# 3.0 PURPOSE AND NEED

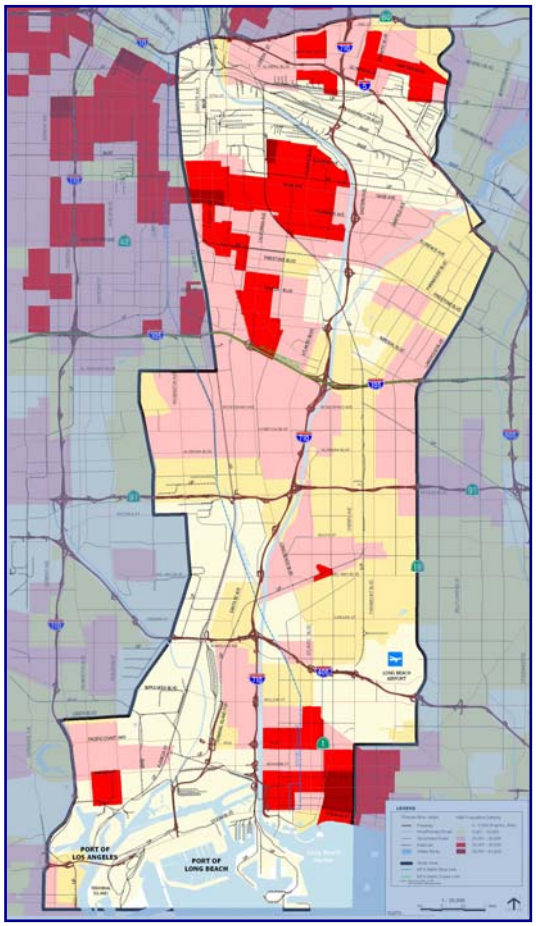
In transportation planning, a study's goals and objectives are driven by the problems and opportunities in the study area as identified through an assessment of existing and future travel conditions in the corridor combined with public input. This section provides an overview of the planning issues in the I-710 Corridor that shaped the development of transportation alternatives, evaluation criteria, and ultimately the study recommendations for a Locally Preferred Strategy. The Purpose and Need Statement also provides the basis for eliminating infeasible alternatives throughout the study process.

## 3.1 Existing and Future Conditions

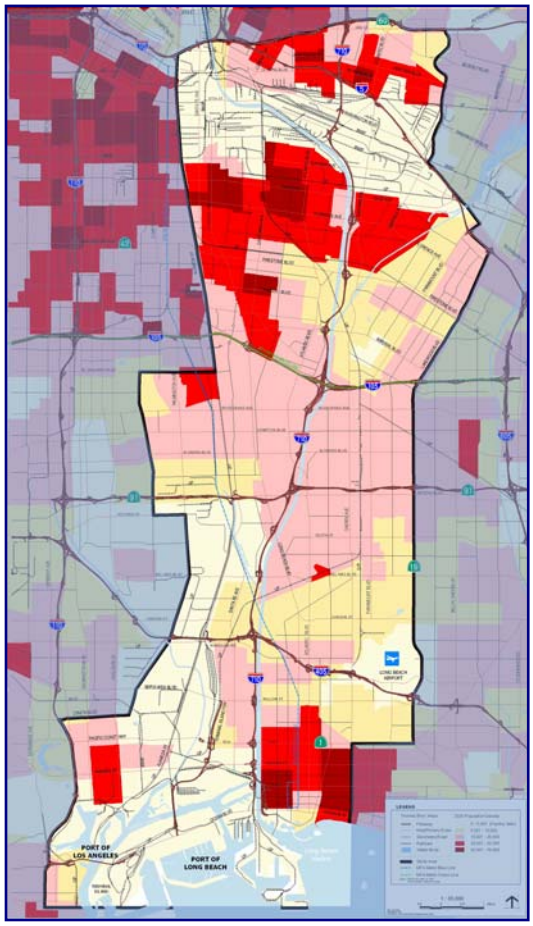
### 3.1.1 Projected Growth

A key factor that influences travel conditions in the I-710 Study Area is growth – growth in population, growth in employment, and, in the case of the I-710 Corridor, growth in economic activities related to goods movement. The planning horizon year for the I-710 Study is 2025.

***Figure 3.1-1***
***Population Density (1998, 2025)***




**in 1998**



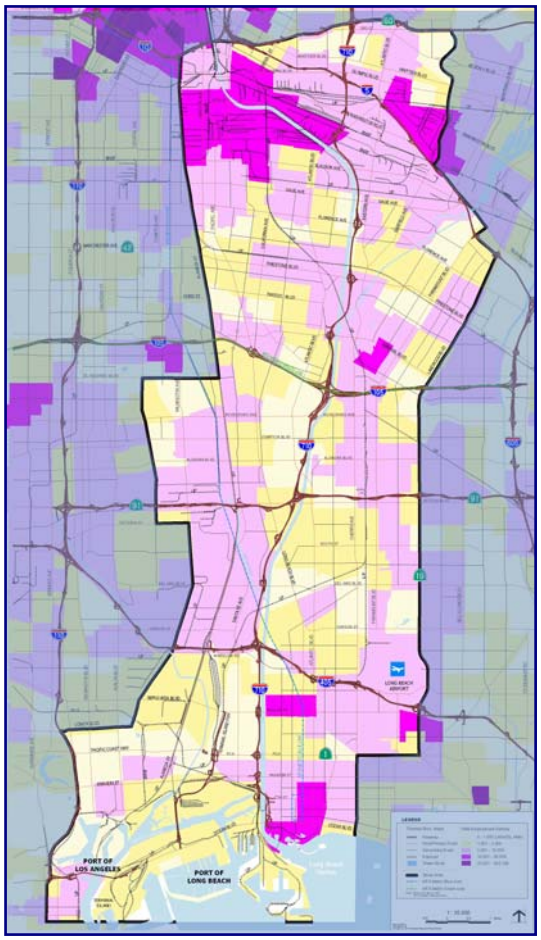

**in 2025**

Figure 3.1-1 shows the areas of highest population density (persons per sq. mile) within the I-710 Study Area for 1998 and 2025 respectively. The overall population density is about three times higher in the I-710 Corridor compared to Los Angeles County as a whole.

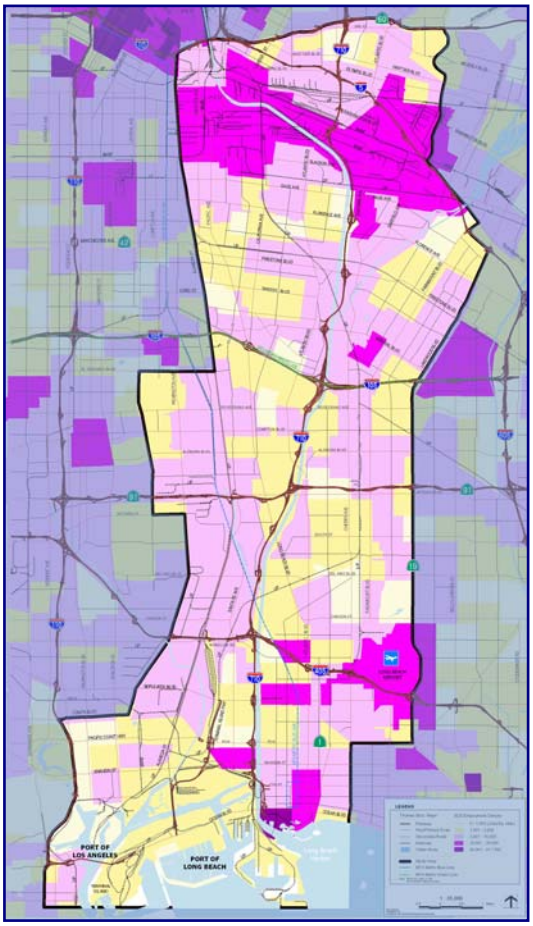
The I-710 Corridor encompasses several residential areas, which translates to relatively high numbers of residents living within the Study Area. The overall population within the I-710 Study Area is projected to grow at a steady pace over the next twenty five years, from 1,134,200 to 1,375,000, an estimated 21.2% increase in total population between 1998 and 2025. Much of the I-710 Study Area is already built out. Whereas some new development and higher intensity residential uses are planned in selected locations, high birthrates, larger families, and continued immigration are the leading variables in the projected population increases.

Employment is another factor in traffic growth. Figure 3.1-2 portrays the areas of highest employment density (employees per sq. mile) within the I-710 Study Area for 1998 and 2025.

***Figure 3.1-2***
***Employment Density (1998, 2025)***




**in 1998**



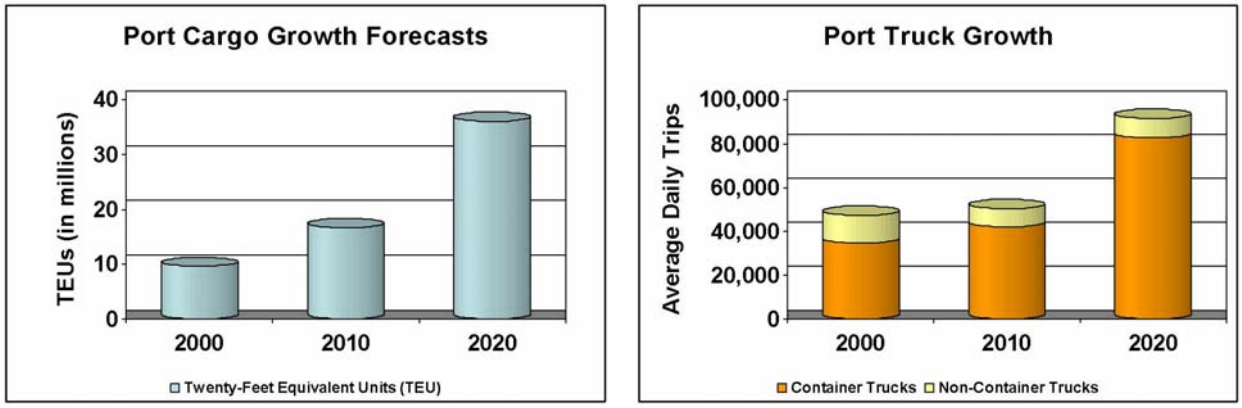

**in 2025**

Source: Los Angeles County Metropolitan Transportation Authority, Long Range Transportation Plan Forecast Data Files, 2001.

High density employment areas are an indicator of the places within the I-710 Corridor that are most likely to attract large concentrations of person trips during the peak travel hours, particularly the home to work commute trip. Compared to other areas within Los Angeles County, the patterns of employment within the I-710 Study Area are more dispersed and employment densities are generally lower. This is mainly due to the nature of the commercial land uses within the I-710 Corridor, which are largely industrial, with some commercial retail. However, total employment in the I-710 Corridor is expected to grow from 508,300 jobs to 642,600 jobs, an estimated 26.4% increase over the next twenty-five years.

The I-710 Study Area contains several land uses and activity areas related to goods movement and the transport of cargo. The Los Angeles / Long Beach port complex, located at the southern terminus of the I-710 Corridor, is the third largest container port in the world. Port activity in the Study Area is expected to increase. Figure 3.1-3 depicts the relationship between projected increases in container traffic, as measured in twenty-foot equivalent units (TEUs), and the expected number of trucks that will be traveling to and from the Ports of Los Angeles and Long Beach in 2010 and 2020.

***Figure 3.1-3***
***Port Cargo and Truck Forecasts***




Source: Meyer, Mohaddes Associates, Inc., *POLB/POLA Transportation Study Technical Report*, June 2001.

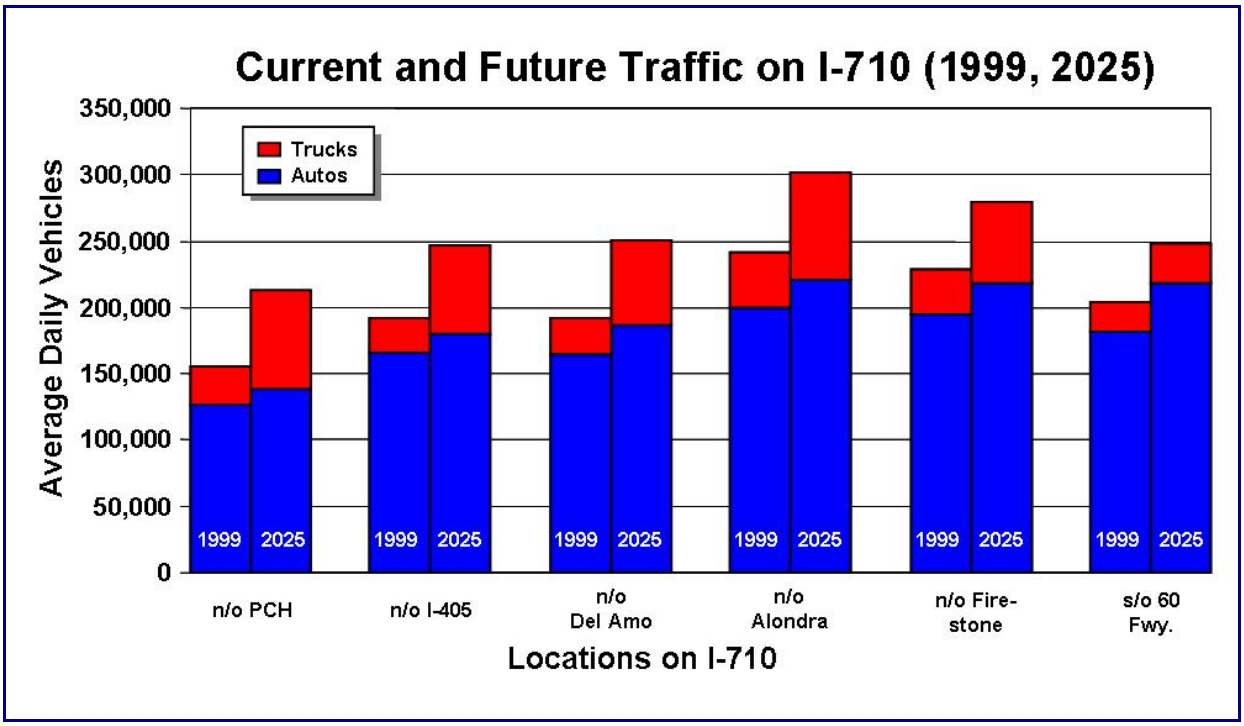
### *3.1.2 Projected Traffic Volumes*

I-710 is already experiencing bouts of congestion throughout the day. Auto use is highest during the a.m. and p.m. peak periods as commuters travel to and from work. Truck traffic occurs throughout the day, but it is at its highest during the midday, generally between the hours of 9 a.m. and 3 p.m.


Increases in population, employment, and goods movement between now and the future year will lead to more traffic on I-710 and on the streets and roadways within the Study Area as a

whole. This trend is evident in Figure 3.1-4, which shows the anticipated amount of traffic growth which is expected to occur at different locations on I-710 unless corrective action is taken.

***Figure 3.1-4***
***I-710 Projected Traffic***




Source: Kaku & Associates, Inc., I-710 Major Corridor Study Existing & Future Conditions, September 2001.

Figure 3.1-4 also shows that trucks are increasing at a somewhat higher rate between now and the future year compared to other vehicles in the traffic stream.

### *3.1.3 Design Deficiencies*

The I-710 freeway was designed decades ago, before containerization of oceangoing freight. The design for a specific context, based on the expected growth in traffic volumes, expected level of truck volumes, and expected operational characteristics of the vehicles using the facility. In general, the facility has remained essentially as it was constructed throughout the last several decades. Due to growth in traffic volumes exceeding those originally estimated and the high levels of truck traffic that has been realized in recent years, the facility does not have the capacity to accommodate current demand. In addition, many aspects of the design do not operate efficiently or safely due to the heavy truck traffic and the size and maneuverability of those trucks.

The design features that are most directly associated with the current operational problems on the freeway facility are discussed below. In every case the operational problems are worsened by the presence of heavy truck traffic.

*Interchanges with Local Streets*

The I-710 Study Area encompasses 18 interchanges with local streets. The spacing between many of these interchanges is less than standard. For example, Pico Avenue, Anaheim Street, and Pacific Coast Highway are very closely spaced (less than 800m separation). Close spacing of interchanges limits the weaving distance (the distance over which vehicles entering the freeway at one interchange can merge left into the mainline traffic while other vehicles are merging right to exit at the next interchange).

Many of these existing interchanges are cloverleaf configurations (e.g., Anaheim, Willow, and Florence) requiring weaving of traffic over a short distance to accommodate the on and off ramp movements. Close spacing of interchanges and cloverleaf ramps both lead to non-standard weaving distances. The necessary weaving distance is based on the number of vehicles weaving and, of course, trucks require substantially more weaving distance than do automobiles.

The interchange with Atlantic and Bandini Boulevards is a non-typical configuration. Six on and off ramps provide connections with these local streets near their intersection. The configuration and the signage arrangement are confusing to drivers. The northbound off-ramp to northbound Atlantic Boulevard serves as the connection to I-5 south, which is not provided at the I-710/I-5 interchange. This connection serves heavy truck volumes and does not provide enough storage capacity for the trucks and other automobiles that queue at the Bandini intersection where the ramp terminates. This lack of storage frequently results in off-ramp traffic backing onto the freeway.

Ramp Entrance at Del Amo Blvd.

Many of the local interchange ramps have non-standard geometry, which greatly limits the operational efficiency of the ramps and the interchange as a whole. In some cases narrow lane widths on the ramps and non-standard turning radii for trucks at ramp entrances further diminish the operational effectiveness of the ramps. In many cases the existing ramps have non-standard acceleration distances and steep climbing grades (e.g., Washington), which lead to a degradation of capacity on the ramps entering and exiting the freeway, particularly with truck traffic. These non-standard geometric features typically result in autos and trucks proceeding through the intersections and ramps at low speeds and trucks taking up more than one lane, which greatly limits the capacity of the interchange as a whole.

There is also a significant lack of storage on many of the off-ramps throughout the corridor (e.g., the interchange at Florence Avenue). The number of lanes and length of storage areas provided are not adequate in many cases to store the vehicles queuing and the ramp intersection. Often this results in traffic backing up into the mainline freeway lanes, which can cause congestion and safety concerns.

*Interchanges with other Freeways*

Within the project limits, four of the five freeway-to-freeway interchanges have significant non-standard geometric features. The major deficiencies are noted in the table below. The exception is the I-710/I-105 interchange which was constructed within the last 10 years. It contains standard geometrics and has no apparent deficiencies.

***Table 3.1-1***
***Freeway-to-Freeway Interchanges – Key Design Concerns***

| Cross Freeway | Existing Deficiencies |
|---|---|
| I-405 | On/off ramps for Wardlow Rd. are in close proximity to the interchange.<br>Low speed/capacity connections (loop ramps) for the SB to EB, EB to SB and NB to WB movements. |
| SR-91 | On/off ramps for Atlantic Blvd., Alondra Blvd. and Long Beach Blvd. are located in close proximity to the interchange. Low speed/capacity connections (loop ramp) for the NB to WB movement. |
| I-105 | No major problems |
| I-5 | Missing connections from NB-710 to SB-5 and SB-710 to NB-5. Left side egress to NB I-5.<br>On/off ramps to Washington Blvd. are located in close proximity to I-5/I-710 interchange. |
| SR-60 | Local interchange hook ramps to 3rd Street within interchange. May not be a significant issue provided that volumes remain low.<br>SR-60 ramps merge with I-170 south of SR-60 and are in close proximity to I-5/I-710 interchange. |

Source: Parsons Brinckerhoff, Field Review, May 2001.

In the case of I-5, connections are not provided for all of the traffic movements. The left-side egress at I-5 north is of particular concern because the truck traffic that is required to stay in the outside lanes must merge to the left through lanes of automobile traffic to accomplish the connection.

Some of the freeway-to-freeway interchanges provide only low capacity ramp connections for certain movements. These connector ramps are in a loop configuration, which limits the operating speeds and capacity versus higher speed “flyover” ramps. For example, three of the connections at I-405 are cloverleaf style loop ramps.

The close proximity of local interchanges and ramps to the freeway-to-freeway connections also limits the weaving distances on the mainline freeway degrading capacity and creating safety concerns as described below.

*Mainline Freeway*

The speed, capacity, and safety of the mainline freeway are negatively impacted by several existing design features that are discussed as follows.

Non-Standard Weaving Distances

As mentioned earlier in the discussion of interchanges, the weaving distances are significantly constrained by both the spacing of the interchanges and the ramp configurations. This negatively impacts the mainline freeway capacity and safety by introducing a significant number of conflicts in the outer lanes between ramp merge and diverge points.

The weaving distance is the distance over which vehicles entering the freeway at one interchange can merge left into the mainline traffic while other vehicles are merging right to exit at the next interchange. The necessary weaving distance is based on the number of vehicles weaving and, of course, trucks require substantially more weaving distance than do automobiles. For I-710, there is heavy truck traffic in the outer two lanes during the peak periods as well as throughout the remainder of the day. This intensifies the conflicts in the weaving sections due to the size and density of the truck traffic.

Narrow or Non-Existent Shoulders

Throughout much of the Study Area the shoulders provided are narrow (non-standard) width and in some segments no shoulders are provided at all. Because of the lack of shoulders, the current freeway facility does not provide sufficient enforcement areas for the California Highway Patrol (CHP), nor does it provide adequate areas for disabled motorists. Along significant segments of the route, vehicle breakdowns and enforcement activities cause operational and safety problems on the mainline freeway.

Narrow Lane Widths

Several locations along the NB I-710 contain non-standard width lanes (approximately 3.30 m instead of 3.60 m). For example, I-710 bridges over the railroad yards south of I-5. These narrow lanes tend to reduce the motorist's comfort level and speed, thus reducing overall capacity, especially when trucks are present. In most cases, currently programmed rehabilitation and improvement projects will address the lane and shoulder width deficiencies.

No Shoulders, Southbound, Approaching Atlantic/Bandini Interchange

The number of through lanes on I-710 varies throughout the full length of the corridor. I-710 is four lanes in each direction between I-405 and SR-60, except for the section between Atlantic-Bandini and I-5, which is five lanes in each direction. South of I-405, the number of through

lanes drops to three lanes in each direction. This condition enables bottlenecks to form on the mainline freeway as high volumes of traffic are compressed into fewer lanes. This is particularly evident on I-710 south of I-405, where long queues of trucks and cars frequently form in the peak periods.

Non-Uniform Ramp Metering

Approximately half of the existing interchanges along the corridor contain ramp meters at the on-ramps. The benefit of these ramp meters is limited by the fact that they are only at spot locations and hence there is not a coordinated plan along the full length of the corridor. Some of the ramps have limited storage distances, and if additional meters are installed they would have to include ramp widening to provide storage capacity. String-lining of a given segment of the facility, preferably between freeway-to-freeway interchanges, is recommended by Caltrans to determine the ramp metering cycle lengths / storage needs.

Median Barriers

The median barrier along significant portions of the route is an older (outdated) metal beam type that is no longer in standard use. This poses both maintenance and safety concerns. It appears that all existing metal beam median railing will be upgraded with currently proposed Caltrans projects.

### *3.1.4 Safety*

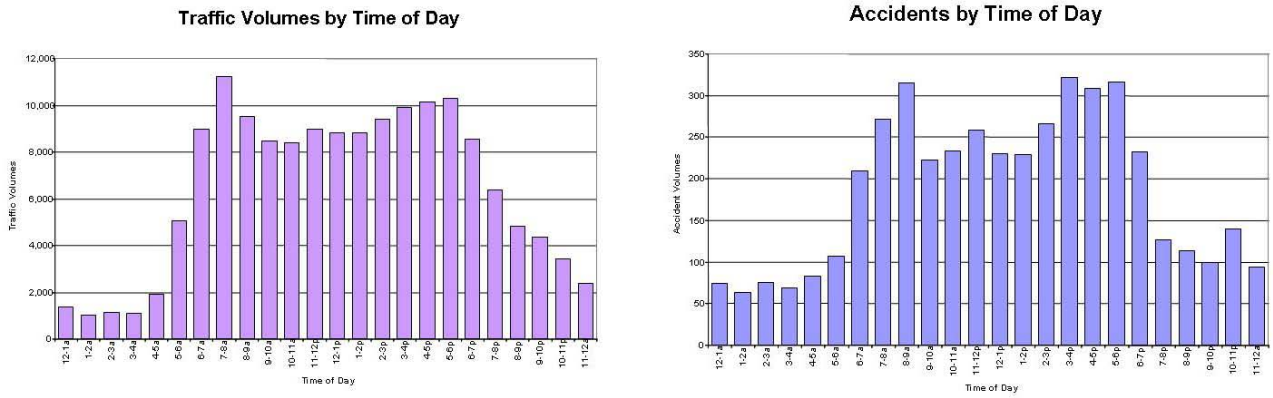
According to accident data collected and reported by Caltrans over a three-year period, on average, I-710 experiences about five accidents each day between Ocean Boulevard and SR-60. This includes property damage accidents, injury accidents, and fatalities. The individual causes of these accidents vary and can be traced to items such as speeding, motorist inattention, or unsafe lane changes. However, three major patterns have emerged related to the high incidence of accidents on I-710 compared to other freeways in the LA basin: (1) design deficiencies; (2) high traffic volumes; and (3) the mix between autos and trucks.

Figure 3.1-5 on the following page gives some indication where the accidents are occurring on the main travel lanes of I-710. Accident data locations are specific (to the nearest hundredth of a mile). The dots show the high incident locations on I-710 (yellow = between 10 and 30 accidents took place at that milepost location; orange = between 30 and 50 accidents; and red = over 50 accidents). Figure 3.1-5 clearly shows that the accidents are clustering at the interchanges.

Non-standard geometrics and design features on I-710 could potentially compromise traffic safety. In many cases, the curves are too tight on the ramps and the weave distances are too short. The two worst locations are at the I-405 interchange and just south of the I-5 interchange, as evidenced by the accident data shown in Figure 3.1-5 and confirmed by the motoring public.

The second contributing factor to the safety problem on I-710 is high traffic volumes. Figure 3.1-6 shows the relationship between traffic volumes at one location on I-710 and accident volumes, by time of day. The occurrence of accidents is highest during the peak periods. As traffic volumes increase, so does the propensity for accidents.

***Figure 3.1-6***
***Correlation between Traffic Volumes and Accidents***



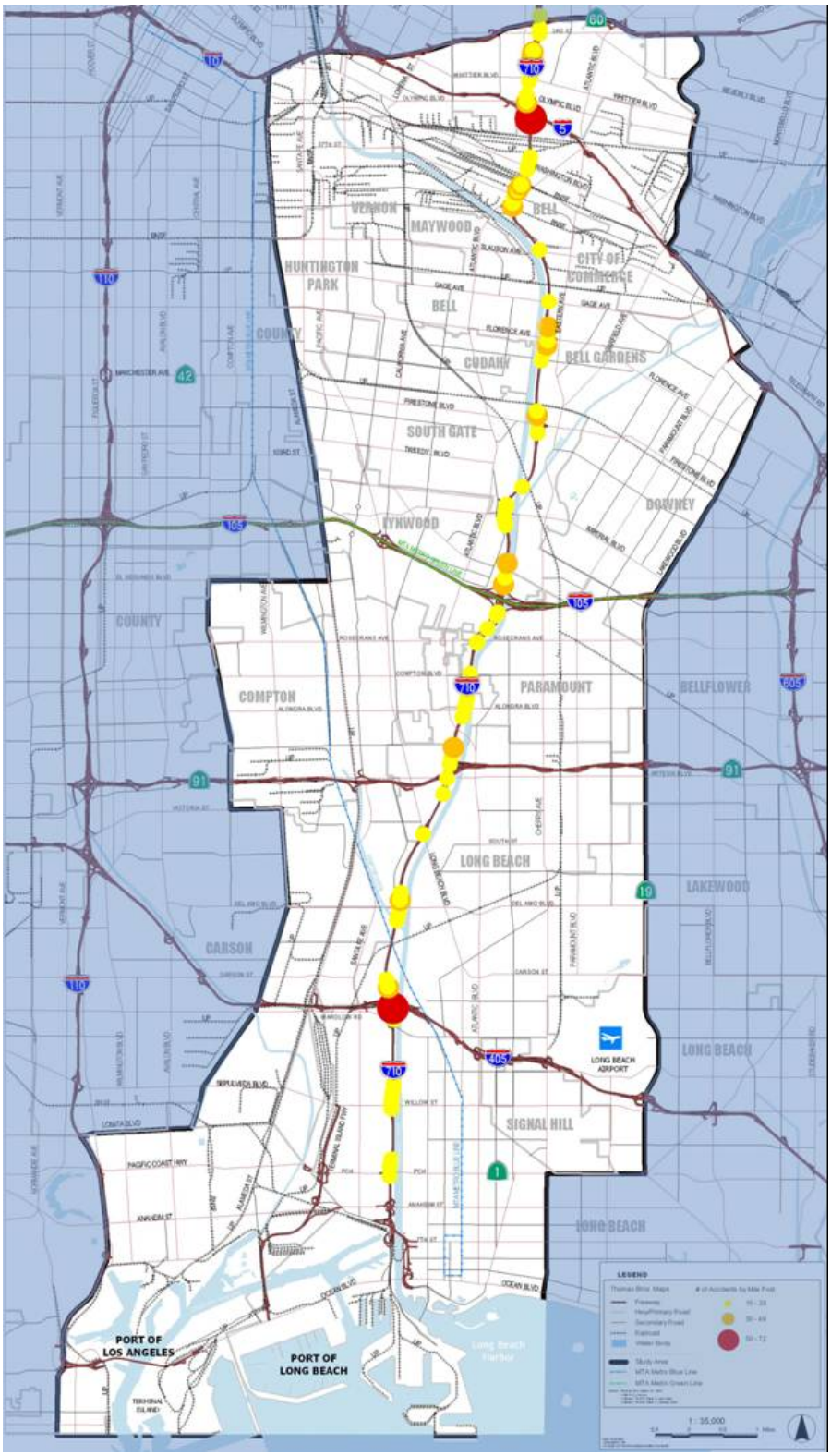

Source: Caltrans Traffic Operations, Traffic Counts, October 1999, and Traffic Accident Surveillance and Analysis System (TASAS) Data Files, July 2000.

The third major factor related to safety concerns is the mix of vehicles using I-710. At present, about 14% to 19% of the traffic on I-710 is heavy duty trucks. By 2025, the truck percentages are expected to be between 22% and 35% of general traffic, depending upon what segment of I-710 is being viewed. Truck percentages tend to be highest for the I-710 segments south of I-405, closer to the Ports.

By state law, heavy duty trucks are relegated to the two right-hand lanes of the freeway. Most of the mixing occurs as autos attempt to get on and off the I-710 freeway at the interchanges. Another location that is especially problematic is that trucks are permitted in the left-hand lanes near the I-5 interchange since the connector ramps from northbound I-710 to northbound I-5 are located on the left-hand side of the freeway. Trucks travel at different speeds compared to other vehicles in the traffic stream.

Trucks are slower to accelerate and slower to stop, which uses up more freeway capacity and also causes friction among these different vehicle types as impatient drivers dart in and out of traffic to avoid the slower moving vehicles. In addition, the difference in mass between a car and a truck makes an incident between these two vehicle types cataclysmic to the auto. Over one third of the accidents that occur on I-710 involve a heavy duty truck.

***Figure 3.1-5***
***High Accident Locations***




Source: Caltrans, Traffic Accident Surveillance and Analysis System (TASAS) Data Files, July 2000.

### *3.1.5 Air Quality and Public Health*

Diesel exhaust, which is produced when an engine burns diesel fuel and is commonly found throughout the environment, is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses and cars and off-road diesel engines that include locomotives, marine vessels and heavy duty equipment. Diesel exhaust is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains more than 40 toxic air contaminants. These include many known or suspected cancer-causing substances, such as benzene, arsenic, formaldehyde, and nickel. The sizes of diesel particulate matter (DPM) that are of greatest health concern are those that are in the categories of fine and ultra fine particles. The composition of these particles may be composed of elemental carbon with absorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements.

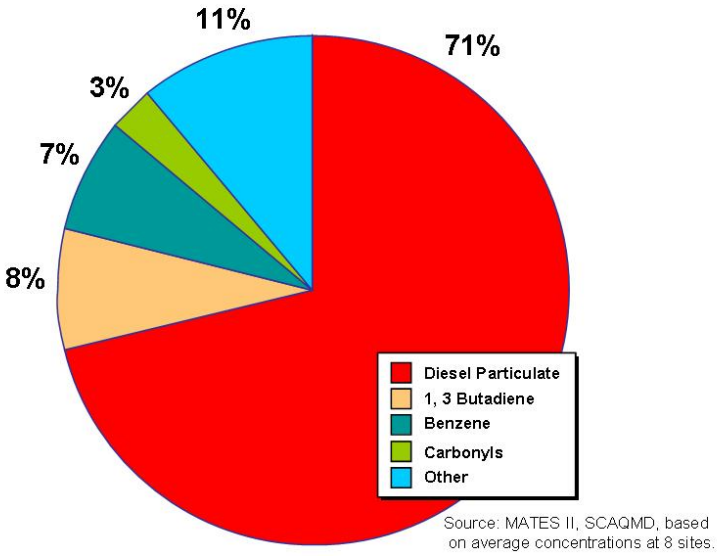
Diesel exhaust particles and gases are suspended in the air, so exposure occurs whenever a person breathes air that contains these substances. The fine and ultra fine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to diesel exhaust matter comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or aged through lingering in the atmosphere. This is of concern because I-710 corridor is a major route that is heavily utilized by heavy-duty diesel truck traffic, traveling to and from the Ports of Long Beach and Los Angeles.

There is limited information on human exposure to just diesel particulate matter but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. In 1998, the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) completed a comprehensive health assessment of diesel exhaust. OEHHA developed a cancer potency factor using DPM as a surrogate measure for diesel exhaust exposure. This assessment formed the basis for a decision by the California Air Resources Board (ARB) to formally identify particles in diesel exhaust as a toxic air contaminant that may pose a threat to human health.

In March 2000, the South Coast Air Quality Management District (SCAQMD) completed a study that measured and estimated the effect of 29 toxic compounds within the Greater Los Angeles Area. Entitled MATES-II, which stands for Multiple Air Toxics Exposure Study, this study pinpointed some of the leading air pollutants that contribute to carcinogenic risk for people that live and work in the I-710 Study Area. In this discussion, carcinogenic risk refers to the increased probability that an individual exposed to an average air concentration of a chemical will develop cancer when exposed over a period of 70 years. A key conclusion of the MATES II Study is that mobile emissions sources, specifically diesel particulates, are the primary contributor to carcinogenic risk in the South Coast Air Basin. The approximate breakdown is shown in Figure 3.1-7.

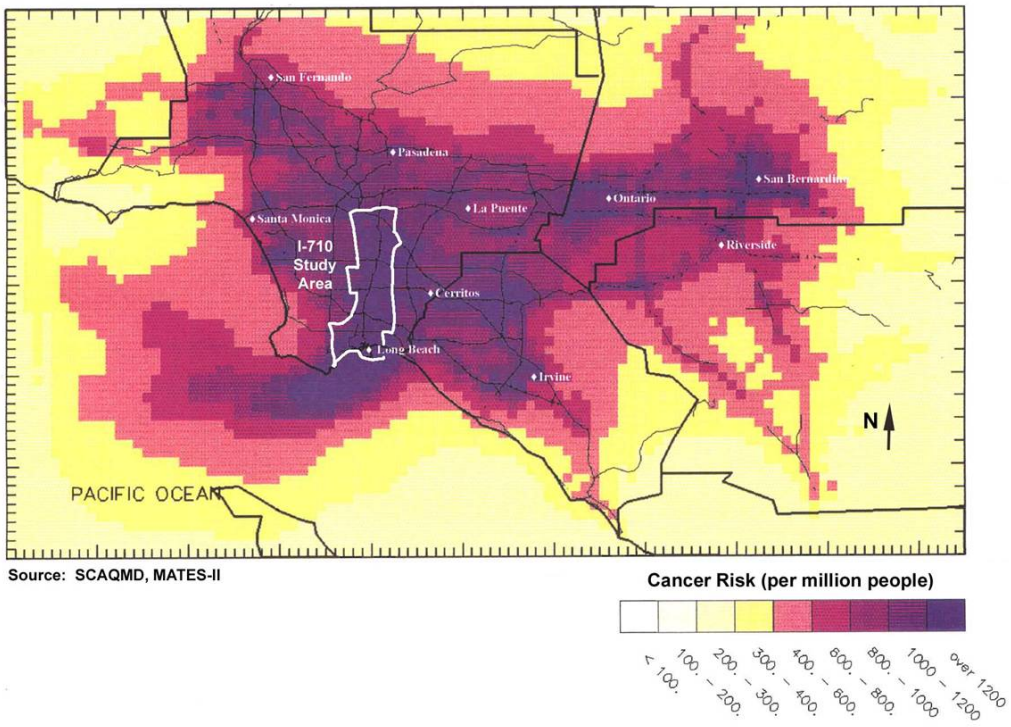
Using modeling techniques, SCAQMD was able to estimate the geographic distribution of carcinogenic risk attributable to all emissions sources based on measured levels of air toxins throughout the South Coast Air Basin. This includes both mobile and stationary sources.

***Figure 3.1-7***
***Sources of Carcinogenic Risk (Toxic Air Contaminants)***




The resulting map, shown in Figure 3.1-8, shows the cancer risk per million people. The I-710 Study Area is superimposed on this figure. This map clearly indicates that the health risk associated with toxic air pollutants is of particular concern to I-710 communities.

***Figure 3.1-8***
***Estimated Carcinogenic Risk (All Sources)***



Per SCQAMD, about 48% of the diesel particulate matter comes from diesel vehicle exhaust produced by heavy-duty diesel trucks. Although there are exceptions (e.g., downtown Los Angeles, Los Angeles/Long Beach Harbors), diesel particulate emissions are more concentrated along major freeway corridors in the South Coast Air Basin. Effects of diesel particulates on lung functions[1], asthma, and other respiratory conditions[2], were presented by experts from the University of Southern California (USC) during meetings of the Technical Advisory Committee (TAC) and the Oversight Policy Committee (OPC).

## 3.2 Need for Action

Based on the examination of existing and future travel conditions, the I-710 Corridor is already experiencing serious performance problems due to a number of interrelated reasons. With the exception of the I-105 interchange, no major work has been done on I-710 since it was built approximately 50 years ago, before containerization of oceangoing freight. This means that traffic volumes have overwhelmed the existing design capacity of the interstate, particularly at the interchanges. This, in turn, has led to congestion and safety problems along the full length of the facility.

A complicating factor is the large numbers of trucks that use I-710 to travel between the Ports and rail freight yards located near Interstate 5 (I-5), and to warehousing and distribution points scattered throughout the Southern California urban area. Near Long Beach, trucks make up nearly twenty percent of the traffic stream during the day, compared with an average daily truck percentage of 6 to 13 percent on similar freeways in Los Angeles County. It is not uncommon to see a line of trucks, nose to tail, in the two right-hand lanes of the freeway, which greatly restricts movement across lanes as other vehicles attempt to enter and exit the freeway. In terms of utilization of highway capacity, one truck is the equivalent of two passenger cars or more depending upon prevailing roadway conditions. Moreover, trucks move at different speeds compared to general-purpose traffic and often have difficulty negotiating the tight turns, short weave distances, and steep grades at most of the I-710's interchanges. Additionally, trucks are a major source of diesel particulate emissions, which contribute to carcinogenic risk in the South Coast Air Basin.

High traffic volumes, design deficiencies, freeway congestion, and the interaction between cars and trucks in the traffic stream, create potentially unsafe conditions. Field officers of the California Highway Patrol consider I-710 to be one of the worst freeways in the Los Angeles County area with regard to safety. According to state records, I-710 experiences an accident rate that is well above the statewide average for freeways of this type. About five accidents per day occur on I-710 between Ocean Boulevard and SR-60. Accidents, particularly truck-related accidents, form bottlenecks as emergency workers close travel lanes to clear the scene. As a result, these incidents lead to additional congestion, delay, and occasionally secondary accidents on I-710 as approaching vehicles unexpectedly run into the back of a queue. When I-710 shuts down, freeway traffic spills over onto local roadways and arterials searching for an alternative route, creating additional congestion on those facilities as well.

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[1] Ms. Andrea Hricko, Associate Professor of Preventive Medicine, University of Southern California; June 25, 2003 OPC Meeting. ( See Meeting Minutes in Appendix B)

[2] Dr. John Peters, Co-Director, Children's Environmental Health Center, Keck School of Medicine of USC; April 9, 2003 TAC Meeting. ( See Meeting Minutes in Appendix C).

I-710 is, and is expected to remain, a primary route for trucks carrying containers to and from the Ports. I-710 also serves as the gateway to the City of Long Beach, including several cultural, business, and tourist attractions of great economic importance to this area of Los Angeles County. The amount of congestion and traffic delay currently experienced on I-710 is not only disruptive to Port operations that must accommodate "just-in-time" goods delivery and inventory processes, but also hurts trucking, manufacturing, and other commercial interests within the region as shipments are delayed and as trucks sit in traffic. Idling trucks produce diesel particulates affecting air quality and thus exacerbating public health concerns of nearby residents. In addition, the I-710 freeway is visually unattractive, which degrades the motorist's experience and detracts from the impressions formed of the communities surrounding it.

The planning horizon for the I-710 Study is 2025. Both population and employment within the Study Area are expected to grow by about 20 percent between now and 2025. According to demand projections produced by the Ports of Long Beach and Los Angeles, container traffic will more than double during that same time period. These figures indicate that the existing transportation problems on I-710 and other study area roadways will get much worse and will affect the competitive position of the Los Angeles region, as well as other U.S. businesses and industries, unless corrective action is taken.

Finally, there is a significant percentage of mobility-constrained and minority populations within the I-710 Study Area. Improvements to transit services are needed to better serve those without access to autos for their travel needs and to attract drivers from their cars to help reduce traffic congestion. Future transportation improvements also need to be sensitive to the distribution of their benefits and impacts, so as not to disproportionately affect any one ethnic group or community.

Analysis of these current and projected conditions in the I-710 Study Area, as well as public input, has led to the identification of several key problem areas for the I-710 Corridor, which was approved in December 2001 by the I-710 Oversight Policy Committee. Many of these problems and needs are interrelated. Table 3.2-1 lists and describes these problem issue areas in no particular order of importance:

***Table 3.2-1***
***I-710 Corridor Problem Statements***

| ***Problem/Need*** | ***Problem Statement*** |
|---|---|
| Recurrent Traffic Congestion | Traffic demand is overwhelming the existing design capacity of I-710 and related interchanges in the peak periods. Under current conditions, high volumes of both trucks and cars have led to peak spreading and traffic congestion throughout most of the day (6 a.m. to 7 p.m.) on the mainlines of I-710 as well as approaching arterials. This pattern is projected to worsen over the next twenty years. |

***Table 3.2-1 Continued***
***I-710 Corridor Problem Statements***

| ***Problem/Need*** | ***Problem Statement*** |
|---|---|
| Non-Recurrent Traffic Congestion | The frequent occurrence of traffic incidents and constraints associated with quickly clearing those incidents causes bouts of traffic congestion on I-710 that cannot be predicted or avoided. Serious incidents can shut down the freeway for an hour or more, with its attendant spillover effects on the local arterial system. These unexpected delays and resulting economic consequences to freight carriers, employers, manufacturing, and business interests in the region are severe. The unexpected nature of traffic congestion on I-710 is also inconvenient and highly disruptive to commuters and residents that depend upon it for their daily travel. |
| Safety | The number and severity of accidents on I-710 are high when compared to other similar freeways in the Los Angeles region. Accidents on I-710 are largely due to design deficiencies, high traffic volumes, and the current vehicle mix of autos and heavy-duty trucks. These accidents cause property damage, injuries, and fatalities as well as vehicle delays, as traffic slows or comes to a stop on the freeway mainline until the incidents are cleared. In some cases, secondary accidents are triggered as vehicles upstream of the incident run into the back of an unexpected traffic queue. |
| Goods Movement | To remain economically competitive in the global marketplace, the Southern California region must support and manage increasing demand for goods movement in the I-710 Corridor. With the recent completion of the Alameda Corridor and its corresponding expansion in freight rail capacity, the regional focus has turned to trucks because of the essential role that this travel mode plays in the logistics chain for goods movement. By 2025, the number of heavy duty trucks on I-710 is expected to more than double. Of particular concern in the I-710 Study Area is how to best realize the economic benefits of the movement of goods (freight) and yet lessen the disruptive effects of truck traffic on the freeway and roadway system, and on neighboring communities. |
| Design Deficiencies | Non-standard design features such as inadequate weave distances, acceleration lanes that are too short, poor turning radii, narrow lane widths, left-side egress locations, lack of shoulders, and missing freeway connectors and access points are a major contributor to safety problems and operational inefficiencies along the full length of I-710 corridor. These non-standard features also constrain the operational capacity of travel lanes and ramps on I-710. This situation contributes to poor levels of service currently experienced by motorists on I-710. |

***Table 3.2-1 Continued***
***I-710 Corridor Problem Statements***

| ***Problem/Need*** | ***Problem Statement*** |
|---|---|
| Land Use Constraints | The envelope of state-owned land that contains the I-710 facility is limited along much of the length of I-710, including the interchanges. This means that the buffer of land between the edge of travel way and the state right-of-way line is very narrow in most locations and, in some cases, it is non-existent. In addition, sensitive populations and natural resources such as the Los Angeles River Channel, residential neighborhoods, businesses, cemeteries, schools, and parks are located adjacent to the right-of-way line. If major changes are made to the current geometric configuration of freeway, then the potential for right-of-way impacts is high. |
| Air Quality/Public Health | As shown by recent Air Quality Management District (AQMD) studies, populations within the I-710 Study Area are regularly exposed to toxic air contaminants that increase carcinogenic risk. A major source of these air toxins is diesel particulates, which is considered to be a local source air pollutant. About half of the diesel particulate matter in the South Coast Air Basin as reported by AQMD (1998) is caused by emissions from vehicles using the freeway and roadway system. Heavy-duty diesel trucks are the leading contributor to on-road sources of diesel particulates. |
| Environmental Justice/Equity | The I-710 Study Area contains a high number of minority and low-income populations that require special consideration under federal environmental justice guidelines. Proposed transportation improvements should be equitable and should distribute benefits and burdens fairly. |
| Aesthetics/Noise | The I-710 freeway is unattractive, which affects the perception that visitors, residents, and potential customers have of the Gateway Cities area. In addition, residents and other sensitive receptors located close to I-710 experience high levels of traffic noise, particularly in locations where noise barriers do not presently exist. |
| Cost-Effectiveness | There are limited financial resources and high competition for transportation dollars within Los Angeles County over the next 25 years. Transportation improvements identified in the I-710 Corridor must compete for these available funds with other worthy projects within the county. To be successful, proposed improvements must be cost-effective, generating the maximum transportation benefits for the dollars invested. In addition, proposed transportation improvements should be realistic and achievable, based on known physical, operational, social, and institutional parameters. |
| Transit | There is a need to better serve the populations in the I-710 Study Area with transit. Existing transit services warrant solutions to improve the mobility of those who currently use public transit, as well as to make these services more competitive with the automobile so as to attract new riders to help reduce traffic congestion. |

Source: Purpose and Need Statement, Parsons Brinckerhoff, adopted by OPC in December 2001.

## 3.3 Guiding Principles

In May 2003, in response to overwhelming community concern and public response in opposition to the preliminary design concepts for expanding I-710, the focus and emphasis on purpose and need for future transportation improvements for the I-710 Major Corridor Study was refined. The Oversight Policy Committee adopted a set of five guiding principles that established priorities among the problem issue areas as well as guidance for assessing and formulating recommendations for transportation improvements.

***I-710 Corridor Guiding Principles***

1. Minimize right-of-way acquisitions with the objective being to preserve existing houses, businesses, and open space.

2. Identify and minimize both immediate and cumulative exposure to air toxics and pollution with aggressive advocacy and implementation of diesel emissions reduction programs and use of alternative fuels as well as in project planning and design.

3. Improve safety by considering enhanced truck safety inspection facilities and reduced truck/car conflicts and improved roadway design.

4. Relieve congestion and reduce intrusion of traffic into communities and neighborhoods by employing a comprehensive regional systems approach that includes adding needed capacity as well as deploying Transportation Systems Management and Transportation Demand Management technologies and strategies (TSM/TDM) to make full use of freeway, roadway, rail, and transit systems.

5. Improve public participation in the development and consideration of alternatives and provide technical assistance to facilitate effective public participation.

Source: Oversight Policy Committee Meeting Minutes, May 28, 2003