 (Unconstructed)	Unconstructed	

ROUTE RATIONALE

The currently constructed portion of Route 13 is a main connector between Oakland, Route 24, and Berkeley, through the Oakland hills, and along the south side of the City of Berkeley. The freeway section connects with Route 24 near the west end of the Caldecott Tunnel, and is a fast and convenient route between Berkeley/central Contra Costa County (Lafayette, Walnut Creek, Concord) and the Oakland International Airport via Hegenberger Road. The section between Route 24 and Route 80 is along city streets and is a major connector along the Berkeley/Oakland city limits.

The presently unconstructed portion of Route 13 from Route 61 near the Oakland Airport and the Route 580/13 junction would, when constructed, relieve congestion along Routes 880 and 580, which are expected to have an LOS of F-15 by the year 2005. There is currently no direct connection between the Route 580/13 junction and Route 880 that could relieve congestion on those routes by diverting traffic that is traveling between San Leandro and Hayward and downtown Berkeley or central Contra Costa County. Route 13 between 880 and 580 would also divert some traffic from 880 to 580 which is somewhat less congested during the commute hours.

The transportation corridor between San Francisco Bay and I-580 is currently being studied by the Nimitz-Doolittle Technical Advisory Committee (NIMDOTS TAC). It was organized basically to study the proposed development of the Route 61 corridor, but will look at proposals for the entire corridor. Based on current and anticipated traffic problems in the Nimitz corridor, it is evident that a

route-by-route assessment of future highway needs may not be the appropriate approach to identify future route concepts in the area. A systems study of the area should receive a high priority.

AREAS OF CONCERN

The main commute routes from the communities of San Leandro, Hayward and Fremont are 880 and 580, and Route 580 also serves the communities to the east into the Livermore/San Ramon areas. These freeways are projected to reach capacity through the city of Oakland by about 1995. Capacity improvements on Route 880 and operational improvements for Route 580 are proposed; 580 is projected to be somewhat less congested than 880. Route 13 needs to be improved as part of a coordinated highway network for the East Bay and regional area.

Route 77 (unconstructed) is also a legislative route running from Route 880 in Oakland to Route 24 near Lafayette, crossing Routes 580 and 13. None of route 77 is recommended for construction. However, evaluation of Route 77 between Routes 880 and 580 and the section of Route 13 between Route 61 and Route 580 should be made to determine which route would provide the most benefits in easing traffic congestion on existing routes, especially on Route 880.

ROUTE CONCEPT

The route concept is to construct that portion of Route 13 between Route 61 near the Oakland International Airport and Route 580 as a 6-lane conventional highway. There is no current alignment for that section of Route 13.

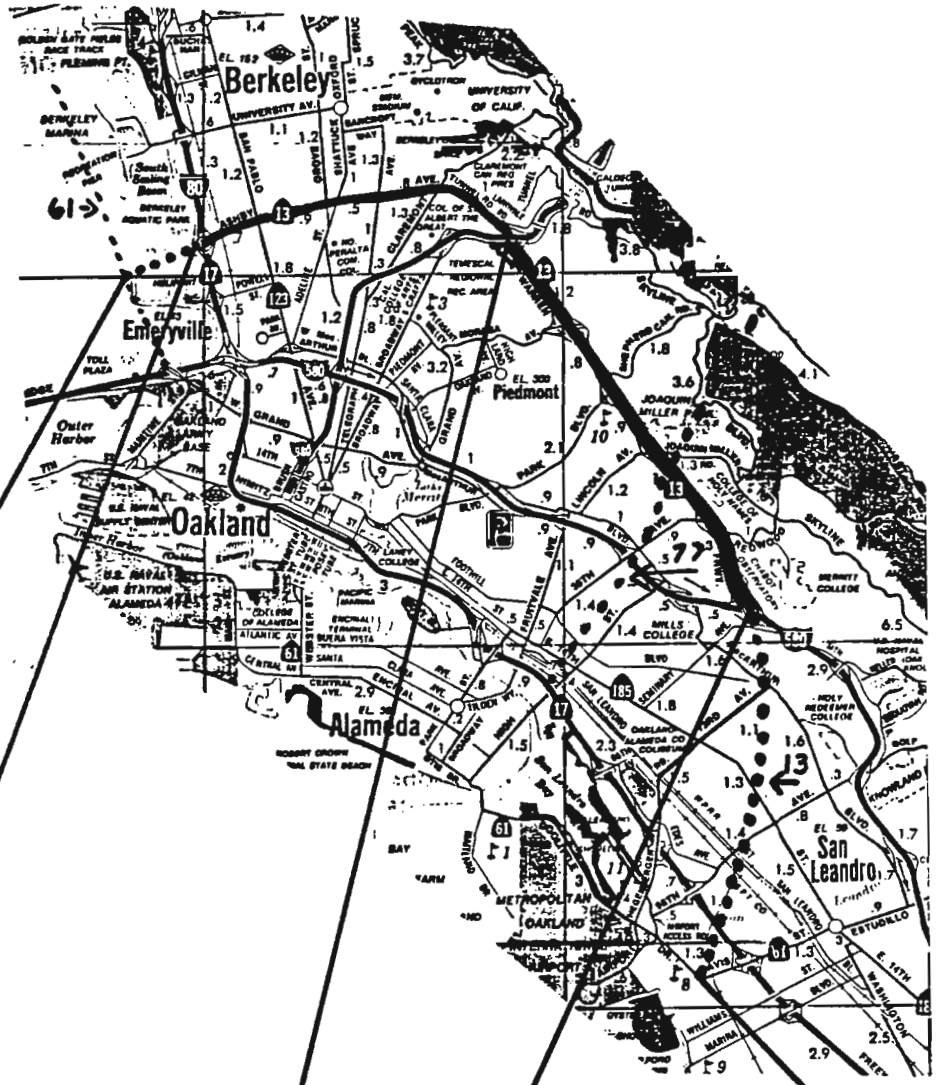
It is also proposed that an additional lane be added in both directions on Route 13 (The Warren Freeway) between Route 580 and Route 24 to have a 6-lane facility, with improvement of the Route 13/24 interchange.

IMPROVEMENTS

Construct a 4-6-lane freeway between PM 0.00 and PM 4.26.

Construct an additional lane in each direction from PM 4.26 to PM 9.62 on the Warren Freeway.

Improve the Route 24/13 interchange to facilitate traffic flow.



D	C	B	A
ALA 14.81	ALA 13.93	ALA R9.62	ALA 4.62E
			ALA 0.00

LOCATION MAP

ROUTE 13

ROUTE CONCEPT REPORT

ROUTE 13

ALA 0.00 to ALA R14.80

Prepared under the direction of:

9/12/85

CECIL L. SMITH, Chief Date
Transportation Planning
District 4

Recommended Approval:

9-13-85

JOHN VOSTREZ Date
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:

9/24/85

BURCH C. BACHPOLD Date
District Director of
Transportation

Approved:

D. L. WIEMAN, Chief Date
Division of Transportation
Planning

Approved:

DONALD L. WATSON Date
Division of Highways and
Programming

Approved:

JACK KASSEL Date
Division of Project
Development

STATEMENT OF PLANNING INTENT

The Route Concept Report (RCR) is a planning document which expresses the Department's judgment on what the characteristics of the state highway should be to respond to the projected travel demand over the 20-year planning period. The RCR contains the Department's goal for the development of each route in terms of level of service and broadly identifies the nature and extent of improvements needed to reach those goals. The RCR then provides the basis for the preparation of Route Development Plans (RDP) and the system analysis which indicates the level of service provided on the system at a given level of funding.

Route concept reports are prepared in the districts and represent the combined expertise of district staff. Facility dimensions (e.g., roadway widths or number of lanes on a multi-laned facility) discussed in the RCR represent an initial planning approach to scoping candidate improvements and determining estimated costs.

All information in the RCR is subject to change as conditions change and new information is obtained. Consequently, the nature and size of identified improvements may change as they move through the project development stages, with final determinations made at the time of project planning and design. If the nature and size of improvements change from that included in this report during later project development stages, this will be cause to review the RCR for this route.

ROUTE DESCRIPTION

Route 13 in Alameda County extends from Route 61 near the Oakland International Airport to the unconstructed portion of Route 61 in Berkeley via east Oakland, the Oakland hills, and the southern part of Berkeley.

The legislative description is as follows:

> Route 13 is from:
>
> Route 61 near the Oakland International Airport to Route 61 near Emeryville via the vicinity of Lake Temescal.

Parts of Route 13 are also in the State Freeway and Expressway System:

> From:
> (a) Route 61 near the Oakland International Airport to Route 24.
>
> (b) Route 80 to Route 61 near Emeryville.

Route 13 is a Federal Aid Urban highway.

Route 13 has 10 miles of constructed highway and about 5 miles of unconstructed. From Route 61 near the Oakland Airport to Route 580 in Oakland, the route would probably cross part of the city of San Leandro and part of east Oakland. No alignment that has been adopted for this section of Route 13, and there is no traversible route.

From the junction with Route 580, Route 13 is currently a 4-lane freeway (the Warren Freeway) running north towards Berkeley through the Oakland hills and Piedmont. It connects with Route 24 just west of the Caldecott Tunnel.

Route 13 then continues north, then west through Berkeley along Tunnel Road and Ashby Avenue to Route 80. It is a city street along this portion, and is from 2 to 4 lanes wide.

From Interstate 80, Route 13 is unconstructed. The legislated route extends into San Francisco Bay and connects to Route 61, which is a legislative route running north in the bay, parallel to Route 80, and also is currently unconstructed.

PURPOSE OF ROUTE

Segment B of Route 13 is mainly a commuter route between Oakland and Berkeley and Contra Costa County. There is recreational/commercial traffic between Contra Costa County and Berkeley and the Oakland International Airport and the Oakland/Alameda County Coliseum Complex. Truck traffic on this segment is low, about 2% of AADT.

The portion of Route 13 north of Route 24 (Segment C) is Tunnel Road and Ashby Avenue. These city streets are the main transportation corridor to downtown Berkeley from Route 24 and the towns to the east of the Caldecott Tunnel. It is also a main arterial along the southern edge of the city of Berkeley to Interstate 80. It is a commuter route which also has considerable mid-day local traffic. Truck traffic is 2% of AADT except between San Pablo Avenue and Route 80, where it is 3-4%.

REGIONAL CHARACTERISTICS

Route 13 crosses heavily urbanized communities in western Alameda County. The Association of Bay Area Governments has projected that population in the area from Hayward to Berkeley will grow by 16% by the year 2000, and that employment will grow in that same area by 18%. The total population growth projected of nearly 110,000 people means that there will be increased pressure on the street and highway system in northwest Alameda County by local residents as well as increased pressure by trips originating outside that area.

Traffic to and from the Oakland International Airport can be expected to grow by the year 2005 since the San Francisco International Airport is nearing maximum carrying capacity. This will make a connector between Routes 880 and 580 more important to accommodate traffic to and from the northeast.

ROUTE SEGMENTS

A. Segment A Ala 13 PM 0.00-4.26 Route 61 - Route 580

This is an unconstructed segment which is legislated to run from Route 61 near the Oakland Airport to Route 580 near the current Route 580/13 interchange.

1. Existing Facilities

a) Highway Facilities

No alignment has been adopted at this time. There are alternative routes that could possibly be evaluated for the location of Route 13. One possibility is 98th Avenue, currently a narrow 4-lane street; the right hand lane in each direction extend to the curb. Parking is allowed during off-peak hours; there is no parking in the right-hand lanes from 7-9 AM westbound and from 4-6 PM eastbound. Near the I-580 interchange the road is 2 lanes. Another possible alternative that could be evaluated is Hegenberger Road/73rd Avenue which is a 4-6-lane major arterial between Route 880 and MacArthur Blvd. Between MacArthur Blvd. and Route 580, however, the street becomes 2 lanes and climbs steeply through a residential area. The City of Oakland has a project in its FAU program to provide a diagonal link between 73rd Ave/MacArthur Blvd. to Seminary Ave/Rte 580.

b) 1984 STIP

There are no planned projects.

c) Public Transportation

Alameda/Contra Costa County Transit operates several routes in the area of the proposed segment.

d) Bicycles

Not applicable to this unconstructed segment. Bicycles use the city streets throughout the area.

e) Park and Ride

Not applicable to this unconstructed segment.

f) Rail

BART runs its Fremont/Daly City/Richmond line north and south near Route 880. There are no relevant rail lines in the segment area.

2. Current Operating Conditions

This segment is unconstructed; there are no traffic figures available.

3. Accident Rate

Not available.

4. Future Operating Conditions

As congestion increases along Routes 580 and 880, there will be an increased need for a route connecting those two highways, and a better connector between the Oakland Airport and Berkeley and central Contra Costa County.

5. Route Concept

The Route Concept is to construct a 4-6-lane freeway in this segment, from Route 61 to Route 580.

6. Improvements (post 1984 STIP)

Construct a 4-6-lane freeway.

B. Segment B ALA 13 PM 4.26-9.62 Route 580 - Route 24

This segment runs from Route 580 near MacArthur Blvd. northeast through the Oakland Hills and Piedmont to Route 24 near the Caldecott Tunnel.

1. Existing Facilities

a) Highway Facilities

Route 13 from Route 580 is a freeway with two lanes in each direction. The width is 24 feet for most of the segment; shoulders are 8 feet, the median is from 12 to 26 feet, and in several locations they are curbed, specifically between Broadway Terrace I/C and Moraga Ave I/C. The route is very hilly in this segment, with grades of 0-6%.

b) 1984 STIP

There are no projects listed in the STIP that are relevant to this concept report.

c) Public Transportation

AC Transit runs several routes in the general area of this segment. There is one commuter route that uses Route 13 itself during the morning and evening commute hours.

d) Bicycle

Bicycles are not allowed on this section as it is a freeway. There are alternative routes available to go through the hills, though because it is hilly, most through bicyclists would use routes on the flatter part of Oakland.

e) Park and Ride

There is a joint-use park and ride lot located at the First Lutheran Church at 4100 Mountain Blvd. There are 14 spaces.

f) Rail

There is no rail line along this segment. The Rockridge BART station on the Concord/Daly City line is on Route 24 just west of the Route 24/13 interchange. There is parking at that BART station for commuters.

2. Current Operating Conditions

The 1982 AADT ranges from a low of 30,000 at Redwood I/C to a high of 51,000 at Broadway Terrace I/C. The AM southbound peak hour traffic ranges from a low of 2,100 at Redwood I/C to a high of 3,400 at Broadway Terrace. The V/C is 0.68 and the LOS is C-45. The AM northbound peak hour traffic ranges from a low of 1,300 at Redwood I/C to 2,200 at Broadway Terrace.

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

In the three year period, there was a total of 277 accidents; of these, 131 involved injuries and 2 involved fatalities, with 181 people injured and 3 people killed. The accident rate for this segment is 1.06/MVM and the fatality rate is 0.007/MVM. The fatality rate is under the statewide average of 0.014/MVM for this type of facility; the accident rate is near the statewide average of 1.05/MVM.

4. Future Operating Conditions

The projected AADT for 1995 (2005) ranges from a low of 34,000 (36,000) at Redwood I/C to a high of 54,000 (59,000) at the Broadway Terrace I/C. The southbound projected AM peak hour traffic ranges from a low of 2,100 (2,400) at Redwood I/C to a high of 3,400 (3,800) at Broadway Terrace. The Demand/Capacity (D/C) ratio is 0.71 (0.81) with an LOS of C-45 (D-35). If the connection between Routes 61 and 580 is constructed, more traffic will be diverted to Route 13; in such a case, these traffic projections are likely to be low.

As traffic increases along this segment of Route 13, especially in the northern section, it will be desireable to reconstruct the interchange between Route 13 and Route 24 to make traffic flow more easily between the two routes. Currently, traffic going from northbound Route 13 to westbound Route 24 must travel to the east before it is able to get onto the freeway. Traffic from the east that is travelling south on Route 13 must traverse a tight, 25 mph curve to do so.

The Route 24 Route Concept Report proposes boring a new 2-lane tunnel at the Caldecott Tunnel. This would ease the bottleneck on Route 24. Coupled with the interchange improvements to the Route 13/24 I/C, traffic flow along both of these routes would be facilitated.

5. Route Concept

The concept is to build a 6-lane freeway throughout this segment, which would provide an LOS of C-45.

6. Improvements (post 1984 STIP)

Construct 1 lane in each direction to make this a 6-lane facility. Improve the interchange with Route 24 so that traffic flows more easily and smoothly between the two routes.

C. Segment C. ALA 9.62 - 13.92 Route 24 to Route 80

This segment runs from Route 24 near the western end of the Caldecott Tunnel, north and west to Interstate 80 via Tunnel Road and Ashby Avenue.

1. Existing Facilities

a) Highway Facilities

Tunnel Road is a winding, hilly city street with 1 lane in each direction. The pavement width (one direction) ranges from 12 feet to 24 feet, and is rated as a 4-lane street (both directions), but it is only striped for 2 lanes. Shoulders range from 0-8 feet; median width is variable.

Route 13 continues west on Ashby Avenue from the junction of Tunnel Road and Domingo Avenue near the Claremont Hotel. In this section, which is most of the segment, the terrain is flat. From Domingo Avenue to Telegraph Avenue, Ashby is a 2-lane street with parking on both sides. Pavement widths are from 12-24 feet (one direction), and there is no median. Shoulders range from 0-8 feet. From Telegraph Avenue to Bay Street Ashby Avenue is a 4-lane street with one-way pavement widths ranging from 21 to 28 feet. Shoulders range from 0-8 feet, and there is no median except for a short section before Bay Street. Although Ashby Avenue in this section is striped as a 4-lane street, parking is allowed in the right hand lane except from 7-9 AM westbound and from 4-6 PM eastbound.

b. 1984 STIP

There are no projects relevant to this segment.

c. Public Transportation

AC Transit runs its Route 65 the length of Ashby Avenue, and 2 commute hour only routes run along Tunnel Road and part of Ashby Avenue.

d. Bicycle

Bicyclists use this section of Route 13, but it is narrow in places and does not have bicycle lanes marked. Tunnel Road is a recommended alternate bicycle route.

e. Park and Ride

There are no park and ride lots along this segment.

f. Rail

There are no rail lines parallel to this segment. The BART Daly City/Richmond line crosses Route 13, and there is a station on Ashby Avenue with parking, near Martin Luther King Jr. Parkway. The Rockridge BART station on the Daly City/Concord line is about 1 mile west of the Route 24/13 Interchange, and also has parking.

2. Current Operating Conditions

The 1982 AADT ranges from a high of 34,000 at Claremont Avenue and the I-80 I/C to a low of 18,000 at Adeline Street and at several intersections between Telegraph Avenue and Adeline Street. The westbound AM peak hour traffic ranges from a high of 2,300 at Domingo Avenue and the I-80 I/C to a low of 1,200 at Adeline Street. Eastbound AM peak hour traffic ranges from a low of 800 at Adeline Street to a high of 1,600 at the I-80 I/C. The average V/C ratio is 1.00 and the LOS is F-20. The most congested sections of this segment are Tunnel Road between Route 24 and Claremont Avenue, and Ashby Avenue between Adeline Street and I-80. These sections especially are important commuter access roads to Routes 24 and 80 as well as offices near the Claremont Hotel and to the U.C. Berkeley campus.

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

There were 1055 accidents along this segment for the three-year period. Of these, 370 involved injuries with a total of 545 people injured and 3 involved fatalitites with 4 people killed. The accident rate is 9.73/MVM, which is more than double the statewide average of 4.34/MVM for this type of facility. The fatality rate was 0.027/MVM, slightly under the statewide average of 0.030/MVM.

4. Future Operating Conditions

The projected AADT for 1995 (2005) ranges from a low of 19,000 (20,000) at Adeline Street to a high of 36,000 (38,000) at the junction of I-80. The projected westbound AM peak hour traffic ranges from a low of 1,200 (1,300) at Adeline Street to a high of 2,300 (2,400) at the Ashby /I-80 Interchange. Eastbound projected AM peak hour traffic ranges from a low of 800 (900) west of Claremont Avenue to 1,500 (1,600) at the Route 80 Interchange. The projected D/C ratio is 1.06 (1.11) and the LOS is F-15 (F-15).

The Ashby Avenue/I-80 Interchange is scheduled to be reconstructed under improvements planned for Route 80 during the next 5 years. Part of the project includes construction of an HOV (high occupancy vehicle) lane from the Ashby Avenue Interchange to the Toll Plaza. The effects the HOV lane will have on bus and carpool traffic on Ashby Avenue should be evaluated to see if there will be negative or positive impacts on expected congestion.

5. Route Concept

Although there is significant congestion along this segment, capacity improvements would be difficult and expensive to implement. This segment is not now in the Freeway and Expressway System, and there is local opposition to capacity increases along Ashby Avenue and Tunnel Road. Therefore, the route concept is to maintain the current 2-4-lane conventional arterial with a concept LOS of F-15. TSM techniques should be evaluated and investigated to help manage the congestion; alternative modes of transportation, both on and off-peak hour, need to be encouraged and improved.

6. Improvements (Post 1984 STIP)

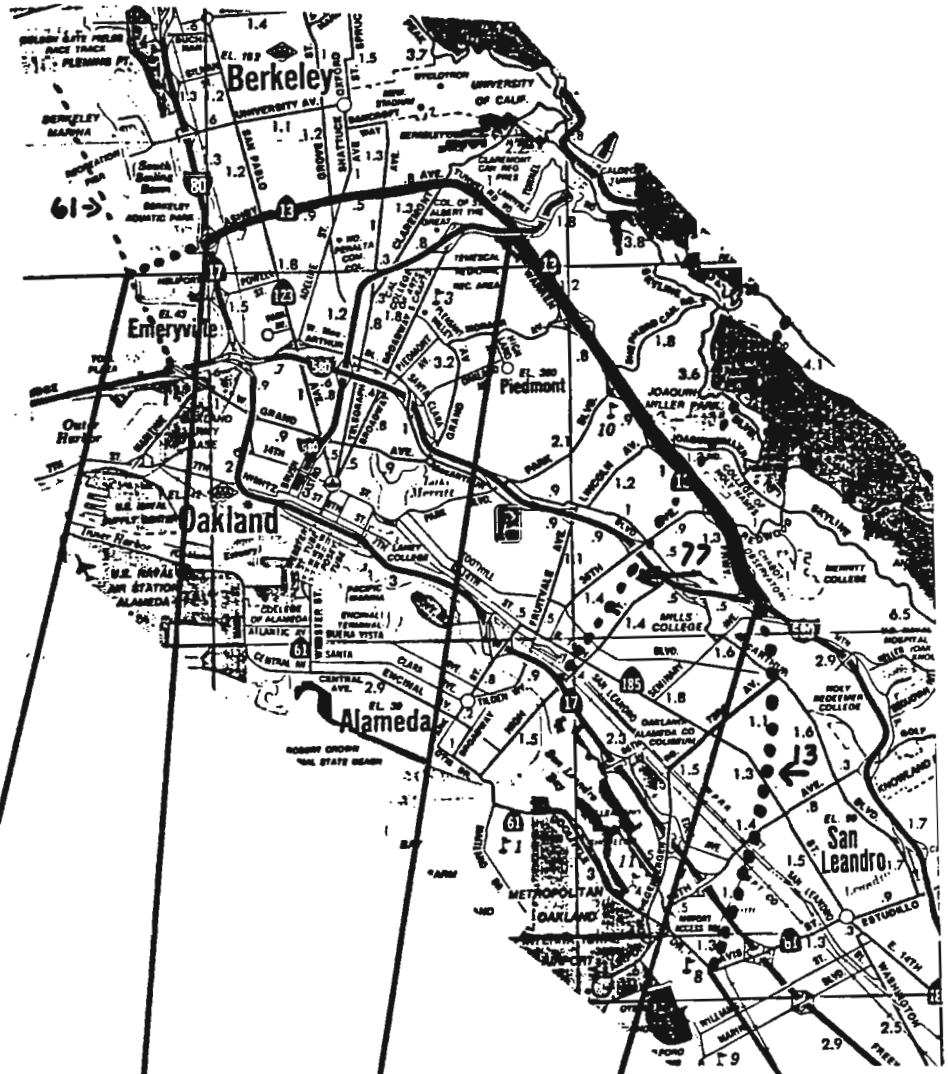
No improvements are recommended at this time.

D. Segment D ALA 13 PM 13.93 - 14.8 Route 80 to Route 61

This segment is presently unconstructed. The current legislated location is from Route 80 at Ashby Avenue to Route 61 in San Francisco Bay.

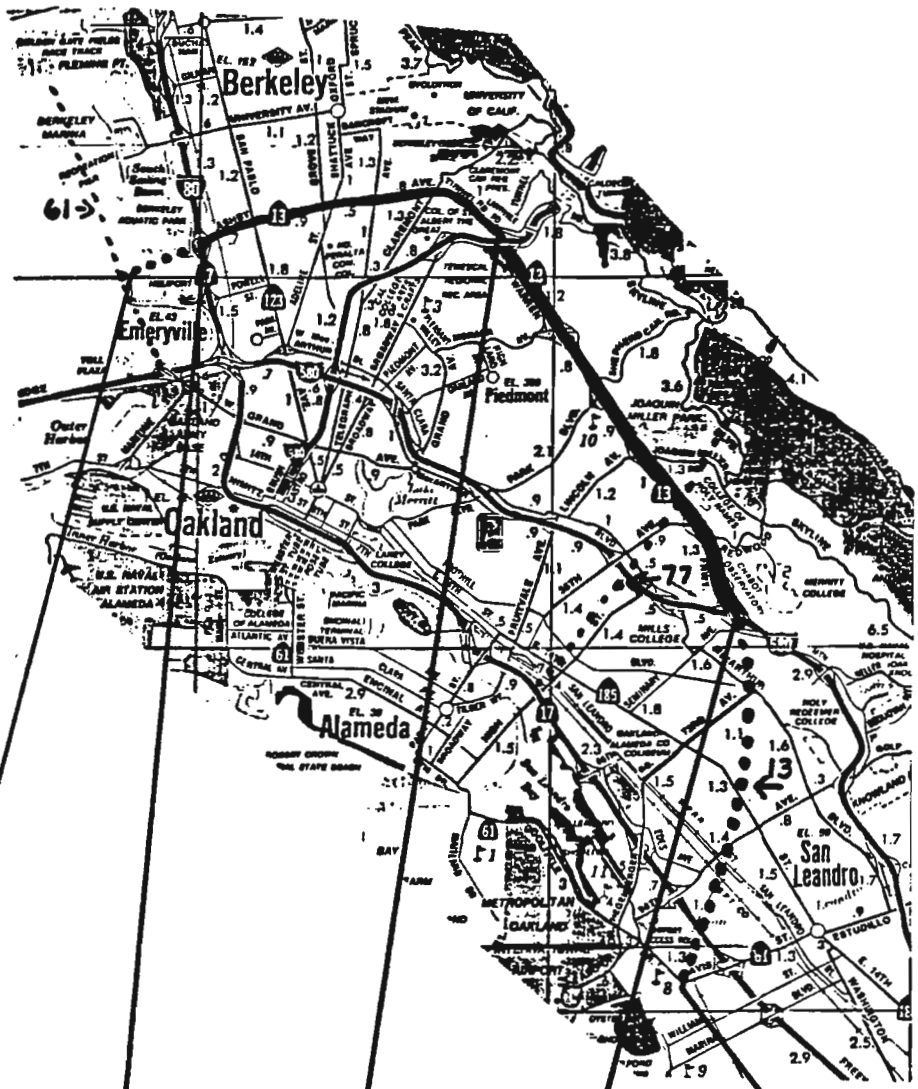
Route 61 is also currently unconstructed. It was proposed to run north from the City of Alameda, cross I-80 near the Toll Plaza, run in the Bay parallel to I-80 through Emeryville and Berkeley and terminate at Route 580 in Albany. There are no plans to construct this portion of Route 61 because of the problems and environmental sensitivity of building it in the Bay.

Therefore, the route concept for Segment D of Route 13 is for it to also remain unconstructed.



SEGMENT		ALA 14.81 D	ALA 13.93 C	ALA 8.62 B	ALA 4.26E A	ALA 0.00
NO OF LANES PROPOSED	PRESENT	UNCONSTRUCTED	2-4	4	UNCONSTRUCTED	
	1995		2-4	4		
	2005		2-4	4		
LEVEL OF SERVICE PROPOSED	PRESENT		F-20	C-45		
	1995		F-15	C-45		
	2005		F-15	D-35		
TERRAIN			F	R-M		
GRADES			0-3%	0-6%		
ACTUAL	Accidents Per MVM		9.73	1.06		
	Fatalities Per MVM		0.027	0.007		

EXHIBIT A



SEGMENT		D (ALA 14.81)	C (ALA 13.93 – ALA 8.62)	B (ALA 4.26E)	A (ALA 0.00)
A.A.D.T. (000) (.000)	1982	UNCONSTRUCTED	18-35	30-51	UNCONSTRUCTED
	1995		19-36	34-54	
	2005		20-38	36-59	
P.H.V. (00)	1982		12-23	20-34	
	1995		12-23	21-34	
	2005		13-24	24-38	
AVE. HWY SPEED			55	70	
OPERATING SPEED			15-30	48	
V/C	1982		1.08	0.68	
	1995		1.06	0.71	
	2005		1.11	0.80	
YEAR CAPACITY WILL BE REACHED			<1982	>2005	

EXHIBIT B

EXISTING HIGHWAY FACILITIES

SEGMENT	COUNTY	FROM PM	TO PM	SEGMENT LENGTH (MILES)	TRAVELED WAY WIDTH (FEET)	NUMBER OF LANES	SHOULDER WIDTH	MEDIAN WIDTH
A	ALA	0.00	4.26	4.26	U	U	U	U
B	ALA	4.26	9.62	5.36	24	4	0-8	12-36
C	ALA	9.62	13.93	4.31	12-28	2-4	0-8	0-8
D	ALA	13.93	14.81	0.88	U	U	U	U

ROUTE 13 TRAFFIC TABLE

SEG	CO	POST MILE	TRUCK% AA DT	TRUCK% PK HR	AA DT	AM-PK AH BK	1982 NO LN	V/C	LOS	NO LN	CAP	1995 AA DT	1995 AM-PK AH BK	1995 NO LN	D/C	LOS	NO LN	2005 AA DT	2005 AM-PK AH BK	2005 NO LN	D/C	LOS	NO LN
A	ALA	0.00					JCT RTE 61																
A	ALA	4.26					JCT RTE 580																
			2	1	35	16	23	2 0.57	B	2	2000	40	17	26	2 0.64	C	2	43	19	29	2 0.72	C	2
B	ALA	5.01					CARSON ST I/C																
			2	1	30	13	20	2 0.50	B	2	2000	34	14	21	2 0.53	B	2	36	16	24	2 0.60	C	2
B	ALA	5.39					REDWOOD I/C																
			2	1	40	18	26	2 0.65	C	2	2000	43	18	27	2 0.68	C	2	46	20	31	2 0.77	C	2
B	ALA	6.47					LINCOLN AVE I/C																
			2	1	43	19	29	2 0.72	C	2	2000	46	19	29	2 0.73	C	2	50	22	33	2 0.82	D	2
B	ALA	7.40					PARK BLVD I/C																
			2	1	43	19	28	2 0.70	C	2	2000	46	19	29	2 0.73	C	2	50	22	33	2 0.82	D	2
B	ALA	8.30					MORAGA AVE I/C																
			2	1	51	22	34	2 0.85	D	2	2000	54	22	34	2 0.84	D	2	59	25	38	2 0.96	E	3
B	ALA	9.07					BROADWAY TERRACE I/C																
			2	1	49	22	32	2 0.80	C	2	2000	52	22	33	2 0.82	D	2	56	25	38	2 0.94	E	3
B	ALA	9.62					JCT RTE 24																
			2	1	28	18	12	2 1.13	F	3	900	29	18	12	2 1.10	F	3	30	18	12	2 1.15	F	3
C	ALA	10.00					SEVERAL INTERSECTIONS																
			2	1	34	23	15	2 1.44	F	4	1150	35	22	15	2 1.38	F	4	37	23	15	2 1.44	F	4
C	ALA	10.69					DOMINGO AVE																
			2	1	34	22	15	2 1.38	F	4	1100	35	22	15	2 1.38	F	4	37	23	15	2 1.44	F	4
C	ALA	10.79					CLAREMONT AVE																
			2	1	19	13	8	2 0.81	D	2	800	20	13	8	2 0.79	C	2	21	13	9	2 0.82	D	2
C	ALA	11.10					SEVERAL INTERSECTIONS																
			2	1	21	14	9	2 0.88	D	2	800	22	14	9	2 0.87	D	2	23	15	10	2 0.91	E	3
C	ALA	11.61					TELEGRAPH AVE																
			2	1	21	14	10	2 0.88	D	2	800	22	14	9	2 0.87	D	2	23	15	10	2 0.91	E	3
C	ALA	11.80					SEVERAL INTERSECTIONS																
			2	1	18	12	8	2 0.75	C	2	800	19	12	8	2 0.75	C	2	20	13	8	2 0.78	C	2
C	ALA	12.24					ADELINE STREET																
			2	1	25	16	11	2 1.00	E	3	800	25	16	11	2 1.02	F	3	26	17	11	2 1.07	F	3
C	ALA	12.50					SEVERAL INTERSECTIONS																
			2	1	24	16	11	2 1.00	E	3	800	25	16	10	2 0.98	E	3	26	16	11	2 1.03	F	3

ROUTE 13 TRAFFIC TABLE

S E G	CO	POST MILE	TRUCK% AA DT	PK HR DT	AA DT	AM-PK AH	AM-PK BK	1982 NO LN	V/C	L O S	NO LN	CAP	1995 AA DT	AM-PK AH	AM-PK BK	1995 NO LN	D/C	L O S	NO LN	2005 AA DT	AM-PK AH	AM-PK BK	2005 NO LN	D/C	L O S	NO LN
C	ALA	13.18						JCT RTE 123																		
			3	2	28	19	12	2	1.19	F	3	950	29	18	12	2	1.14	F	3	30	19	13	2	1.20	F	3
C	ALA	13.40						SEVERAL INTERSECTIONS																		
			4	3	35	23	16	2	1.44	F	4	1150	36	23	15	2	1.42	F	4	38	24	16	2	1.48	F	4
C	ALA	13.93						JCT RTE 80																		
D	ALA	14.81						JCT RTE 61																		

EXPLANATION TO TRAFFIC VOLUME TABLES

COLUMN	DESCRIPTION
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

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

Assigned Level of Service	Facility Type	Minimum Operating Speed
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 raodway varies inversely as some function of the traffic volume.

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 medeling 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 elments 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 occupacy 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.

ACCIDENT RATE - ROUTE 13
1-81 TO 12-83

SEG	LOCATION PM	NO. OF ACCIDENTS T	FAT	INJ	PERS. KILLED	PERS INJURED	ACCIDENT RATE* FAT	F&I	T	STATEWIDE AVE.*^ FAT	F&I	T
A	0.00-4.26	UNCONSTRUCTED			U	U	UNCONSTRUCTED			UNCONSTRUCTED		
B	4.26-9.62	277	2	131	3	181	.007	.51	1.06	.014	.42	1.05
C	9.62-13.92	1055	3	370	4	545	.027	.44	9.73	.030	1.64	4.34
D	13.92-14.8	UNCONSTRUCTED			U	U	UNCONSTRUCTED			UNCONSTRUCTED		

*Rates are per million vehicle miles (MVM)
^Statewide average for the type of facility in comparable range

EXISTING FACILITIES (BRIDGES)
04-ALA-13

RTE SEG	BRIDGE NUMBER	NAME OR DESCRIPTION	POST MILE	CITY	LENGTH (FT)	WIDTH (FT)	SIDEWALKS OR CURBS LT	RT	YEAR	
		JCT RTE 580	421	OAK						
	33 344F	RTE 13/580 SEP	422	OAK	659	37			65	
	33 347S	580 ON-R13 SP	424	OAK	290	26	2.0	2.0	63	
	33 348R	CALAVERAS A UC	432	OAK	120	37			65	
	33 161	LEONA HTS POC	485	OAK	246				66	
	33 105L	CARSON ST UC	501	OAK	161	37			66	
A	33 105R	CARSON ST UC	501	OAK	161	37			66	
	33 147	REDWOOD RD OC	539	OAK	318	72	7.0	7.0	66	
	33 247	LINCOLN AVE OC	647	OAK	108	58	5.0	5.0	56	
	33 277	SEQUOIA RD PUC	694	OAK	9				58	
	33 159	PARK BLVD OC	740	OAK	133	58	5.0	5.0	56	
	33 160	LA SALLE AVE OC	776	OAK	109	30	5.0	5.0	56	
	33 244	BRUNS DR POC	791	OAK	305				56	
	33 227R	MORAGA AVE UC	827	OAK	252	41			56	
	33 227L	MORAGA AVE UC	828	OAK	262	37			64	
	33 227K	MORAGA AVE OC	832	OAK	142	26	6.0	2.0	64	
	33 162	BROADWAY TERR UC	907	OAK	119	54	1.9	1.9	51	
	33 164K	LK TEMCAL PK UC	916	OAK	25				51	
	33 09K	LANDVALE SH VI	955	OAK	180	22			34	
		JCT RTE 24 RT								
	33 377G	BROADWAY UC	957	OAK	241	26			71	
	33 376	BROADWAY OC	958	OAK	287	34		5.0	73	
	33 378	E TEMESCAL SEP	962	OAK	286	134			70	73
		JCT RTE 123	1318	BER						
B	33 54	9TH STREET SPUR	1330	BER	2FLC					
	33 60W	FOLGER A UP PM	1368	BER					65	
	33 60	FOLGER AVE UP	1369	BER	71				36	
	33 213	BAY STREET OC	1371	BER	67	28	5.0	1.9	54	
		JCT RTE 80	1391							
	33 191G	RT 13/80 SEP N	1392	BER	460	28	2.0	2.0	55	
		JCT RTE 80	1393	BER						

Route 13

COMPARISON OF FUTURE LOS WITH ROUTE CONCEPT

SEGMENT	NO. LANES/LOS			ROUTE CONCEPT		NEEDS	
	1982	1995	2005	Proposed Lanes	LOS	Lanes	Target LOS
A	UNCONSTRUCTED---------			4-6 F	U	U	U
B	4/C-45	4/C-45	4/D-35	6-F	D-35	6	D-35
C	2-4/F-20	2-4/F-15	2-4/F-15	2-4-C	F-15	6-8	D-35
D	UNCONSTRUCTED			NA	NA	NA	NA