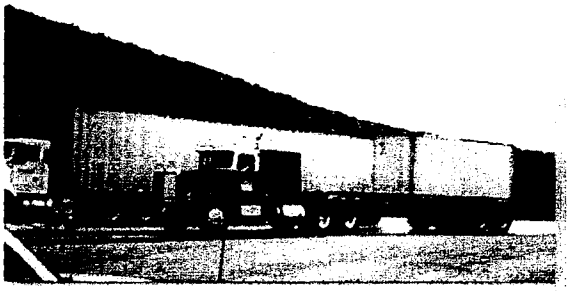
Final Report

PORT OF HUENEME ACCESS STUDY



Prepared for

VENTURA COUNTY
TRANSPORTATION COMMISSION

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS

Prepared by
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TRANSPORTATION MARKETING SERVICES, Inc.

December 1, 2000

Port of Hueneme Access Study

Final Report

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INTRODUCTION

This study updates the 1988 and 1990 *Port of Hueneme Access Studies*, conducted by the Ventura County Transportation Commission (VCTC) and the Southern California Association of Governments (SCAG). The purpose of this update is to address the anticipated growth in the region, in conjunction with the projected increased activity at the Port. The primary objective of this study is to provide information to decision-makers on existing and future conditions at the Port and in its vicinity, and to present improvement strategies that would reduce the effects associated with Port-related truck traffic.

The following five aspects were evaluated for this study, and are summarized below:

- Historical, Existing and Future Port Operations
- Existing and Future Port Truck Volumes
- Existing and Future Traffic Conditions
- Truck Routing and Roadway Issues, and Recommended Improvements
- Existing and Future Highway 118 Conditions

HISTORICAL, EXISTING AND FUTURE PORT OPERATIONS

The Port of Hueneme is a significant factor in the economic landscape of both Ventura County and Southern California. The Port's commercial operation is a major generator of jobs in Ventura County. Employment at the Port's tenant operations and the Oxnard Harbor District (an independent special district which is the port authority for the commercial Port of Huemene) approached 3,000 persons in 1999 – a total that is nearly 1 percent of Ventura County's total civilian labor force for that year. Cargo that enters and leaves the Port has origins and destinations throughout the state, but are concentrated mostly in Southern California.

Over the last 30 years, cargo tonnage at the Port has increased at about an 8 percent annual growth, from 111,500 metric tons in 1970, to about 1.0 million tons in 1999. Currently, the primary commodities at the Port include set-up automobiles and other vehicles, fruit, other agricultural and food products, bulk liquid (including fuel oil), lumber, wood pulp, and general cargo. Of these commodities, automobiles and fruit (refrigerated cargo) account for the highest percentage. Although the Port is served by the Ventura County Railroad (VCRR), almost all shipments are transported via truck (with only some automobiles carried by rail).

Future Port tonnages and commodities were estimated based on a detailed freight analysis. By 2020, it was estimated that total port tonnage would range between 3.4 million and 5.6 million metric tons, excluding fuel oil (whose land-side movements are by pipeline rather than by truck).

It is anticipated that automobiles and refrigerated cargo are expected to continue to dominate shipments into the future. Although the VCRR expects that a greater percentage of automobiles would be carried by rail in the future, it is anticipated that trucks would remain the predominate cargo carrier.

The Port of Hueneme is also home to the U.S. Naval Construction Battalion Center (CBC). The bulk of shipments generated by the CBC are related to the military community that resides at the Port. A minimal amount of the shipments to and from the Navy facilities actually are loaded on and off Naval ships. Details on Navy-related shipments were not available from the Navy for this study. Most shipments are by truck, as the VCRR reported that only minor amounts arrive by rail. During war or national emergencies, shipments by both truck and rail can increase significantly.

EXISTING AND FUTURE PORT TRUCK VOLUMES

A survey of truckers at the Port gates and at the set-up automobile processing facilities near the Port on Hueneme Road was conducted to determine the travel characteristics of the trucks currently generated by the Port. The survey was conducted on a Tuesday (typically the Port's busiest day of the week). In general, the results of the survey indicated that:

- Between 6:00 AM and 6:00 PM, about 678 truck-trips were generated by the Port and the auto processing facilities on the day of the survey, most of which were destined to and from the Port's Hueneme Gate. The peak hour of Port truck activity occurred between 11:00 AM and 12:00 PM, when 13 percent of truck trips were made.
- About 40 percent of the Port truck traffic had origins/destinations within the local area. About 30 percent had origins/destinations within the greater Los Angeles area, and 30 percent of the Port truck-trips had origins/destinations through the rest of California or outside the state.
- To travel between origins/destinations outside the local area and the Port, most Port-related trucks utilized U.S. 101 (46 percent) or Highway 126 (33 percent). Less than 20 percent of the Port truck trips traveled on Highway 118.

The estimated annual increases in commodity tonnage by year 2020 were converted into truck volumes in order to determine the future increases in truck activity at the Port. It is anticipated that there would be an increase from 497 truck-trips entering and exiting the Port per day in 1999, to between about 1,800 and 3,165 truck-trips on an average day by 2020.

EXISTING AND FUTURE TRAFFIC CONDITIONS

The study included a traffic analysis of six intersections near the Port of Hueneme that would potentially be affected by Port-related traffic, including:

- Rice Avenue and Pleasant Valley Road
- Ventura Road and Hueneme Road

- Ventura Road and Channel Islands Boulevard
- Victoria Avenue and Channel Islands Boulevard
- Santa Clara Avenue and Central Avenue
- Santa Clara Avenue and Highway 118 (Los Angeles Avenue)

Traffic conditions, measured in terms of Levels of Service (LOS), were identified for the intersections during the AM peak hour, the Midday peak hour and the PM peak hour, for both Existing and future 2020 conditions. The future growth and 2020 intersection operating conditions accounted for the planned and programmed changes to the local roadway network (including such projects as the Rice Avenue Extension and the widening of Santa Clara Avenue) and the growth in traffic volumes estimated from the VCTC's Countywide Traffic Model. The future 2020 intersection operating conditions were developed for conditions without and with the increase in truck-trips generated by the Port.

Based on the results of the intersection operations analysis, all study intersections are forecasted to operate at LOS D or better (acceptable service levels) during the three time periods under future 2020 conditions. In addition, the projected increase in truck-trips generated by the Port would not substantially affect the intersection operating conditions.

TRUCK ROUTING ISSUES AND RECOMMENDED IMPROVEMENTS

Currently, Port-related trucks use different sets of roadways to travel between the Port and the regional freeway network, depending on which side of the Port they are traveling to and from. For example, at the Victoria Gate, a large percentage of trucks travel north/south on Victoria Avenue to and from U.S. 101. At the Port's Hueneme Gate, most trucks travel north/south on Ventura Road and east/west on Hueneme Road. At the auto processing facilities along Hueneme Road, most trucks use Hueneme Road / Las Posas Road or Oxnard Boulevard.

Traffic on these routes (including trucks traveling to and from the Port) has resulted in a number of issues or potential problems, including:

- Poor operating conditions at the intersections of Ventura Road and Channel Islands Boulevard, and at Victoria Avenue and Channel Islands Boulevard
- High volume of trucks on Ventura Road between Hueneme Road and Channel Islands Boulevard (a primarily residential street)
- High volume of trucks on Oxnard Boulevard (Highway 1) and East Fifth Street (Highway 34) through downtown Oxnard
- High traffic volumes on Victoria Avenue between U.S. 101 and Highway 126

Planning and design efforts for an extension of Rice Avenue between Hueneme Road and Pleasant Valley Road are currently underway. This roadway would greatly improve the connection between the regional roadway network and the eastern side of the Port. As such, the

Rice Avenue Extension would help to alleviate some of the existing concerns regarding trucks on the streets surrounding the Port.

While the Rice Avenue Extension would address a significant Port access problem, there are several other activities and projects that should be pursued and supported.

- With the construction of the Rice Avenue Extension, the Cities of Oxnard and Port Hueneme should re-evaluate their truck route systems to determine if truck restrictions on local streets could be instituted to remove non-local Port truck traffic from residential streets. (Because these streets are not state highways, local cities may restrict truck traffic and designate others for truck traffic.)
- After improvements to the Rice Avenue corridor are completed and future Port truck traffic patterns are established, a study of a potential "Cross-Port Roadway" should be undertaken to determine the traffic impacts and benefits associated with such a roadway.
- Also, after the Rice Avenue corridor improvements are completed, a study of traffic on Victoria Avenue from Channel Islands Boulevard to Highway 126 is needed to determine the impacts of the extension to that corridor.
- In the initial 1988 *Port of Hueneme Access Study*, the need to upgrade Hueneme Road between Saviers Road and Arcturas Avenue was identified as a critical need, and still remains an important project for truck access to the Port. The upgrade will relieve a bottleneck of one lane in each direction between Saviers Road and Arcturas Avenue by widening Hueneme Road to two lanes in each direction between these streets.
- Without the planned improvements along Santa Clara Avenue, the study intersections of Santa Clara/Central Avenue and Santa Clara/Highway 118 would operate at LOS F conditions by year 2020. As such, these improvements are important to maintain acceptable service levels and vehicle/truck circulation.
- The City of Moorpark is studying the feasibility of a bypass route for Highway 118 to be constructed north of downtown Moorpark. The study will determine if the bypass would lessen the effects due to an increase in general truck traffic (both Port-related and non-Port-related) within the City of Moorpark.
- The VCRR and its connecting carrier, the Union Pacific Railroad (UP), might be encouraged to aggressively pursue business at the Port of Hueneme and to jointly market this service regionally and to the rest of the country. Increasing the amount of cargo that is handled by rail would reduce the need for travel by trucks on the area roadways. New rail traffic should be pursued with consideration given to noise and other issues.

HIGHWAY 118 ANALYSIS

An analysis was conducted along Highway 118 between Vineyard Avenue and Highway 23 in order to characterize the existing traffic volumes on the roadway, and to assess the effect of Port-related truck traffic on Highway 118 in downtown Moorpark. Existing travel conditions and vehicle characteristics along Highway 118 were determined from 24-hour tube counts, vehicle

classification counts, visual truck-type classification counts and license plate surveys that were conducted at four study locations along the roadway.

Based on the results of this effort, it was determined that:

- The average percentage of trucks on Highway 118 was between 11 and 21 percent, with an average of 16 percent for the 12-hour period between 6:00 AM and 6:00 PM. The peak period of truck activity occurred between 9:00 AM and 3:00 PM.
- About 30 percent of the truck-trips on Highway 118 were through trips (i.e., a trip that used Highway 118 between Highway 34 and Moorpark to travel between points south, east and west of the study area) and 70 percent were local trips (i.e., a trip that had an origin, destination or stop along Highway 118 within the study area, or did not use Highway 118 between Highway 34 and Moorpark).
- Only 10.5 percent of the truck-trips destined to or from the Port between 6:00 AM and 6:00 PM traveled on Highway 118 in Moorpark (72 out of 678). By 2020, the percentage of the total Port truck-trips traveling on Highway 118 in Moorpark is forecast to increase slightly to 10.7 percent.
- Port-related truck-trips currently account for less than 2 percent of the total truck traffic in downtown Moorpark. By 2020, with the anticipated growth of the Port, Port truck-trips are expected to increase to between 4.4 and 7.4 percent of total-truck trips through downtown Moorpark.
- Although Port truck traffic has a relatively small impact on Highway 118, the analysis shows that overall traffic volumes on Highway 118 from Vineyard Avenue to Moorpark and on Santa Clara Avenue from Highway 118 to U.S. 101 in year 2020 will be such that widening of those facilities to four lanes will be required to avoid unacceptable levels of service.

SUMMARY

The Port of Hueneme is an important economic asset to both Ventura County and Southern California. A major employer in the county, the Port is the international commercial gateway for about 1 million tons of cargo. This tonnage figure will grow significantly over the next 20 years, and with it will grow the importance of the Port of Hueneme. Over the same period, travel in general will increase on the local and regional roadway network. The increase will result from the growth of business activity and of the general population. In Ventura County alone, the population is expected to increase 32 percent from 744,800 in 1999 to almost 1 million persons in 2020[1]. The general increase in travel will demand more from the area's roadways. Volumes on the roadways evaluated in this study indicate a need for improvements and for further studies.

[1] The Ventura County population forecast was obtained from the State of California's Employment Development Department.

Chapter 1
PURPOSE AND OVERVIEW

The Port of Hueneme is the only deepwater port between the Los Angeles and San Francisco Bay Area, and is the center of a growing freight handling activity in Ventura County. Due to its location adjacent to the City of Port Hueneme, the Port relies on urban arterials to connect with the regional freeway network. Growth in harbor-related traffic, combined with growth in Ventura County, has resulted in increased congestion levels and deterioration of the roadway network. Although the Port is an important economic resource to Ventura County and the region, there have been significant local community concerns related to the impacts of trucks on congestion, noise, air pollution and overall quality of life.

1.1 BACKGROUND

In 1988 and 1990, *Port of Hueneme Access Studies* were conducted by the Ventura County Transportation Commission (VCTC) and the Southern California Association of Governments (SCAG) to address these issues by acquiring an understanding of the existing conditions, identifying future activity and needs, and developing measures that would provide relief to congestion problems. These studies sought to balance the environmental concerns of communities near the Port with the area's economic concerns for growth. The studies intended to identify practical ways to manage the increasing truck traffic in and out of the Port of Hueneme.

The 1988 study included a forecast of commodities and tons to Year 2010. In conjunction with increasing volumes were assumptions on growth of truck traffic, including forecasts for truck trips for commercial tenants and for the U.S. Naval Construction Battalion Center (CBC), operator of the major facility on the Port's north side. The study also included a week-long survey of truck drivers at the main gates for commercial tenants and the U.S. Navy that was used to determine the origins and destinations of trucks and their routes. In addition, a one-day traffic count was conducted at three key intersections to calculate trucks as a percentage of total traffic. This data allowed for an evaluation of alternative routes for this truck traffic. The study recommended specific truck routes, including the proposed extension of Rice Avenue (providing the link to U.S. 101) to Hueneme Road (providing the link to the Port). Cost estimates were developed for the main improvements.

In 1990, SCAG prepared an update of the 1988 study to review the recommended projects and adjust the cost estimates for the improvements.

1.2 PURPOSE OF THE PRESENT STUDY

Anticipated growth in the region, in conjunction with projected increased activity at the Port, prompted the initiation of this update to the 1988 and 1990 *Port of Hueneme Access Studies*. A significant amount of time has elapsed since the previous studies, but the concerns of the communities for preserving quality of life and the concern of the area for economic growth remain unchanged. At the same time, truck tonnage at the Port – and consequently truck movements – are on the increase. It would appear, therefore, that the need to balance environmental and economic concerns through adequate provision for increasing truck-trips is an increasing priority. Roads that catered mostly to the area's traditional rural traffic are now handling ever-higher percentages of commuters and truck traffic. As a result, congestion on roadways serving the Port is worsening.

The current study consists of an analysis of the Port's existing and future traffic (in terms of tons and specific commodities), an assessment of what these increases mean in terms of truck movements through the communities that surround the Port (including the Cities of Port Hueneme, Oxnard, Ventura, and Moorpark), and recommendations to improve traffic operations in the vicinity. Figure 1-1 presents the study area.

The primary objective of this study is to provide information to decision-makers on existing and future conditions at the Port and in its vicinity, and to present improvement strategies that would alleviate congestion associated with Port-related truck traffic.

1.3 OVERVIEW

1.3.1 Approach

The study's work plan was structured around three tasks, which formed a project framework for the study. They also mirror, in large part, the approach that was used in the 1988 Access Study. Conducted over a seven-month period, these tasks included:

1. Freight Analysis

A freight analysis was conducted of the historical, existing and future Port tonnages and commodities. Existing Port truck volumes were determined based on a survey of trucks entering and exiting the Port. Information on truck origins and destinations and routes were also determined. Based on the projected increase in Port activities, the additional trucks associated with the growth were determined.

2. Truck Route Issues

An assessment was conducted of Port-related truck issues in the cities surrounding the Port of Hueneme. This effort included analyzing traffic operating conditions at key intersections for existing conditions, and determining the impact of growth in the region and at the Port on year 2020 operating conditions. The contribution of Port-related truck traffic to growth in traffic volumes was identified for each study intersection. In addition, an assessment of truck traffic on Highway 118 was conducted to determine existing truck patterns and identify the percentage of

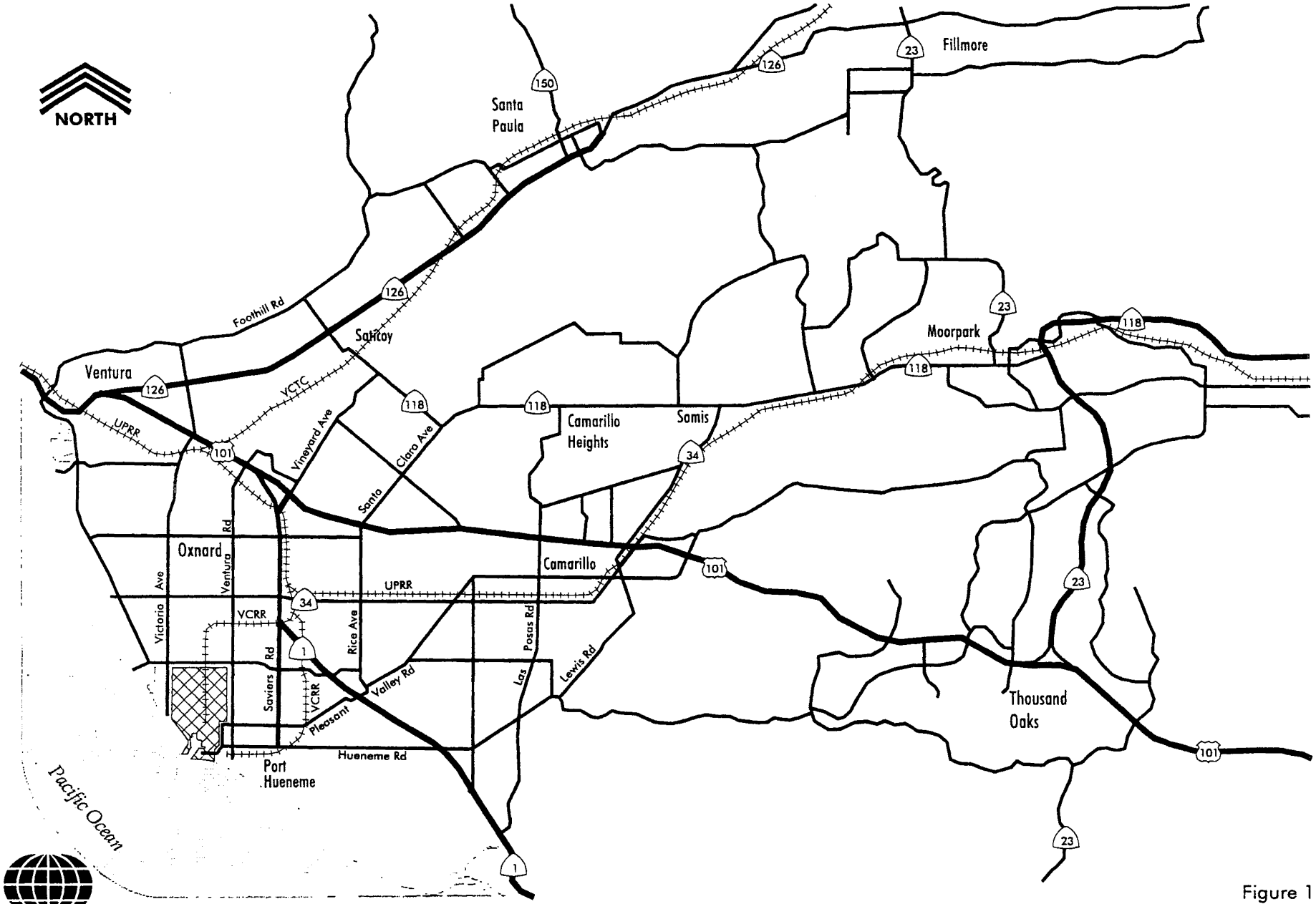

Figure 1-1
STUDY AREA

WILBUR SMITH ASSOCIATES

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Port-related trucks on Highway 118. The impact of growth at the Port on Highway 118 conditions was also identified.

3. Identification of Traffic Mitigation Strategies and Needed Improvements
Based on the issues associated with growth in the region and at the Port, improvement strategies were developed to address Existing and future 2020 traffic issues on roadways serving the Port of Hueneme.

1.3.2 Report Organization

The findings of this analysis described in the approach above are discussed in the remaining four chapters of this study. The chapters and a summary of their contents appear below.

Chapter 2 provides a description of the historical, existing and projected activity at the Port of Hueneme, including operations, commodity types and tonnages. In addition, the characteristics of the existing Port truck traffic, including volumes, temporal distribution, truck types and routes, are presented. Based on forecasts of activity at the Port developed by VZM/Transystems, future Port traffic was projected for year 2020 for three growth scenarios. The growth in commodity types and tonnages was used to estimate the truck volumes associated with the different growth levels.

Chapter 3 presents a discussion of the existing and future traffic conditions and intersection operations in the vicinity of the Port of Hueneme. Included in the discussion are the existing turning movement volumes, an estimation of the future year 2020 turning movement volumes, and Level of Service (LOS) calculations at six key intersections for the Existing and year 2020 conditions.

Chapter 4 presents a discussion of the Port truck routing for existing and year 2020 conditions, and recommendations to facilitate truck movements and improve traffic operating conditions in the study area. While the Rice Avenue Extension would address a significant Port access problem, several other activities and projects should be explored. These include:

- Re-evaluation of truck route systems around the Port after completion of the Rice Avenue Extension
- A study of the impacts and benefits of a "Cross Port Roadway" after completion of the Rice Avenue Extension
- A study of traffic on the Victoria Avenue corridor after completion of the Rice Avenue Extension to determine the impacts of the extension on the Victoria corridor
- Widening of Hueneme Road between Saviers Road and Arcturas Avenue to two lanes in each direction
- Highway 118 bypass of downtown Moorpark
- Santa Clara Avenue Improvements
- Encouragement of the area's railroads to pursue aggressively traffic opportunities at the Port of Hueneme (with consideration given to noise and other impacts)

Chapter 5 presents a description of the existing traffic volumes on Highway 118, including daily and peak hour volumes, truck percentages and types of trucks. The contribution of Port-related traffic to truck volumes and total traffic on Highway 118 in Moorpark are presented for existing and year 2020 conditions. The contribution was determined for conditions with and without the proposed Highway 118 bypass route around Moorpark.

1.4 NEXT STEPS

The next phase of the Access Study should include the development of an implementation plan for the recommendations. Prior to implementation of any of the recommendations, local, regional and state support of the improvements is needed, funding is required, and engineering drawings are needed. Most importantly, implementation needs to be conducted with minimum impact on the surrounding environment.

Chapter 2
PORT OPERATIONS

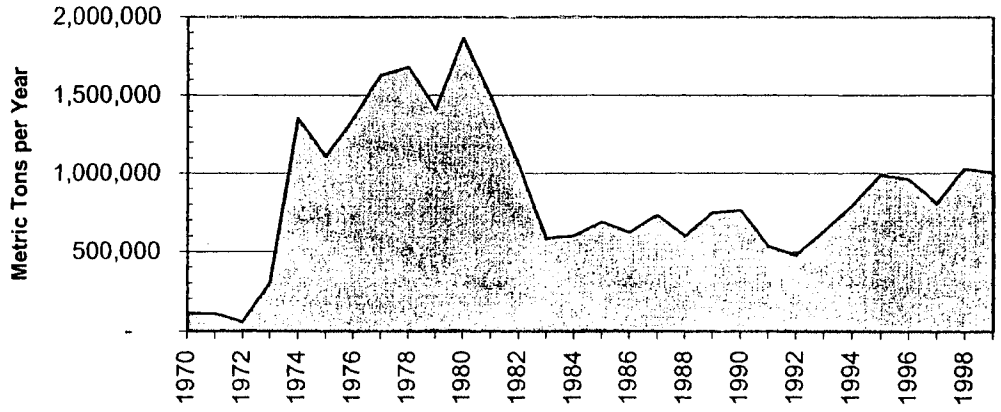
This chapter presents the historic, existing and future operations at the Port, including commodity types and tonnages. In addition, the characteristics of the existing Port truck traffic are presented and discussed.

2.1 HISTORICAL PERSPECTIVE

Over the past 30 years, the Port of Hueneme has experienced substantial growth in the tonnage handled per year. The Port has grown from about 111,500 tons in 1970, to about 1.0 million tons in 1999 (see Appendix A). It should be noted that the Port operates on the fiscal year of July 1st to June 30th, and uses metric tons as its unit of measurement.[1] These statistics cover commercial traffic only and do not include any originating or terminating tonnage for the U. S. Navy's base at this location.

Figure 2-1 presents the total tons handled through the commercial Port between 1970 and 1999. These figures include the fuel oil tonnage for the Southern California Edison (SCE) power generating station, as well as bunker fuel for vessels.

Figure 2-1
Port of Hueneme Tonnage History
(Including Fuel Oil)



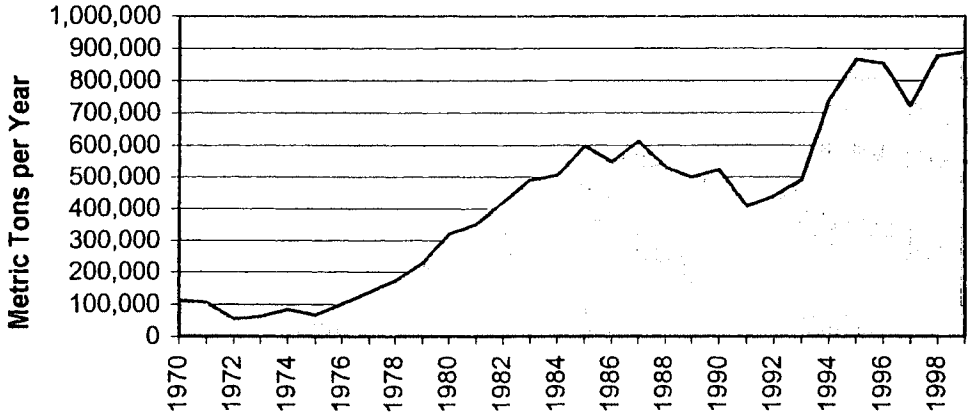
The total tonnage numbers presented in Figure 2-1 are distorted by the SCE fuel oil tonnage. This commodity started moving in volumes exceeding 1.0 million metric tons per year in 1974, and continued at this pace through 1981. Volume dropped to approximately 0.5 million tons in 1982, as the Ormond Beach generating station was converted from oil to gas. Since the

[1] Metric ton equals 2,204.6 pounds.

conversion, volume has declined even further, with only 8,355 metric tons moving through the Port in 1999. Since all fuel oil (SCE and vessel fuel) arrives by tanker or barge and is sent by pipeline either to the SCE power plant or is loaded into vessels at the Port, it does not have an impact on the highway infrastructure in Ventura County. Therefore, the entire fuel oil commodity group was removed from all statistics and projections involving tonnage moving to and from the Port by surface transportation.

Figure 2-2 displays the 30-year tonnage history less all fuel oil traffic (SCE and vessel fuel). This graph reflects the volume of cargo moving to and from the Port via surface transportation (either truck or rail). By far, the majority of this volume is moving via trucks (also referred to here as motor carriers).

Figure 2-2
Port of Hueneme Tonnage History
(Excluding Fuel Oil)



When the distortion caused by the fuel oil tonnage is removed, the Port's annual growth averages about 8 percent per year over the 30-year period. Volume grew rapidly from the late 1970's through the mid-1980's, but then leveled out through the early 1990's due to a recession. Beginning in 1994, the Port again began experiencing rapid growth. The following factors appear to be primarily responsible for the Port's performance:

- An expanded customer base;
- A larger and more diversified commodity base; and
- The Port's ability to identify and participate in moving cargoes within unique markets, e.g., eggs, frozen meats, fresh fruit, automobiles, and supply movements to and from offshore oil platforms.

A summary of the commodities that were handled through the Port during the years 1970, 1980, 1990 and 1999 is contained in Table 2-1.

Table 2-1
Historical Commodities and Tonnages

Commodity	1970	1980	1990	1999
Automobiles (Number of Vehicles)				
Import	0	42,562	97,869	144,544
Export	0	0	2,642	3,741
Subtotal	*0*	*42,562*	*100,511*	*148,285*
Bananas	0	73,532	108,028	375,858
Bulk Liquid	0	0	0	46,740
Eggs	0	2,670	0	0
Fish (Fresh)	9,948	14,667	15,886	24,364
Fruit				
Import	0	0	2,949	16,852
Export	0	7,903	52,147	91,734
Subtotal	*0*	*7,903*	*55,096*	*108,316*
General Cargo	38,636	654	5,934	32,365
Grain	0	0	17,700	0
Livestock	0	1,176	1,015	1,100
Lumber	21,001	22,435	44,236	0
Offshore Oil Platform Cargo	41,884	156,030	133,540	61,883
Vehicles (Other than Autos)	0	0	18	36,693
Wood pulp	0	0	41,270	54,278
Total (Excluding Oil)	**111,469**	**321,629**	**523,234**	**889,882**
Oil				
SCE Fuel Oil	0	1,478,396	195,867	8,355
Other Fuel Oil	0	66,970	43,260	104,464
Subtotal	*0*	*1,545,366*	*239,127*	*112,819*
Total (Including Oil)	**111,469**	**1,886,995**	**762,361**	**1,002,701**

Source: Oxnard Harbor District, Wilbur Smith Associates – October 2000
Notes:
Totals in Metric Tons
For Fiscal Years (July 1st - June 30th)
One Automobile Weighs Approximately One Metric Ton

As shown in Table 2-1, the commodity mix has changed throughout the last 30 years. Volume has moved away from Fuel Oils and into Automobiles and Vehicles (Other than Autos), Bananas, and Fresh Fruit. Another growing commodity group is Bulk Liquids, which has shipments that totaled almost 47,000 tons in 1999. Currently, motor carriers handle the majority of this commodity mix. Therefore, as this tonnage grows, more trucks will be traveling to and from the Port.

It is interesting to note the magnitude of the changes in commodity mix. Figures 2-3 and 2-4 display the four top commodities moved through the Port in the years 1980 and 1999. These graphs show both the change in the traffic mix and the expansion within each commodity group.

Figure 2-3
Port of Hueneme Commodity Mix
Year 1980

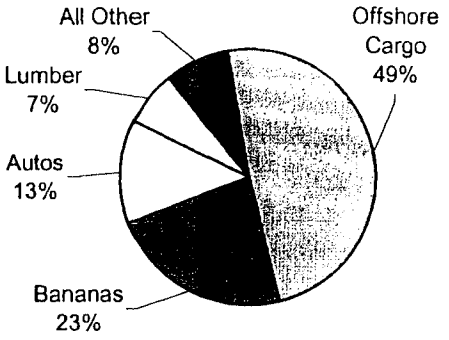
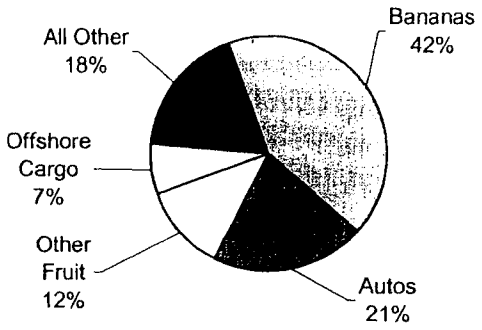


Figure 2-4
Port of Hueneme Commodity Mix
Year 1999



In 1980, 49 percent of the total tonnage (less SCE and vessel fuel oil) was Offshore Cargo (oil platform supplies and materials). In 1999, Offshore Cargo was still one of the top four commodities, but it had declined to 7 percent of total traffic. Bananas, on the other hand, moved from 23 percent of total tonnage in 1980 to become the dominant commodity in 1999. Autos (including vehicles other than automobiles) grew from 13 percent of total traffic in 1980, to 21 percent in 1999. Fruit moved through the Port in 1980, but the volume was not significant (7,903 tons). The 1999 statistics show the Fruit commodity group has grown to 108,316 tons and is now the third largest individual commodity moving through the Port.

In summation, the Port of Hueneme has expanded its customer base and the number of commodities being handled. Further, the commodity groups, which are recording the highest rates of expansion, are Bananas, Other Fruit, Autos/Vehicles and Bulk Liquids.

2.1.1 Historical Travel Modes

During the 30-year period, trucks have dominated shipments to and from the Port of Hueneme. In comparatively recent times, set-up (fully assembled, ready to drive) automobile shipments by rail from the Port have increased. These shipments resulted from joint marketing efforts by the Port and the former Southern Pacific Transportation Company (now part of Union Pacific Railroad). However, excluding oil, most of the tons to and from the Port had a prior or subsequent move by truck. This continues to be the case today. Accordingly, as non-oil tons increase (oil moves by pipeline), so have the number of trucks at the Port.

2.2 EXISTING PORT OPERATIONS

Deep-sea commercial ships and U.S. Navy ships dock at the Port. The Port's commercial operation is primarily focused on automobiles, agricultural projects, general/project cargo, and fuel oil. In addition to serving commercial customers, Port Hueneme is home to the Naval Construction Battalion Center (CBC). A substantial CBC population resides at the Port. Figure 2-5 presents a schematic map of the Port.

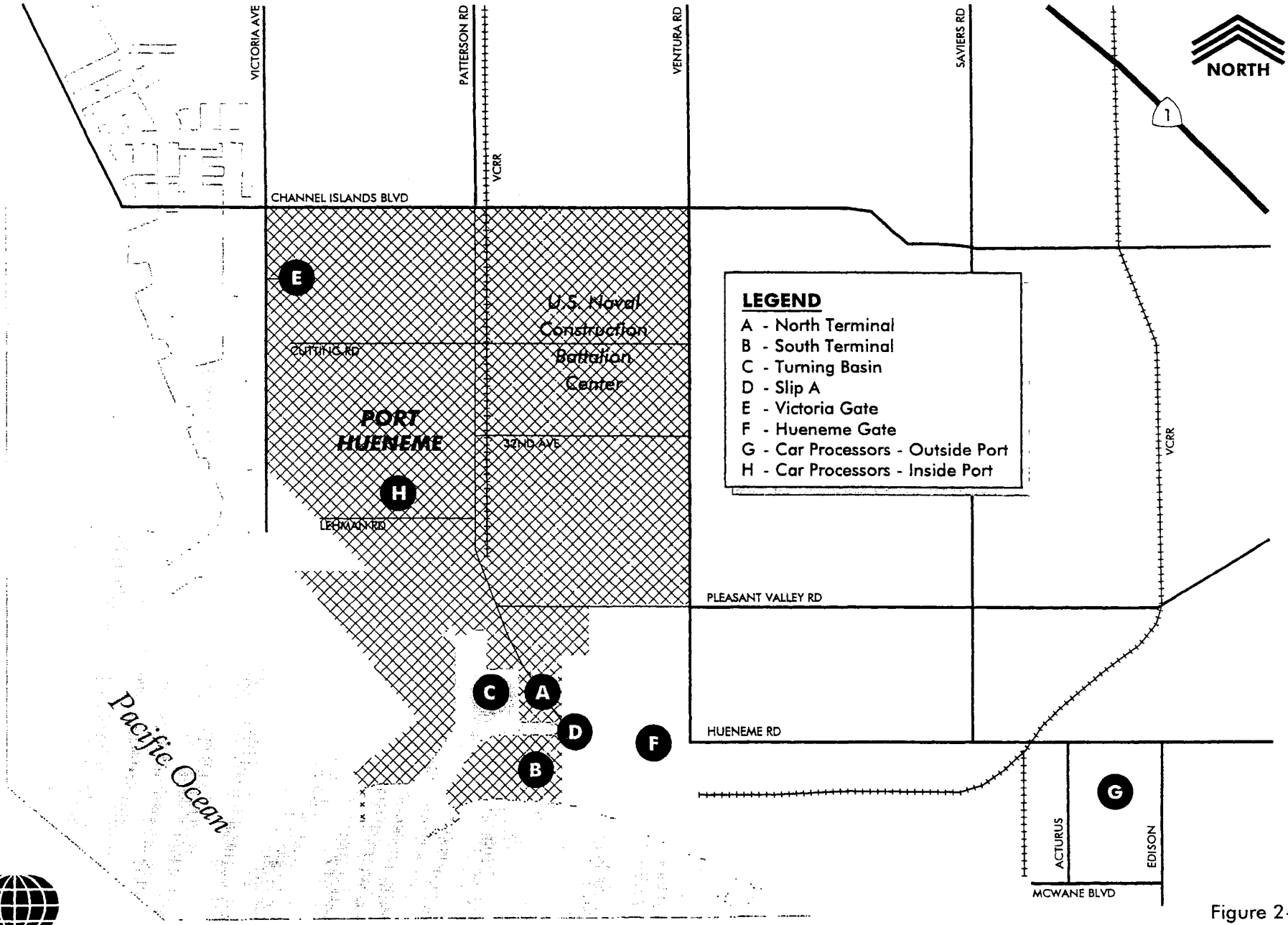


Figure 2-5

SCHEMATIC OF PORT HUENEME

The Port is open 24 hours a day and 7 days a week. Most of the Port's commercial activity occurs on Mondays through Fridays, with the busiest days Monday through Wednesday. Access to the commercial operations at the Port is primarily through the Hueneme Gate (on the east) and the Victoria Gate (on the west).

Maritime facilities consist of a Turning Basin, oriented north-south, and a Slip A oriented east-west. Numerous berths line both the Turning Basin and Slip A. Several warehouses are located berth-side for interim storage of cargo being loaded and off-loaded from the ships. The Port also has substantial storage facilities in the Port area that are not on-dock.

The Port's commercial activities are concentrated in three areas. First, North Terminal, with two deep-draft births, on the north side of Slip A, is the focus of automobile import and export activity, as well as roll-on roll-off cargo (Ro-Ro) and general cargo activity. Second, South Terminal, with three berths, is on the south side of the Slip A. South Terminal is the focus of banana, fruit and liquid bulk activity. Third, small craft berths exist at the east end of the slip.

Some automobile imports are processed within the Port itself. These shipments generally leave the Port area by truck through Victoria Gate. Traffic related to the CBC also generally enters and exits through Victoria Gate. Other import and limited export automobiles, agricultural imports, and general cargo utilize the main gate to the Port's South Terminal (south of Slip A and east of the Turning Basin).

The Ventura Country Railroad (VCRR) also serves the northern Navy Port area. It also has a line serving the South Terminal, but this line is seldom used, as there are no rail customers in the Port's South Terminal at the present time.

2.2.1 Customers

The Port commercial operations are oriented to various commodity groups. These include set-up automobiles, agricultural products, general/project cargo, and fuel oil, among others. Some of the Port's major customers are cited below.

Automobiles: The Port serves as a major import and export gateway for automobiles and other rolling stock. Customers using Port facilities include BMW, Jaguar, Land Rover, Mazda, Mitsubishi, Volvo, Suzuki, and Daewoo. These manufacturers utilize the services of car carrier vessels, including the NYK Line, K-Line, and Wallenius Wilhelmsen Line.

Bananas and Other Fruit: Del Monte, the longest-term international customer of the Port, imports and distributes bananas through the Port. In addition, Cool Carriers offers a refrigerated warehouse and distribution service at the Port. Its customers include Sunkist Growers, which exports citrus to Japan, and Naboa Group, which imports bananas from Equador.

Bulk Liquids: Hydro-Agri, a major supplier of liquid fertilizer, distributes its products to farms throughout the southwestern U.S. from the Port.

2.3 EXISTING PORT TRUCK TRAFFIC

2.3.1 Data Collection

To determine the number and travel characteristics of the trucks currently generated by the Port, an intercept survey was conducted. The survey was administered at three key locations, which allowed for all Port truck traffic to be captured. The locations included:

- **Station 1:** Hueneme Gate – This is the main gate for the commercial side of the Port.
- **Station 2:** Victoria Gate – This gate at the Port serves the CBC and the Mazda and Daewoo auto processing facilities.
- **Station 3:** At the auto processing facilities along Hueneme Road (at Arcturus Avenue and Edison Drive).

When automobiles are off-loaded at the Port, they are individually driven to one of the auto processing facilities. At these facilities, the vehicles are inspected and set-up, and then loaded onto car carriers or rail cars. There are two sets of car processing facilities, one located within the Port and the other located outside the Port. The Mazda and Daewoo facilities are located within the CBC area of the Port, and the car carriers used by these facilities enter and exit the Port via the Victoria Gate. The other auto processing facilities (which include BMW, Jaguar, Land Rover, Mitsubishi, Volvo and Suzuki) are located along Hueneme Road, at Arcturus Avenue and Edison Drive. As such, car carriers destined to and from these facilities do not actually enter the Port Hueneme Harbor property, but can still be considered as truck-trips generated by the Port. To capture the car carriers destined to and from these facilities along Hueneme Road, Station 3 was created at the driveways into the facilities.

The trucker survey was administered to all non-passenger vehicles entering and exiting the three study gates between 6:00 AM and 6:00 PM. The following information was obtained for each truck:

1. Time entered or exited gate
2. License plate
3. Truck type
4. Cargo
5. Vehicle home base
6. Origin or destination of trip
7. Use of Highway 118 or other roadways in corridor
8. Reason for using Highway 118
9. Route used between Highway 118 and Port

According to the Oxnard Harbor District, the peak activity at the Port of Hueneme usually occurs towards the beginning of the week (Mondays, Tuesdays and Wednesdays). As such, the survey effort was conducted on a Tuesday (March 28, 2000). By conducting the survey on one of the

peak activity days, a larger sample size could be obtained and the truck volumes would be a conservative estimate of the activity at the Port.

2.3.2 Summary of Survey Results

The following sections present summaries of the key data that was collected in the trucker survey. For the purpose of this analysis, "inbound" indicates vehicles entering the Port and "outbound" indicates vehicles exiting the Port.

Truck Volumes

Table 2-2 presents a summary of the truck-trips destined to and from the Port. Overall, there were 678 truck-trips entering and exiting the three study gates for the period between 6:00 AM and 6:00 PM. Approximately 58 percent of the Port truck activity occurred at Station 1 (the main gate on Hueneme Road), 35 percent at Station 2 (the CBC gate at Victoria Avenue), and 7 percent at Station 3 (the auto processing facilities along Hueneme Road). It should be noted that there were slightly more inbound truck-trips than outbound truck-trips (351 inbound versus 327 outbound) during the study period, indicating that some trucks laid over at the Port, or departed the Port between 6:00 PM and 6:00 AM.

Table 2-2
Port Truck Volumes

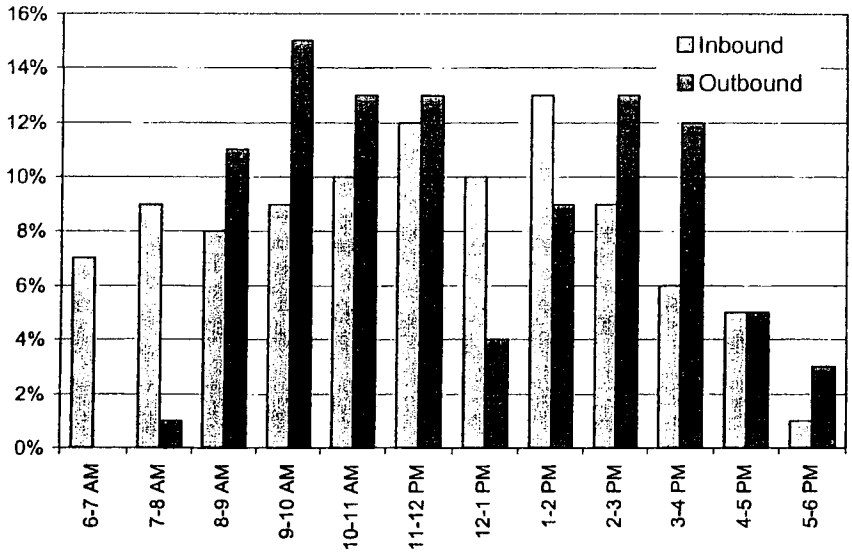
Station	Inbound Truck-Trips	Outbound Truck-Trips	Total Truck-Trips
1 – Hueneme Gate	188	204	392
2 – Victoria Gate	139	98	237
3 – Auto Processors	24	25	49
Total	351	327	678

Source: Wilbur Smith Associates – October 2000
Note:
For the 12-hour time period between 6:00 AM and 6:00 PM.

Hourly Distribution

Figure 2-6 presents the hourly distribution of the inbound and outbound Port truck traffic. Overall, the peak hour of Port truck activity occurred between 11:00 AM and 12:00 PM, when 13 percent of the trips were made. The hourly distribution for inbound and outbound trips were somewhat skewed, with more of the inbound trips occurring in the early morning (6:00 to 8:00 AM) and more of the outbound trips occurring in the afternoon and evening (2:00 to 6:00 PM).

Figure 2-6
Port Truck Volumes by Hour



Truck Types and Cargo

Figure 2-7 presents the distribution of the type of trucks that were observed entering and exiting the Port. Overall, a majority of the trucks were containers on chassis and enclosed trailers, which accounted for about 50 percent of the total Port truck traffic. In addition, there were also large percentages of car carriers (13 percent of total) and flatbed trucks (13 percent of total). It should be noted that all the trucks at Station 3 were car carriers, whereas the other two gates had a mixture of different truck types. In addition, it should be noted that about 80 percent of the Port's containers and enclosed trailers traveled to and from Station 1.

Figure 2-7
Port Truck Types

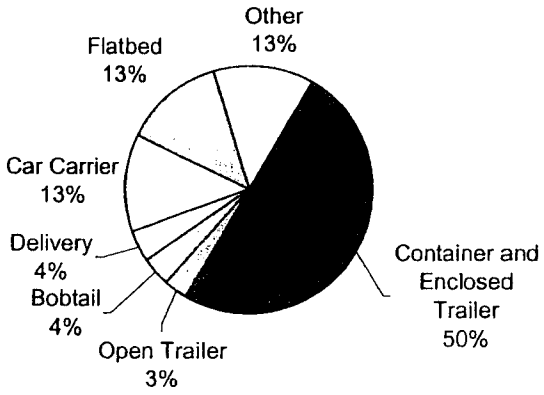


Table 2-3 presents the occupancy status of the trucks destined to and from the Port. Overall, about 65 percent of the trucks were carrying cargo and 35 percent were empty. These numbers indicate that a substantial portion of the trucks carry cargo both to and from the Port, instead of just picking-up or dropping-off cargo.

from Greater Los Angeles, the rest of California, and outside the state. The patterns were similar for both the inbound and outbound vehicles.

Table 2-4
General Origins and Destinations of Port Truck Traffic

Origin/Destination	Inbound	Outbound	Total
Local	44%	35%	40%
Greater Los Angeles	33%	25%	29%
Rest of California	19%	23%	21%
Outside California	4%	17%	10%
Total	100%	100%	100%

Source: Wilbur Smith Associates – October 2000
Note:
For the 12-hour time period between 6:00 AM and 6:00 PM.

2.3.3 Truck Routes

Trucks that had origins or destinations within the local area either used the local highways (such as Highway 118 to access Saticoy) or surface streets (such as Ventura Road). To access origins and destinations outside the local area, trucks used one of the five major freeway routes (Highway 126, Highway 118, U.S. 101 North, Highway 1, or U.S. 101 South). Based on the origin/destination of the trip and information regarding paths from the surveys, the major freeway routes used by each truck was determined. Table 2-5 presents the distribution of truck-trips along these five main roadways.

Table 2-5
Distribution of Non-Local Port Truck-Trips

Route	Inbound	Outbound	Total
Highway 126	27%	38%	33%
Highway 118	18%	19%	18%
U.S. 101 South	52%	41%	46%
Highway 1	1%	1%	1%
U.S. 101 North	2%	1%	2%
Total	100%	100%	100%

Source: Wilbur Smith Associates – October 2000

In general, trucks traveling between the Port and points east, north or south (such as Los Angeles, the Central Valley or San Diego) have the option of using one of four roadways – Highway 126, Highway 118, U.S. 101 South, or Highway 1. Overall, most of the trucks used U.S. 101, with decreasing percentages for Highway 126 and Highway 118. Almost no trucks used Highway 1. In general, most of the trucks that used U.S. 101 South or Highway 118 were destined to or from the Greater Los Angeles area, whereas trucks on Highway 126 were destined to or from locations to the north (i.e., the Central Valley).

Trucker Input on Routing

Separately from the truck surveys taken at the gate, several truckers were consulted as to why they use various area highways through the study area. A regional representative of the California Trucking Association (CTA) was also consulted. The purpose of this separate sampling was to gain additional insight on truck routing decisions. The following are the major issues raised:

- Truckers generally seek to follow the shortest, most direct route. The motivation to do so is driven by the operating costs of running trucks, i.e., labor and diesel fuel.
- Truckers going to Los Angeles tend to use U.S. 101, as it is the shortest and most direct route from the Port of Hueneme.
- Truckers going to the San Fernando Valley tend to use Highways 118 and 34, as these represent the shortest routes from the Port of Hueneme.
- Truckers going to points east of Los Angeles (San Bernardino, San Gabriel, Riverside, etc.) tend to use Highways 118 and 34, as these are the most direct routes from the Port of Hueneme.
- Truckers going to the Central Valley tend to use Highway 126, as this is the most direct route there from the Port of Hueneme.
- Truckers going to Santa Barbara and points north utilize the Victoria Avenue / Channel Island Boulevard / Ventura Road corridor. While not specifically cited by truckers, use of this route was confirmed by observation during the trucker survey.

Truckers also indicated that they sometimes used Highways 118 and 34 to avoid the Conejo Grade on U.S. 101 east of Oxnard; between Highway 34 and the Port, they use multiple routes. Highways 118 and 34 are flatter routes, and as a result, fuel and maintenance expenses are reduced. Other truckers reported using these highways on occasion to avoid recurring U.S. 101 congestion.

2.4 PORT GROWTH PROJECTIONS

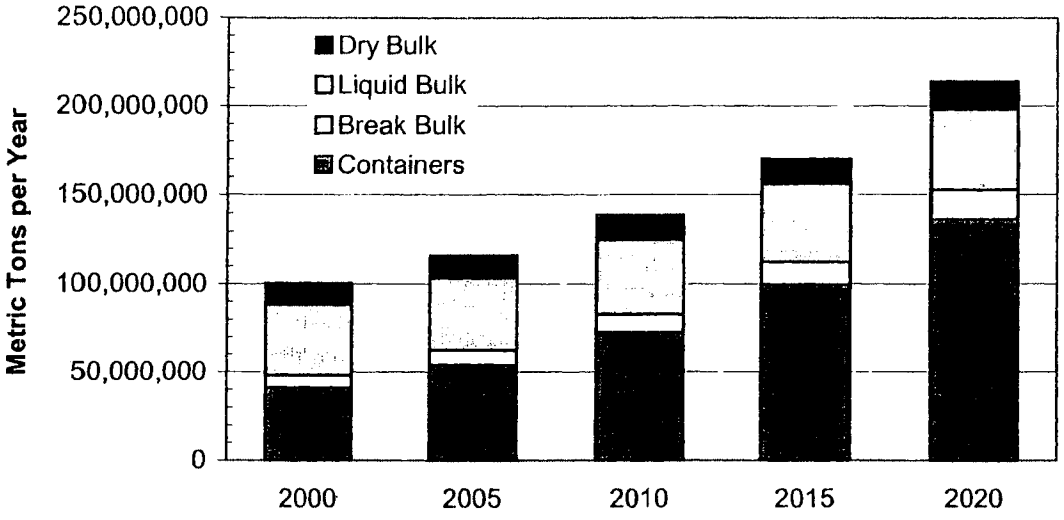
2.4.1 Commercial Projections

One of the major factors impacting the potential growth of the Port of Hueneme is its proximity to the commercial ports located within San Pedro Bay (the Port of Los Angeles and the Port of Long Beach). Since growth at the Ports of Los Angeles and Long Beach will affect the growth rate at the Port of Hueneme, the future tonnage forecasts for these ports were reviewed. In 1987/1988, the Ports engaged Wharton Econometrics (now named WEFA) to construct a forecast extending to the Year 2020. When released, many comments were made to the effect that the projections were too ambitious. However, tonnages moving through both Ports began consistently exceeding projections. Consequently, the earlier work was updated by WEFA in 1993, and again, the projections were exceeded.

The Ports of Los Angeles and Long Beach contracted with Mercer/DRI to revise the forecasts again in 1998. The magnitude of the tonnage increases occurring at the San Pedro Bay Ports is

on the order of 4 to 5 percent per year. Figure 2-9 displays the total tonnage forecasted to move over the Ports of Los Angeles and Long Beach between Years 2000 and 2020.

Figure 2-9
Total Tonnages for San Pedro Bay Ports
For Years 2000 to 2020



The forecasts for the Ports of Los Angeles and Long Beach reflect the magnitude of the ever-increasing demand for West Coast port facilities to handle the expanding volumes of international import and export cargoes. International trade continues to record brisk growth, and this trend is expected to continue. If the trade situation with China improves, imports and exports will grow even more rapidly. Each of the above factors has created marketing opportunities for the Port of Hueneme, and will present additional possibilities as trade expands. For example, the Port of Hueneme's opportunities include increasing set-up auto business, as space for cars in the Long Beach and Los Angeles becomes more constrained.[2]

Recently, the Port of Hueneme has initiated several studies and planning activities to forecast anticipated growth rates for specific commodity groups, evaluate the demands on existing facilities, project the requirements for additional land and berths, and initiate actions designed to increase space. The primary study, entitled *Demands Assessment*[3], was completed on August of 1999 and contained an evaluation of future space and facilities requirements, plus tonnage projections. For this analysis, forecasters looked at economic factors that impact individual commodities and took into account growth in the region. Further, the forecasts incorporate the anticipated congestion in the Los Angeles Basin (Ports and access corridors) and recognize that this will provide marketing opportunities for the Port of Hueneme.

[2] Per conversation with Mr. William "Bill" Buenger, Executive Director of the Port of Hueneme. Mr. Buenger shared Port marketing plans as well as Port historical data for this analysis.

[3] *Demands Assessment*, VZM Transystems, August 13, 1999.

High, medium, and low forecasts were constructed for six large generic commodity groups, including: Auto/Vehicle, Refrigerated Cargo, Break Bulk/Neo Bulk, Containerized Cargo, Liquid Bulk, and Dry Bulk. The grand totals by scenario are shown Table 2-6, and detailed projections for each commodity group are included in Appendix C.

Table 2-6
Total Tonnage Projections
High, Medium and Low Scenarios

Scenario	Actual Tons		Projected Tons				
	1998	1999	2000	2005	2010	2015	2020
High	1,020	977	1,198	1,800	2,724	4,148	6,351
Medium	1,020	977	1,168	1,649	2,347	3,367	4,866
Low	1,020	977	1,134	1,496	2,001	2,709	3,709

Sources: *Demands Assessment*, Oxnard Harbor District, Wilbur Smith Associates – October 2000
Notes:
Tonnages in 000's of metric tons
For Fiscal Year: July 1st – June 30th

It should be noted that each of these scenarios contains projections for the Liquid Bulk commodity group. This group is primarily made up of Vessel and SCE fuel oil,[4] but also includes liquid fertilizer and other liquid commodities. While it was necessary to include fuel oil in the study concerning future land and berth requirements at the Port of Hueneme, these volumes must be removed to obtain tonnage estimates for traffic that will move over Ventura County's roadways. However, the Port of Hueneme began to handle liquid bulk fertilizer in 1999. Not only is the liquid fertilizer tonnage expected to increase, this is a niche market and therefore offers additional opportunities for the Port between now and 2020. Therefore, the Liquid Bulk commodity group must be reduced but cannot be eliminated.

The modification of the tonnage projections included: (1) all Bulk Liquid tonnage was removed to arrive at Total Tonnage (less Bulk Liquids), (2) a forecast was made for Fertilizer and Other Bulk Liquids (other than oil) using the same compound growth rates contained in the current projections, and (3) items 1 and 2 were summed to arrive at the new Total Tonnage Forecast (Including Fertilizer & Other Bulk Liquids). Appendix C contains the details for this analysis. The adjusted total tonnage projections are presented in Table 2-7.

[4] As noted, this tonnage arrives via tanker or barge and is either sent to the former SCE power plant via pipeline or is used to fuel vessels. Therefore, this tonnage does not move via motor carrier and must be removed from projections of the traffic that will move to and from the Port over Ventura County's streets and highways.

Table 2-7
Modified Tonnage Projections
(Excluding Fuel Oil But Including Liquid Fertilizer & Other Liquids)
High, Medium and Low Scenarios

Scenario	Actual	Projected Tons				
	1999	2000	2005	2010	2015	2020
High	864	1,072	1,596	2,402	3,653	5,598
Medium	864	1,048	1,474	2,098	3,019	4,384
Low	864	1,020	1,348	1,811	2,469	3,407

Source: *Demands Assessment*, Oxnard Harbor District, Wilbur Smith Associates – October 2000
Notes:
Tonnages in 000's of metric tons
For Fiscal Year: July 1st – June 30th

Even with the removal of the projected tonnages for fuel oils, substantial growth is projected to occur between 1999 and 2020. In the table:

- The "High Scenario" estimates that tonnages would increase from approximately 1.0 million tons in 1999 to 5.6 million tons in 2020. This increase calculates to an annual growth rate of 9.3 percent.
- The "Medium Scenario" projects an increase from the 1999 base of about 1.0 millions tons to 4.4 millions tons in 2020. The increase calculates to an annual growth rate of 8 percent – the same as the Port's historical annual growth rate.
- The "Low Scenario" projects volume in 2020 would total 3.4 million tons. This scenario assumes a 6.7 percent annual growth rate over the period.

These projections, even the "Low Scenario," may appear optimistic. This position is reinforced when the obstacles facing the Port, such as space, are taken into consideration. Other issues associated with expanded activities include:

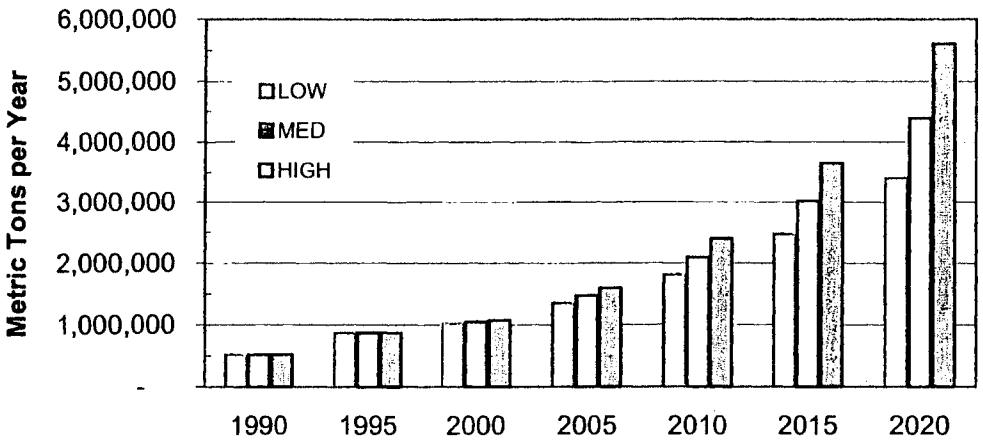
- The need to construct additional facilities to accommodate new customers or expand existing facilities;
- The requirement for more berths;
- The development and implementation of plans to further maximize usage of existing facilities; and
- The formulation and implementation of marketing plans which will attract new customers with attractive revenue bases.

To help address these issues, the Port has recently obtained land formerly used by the Navy, surfaced the property, and is using this additional space to service its bulk liquid, automotive and fresh fruit customers. Furthermore, the Port and the Navy have reached an agreement to allow commercial vessels to use Wharf 3, which would add additional berthing capacity and about 25 more acres of land. The Port is also acquiring 11 additional acres near the Hueneme Road entrance. When the ability to handle more vessels is combined with additional acreage, the Port has the potential to attract new businesses and handle more cargo for existing customers.

Complimenting the Port's efforts, several existing users either have the ability to expand their current operations or have expansions underway.

A comparison of the forecasts to actual performance indicates the projections reflect recent growth and may not be unduly optimistic. Figure 2-10 displays actual growth from 1990 and the forecasts for the period 2000 through 2020.

Figure 2-10
Summary of Actual and Projected Tonnages at Port of Hueneme
High, Medium and Low Growth Scenarios



2.4.2 U.S. Navy Shipments

Besides the commercial operations, another generator of shipments to and from Port Hueneme Harbor is the CBC. Occupying most of the northern sector of the Port, the CBC is a major facility, which ships cargo to naval facilities throughout the world. Also, the CBC facility itself, with its housing and support facilities, generates significant local truck traffic (presumably for mostly consumables, such as food, toiletries, dry goods and others). Overall, the CBC is a major generator of truck traffic, and to a lesser degree, of rail traffic.

As noted, the U.S. Navy volumes do not appear with the historical port data or with the forecasts. This information has been requested from the U.S. Navy, as it was for the 1988 *Port of Hueneme Access Study*. At the time, the U.S. Navy indicated that the numbers were not "releasable" to the public. During the course of this study, the U.S. Navy was recontacted for this information. However, no details were obtained at the time of the finalization of this report.

2.4.3 Port Projections Summary

In general, it appears that the total volume through the Port would substantially increase in the future, due to:

- The projected increases in international cargo;
- The increased demand for West Coast port facilities;

- The Port of Hueneme's location near major Southern California consuming markets and agricultural industries in the Central Valley;
- The potential and planned expansion of its existing customers; and
- The Port's willingness to work closely with prospective tenants.

In addition, the increases will be within the niche markets that Port of Hueneme has already pursued, including Automobiles/Vehicles Other Than Autos, Bananas, Fresh Fruit (Other than Citrus), Citrus Fruit, and Bulk Liquids.

Finally, the methodology used to construct the forecasts as well as the assumptions contained therein are sound and reflect activities in the international and domestic markets which will have a direct bearing on the volume of cargo available to move through the Port of Hueneme. Total tonnage moving through the Port (excluding fuel) has the realistic potential to increase from its current level of approximately 1.0 million metric tons in 1999, to between 3.4 and 5.6 million metric tons in 2020. The increases bracket the historical growth rate in tonnage through the Port of Hueneme.

It should be emphasized that the *Demands Assessment* forecasts were not developed in isolation or by relying on one data source. Rather, they were developed in discussions with the Port, Port customers, and mindful of the economic factors that affect ports in Southern California.

2.5 FUTURE PORT TRUCK VOLUMES

The estimated annual increases in commodity tonnage by year 2020 were converted into truck volumes in order to determine the future increase in truck activity at the Port. Based on data provided by the Port, plus information about the operations of other port facilities, the following rates were used to convert the annual vehicle and tonnage forecasts to actual numbers of trucks.

Autos

- 90 percent of the autos arrive and depart the Port on car carriers (the remaining 10 percent are transported by rail)
- Nine autos per car carrier

Other Commodities

- 40,000 pounds per truck (equal to 18.1 metric tons per truck)

Annual Totals / Daily Totals

- 50 full-time working weeks per year
- 5 full-time working days per week

Other Assumptions

- Each truck makes two trips (one inbound and one outbound)

- Each truck is laden in one direction only (i.e., trucks would not carry cargo both to and from Port)
- All truck activity occurs between 6:00 AM and 6:00 PM

Based on these assumptions, the increase in the number of Port-related trucks was determined for each of the three forecast scenarios (low, medium and high) on a daily basis. As shown in Table 2-8, there is anticipated to be a substantial growth in daily Port truck-trips by year 2020 – between 1,304 and 2,667 truck-trips per day.

Table 2-8
Anticipated Growth in Average Daily Port Truck-trips Volumes by 2020

Commodity	Existing (1999)	Increase in Truck-Trips		
		Low Forecast	Medium Forecast	High Forecast
Autos	148	221	389	661
Refrigerated Cargo	214	923	1,179	1,489
Break-Bulk/Neo-Bulk	27	11	74	127
Containerized Cargo	14	38	44	50
Liquid Bulk	70	88	170	292
Dry Bulk	24	23	34	47
Total	497	1,304	1,890	2,667

Source: Wilbur Smith Associates – October 2000

Based on the forecasts, there would be a total of between 1,800 and 3,165 truck-trips on an average day entering and exiting the Port by 2020. The low forecast would represent a yearly growth of 6.3 percent in truck-trips, and the high forecast would represent a yearly growth of 9.2 percent in truck-trips. These annual increases in truck-trips are similar to the growth expected in Port tonnage estimated at between 6.7 percent and 9.3 percent per year over the period. This growth represents a conservative estimate of the number of Port-related truck-trips in that the analysis assumes loaded moves in one direction only. It assumes that all Port-truck activity occurs between 6:00 AM and 6:00 PM.

2.6 EXISTING AND FUTURE PORT RAIL VOLUMES

The Ventura County Railroad (VCRR) serves both the commercial operations and the Navy at Port Hueneme. Commonly referred to as a "short line",[5] the VCRR moves rail cars between the Port and the Union Pacific Railroad (UP) main line in Oxnard a few miles away. The UP is one of two large transcontinental railroads serving western states; the other is the Burlington Northern Santa Fe Railway, which does not serve Oxnard. Once interchanged to the UP, rail traffic can move to destinations throughout the North America. VCRR is owned and operated by RailAmerica, Inc., the largest short line railroad holding company in the United States.

[5] While no precise definition of a short line railroad exists, the term is commonly used in references to a small railroads, as compared to major systems like the Burlington Northern Santa Fe Railway and the Union Pacific Railroad.

Although the railroad can access the Port both from the north (south of Channel Islands Boulevard) and the south (south of Hueneme Road), only the northern access point is in use at this time. Currently, there are no rail customers in the Port's South Terminal.

The VCRR's major commercial customer is Mazda. U.S. Navy shipments are minor during peacetime, and arrive as "carload freight", utilizing a mix of rail car types. Volumes were not available at the time of this writing. In recent times, Mazda's rail volumes declined due to UP service problems and shifted to trucks. However, as the problems have eased, rail volumes are returning.

An interview with the VCRR conducted for this study revealed the following:

- Managers are not expecting any major volume shifts from rail to truck or vice versa.
- VCRR handled 3,208 rail carloads in calendar year 1999, or about 12 cars per weekday. About 40 percent of these were outbound (from the Port) set-up automobile shipments from the Port of Hueneme, and the remainder were to and from Oxnard shippers.
- The largest automotive customer has been Mazda, whose imported set-up automobiles are loaded into multi-level rail cars ("auto-racks") then transported to a distribution facility in Midlothian, Texas. In 1999, the VCRR moved more than 1,300 multi-level cars, mostly for Mazda. Mazda is the only rail customer that is using the Port of Hueneme to handle cars destined to inland points. BMW receives inbound (to the port) carloads of set-up automobiles. VCRR moves these from UP to a facility in southeast Oxnard. The automobiles are "prepped" at the local BMW facility and then loaded onto trucks for shipment to dealers. Suzuki and Mitsubishi also use a similar facility to move cars outbound by rail.
- Paper is the second largest commodity handled by VCRR, generating 40 percent of rail traffic. Frozen concentrates are the third largest commodity group at 122 carloads, or 4 percent of total rail traffic. The remainder of 1999 carloadings were of miscellaneous commodities.
- Managers anticipate that rail volume for 2000 will be approximately 3,600 carloads, which would reflect an increase of about 400 carloads or 12.5 percent over 1999. The comparatively high growth rate is due to various factors. These include Mazda traffic returning to rail following UP's recovery from its service problems of 1997 and 1998; increases in total Mazda shipments to Midlothian, the doubling of BMW inbound car shipments, and an increase in paper shipments.

VCRR management related that it believes over time that its carload volumes will grow. As evidence, the railroad pointed out that Mazda moved only 50 percent of its Midlothian-bound automobiles by rail in 1998 – in reaction to the UP service problems. At the present time, however, it is moving all of its Midlothian-bound cars by rail. Though, as noted, Mazda import rail shipments in total may decline, other automobile customers may increase rail shipments. For example, BMW will double its inbound auto shipments in 2000 versus 1999. Also, Suzuki and Mitsubishi continue to ship automobiles outbound by rail. Overall, the economics of rail

shipments, in the railroad's opinion, will encourage car companies using the Port to ship more by rail.

Chapter 3
TRAFFIC CONDITIONS

This chapter presents a discussion of the existing and future traffic conditions and intersection operations in the vicinity of the Port of Hueneme. Included in the discussion are the existing turning movement volumes, an estimation of the future turning movement volumes, and Level of Service (LOS) calculations at six key intersections for the Existing and future 2020 conditions.

3.1 EXISTING CONDITIONS

As a means to assess existing conditions and year 2020 conditions without and with Port-related growth, traffic-operating conditions were determined at key intersections in the vicinity of the Port of Hueneme. Six intersections were identified by VCTC to be potentially affected by Port-related traffic (see Figure 3-1):

- Rice Avenue and Pleasant Valley Road
- Ventura Road and Hueneme Road
- Ventura Road and Channel Islands Boulevard
- Victoria Avenue and Channel Islands Boulevard
- Santa Clara Avenue and Central Avenue
- Santa Clara Avenue and Highway 118 (Los Angeles Avenue)

Turning movement volumes were counted at the six study intersections for the AM peak period (6:00 to 9:00 AM), midday peak period (11:00 AM to 1:00 PM) and PM peak period (3:00 to 6:00 PM) on Tuesday, June 6, 2000. Based on the turning movement volumes, the peak hour for each time period was determined – the AM peak hour was generally 7:00 to 8:00 AM, the midday peak hour was generally 11:30 AM to 12:30 PM, and the PM peak hour was generally 4:30 to 5:30 PM. The intersection operating conditions were evaluated for the three peak hours.

The operating conditions of intersections are described by the concept of Level of Service (LOS). LOS is a qualitative description of an intersection's performance based on the overall delay (in seconds per vehicle) or volume-to-capacity ratio (v/c) of the intersection. Intersection level of service ranges from LOS A, which indicates uncongested or excellent conditions, to LOS F, which indicates the breakdown of the intersection operations. In general, LOS A through D are considered excellent to satisfactory service levels, and LOS E and F represent unacceptable service levels. Definitions for the intersection LOS ranges based on v/c ratio are included in Appendix D.

All six study intersections are controlled by traffic signals. For the purposes of this study, the intersection operating conditions were evaluated using the *Intersection Capacity Utilization (ICU)* methodology, which is the standard analysis methodology used by VCTC. ICU is a

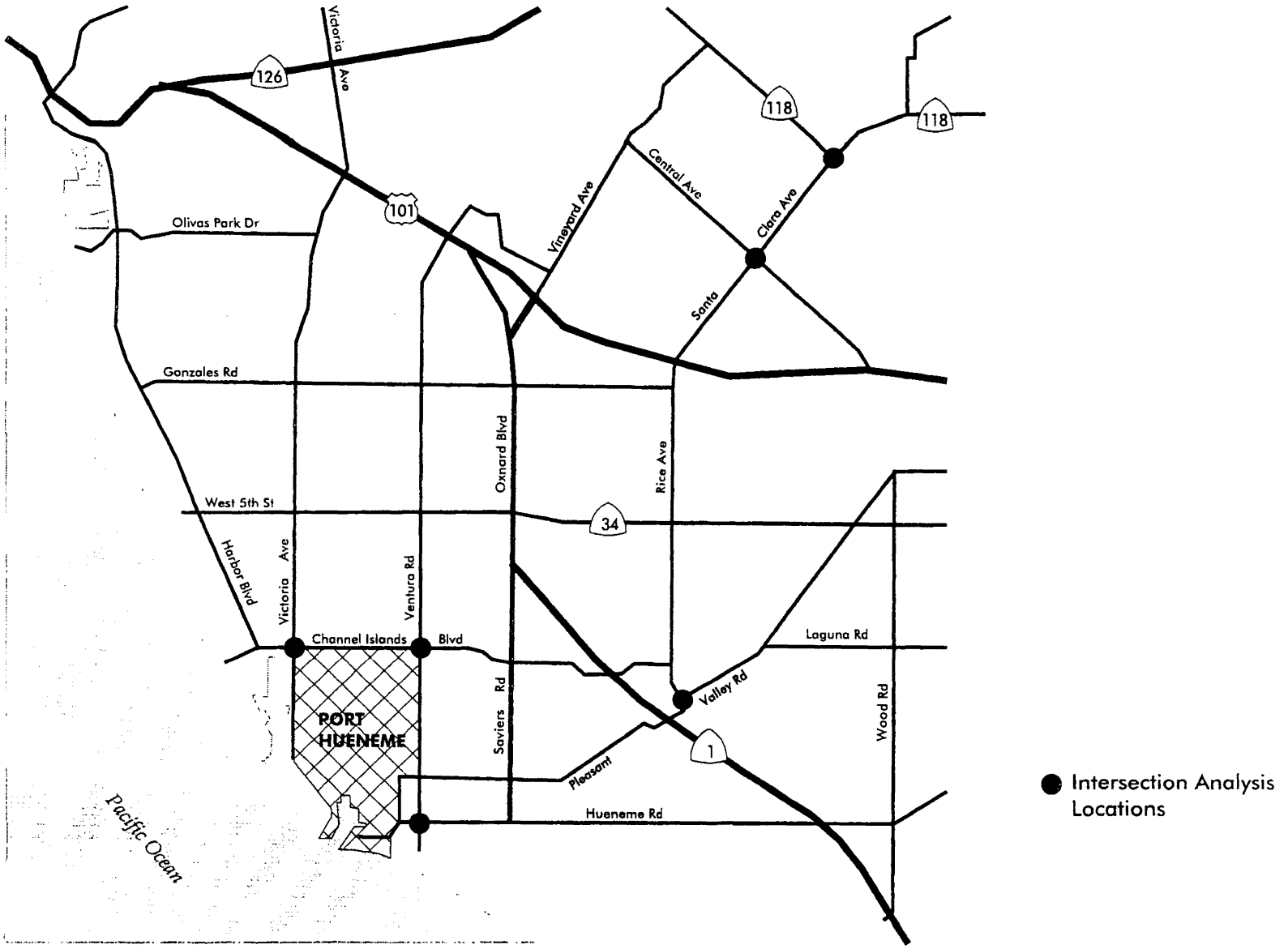


Figure 3-1

INTERSECTION ANALYSIS LOCATIONS

planning-level approach, with the results based on a summation of the critical volumes expressed in terms of the proportion of capacity (v/c ratio) used by each critical movement at the intersection. The levels of service are then defined by ranges of this summation of v/c ratios.

Table 3-1 presents the results of the intersection level of service analysis for the existing weekday AM, midday and PM peak hour conditions.

Table 3-1
Existing Intersection Operating Conditions

Intersection	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
	v/c	LOS	v/c	LOS	v/c	LOS
Rice/Pleasant Valley	0.83	D	0.26	A	0.73	C
Ventura/Hueneme	0.43	A	0.39	A	0.50	A
Ventura/Channel Islands	0.62	B	0.56	A	0.81	D
Victoria/Channel Islands	0.50	A	0.62	B	0.77	C
Santa Clara/Central	0.66	B	0.33	A	0.61	B
Santa Clara/Hwy 118	0.77	C	0.67	B	1.15	F

Source: Wilbur Smith Associates – October 2000
Notes:
v/c = vehicle-to-capacity ratio

AM Peak Hour

During the weekday AM peak hour, all of the study intersections currently operate at acceptable service levels.

Midday Peak Hour

Traffic volumes during the midday peak hour are generally lower than during the morning and evening commute periods. As a result all study intersections currently operate with lower v/c ratios and better service levels than the other time periods.

PM Peak Hour

During the weekday PM peak hour, five of the six study intersections would operate at LOS D or better. However, at the intersection of Santa Clara/Highway 118, the southbound approach has a high v/c ratio, due to the limited capacity (i.e., one travel lane in both the northbound and southbound directions), resulting in LOS F conditions.

3.2 FUTURE CONDITIONS

Future traffic conditions were analyzed for year 2020, which is the extent of the currently available forecasts for regional land uses and traffic, and is also the extent of the currently available projections for future Port of Hueneme operations

3.2.1 Background Traffic Volume Growth Projections

As a means to determine the future traffic volumes at the study intersections, output from VCTC's Countywide Traffic Model (VCTM) was used. This model was updated in 1998 to reflect new long-range traffic projections and land use assumptions for year 2020. The model

was validated for 1994 (the base year of the original VCTM) and year 2020 conditions. In general, the VCTM is based on households and employment on a production and attraction basis, using a five-step process: network definition, trip generation, trip distribution, simplified mode choice and traffic assignment.[1]

Table 3-2 presents the growth in major land uses, employment and dwelling units (households) estimated to occur within Ventura County between 1994 and 2020. As the table indicates, there is anticipated to be substantial increases in major land use categories, especially industrial/manufacturing. Overall, there would be an approximately 79 percent increase in the countywide employment, and an approximately 30 percent increase in the countywide population by 2020.

Table 3-2
Projected Growth between 1994 and 2020 for Ventura County

Land Use Category	1994	2020	Increase	Percent Increase
Office[1]	20.7	33.3	12.6	61%
Retail[1]	28.9	47.2	18.3	63%
Industrial/Manufacturing[1]	45.9	104.5	58.6	128%
Total Employment	*275,100*	*492,900*	*217,800*	*79%*
Residential[2]	237,750	309,150	71,400	30%

Source: Wilbur Smith Associates, VCTC – October 2000
Notes:
[1] In million square feet
[2] In dwelling units

It should be noted that in the VCTM, the Port was treated as a special generator (in other words, the trip generation, distribution, mode choice and assignment were analyzed separately from the rest of the Ventura County land uses). However, in order to provide a more-detailed assessment of the traffic forecasts and operating conditions required for this study, the future growth assumptions for the Port were removed from the model and replaced by a manual trip generation and assignment (see Section 3.2.3).

The future traffic assignment accounted for the highway network that was anticipated to be in place by 2020. This included the new roadway projects listed in the 1999 Ventura County Congestion Management Program, plus those projects included in the General Plans of the neighboring jurisdictions. Some of the major changes to the roadway network include:

- Extension of Rice Avenue between Hueneme Road and Pleasant Valley Road;
- Creation of new interchange between Rice Avenue, Pleasant Valley Road, Oxnard Boulevard and Highway 1;
- Construction of a Highway 118 bypass around downtown Moorpark;

[1] Detailed documentation of the VCTM is available in the *Ventura Countywide Traffic Model – Model Description and Validation Report*, January 2000.

- Widening of segments of Highway 118 (between Somis and Moorpark), Santa Clara Avenue, Hueneme Road, Rose Avenue, Lewis Road, Pleasant Valley Road and Highway 126;
- Installation of traffic signals at major unsignalized intersections; and
- Reconstruction/modification of interchanges along U.S. 101.

Model Output

Since the VCTM produces average daily traffic (ADT) volumes on a link-by-link basis, the model output was converted into peak hour volumes at an intersection level. First, the growth in ADT was determined for the streets that comprised an intersection, and an annual growth rate was developed for the intersection as a whole. This growth rate was then applied to the Existing (2000) counts for the AM, midday and PM peak hours to determine the future turning movements volumes.

It should be noted that with the planned Rice Avenue extension and the creation of a new interchange between Highway 1, Rice Avenue, Pleasant Valley Road and Oxnard Boulevard, the intersection of Rice/Pleasant Valley would be eliminated. As such, the further analysis of this study intersection was not performed. Table 3-3 presents the anticipated growth in traffic volumes at each study intersection. Annual growth rates would vary from less than 0.5 percent to almost 3.0 percent. As the table indicates, there is anticipated to be substantial growth in traffic volumes at several of the study intersections.

Table 3-3
Intersection Volume Growth Assumptions

Intersection	Annual Growth Rate	Percent Growth from 2000 to 2020
Ventura/Hueneme	1.2%	26%
Ventura/Channel Islands	0.3%	7%
Victoria/Channel Islands	0.3%	6%
Santa Clara/Central	2.2%	53%
Santa Clara/Hwy 118	2.9%	76%

Source: Wilbur Smith Associates, VCTC – October 2000

3.2.2 Port Traffic Volume Growth Projections

In order to conduct a more detailed assessment of Port-related traffic, a manual trip generation and assignment of the truck trips generated by the Port was conducted. The truck-trips generated by the Port were added to the future background traffic volumes at the study intersections, as developed from the output of the VCTM. The additional truck-trips destined to and from the Port were based on the Port forecasts and growth assumptions as presented in Chapter 2.

The daily Port-generated traffic was determined for the AM, midday and PM peak hours, using the hourly distribution as obtained from the trucker survey. Overall, about 5 percent of the Port Hueneme Harbor truck activity occurred during the AM peak hour, 9 percent occurred during the midday peak hour, and 4 percent occurred during the PM peak hour. Table 3-4 presents the Port truck forecasts for each of the three study time periods. It should be noted that these totals reflect the total number of additional truck-trips and not the number of additional trucks, since

each truck makes two trips (one inbound and one outbound). In addition, to account for the peaking nature of Port-truck activity, a factor of 1.2 was applied to covert the number of average daily truck-trips to the number of peak daily truck-trips.

Table 3-4
Future 2020 Peak Daily Port-Truck Traffic Forecasts

Time Period	Increase in Truck-Trips between 2000 and 2020		
	Low Forecast	Medium Forecast	High Forecast
Daily	1,565	2,268	3,200
AM Peak Hour	81	118	166
Midday Peak Hour	146	211	298
PM Peak Hour	59	86	122

Source: Wilbur Smith Associates – October 2000
Note:
Represent peak day of week, not average day

For the analysis of future 2020 intersection operating conditions, the High Forecasts were used. Since this forecast represents the maximum amount of activity anticipated to occur at the Port Hueneme Harbor by 2020, this approach would represent a conservative estimate of the effects related to the Port truck traffic. The Low and Medium forecasts would result in lower future traffic volumes, and therefore a lessening of these effects.

The inbound and outbound truck-trips were assigned to one of the two Port gates (Hueneme Gate or Victoria Gate) or to the auto processing facilities on Hueneme Road, based on the type of commodity and the existing access patterns (obtained from the results of the trucker survey). The trucks were then distributed based on the origin/destination patterns of the existing Port trucks, and assigned to the local and regional roadway network based on information obtained from the Port trucker survey and data contained in the *1988 Port of Hueneme Access Study*. The assignment of the Port truck-trips took into consideration the changes in the future roadway network, in particular the Rice Avenue Extension project.

3.2.3 Future 2020 Intersection Operating Conditions

The future 2020 intersection operating conditions took into consideration the planned changes to the study intersections of Rice/Pleasant Valley, Santa Clara/Central and Santa Clara/Highway 118.

- As mentioned previously, the intersection of Rice/Pleasant Valley would be eliminated with the planned Rice Avenue Extension and the creation of a new interchange with Highway 1.
- The planned widening of Santa Clara Avenue between U.S. 101 and Highway 118 was also incorporated into the analysis of the intersections of Santa Clara/Central and Santa Clara/Highway 118. It was anticipated the widening of the roadway would allow for the creation of an additional through lane and left-turn pockets at the northbound and southbound approaches at both intersections. In addition, it was assumed that improvements would also be made to the eastbound and westbound approaches at the

intersection of Santa Clara/Central to accommodate the anticipated growth in traffic volumes along Central Avenue.

To account for the lower travel speeds, larger turning radii and reduced maneuverability of large trucks, a Passenger Car Equivalent (PCE) of 2 was used for the new Port truck-trips. In other words, each additional truck would have the same effect as two additional cars. This would represent a conservative estimate on impacts associated with the addition of new trucks to the roadway network.

Tables 3-5 and 3-6 present the intersection operating conditions without and with the additional truck-trips anticipated to be generated by the Port by 2020, respectively.

Table 3-5
Future 2020 Intersection Operating Conditions – Without Additional Port Growth

Intersection	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
	v/c	LOS	v/c	LOS	v/c	LOS
Ventura/Hueneme	0.54	A	0.49	A	0.63	B
Ventura/Channel Islands	0.66	B	0.60	A	0.87	D
Victoria/Channel Islands	0.52	A	0.66	B	0.81	D
Santa Clara/Central	0.83	D	0.37	A	0.88	D
Santa Clara/Hwy 118	0.76	C	0.47	A	0.70	C

Source: Wilbur Smith Associates – October 2000
Notes:
v/c = vehicle-to-capacity ratio

Table 3-6
Future 2020 Intersection Operating Conditions – With Additional Port Growth (High Forecast)

Intersection	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
	v/c	LOS	v/c	LOS	v/c	LOS
Ventura/Hueneme	0.54	A	0.54	A	0.65	B
Ventura/Channel Islands	0.68	B	0.63	B	0.88	D
Victoria/Channel Islands	0.55	A	0.72	C	0.83	D
Santa Clara/Central	0.83	D	0.38	A	0.88	D
Santa Clara/Hwy 118	0.77	C	0.48	A	0.71	C

Source: Wilbur Smith Associates – October 2000
Notes:
v/c = vehicle-to-capacity ratio

Future 2020 Intersection Operating Conditions without Additional Port Growth

Based on the forecasted growth throughout the region by 2020, it is anticipated that there will be substantial increases in traffic volumes at most of the study intersections. As a result of these increases, the operating conditions at several of the study intersections would worsen as compared to the Existing conditions (see Table 3-1). However, all intersections would continue to operate at LOS D or better. It should be noted that these service levels account for the planned

improvements at the intersections of Santa Clara/Central and Santa Clara /Highway 118. Without the widening of Santa Clara Avenue, and the associated improvements at the eastbound and westbound approaches, both of these intersections would operate at LOS F under future 2020 conditions.

Future 2020 Intersection Operating Conditions with Future Port Growth

Overall, the addition of the truck-trips generated by the Port would not substantially affect the operating conditions at the study intersections. With the additional Port-related traffic, two intersections would worsen one service level at different time periods. The remainder of the study intersections would remain at the same operating conditions.

Contribution to Future Traffic Volumes

As a means to evaluate the effect of the new truck-trips generated by the growth of the Port, the Port's contribution to the growth in traffic volumes between Existing and future 2020 conditions was determined. The percent contributions were calculated at the study intersections, and are presented in Table 3-7. Overall, the additional Port truck-traffic would contribute between 1 and 40 percent of the growth in traffic volumes. The percent contribution of the Port would be the greatest at the intersections at the corners of the Port – Ventura/Hueneme, Ventura/Channel Islands, and Victoria/Channel Islands. In addition, the Port-related trucks would have the greatest contribution to the future traffic volumes during the midday peak hour, as this time period overlaps with the peak hour of Port activity.

Table 3-7
Port's Contribution to Growth in Traffic Volumes
Between Existing and Future 2020 Conditions

Intersection	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Ventura/Hueneme	17.9%	28.2%	13.2%
Ventura/Channel Islands	15.2%	25.8%	9.0%
Victoria/Channel Islands	27.1%	39.5%	17.1%
Santa Clara/Central	1.8%	5.4%	1.4%
Santa Clara/Hwy 118	1.4%	3.7%	1.1%

Source: Wilbur Smith Associates – October 2000

Chapter 4
TRUCK ROUTING AND ROADWAY ISSUES AND RECOMMENDED IMPROVEMENTS

This chapter presents the issues related to the routing of truck-trips generated by the Port of Hueneme for both Existing and future 2020 conditions, including issues associated with truck-trips on various roadways. Improvements are presented to improve Port-truck routing, reduce the effect of trucks on local streets, and to accommodate future growth in traffic volumes.

4.1 EXISTING ROUTING OF PORT TRUCKS

Currently, Port-related trucks use different sets of roadways depending on which side of the Port they are traveling to or from.

- At the Victoria Gate, a large percentage of the trucks travel north/south on Victoria Avenue (for U.S. 101 East and Highway 126) or Harbor Boulevard (for U.S. 101 West). Since there is no direct route between the west side of the Port and Highway 118, trucks use one of the east/west roadways (such as Channel Islands Boulevard, Fifth Street, Gonzales Road or U.S. 101) to travel between Victoria Avenue and Oxnard Avenue / Vineyard Avenue or Rice Avenue / Santa Clara Avenue. For Highway 1, trucks use Channel Islands Boulevard or Wooley Road to travel between the Port and the highway.
- At the Hueneme Gate, most of the trucks travel north/south on Ventura Road and east/west on Hueneme Road. Since Ventura Road has limited connections to U.S. 101 and does not provide direct connections to Highway 118 and Highway 126, trucks also use Harbor Boulevard, West 5th Street, Victoria Avenue and Oxnard Boulevard to travel between the Port and the regional roadway network. Port-related trucks use Hueneme Road to travel between the Port and Highway 1, U.S. 101 and Highway 118 (via Highway 1 / Rice Avenue, Las Posas Road or Lewis Road). In addition, some trucks use Pleasant Valley Road to travel between the Port and Highway 118 (via Highway 34).
- At the auto processing facilities along Hueneme Road, most of the trucks travel on Hueneme Road or Oxnard Boulevard. Since a majority of the car carriers at this location use U.S. 101 or Highway 118, the most-direct route is Las Posas Road or Lewis Road and Hueneme Road. To travel between the Port and U.S. 101 West or Highway 126, trucks use Oxnard Boulevard. A relatively small percentage of trucks destined to and from the Hueneme Road auto processing facilities use Harbor Boulevard or Victoria Avenue, due to the greater distance required to access these roadways.

Truck traffic generated by the Port, in conjunction with other trucks traveling between their origins and destinations, has resulted in a number of issues at the local roadway network. According to information obtained from the neighboring jurisdictions and truck drivers, the following are the major concerns:

- Traffic operating conditions at the intersections of Ventura / Channel Islands and Victoria / Channel Islands
- High volume of trucks on Ventura Road between Hueneme Road and Channel Islands Boulevard (a primarily residential street)
- High volume of trucks on Oxnard Boulevard (Highway 1) and East Fifth Street (Highway 34) through downtown Oxnard
- High traffic volumes on Victoria Avenue between U.S. 101 and Highway 126 (due to the lack of a direct connection between U.S. 101 and Highway 126)

Without improvements to facilitate truck movements to and from the Port, the anticipated growth in trucks destined to and from the Port in the future may increase the impacts at these locations.

4.2 FUTURE ROUTING OF PORT TRUCKS

The 1988 *Port of Hueneme Access Study* performed a detailed analysis to determine the best means to route Port-related trucks between the regional roadway network and the Port. A list of 21 alternative access routes was developed and evaluated. The evaluation criterion included: number of nearby residential units, presence of industrial land uses, number of institutions, regional access, travel time, safety, and number and operating conditions of conflicting intersections / interchanges. These criteria were weighted to account for their varying degrees of importance. From the alternative evaluation, two routes were recommended: Victoria Avenue to serve the Victoria Gate on the west side of the Port, and Hueneme Road and Rice Avenue (with the associated Rice Avenue Extension) to serve the Hueneme Gate at the east side of the Port.

Subsequent to the 1988 study, Victoria Avenue has been designated as a truck route by the City of Oxnard[1] and the City of Ventura. However, the Rice Avenue Extension project has not been constructed. The roadway extension and the associated new interchange between Rice Avenue / Highway 1 / Pleasant Valley Road were both included in the *Ventura County Congestion Management Plan* for 1999. The Rice Avenue Extension project is fully funded, and the design and construction management has been contracted out. The project entails the construction of a two-lane roadway between the new interchange and Hueneme Road. Total cost is estimated to be $6.2 million, with the Port of Hueneme contributing $2 million. Construction of the Rice Avenue Extension and the new interchange are anticipated to be completed in the summer of 2003.

The extension of Rice Avenue between Highway 1 and Hueneme Road would improve the connection between the regional roadway network and the eastern side of the Port (Hueneme Gate and the auto processors on Hueneme Road). For example, Rice Avenue would have a full interchange with U.S. 101 and a direct connection to Santa Clara Avenue. As such, it is anticipated that many of the trucks that currently use and will use Ventura Road and Saviers Road / Oxnard Boulevard to access the regional road network would reroute to Rice Avenue. As

[1] *City of Oxnard 2020 General Plan*, November 1990.

such, the extension of Rice Avenue would serve to alleviate some of the existing concerns regarding trucks on these roadways.

4.3 PORT-SPECIFIC IMPROVEMENTS

Although the Rice Avenue Extension would divert some truck-trips from Ventura Road, Victoria Avenue, Saviers Road / Oxnard Boulevard, and Channel Islands Boulevard, the new roadway would not eliminate all the issues that currently exist with Port trucks on the streets surrounding the Port of Hueneme. For instance:

- To travel between the east side of the Port and U.S. 101 North via Rice Avenue, trucks would need to backtrack. As such, trucks would still use Ventura Road and Channel Islands Boulevard to travel between Victoria Avenue and the Port. The issues related to high truck volumes and congestion that currently exist along these roadways would continue.
- Conversely, it would not be convenient to travel between the west side of the Port (i.e., Victoria Gate) and Rice Avenue. Trucks would need to use Victoria Avenue and Channel Islands Boulevard or Ventura Road and Hueneme Road, a route which is rather lengthy and circuitous. As such, the Rice Avenue Extension would not substantially reduce the number of trucks destined to and from the Victoria Gate on these roads.

To address these issues and fully take advantage of the Rice Avenue Extension, a "Cross Port Roadway" could be considered. This roadway could connect Hueneme Gate and Victoria Gate, or a separate gate along Victoria Avenue. With the Cross Port Roadway and the Rice Avenue Extension, it may be possible to limit most truck movements between the Port and the regional roadway network to three roads: Hueneme Road, Victoria Avenue, and Rice Avenue.

After improvements to the Rice Avenue corridor are completed and future Port truck traffic patterns are established, the study of a potential "Cross-Port Roadway" should be undertaken to determine its traffic impacts and benefits.

4.4 OTHER IMPROVEMENTS

There are several other improvements that should be explored which may reduce the number of trucks (both Port-related and non Port-related) throughout the local roadway network, and which would help accommodate the anticipated increase in traffic volumes. These include:

Truck Restrictions

The City of Oxnard, the City of Ventura, and the City of Port Hueneme have expressed interest in limiting the amount of truck traffic on local roads. With the Rice Avenue Extension, there would be a reduced demand for trucks that use the local street network. After the construction of the Rice Avenue Extension, the Cities of Oxnard and Port Hueneme should re-evaluate their truck route systems to determine if truck restrictions on local streets could be instituted to remove non-local Port truck traffic from residential streets. (Because these streets are not state highways, local cities may restrict truck traffic and designate others for truck traffic.)

All of the streets in the Port area appearing in Figure 3-1 are currently designated as truck routes, with the following exceptions: West Fifth Street between Ventura Road and Oxnard Boulevard; Saviers Road between Hueneme Road and West Fifth Street, Pleasant Valley Road between Rice Avenue / Highway 1 and Ventura Road, Harbor Boulevard between Channel Island Boulevard / Victoria Road and West Fifth Street, and Laguna Road east of Pleasant Valley Road. After the Rice Avenue Extension is completed and traffic patterns are established, the re-evaluation may determine that some truck routes may be consolidated.

Victoria Avenue

The City of Ventura is concerned with the high volume of traffic on Victoria Avenue between U.S. 101 and Highway 126. After the Rice Avenue corridor improvements are completed, a study of traffic on Victoria Avenue will be performed by VCTC to determine the impacts of the Rice Avenue Extension to that corridor.

Hueneme Road

In the initial 1988 *Port of Hueneme Access Study*, the need to upgrade Hueneme Road between Saviers Road and Arcturas Avenue was identified as a critical need, and still remains an important project for truck access to the Port. The upgrade will relieve a bottleneck of one lane in each direction between Saviers Road and Arcturas Avenue by widening Hueneme Road to two lanes in each direction between these streets.

Santa Clara Avenue

Santa Clara Avenue is proposed to be widened from two travel lanes (one in each direction) to four travel lanes (two in each direction). The project is included in Ventura County's 1999 *Congestion Management Plan*, and the *FY2000/2001 – 2005/2006 Regional Transportation Improvement Program* (*RTIP*) for Ventura County. According to the *RTIP*, construction is to be done in phases. The first phase is planned to begin in 2001; environmental clearance is expected in the near future. Because final design has not started, plans are not available.

For the analysis of the intersections of Santa Clara/Central and Santa Clara/Highway 118, it was assumed that widening project would include an additional through lane and left-turn pocket at each Santa Clara Avenue approach to a cross-street. In addition, it was assumed that Central Avenue approaches would be widened to allow for an additional right-turn lane. Without these improvements, it is anticipated that both intersections would operate at unacceptable service levels under the future 2020 conditions. Therefore, these improvements are important to maintain acceptable service levels and vehicle / truck circulation.

Highway 118 Bypass

The City of Moorpark is studying a proposed bypass route for Highway 118 to be constructed north of the downtown area. The study for this improvement was included in the *FY2000/2001 – 2005/2006 Regional Transportation Improvement Program* for Ventura County. The study will determine if the bypass would lessen the effects due to an increase in general truck traffic (both Port-related and non Port-related).

Rail Traffic

As a means to reduce the truck-trips generated by the Port and the impact of these trucks on the local roadways, the railroads that currently serve the Port (UP and VCRR) should be encouraged

to handle more cargo and additional types of cargo. New rail business should be pursued with consideration given to noise and other issues.

Currently, it appears that there are no major constraints to the handling of more carloads by rail. According to the Oxnard Harbor District, there is sufficient capacity at the Port's rail facilities to handle increased shipments. In addition, UP's main line density is moderate[2]; therefore, capacity is available for more freight trains on the line.

It should be noted that the Amtrak *Surfliner* and *Coast Starlight* passenger trains currently operate on the UP main line through Oxnard. There are four *Surfliner* round-trips a day and one *Starlight* round-trip per day on the line, and it is possible that these numbers may increase in the future. In addition to these intercity trains, Metrolink operates several commuter trains on the line east of Oxnard. In seeking to develop more freight business, the Port and the railroads would need to coordinate with Amtrak and Metrolink to ensure the uninterrupted operations of these passenger services, and to ensure competitive freight services.

[2] UP's Coast Line handled a volume or "density" of less than 7 million gross ton-miles per mile (MGTM/M) through Oxnard to a point just west of Los Angeles (Burbank Junction). This compares to almost 20 MGTM/M on the former SP main line east of Los Angeles.

Chapter 5
HIGHWAY 118 ASSESSMENT

There are four roadways that can be used to travel between the Port of Hueneme and points east: Highway 126, Highway 118, U.S. 101 and Highway 1. Between Saticoy and Moorpark (i.e., between Vineyard Avenue and Highway 23), Highway 118 is a local highway, generally with one travel lane in each direction. This route provides access to several cities and communities, as well as many agricultural and business establishments. In addition, Highway 118 is the main thoroughfare though downtown Moorpark. In conjunction with the high volume of trucks on Highway 118, the congestion and traffic levels along the roadway can substantially affect local access.

This chapter presents a description of the existing traffic volumes on Highway 118, including daily and peak hour volumes, truck percentages and types of trucks. To assess the effect of Port-related truck traffic on Highway 118 in Moorpark, two values were calculated: the percent of Port-related trucks that travel on Highway 118 through Moorpark, and the percentage of the total Highway 118 truck traffic that is related to the Port. These values were determined for both the Existing (2000) and future 2020 conditions.

5.1 DATA COLLECTION

Between Highways 232 and 23, Highway 118 is a local highway, generally with one travel lane in each direction. At the western end of the segment, Highway 118 intersects with Highway 232 (Vineyard Avenue) and connects with Highway 126. At the eastern end of the segment, Highway 118 merges with Highway 23 and becomes a four- to eight-lane grade-separated highway.

As a means to depict the existing travel conditions and vehicle characteristics along Highway 118, the following data was collected:

- **Daily volumes tube counts** – Twenty-four hour tube counts were collected to determine the total number of vehicles on an hourly and daily basis. The counts were performed on March 28 and 29, 2000, and the volumes were averaged for the two days.
- **Manual classification counts** – Vehicle were classified into five categories: passenger car, 2-axle truck, 3-axle truck, 4-axle truck, and 5-axle truck and higher. These counts were performed on May 23, 2000 for the 12-hour period from 6:00 AM to 6:00 PM.
- **Visual truck-type classification counts** – To determine the type of trucks that are operating on Highway 118, a visual classification count was performed. A key of 17 different truck types was developed, including car carriers, tankers and produce trucks. These were recorded on March 28, 2000 for the 12-hour period from 6:00 AM to 6:00 PM.

- **License plate survey** – As a means to track the progression of trucks along Highway 118, license plates were manually recorded on March 28, 2000 for the 12-hour period from 6:00 AM to 6:00 PM.

Along Highway 118, the following four study locations were selected. These locations captured the eastern and western limits of the segment, plus included points at the major access routes to the corridor (i.e., Santa Clara Avenue and Highway 34). By performing counts at these middle stations, it was possible to track the flow of vehicles and trucks to and from Highway 118. Figure 5-1 illustrates Highway 118 segment and the four station locations.

- **Station 1**: East of Vineyard Avenue (Highway 232)
- **Station 2**: East of Santa Clara Avenue
- **Station 3**: East of Highway 34
- **Station 4**: West of Spring Road (downtown Moorpark)

5.2 SUMMARY OF EXISTING HIGHWAY 118 CONDITIONS

The following sections present a summary of the data collected along Highway 118.

Total Traffic Volumes

Table 5-1 presents the average daily traffic volumes at the four stations along the Highway 118 corridor, for both the westbound and eastbound direction. The location with the highest average daily traffic was Station 4 (located within downtown Moorpark), which had an average of 39,400 vehicles per day. At the other three study locations, the average daily traffic was generally 20,000 to 22,000 vehicles per day. Overall, the directional distribution between westbound and eastbound volumes was relatively equal at all four locations.

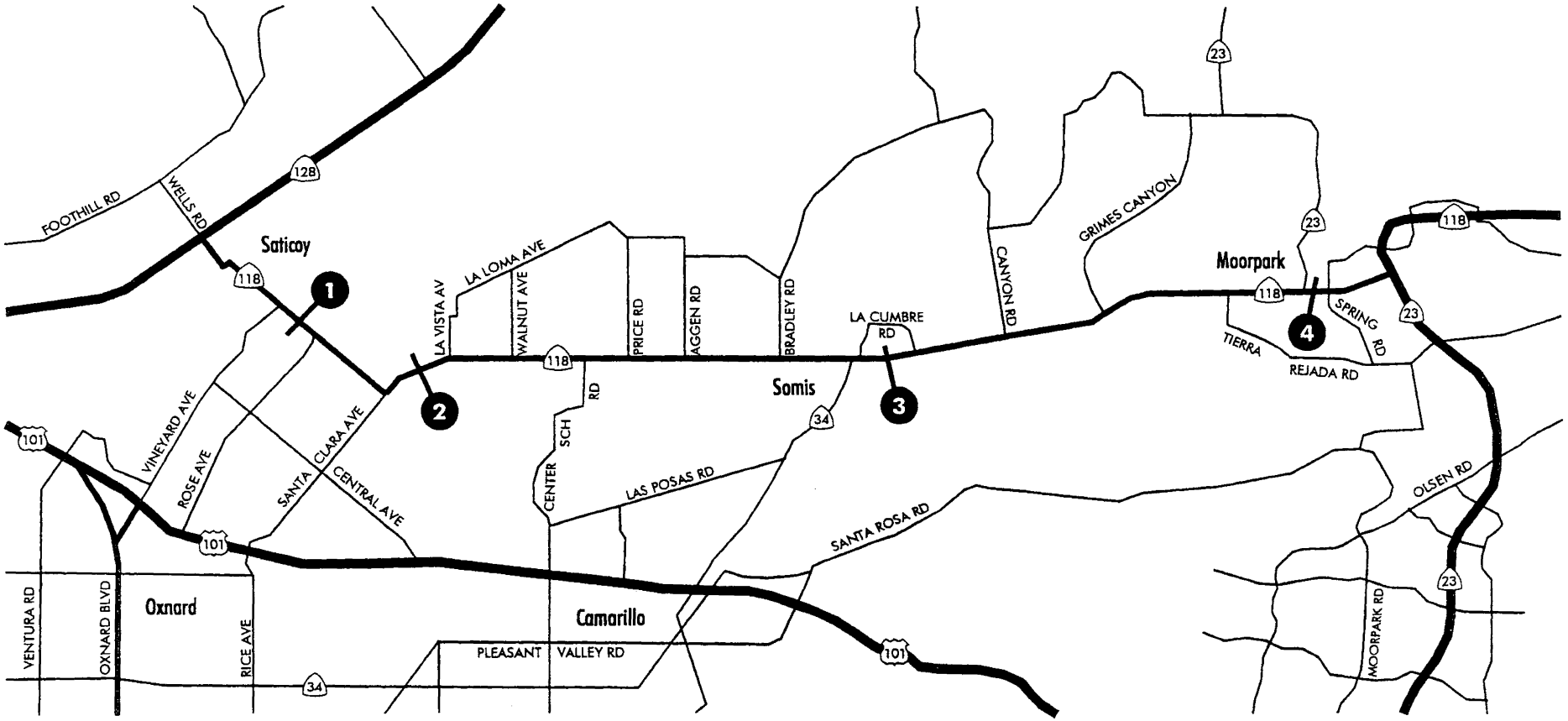
Table 5-1
Average Daily Traffic Volumes on Highway 118

Station	Westbound	Eastbound	Total
1 – East of Vineyard	11,700	10,900	22,600
2 – East of Santa Clara	10,900	8,700	19,600
3 – East of Highway 34	11,600	9,300	20,900
4 – West of Spring Street	19,200	20,200	39,400

Source: Wilbur Smith Associates, Wiltec – October 2000
Note:
Based on 24-hour tube counts conducted on March 28 and 29, 2000.

Truck Volumes

Table 5-2 presents the results of the manual classification counts that were conducted between 6:00 AM and 6:00 PM. As the table indicates, the average percentage of trucks versus all other traffic on Highway 118 was between 11 and 21 percent for the 12-hour study period. The highest truck percentage was at Station 2, and the lowest percentage was at Station 1. The volume of trucks as a percentage of total traffic was relatively equal in both the westbound and



1 2 3 4 Highway 118 Survey Locations

Figure 5-1

HIGHWAY 118 CORRIDOR

WILBUR SMITH ASSOCIATES

349190\118 CORRIDOR-10/26/00

eastbound directions, with the exception of Station 1 (which had a somewhat higher percentage of trucks in the westbound direction).

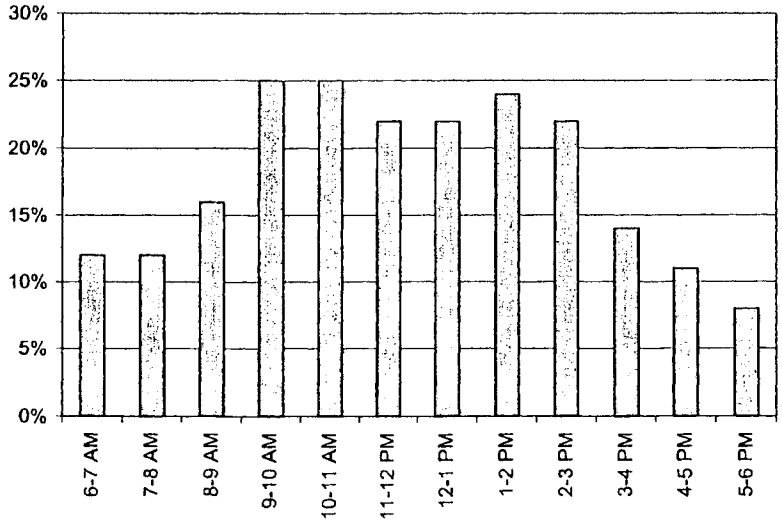
Table 5-2
Average Percent of Trucks on Highway 118

Station	Westbound	Eastbound	Total
1 – East of Vineyard	14%	9%	11%
2 – East of Santa Clara	21%	20%	21%
3 – East of Highway 34	21%	18%	19%
4 – West of Spring Street	16%	17%	16%
Total	17%	15%	16%

Source: Wilbur Smith Associates, Wiltec – October 2000
Note:
For the 12-hour time period between 6:00 AM and 6:00 PM.

It should be noted that the truck percentages fluctuated throughout the 12-hour study period. In general, the majority of the truck activity occurred during the six-hour period from 9:00 AM to 3:00 PM. Before and after this period, the truck percentages were relatively lower (about half of that for the trucks' peak period). The peak hour for truck activity occurred between 9:00 and 10:00 AM, when 25 percent of all vehicles were trucks. Figure 5-2 presents the total truck percentages by hour for the 12-hour study period.

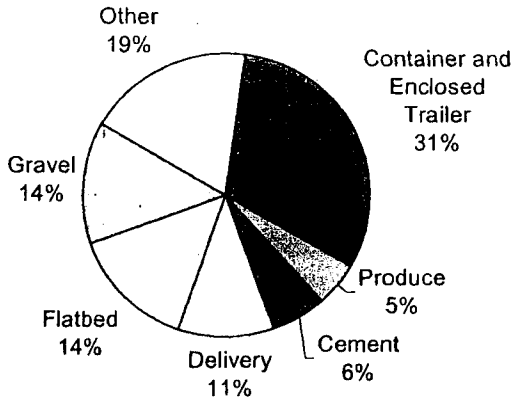
Figure 5-2
Hourly Highway 118 Truck Volumes



Truck Classification

Overall, the largest percentage of the trucks on Highway 118 was containers and enclosed trailers. Although there were some differences in the types of trucks at the four study locations (e.g., Station 2 had the highest proportion of produce trucks) and in the westbound and eastbound directions, the truck types were fairly consistent throughout the corridor. Figure 5-3 presents a summary of the truck type percentages for the entire segment of Highway 118.

Figure 5-3
Highway 118 Truck Types



Through and Local Truck-Trips

The number of truck-trips on Highway 118 that were through versus local trips was estimated from the results of the license plate survey. For the purpose of this study, a "through" trip was defined as a trip that used Highway 118 between Highway 34 and Moorpark to travel between points south, east and west of the study area. A "local" trip was defined as a trip that had an origin, destination or stop along Highway 118 within the study area, or did not use Highway 118 between Highway 34 and Moorpark. The determination of whether a trip was through or local was performed by comparing the license plates that were recorded at each station to the license plates at the adjacent stations, and by recording the number of stations through which each truck traveled. It was assumed that if a truck made a stop along Highway 118 (e.g., to deliver supplies to a grocery store), it did not make a through trip. To account for trucks stopping along Highway 118, a one-hour travel time was assumed for the length of the study corridor. Therefore, the time required for each truck to pass through a station was recorded, and compared to the time it took the truck to pass through the other stations.

Overall, it was estimated that 30 percent of the trucks on Highway 118 were through trips and 70 percent were local trips. It should be noted that a portion of the trucks that were recorded at Station 1 may have used this short segment of Highway 118 to travel between Highway 126 and Santa Clara Avenue. Although these trips could be considered through trips since they did not have an origin/destination/stop on Highway 118, since license plates were recorded at only one location on this segment, the number of through versus local trips on this segment cannot be determined.

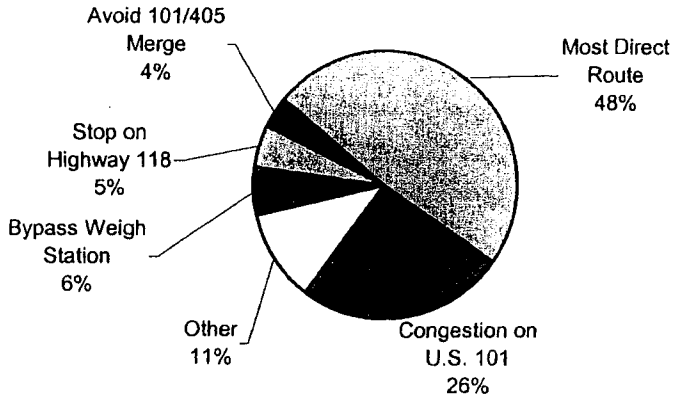
5.3 PORT-RELATED TRUCKS ON HIGHWAY 118

5.3.1 Existing Conditions

As discussed in Chapter 2, trucks traveling between the Port and points east, north or south (such as Los Angeles, the Central Valley or San Diego) have the option of using one of four generally-parallel east/west roadways – Highway 126, Highway 118, U.S. 101 and Highway 1. In general, most of the trucks used U.S. 101 (about 47 percent) or Highway 126 (about 34 percent). Only 18 percent of the trucks used Highway 118 through the corridor, and 1 percent used Highway 1.

Based on the results of the trucker survey, the reasons why Port-related trucks used Highway 118, as compared to other routes in the study corridor, were determined. As shown in Figure 5-4, most truckers (48 percent) indicated that they used Highway 118 because it was the most direct route between the Port and their destination, or to avoid congestion on U.S. 101 (26 percent). Although 6 percent of the truck drivers indicated that they used Highway 118 to avoid the weigh station on U.S 101 (at the Conejo Grade), this was not necessarily because the trucks were trying to avoid inspection. Instead, several drivers indicated that the stop at the weigh station took too long and therefore they traveled on Highway 118. These results were consistent with the input from the trucks as presented in Section 2.3.3.

Figure 5-4
Reasons Port-Related Trucks Use Highway 118



Based on the results of the trucker survey conducted at the Port, the number of Port-related truck-trips that traveled through each of the four stations was determined for the 12-hour study period between 6:00 AM and 6:00 PM. As shown in Table 5-3, the number of Port-related trucks observed at each station during this time period ranged between 9 and 72, with the highest number observed at Stations 3 and 4. It should be noted, however, that trucks traveled through multiple stations on Highway 118 (e.g., a truck using Highway 34 to access Highway 118 would be recorded at both Station 3 and Station 4).

Table 5-3
Number of Port-Related Truck-Trips on Highway 118

Station	Westbound	Eastbound	Total
1 – East of Vineyard	3	6	9
2 – East of Santa Clara	18	4	22
3 – East of Highway 34	34	38	72
4 – West of Spring Street	34	38	72

Source: Wilbur Smith Associates, Wiltec – October 2000
Note:
For the 12-hour time period between 6:00 AM and 6:00 PM.

As discussed in Section 2.3.2, there were 678 truck-trips destined to or from the Port between 6:00 AM and 6:00 PM. The 72 truck-trips through downtown Moorpark (at Station 4) represent about 10.5 percent of the total truck-trips generated by the Port.

In order to estimate the percentage of trucks on Highway 118 that were destined to or from the Port, the results of the manual classification counts were used. For the time period between 6:00 AM and 6:00 PM, there were a total of about 3,800 trucks on Highway 118 in Moorpark. The 72 truck-trips destined to or from the Port during this time period account for less than 2 percent of the total truck traffic at this location.

5.3.2 Future 2020 Conditions

For the development of future 2020 conditions, the assignment of Port-related trucks took into account the future changes to the roadway network, including the planned extension of Rice Avenue between Pleasant Valley Road and Hueneme Road, and the proposed Highway 118 bypass north of downtown Moorpark.

- With the Rice Avenue Extension, it would be easier for Port-related trucks to travel between the eastern side of the Port (Hueneme Gate and the auto processing facilities along Hueneme Road) and Santa Clara Avenue/Highway 118. However, this new roadway is not anticipated to substantially increase the number of Port trucks on Highway 118; instead, it would likely result in the rerouting of Port trucks that currently use Pleasant Valley Road, Lewis Road, or Las Posas Road to travel between the Port and Highway 118.
- The Highway 118 bypass would serve all vehicles (including Port truck-trips) that do not have origins/destinations or stops within Moorpark. Although the bypass would decrease travel times by allowing vehicles to circumvent the congested segment of Highway 118 within downtown Moorpark, this roadway segment only represents a short portion of the total trip for Port-related trucks. As such, additional Port truck-trips were not assigned to Highway 118 to account for the potential new roadway. It should be noted that the Highway 118 bypass project is only in the preliminary planning stages. As such, an assessment was conducted of conditions with and without the proposed bypass.

The number of additional Port-related trucks that would use Highway 118 on a peak day (i.e., 1.2 times the average day) was determined for the Low, Medium and High forecasts of Port growth to 2020. The use of peak day numbers in this analysis provided for "worst case" Low, Medium and High scenarios of Port-related trucks on Highway 118. Based on current and future truck routing (as described in Section 3.2.2), it was estimated that the Low forecast would result in 169 additional Port truck-trips on Highway 118, the Medium forecast would result in 245 additional trips, and the High forecast would result in 346 additional trips. As shown in Table 5-3, the number of Port truck-trips on Highway 118 through Moorpark is projected to increase from 72 trips under Existing conditions, to a maximum of 417 trips under the High Forecast scenario; this equates to a high-side annual increase of 8.8 percent over the period. As a result, the percentage Port-related truck-trips that would use Highway 118 would increase from 10.5 percent to 10.7 percent. Although there would be a large increase in the total number of trucks destined to or from the Port of Hueneme in the future, the truck routes and distributions are not anticipated to

substantially change. As such, the percent of Port truck-trips that would travel on Highway 118 in Moorpark would stay fairly constant. The slight increase would be due to the higher-than-average growth in car carriers (which, according to the results of the trucker survey, tend to use Highway 118 at a greater rate than other commodity types).

The percentage of the total future Highway 118 trucks that would be destined to or from the Port was also estimated. The first step in this calculation was to determine the future vehicle and truck volumes on Highway 118. The VCTM model output indicated that the average daily traffic on Highway 118 in Moorpark would be about 54,000 vehicles.[1] Based on the 24-hour tube counts that were performed on Highway 118, about 60 percent of the daily vehicular volume occurs between 6:00 AM and 6:00 PM, which would correlate to a volume of about 31,700 vehicles during this time period. Assuming the percentage of non-Port-related trucks would remain constant between Existing and future 2020 conditions (about 16.4 percent), there would be about 5,210 non-Port-related trucks on Highway 118 between 6:00 AM and 6:00 PM.

As indicated in Table 5-4, with the addition of the Port truck-trips associated with the future forecast scenarios, there would be between 5,448 and 5,624 trucks on Highway 118 in Moorpark in 2020 between 6:00 AM and 6:00 PM. As such, the Port-related truck traffic as a percentage of total truck traffic would increase from about 1.9 percent under Existing conditions, to between 4.4 percent and 7.4 percent.

Table 5-4
Summary of Port Truck Traffic on Highway 118 –
Existing and 2020 Conditions (without Highway 118 Bypass)

	Existing	Low Forecast	Medium Forecast	High Forecast
Total Port Truck-Trips	679	2,244	2,947	3,879
Port Truck-Trips on Highway 118 through Moorpark	72	240	316	417
Percent of Port Truck-Trips that use Highway 118 through Moorpark	10.5%	10.7%	10.7%	10.7%
Total Truck-Trips on Highway 118[1]	3,797	5,448	5,524	5,624
Percent of Highway 118 Trucks Generated by Port[1]	1.9%	4.4%	5.7%	7.4%

Source: Wilbur Smith Associates – October 2000
Notes:
For the time period between 6:00 AM to 6:00 PM
[1] Without proposed Highway 118 bypass

If the proposed Highway 118 bypass route around Moorpark were constructed, the number of Port-related trucks on Highway 118 in downtown Moorpark would be substantially reduced. Since relatively few Port trucks have origins or destinations within downtown Moorpark, percentage of Highway 118 trucks generated by the Port would be almost zero.

[1] Since the VCTM included the Highway 118 bypass of downtown Moorpark, the traffic volume on Highway 118 without the bypass was calculated by adding the ADT on the bypass to the ADT on Highway 118.

From the VCTM output, it was estimated that this bypass would have an average daily traffic volume of about 24,000 vehicles by year 2020, which equals about 14,100 vehicles between 6:00 AM and 6:00 PM. If it is assumed that no additional Port traffic would use Highway 118 due to the presence of the bypass, there would continue to be about 240 to 417 Port truck-trips on the bypass (which includes the 71 existing trips and the additional trips associated with the Port growth scenarios). Overall, the Port-related truck-trips would correspond to between 1.7 and 3.0 percent of the total future 6:00 AM to 6:00 PM traffic volume on the bypass.

APPENDICES

APPENDIX A
PORT TONNAGE HISTORY

Appendix A includes three tables which present the commodity and tonnage history of the Port of Hueneme over the last 30 years.

Table A-1 presents tonnages by commodity for the years 1970 through 1979. Table A-2 presents the same information for 1980 through 1989. Table A-3 shows commodities and tons for 1990 through 1999.

Table A-1
Port Hueneme Tonnage History - * Fiscal Years 1970 - 1979
(In Metric / Revenue Tons)

COMMODITY DESCRIPTION	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Automobiles										
Import	-	29,162	-	-	-	-	-	3,697	16,093	29,864
Export	-	-	-	-	-	-	-	-	-	-
Subtotal Category	-	29,162	-	-	-	-	-	3,697	16,093	29,864
Bananas	-	-	-	-	-	-	-	-	-	20,025
Bulk Liquid	-	-	-	-	-	-	-	-	-	-
Eggs	-	-	-	-	-	-	-	-	-	1,690
Fish (Fresh)	9,948	12,469	11,797	7,271	18,633	19,545	23,621	20,913	17,052	12,705
Fruit										
Import	-	-	-	-	-	-	-	-	-	-
Export	-	-	-	-	-	-	4,590	5,228	4,110	18,502
Subtotal Category	-	-	-	-	-	-	4,590	5,228	4,110	18,502
General Cargo	38,636	28,749	14,643	28,176	33,819	594	12,427	2,334	5,954	1,466
Grain (Cereal)	-	-	-	-	-	-	-	-	-	-
Livestock	-	-	-	-	-	1,200	2,463	1,200	1,158	1,362
Lumber	21,001	15,441	18,177	18,378	15,975	18,023	23,184	39,976	47,430	35,084
Meat (Frozen)	-	-	-	-	-	-	-	-	-	-
Offshore Oil Cargo	41,884	21,628	9,015	9,191	16,344	28,769	35,883	64,381	80,572	108,401
Vehicles (Other than Autos)	-	-	-	-	-	-	-	-	-	-
Woodpulp	-	-	1,930	-	-	-	-	-	-	-
TOTAL (Excluding Oil)	111,469	107,449	55,562	63,016	84,771	68,131	102,168	137,729	172,369	229,099
Oil										
Offshore Oil Fuel Oil	-	-	-	206	-	-	7,817	9,307	-	23,458
SCE Fuel Oil	-	-	-	237,692	1,270,448	1,036,816	1,245,791	1,480,478	1,479,117	1,146,338
Vessel Fuel	-	-	-	-	327	1,905	-	-	28,999	9,393
Subtotal Category	-	-	-	237,898	1,270,775	1,038,721	1,253,608	1,489,785	1,508,116	1,179,189
TOTAL (Including Oil)	111,469	107,449	55,562	300,914	1,355,546	1,106,852	1,355,776	1,627,514	1,680,485	1,408,288

* Fiscal Year - From July 1st through June 30th (i.e. FY 1999 = July 1, 1998 through June 30, 1999)

Table A-2
Port Hueneme Tonnage History - * Fiscal Years 1980 - 1989
(In Metric / Revenue Tons)

COMMODITY DESCRIPTION	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Automobiles (# of Vehicles)										
Import	42,562	48,121	50,996	52,865	54,554	89,601	117,664	109,766	94,417	106,834
Export	-	-	-	-	-	-	-	-	-	4,653
Subtotal Category	42,562	48,121	50,996	52,865	54,554	89,601	117,664	109,766	94,417	111,487
Bananas	73,532	83,580	85,505	88,778	61,415	176,085	131,000	182,229	166,999	94,686
Bulk Liquid	-	-	-	-	-	-	-	-	-	-
Eggs	2,670	2,675	4,327	-	-	-	-	-	-	-
Fish (Fresh)	14,667	14,011	15,016	9,228	2,580	2,475	9,353	10,883	19,445	19,486
Fruit										
Import	-	-	-	-	-	-	6,583	3,243	-	4,833
Export	7,903	2,249	16,808	21,180	25,989	11,728	1,048	18,271	13,982	42,827
Subtotal Category	7,903	2,249	16,808	21,180	25,989	11,728	7,631	21,514	13,982	47,660
General Cargo	654	33,725	34,875	9,411	18,818	39,819	895	23,391	1,717	5,762
Grain (Cereal)	-	-	-	-	-	16,184	21,506	37,863	-	30,700
Livestock	1,176	1,501	2,066	2,499	3,389	2,470	2,241	3,651	2,832	4,804
Lumber	22,435	16,621	-	-	-	-	17,434	20,487	32,365	32,126
Meat (Frozen)	-	-	-	-	-	-	-	-	-	-
Offshore Oil Cargo	156,030	149,678	195,193	288,858	313,013	222,183	201,721	164,134	158,730	111,084
Vehicles (Other than Autos)	-	-	-	-	-	-	-	-	-	-
Woodpulp	-	-	16,855	17,998	26,200	36,586	37,258	37,696	40,000	41,987
TOTAL (Excluding Oil)	321,629	352,161	421,641	490,817	505,958	597,131	546,703	611,614	530,487	499,782
Oil										
Offshore Oil Fuel Oil	29,742	38,780	51,690	66,569	-	-	-	-	-	-
SCE Fuel Oil	1,478,396	1,076,974	554,011	-	-	-	8,714	67,583	25,609	205,240
Vessel Fuel	37,228	23,947	24,138	26,465	96,735	90,046	66,024	52,515	40,903	42,030
Subtotal Category	1,545,366	1,139,701	629,839	93,034	96,735	90,046	74,738	120,098	66,512	247,270
TOTAL (Including Oil)	1,866,995	1,491,862	1,051,480	583,851	602,693	687,177	621,441	731,712	596,999	747,052

* Fiscal Year - From July 1st through June 30th (i.e. FY 1999 = July 1, 1998 through June 30, 1999)

Table A-3

Port Hueneme Tonnage History - * Fiscal Years 1990 - 1999

(In Metric / Revenue Tons)

COMMODITY DESCRIPTION	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Automobiles (# of Vehicles)										
Import	97,869	103,593	100,494	93,524	105,493	125,741	94,555	106,445	135,515	144,544
Export	2,642	1,489	1,096	9,626	4,626	7,148	5,267	4,915	3,673	3,741
Subtotal Category	100,511	105,082	101,590	103,150	110,119	132,889	99,822	111,360	139,188	148,285
Bananas	108,028	123,749	161,775	187,658	189,173	203,000	245,610	196,824	328,204	375,858
Bulk Liquid	-	-	-	-	-	-	-	-	-	46,740
Eggs	-	-	-	-	-	-	-	-	-	-
Fish (Fresh)	15,886	14,276	18,660	7,873	22,787	30,994	46,589	59,992	4,820	24,364
Fruit										
Import	2,949	1,769	9,358	12,223	315	10,869	15,331	15,061	14,243	16,582
Export	52,147	8,301	41,070	15,413	178,095	265,385	223,720	135,839	141,488	91,734
Subtotal Category	55,096	10,070	50,428	27,636	178,410	276,254	239,051	150,900	155,731	108,316
General Cargo	5,934	6,295	2,350	9,629	8,330	9,510	25,371	18,423	61,582	32,365
Grain (Cereal)	17,700	27,004	-	-	-	-	-	-	-	-
Livestock	1,015	3,622	4,841	7,143	6,509	6,064	7,616	7,436	3,272	1,100
Lumber	44,236	20,847	-	-	-	-	-	-	-	-
Meat (Frozen)	-	-	-	22,741	46,515	-	-	-	-	-
Offshore Oil Cargo	133,540	60,729	56,033	66,459	105,155	111,387	83,092	91,611	87,452	61,883
Vehicles (Other than Autos)	18	587	822	6,818	10,254	12,893	15,922	22,212	28,839	36,693
Woodpulp	41,270	37,000	43,010	51,520	62,750	83,739	92,080	63,700	68,232	54,278
TOTAL (Excluding Oil)	523,234	409,261	439,509	490,627	740,002	866,730	855,153	722,458	877,320	889,882
Oil										
Offshore Oil Fuel Oil	-	-	-	-	-	-	-	-	-	-
SCE Fuel Oil	195,867	68,735	-	111,062	-	-	-	-	60,549	8,355
Vessel Fuel	43,260	57,824	38,875	26,053	50,673	120,184	105,311	83,411	90,579	104,464
Subtotal Category	239,127	126,559	38,875	137,115	50,673	120,184	105,311	83,411	151,128	112,819
TOTAL (Including Oil)	762,361	535,820	478,384	627,742	790,675	986,914	960,464	805,869	1,028,448	1,002,701

* Fiscal Year - From July 1st through June 30th (i.e. FY 1999 = July 1, 1998 through June 30, 1999)

APPENDIX B
PORT TRUCK SURVEY AND SUMMARY OF RESULTS

Appendix B includes the survey forms utilized to identify truck types, cargo, origins, destinations, and routes of trucks entering (inbound) and leaving (outbound) the Port of Hueneme between 6:00 AM and 6:00 PM on March 28, 2000. The surveys were performed at the Port's Hueneme Gate (Station 1) and Victoria Gate (Station 2), and at the auto processing facilities along Hueneme Road (Station 3).

Appendix B also includes the results of the surveys. Presented in the following order are summaries of:

- Port truck volumes per hour
- Port truck types by station location
- Port truck cargo by station location
- Port trucks laden and unladen
- Port truck origin and destination (O/D) patterns
- Port truck use of the Highway 118 Corridor
- Drivers' reasons for using Highway 118
- Port truck routes and directional flows through the Highway 118 Corridor
- Port truck use of area highways to and from the Port (U.S. 101, a north-south highway, is noted in this summary as going east – west through the study area)

PORT HUENEME TRUCKER SURVEY
INBOUND – STATION A

Time:_____
License Plate _____ (top-most plate on driver's side of cab)

1. TRUCK TYPE:

- ❑ Containers
- ❑ Double open trailers
- ❑ Double enclosed trailers
- ❑ Bob tail
- ❑ Cement truck
- ❑ Delivery truck
- ❑ Garbage truck
- ❑ Machinery carrier
- ❑ Single flatbed trailer
- ❑ Single open-top trailer
- ❑ Single enclosed trailer
- ❑ Auto carrier with single trailer
- ❑ Auto carrier with double trailer
- ❑ Produce tubs on flatbed
- ❑ Other _____ (Specify)

2. WHAT IS YOUR CARGO?

- ❑ General Freight, Building Materials or Household Goods
- ❑ Produce
- ❑ Fertilizer
- ❑ Motor Vehicles
- ❑ Heavy Machinery
- ❑ Petroleum Products
- ❑ Empty
- ❑ Other _____(Specify)

3. WHAT IS THE HOME BASE OF THIS VEHICLE?

State_____ City or County_____

4. WHERE DID YOU BEGIN YOUR TRIP *TODAY*

Street Address_____
City_____State_____Zip Code

5. DID YOU USE HIGHWAY 118 (WEST OF MOORPARK) TO ACCESS THE PORT?

❑ Yes ❑ No

5A. IF YES, WHY?

- ❑ To bypass congestion on U.S. 101
- ❑ To bypass congestion at the U.S. 101/I-405 interchange
- ❑ To bypass U.S. 101 weigh stations
- ❑ To make a stop on Highway 118
- ❑ Is the most direct route to my destination
- ❑ Other _____ (Specify)

5B. IF NO, WHAT ROADWAY DID YOU USE?

- ❑ U.S. 101
- ❑ Highway 1
- ❑ SR 126
- ❑ Other _____ (Specify)

6. WHAT LOCAL ROUTE(S) DID YOU USE TO ACCESS THE PORT?

Please highlight route within the attached map boundaries.

PORT HUENEME TRUCKER SURVEY
OUTBOUND – STATION A

Time:_____
License Plate _____ (top-most plate on driver's side of cab)

1. TRUCK TYPE:

- ❑ Containers
- ❑ Double open trailers
- ❑ Double enclosed trailers
- ❑ Bob tail
- ❑ Cement truck
- ❑ Delivery truck
- ❑ Garbage truck
- ❑ Machinery carrier
- ❑ Single flatbed trailer
- ❑ Single open-top trailer
- ❑ Single enclosed trailer
- ❑ Auto carrier with single trailer
- ❑ Auto carrier with double trailer
- ❑ Produce tubs on flatbed
- ❑ Other _____ (Specify)

2. WHAT IS YOUR CARGO?

- ❑ General Freight, Building Materials or Household Goods
- ❑ Produce
- ❑ Fertilizer
- ❑ Motor Vehicles
- ❑ Heavy Machinery
- ❑ Petroleum Products
- ❑ Empty
- ❑ Other _____(Specify)

3. WHAT IS THE HOME BASE OF THIS VEHICLE?

State_____ City or County_____

4. WHERE WILL YOU END YOUR TRIP *TODAY*

Street Address_____
City_____State_____Zip Code

5. WILL YOU USE HIGHWAY 118 (WEST OF MOORPARK)?

❑ Yes ❑ No

5A. IF YES, WHY?

- ❑ To bypass congestion on U.S. 101
- ❑ To bypass congestion at the U.S. 101/I-405 interchange
- ❑ To bypass delays at U.S. 101 weigh stations
- ❑ To make a stop on Highway 118
- ❑ Is the most direct route to my destination
- ❑ Other _____(Specify)

5B. IF NO, WHAT ROADWAY WILL YOU USE?

- ❑ U.S. 101
- ❑ Highway 1
- ❑ SR 126
- ❑ Other _____ (Specify)

6. WHAT LOCAL ROUTE(S) WILL YOU USE TO LEAVE THE PORT?

Please highlight route within the attached map boundaries.

Port of Hueneme Access Study

Summary of Port Truck Volumes by Hour

	Station 1		Station 2		Station 3		Total		
Time Period	In	Out	In	Out	In	Out	In	Out	Total
6:00 to 7:00 AM	11	1	13	0	1	0	25	1	26
7:00 to 8:00 AM	17	3	12	1	2	0	31	4	35
8:00 to 9:00 AM	20	19	9	15	0	1	29	35	64
9:00 to 10:00 AM	18	32	14	13	1	5	33	50	83
10:00 to 11:00 AM	21	24	12	10	3	8	36	42	78
11:00 to 12:00 PM	20	32	20	9	2	2	42	43	85
12:00 to 1:00 PM	17	1	18	11	1	2	36	14	50
1:00 to 2:00 PM	21	18	21	12	3	1	45	31	76
2:00 to 3:00 PM	19	29	11	10	1	2	31	41	72
3:00 to 4:00 PM	11	28	5	10	5	1	21	39	60
4:00 to 5:00 PM	11	9	4	5	4	3	19	17	36
5:00 to 6:00 PM	2	8	0	2	1	0	3	10	13
Total	188	204	139	98	24	25	351	327	678

	Station 1		Station 2		Station 3		Total		
Time Period	In	Out	In	Out	In	Out	In	Out	Total
6:00 to 7:00 AM	6%	0%	9%	0%	4%	0%	7%	0%	4%
7:00 to 8:00 AM	9%	1%	9%	1%	8%	0%	9%	1%	5%
8:00 to 9:00 AM	11%	9%	6%	15%	0%	4%	8%	11%	9%
9:00 to 10:00 AM	10%	16%	10%	13%	4%	20%	9%	15%	12%
10:00 to 11:00 AM	11%	12%	9%	10%	13%	32%	10%	13%	12%
11:00 to 12:00 PM	11%	16%	14%	9%	8%	8%	**12%**	**13%**	**13%**
12:00 to 1:00 PM	9%	0%	13%	11%	4%	8%	10%	4%	7%
1:00 to 2:00 PM	11%	9%	15%	12%	13%	4%	13%	9%	11%
2:00 to 3:00 PM	10%	14%	8%	10%	4%	8%	9%	13%	11%
3:00 to 4:00 PM	6%	14%	4%	10%	21%	4%	6%	12%	9%
4:00 to 5:00 PM	6%	4%	3%	5%	17%	12%	5%	5%	5%
5:00 to 6:00 PM	1%	4%	0%	2%	4%	0%	1%	3%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total		
Time Period	In	Out	In	Out	In	Out	In	Out	Total
AM	17	3	12	1	2	0	31	4	35
Midday	17	14	16	13	0	3	33	30	63
PM	5	13	2	3	1	2	8	18	26
Total	39	30	30	17	3	5	72	52	124

	Station 1		Station 2		Station 3		Total		
Time Period	In	Out	In	Out	In	Out	In	Out	Total
AM	9%	1%	9%	1%	8%	0%	9%	1%	5%
Midday	9%	7%	12%	13%	0%	12%	9%	9%	9%
PM	3%	6%	1%	3%	4%	8%	2%	6%	4%
Total	21%	15%	22%	17%	13%	20%	21%	16%	18%

Port of Hueneme Access Study

Summary of Port Truck Types by Location

Truck Type	Station 1		Station 2		Station 3		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Auto Carrier - Single	4	3	10	8	19	23	33	34	67
Auto Carrier - Double		1	2	4	5	1	7	6	13
Bobtail	6	4	9	4			15	8	23
Cement			9	8			9	8	17
Container	20	21	12	3			32	24	56
Delivery	1		11	17			12	17	29
Dumptruck			1	1			1	1	2
Enclosed Trailer - Single	107	122	35	7			142	129	271
Enclosed Trailer - Double	2	1	2				4	1	5
Fertilizer	8	7					8	7	15
Flatbed	23	22	22	17			45	39	84
Garbage	1	3	8	10			9	13	22
Gravel				1			0	1	1
Machinery Carrier	3	3	2				5	3	8
Open-top Trailer - Single	2	1	5	3			7	4	11
Open-top Trailer - Double	1		4	4			5	4	9
Tanker	1	2		1			1	3	4
Other	7	6	5	9			12	15	27
-	2	8	2	1		1	4	10	14
Total	188	204	139	98	24	25	351	327	678

Truck Type	Station 1		Station 2		Station 3		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Auto Carrier (Single + Double)	2%	2%	9%	**12%**	**100%**	**100%**	**12%**	**13%**	**12%**
Bobtail	3%	2%	7%	4%	0%	0%	4%	3%	3%
Cement	0%	0%	7%	8%	0%	0%	3%	3%	3%
Container	**11%**	**11%**	9%	3%	0%	0%	9%	8%	8%
Delivery	1%	0%	8%	**18%**	0%	0%	3%	5%	4%
Dumptruck	0%	0%	1%	1%	0%	0%	0%	0%	0%
Enclosed Trailer (Single + Double)	**59%**	**63%**	**27%**	7%	0%	0%	**42%**	**41%**	**42%**
Fertilizer	4%	4%	0%	0%	0%	0%	2%	2%	2%
Flatbed	**12%**	**11%**	**16%**	**18%**	0%	0%	**13%**	**12%**	**13%**
Garbage	1%	2%	6%	10%	0%	0%	3%	4%	3%
Gravel	0%	0%	0%	1%	0%	0%	0%	0%	0%
Machinery Carrier	2%	2%	1%	0%	0%	0%	1%	1%	1%
Open Trailer (Single + Double)	2%	1%	7%	7%	0%	0%	3%	3%	3%
Tanker	1%	1%	0%	1%	0%	0%	0%	1%	1%
Other	4%	3%	4%	9%	0%	0%	3%	5%	4%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study

Summary of Port Truck Cargo by Location

	Station 1		Station 2		Station 3		Total		
Truck Type	In	Out	In	Out	In	Out	In	Out	Total
Autos	3	6	6	13	22	24	31	43	74
Fertilizer	5	9					5	9	14
General Freight	6		54	17			60	17	77
Heavy Machinery	11	13	7	3			18	16	34
Petroleum	1	2	3	2			4	4	8
Produce	68	94	3	3			71	97	168
Other	5	6	6	28			11	34	45
Empty	82	55	56	27	2		140	82	222
-	7	19	4	5		1	11	25	36
Total	188	204	139	98	24	25	351	327	678

	Station 1		Station 2		Station 3		Total		
Truck Type	In	Out	In	Out	In	Out	In	Out	Total
Autos	2%	3%	4%	14%	92%	100%	9%	14%	12%
Fertilizer	3%	5%	0%	0%	0%	0%	1%	3%	2%
General Freight	3%	0%	40%	18%	0%	0%	18%	6%	12%
Heavy Machinery	6%	7%	5%	3%	0%	0%	5%	5%	5%
Petroleum	1%	1%	2%	2%	0%	0%	1%	1%	1%
Produce	38%	51%	2%	3%	0%	0%	21%	32%	26%
Other	3%	3%	4%	30%	0%	0%	3%	11%	7%
Empty	45%	30%	41%	29%	8%	0%	41%	27%	35%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total		
Truck Type	In	Out	In	Out	In	Out	In	Out	Total
Autos	3%	5%	8%	20%	100%	100%	16%	20%	18%
Fertilizer	5%	7%	0%	0%	0%	0%	3%	4%	3%
General Freight	6%	0%	68%	26%	0%	0%	30%	8%	18%
Heavy Machinery	11%	10%	9%	5%	0%	0%	9%	7%	8%
Petroleum	1%	2%	4%	3%	0%	0%	2%	2%	2%
Produce	69%	72%	4%	5%	0%	0%	36%	44%	40%
Other	5%	5%	8%	42%	0%	0%	6%	15%	11%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study

Summary of Port Truck Laden/Unladen

Truck Type	Station 1		Station 2		Station 3		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Unladen	82	55	56	27	2	0	140	82	222
Laden	99	130	79	66	22	24	200	220	420
Total	181	185	135	93	24	24	340	302	642

Truck Type	Station 1		Station 2		Station 3		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Unladen	45%	30%	41%	29%	8%	0%	41%	27%	35%
Laden	55%	70%	59%	71%	92%	100%	59%	73%	65%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study

Port Truck O/D Patterns

Reason	Station 1		Station 2		Station 3		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Local area	70	59	75	49	6	1	151	109	260
Greater LA region	53	45	53	27	7	8	113	80	193
Rest of California	52	53	8	14	5	6	65	73	138
Outside California	9	35	3	7	2	10	14	52	66
No answer	4	12	0	1	4	0	8	13	21
Total	188	204	139	98	24	25	351	327	678

Reason	Station 1		Station 2		Station 3		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Local area	37%	29%	54%	50%	25%	4%	43%	33%	38%
Greater LA region	28%	22%	38%	28%	29%	32%	32%	24%	28%
Rest of California	28%	26%	6%	14%	21%	24%	19%	22%	20%
Outside California	5%	17%	2%	7%	8%	40%	4%	16%	10%
No answer	2%	6%	0%	1%	17%	0%	2%	4%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Local area: Ventura, Hueneme, Oxnard, Camarillo, Santa Paula, etc.
Greater LA region: Los Angeles, Long Beach, Riverside, Ontario, etc.

Port of Hueneme Access Study

Use of Highway 118 Corridor

	Station 1		Station 2		Station 3		Total		
Use Corridor?	In	Out	In	Out	In	Out	In	Out	Total
Yes	109	135	62	50	17	24	188	209	397
No	74	64	77	48	7	1	158	113	271
No answer	5	5	0	0	0	0	5	5	10
Total	188	204	139	98	24	25	351	327	678

	Station 1		Station 2		Station 3		Total		
Use Corridor?	In	Out	In	Out	In	Out	In	Out	Total
Yes	58%	66%	45%	51%	71%	96%	54%	64%	59%
No	39%	31%	55%	49%	29%	4%	45%	35%	40%
No answer	3%	2%	0%	0%	0%	0%	1%	2%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total		
If Yes, which route?	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	44	65	4	9	3	4	51	78	129
Highway 118	19	30	12	2	2	6	33	38	71
U.S. 101	40	33	45	37	12	14	97	84	181
Highway 1	1	2	1	1	0	0	2	3	5
No answer	4	5	0	1	0	0	4	6	10
Total	108	135	62	50	17	24	187	209	396

	Station 1		Station 2		Station 3		Total		
If Yes, which route?	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	41%	48%	6%	18%	18%	17%	27%	37%	33%
Highway 118	18%	22%	19%	4%	12%	25%	18%	18%	18%
U.S. 101	37%	24%	73%	74%	71%	58%	52%	40%	46%
Highway 1	1%	1%	2%	2%	0%	0%	1%	1%	1%
No answer	4%	4%	0%	2%	0%	0%	2%	3%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study

Reasons for Using Highway 118

	Station 1		Station 2		Station 3		Total		
Reason	In	Out	In	Out	In	Out	In	Out	Total
Congestion on US 101	6	9	3	1	1	2	10	12	22
Avoid 101/405 merge	1	2					1	2	3
Bypass weigh station	1	2				2	1	4	5
Stop on Highway 118	1	1	2				3	1	4
Most direct route	14	14	9	1	1	3	24	18	42
Other	2	6				1	2	7	9
No answer	6	5					6	5	11
Total	31	39	14	2	2	8	47	49	96

	Station 1		Station 2		Station 3		Total		
Reason	In	Out	In	Out	In	Out	In	Out	Total
Congestion on US 101	19%	23%	21%	50%	50%	25%	21%	24%	23%
Avoid 101/405 merge	3%	5%	0%	0%	0%	0%	2%	4%	3%
Bypass weigh station	3%	5%	0%	0%	0%	25%	2%	8%	5%
Stop on Highway 118	3%	3%	14%	0%	0%	0%	6%	2%	4%
Most direct route	45%	36%	64%	50%	50%	38%	51%	37%	44%
Other	6%	15%	0%	0%	0%	13%	4%	14%	9%
No answer	19%	13%	0%	0%	0%	0%	13%	10%	11%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total		
Reason	In	Out	In	Out	In	Out	In	Out	Total
Congestion on US 101	24%	26%	21%	50%	50%	25%	24%	27%	26%
Avoid 101/405 merge	4%	6%	0%	0%	0%	0%	2%	5%	4%
Bypass weigh station	4%	6%	0%	0%	0%	25%	2%	9%	6%
Stop on Highway 118	4%	3%	14%	0%	0%	0%	7%	2%	5%
Most direct route	56%	41%	64%	50%	50%	38%	59%	41%	49%
Other	8%	18%	0%	0%	0%	13%	5%	16%	11%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study

Segments on Highway 118

	Station 1		Station 2		Station 3		Total	
Segments	In	Out	In	Out	In	Out	In	Out
1	20	30	12	2	2	6	34	38
2	5	3	12		1	1	18	4
3	6	1				2	6	3
4	11	9	2			2	13	11
Total	42	43	26	2	3	11	71	56
# of vehs	31	39	14	2	2	8	47	49

	Station 1		Station 2		Station 3		Total	
Segments	In	Out	In	Out	In	Out	In	Out
1	48%	70%	46%	-	67%	55%	48%	68%
2	12%	7%	46%	-	33%	9%	25%	7%
3	14%	2%	0%	-	0%	18%	8%	5%
4	26%	21%	8%	-	0%	18%	18%	20%
Total	100%	100%	100%	0%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total	
Direction on 118	In	Out	In	Out	In	Out	In	Out
to/from East	20	30	12	2	2	6	34	38
to/from West	11	9	2	0	0	2	13	11
Total	31	39	14	2	2	8	47	49

	Station 1		Station 2		Station 3		Total	
Direction on 118	In	Out	In	Out	In	Out	In	Out
to/from East	65%	77%	86%	100%	100%	75%	72%	78%
to/from West	35%	23%	14%	-	-	25%	28%	22%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study
Use of Highways Outside Area

	Station 1		Station 2		Station 3		Total		
O/D routes	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	44	65	4	9	3	4	51	78	129
Highway 118	19	30	12	2	2	6	33	38	71
U.S. 101 - E	40	33	45	37	12	14	97	84	181
U.S. 101 - W	2	1	1	2	0	0	3	3	6
Highway 1	1	2	1	1	0	0	2	3	5
Local	73	63	76	47	7	1	156	111	267
Total	179	194	139	98	24	25	342	317	659
no answer	9	10							

	Station 1		Station 2		Station 3		Total		
O/D routes	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	25%	34%	3%	9%	13%	16%	15%	25%	20%
Highway 118	11%	15%	9%	2%	8%	24%	10%	12%	11%
U.S. 101 - E	22%	17%	32%	38%	50%	56%	28%	26%	27%
U.S. 101 - W	1%	1%	1%	2%	0%	0%	1%	1%	1%
Highway 1	1%	1%	1%	1%	0%	0%	1%	1%	1%
Local	41%	32%	55%	48%	29%	4%	46%	35%	41%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total		
O/D routes	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	44	65	4	9	3	4	51	78	129
Highway 118	19	30	12	2	2	6	33	38	71
U.S. 101 - E	40	33	45	37	12	14	97	84	181
U.S. 101 - W	2	1	1	2	0	0	3	3	6
Highway 1	1	2	1	1	0	0	2	3	5
Local O/Ds									
Highway 126	11	11	13	7			24	18	42
Highway 118	10	6	2	0			12	6	18
U.S. 101 - E	5	9	1	4	1		7	13	20
U.S. 101 - W	20	16	13	9	2	1	35	26	61
Highway 1	1	4	2	1			3	5	8
Local Streets	27	20	45	26	4		76	46	122
no answer	8	7					8	7	15
Total	188	204	139	98	24	25	351	327	678

	Station 1		Station 2		Station 3		Total		
O/D routes	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	23%	32%	3%	9%	13%	16%	15%	24%	19%
Highway 118	10%	15%	9%	2%	8%	24%	9%	12%	10%
U.S. 101 - E	21%	16%	32%	38%	50%	56%	28%	26%	27%
U.S. 101 - W	1%	0%	1%	2%	0%	0%	1%	1%	1%
Highway 1	1%	1%	1%	1%	0%	0%	1%	1%	1%
Local O/Ds									
Highway 126	6%	5%	9%	7%	0%	0%	7%	6%	6%
Highway 118	5%	3%	1%	0%	0%	0%	3%	2%	3%
U.S. 101 - E	3%	4%	1%	4%	4%	0%	2%	4%	3%
U.S. 101 - W	11%	8%	9%	9%	8%	4%	10%	8%	9%
Highway 1	1%	2%	1%	1%	0%	0%	1%	2%	1%
Local Streets	14%	10%	32%	27%	17%	0%	22%	14%	18%
no answer	4%	3%	0%	0%	0%	0%	2%	2%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Station 1		Station 2		Station 3		Total		
Total O/D Routes	In	Out	In	Out	In	Out	In	Out	Total
Highway 126	31%	39%	12%	16%	13%	16%	22%	30%	26%
Highway 118	16%	18%	10%	2%	8%	24%	13%	14%	13%
U.S. 101 - E	25%	21%	33%	42%	54%	56%	30%	30%	30%
U.S. 101 - W	12%	9%	10%	11%	8%	4%	11%	9%	10%
Highway 1	1%	3%	2%	2%	0%	0%	1%	3%	2%
Local O/Ds	15%	10%	32%	27%	17%	0%	22%	14%	18%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

APPENDIX C
PORT TONNAGE FORECASTS

Appendix C includes summations of Port of Hueneme total tonnage projections assuming high, medium and low volume growth scenarios for years 2000 to 2020. These are found in Tables C-1 through C-3. Table C-4 presents the three "modified" tonnage projection scenarios. These differ from those appearing in Tables C-1 through C-3 by excluding fuel oil but including liquid fertilizer and other bulk liquids).

Table C-1
Oxnard Harbor District - Port of Hueneme
SUMMATION of Tonnage Projections - HIGH SCENARIO
Years 2000 - 2020

COMMODITIES	CAGR**	METRIC / REVENUE TONS						
		ACTUAL (Note 1)		PROJECTED (Note 2)				
		1998*	1999*	2000*	2005*	2010*	2015*	2020*
Autos/Vehicles/RoRo/Hvy.Equip (Note 3)	8.5%	168,027	184,978	197,806	297,432	447,235	672,488	1,011,191
Refrigerated Cargo	9.9%	483,935	484,174	584,497	937,068	1,502,309	2,408,506	3,861,324
Break Bulk / Neo Bulk	6.5%	87,452	61,833	99,190	135,899	186,194	255,102	349,511
Containerized Cargo	4.0%	61,582	32,365	66,607	81,038	98,595	119,956	145,944
Liquid Bulk (Note 4)	8.0%	151,128	159,559	176,276	259,007	380,566	559,176	821,613
Dry Bulk	4.0%	68,232	54,278	73,800	89,789	109,242	132,909	161,704
TOTAL TONNAGE		1,020,356	977,187	1,198,176	1,800,233	2,724,141	4,148,137	6,351,287

Explanation of Notes:

* Fiscal Year - July 1st - June 30th

** CAGR - means Compound Annual Growth Rate

(1) Actual data received from Oxnard Harbor District

(2) Projections extracted from Oxnard Harbor District's study entitled "Demands Assessment" completed August 13, 1999.

(3) Automobiles / Vehicles = number of automobiles and/or vehicles moving over Port.

(4) Totals include Southern California Edison (SCE) and Vessel fuel oil.

Table C-2
Oxnard Harbor District - Port of Hueneme
SUMMATION of Tonnage Projections - MEDIUM SCENARIO
Years 2000 - 2020

COMMODITIES	CAGR **	METRIC / REVENUE TONS						
		ACTUAL (Note 1)		PROJECTED (Note 2)				
		1998*	1999*	2000*	2005*	2010*	2015*	2020*
Autos/Vehicles/RoRo/Hvy.Equip (Note 3)	6.5%	168,027	184,978	190,580	261,112	357,746	490,143	671,538
Refrigerated Cargo	8.9%	483,935	484,174	573,909	878,986	1,346,237	2,061,869	3,157,915
Break Bulk / Neo Bulk	5.4%	87,452	61,833	95,500	119,010	148,308	184,819	230,318
Containerized Cargo	3.5%	61,582	32,365	65,968	78,350	93,055	110,520	131,263
Liquid Bulk (Note 4)	6.0%	151,128	159,559	169,807	227,241	304,099	406,953	544,595
Dry Bulk	3.0%	68,232	54,278	72,387	83,917	97,283	112,777	130,740
TOTAL TONNAGE		1,020,356	977,187	1,168,151	1,648,616	2,346,728	3,367,081	4,866,369

Explanation of Notes:

* Fiscal Year - July 1st - June 30th

** CAGR - means Compound Annual Growth Rate

(1) Actual data received from Oxnard Harbor District

(2) Projections extracted from Oxnard Harbor District's study entitled "Demands Assessment" completed August 13, 1999.

(3) Automobiles / Vehicles = number of automobiles and/or vehicles moving over Port.

(4) Totals include Southern California Edison (SCE) and Vessel fuel oil.

Table C-3
Oxnard Harbor District - Port of Hueneme
SUMMATION of Tonnage Projections - LOW SCENARIO
Years 2000 - 2020

COMMODITIES	CAGR **	METRIC / REVENUE TONS						
		ACTUAL (Note 1)		PROJECTED (Note 2)				
		1998*	1999*	2000*	2005*	2010*	2015*	2020*
Autos/Vehicles/RoRo/Hvy.Equip (Note 3)	4.7%	168,027	184,978	184,193	231,743	291,568	366,837	461,537
Refrigerated Cargo	7.9%	483,935	484,174	563,417	824,019	1,205,159	1,762,591	2,577,857
Break Bulk / Neo Bulk	0.0%	87,452	61,833	87,542	87,542	87,542	87,542	87,542
Containerized Cargo	3.0%	61,582	32,365	65,332	75,738	87,801	101,786	117,997
Liquid Bulk (Note 4)	4.0%	151,128	159,559	163,460	198,874	241,961	294,382	358,161
Dry Bulk	2.0%	68,232	54,278	70,989	78,377	86,535	95,541	105,485
TOTAL TONNAGE		1,020,356	977,187	1,134,933	1,496,293	2,000,566	2,708,679	3,708,579

Explanation of Notes:

* Fiscal Year - July 1st - June 30th

** CAGR - means Compound Annual Growth Rate

(1) Actual data received from Oxnard Harbor District

(2) Projections extracted from Oxnard Harbor District's study entitled "Demands Assessment" completed August 13, 1999.

(3) Automobiles / Vehicles = number of automobiles and/or vehicles moving over Port.

(4) Totals include Southern California Edison (SCE) and Vessel fuel oil.

Table C-4
Oxnard Harbor District - Port of Hueneme
Modified Tonnage Projections (Excludes Fuel Oils Includes Fertilizers Other Liquid Bulk)
Years 2000 - 2020

FORECAST SCENARIO	CAGR**	ACTUAL 1999*	PROJECTED 2000*	2005*	2010*	2015*	2020*
HIGH							
Total (Including all Bulk Liquids)		977,187	1,198,176	1,800,233	2,724,141	4,148,137	6,351,287
Total Liquid Bulk (Inc. Fue & All Other Liquid)		159,559	176,276	259,007	380,566	559,176	821,613
Total (Excluding All Liquids)		817,628	1,021,900	1,541,226	2,343,575	3,588,961	5,529,674
Fertilizer	8.0%	46,740	50,479	54,518	58,879	63,589	68,676
Total (Inc Fert. & Other Liquid)		864,368	1,072,379	1,595,744	2,402,454	3,652,550	5,598,350
MEDIUM							
Total (Including all Bulk Liquids)		977,187	1,168,151	1,648,616	2,346,728	3,367,081	4,866,369
Total Liquid Bulk (Inc. Fue & All Other Liquid)		159,559	169,807	227,241	304,099	406,953	544,595
Total (Excluding All Liquids)		817,628	998,344	1,421,375	2,042,629	2,960,128	4,321,774
Fertilizer	6.0%	46,740	49,544	52,517	55,668	59,008	62,549
Total (Inc Fert. & Other Liquid)		864,368	1,047,888	1,473,892	2,098,297	3,019,136	4,384,323
LOW							
Total (Including all Bulk Liquids)		977,187	1,134,933	1,496,293	2,000,566	2,708,679	3,708,579
Total Liquid Bulk (Inc. Fue & All Other Liquid)		159,559	163,460	198,874	241,961	294,382	358,161
Total (Excluding All Liquids)		817,628	971,473	1,297,419	1,758,605	2,414,297	3,350,418
Fertilizer	4.0%	46,740	48,610	50,554	52,576	54,679	56,866
Total (Inc Fert. & Other Liquid)		864,368	1,020,083	1,347,973	1,811,181	2,468,976	3,407,284

Explanation of Notes:

* Fiscal Year - July 1st - June 30th

** CAGR - Compound Annual Growth Rate used in "Demands Assessment" study completed August 13, 1999.

APPENDIX D
INTERSECTION ANALYSIS

Appendix D includes various items. In order, these are:

- Definitions of Levels of Service (LOS) A through F in terms ratios of volume to capacity (V/C). Also cited are typical traffic conditions per LOS.
- Evaluations of Existing operating conditions at six intersections in the study area. The evaluations were performed using the *Intersection Capacity Utilization (ICU)* methodology, which is the standard analysis methodology used by VCTC.
- Evaluations of future 2020 operating conditions at five intersections in the study area using the same methodology. The future conditions are shown without and with additional Port growth.

SIGNALIZED INTERSECTION
LEVEL OF SERVICE DEFINITIONS (BASED ON V/C)

Level of Service	Volume to Capacity (V/C) Ratio	Typical Traffic Condition
A	< 0.60	Uncongested operations; all queues clear in a single signal cycle.
B	0.60 - 0.69	Very light congestion; an occasional approach phase is fully utilized.
C	0.70 - 0.79	Light congestion; occasional backups on critical approaches.
D	0.80 - 0.89	Significant congestion on critical approaches, but intersection functional. Cars required to wait through more than one cycle during short peaks. No long-standing queues formed.
E	0.90 - 0.99	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es).
F	≥ 1.00	Total breakdown, stop-and-go operation.

Port of Hueneme Access Study

VCTC Intersection LOS Methodology

Existing

Intersection	Northbound			Southbound			Eastbound			Westbound			Total	LOS
	L	T	R	L	T	R	L	T	R	L	T	R		
Rice/Pleasant Valley														
Lanes	1	1	1	1	1	1	1	1	1	1	1	1		
Capacity	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600		
AM Volume	10	312	861	151	381	55	58	29	17	279	29	19		
AM v/c	0.01	0.20	**0.54**	**0.09**	0.24	0.03	0.04	**0.02**	0.01	**0.17**	0.02	0.01	0.83	D
Midday Volume	26	173	231	68	222	7	96	2	68	173	44	43		
Midday v/c	**0.02**	0.11	0.14	0.04	**0.14**	0.00	0.06	**0.00**	0.04	**0.11**	0.03	0.03	0.26	A
PM Volume	25	208	497	91	400	26	315	5	221	573	215	198		
PM v/c	0.02	0.13	**0.31**	**0.06**	0.25	0.02	0.20	**0.00**	0.14	**0.36**	0.13	0.12	0.73	C
Hueneme/Ventura														
Lanes	1	2	1	2	2	0	1	2	0	1	2	1		
Capacity	1,600	3,200	1,600	3,200	3,200	0	1,600	3,200	0	1,600	3,200	1,600		
AM Volume	10	141	68	327	63	61	99	91	11	18	117	347		
AM v/c	0.01	**0.04**	0.04	**0.10**	0.04	-	**0.06**	0.03	-	0.01	0.04	**0.22**	0.43	A
Midday Volume	11	105	20	274	138	86	149	205	7	26	119	287		
Midday v/c	0.01	**0.03**	0.01	**0.09**	0.07	-	**0.09**	0.07	-	0.02	0.04	**0.18**	0.39	A
PM Volume	100	14	29	340	173	54	128	85	10	52	82	491		
PM v/c	0.06	**0.00**	0.02	**0.11**	0.07	-	**0.08**	0.03	-	0.03	0.03	**0.31**	0.50	A
Ventura/Channel Islands														
Lanes	2	2	1	2	2	1	1	2	1	1	2	1		
Capacity	3,200	3,200	1,600	3,200	3,200	1,600	1,600	3,200	1,600	1,600	3,200	1,600		
AM Volume	550	676	110	223	679	35	39	504	551	125	444	198		
AM v/c	**0.17**	0.21	0.07	0.07	**0.21**	0.02	0.02	**0.16**	0.34	**0.08**	0.14	0.12	0.62	B
Midday Volume	493	539	157	276	609	105	107	382	382	150	421	142		
Midday v/c	**0.15**	0.17	0.10	0.09	**0.19**	0.07	0.07	**0.12**	0.24	**0.09**	0.13	0.09	0.56	A
PM Volume	808	888	124	306	759	121	95	691	660	170	584	237		
PM v/c	**0.25**	0.28	0.08	0.10	**0.24**	0.08	0.06	**0.22**	0.41	**0.11**	0.18	0.15	0.81	D
Victoria/Channel Islands														
Lanes	2	2	0	2	2	1	2	2	0	1	2	1		
Capacity	3,200	3,200	0	3,200	3,200	1,600	3,200	3,200	0	1,600	3,200	1,600		
AM Volume	141	274	135	295	440	154	274	517	141	111	405	386		
AM v/c	0.04	**0.13**	-	**0.09**	0.14	0.10	0.09	**0.21**	-	**0.07**	0.13	0.24	0.50	A
Midday Volume	127	282	164	377	392	137	238	366	117	346	419	283		
Midday v/c	0.04	**0.14**	-	**0.12**	0.12	0.09	0.07	**0.15**	-	**0.22**	0.13	0.18	0.62	B
PM Volume	169	424	124	706	372	222	241	573	121	251	623	454		
PM v/c	0.05	**0.17**	-	**0.22**	0.12	0.14	0.08	**0.22**	-	**0.16**	0.19	0.28	0.77	C
Santa Clara/Central														
Lanes	1	1	0	1	1	0	1	1	0	1	1	0		
Capacity	1,600	1,600	0	1,600	1,600	0	1,600	1,600	0	1,600	1,600	0		
AM Volume	55	231	23	262	280	35	18	458	68	14	299	78		
AM v/c	0.03	**0.16**	-	**0.16**	0.20	-	0.01	**0.33**	-	**0.01**	0.24	-	0.66	B
Midday Volume	30	164	49	118	223	17	6	132	41	28	136	48		
Midday v/c	0.02	**0.13**	-	**0.07**	0.15	-	0.00	**0.11**	-	**0.02**	0.12	-	0.33	A
PM Volume	142	174	39	120	355	28	19	181	44	18	576	47		
PM v/c	0.09	**0.13**	-	**0.08**	0.24	-	**0.01**	0.14	-	0.01	**0.39**	-	0.61	B
Santa Clara/Highway 118														
Lanes	1	0	0	0	1	0	1	0	1	0	0	0		
Capacity	1,600	0	0	0	1,600	0	1,600	0	1,600	0	0	0		
AM Volume	169	156	0	0	199	290	425	0	408	0	0	0		
AM v/c	**0.20**	-	-	-	**0.31**	-	**0.27**	-	0.26	-	-	-	0.77	C
Midday Volume	135	112	0	0	383	230	218	0	168	0	0	0		
Midday v/c	**0.15**	-	-	-	**0.38**	-	**0.14**	-	0.11	-	-	-	0.67	B
PM Volume	168	113	0	0	762	467	323	0	236	0	0	0		
PM v/c	**0.18**	-	-	-	**0.77**	-	**0.20**	-	0.15	-	-	-	1.15	F

Port of Hueneme Access Study
VCTC Intersection LOS Methodology
2020 Baseline

Intersection	Northbound			Southbound			Eastbound			Westbound			Total	LOS
	L	T	R	L	T	R	L	T	R	L	T	R		
Hueneme/Ventura														
Lanes	1	2	1	2	2	0	1	2	0	1	2	1		
Capacity	1,600	3,200	1,600	3,200	3,200	0	1,600	3,200	0	1,600	3,200	1,600		
AM Volume	13	178	86	413	79	77	125	115	14	23	148	438		
AM v/c	0.01	**0.06**	0.05	**0.13**	0.05	-	**0.08**	0.04	-	0.01	0.05	**0.27**	0.54	A
Midday Volume	14	132	25	346	174	109	188	259	9	33	150	362		
Midday v/c	0.01	**0.04**	0.02	**0.11**	0.09	-	**0.12**	0.08	-	0.02	0.05	**0.23**	0.49	A
PM Volume	126	18	37	429	218	68	162	107	13	66	103	620		
PM v/c	0.08	**0.01**	0.02	**0.13**	0.09	-	**0.10**	0.04	-	0.04	0.03	**0.39**	0.63	B
Ventura/Channel Islands														
Lanes	2	2	1	2	2	1	1	2	1	1	2	1		
Capacity	3,200	3,200	1,600	3,200	3,200	1,600	1,600	3,200	1,600	1,600	3,200	1,600		
AM Volume	589	724	118	239	727	37	42	539	590	134	475	212		
AM v/c	**0.18**	0.23	0.07	0.07	**0.23**	0.02	0.03	**0.17**	0.37	**0.08**	0.15	0.13	0.66	B
Midday Volume	528	577	168	295	652	112	115	409	409	161	451	152		
Midday v/c	**0.16**	0.18	0.11	0.09	**0.20**	0.07	0.07	**0.13**	0.26	**0.10**	0.14	0.09	0.60	A
PM Volume	865	950	133	328	812	130	102	740	706	182	625	254		
PM v/c	**0.27**	0.30	0.08	0.10	**0.25**	0.08	0.06	**0.23**	0.44	**0.11**	0.20	0.16	0.87	D
Victoria/Channel Islands														
Lanes	2	2	0	2	2	1	2	2	0	1	2	1		
Capacity	3,200	3,200	0	3,200	3,200	1,600	3,200	3,200	0	1,600	3,200	1,600		
AM Volume	149	290	143	313	466	163	290	548	149	118	429	409		
AM v/c	0.05	**0.14**	-	**0.10**	0.15	0.10	0.09	**0.22**	-	**0.07**	0.13	0.26	0.52	A
Midday Volume	135	299	174	399	415	145	252	388	124	367	444	300		
Midday v/c	0.04	**0.15**	-	**0.12**	0.13	0.09	0.08	**0.16**	-	**0.23**	0.14	0.19	0.66	B
PM Volume	179	449	131	748	394	235	255	607	128	266	660	481		
PM v/c	0.06	**0.18**	-	**0.23**	0.12	0.15	0.08	**0.23**	-	**0.17**	0.21	0.30	0.81	D
Santa Clara/Central														
Lanes	1	2	0	1	2	0	1	1	1	1	1	1		
Capacity	1,600	3,200	0	1,600	3,200	0	1,600	1,600	1,600	1,600	1,600	1,600		
AM Volume	84	354	35	402	429	54	28	702	104	21	459	120		
AM v/c	0.05	**0.12**	-	**0.25**	0.15	-	0.02	**0.44**	0.07	**0.01**	0.29	0.07	0.83	D
Midday Volume	46	252	75	181	316	26	9	202	63	43	209	74		
Midday v/c	0.03	**0.10**	-	**0.11**	0.11	-	0.01	**0.13**	0.04	**0.03**	0.13	0.05	0.37	A
PM Volume	218	267	60	184	502	43	29	278	67	28	883	72		
PM v/c	**0.14**	0.10	-	0.12	**0.17**	-	**0.02**	0.17	0.04	0.02	**0.55**	0.05	0.88	D
Santa Clara/Highway 118														
Lanes	1	2	0	0	2	1	1	0	1	0	0	0		
Capacity	1,600	3,200	0	0	3,200	1,600	1,600	0	1,600	0	0	0		
AM Volume	297	275	0	0	350	510	748	0	718	0	0	0		
AM v/c	**0.19**	0.09	-	-	**0.11**	0.32	**0.47**	-	0.45	-	-	-	0.76	C
Midday Volume	238	197	0	0	269	405	384	0	296	0	0	0		
Midday v/c	**0.15**	0.06	-	-	**0.08**	0.25	**0.24**	-	0.18	-	-	-	0.47	A
PM Volume	296	199	0	0	519	822	569	0	415	0	0	0		
PM v/c	**0.18**	0.06	-	-	**0.16**	0.51	**0.36**	-	0.26	-	-	-	0.70	C

Port of Hueneme Access Study
VCTC Intersection LOS Methodology
2020 with Additional Port Growth

Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R	Total	LOS
Hueneme/Ventura														
Lanes	1	2	1	2	2	0	1	2	0	1	2	1		
Capacity	1,600	3,200	1,600	3,200	3,200	0	1,600	3,200	0	1,600	3,200	1,600		
AM Volume	13	178	86	417	79	147	133	125	14	23	210	438		
AM v/c	0.01	**0.06**	0.05	**0.13**	0.07	-	**0.08**	0.04	-	0.01	0.07	**0.27**	0.54	A
Midday Volume	14	132	25	350	174	199	252	341	9	33	200	366		
Midday v/c	0.01	**0.04**	0.02	**0.11**	0.12	-	**0.16**	0.11	-	0.02	0.06	**0.23**	0.54	A
PM Volume	126	18	37	431	218	90	200	155	13	66	115	622		
PM v/c	0.08	**0.01**	0.02	**0.13**	0.10	-	**0.12**	0.05	-	0.04	0.04	**0.39**	0.65	B
Ventura/Channel Islands														
Lanes	2	2	1	2	2	1	1	2	1	1	2	1		
Capacity	3,200	3,200	1,600	3,200	3,200	1,600	1,600	3,200	1,600	1,600	3,200	1,600		
AM Volume	591	728	120	239	751	51	44	539	620	154	481	212		
AM v/c	**0.18**	0.23	0.07	0.07	**0.23**	0.03	0.03	**0.17**	0.39	**0.10**	0.15	0.13	0.68	B
Midday Volume	554	603	184	295	680	128	129	413	439	179	457	152		
Midday v/c	**0.17**	0.19	0.12	0.09	**0.21**	0.08	0.08	**0.13**	0.27	**0.11**	0.14	0.09	0.63	B
PM Volume	879	966	143	328	818	134	110	744	714	188	625	254		
PM v/c	**0.27**	0.30	0.09	0.10	**0.26**	0.08	0.07	**0.23**	0.45	**0.12**	0.20	0.16	0.88	D
Victoria/Channel Islands														
Lanes	2	2	0	2	2	1	2	2	0	1	2	1		
Capacity	3,200	3,200	0	3,200	3,200	1,600	3,200	3,200	0	1,600	3,200	1,600		
AM Volume	151	298	145	335	538	163	290	556	159	138	429	411		
AM v/c	0.05	**0.14**	-	**0.10**	0.17	0.10	0.09	**0.22**	-	**0.09**	0.13	0.26	0.55	A
Midday Volume	145	369	192	421	487	145	252	396	136	389	450	312		
Midday v/c	0.05	**0.18**	-	**0.13**	0.15	0.09	0.08	**0.17**	-	**0.24**	0.14	0.19	0.72	C
PM Volume	185	489	143	754	414	235	255	609	130	270	664	491		
PM v/c	0.06	**0.20**	-	**0.24**	0.13	0.15	0.08	**0.23**	-	**0.17**	0.21	0.31	0.83	D
Santa Clara/Central														
Lanes	1	2	0	1	2	0	1	1	1	1	1	1		
Capacity	1,600	3,200	0	1,600	3,200	0	1,600	1,600	1,600	1,600	1,600	1,600		
AM Volume	84	360	35	402	459	54	28	702	104	21	459	120		
AM v/c	0.05	**0.12**	-	**0.25**	0.16	-	0.02	**0.44**	0.07	**0.01**	0.29	0.07	0.83	D
Midday Volume	46	280	75	181	348	26	9	202	63	43	209	74		
Midday v/c	0.03	**0.11**	-	**0.11**	0.12	-	0.01	**0.13**	0.04	**0.03**	0.13	0.05	0.38	A
PM Volume	218	285	60	184	510	43	29	278	67	28	883	72		
PM v/c	**0.14**	0.11	-	0.12	**0.17**	-	**0.02**	0.17	0.04	0.02	**0.55**	0.05	0.88	D
Santa Clara/Highway 118														
Lanes	1	2	0	0	2	1	1	0	1	0	0	0		
Capacity	1,600	3,200	0	0	3,200	1,600	1,600	0	1,600	0	0	0		
AM Volume	299	279	0	0	374	510	748	0	724	0	0	0		
AM v/c	**0.19**	0.09	-	-	**0.12**	0.32	**0.47**	-	0.45	-	-	-	0.77	C
Midday Volume	244	219	0	0	295	405	384	0	302	0	0	0		
Midday v/c	**0.15**	0.07	-	-	**0.09**	0.25	**0.24**	-	0.19	-	-	-	0.48	A
PM Volume	300	213	0	0	525	822	569	0	417	0	0	0		
PM v/c	**0.19**	0.07	-	-	**0.16**	0.51	**0.36**	-	0.26	-	-	-	0.71	C

APPENDIX E
HIGHWAY 118 ASSESSMENT

Appendix E includes data pertaining to the Highway 118 assessment. Appearing in the following order are:

- Daily volumes tube counts (two days, and an average of the two days) at four stations. These were Station 1, east of Vineyard; Station 2, east of Santa Clara; Station 3, east of Highway 34; and Station 4, west of Spring Road. The counts were performed over 24 hours on both March 28 and 29, 2000.
- A summary of a manual classification counts of trucks as a percent of total traffic per each of the four stations set up in the Highway 118 Corridor. The counts were performed between 6:00 AM and 6:00 PM on May 23, 2000.
- A summary of trucks by type observed through a license plate survey at each of the four stations in the corridor. The visual classifications were performed between 6:00 AM and 6:00 PM on May 28, 2000.

Port of Hueneme Access Study

Highway 118 Tube Counts

Time	Location 1 - Eastbound			Location 1 - Westbound			#1	Location 2 - Eastbound			Location 2 - Westbound			#2
	Tues	Wed	*Avg.*	Tues	Wed	*Avg.*	Total	Tues	Wed	*Avg.*	Tues	Wed	*Avg.*	Total
12:00 to 1:00 AM	41	29	*35*	78	106	*92*	127	29	38	*34*	58	55	*57*	90
1:00 to 2:00 AM	42	33	*38*	55	42	*49*	86	37	28	*33*	35	32	*34*	66
2:00 to 3:00 AM	34	41	*38*	40	36	*38*	76	21	45	*33*	30	38	*34*	67
3:00 to 4:00 AM	63	62	*63*	34	39	*37*	99	49	66	*58*	57	55	*56*	114
4:00 to 5:00 AM	178	155	*167*	70	56	*63*	230	151	161	*156*	97	82	*90*	246
5:00 to 6:00 AM	594	625	*610*	215	222	*219*	828	620	697	*659*	282	265	*274*	932
6:00 to 7:00 AM	1,162	1,180	*1,171*	444	428	*436*	1,607	1,095	1,220	*1,158*	439	470	*455*	1,612
7:00 to 8:00 AM	1,236	1,255	*1,246*	574	599	*587*	1,832	953	917	*935*	577	619	*598*	1,533
8:00 to 9:00 AM	919	958	*939*	637	649	*643*	1,582	719	830	*775*	644	634	*639*	1,414
9:00 to 10:00 AM	693	704	*699*	446	495	*471*	1,169	517	580	*549*	470	471	*471*	1,019
10:00 to 11:00 AM	616	654	*635*	518	441	*480*	1,115	564	637	*601*	438	447	*443*	1,043
11:00 to 12:00 PM	633	606	*620*	515	514	*515*	1,134	563	558	*561*	469	471	*470*	1,031
12:00 to 1:00 PM	631	592	*612*	520	547	*534*	1,145	615	538	*577*	434	496	*465*	1,042
1:00 to 2:00 PM	626	610	*618*	630	612	*621*	1,239	603	651	*627*	516	475	*496*	1,123
2:00 to 3:00 PM	630	643	*637*	749	714	*732*	1,368	681	682	*682*	615	614	*615*	1,296
3:00 to 4:00 PM	746	707	*727*	856	884	*870*	1,597	689	689	*689*	709	732	*721*	1,410
4:00 to 5:00 PM	716	705	*711*	1,040	1,078	*1,059*	1,770	705	730	*718*	853	865	*859*	1,577
5:00 to 6:00 PM	729	749	*739*	1,257	1,212	*1,235*	1,974	709	740	*725*	810	738	*774*	1,499
6:00 to 7:00 PM	544	503	*524*	934	776	*855*	1,379	490	444	*467*	484	467	*476*	943
7:00 to 8:00 PM	305	303	*304*	441	438	*440*	744	307	283	*295*	195	273	*234*	529
8:00 to 9:00 PM	214	211	*213*	340	353	*347*	559	237	233	*235*	159	165	*162*	397
9:00 to 10:00 PM	152	163	*158*	274	269	*272*	429	168	219	*194*	146	117	*132*	325
10:00 to 11:00 PM	154	128	*141*	188	166	*177*	318	147	115	*131*	84	73	*79*	210
11:00 to 12:00 PM	81	83	*82*	109	132	*121*	203	55	60	*58*	79	81	*80*	138
Total	**11,739**	**11,699**	***11,719***	**10,964**	**10,808**	***10,886***	**22,605**	**10,724**	**11,161**	***10,943***	**8,680**	**8,735**	***8,708***	**19,650**

Port of Hueneme /
Highway 118 Tube C

Time	Location 3 - Eastbound			Location 3 - Westbound			#3	Location 4 - Eastbound			Location 4 - Westbound			#4
	Tues	Wed	*Avg.*	Tues	Wed	*Avg.*	Total	Tues	Wed	*Avg.*	Tues	Wed	*Avg.*	Total
12:00 to 1:00 AM	22	28	*25*	64	57	*61*	86	57	94	*76*	82	142	*112*	188
1:00 to 2:00 AM	33	19	*26*	22	151	*87*	113	50	49	*50*	72	85	*79*	128
2:00 to 3:00 AM	48	49	*49*	21	44	*33*	81	57	61	*59*	62	67	*65*	124
3:00 to 4:00 AM	62	85	*74*	65	78	*72*	145	116	114	*115*	75	77	*76*	191
4:00 to 5:00 AM	179	205	*192*	86	79	*83*	275	349	345	*347*	150	155	*153*	500
5:00 to 6:00 AM	733	797	*765*	263	328	*296*	1,061	1,018	990	*1,004*	613	600	*607*	1,611
6:00 to 7:00 AM	1,056	1,199	*1,128*	487	495	*491*	1,619	1,589	1,597	*1,593*	1,117	1,072	*1,095*	2,688
7:00 to 8:00 AM	933	924	*929*	607	636	*622*	1,550	1,597	1,468	*1,533*	1,259	1,243	*1,251*	2,784
8:00 to 9:00 AM	741	1,016	*879*	684	741	*713*	1,591	1,224	1,256	*1,240*	1,207	1,242	*1,225*	2,465
9:00 to 10:00 AM	561	587	*574*	498	513	*506*	1,080	1,062	1,054	*1,058*	1,089	1,064	*1,077*	2,135
10:00 to 11:00 AM	592	772	*682*	458	510	*484*	1,166	1,041	1,060	*1,051*	969	1,045	*1,007*	2,058
11:00 to 12:00 PM	625	562	*594*	518	565	*542*	1,135	1,262	1,124	*1,193*	1,229	1,299	*1,264*	2,457
12:00 to 1:00 PM	633	534	*584*	481	514	*498*	1,081	1,221	1,230	*1,226*	1,314	1,293	*1,304*	2,529
1:00 to 2:00 PM	712	740	*726*	529	504	*517*	1,243	1,093	1,133	*1,113*	1,146	1,147	*1,147*	2,260
2:00 to 3:00 PM	706	706	*706*	684	641	*663*	1,369	1,158	1,133	*1,146*	1,279	1,323	*1,301*	2,447
3:00 to 4:00 PM	780	715	*748*	701	851	*776*	1,524	1,364	1,310	*1,337*	1,560	1,523	*1,542*	2,879
4:00 to 5:00 PM	768	861	*815*	846	908	*877*	1,692	1,378	1,393	*1,386*	1,529	1,464	*1,497*	2,882
5:00 to 6:00 PM	777	716	*747*	824	765	*795*	1,541	1,220	1,278	*1,249*	1,562	1,562	*1,562*	2,811
6:00 to 7:00 PM	549	539	*544*	533	502	*518*	1,062	872	903	*888*	1,199	1,280	*1,240*	2,127
7:00 to 8:00 PM	311	208	*260*	238	215	*227*	486	560	560	*560*	758	878	*818*	1,378
8:00 to 9:00 PM	231	256	*244*	167	165	*166*	410	387	473	*430*	629	676	*653*	1,083
9:00 to 10:00 PM	203	165	*184*	159	95	*127*	311	234	302	*268*	554	556	*555*	823
10:00 to 11:00 PM	100	100	*100*	95	96	*96*	196	189	164	*177*	336	311	*324*	500
11:00 to 12:00 PM	58	33	*46*	84	74	*79*	125	95	98	*97*	226	209	*218*	314
Total	**11,413**	**11,816**	***11,615***	**9,114**	**9,527**	***9,321***	**20,935**	**19,193**	**19,189**	***19,191***	**20,016**	**20,313**	***20,165***	**39,356**

Port of Hueneme Access Study
Highway 118 Classification Counts
Summary

	Location 1 - Eastbound			Location 1 - Westbound			#1	Location 2 - Eastbound			Location 2 - Westbound			#2
Time	Trucks	Total	% Trucks	Trucks	Total	% Trucks	Total	Trucks	Total	% Trucks	Trucks	Total	% Trucks	Total
6:00 to 7:00 AM	50	1,067	5%	49	339	14%	7%	83	713	12%	68	334	20%	14%
7:00 to 8:00 AM	79	1,206	7%	78	534	15%	9%	93	584	16%	71	453	16%	16%
8:00 to 9:00 AM	69	860	8%	72	519	14%	10%	104	485	21%	91	548	17%	19%
9:00 to 10:00 AM	79	641	12%	94	386	24%	17%	96	319	30%	103	340	30%	30%
10:00 to 11:00 AM	98	563	17%	82	402	20%	19%	99	284	35%	90	324	28%	31%
11:00 to 12:00 PM	61	523	12%	77	419	18%	15%	91	306	30%	104	358	29%	29%
12:00 to 1:00 PM	61	545	11%	84	466	18%	14%	81	261	31%	87	329	26%	28%
1:00 to 2:00 PM	52	551	9%	104	521	20%	15%	88	370	24%	144	398	36%	30%
2:00 to 3:00 PM	89	638	14%	124	670	19%	16%	97	416	23%	145	520	28%	26%
3:00 to 4:00 PM	42	651	6%	111	928	12%	10%	82	479	17%	118	665	18%	17%
4:00 to 5:00 PM	55	754	7%	89	997	9%	8%	68	451	15%	99	748	13%	14%
5:00 to 6:00 PM	32	857	4%	69	1,163	6%	5%	53	498	11%	89	748	12%	11%
Total	**767**	**8,856**	**9%**	**1,033**	**7,344**	**14%**	**11%**	**1,035**	**5,166**	**20%**	**1,209**	**5,765**	**21%**	**21%**

Port of Hueneme
Highway 118 Classifi
Summary

Time	Location 3 - Eastbound			Location 3 - Westbound			#3	Location 4 - Eastbound			Location 4 - Westbound			#4	Overall
	Trucks	Total	% Trucks	Trucks	Total	% Trucks	Total	Trucks	Total	% Trucks	Trucks	Total	% Trucks	Total	
6:00 to 7:00 AM	96	802	12%	97	646	15%	13%	128	1,129	11%	142	867	16%	14%	12%
7:00 to 8:00 AM	99	906	11%	103	683	15%	13%	145	1,515	10%	132	1,035	13%	11%	12%
8:00 to 9:00 AM	114	543	21%	145	741	20%	20%	145	1,120	13%	159	972	16%	15%	16%
9:00 to 10:00 AM	151	498	30%	147	497	30%	30%	197	820	24%	207	797	26%	25%	25%
10:00 to 11:00 AM	139	452	31%	129	485	27%	29%	208	849	24%	179	789	23%	24%	25%
11:00 to 12:00 PM	117	452	26%	133	521	26%	26%	166	722	23%	166	936	18%	20%	22%
12:00 to 1:00 PM	115	423	27%	114	449	25%	26%	173	659	26%	188	1,000	19%	22%	22%
1:00 to 2:00 PM	102	463	22%	172	503	34%	28%	160	555	29%	208	887	23%	26%	24%
2:00 to 3:00 PM	132	595	22%	153	604	25%	24%	161	593	27%	177	955	19%	22%	22%
3:00 to 4:00 PM	123	745	17%	123	720	17%	17%	157	1,055	15%	170	1,353	13%	14%	14%
4:00 to 5:00 PM	109	946	12%	97	712	14%	12%	136	1,114	12%	105	1,306	8%	10%	11%
5:00 to 6:00 PM	66	933	7%	90	756	12%	9%	89	686	13%	96	1,391	7%	9%	8%
Total	**1,363**	**7,758**	**18%**	**1,503**	**7,317**	**21%**	**19%**	**1,865**	**10,817**	**17%**	**1,929**	**12,288**	**16%**	**16%**	**16%**

Port of Hueneme Access Study

Summary of Highway 118 Truck Volumes by Hour

	Eastbound				Westbound				
Time Period	1	2	3	4	1	2	3	4	Total
6:00 to 7:00 AM	61	55	68	98	25	50	50	70	477
7:00 to 8:00 AM	83	69	118	127	39	93	87	74	690
8:00 to 9:00 AM	70	73	87	149	79	46	91	123	718
9:00 to 10:00 AM	65	63	149	117	40	88	96	107	725
10:00 to 11:00 AM	63	63	61	177	72	76	52	121	685
11:00 to 12:00 PM	63	64	26	119	61	68	61	118	580
12:00 to 1:00 PM	54	67	120	147	58	81	90	117	734
1:00 to 2:00 PM	109	63	107	119	82	97	75	91	743
2:00 to 3:00 PM	52	87	66	127	107	71	56	130	696
3:00 to 4:00 PM	98	67	70	99	70	64	80	97	645
4:00 to 5:00 PM	48	46	56	72	82	82	67	70	523
5:00 to 6:00 PM	40	50	52	65	46	41	49	62	405
Total	806	767	980	1,416	761	857	854	1,180	7,621

	Eastbound				Westbound				
Time Period	1	2	3	4	1	2	3	4	Total
6:00 to 7:00 AM	8%	7%	7%	7%	3%	6%	6%	6%	6%
7:00 to 8:00 AM	10%	9%	12%	9%	5%	11%	10%	6%	9%
8:00 to 9:00 AM	9%	10%	9%	11%	10%	5%	11%	10%	9%
9:00 to 10:00 AM	8%	8%	15%	8%	5%	10%	11%	9%	10%
10:00 to 11:00 AM	8%	8%	6%	13%	9%	9%	6%	10%	9%
11:00 to 12:00 PM	8%	8%	3%	8%	8%	8%	7%	10%	8%
12:00 to 1:00 PM	7%	9%	12%	10%	8%	9%	11%	10%	10%
1:00 to 2:00 PM	14%	8%	11%	8%	11%	11%	9%	8%	10%
2:00 to 3:00 PM	6%	11%	7%	9%	14%	8%	7%	11%	9%
3:00 to 4:00 PM	12%	9%	7%	7%	9%	7%	9%	8%	8%
4:00 to 5:00 PM	6%	6%	6%	5%	11%	10%	8%	6%	7%
5:00 to 6:00 PM	5%	7%	5%	5%	6%	5%	6%	5%	5%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Port of Hueneme Access Study

Summary of Highway 118 Truck Types by Location

	Eastbound				Westbound				
Truck Type	1	2	3	4	1	2	3	4	Total
Auto Carrier (Single and Double)	3	4	6	2	5	5	14	8	47
Bobtail	13	6	4	8	8	8	3	11	61
Cement	59	35	60	57	37	33	57	49	387
Citrus	56	89	9	8	58	100	11	1	332
Container	1	22	1	38	10	23	14	13	122
Delivery	48	91	74	122	55	90	128	110	718
Dumptruck	9	0	0	0	5	0	0	0	14
Enclosed Trailer (Single and Double)	158	191	206	370	119	246	252	422	1,964
Flatbed	57	113	99	176	72	124	151	172	964
Garbage	19	10	4	7	10	12	5	11	78
Gravel	116	48	54	188	100	53	106	250	915
Open Trailer (Single and Double)	1	8	12	13	21	27	31	27	140
Other	208	122	54	94	105	102	32	57	774
Produce Tub	1	24	21	0	8	27	20	24	125
Tanker	6	0	8	1	3	1	11	12	42
-	51	4	368	332	145	6	19	13	938
Total	806	767	980	1,416	761	857	854	1,180	7,621

	Eastbound				Westbound				
Truck Type	1	2	3	4	1	2	3	4	Total
Auto Carrier (Single and Double)	0%	1%	1%	0%	1%	1%	2%	1%	1%
Bobtail	2%	1%	1%	1%	1%	1%	0%	1%	1%
Cement	8%	5%	**10%**	5%	6%	4%	7%	4%	6%
Citrus	7%	**12%**	1%	1%	9%	**12%**	1%	0%	5%
Container	0%	3%	0%	4%	2%	3%	2%	1%	2%
Delivery	6%	**12%**	**12%**	**11%**	9%	**11%**	**15%**	**9%**	11%
Dumptruck	1%	0%	0%	0%	1%	0%	0%	0%	0%
Enclosed Trailer (Single and Double)	**21%**	**25%**	**34%**	**34%**	**19%**	**29%**	**30%**	**36%**	29%
Flatbed	8%	**15%**	**16%**	**16%**	**12%**	**15%**	**18%**	**15%**	14%
Garbage	3%	1%	1%	1%	2%	1%	1%	1%	1%
Gravel	**15%**	6%	9%	**17%**	**16%**	6%	**13%**	**21%**	14%
Open Trailer (Single and Double)	0%	1%	2%	1%	3%	3%	4%	2%	2%
Other	**28%**	**16%**	9%	9%	**17%**	**12%**	4%	5%	12%
Produce Tub	0%	3%	3%	0%	1%	3%	2%	2%	2%
Tanker	1%	0%	1%	0%	0%	0%	1%	1%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%