

# 1 INTRODUCTION

## 1.1 Background

The goal of the I-80/I-680/I-780 Major Investment and Corridor Study is to develop a long range, multi-modal corridor transportation plan for the I-80, I-680 and I-780 corridors in Solano County. Interstates 80, 680 and 780 form the backbone of Solano County's roadway network. These facilities serve a number of users, including, but not limited to: goods movement, commute traffic, regional through trips, intercity travel and recreational traffic, both regional and local in nature. Solano County also has an extremely high rate of carpooling and vanpooling when compared to other areas of the State, without the provision of carpool lanes. While traffic flows are substantial on these roadways throughout the day, distinctly recognizable peaks occur in the morning and evening peak commute hours.

In the morning peak hour, the predominant commute directions are south and west while in the evening peak hour the predominant commute directions are north and east. These flows occur because of the large number of commuters traveling from residences in Solano County to employment centers in the inner Bay Area. These patterns are reversed on the east end of the corridor through Dixon because this section also serves a large number of commuters to and from Davis, Sacramento and communities east. Congestion levels that prevail on a typical weekday are exacerbated by recreational travel, particularly on Friday and Sunday nights and "get-away" weekends. Daily traffic increases on Fridays can range from 15 to 30 percent depending upon the affected segment of freeway.

The intercity express bus services that cater to the I-80, I-680 and I-780 transportation corridors in Solano County comprise a critical element of the County's multimodal transportation services. The recently completed Intercity Bus Element of the Solano County Comprehensive Transportation Plan outlines a multimodal vision of intercity express bus services, passenger rail service and facilities improvements, paratransit improvements, ferry improvements and support infrastructure improvements over the next 20 year period. Implementation of the Intercity Bus Element is the key focus of this current planning effort.

## 1.2 Goals and Objectives

Consistent with the goals and objectives of the Arterials, Highways and Freeways Element of the May 2002 Comprehensive Transportation Plan, the goals and objectives of the I-80/I-680/I-780 Major Investment and Corridor Study are as follows:

- Develop a plan and implementation program for the County's freeway system that serves future needs;
- Develop a plan and implementation program for a High Occupancy Vehicle (HOV) system which complements planned transit improvements and serves future transit, carpool and vanpool users;

- Develop a plan and implementation program for local and regional freeway interchanges that serve future needs;
- Identify the right-of-way which should be preserved to meet long term travel demands;
- Develop a plan and implementation program which is consistent with the implementation of a future traffic management system;
- Develop a plan and implementation program which preserves corridor safety; and
- Develop a plan and implementation program that is sensitive to areas of environmental concern.

### 1.3 Purpose and Need

The purpose of the I-80/I-680/I-780 Major Investment and Corridor Study is to evaluate the existing and future transportation networks within the study corridors, and to develop a long range prioritization list of multi-modal improvements necessary to serve existing and future transportation needs.

Typically a six to eight lane facility in the study area, Interstate 80 extends well beyond Solano County, connecting the metropolitan areas of San Francisco and Sacramento. Through Fairfield, I-80 serves roughly 190,000 daily vehicles with approximately 12,000 of these trips occurring in the peak hour. The Napa/Solano County model forecasts that in the next twenty years, more than 300,000 daily vehicles will use this section of freeway. At the Carquinez Bridge, I-80 serves approximately 120,000 daily trips with about 8,000 occurring in the peak hour. Truck traffic on I-80 normally comprises six to eight percent of total daily travel; however, truck traffic on I-80 can be as low as five percent and as high as 13.5 percent, depending on the location. Truck traffic is expected to grow by 70 percent over the next 20 years, primarily due to significant expansion of container facilities at the Port of Oakland.

I-680 is a north/south facility in the study area, connecting I-80 with the Benicia Bridge and points south to San Jose. This four-lane freeway serves approximately 60,000 daily vehicles through Solano County, with trucks comprising roughly six percent of traffic. At the Benicia Bridge, I-680 serves approximately 100,000 daily vehicles. I-780 is an east/west facility connecting I-80 near the Carquinez Bridge with I-680 at the Benicia Bridge. I-780 serves roughly 60,000 daily vehicles, with trucks comprising approximately four percent of total traffic.

Figure 1-1 illustrates the locations and magnitude of existing congestion levels and peak hour vehicular delays throughout the study area. In the morning peak hour, westbound vehicles on I-80 experience roughly 6 minutes of delay between West Texas Street and I-680 in Fairfield and approximately 6.5 minutes of delay approaching the southbound State Route 29 merge in Vallejo. In the evening peak hour, eastbound vehicles on I-80 are delayed approximately four minutes at the I-680 eastbound merge and approximately two minutes in the section between Travis Boulevard and Air Base

Parkway. Northbound vehicles on I-680 are delayed approximately 10 minutes approaching the I-80 on-ramp.

Figures 1-2, 1-3 and 1-4 illustrate forecast conditions in the study corridors if no further improvements, over and above those which are currently funded, were pursued, for the horizon years 2010, 2020 and 2030 respectively. With no additional improvements, westbound delays on I-80 in the morning peak hour will reach approximately 30 minutes through Vacaville and Fairfield, and approximately 12 minutes through Vallejo, by the year 2030. Similarly, with no improvements, eastbound delays during the evening peak hour will grow to approximately 20 minutes for vehicles on I-80 and I-680, by the year 2030. The primary funded improvement which affects the delays and queues shown on Figures 1-2, 1-3 and 1-4 (but not Figure 1-1) is the installation of an auxiliary lane on I-80 from I-680 to SR 12 East, which is currently under construction.

As identified in the Solano Comprehensive Transportation Plan (CTP) Intercity Transit Element, Solano County has a need to develop a short and long range multi-modal transportation plan for the I-80/I-680/I-780 Transit Corridor to accommodate projected growth. According to 2002 ABAG projections, the population in Solano County will grow 45% between 2000 and 2025. This suggests a corresponding increase in the number of intercity commuters and other travelers. Table 1-1 summarizes projected growth in the County.

**Table 1-1 Projected Growth in Solano County, 2000-2025**

<b>Solano County</b>	<b>2000</b>	<b>2025</b>	<b>Percent Change</b>
Population	394,500	571,300	45%
Employed Residents	179,500	302,200	68%
Single-Family Units	99,600	148,100	49%
Multi-Family Units	30,800	43,300	41%
Population over 62	45,300	120,700	166%

Source: Association of Bay Area Governments (ABAG)

Intercity transit services enhance travel mobility to and from, and within Solano County, as well as providing increased transportation capacity. Without added investment in intercity transit services, regional roadways will become congested more quickly than forecast, thereby adversely impacting the quality of life in Solano County and also its economic strength.

Thus, the purpose of the transit analysis in the Corridor Study is to assist the decision makers of Solano County jurisdictions in the development of the transportation system, including the following components:

- Intercity bus services and vehicles;
- Support Systems (including intermodal centers and park-and-ride facilities); and
- Rail and ferry services.

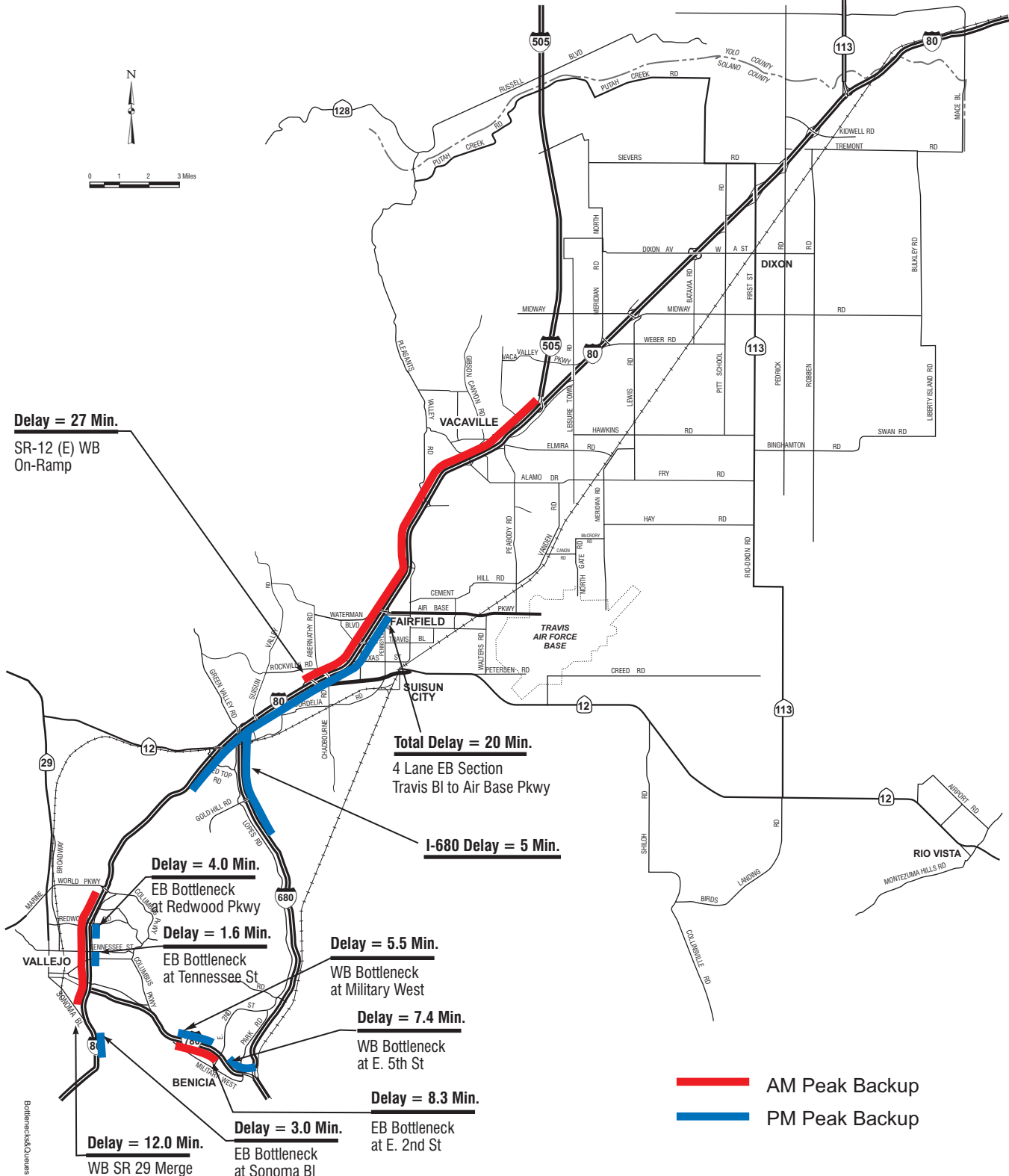
## 1.4 Segments Description

The I-80/I-680/I-780 study area is divided into seven discrete segments, as illustrated in Figure 1-5. These seven segments were chosen because they display distinctive individual travel issues. Segment boundaries are typically represented by major freeway to freeway interchange. Segment 1 (I-80) extends from Red Top Road to SR-12 East. The Major Investment Study for Segment 1 was completed in 2001. Segments 2 and 5 (I-80) extend from the Carquinez Bridge to Route 37 and from Route 37 to Red Top Road (Fairfield), respectively. Segment 3 (I-780) begins at the Benicia Bridge and I-680 and connects with I-80 in Vallejo, ending at Lemon Street/Curtola Parkway, one interchange west of I-80. Segment 4 (I-680) extends from the Benicia Bridge northward to connect with I-80 in Fairfield. Segment 6 (I-80) extends from SR-12 East to I-505 and Segment 7 extends from I-505 to SR-113 North.





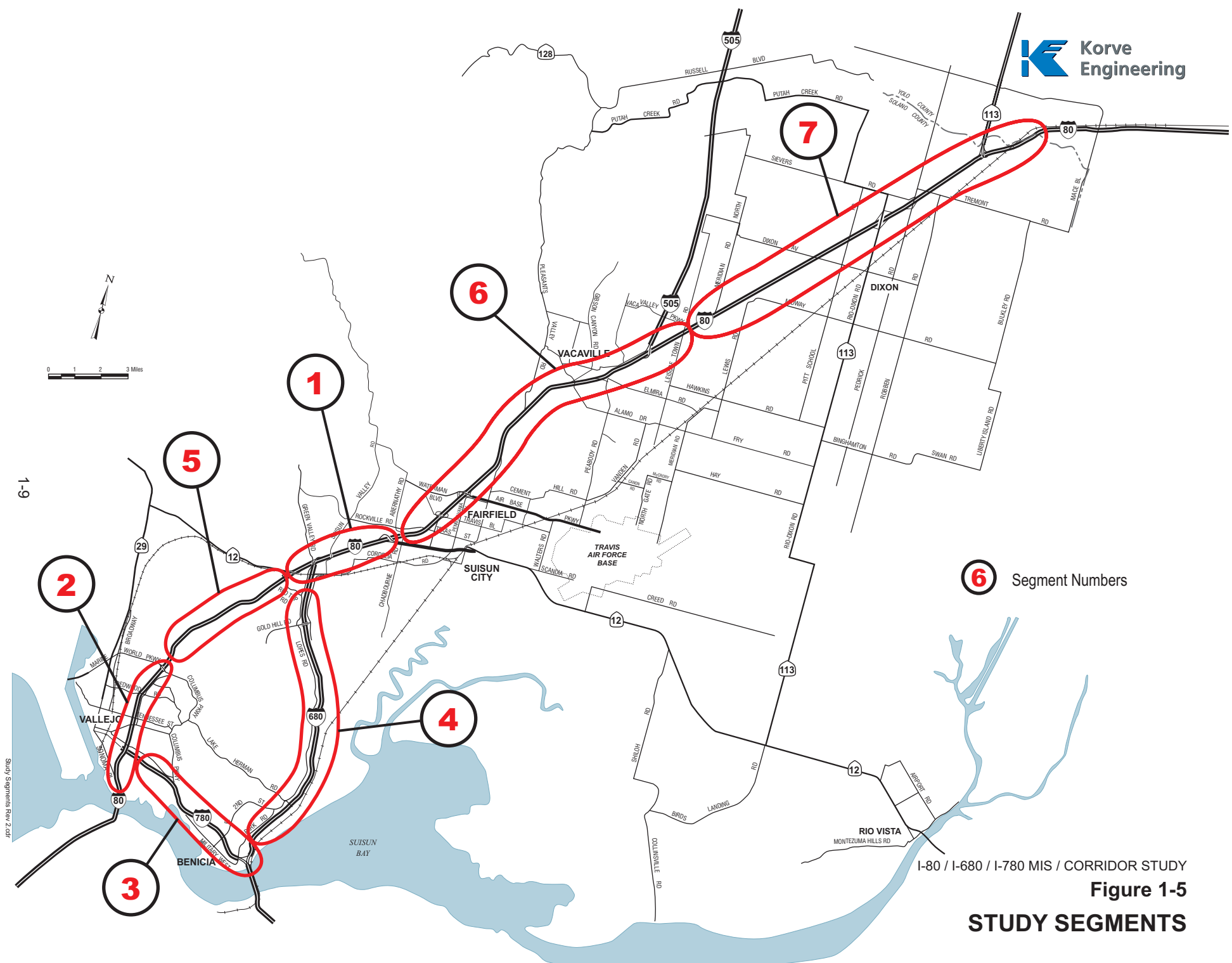




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I-80 / I-680 / I-780 MIS / CORRIDOR STUDY

**Figure 1-4**  
**YEAR 2030 CONGESTION AND DELAY WITH FUNDED PROJECTS 1A THROUGH 1F**



**6** Segment Numbers

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**Figure 1-5  
STUDY SEGMENTS**

1-9

Study Segments Rev 2.cdr