FINAL
FEB 10 1986

SUMMARY

ROUTE CONCEPT REPORT

ROUTE 380

SM 0.300 TO SM 6.372

This report defines the development concept for Route 380 in District 4, over a 20 year planning period (1985-2005).

ROUTE CONCEPT

SEGMENT A
SM 0.300 - 4.700 ROUTE 1 - ROUTE 280 TO REMAIN UNCONSTRUCTED

SEGMENT B
SM 4.700 - 6.370 ROUTE 280 - ROUTE 101 D-40 8-LANE FREEWAY

CONCEPT RATIONALE

Route 380 serves as a connector between Route 280 and the San Francisco International Airport for both passengers and airport personnel. It also serves a a commuter route connecting the Route 101 corridor with the Route 280 corridor.

AREAS OF CONCERN

Access to the San Francisco International Airport terminal and maintenance shop area has become increasingly impaired, as the demand on existing highway access facilities exceeds the capacity. Development along the Route 101 corridor has increased congestion on Route 101. Route 280 is increasingly used as an alternate route to Route 101, with Route 380 becoming a more popular connector between Routes 101 and 280.

PROBLEM LOCATIONS

SM 380	PM 4.703 - 6.372	AM and PM Congestion
SM 380	PM 6.372 - 8.000	Inadequate Airport Access

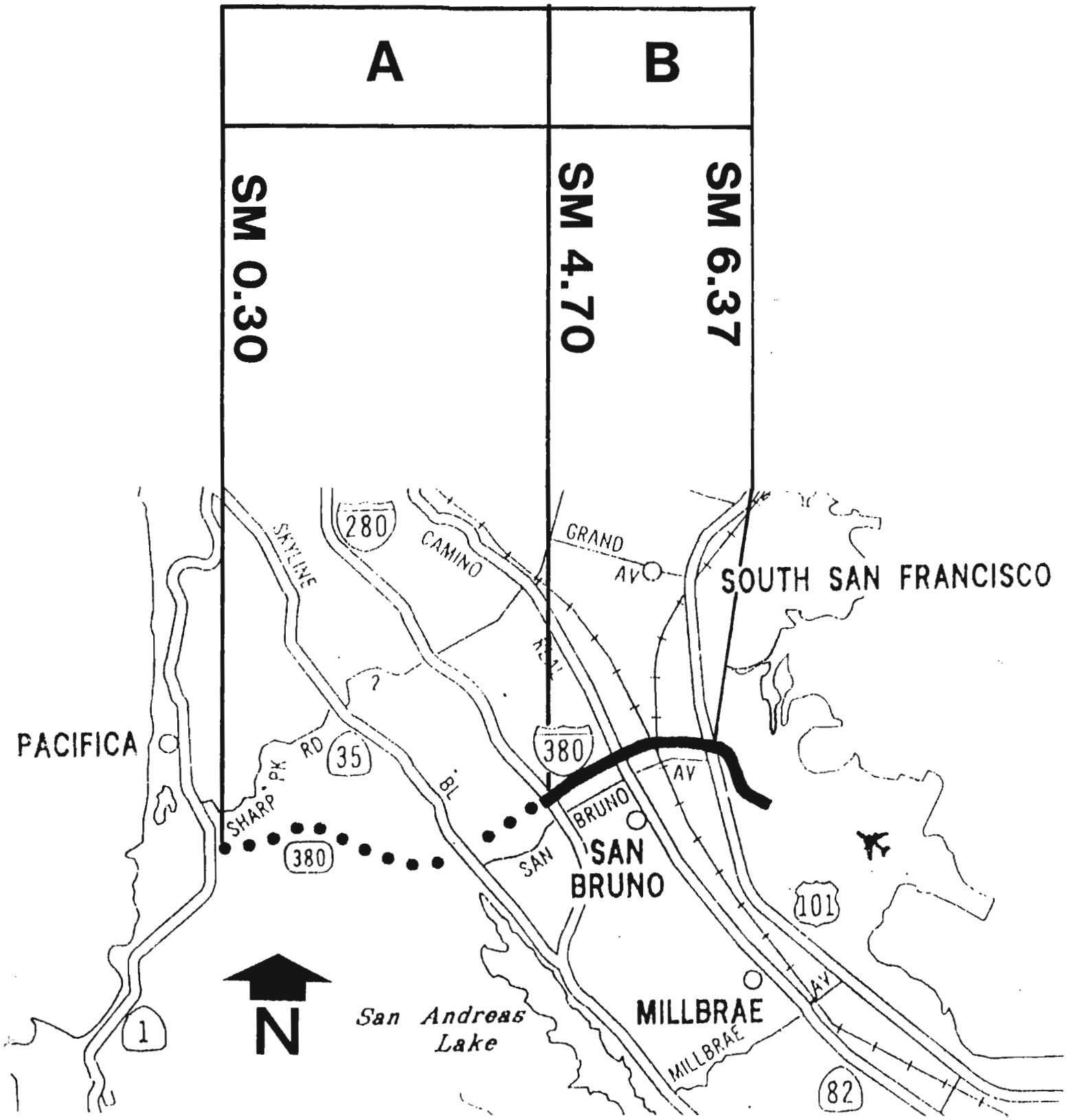
IMPROVEMENTS

The following are the improvements needed to achieve the proposed concept for Route 380:

The widening of the six lane freeway to an eight lane freeway between Route 280 (PM 4.70) and Route 82 (PM 5.30).
The modification of the Route 280/380 interchange (PM 4.70).

LOCATION MAP

Route 380



ROUTE CONCEPT REPORT

ROUTE 380

SM 0.300 to SM 6.372

Prepared under the direction of:

1-6-86

CECIL L. SMITH, Chief Date
Transportation Planning
District 4

Recommended Approval:

1-6-86

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:

1/13/86

BURCH C. BACHTOLD Date
District Director of
Transportation

Approved:

4-29-86

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

Approved:

4/10/86

for ALLAN HENDRIX, Chief Date
Division of Highways and
Programming

Approved:

4/2/86

VINCE PAUL, Chief 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 CONCEPT REPORT

ROUTE 380

SM 0.300 - SM 6.372

I ROUTE DESCRIPTION

Route 380 is approximately six miles in length and is located entirely within the county of San Mateo. The route begins at Route 1 in the city of Pacifica and runs easterly over Sweeney Ridge to Route 101 near the San Francisco International Airport. The section of the route between Route 1 and Route 280 is unconstructed, and the adoption of the alignment was rescinded in 1979. The constructed portion begins at Route 280 in the city of San Bruno and continues east for approximately 1.7 miles to Route 101. Route 380 includes a connection which begins at the Route 101 and 380 interchange and extends south to the San Francisco Airport interchange. This section is approximately 1.6 miles long, and is presently under construction.

The segment of Route 380 between Route 280 and the San Francisco International Airport is classified as a Federal Aid Interstate. Route 380 is a designated Surface Transportation Assistance Act (STAA) route for oversized trucks.

The legislative route description is as follows:

Route 380 is from:

A. Route 1 near Pacifica to Route 280 in San Bruno.

B. Route 280 in San Bruno to Route 101 in the vicinity of the San Francisco International Airport.

II PURPOSE OF ROUTE

The primary purpose of the constructed portion of Route 380 is to connect Route 280 with the San Francisco International Airport. It is a vital link between the Route 280 corridor and the San Francisco Airport, for both passengers and airport personnel. The route also serves as a commuter route, connecting the Route 280 corridor with the Route 101 corridor.

III ROUTE SEGMENTS

A. Segment A

04-SM-380, PM 0.300 - 4.703
ROUTE 1 - ROUTE 280

This segment is presently unconstructed. The segment begins at Route 1 in the city of Pacifica and proceeds east over Sweeney Ridge to Route 280 in the city of San Bruno. The land use along the Route 1 corridor to the east is mainly residential with some commercial use. The land use along Sweeney Ridge between the cities of Pacifica and San Bruno is open space. The land use along Route 35 is residential. If the segment were constructed, it would serve as a recreational and commuter route, connecting Route 1 with the Route 35, Route 280 and Route 101 corridors. Adoption of the alignment for this segment was rescinded in 1979, but the route remains in the State Highway System.

1. Existing Facilities

Segment A is unconstructed. There is presently no adopted alignment for this segment of Route 380

2. Current Operating Conditions

This segment is unconstructed.

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

This segment is unconstructed.

4. Future Operating Conditions

This segment is to remain unconstructed.

5. Route Concept

Segment A of Route 380 is to remain unconstructed.

6. Route Improvements (Post 1984 STIP)

Segment A is to remain unconstructed.

7. Concept Concerns

The residents of Pacifica and San Bruno have expressed opposition to any plan of extending Route 380 to the coast.

Should the city of San Bruno express an interest in extending Route 380 to Route 35, a study beyond the scope of the Route Concept Report would be conducted. The relinquished right of way of Route 380 between Route 280 and Route 35 remains undeveloped. An extension could alleviate congestion along Sneath Lane and San Bruno Avenue.

Presently there are no plans to extend Route 380 to Route 35. Segment A is to remain unconstructed.

B. Segment B

04-SM-380, PM 4.703 - 6.732
ROUTE 280 - ROUTE 101

This segment begins at the Route 280/380 interchange in San Bruno and continues east to the Route 101/380 interchange near the San Francisco Airport maintenance area. The Route 82/380 interchange is located within this segment. The predominant land use to the west, and along the Route 280 corridor is residential, while light industry and business parks are located in the eastern portion of Route 380 along the Route 101 corridor. Commercial land use is located along Route 82.

A connector is presently under construction between the Route 101/380 interchange and the San Francisco Airport Terminal. This connection is 1.6 miles long and will provide improved access to the airport. For the Route Concept Report, this connection, and the additional extension of Route 380 into the airport maintenance area, will be considered a part of the Route 101/380 interchange distribution network.

This segment connects the Route 280 corridor with the San Francisco International Airport.

1. Existing Facilities

a) Highway Facility

Segment B of Route 380 is a six to eight lane freeway with a total traveled way width ranging from 72 to 120 feet. The shoulders are 10 feet in width, and the median varies from 10 to 99 feet in width. One to two auxiliary lanes exist at the Route 82/380 ramps, and at the Route 101/380 interchange approach. The segment is located within the northern portion of San Mateo County, on flat terrain, with a grade less than 3%.

b) 1984 STIP Projects

The following are the projects listed in the 1984 STIP for Route 380:

FY 84/85	
PM 6.4 - 7.1	Extend Route 380 to Airport Shop Area.
PM 6.4 - 6.5	Construct two lane northbound viaduct.
PM 6.4 - 8.0	Construct Southbound Connector to Airport Interchange.
FY 86/87	
PM 6.4 - 8.0	Stage III Highway Planting.
FY 87/88	
PM 6.2 - 6.3	Airport Vehicular Overcrossing.

c) Public Transit

Transit service is not available on Route 380. The San Mateo County Transit District (SamTrans) operates bus service on local streets, including San Bruno Avenue and Sneath Lane, which parallel Route 380. The Daly City BART station - San Francisco Airport bus uses Route 82 and San Bruno Avenue rather than Route 380. Other bus service to the San Francisco International Airport use Route 101.

d) Bicycles

Bicycles are prohibited on Route 380. Bicyclists must use local city streets when traveling from the Route 280 corridor to the Route 101 corridor.

e) Park and Ride

There are no Park and Ride facilities along Route 380, and none are planned in Caltrans' proposed five year Park and Ride Program.

f) Rail Transit

No Rail system serves the Route 380 corridor. Caltrain serves the Route 101 corridor, with stations located 1.6 miles to the north of Route 380 in the city of South San Francisco, and 0.8 mile to the south in the city of San Bruno.
BART has discussed the possibility of an extension from the Daly City BART station to the San Francisco Airport, with stations in the cities of Colma and South San Francisco. The proposed Tanforan BART Station would be located within a quarter mile of Route 380. The extension may affect the number of vehicles using Route 380 as an access route to the San Francisco Airport from the north Route 280 corridor.

2. Current Operating Conditions

The 1982 Average Annual Daily Traffic (AADT) ranges from 59,000 at Cherry Avenue to 52,100 at the Route 101 interchange. The AM peak hour traffic volume ranges from 4,400 to 3,900 eastbound and from 1,500 to 1,300 westbound. This reflects the commute into the Route 101 corridor. The Volume to Capacity ratio (V/C) ranges from .73 (Level of Service of C-50) at Cherry Avenue to .49 (LOS of B-55) at the Route 101 interchange. Truck traffic is light, ranging from 4 to 5 % (3 to 4% for the AM peak hour).

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

There were 159 accidents with 109 injuries and one fatality along this segment. The total accident rate was 1.55/Million Vehicle Miles (MVM), which was above the statewide average total accident rate of 0.85/MVM for similar facilities. The fatality rate was .009/MVM, which was above the statewide average fatality rate of .008/MVM.

4. Future Operating Conditions

The projected AADT for the year 1995 (2005) is 66,000 (77,000) for the constructed portion of the segment. The AM peak hour volume is expected to be 5,000 (5,500) eastbound and 1,600 (1,900) westbound.

The 1995 Demand to Capacity ratio (D/C) is projected to range from .83 (LOS of D-40) to .62 (LOS of C-50). The 2005 D/C is projected to range from .96 (LOS of E-30) to .72 (LOS of C-50).

5. Route Concept

The concept for segment B of Route 380 is an eight lane freeway from the Route 280/380 interchange (PM 4.70) to the Route 101/380 interchange (PM 6.37), with a connector to the San Francisco International Airport Terminal. The conceptual LOS for this segment is D-40.

6. Route Improvements

The following are the improvements needed to achieve the proposed concept for segment B of Route 380:

The modification of the Route 280/380 interchange (Post Mile 4.70).
The widening of the existing six lane freeway to an eight lane freeway with auxiliary lanes between the Route 280/380 interchange (PM 4.70) and the Route 82/380 interchange (PM 5.30).

7. Concept Concerns

Future development along the Route 101 corridor, at Oyster Point to the northeast of Route 380, and around the San Francisco Airport, will cause an increase in traffic volume on Route 380. As Route 101 becomes congested, Route 280 will be utilized more as an alternate route, with Route 380 becoming a more popular connector between Routes 101 and 280. Traffic projections indicate a need for at least four lanes in each direction by the year 2005. Four lanes in each direction will also be necessary for better distribution of traffic on the approaches to the interchanges. Since Route 380 contains four interchanges within 1.67 miles, an eight lane freeway would better accommodate the through and merging traffic.

Structural widening of the facility is not required. The existing paved median and inside shoulders are capable of supporting the additional one lane in each direction. All that is required is the restriping of the freeway facility between Route 280 and Route 82.

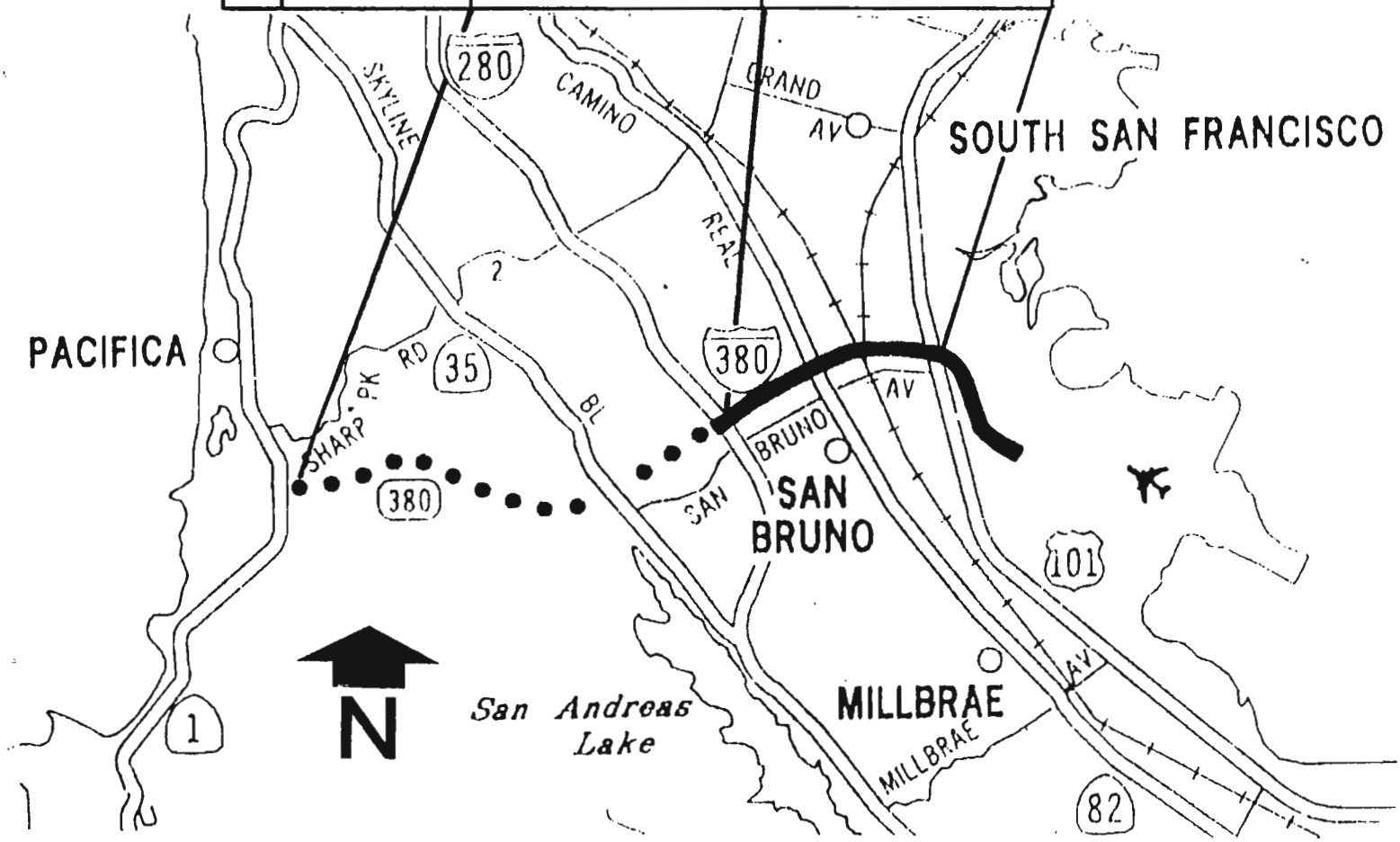
The Route 280/380 interchange experiences congestion during peak hours. Modification of the interchange will be necessary to accommodate the increase in demand. Improvement of the Route 280/380 interchange may require structural modifications.

Senate Concurrent Resolution #74 (SCR 74) set up the Joint Powers Agreement, which allows government agencies along the San Mateo Peninsula to work together in solving the transportation concerns along the Route 101 corridor. Any transportation improvements to the Route 101 corridor, such as a BART extension, would be a result of this Joint Powers Agreement.

The city of San Bruno and Caltrans are planning to connect a nearby frontage road with Route 380. The connection is to be located at the Route 280/380 interchange, and will improve access from Sneath Lane and San Bruno Avenue to Route 380. Presently, access to Route 380 from San Bruno Avenue and Sneath Lane is via Route 82. A Route 380/frontage road connection could alleviate congestion on Route 82.

EXHIBIT A

SEGMENT		SM 0.30 A	SM 4.70 B SM 6.37
NO. OF LANES	PRESENT	UNCONSTRUCTED	6-8
	1995		6-8
	2005		6-8
LEVEL OF SERVICE	PRESENT		C-50
	1995		D-40
	2005		E-30
TERRAIN			FLAT
GRADES			0-3%
ACTUAL	Accidents Per MVM		1.55
	Fatalities Per MVM		.009



EXPLANATION TO EXHIBIT A

LEVEL OF SERVICE

The Level of Service (LOS) 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. The level of service indicated in Exhibit A represents the level of service during the morning (AM) peak hour. The level of service in this report is followed by the minimum operating speed.

TERRAIN

Terrain describes the adjacent topography as to its effect on construction cost. (F-Flat, R-Rolling, M-Mountainous) Flat reflects minor grading; rolling reflects moderate grading; mountainous reflects heavy grading as economic considerations. (Note that terrain is a measure of construction cost while grade is a measure of operating cost as used in this report.)

GRADES

Grade line, a generalization of the grades along the center line of the highway. Four types of codes are used. They are:

F - Flat grade, 0-3 percent upgrades and downgrades.

R - Rolling, 3-6 percent upgrades and downgrades and sustained grades less than 1/4 mile.

M - Moderate, grades greater than 6 percent for one-half or less of the segment length and sustained grades 1/4 to 3/4 mile in length.

S- Steep, grades greater than 6 percent for more than one-half the segment length and sustained grades greater than 3/4 mile in length.

ACCIDENTS PER MVM

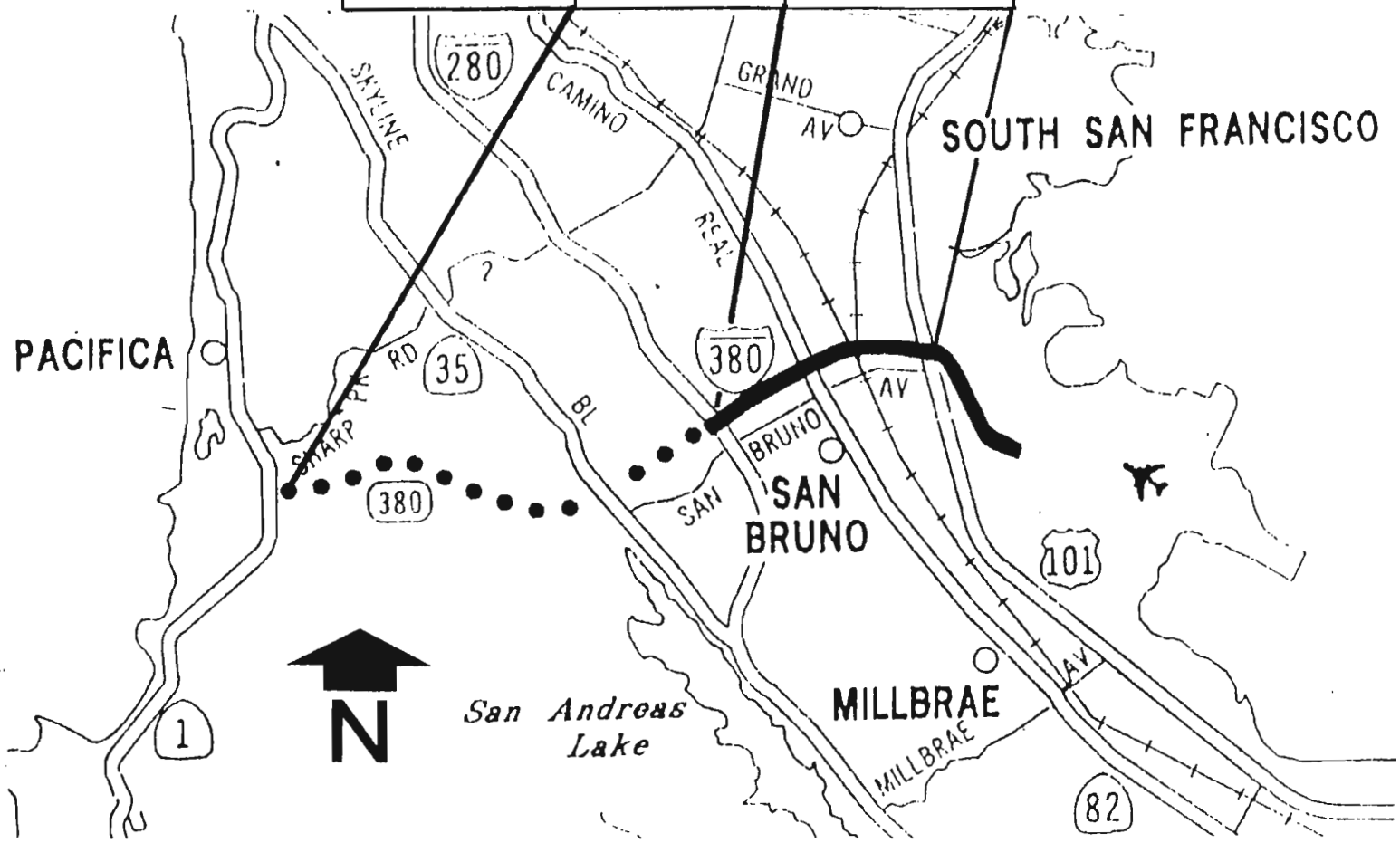
The number of accidents per million vehicle miles driven along the segment.

FATALITIES PER MVM

The number of fatalities per million vehicle miles driven along the segment.

EXHIBIT B

SEGMENT		A (SM 0.30)	B (SM 4.70 – SM 6.37)
P.H.V. AADT. (00) (.000)	1982	UNCONSTRUCTED	59
	1995		66
	2005		77
	1982		44-13
	1995		50-17
	2005		57-19
AVE. HWY SPEED			70
OPERATING SPEED			41
V/C	1982		.73
	1995		.83
	2005		.96
YEAR CAPACITY WILL BE REACHED			2005 +



EXPLANATION TO EXHIBIT B

AADT

Annual Average Daily Traffic (In Thousands) in both directions.

P.H.V.

Peak Hour Vehicles (In Hundreds). Number of vehicles in one direction during the morning (AM) Peak Hour.

AVE HWY SPEED

The Average Highway Speed is the weighted average of the design speeds within a highway section. (Design speed is a speed selected to establish specific minimum geometric design elements for a particular section of highway.) On non-engineered roads the average highway speed has been estimated.

OPERATING SPEED

A computed value based on the V/C ratio and the average highway speed. Basically, it represents the present operating speed during the present design hour volume of traffic on existing highway geometric. For segments of highway controlled by traffic signals, an "S" replaces the operating speed and generally represents speeds of 15 to 30 MPH.

V/C

Ratio of Volume to Capacity. Volume represents the number of vehicles per hour that want to travel the highway as represented by the present design hour volume. Capacity represents the maximum number of vehicles per hour the highway can carry as indicated in the Highway Capacity Manual.

D/C

Ratio of Demand to Capacity. Demand represents the projected number of vehicles per peak hour that will want to travel the highway. Capacity represents the maximum number of vehicles per hour the highway can carry.
(Projected Peak Hour Demand/Design Capacity).

ROUTE 380 EXISTING FACILITIES

EXHIBIT C

ROUTE SEGMENT	COUNTY	FROM PM	TO PM	LENGTH	TOTAL TRAVELED WAY WIDTH (FEET)	NUMBER OF LANES	OUTSIDE SHOULDER WIDTH (FEET)	MEDIAN WIDTH (FEET)
A	SM	0.300	4.703	4.403		--UNCONSTRUCTED--		
B	SM	4.703	6.372	1.669	72-120	6-8F	10	10-99

EXISTING FACILITIES (BRIDGES)
ROUTE 380

EXHIBIT D

ROUTE SEGMENT	BRIDGE NUMBER	NAME OR DESCRIPTION	ROUTE	POST MILE	COUNTY	CITY	STRUCTURE TYPE OR PUC NUMBER	WID OR EXT TYPE	LENGTH (PROT)	WIDTH
B	35 219F	SBD CONN OC	380	4.65	SM	SBR	CBC		754	39
	35 221L	EBD CONN UC	380	4.67	SM	SBR	QB		143	65
	35 221R	EBD CONN UC	380	4.67	SM	SBR	QB		150	71
	35 63F	NATIONAL CEM U	380	T4.70	SM	SBR	QBCCBC		111	39
	35 217	RTE 280/380 S	380	T4.71	SM	SBR	CBC		354	138
	35 218S	NATIONAL CEM O	380	T4.81	SM	SBR	CBC	CBC	378	36
	35 226	CHERRY AVE UC	380	T4.98	SM	SBR	CBC		135	230
	35 223	RTE 380/82 SEP	380	5.45	SM	SBR	CBC		180	165
	35 253	HUNTINGTON A OH	380	5.73	SM	SBR	QBCCBCQI	CBC	1031	195
	35 263G	SAN BRUNO A OH	380	6.19	SM	SBR	QBCCBC		1369	40
	35 261L	7TH AVE UC	380	6.20	SM	SBR	QB		133	40
	35 261R	7TH AVE UC	380	6.20	SM	SBR	QB		144	40
	35 262G	WBD CONN OC	380	6.21	SM	SBR	QBCCBC		2338	40
	35 255R	RTE 380/101 SEP	380	6.32	SM	SBR	QBCCBC		844	40
	35 255L	RTE 380/101 SEP	380	6.33	SM	SBR	QBCCBC		799	41
	35 254G	NBD CONN OC	380	6.37	SM	SBR	QBCCBC		1648	40
	35 271F	SBD CONN OC	380	6.40	SM	SBR	QBCCBC		1207	36
	35 281F	NORTH CHANNEL	380	6.48	SM	SBR	CB		180	24

ROUTE 380

ACCIDENT REPORT BETWEEN 1-81 AND 12-83

EXHIBIT E

LOCATION PM	SEGMENT	TOTAL	NO. OF ACCIDENTS FATAL	INJ	F+I	PERSONS KILLED	PERSONS INJURED	ACCIDENT RATE* FATAL	F+I	TOTAL	STATEWIDE RATE** FATAL	F+I	TOTAL
SM 0.300 - 4.710	A						--UNCONSTRUCTED--						
SM 4.710 - 6.370	B	159	1	66	67	1	109	.009	.65	1.55	.008	.32	.85

* RATES ARE PER MVM (MILLION VEHICLE MILES)

** STATEWIDE AVERAGES FOR THIS TYPE OF FACILITY

ROUTE 380 TRAFFIC TABLE

EXHIBIT F

SEG	CO	POST MILE	TRUCK% AA DT	TRUCK% PK HR	1982 AA DT	1982 AM-PK AH	1982 AM-PK BK	1982 NO L	1982 V/C	1982 LOS	1982 LN	1982 CAP	1995 AA DT	1995 AM-PK AH	1995 AM-PK BK	1995 NO L	1995 D/C	1995 LOS	1995 LN	2005 AA DT	2005 AM-PK AH	2005 AM-PK BK	2005 NO L	2005 D/C	2005 LOS	2005 LN
A	SM	0.30				ROUTE 1																				
					--UNCONSTRUCTED--								--UNCONSTRUCTED--							--UNCONSTRUCTED--						
B	SM	T4.71				ROUTE 280																				
			4	3	59	44	15	3	0.73	C	3	2000	66	50	17	3	0.83	D	3	77	57	19	3	0.96	E	4
B	SM	T5.00				CHERRY AVENUE																				
			4	3	59	44	15	4	0.55	B	4	2000	66	50	17	4	0.62	C	4	77	57	19	4	0.72	C	4
B	SM	5.47				ROUTE 82																				
			5	4	52	39	13	4	0.49	B	4	2000	66	50	17	4	0.62	C	4	77	57	19	4	0.72	C	4
B	SM	6.37				ROUTE 101																				

EXPLANATION TO TRAFFIC VOLUME TABLES

COLUMN	DESCRIPTION
SEG	Route Segment
CO	County Abbreviations
POST MILE	Post Mile in County
AADT	Annual Average Daily Traffic (Thousands)
AM-PK	Morning Peak Hour Traffic
AH	Volume - Ahead Direction (Hundreds)
BK	Volume - Back Direction (Hundreds)
NO L	Number of Lanes (Existing) - One Direction
V/C	Volume/Capacity: Ratio of Peak Hour Volume to Maximum Number of Vehicles per Hour for Peak Direction During Peak Hour (Peak Hour Volume/Capacity)
D/C	Demand/Capacity: Ratio of Volume of Projected Demand to Maximum Number of Vehicles per Hour (Projected Peak Hour Demand/Design Capacity)
LOS	Level of Service According to Functional Classification of the Route Relative to the Terrain and Facility
LN	Number of Lanes Needed to Meet the Conceptual LOS
CAP	Capacity of Facility (Capacity per Lane)

Facility	Vehicles per Hour per Lane Expected Pk Hr Capacity
Freeway	2000
Expressway or Divided/ One-Way Arterial	1500
Other Type of Arterial	1350
Rural Road	1200
City Street or Mountainous Road	800

% TRUCK AADT	Truck Percent of the Average Annual Daily Traffic Count
% TRUCK PK HR	Truck Percent at Peak Hour

ROUTE 380 FACILITY TABLE

EXHIBIT G

SEG	COUNTY	POST MILES BEGIN END LOCATION	1982 -PRESENT- LOS	1982 -PRESENT- FACILITY	1995 -1984 STIP- LOS	1995 -1984 STIP- FACILITY	2005 -NO BUILD- LOS	2005 -NO BUILD- FACILITY	2005 -ROUTE CONCEPT- LOS	2005 -ROUTE CONCEPT- FACILITY	2005 TARGET -NEED- LOS	2005 TARGET -NEED- FACILITY
A	SM	0.300 - 4.700 ROUTE 1 - ROUTE 280	UNCONSTRUCTED		UNCONSTRUCTED		UNCONSTRUCTED		TO REMAIN UNCONSTRUCTED			
B	SM	4.700 - 6.372 ROUTE 280 - ROUTE 101	C-50	6-8F	D-40	6-8F	E-30	6-8F	D-40	8F	D-40	8F

ROADWAY LEVEL OF SERVICE

EXPLANATION

LEVEL OF SERVICE A — VOLUME/CAPACITY RATIO = .00 - .40

Free flow conditions
Low volumes
High operating speed
Uninterrupted flow
No restriction on maneuverability
Drivers maintain desired speeds
Little or no delays

LEVEL OF SERVICE B — VOLUME/CAPACITY RATIO = .41 - .58

Stable flow conditions
Operating speeds beginning to be restricted

LEVEL OF SERVICE C — VOLUME/CAPACITY RATIO = .59 - .80

Stable flow but speed and maneuverability
restricted by higher traffic volumes
Satisfactory operating speed for urban conditions
Delays at signals

LEVEL OF SERVICE D — VOLUME/CAPACITY RATIO = .81 - .90

Approaching unstable flow
Low speeds
Major delays at signals
Little freedom to maneuver

LEVEL OF SERVICE E — VOLUME/CAPACITY RATIO = .91 - 1.00

Lower operating speeds
Volumes at or near capacity
Unstable flow
Major delays and stoppages

LEVEL OF SERVICE F — VOLUME/CAPACITY RATIO = 1.01 OR MORE

Forced flow conditions
Low speeds
Volumes below capacity, may be zero
Stoppages for long periods because of
downstream congestion

RELATIONSHIP OF LEVEL OF SERVICE TO OPERATING SPEED

Level of Service	Facility Type	Minimum Operating Speed	Assigned Operating Level of Service
B	Freeways, Expressways, or Multi-Lane Divided Conventional Highways	55 MPH	B-55
B	Two-Lane Conventional Highways	50 MPH	B-50
C	Freeways or Expressways	50 MPH	C-50
C	Multi-Lane Conventional Highways	45 MPH	C-45
C	Two-Lane Conventional Highways	45 MPH	C-45
C	Two-Lane Conventional Highways	40 MPH	C-40
D	Freeways or Expressways	40 MPH	D-40
D	Conventional Highways	35 MPH	D-35
D	Conventional Highways with controlling traffic signals	15-30 MPH	D-35

The 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.

In the Route Concept Report, the level of service is followed by the minimum operating speed.

* Not all conditions are represented by this chart.

TRAVEL DEMAND PROJECTIONS METHODOLOGY (ABSTRACT)

1995 & 2005 Demand Person Trip 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 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 segment 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.

EXPLANATION TO EXISTING FACILITIES (BRIDGES) TABLE

ROUTE SEGMENT:

Segment of route in which bridge is located.

BRIDGE NUMBER: Suffix, when used, is coded as follows:

J - Outer Outer Left
K - Left Outer Highway Structure
L - Left Structure or Left Inner Structure
C - Center Structure
R - Right Structure or Right Inner Structure
S - Right Outer Highway Structure
T - Outer Outer Right
Y - Structure or Grade Xing on State-owned and Maintained Connections not on main Highway (May be Closed)
W - Drainage Pumping Station
M - Buried Hazard or Miscellaneous Structure
Z - Access to Private Property or Closed with no access
E - Connector Structure
F - Connector Structure
G - Connector Structure
H - Connector Structure

NAME OR DESCRIPTION:

May contain miscellaneous information. Additional miscellaneous information may be found on the same line under the heading "Structure Type or PUC number or Pump Data".

ROUTE:

State highway route.

POST MILE:

Prefixes of R, M, and N refer to realigned routes. The prefix C refers to commercial routing. The prefix L refers to section paralleling another route (Non-Add). Post miles are to 1/100 mile.

COUNTY:

County in which bridge is located (Caltrans "Alpha" Code).

CITY:

City in which bridge is located (Caltrans "Alpha" Code).

EXPLANATION TO EXISTING FACILITIES (BRIDGES) TABLE

STRUCTURE TYPE OR PUC NUMBER:

Structure type - Three types may be shown for multiple-type structures. Spacings are 3-Column, 3-Column, and 3-Column.

Coding 1st two columns of all three types:

LS - Log Stringer
TS - Timber Stringer
TT - Timber Truss
TA - Timber Arch
SP - Steel Pipe (Girder)
SS - Steel Stringer (Rolled Sections)
SG - Steel Plate Girder
TB - Timber Slab (Laminated)
SB - Steel Box Girder
ST - Steel Truss
SA - Steel Arch
CS - Concrete Slab
PS - Precast Concrete Slab
PB - Precast Concrete Box Girder
CA - Concrete Arch
CB - Concrete Box Girder
CC - Concrete Box Culvert
CG - Concrete Girder
CP - Concrete Pipe
CU - Concrete Arch Culvert
PG - Precast Concrete Girders

QB - Cast in Place Prestressed Box Girder
QG - Cast in Place Prestressed Girder (Not in Box)
QS - Cast in Place Prestressed Slab
QX - Precast Prestressed Box Girder
QI - Precast Prestressed "I" Girder
QJ - Precast Prestressed Double "T" Girder
QK - Precast Prestressed "T" Girder
QT - Precast Prestressed Inverted "T" Girder
QU - Precast Prestressed Inverted "U" Girder
QW - Precast Prestressed Inverted "W" Girder
QA - Precast Prestressed Slab

SU - Suspension
MP - CMP or Multi Plate
TU - Tunnel
MA - Masonry Arch
CT - Combination Truss (Steel and Timber)
TW - Timber Retaining Wall
CW - Concrete Retaining Wall
SW - Steel Retaining Wall
CD - Concrete Dam
ED - Earth Dam
SLS- Seal Slab
FER- Ferry Boat

Third Column is coded, where it applies, as follows:

A - Welded
B - Welded Continuous
T - Through
L - Through Continuous
D - Deck
H - Deck Continuous
P - Pony
O - Open Spandrel
F - Earth Fill
B - Box (Box Girder)

C - Continuous
E - Continuous with Std. Cantilevered Ends (No Abuts.)
W - Sidewalk
K - Pier or Tower Span
I - Continuous over Inclined Bents
Q - Prestressed (Use Other Coding if Possible)
S - Stayed
R - Orthotropic

PUC Number (For Railroad Grade Crossing).

EXPLANATION TO EXISTING FACILITIES (BRIDGES) TABLE

WID. OR EXT. TYPE:

Latest widening or extension.
See code explanation under STRUCTURE TYPE OR PUC NUMBER.

LENGTH (PROT):

Total bridge length (Feet) or grade crossing protection.
Main type of signal only coded as follows:

FLC - Flashing Lights on Cantilever Arms
FL - Flashing Light Signals
G - Manual Gates
H - Human Flagmen
K - Automatic Gates
M - Flashing Light Signals with Rotating Stop Banner
O - Standard Overhead Sign
T - Traffic Signals Synchronized
W - Standard Wigwag
WM - Magnetic Wigwag Flagmen or Other Type of Wigwag with Flashing Light Aspect
X - Standard Crossbuck
XR - Reflectorized Crossbuck

WIDTH:

Bridge width (in feet).