

Interstate 5 Transportation Concept Report

Corridor Traffic Assessment

Introduction

This section provides a summary of capacity analysis, level of service determination, facility concept, and prioritization of improvements for the I-5 corridor. Additionally, there is a discussion on traffic mix in the Northern Sacramento Valley.

I-5 has been broken down into individual segments for analysis purposes.

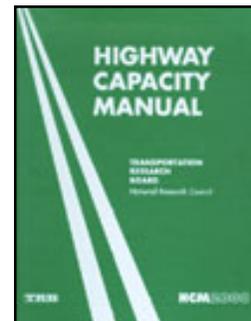
Traffic Analysis Tools

The standard reference in highway capacity analysis is the **Highway Capacity Manual 2000 (HCM 2000)** prepared by the Transportation Research Board (TRB) National Research Council, Washington, D.C. HCM 2000 is a collection of state-of-the-art techniques for estimating the capacity and determining the level of service (LOS) for transportation facilities. The HCM represents a systematic and consistent basis for evaluating transportation facilities with procedures that are applicable nationwide. The HCM 2000 builds upon and expands the procedures and methodologies put forth in the 1950, 1965, 1985, 1994, and 1997 manuals as well as other related research projects.

Operation of a basic freeway segment is characterized by density in terms of passenger cars per mile per lane.

Highway Capacity Software (HCS) is the implementing tool designed to replicate procedures, manual worksheets and examples in the HCM. More information regarding this software program is in **Appendix F**.

The HCM 2000 contains analytical methodologies for the following situations: urban streets, signalized intersections, unsignalized intersections, pedestrians, bicycles, two-lane highways, multilane highways, freeway facilities, basic freeway segments, freeway weaving, ramps, interchanges, and transit. Capacity and LOS is determined differently for each facility type, so direct comparisons across facility types should not be made.



Basic Freeway Segments Methodology – Chapters 13 and 23, HCM 2000:

The Basic Freeway Segments Methodology is applicable to Interstate 5. A freeway is a multilane, divided highway with a minimum of two-lanes for the exclusive use of traffic in each direction and full control of access without traffic interruption. On a freeway, performance of traffic flow is affected by a number of factors, including traffic volumes, truck volumes, number of lanes, lane widths, shoulder widths, median widths, interchange spacing, terrain, and grade.



Level of Service (LOS): A to F

LOS is a qualitative measure used to describe operational conditions within a stream of traffic. Six letters designate each level, from A to F, with LOS A representing the best operating conditions, and LOS F the worst. For freeways, LOS is defined by the density

of vehicles per mile (as density increases the LOS decreases). **Table 3** provides a description and a visual depiction of each LOS. **Table 4** describes the range of passenger car densities found with each LOS.

**TABLE 3
LOS Descriptions**

LOS	Description/Photo
A	<p>Traffic flow is free flowing with low volumes and high speeds. There is little restriction in maneuverability due to presence of other vehicles, and drivers can maintain desired speed with little or no delay. The effects of incidents are easily absorbed.</p> 
B	<p>Traffic flow is still stable, and speeds are maintained. The ability to maneuver is only slightly restricted, and the level of driver comfort is high. The effects of minor incidents are still easily absorbed.</p> 
C	<p>Traffic flow is still stable, although speeds may decline slightly. Freedom to maneuver within the traffic stream is somewhat restricted, and lane changes require more caution on the part of the driver. Minor incidents may still be absorbed, but local deterioration in service may be substantial. Queues may be expected to form behind any significant blockage.</p> 
D	<p>Traffic flow and progression are still generally good, although speeds have fallen. Density begins to increase somewhat more quickly. Freedom to maneuver in the traffic stream is noticeably limited, and the driver's comfort level is reduced. Even minor incidents can be expected to create queuing because the traffic stream has little space to absorb disruptions.</p> 
E	<p>Traffic flow is at capacity and speeds have declined substantially. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream. At capacity, there is no ability to handle a minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. The level of driver comfort is poor.</p> 
F	<p>Traffic flow is at breakdown, speeds are reduced, and stop and go may occur for periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero. The volume of traffic is greater than the freeway can effectively carry.</p> 

Source: Highway Capacity Manual 2000, 13: 9-10.

LOS	Density Range (passenger car/mile/lane)
A	0-11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45

Source: HCM, 23-3 (Basic Freeway Segments)

Target LOS: C/D Threshold

Caltrans District 2 seeks to implement improvements on I-5 when LOS is projected to fall below LOS C. This improvement standard is commonly referred to as the “C/D Threshold.” When a segment is forecasted to fall to LOS D under average month conditions, improvements should be pursued.

**Concept LOS:
Caltrans LOS concept for I-5 within
District 2 is the C/D threshold.**

Traffic Forecasting and LOS

Introduction

Two methods were used to develop the traffic forecasts in this document: travel demand model and qualitative assessment.

Model

The Shasta County Regional Transportation Planning Agency has a Regional Travel Demand Model that is used for all forecasts in Shasta County. The model is a quantitative tool that assigns trips based on a number of variables including the location of various land uses and available travel paths/modes.

Qualitative Assessment

Siskiyou and Tehama Regional Transportation Planning Agencies do not have a travel demand model, so Caltrans worked with the agencies to develop a qualitative assessment. A number of factors were considered in this assessment: historical traffic and truck volumes, population and demographics, Census Data, General Plans, Regional Transportation Plans, 2006 Origin & Destination Traffic Study (O & D Study) and current and proposed local development projects.

Base Year

The Base Year for this study is 2005 using 2005 traffic volumes. The Shasta County Regional Travel Demand Model also has a base year of 2005.

Traffic and LOS Forecasts for I-5

Annual Average Daily Traffic (AADT) is the total traffic volume for the year divided by 365 days. The peak month ADT is the average daily traffic for the month of the heaviest traffic flow. Using these traffic volumes, LOS is calculated for both AADT and Peak Month.

Truck and Recreational Vehicle (RV) data is typically displayed as a percentage of the AADT. For example, if you have 10,000 AADT and 10% trucks, then there are 1,000 trucks. In the future, RV traffic is forecast to stay the same percentage of AADT. The projection for truck traffic on I-5 corridor is to stay about the same percentage of AADT except for the Northern Sacramento Valley segment. As a percentage of AADT, trucks are expected to decline slightly because of the higher rate of growth in local traffic in this urbanized segment.

Tables 5, 6, and 7 provide a summary of Traffic Forecasts and LOS on I-5 in District 2 out to 2030. Segments along I-5 within District 2 that are projected to operate below the C/D threshold are shaded in gray.

This page is intentionally left blank

TABLE 5: I-5 Corridor Current and Future Traffic and Level of Service for Tehama County

Segment	County	Route	Postmile Ahead	Segment Descriptic	2005				2010				2015				2020				2025				2030			
					AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak
1	Tehama	5	R0.00/R5.769	Glenn/Tehama County Line to Liberal Avenue	26000	32000	B	B	29600	36300	B	C	33800	41300	C	C	38600	47100	C	D	44100	53700	C	D	50400	61300	D	D
2	Tehama	5	R5.769/R7.486	Liberal Avenue to South Avenue	27000	31000	B	B	30800	35500	B	C	35300	41000	C	C	40800	47500	C	D	47300	55300	D	D	55100	64800	D	F
3	Tehama	5	R7.486/R8.975	South Avenue to Corning Road	28500	32000	B	B	32300	36500	B	C	36800	42000	C	C	42300	48500	C	D	48800	56300	D	D	56600	65800	D	F
4	Tehama	5	R8.975/R13.965	Corning Road to Gyle Road	30000	35500	B	C	33900	40200	C	C	38900	46100	C	C	45000	53500	C	D	52700	62700	D	E	62300	74300	E	F
5	Tehama	5	R13.965/R19.781	Gyle Road to Flores Avenue	28500	35000	B	B	32400	39700	B	C	37400	45600	C	C	43500	53000	C	D	51200	62200	D	E	60800	73800	E	F
6	Tehama	5	R19.781/R22.224	Flores Avenue to South Red Bluff	29000	35000	B	C	32900	39700	B	C	37900	45600	C	C	44000	53000	C	D	51700	62200	D	E	61300	73800	E	F
7	Tehama	5	R22.224/R24.871	South Red Bluff to South Main Street	29000	35000	A	B	32900	39700	B	B	37900	45600	B	B	44000	53000	B	C	51700	62200	C	C	61300	73800	C	D
8	Tehama	5	R24.871/R26.525	South Main Street to Central Red Bluff	35500	39000	C	C	39700	44500	C	C	45600	51300	C	D	53000	59900	D	E	62200	70500	E	F	72300	82300	F	F
9	Tehama	5	R26.525/R27.472	Central Red Bluff to Adobe Road	37000	41000	C	C	41700	46500	C	C	47600	53300	C	D	54900	61900	D	E	64200	72500	E	F	74300	84300	F	F
10	Tehama	5	R27.472/36.371	Adobe Road to Nine Mile Hill-NB	41000	47500	C	C	45700	53000	C	C	51600	59800	C	D	59000	68400	D	D	68200	79000	D	E	78300	90800	E	F
			36.371/R27.472	Nine Mile Hill to Adobe Road-SB	41000	47500	C	D	45700	53000	C	D	51600	59800	C	D	59000	68400	D	E	68200	79000	E	F	78300	90800	F	F
11	Tehama	5	36.371/42.115	Nine Mile Hill to Tehama/Shasta County Line	42000	50000	C	D	46700	55500	C	D	52600	62300	C	E	60000	70900	D	E	69200	81500	D	E	79300	93300	E	F

Below C/D Threshold

Detailed traffic and LOS information is provided in the Segment Fact Sheets.

Source: Caltrans, District 2, Office of System Planning

Definitions:

Segment	Number system used to identify sections of freeway for analysis. There are 41 segments running from south to north. Twelve segments have directional northbound (NB) and southbound (SB) analysis.
County	Jurisdiction route is in-Tehama, Shasta, or Siskiyou County.
Route	Interstate 5.
Postmile	The mileage measured from the southern county line, or from the beginning of a route. Each postmile along a route in a county is a unique location in the state highway system.
Segment Description	Provides the starting and ending locations for the segment. Usually a county line, interchange, structure, or change in number of travel lanes.
AADT	Annual Average Daily Traffic is the total traffic volume for the year divided by 365 days.
Peak Month	The average daily traffic for the month of heaviest flow (on I-5 typically a summer month).
LOS AADT	Term used to describe the quality of traffic flow during the peak hour of a typical day on the facility.
LOS Peak	Term used to describe the quality of traffic flow during the peak hour of the peak month on the facility.

TABLE 6: I-5 Corridor Current and Future Traffic and Level of Service for Shasta County

Segment	County	Route	Postmile	Segment Description	2005				2010				2015				2020				2025				2030			
					AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak	AADT	Peak Month	LOS AADT	LOS Peak
12	Shasta	5	R0.00/R0.909	Tehama/Shasta County Line to Gas Point Road	42000	50000	C	C	52000	61900	C	D	60000	71400	D	E	68000	80900	E	F	76000	90400	F	F	84000	99900	F	F
13	Shasta	5	R0.909/R4.289	Gas Point Road to Deschutes Road	52000	58000	D	E	63000	70300	C	C	71000	79200	C	D	81000	90400	D	E	87000	97100	D	F	94000	104900	E	F
14	Shasta	5	R4.289/R6.743	Deschutes Road to Riverside Avenue	50000	58000	C	C	60000	69600	C	D	68000	78900	D	E	81000	94000	E	F	89000	103300	F	F	93000	107900	F	F
15	Shasta	5	R6.743/R9.772	Riverside Avenue to Knighton Road	52000	57000	C	C	61000	66900	C	D	69000	75700	D	D	78000	85600	D	F	86000	94400	F	F	90000	98800	F	F
16	Shasta	5	R9.772/R12.152	Knighton Road to South Bonnyview	55000	59000	C	C	65000	69700	D	D	73000	78300	D	D	82000	88000	E	E	89000	95500	F	F	92000	98700	F	F
17	Shasta	5	R12.152/R14.443	South Bonnyview to Cypress Avenue	59000	65000	C	D	72000	79300	D	D	80000	88100	D	E	89000	98000	E	F	95000	104600	F	F	98000	107900	F	F
18	Shasta	5	R14.443/R15.429	Cypress Avenue to SR 44 Separation	67000	73000	D	D	77000	84000	E	E	87000	94900	F	F	94000	102500	F	F	100000	109000	F	F	103000	112300	F	F
19	Shasta	5	R15.429/R17.303	SR 44 Separation to SR 299E Separation	58000	66000	D	D	67000	76200	D	E	77000	87600	E	F	86000	97800	F	F	94000	106900	F	F	99000	112600	F	F
20	Shasta	5	R17.303/R18.481	SR 299E Separation to SR 273N Separation	44500	56000	C	D	54000	68000	D	E	64000	80600	E	F	74000	93200	E	F	81000	102000	F	F	87000	109600	F	F
21	Shasta	5	R18.481/R19.402	SR 273N Separation to Oasis Road	46500	53000	B	C	58000	66100	C	C	68000	77500	C	C	80000	91200	C	D	87000	99200	D	D	94000	107200	D	E
22	Shasta	5	R19.402/R20.995	Oasis Road to Pine Grove	38000	47000	B	B	44000	54400	B	C	50000	61800	B	C	57000	70500	C	C	61000	75400	C	C	65000	80300	C	D
23	Shasta	5	R20.995/R22.144	Pine Grove to SR 151	33500	41000	B	B	38000	46500	B	B	42500	52000	B	B	49000	60000	B	C	53000	64900	B	C	58000	71000	C	C
24	Shasta	5	R22.144/R26.035	SR 151 to Fawndale	21800	28500	B	C	25000	32700	B	C	29500	38600	C	C	31500	41200	C	D	34000	44500	C	D	37000	48400	C	E
25	Shasta	5	R26.035/R28.906	Fawndale to Bridge Bay-NB	21000	27500	C	D	24200	31700	C	D	27300	35800	D	E	30600	40100	D	E	33100	43400	D	E	36400	47700	D	F
			R28.906/R26.035	Bridge Bay to Fawndale-SB	21000	27500	C	D	24200	31700	C	D	27300	35800	D	E	30600	40100	D	F	33100	43400	D	F	36400	47700	E	F
26	Shasta	5	R28.906/R35.998	Bridge Bay to O'Brien-NB	20500	27500	C	D	24200	32500	D	E	27300	36700	D	E	30600	41100	E	F	33300	44700	E	F	36400	48900	E	F
			R35.998/R28.906	O'Brien to Bridge Bay-SB	20500	27500	B	C	24200	32500	B	C	27300	36700	C	D	30600	41100	C	D	33300	44700	C	E	36400	48900	D	E
27	Shasta	5	R35.998/R40.156	O'Brien to Antler Bridge-NB	19700	28000	C	D	22900	32500	C	E	25700	36500	D	E	28600	40600	D	E	31300	44400	E	F	34100	48400	E	F
			R40.156/R35.998	Antler Bridge to O'Brien-SB	19700	28000	C	D	22900	32500	C	D	25700	36500	D	E	28600	40600	B	C	31300	44400	C	C	34100	48400	C	D
28	Shasta	5	R40.156/R67.019	Antler Bridge to Shasta/Siskiyou County Line-NB	19400	28000	C	D	21700	31300	D	E	24400	35200	D	E	27200	39200	E	F	29700	42800	E	F	32400	46700	F	F
			R67.019/R40.156	Shasta/Siskiyou County Line to Antler-SB	19400	28000	B	C	21700	31300	B	C	24400	35200	B	D	27200	39200	C	D	29700	42800	C	D	32400	46700	C	D

Below C/D Threshold

Detailed traffic and LOS information is provided in the Segment Fact Sheets.

Source: Caltrans, District 2, Office of System Planning

Definitions:

- Segment Number system used to identify sections of freeway for analysis. There are 41 segments running from south to north. Twelve segments have directional northbound (NB) and southbound (SB) analysis.
- County Jurisdiction route is in-Tehama, Shasta, or Siskiyou County.
- Route Interstate 5.
- Postmile The mileage measured from the southern county line, or from the beginning of a route. Each postmile along a route in a county is a unique location in the state highway system.
- Segment Description Provides the starting and ending locations for the segment. Usually a county line, interchange, structure, or change in number of travel lanes.
- AADT Annual Average Daily Traffic is the total traffic volume for the year divided by 365 days.
- Peak Month The average daily traffic for the month of heaviest flow (on I-5 typically a summer month).
- LOS AADT Term used to describe the quality of traffic flow during the peak hour of a typical day on the facility.
- LOS Peak Term used to describe the quality of traffic flow during the peak hour of the peak month on the facility.

TABLE 7: I-5 Corridor Current and Future Traffic and Level of Service for Siskiyou County

Segment	County	Route	Postmile Ahead	Segment Descriptor	2005				2010				2015				2020				2025				2030			
					AAADT	Peak Month	LOS AADT	LOS Peak	AAADT	Peak Month	LOS AADT	LOS Peak	AAADT	Peak Month	LOS AADT	LOS Peak	AAADT	Peak Month	LOS AADT	LOS Peak	AAADT	Peak Month	LOS AADT	LOS Peak	AAADT	Peak Month	LOS AADT	LOS Peak
29	Siskiyou	5	0.00/3.841	Shasta/Siskiyou County Line to Dunsmuir-NB	19600	24900	C	D	21000	26600	C	E	22400	28300	C	E	23900	30200	D	E	25500	32100	D	F	27200	34200	D	F
			3.841/0.00	Dunsmuir to Shasta/Siskiyou County Line-SB	19600	24900	B	C	21000	26600	C	C	22400	28300	C	C	23900	30200	C	D	25500	32100	C	D	27200	34200	C	D
30	Siskiyou	5	3.841/R8.787	Dunsmuir to Jct 89/5-NB	21000	26000	B	C	22400	27700	B	C	23800	29400	C	C	24800	31300	C	C	26900	33200	C	D	28500	35300	C	D
			R8.787/3.84	Jct 89/5 to Dunsmuir-SB	21000	26000	B	B	22400	27700	B	B	23800	29400	B	B	24800	31300	B	B	26900	33200	B	C	28500	35300	B	C
31	Siskiyou	5	R8.787/R12.062	Jct 89/5 to North Mt. Shasta-NB	21000	28000	B	C	22400	30000	B	C	23800	31400	B	C	24800	33300	B	C	26900	35200	C	C	28500	37300	C	D
			R12.062/R8.787	North Mt. Shasta to Jct 89/5-SB	21000	28000	B	C	22400	30000	B	C	23800	31400	B	C	25700	33300	C	C	26900	35200	C	D	28500	37300	C	D
32	Siskiyou	5	R12.062/R14.18	North Mt. Shasta to Black Butte Summit-NB	25000	31000	B	C	26700	33100	B	C	28600	35300	B	C	30900	37600	C	C	32500	40000	C	C	34600	42500	C	D
			R14.18/R12.062	Black Butte Summit to North Mt. Shasta-SB	25000	31000	B	B	26700	33100	B	B	28600	35300	B	B	30900	37600	B	B	32500	40000	B	C	34600	42500	B	C
33	Siskiyou	5	R14.18/R17.441	Black Butte Summit to South Weed	24000	30000	B	C	25700	32100	B	C	27600	34300	C	C	29600	36600	C	D	31500	39000	C	D	33600	41500	C	D
34	Siskiyou	5	R17.441/R19.053	South Weed to Central Weed/US 97	22900	29000	A	B	24600	31100	B	B	26500	33300	B	B	27900	35600	B	B	30400	38000	B	B	32500	40500	B	C
35	Siskiyou	5	R19.053/R22.999	Central Weed/US 97 to Edgewood	16700	22000	B	B	18400	24100	B	B	20300	26300	B	C	23100	28600	B	C	24200	31000	B	C	26300	33500	C	C
36	Siskiyou	5	R22.999/R45.624	Edgewood to South Yreka	17800	24000	B	B	19200	25700	B	B	20600	27500	B	C	22800	29400	B	C	23700	31400	B	C	25300	33500	B	C
37	Siskiyou	5	R45.624/R47.563	South Yreka to Central Yreka	17800	24000	B	B	19200	25700	B	C	20600	27500	B	C	21800	29400	B	C	23700	31400	C	C	25300	33400	C	D
38	Siskiyou	5	R47.563/R52.777	Central Yreka to Anderson Grade-NB	16700	23900	B	C	18100	25600	B	C	19500	27400	C	D	20300	29300	C	D	22600	31300	C	D	24200	33300	C	D
			R52.77/R47.563	Anderson Grade to Central Yreka-SB	16700	23900	B	B	18100	25600	B	C	19500	27400	B	C	20300	29300	B	C	22600	31300	B	C	24200	33300	C	C
39	Siskiyou	5	R52.77/R58.326	Anderson Grade to Jct 96-NB	14400	19400	B	C	15800	21100	B	C	17200	22900	C	D	19400	24800	C	D	20300	26800	C	D	21900	28800	C	D
			R58.326/R52.77	Jct 96 to Anderson Grade-SB	14400	19400	A	B	15800	21100	B	B	17200	22900	B	B	19400	24800	B	C	20300	26800	B	C	21900	28800	B	C
40	Siskiyou	5	R58.326/R65.524	Jct 96 to Bailey Hill Road	14800	19300	B	B	15900	20600	B	B	17000	21900	B	C	18700	23400	B	C	19300	24900	B	C	20600	26400	B	C
41	Siskiyou	5	R65.524/R69.293	Bailey Hill Rd to Siskiyou Co/Oregon State Line-NB	14800	18700	B	C	15900	20000	C	C	17000	21400	C	C	18900	22800	C	C	19300	24300	C	C	20600	25800	C	D
			R69.293/R65.524	Siskiyou County/Oregon State Line to Jct 96-SB	14800	18700	A	B	15900	20000	B	B	17000	21400	B	B	18900	22800	B	C	19300	24300	B	C	20600	25800	B	C

Below C/D Threshold

Detailed traffic and LOS information is provided in the Segment Fact Sheets.

Source: Caltrans, District 2, Office of System Planning

Definitions:

Segment	Number system used to identify sections of freeway for analysis. There are 41 segments running from south to north. Twelve segments have directional northbound (NB) and southbound (SB) analysis.
County	Jurisdiction route is in-Tehama, Shasta, or Siskiyou County.
Route	Interstate 5.
Postmile	The mileage measured from the southern county line, or from the beginning of a route. Each postmile along a route in a county is a unique location in the state highway system.
Segment Description	Provides the starting and ending locations for the segment. Usually a county line, interchange, structure, or change in number of travel lanes.
AAADT	Annual Average Daily Traffic is the total traffic volume for the year divided by 365 days.
Peak Month	The average daily traffic for the month of heaviest flow (on I-5 typically a summer month).
LOS AADT	Term used to describe the quality of traffic flow during the peak hour of a typical day on the facility.
LOS Peak	Term used to describe the quality of traffic flow during the peak hour of the peak month on the facility.

Traffic Mix on I-5 in the Northern Sacramento Valley

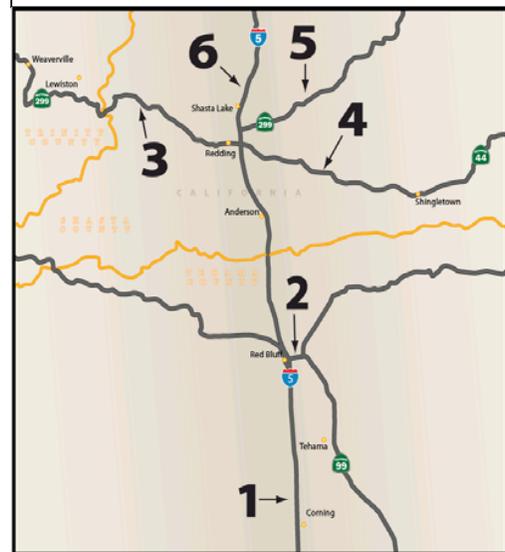
An Origin and Destination (O & D Study) was conducted in October 2006 by Kimley-Horn and Associates, Inc. for Caltrans to help understand travel patterns in the northern Tehama and southern Shasta counties on key state and interstate routes. Vehicle license plates were recorded at six “gateway” locations, and then processed through a software program to identify vehicles that traveled all the way through the study area (interregional traffic), and vehicles that did not. **Figure 2** depicts the study area and the gateways (points where data was collected).



Key findings from the O & D Study related to the I-5 corridor include:

1. About 40% of the traffic at the gateway locations (1-Finnell Avenue and 6-Fawndale Road on Figure 2) on I-5 was interregional (traveled all the way through the study area).
2. The percentage of interregional traffic on I-5 inside the study area was lower than at the gateway locations (1-Finnell Avenue and 6-Fawndale Road) due to the increase in local traffic. As a percentage of total traffic, interregional traffic declines as you approach the urban center in Redding. In Redding, about 10% of the total traffic is interregional, while 90% is local.
3. About 10% of the trips entered and exited at the same gateway location on I-5 (an example would be a trip that entered at gateway 6-Fawndale Road and later exited at gateway 6-Fawndale Road). This represents interaction between other communities/business centers and the Red Bluff-to-Redding urban center.
4. The majority of traffic on I-5 in the study area (particularly near Redding) is local traffic. Local trips circulated within the study area, but did not cross any gateway locations.

FIGURE 2. Northern Sacramento Valley Map.



A **gateway** is defined as a location (1-6) where traffic data was collected for this study:

- 1- Finnell Avenue overcrossing, I-5, Tehama Co
- 2- Fairgrounds, SRs 36/99, Tehama Co
- 3- French Gulch Road, SR 299W, Shasta Co
- 4- Silver Bridge Road, SR 44, Shasta Co
- 5- Bella Vista, SR 299E, Shasta Co
- 6- Fawndale Road overcrossing, I-5, Shasta Co

The “Fix 5 Voter Survey” (Godbe Research, 2007) and 2000 Census “Commute to Work” data reinforce point number 4 on page 15:

- A total of 500 voters who reside in Tehama and Shasta Counties (valley residents between Corning and Mountain Gate) participated in the July 2007 Fix 5 Partnership Survey. The survey results indicate that 83 percent of the respondents use I-5 on a weekly basis and close to half of the respondents use I-5 on a daily basis.
- Census 2000 compiled responses on where people worked. For Shasta County and Tehama County, the 2000 Census Commute to Work data shows about 4,500 workers commuting between the two counties. **Table 8** illustrates the county-to-county commute flows.



I-5 SHASTA. Between Cypress Avenue and South Bonnyview Drive in City of Redding.

TABLE 8
County to County Commuting Flows

Residence	Workplace				
	Tehama	Shasta	Siskiyou	Glenn	Butte
Tehama	15,734	2,464	53	528	1,137
Shasta	2,026	59,885	310	53	143
Siskiyou	22	219	15,664	0	17
Glenn	490	19	8	7,327	1,774
Butte	667	172	17	1,067	73,303

Source: 2000 Census, Commute to Work Data

Facility Concept

Facility Concept is a general term used to describe the number of lanes and degree of access control on a State Route or Freeway. *Existing Facility Concept* is used to describe the current built facility. *Twenty-year Facility Concept* defines the desired facility during the next 20 years. *Long-Range Facility Concept* defines the facility that may ultimately be needed sometime beyond the twenty year planning horizon. **Table 9** summarizes the Facility Concept for I-5. The suggestions for expansion over time include:

- **Twenty-Year Facility Concept:**
Six lanes from south Red Bluff to Mountain Gate
- **Long-Range Facility Concept:**
Six lanes Glenn/Tehama County Line to south Red Bluff

Eight lanes from South Red Bluff to Mountain Gate



I-5 SHASTA. Looking south through the rear view mirror between Knighton Road and Riverside Avenue.

TABLE 9 Facility Concept				
Setting	County Postmile Limits	Existing Facility Concept	Twenty-Year Facility Concept	Long-Range Concept Facility
Sacramento Valley				
Tehama County Line to South Red Bluff	Tehama R0.00/ Tehama R22.224	Four lanes	Four lanes	Six lanes
South Red Bluff to Mountain Gate	Tehama R22.224 Shasta R24.082	Four lanes	Six lanes	Eight lanes
Sacramento River Canyon				
Mountain Gate to Dunsmuir	Shasta R24.082 Siskiyou 3.841	Four lanes	Four lanes ¹	Four lanes ¹
Shasta Valley				
Dunsmuir to Yreka	Siskiyou 3.841 Siskiyou R52.777	Four lanes	Four lanes ¹	Four lanes ¹
Siskiyou Mountains				
Yreka to the Oregon Border	Siskiyou R52.777 Siskiyou R65.524	Four lanes	Four lanes ¹	Four lanes ¹
¹ Operational improvements such as climbing lanes may be needed, refer to segment fact sheets for more information. Source: Caltrans, District 2, Office of System Planning				

Prioritization

Based on the projected segment LOS, relative to concept LOS, **Table 10** lists the general priority order for improvements on I-5.

TABLE 10 Prioritization of Improvements on the I-5 Corridor (based on LOS)			
County	Postmiles	Segments	Locations
Shasta	R9.722/R18.481	16-20	Knighton Road to SR 273/North Market Street ¹
Shasta	R0.00/R9.722	12-15	Tehama/Shasta Co Line to Knighton Road ¹
Tehama	R24.871/42.115	8-11	South Main Street (Red Bluff) to Tehama/Shasta Co Line ¹
Shasta/Siskiyou	R26.035/3.841	25-29	Fawndale to Dunsmuir ²
Tehama	R5.769/R22.224	2-6	Liberal Avenue to South Red Bluff ¹
¹ Capacity improvement (expand from four to six lanes). ² Operational improvement (add and/or extend truck climbing lanes). Source: California Department of Transportation, District 2, Office of System Planning			

This page is intentionally left blank