

**SUMMARY**  
**ROUTE CONCEPT REPORT**  
**ROUTE 87**

**FINAL**  
**SEP 30 1986**

SCL 0.00 to SCL 14.10

This report defines the development concept for Route 87 in District 4, over a twenty-year planning period (1985-2005).

**ROUTE CONCEPT**

Segment A:	SCL 00.00-T5.55	Route 85 to Route 280	D-40	6-Lane Freeway
Segment B:	SCL T5.55-T6.12	Rte 280 to W. Julian St.	D-40	6-Lane Freeway
Segment C:	SCL T6.12- 9.25	W. Julian St. to Rte 101	D-40	6-Lane Freeway
Segment D:	SCL 9.25-14.10	Route 101 to Route 237	To Remain Unconstructed	

**CONCEPT RATIONALE**

Route 87 will serve as a commuter connector between residential southern San Jose and the commercial and industrial developments in northern Santa Clara County. Route 87 could possibly relieve some of the growing volume of commute traffic from Route 101 and may reduce congestion on the local streets.

**AREAS OF CONCERN**

Heavy commercial and industrial development is occurring east and north of Route 87. The northbound commute pressure will increase as job opportunities develop.

**IMPROVEMENTS (Post 1986 STIP)**

The following is the improvement necessary to achieve the proposed concept for Route 87:

**Segment A:**

The widening of the proposed four-lane freeway to a six-lane freeway between Route 85 and Route 280 (Post Mile SCL 0.00 to Post Mile SCL T5.55).

**Segment B:**

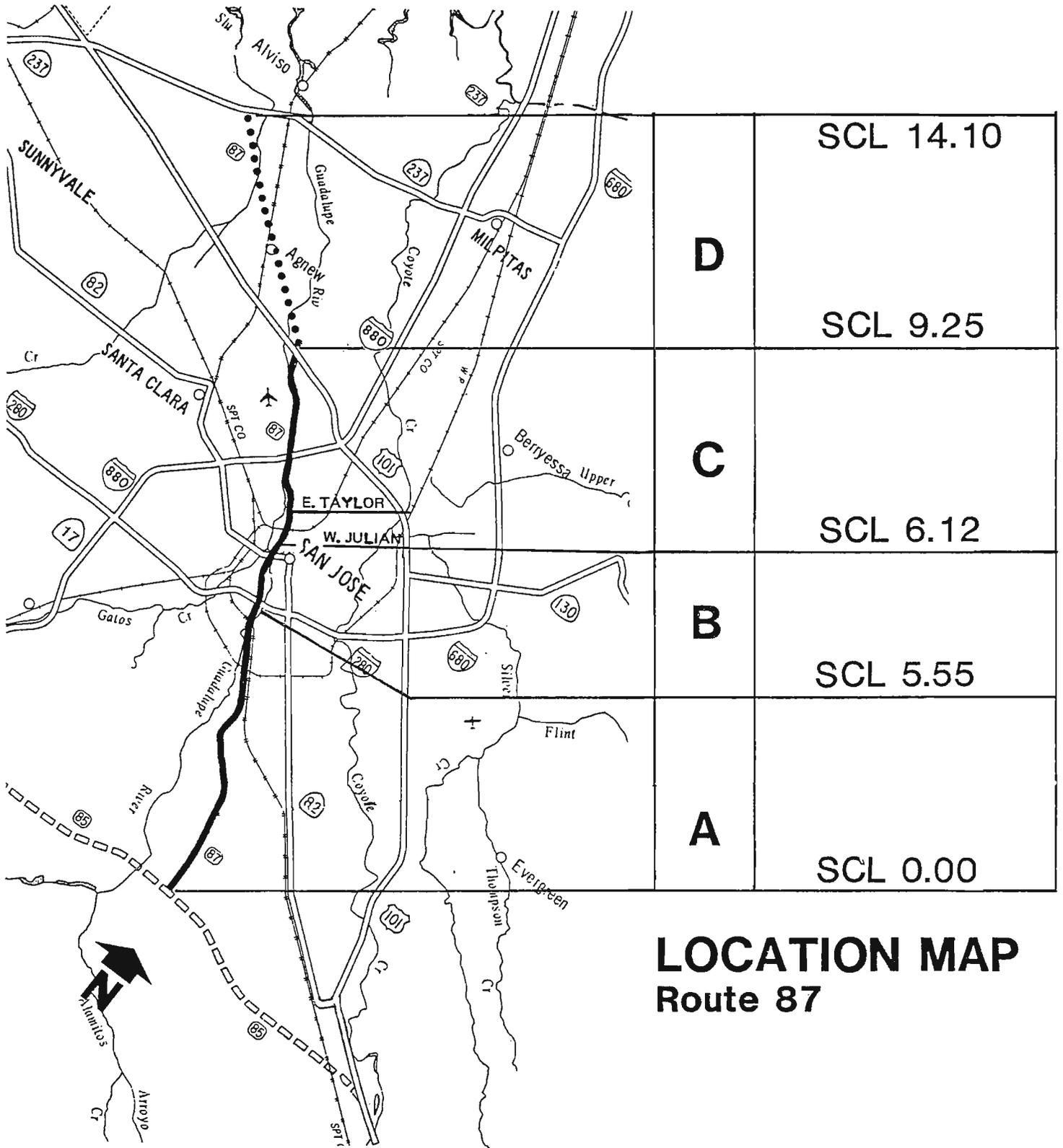
The widening of the proposed and existing four-lane freeway to a six-lane freeway between Route 280 and West Julian Street (Post Mile SCL T5.55 to Post Mile SCL T6.12).

**Segment C:**

The construction of a six-lane freeway between West Julian Street and Route 101 (Post Mile SCL T6.12 to Post Mile SCL 9.25).

**Segment D:**

No improvements are proposed for Segment D of Route 87. Segment D is to remain unconstructed between Route 101 and Route 237 (Post Mile SCL 9.25 to Post Mile SCL 14.10).



SCL 14.10

**D**

SCL 9.25

**C**

SCL 6.12

**B**

SCL 5.55

**A**

SCL 0.00

**LOCATION MAP**  
**Route 87**

- ADOPTED ALIGNMENT
- ALIGNMENT NOT ADOPTED

ROUTE CONCEPT REPORT

ROUTE 87

SCL 00.00 to SCL 14.10

Prepared under the direction of:

Recommended Approval:

*M. J. Johnson* 9/26/86

MERLE J. JOHNSON  
Acting Chief,  
Transportation Planning

Date

*George E. Gray* 30 Sept, '86

GEORGE E. GRAY  
Deputy District Director  
Planning, Programming and  
Public Transportation

Date

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

Approved:

Approved:

*Burch C. Bachtold* 9/30/86

BURCH C. BACHTOLD  
District Director  
District 4

Date

D. L. WIEMAN, Chief  
Division of Transportation  
Planning

Date

Approved:

Approved:

ALLAN HENDRIX, Chief  
Division of Highways -  
Program Management

Date

VINCE PAUL, Chief  
Division of Project  
Development

Date

## 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 87

SCL 0.00 to SCL 14.10

#### I ROUTE DESCRIPTION

Legislative Route 87 is approximately 14 miles long and located entirely within Santa Clara County. The adopted portion of the route begins at presently unconstructed Route 85 in the residential neighborhoods of southern San Jose, and proceeds north through downtown San Jose to Route 101 near the San Jose International Airport and the Guadalupe River. The section of Route 87 between Route 101 and Route 237 is not adopted. The only section of the route that is presently constructed is a .6 mile long segment near the Route 280 Interchange. This segment was constructed in 1970-1972.

The Almaden Expressway serves as a traversable route along the Guadalupe Corridor south of Route 280. Between East Taylor Street and Route 101, the major traversable route is the Guadalupe Parkway. The Parkway is under the jurisdiction of the City of San Jose. Santa Clara County has purchased additional right-of-way to convert the parkway to freeway status. Route 87 from Route 101 to Route 237 is unconstructed.

The Santa Clara County Light Rail Transit (LRT) will be located in the median of Route 87 from Route 85 to San Carlos Street. The corridor along which Route 87 and the LRT are to be located is commonly referred to as the Guadalupe Corridor.

Route 87, between Route 85 and Route 101, is a Federal-Aid-Urban Route, and is functionally classified as an Urban Principal Arterial with controlled access (freeway/expressway). The route is not a SHELL Route (Subsystem of Highways for Extra Legal Loads), and is not in the Surface Transportation Assistance Act (STAA) System for oversized trucks. The entire route is in the State Freeway and Expressway System. The route is not designated as a State Scenic Highway.

The legislative description of Route 87 is as follows:

"Route 87 is from:

- (a) Route 85 in the vicinity of Pearl Avenue to Route 101 in the vicinity of the Guadalupe River.
- (b) San Jose easterly of Route 101 to Route 237."

## II PURPOSE OF ROUTE

The construction of the Route 87/Guadalupe Corridor LRT, expresway and freeway will greatly relieve the current and future congestion that is experienced along the corridor.

Construction of the Route 87 freeway portion of Guadalupe Corridor transportation improvements will commence in early 1987, with completion scheduled for the summer of 1989.

Construction of the LRT portion of the Guadalupe Corridor project is presently under way. The 372 million dollar LRT system is also expected to be completed the summer of 1989.

The route will serve intra-urban commuter traffic.

## III ROUTE SEGMENTS

### A: Segment A:

04-SCL-87, P.M. SCL 0.000 to T5.555  
Route 85 to Route 280

This unconstructed segment of Route 87 begins approximately .2 mile north of Blossom Hill Road near Pearl Avenue in south San Jose. The route originates from the presently unconstructed Route 85/87 Interchange. From there, the route proceeds northward to the constructed Route 87/280 Interchange. The Route alignment traverses the residential neighborhoods of Southern San Jose. The entire segment is within the City of San Jose.

#### 1. Existing Facilities

##### a) Highway Facility

Segment A of Route 87 is presently unconstructed. Construction of a four-lane freeway with transit right-of-way scheduled to begin in early 1987.

##### b) Current (1986) STIP Projects

The following are the projects programmed in the 1986 State Transportation Improvement Program (STIP) for Segment A of Route 87:

FY 1987/88	Pearl Avenue to Capitol Avenue
P.M. 0.0/1.4	Highway Planting
	Guadalupe Corridor
	Total Estimated Cost: \$0.4M (1/86)

FY 1985/86 P.M. 00/1.6	Pearl Avenue to Capitol Expressway Construct Transportation Corridor Guadalupe Corridor Total Estimated Cost: \$8.9M (1/86)
FY 1985/86 P.M. 0.0/2.9	Route 85: Miyuki Drive to Route 87 Route 87: Route 85 to Curtner Ave. Construct Expressway Guadalupe Corridor Total Estimated Cost: \$6.5M (1/86)
FY 1985/86 P.M. 1.0/2.6	South of Capitol Expressway to South of Curtner Avenue Construct Expressway & Interchange Guadalupe Corridor Total Estimated Cost: \$32.0M (1/86)
FY 1985/86 P.M. 1.0/2.6	South of Capitol Expressway to South of Curtner Avenue Construct Capitol Expressway I/C Guadalupe Corridor Total Estimated Cost: \$6.1M (1/86)
FY 1988/89 P.M. 1.4/2.6	Capitol Expressway to .2 mile south of Curtner Avenue Highway Planting Guadalupe Corridor Total Estimated Cost: \$0.7M (1/86)
FY 1986/87 P.M. 2.6/4.8	South of Curtner Ave. to Willow St. Construct Expressway Guadalupe Corridor Total Estimated Cost: \$38.2M (1/86)
FY 1985/86 P.M. 4.5/4.9	Willow Street to Virginia Street Construct Bridges Guadalupe Corridor Total Estimated Cost: \$9.6M (1/86)
FY 1985/86 P.M. 4.8/5.5	Virginia Street to San Carlos Street (Route 82) Construct LRT in Median Guadalupe Corridor Total Estimated Cost: \$3.6M (1/86)
FY 1987/88 P.M. 5.1/6.3	Route 280 to Julian Street Highway Planting Total Estimated Cost: \$0.5M (1/86)

c) Bicycle

Segment A of Route 87 is unconstructed. Bicyclists must use local city streets.

d) Public Transit

Santa Clara County Transit provides extensive bus service on local street along the Route 87 corridor.

e) Park and Ride

There are no park and ride lots along Segment A. Several park and ride lots will be constructed for use with the Guadalupe Light Rail Transit in the near future.

f) Rail Transit

The Guadalupe Corridor LRT is proposed to consist of a 19.2 mile long system with either single or double tracks located in the median of the of Route 87, city streets or in exclusive right-of-way. There are a total of 35 stations that are currently planned. The LRT will operate between Marriott's Great America business and theme park in northern Santa Clara County and the IBM business park area in southern San Jose. An additional spur line will run west to the Oakridge Mall Shopping Center and Almaden Lake Park. There will be 10 park and ride lots constructed along the LRT line south of Route 280. For further information, consult the Guadalupe Corridor Final Environmental Impact Statement (FEIS).

2. Current Operating Conditions

This segment is unconstructed.

3. Accident Data

This segment is unconstructed.

4. Future Operating Conditions

The following traffic forecasts were based on the Horizon 2000 model developed by the City of San Jose.

The projected 1995 Annual Average Daily Traffic (AADT) ranges from 19,000 at the Route 87/85 Interchange to 50,000 at the Route 87/280 Interchange. The northbound AM peak hour volume is expected to range from 1,100 at the Route 87/85 Interchange to 3,800 at the Route 87/280 Interchange; the southbound AM peak hour volumes range from 800 to 1,300 at the same locations.

The projected 2005 AADT ranges from 26,000 at the Route 87/85 Interchange to 57,000 at the Route 87/280 Interchange. The northbound AM peak hour volumes range from 1,600 to 4,300; southbound volumes range from 1,000 to 1,400. These volumes are at the same locations as the 1995 data.

The 1995 projected Demand to Capacity ratio (D/C) (assuming the construction of a four-lane freeway) is expected to be .95 with a Level of Service (LOS) of E-30.

The 2005 projected D/C for a four-lane freeway is expected to be 1.08 with an LOS of F-20.

#### 5. Route Concept

The concept for Segment A of Route 87 is a 6-lane freeway along the entire segment. The conceptual LOS is D-40.

#### 6. Route Improvements

The widening of the proposed four-lane freeway to a six-lane freeway for the entire segment, between Route 85 (Post Mile SCL 0.00) and Route 280 (Post Mile SCL T5.55).

### B. Segment B:

04-SCL-87, P.M. SCL T5.555 - SCL 6.119  
Route 280 to West Julian Street

Segment B of Route 87 begins at Route 280 and continues north to West Julian Street in downtown San Jose. This is the only constructed section of Route 87 freeway, which was constructed approximately 15 years ago. At the present time, this .6 mile section of Route 87 is used as an access from Route 280 to downtown San Jose. The segment is a freeway and conventional highway facility. The conventional highway portion is currently being upgraded to freeway status. The entire segment is within the City of San Jose.

#### 1. Existing Facilities

##### a) Highway Facility

There are two lanes in each direction; with adequate right-of-way for future expansion. The current median is six feet wide and the paved shoulders range from two to eight feet in width.

b) Current (1986) STIP Projects

FY 1987/88	Route 280 to Julian Street
P.M. 5.1/6.3	Highway Planting
	Total Estimated Cost: \$0.5M (1/86)

c) Bicycle

Bicyclists are not allowed on this segment of the route, there are numerous city streets that can be utilized for bicycle usage.

d) Public Transit

At the present time, there are no Santa Clara County Transit bus routes along this small section of Route 87. Santa Clara County Transit provides extensive bus service on local city streets.

e) Park and Ride

There are no park and ride lots located in this segment of the route.

f) Rail Transit

The Guadalupe Corridor LRT is proposed to consist of a 19.2 mile long system with either single or double tracks located in the median of the of Route 87, city streets or in exclusive right-of-way. There are a total of 35 stations that are currently planned. The LRT will operate between Marriott's Great America business and theme park in northern Santa Clara County and the IBM business park area in southern San Jose. An additional spur line will run west to the Oakridge Mall Shopping Center and Almaden Lake Park. There will be 10 park and ride lots constructed along the LRT line south of Route 280. For further information, consult the Guadalupe Corridor Final Environmental Impact Statement (FEIS).

2. Current Operating Conditions

The 1985 Annual Average Daily Traffic (AADT) for this segment was 32,000 vehicles. The AM peak hour volumes were 2,600 vehicles northbound and 1,000 vehicles southbound.

The Volume to Capacity ratio (V/C) was .93 with a Level of Service (LOS) of E-30.

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

The total accident rate for this segment is 2.44 accidents per MVM (million vehicle mile); the fatality rate is .000 accidents per MVM. The state-wide average for this type of facility has a total accident rate of 1.87 accidents per MVM; the average fatality rate is .019 accidents per MVM.

4. Future Operating Conditions

The projected 1995 AADT is 59,000 vehicles. The AM peak hour volume is expected to be 4,100 northbound; and 1,800 southbound.

The AADT for 2005 is projected to be 72,000 vehicles. The AM peak hour volume is 5,000 northbound; and 2,200 southbound.

The 1995 projected D/C (based on the capacity of a four-lane freeway) is expected to be 1.03 with an LOS of F-20.

The 2005 projected D/C is expected to be 1.25 with an LOS of F-15.

5. Route Concept

The concept for Segment B of Route 87 is a six-lane freeway. The conceptual LOS is D-40.

6. Route Improvements

The widening of the proposed and existing four-lane freeway to a six-lane freeway for the entire segment, between Route 280 (Post Mile SCL T5.55) and West Julian Street (Post Mile SCL T6.19).

**C. Segment C:**

SCL-04-87, P.M. SCL 6.119 - SCL 9.250  
West Julian Street to Route 101

Segment C begins at West Julian Street and continues northward to Route 101. The segment is unconstructed. The traversable roadway along this segment is the Guadalupe Parkway. The entire segment is within the City of San Jose.

1. Existing Facilities

a) Highway Facility

This segment is presently unconstructed from West Julian Street to Coleman Avenue. The Guadalupe Parkway continues the remainder of the segment from Coleman Avenue to Route 101. The Guadalupe Parkway is a four-lane divided facility along its entire length. The shoulders range from 0 to 18 feet and the shoulders are 7 feet wide. The Parkway is under the Jurisdiction of the City of San Jose.

Construction of a portion of this segment as a four-lane freeway, between existing Route 87 and the Guadalupe Parkway at Taylor Street, is currently under way.

b) Current (1986) STIP Projects

FY 1987/88 P.M. 5.1/6.3	Route 280 to Julian Street Highway Planting Total Estimated Cost: \$0.5M (1/86)
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FY 1988/89 P.M. 7.7/7.8	At Route 87/880 Interchange Construct Ramps Guadalupe Corridor - San Jose Total Estimated Cost: \$9.7M (1/86)
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FY 1988/89 P.M. 8.9/9.2	On Route 87 at Brokaw Road Construct Interchange Guadalupe Corridor - San Jose Total Estimated Cost: \$7.8M (1/86)
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c) Bicycle

Bicyclists are not allowed on this segment of the route, there are numerous city streets that can be utilized for bicycle usage.

d) Public Transit

Santa Clara County Transit provides extensive bus service on local city streets.

e) Park and Ride

There are no park and ride lots located in this segment of the route.

f) Rail Transit

The Guadalupe Corridor LRT is proposed to consist of a 19.2 mile long system with either single or double tracks located in the median of the of Route 87, city streets or in exclusive right-of-way. There are a total of 35 stations that are currently planned. The LRT will operate between Marriott's Great America business and theme park in northern Santa Clara County and the IBM business park area in southern San Jose. An additional spur line will run west to the Oakridge Mall Shopping Center and Almaden Lake Park. There will be 10 park and ride lots constructed along the LRT line south of Route 280. For further information, consult the Guadalupe Corridor Final Environmental Impact Statement (FEIS).

2. Current Operating Conditions

This segment is unconstructed.

3. Accident Data

This segment is unconstructed.

4. Future Operating Conditions

The 1995 projected AADT based on the City of San Jose's Horizon 2000 model ranges from 60,000 vehicles south of Coleman Avenue, to 49,000 vehicles south of the junction with Route 101. The AM peak hour volumes are projected to range from 4,200 to 2,900 northbound; and 1,800 to 2,000 southbound.

The 2005 projected AADT ranges from 74,000 vehicles south of Coleman Avenue to 59,000 vehicles south of the junction of Route 880. The AM peak hour volumes are projected to range from 5,200 to 3,500 northbound; and 2,200 to 2,400 southbound.

The 1995 projected D/C, for a four-lane expressway between Route 880 and Route 101, is expected to be 1.20, with an LOS of F-20.

The 2005 projected D/C is expected to be 1.47, with an LOS of F-15.

5. Route Concept

The concept for Segment C of Route 87 is a six-lane freeway along the entire segment. The conceptual LOS is D-40.

6. Route Improvement

The upgrading of the proposed four-lane freeway/expressway to a six-lane freeway between West Julian Street (Post Mile 6.11) and Route 101 (Post Mile 9.25).

D. Segment D:

(SCL-04-87, P.M. 9.25 to 14.10)  
Route 101 to Route 237

The segment is presently unconstructed and not adopted; this segment is not included in the Guadalupe Corridor project. Currently there are no plans to construct a facility within this segment. The approximate alignment of the route passes through the Cities of San Jose and Sunnyvale.

1. Existing Facilities

Segment D of Route 87 is unconstructed. There is no adopted alignment for this segment of Route 87.

2. Current Operating Conditions

This segment is unconstructed.

3. Accident Rate

This segment is unconstructed.

4. Future Operating Conditions

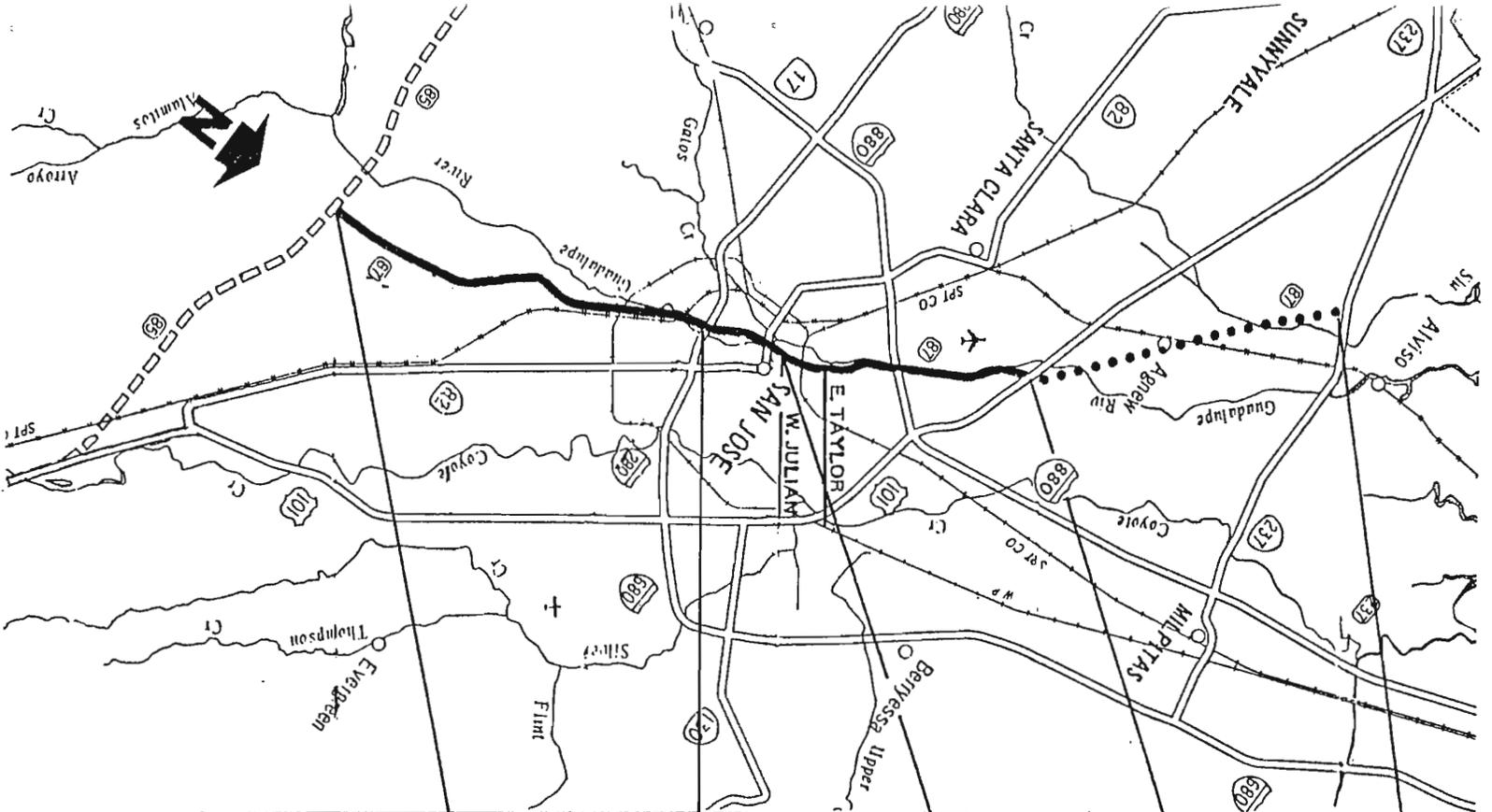
This segment is to remain unconstructed.

5. Route Concept

The concept is for Segment D of Route 87 to remain unconstructed.

6. Route Improvements

Segment D of Route 87 is to remain unconstructed.



————— ADOPTED ALIGNMENT  
 ..... ALIGNMENT NOT ADOPTED

SEGMENT		A	B	C	D
		SCL 0.00	SCL 5.55	SCL 6.12	SCL 9.25
A.A.D.T. (1000)	1985	Unconstructed	32	Unconstructed	<b>UNCONSTRUCTED</b>
	1995	50	59	60	
	2005	57	72	74	
P.H.V. (100)	1985	Unconstructed	10-26	Unconstructed	
	1995	7-38	18-41	18-42	
	2005	9-43	22-50	22-52	
AVE. HWY SPEED		Unconstructed	55	Unconstructed	
OPERATING SPEED		Unconstructed	43	Unconstructed	
V/C	1985	Unconstructed	.96	Unconstructed	
D/C	1995	.95	1.03	1.20	
	2005	1.08	1.25	1.47	
YEAR CAPACITY WILL BE REACHED		2000	1994	1990	

# EXHIBIT A

## 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.

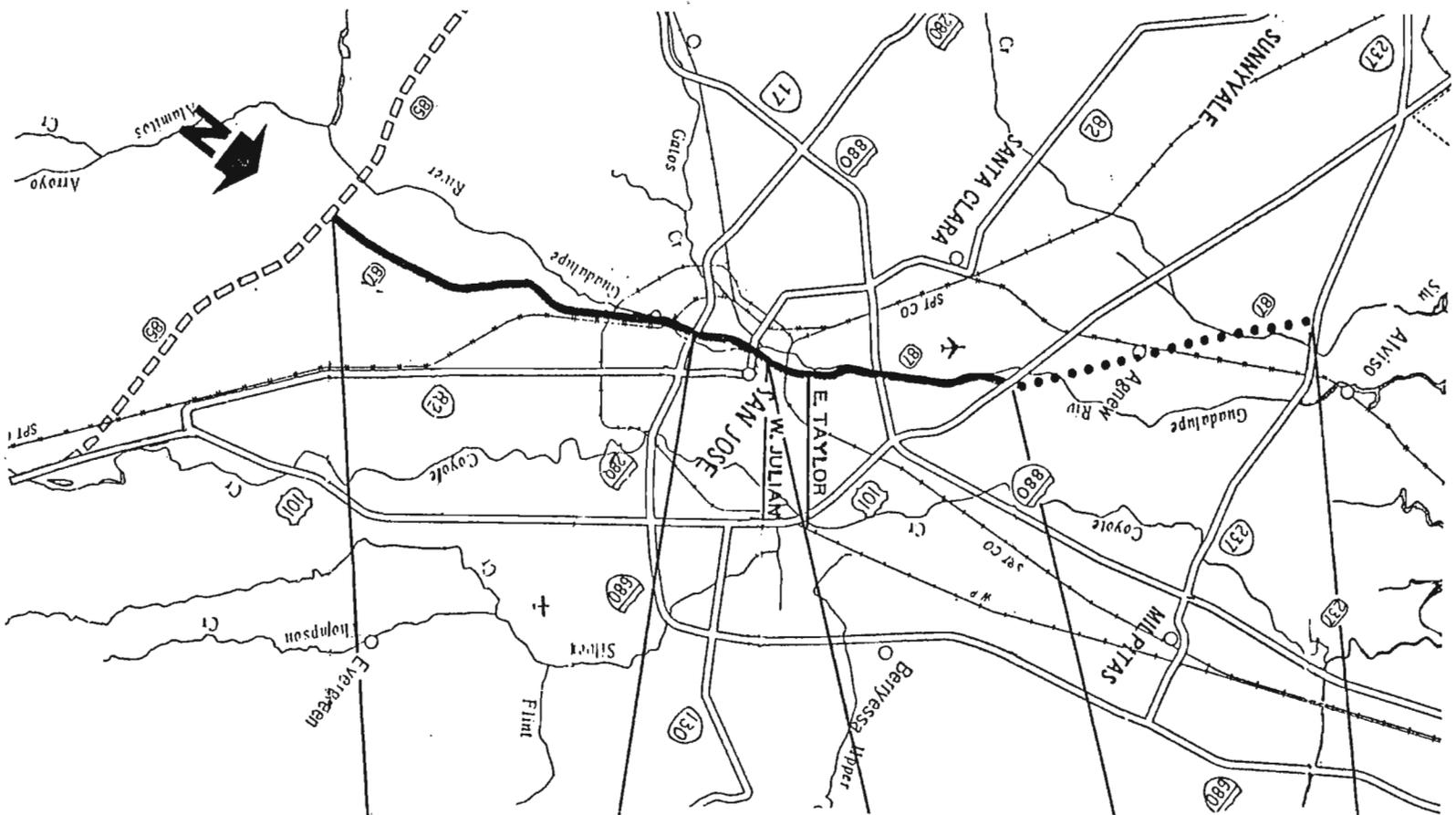
S- Steep, grades greater than 6 percent for more than one-half the segment length and sustained grades greater than 3/4 mile in length.

### 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.



SEGMENT		A	B	C	D
		SCL 0.00	SCL 5.55	SCL 6.12	SCL 9.25
NO. OF LANES	PRESENT	Unconstructed	4C-4F	Unconstructed	<b>UNCONSTRUCTED</b>
	1995	4F	4F	4E, 4F	
	2005	4F	4F	4E, 4F	
LEVEL OF SERVICE	PRESENT	Unconstructed	E-30	Unconstructed	
	1995	E-30	F-20	F-20	
	2005	F-20	F-15	F-15	
TERRAIN		FLAT	FLAT	FLAT	
GRADES		FLAT	FLAT	FLAT	
ACTUAL	Accidents Per MVM	Unconstructed	19.64	Unconstructed	
	Fatalities Per MVM	Unconstructed	0.6	Unconstructed	

——— ADOPTED ALIGNMENT  
 ..... ALIGNMENT NOT ADOPTED

# EXHIBIT B

## EXPLANATION TO EXHIBIT B

### AAADT

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.

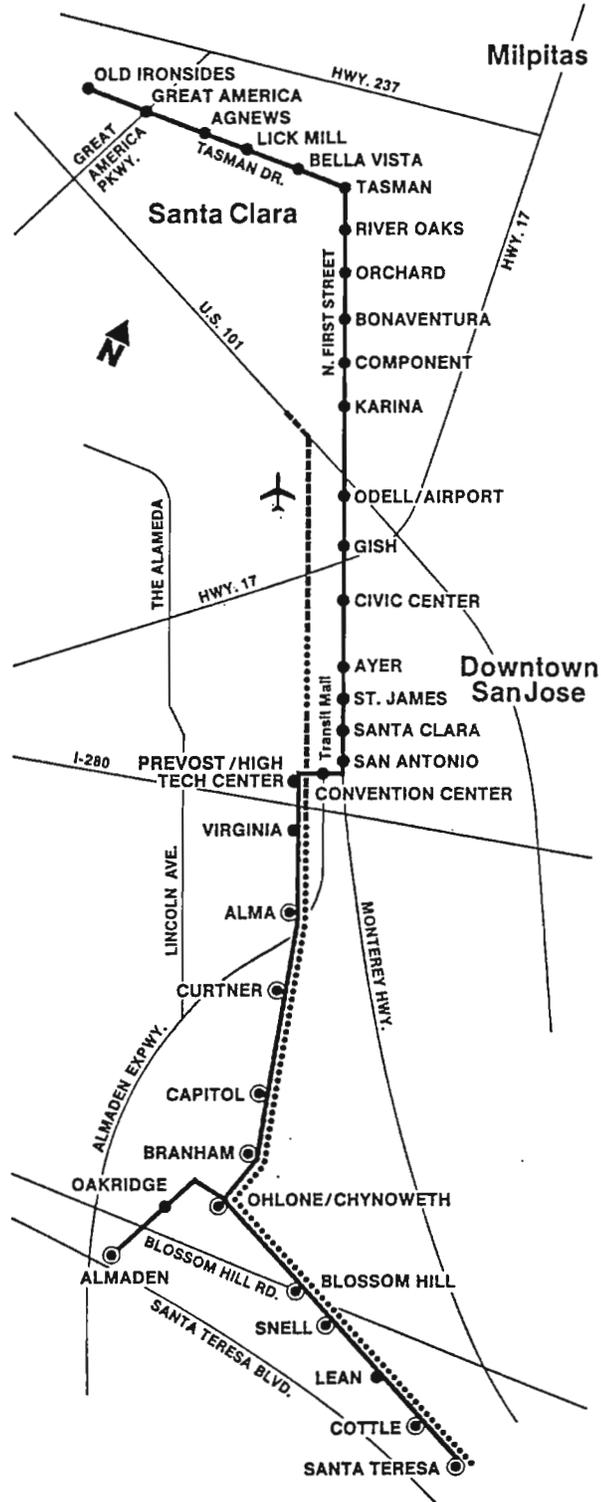
### V/C

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

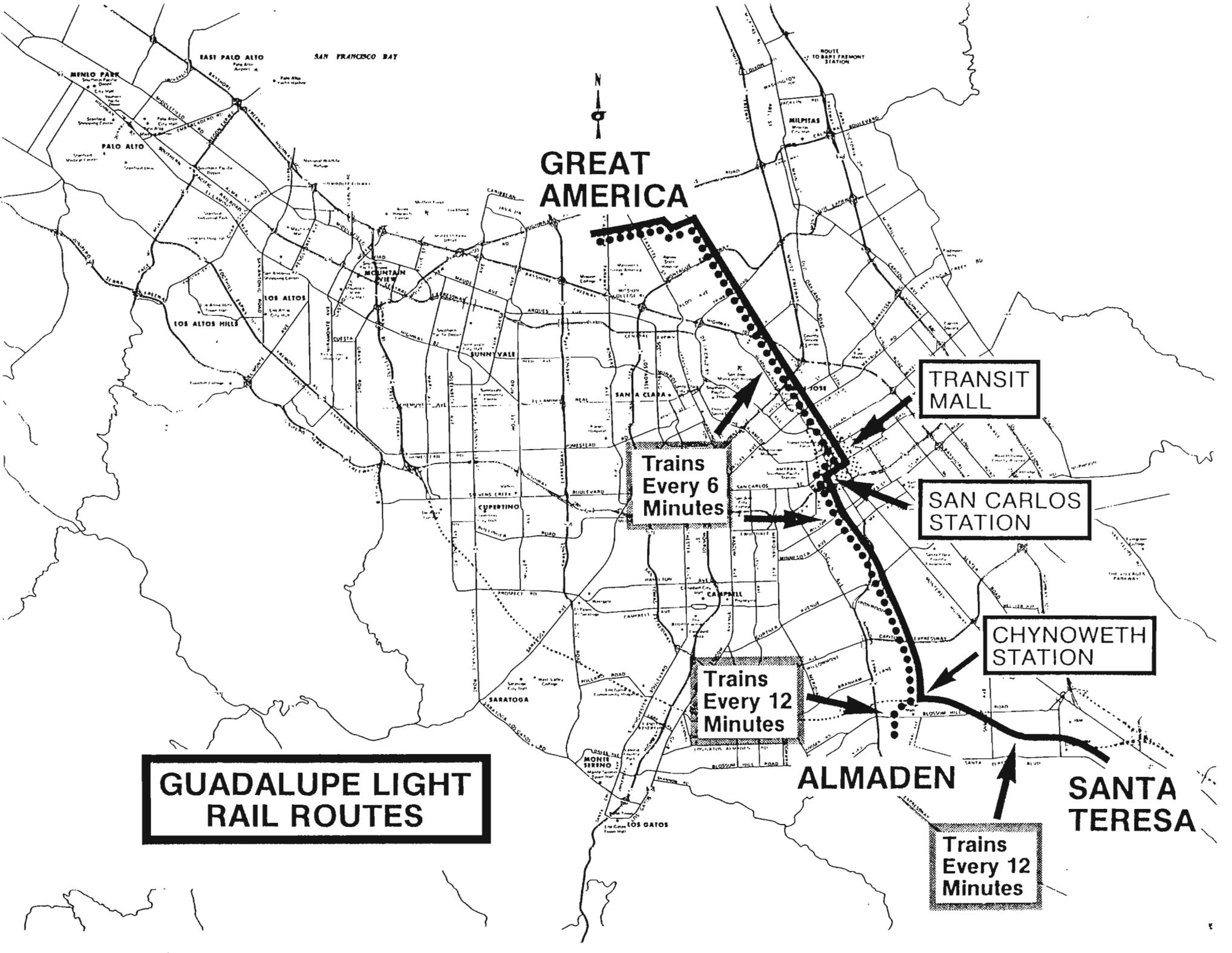
Ratio of Demand to Capacity. Demand represents the projected number of vehicles per peak hour that will want to travel the highway. Capacity represents the maximum number of vehicles per hour the highway can carry.  
(Projected Peak Hour Demand/Design Capacity).

# GUADALUPE CORRIDOR



## LEGEND

- Light-Rail Transit (LRT)
- LRT Passenger Stop
- ⊙ Park & Ride Lot
- ..... 4-Lane Freeway
- Existing Freeway/Parkway



# GREAT AMERICA

**GUADALUPE LIGHT RAIL ROUTES**

**Trains Every 6 Minutes**

**Trains Every 12 Minutes**

**TRANSIT MALL**

**SAN CARLOS STATION**

**CHYNOWETH STATION**

**ALMADEN**

**Trains Every 12 Minutes**

**SANTA TERESA**



ROUTE 87 TRAFFIC TABLE  
-Route Concept-

S E G	CO	POST MILE	TRUCK%		1985			L O LN	CAP	1995					L O LN	2005					L O LN		
			AA DT	PK HR	AA DT	AM-PK AH BK	NO L			V/C	NO L	D/C	AA DT	AM-PK AH BK		NO L	D/C	AA DT	AM-PK AH BK	NO L		D/C	
A	SCL	0.00			ROUTE 85					19	11	8	3	0.18	A	3	26	16	10	3	0.27	A	3
A	SCL				--UNCONSTRUCTED-- CHYNOWETH AVENUE					23	14	9	3	0.23	A	3	27	16	11	3	0.27	A	3
A	SCL				--UNCONSTRUCTED-- BRANHAM LANE					24	17	7	3	0.28	A	3	29	20	9	3	0.33	A	3
A	SCL				--UNCONSTRUCTED-- CAPITOL EXPRESSWAY					37	28	9	3	0.47	B	3	46	35	11	3	0.58	C	3
A	SCL				--UNCONSTRUCTED-- CURTNER AVENUE					44	33	11	3	0.55	B	3	46	35	11	3	0.58	C	3
A	SCL				--UNCONSTRUCTED-- ALMADEN EXPRESSWAY					47	35	12	3	0.58	C	3	54	41	13	3	0.68	C	3
A	SCL				--UNCONSTRUCTED-- WILLOW STREET					50	38	13	3	0.63	C	3	57	43	14	3	0.72	C	3
B	SCL	T5.56			ROUTE 280					59	41	18	3	0.68	C	3	72	50	22	3	0.83	D	3
B	SCL	T5.87			32	26	10	2	0.72	C	2	1800											
B	SCL	T5.87			END FREEWAY					59	41	18	3	0.68	C	3	72	50	22	3	0.83	D	3
B	SCL	T6.12			32	26	10	2	0.96	E	3	1350											
B	SCL	T6.12			ST JAMES STREET					60	42	18	3	0.70	C	3	74	52	22	3	0.87	D	3
C	SCL				--UNCONSTRUCTED-- COLEMAN AVENUE					52	34	18	3	0.57	B	3	64	42	22	3	0.70	C	3
C	SCL				--UNCONSTRUCTED-- TAYLOR STREET					49	29	20	3	0.48	B	3	59	35	24	3	0.58	C	3
C	SCL				--UNCONSTRUCTED-- ROUTE 880					56	36	20	3	0.60	C	3	68	44	24	3	0.73	C	3
D	SCL	9.25			ROUTE 101					--NOT AVAILABLE--					--NOT AVAILABLE--								
D	SCL	14.10			ROUTE 237					--NOT AVAILABLE--					--NOT AVAILABLE--								

\* Forecasts based on City of San Jose's Horizon 2000 Model.  
1995 and 2005 capacity based on six-lane freeway between Route 85 and Route 101.  
This table assumes the realization of the Route Concept

EXPLANATION TO TRAFFIC VOLUME TABLE

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)

<u>Facility</u>	<u>Vehicles per Hour per Lane</u>
	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

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.

## 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.

**COMPARISON OF FUTURE LOS WITH ROUTE CONCEPT**

SEGMENT	NO. LANES/LOS			ROUTE CONCEPT		NEEDS	
	1982	1995	2005	Proposed Lanes	LOS	Lanes	Target LOS
A SC1 0.00 to 5.55	UNCONSTRUCTED			6F	D-40	6F	D-40
B SC1 5.55 to 6.12	4	4	4	6F	D-40	6F	D-40
C SC1 6.12 to 9.25	UNCONSTRUCTED			6F	D-40	6F	D-40
D SC1 9.25 to 14.10	UNCONSTRUCTED			REMAIN UNCONSTRUCTED			