

PART B. DESCRIPTION OF PROPOSED PROJECT AND ALTERNATIVES

B.5 OPERATION AND MAINTENANCE

B.5.1 SYSTEM OPERATION

The proposed project, as part of SFPP's pipeline system, would be remotely operated from SFPP's Watson Station (in Carson) and monitored from the central control facility at the Orange Headquarters. A staff of 16 people are currently employed at the central facility and are responsible for system control and operation 24 hours per day. A maintenance staff of 15 people currently works in the field carrying out routine inspection and maintenance as well as responding to possible system upset and/or failure emergencies. No additional positions to SFPP's existing staff will be required as a result of this project.

The proposed pipeline will operate in the same manner as the existing SFPP pipelines. The various products are shipped in different sized batches according to each customer's needs. The batches are pumped through the pipeline without any batching pig or ball to separate the products. Once the batches reach the destination, they are separated and stored in separate tanks waiting for shipment to their final destination or delivery to local markets. There is a certain amount of product commingling that occurs between dissimilar batches (e.g., diesel and gasoline). This product, called transmix, is separated and stored in a separate tank. It is currently returned to the refinery via truck for reprocessing, but after SFPP completes its transmix facility at Colton, the reprocessing will occur in Colton.

B.5.1.1 System Control, Operation, and Safety Features

The computerized system of pipeline communications and system control is referred to as the Supervisory Control and Data Acquisition (SCADA) system. The function of this system is to send instructions to and receive information from Programmable Logic Controllers (PLCs) located at remote stations and other stations along the pipeline.

SFPP's safety system is based on a SCADA, gathering and analyzing data from many sources throughout the system. The pumps are equipped with various safety devices such as pressure sensing devices, electrical current and temperature measuring devices to assure reliable and safe operation of the pumps. The pipeline is protected by pressure control valves as well as pressure measuring devices and pressure relief valves. The computerized SCADA system constantly gathers operational data from the critical sources throughout the system and automatically adjusts the pressure and flow rate of the pipeline to provide for safe operation of the system.

SFPP's SCADA System. SFPP's existing SCADA system was installed between 1985 and 1989, and allows SFPP to operate and monitor its entire pipeline system from seven operation hubs and from the Orange Control Center for system-wide monitoring. The existing leak detection system is based on computerized surveillance of volumetric line balance and two parameter alarms: pressure and flow deviations. SFPP states that, under ideal conditions, this system can alert operators within one minute of a leak as small as 50 barrels per minute. Under less than ideal conditions, a leak of 50 barrels per hour could take two to three minutes to detect.

SFPP is planning to install a new SCADA system on its entire pipeline system, starting in mid-1998 and finishing by the end of 1999. The new system will have all pipeline monitoring and control in SFPP's Orange County Control Center. Other enhancements to the system include:

- Use of system-wide satellite communications and back-up frame-relay routing capabilities.

- Installation of an off-site strategic backup control center.
- Increase in data transmission rates from once per minute to once every 5 seconds (resulting in higher data resolution and as a result, better leak detection performance).

The leak detection system will consist of 3 components: (1) volumetric balance, (2) flow difference monitoring, and (3) pressure/flow monitoring. The system will be able to detect a leak as small as 1% of flow in an hour. At the maximum flow rate for the proposed pipeline of approximately 8,500 barrels per hour, this would result in the ability to detect a leak as small as 85 barrels per hour (or 1.4 barrels per minute).

The volumetric balance component of the SCADA system, in addition to using metered input and output volumes in its calculations, takes into account the changes in real pipeline conditions represented by net volume changes in pipeline capacity, calculated once per minute. The volumetric change is calculated and then rolled into six integration periods to determine system loss. Each integration period is compared against pre-defined limits so that when a violation of a limit occurs, the operator is alerted through an alarm.

Flow difference monitoring consists of checking for unexpected differences in pipeline flow. For each metered junction and delivery, flow is monitored to ensure that the expected volume is pushed in the appropriate direction. If the difference between the total flows into one measuring station minus the total flows leaving the previous station is greater than the established amount, an alarm is issued stating the amount of flow at each point and the location name. The amount of variation acceptable can be set for each station along the pipeline.

The third component of the SCADA system, pressure/flow monitoring, checks for rapid changes in the pressure and/or flow rate. Pressure and flow variation limits are configured for use in comparing the actual telemetered data with the expected values. Running averages are maintained for these sampled pressure and flow rate data over pre-defined periods of time. The system projects the next sample by calculating the slope of the current deviations using the period as the base and a configurable number of samples up to a maximum of 15. If the resultant value falls outside a pre-defined limit, a second check is performed after the next sample against a different pre-defined limit. If this limit is also violated, a pressure deviation alarm is generated.

If both pressure limits are violated, flow rate deviation processing begins and continues for the configured period of time. Flow rate deviations are calculated using the same technique as for pressure deviation. Flow rate processing only takes place when there is an active pressure violation.

Hydrocarbon Vapor Detection. SFPP also has hydrocarbon vapor detection systems at the Watson, Industry, and Colton Stations and is equipping remotely operated valves with such devices. These systems may detect small leaks that the SCADA system cannot detect. The hydrocarbon systems at Watson and Colton include separate systems of several sensors around the burner and manifold areas. The system at Industry has sensors placed around the entire site. No hydrocarbon vapor detection system is in place or planned at the Norwalk Station.

One Call System. SFPP subscribes to the Underground Service Alert “one call” system that provides a single toll-free number for contractors and individuals to call prior to digging in the vicinity of the pipeline. Additionally, as previously stated, a warning tape with the pipeline name will be buried approximately 18 inches above the pipeline.

B.5.2 SYSTEM INSPECTION AND MAINTENANCE

B.5.2.1 Visual Inspection

SFPP has stated that the pipeline route will be visually inspected at least twice each week by line rider patrol, more frequently than required by DOT requirements (49 CFR Part 195 requires visual inspection 26 times per year) to spot third-party construction or other factors that might threaten the integrity of the pipeline (Ferrer, 1998, pers. com.). Additionally, inspection of highway, utility, and pipeline crossing locations will be conducted in accordance with State and Federal regulations. Pipe protection level will be inspected annually at all test locations, quarterly at control points and more than quarterly at cathodic protection systems to ensure corrosion control. SFPP estimates that inspection of the proposed project will result in SFPP personnel traveling an additional 2,000 miles per year; however for purposes of impact analysis in this EIR, the annual mileage required by twice weekly inspections is assumed to be 7,500.

B.5.2.2 Pigging

Pigs or scrapers are devices inserted into the pipeline at pig launcher points and retrieved at receiving points called pig receivers or scraper traps. Pigs are used to clean and/or inspect the pipeline.

“Smart” pigs are devices used to inspect and record the condition of the pipe. Smart pigs detect where corrosion or other damage has affected the wall thickness or shape. SFPP will smart pig the line in accordance with DOT standards.

It is not normally necessary to run cleaning pigs in a refined products pipeline. SFPP has not experienced build-up problems or dirt problems that can occur in systems that carry crude oil. Scraper pigs are run as needed, in rare cases when dirty products get in the pipeline.

B.5.2.3 Hydrostatic Testing of Pipeline

Hydrostatic testing, as required by DOT, involves filling the pipeline with fresh water or other fluid and increasing the pressure by means of a pump equivalent to 125 percent of the maximum allowable operating pressure (MAOP) for a period of at least four hours. Following the four hour test the pressure would be reduced to 110 percent of MAOP and held for at least four additional hours. The test is performed to determine whether the pipe, fittings, and weld sections can maintain mechanical integrity without failure or leak under pressure.

After testing, the used water would be discharged into an existing sewer system or used in dust abatement. Discharge to any surface waters would only occur with approval and a permit from the Regional Water Quality Control Board.

B.5.2.4 Valve Inspection

Block valves are cycled and inspected twice annually, not to exceed seven months between inspections, to ensure proper operation (per 49 CFR 195.420).

B.5.2.5 Cathodic Protection System Testing

SFPP uses several procedures to monitor and test the effectiveness of the cathodic protection system installed on its pipelines. The cathodic protection system consists of power sources called rectifiers, buried anodes, and test stations along the pipeline. The rectifiers are checked weekly to ensure they are operating properly.

Quarterly, voltage and current readings are recorded for each rectifier and voltage readings at critical test stations are measured and recorded. Annually, voltage readings at all test stations are measured and recorded. If the data indicate that potential problem areas exist on the pipeline, voltage readings are taken all along the suspect areas using a technique called a close interval survey. Adjustments are made to the system, as required, when test data indicate that voltage levels are outside of the design limits.

B.5.3 EMERGENCY RESPONSE

An Oil Spill Response Plan (OSRP) has been prepared by SFPP for review and approval of appropriate federal, state, and local agencies (including Department of Fish and Game, Office of Spill Prevention and Response) (SFPP, 1995). The OSRP is required under state and federal regulations (SB 2040 and 40 CFR 300, the Hazardous Substances Pollution Contingency Plan). The OSRP provides a finalized list of emergency service providers. SFPP has also prepared an Emergency Response Plan to specify measure to be taken in emergency scenarios. These documents identify the responsible parties for the incident command and the supporting organizations/agencies. Normally, the fire department commander remains the incident commander until a unified commander is in place to assume responsibility for the incident.

Terminal and pump stations have fire fighting and other emergency equipment. Fire fighting equipment includes carbon dioxide and/or halon fire extinguishers inside the control rooms for electrical fires around panels and switch gear. Dry powder fire extinguishers are located in the station yard for hydrocarbon fires. Fire suppressant foaming agents (ATC concentrate) and related foam generation equipment are also onsite at manned facilities or readily available. Also, emergency call lists are posted at all stations, in case of accident, fire, or explosion.

SFPP has a contractual agreement with a regional spill response cooperative that would serve as the emergency response contractor with primary responsibility for containment, cleanup, and health and safety. The OSRP lists third-party contractors providing manpower and equipment such as vacuum trucks, boats, oil skimmers, absorbent and skirted booms, dump trucks, portable tanks, absorbent materials, dispersants, steam cleaners, hydroblasters, cranes, and forklifts. These contractors are located in the Los Angeles Harbor area. In addition, SFPP operations personnel are trained in the Incident Command System and oil spill containment and cleanup procedures. Local emergency response providers would be notified to assist in traffic control, evacuations of homes or businesses, crowd control, ambulance and hospital services, and backup fire protection services.

B.6 ABANDONMENT AND DECOMMISSIONING

SFPP states that the expected operational life of the pipeline is at least 50 years. This time is based on the expected economic obsolescence of the system. Current cathodic protection systems and internal inspection techniques can preserve the life of a refined petroleum pipeline for a longer time period.

The decommissioning process would be subject to appropriate local, state, and federal regulations enforced at the time of abandonment. As required by Federal and State laws, the pipeline operator will be liable for cleaning up and remediation of any potential contamination that could have resulted from the operation of the pipeline.

In the decommissioning process, the drained pipeline would be purged by sending squeegee cleaning pigs through the line driven by inert gas. The purged pipeline would be inspected to determine overall pipeline integrity. Once pipeline integrity has been established, the tie-in valves at all delivery points, receiving stations and pump stations would be sealed off and all block valves would be closed; check valves would be left intact. The purged, sealed pipeline would be filled with pressurized inert nitrogen gas and abandoned in place.

The abandoned pipeline could possibly be used for other purposes, for example as a wastewater conveyance or as a conduit for underground electrical utilities, cable TV, fiber-optic lines, telephone or data circuits.

B.7 ALTERNATIVES EVALUATION PROCESS

B.7.1 CEQA REQUIREMENTS FOR ALTERNATIVES

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a Proposed Project. In addition to mandating consideration of the No Project Alternative, CEQA Guidelines (Section 15126(d)) emphasize the selection of a reasonable range of technically feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision makers.

CEQA requires consideration of a range of alternatives to the project or project location that: (1) could feasibly attain most of the basic project objectives; and (2) would avoid or substantially lessen any of the significant impacts of the proposed project. An alternative cannot be eliminated simply because it is more costly or could impede the attainment of all project objectives to some degree. However, CEQA Guidelines declare that an EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote or speculative.

Unlike the National Environmental Policy Act (NEPA), CEQA does not require that discussion of alternatives be at the same level of detail as the proposed action. However, CEQA does require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project.

This screening analysis does not focus on relative economic factors of the alternatives (as long as they are feasible) since the CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may impede to some degree the attainment of project objectives or would be more costly. Likewise, the question of market demand is not considered. The Applicant has not requested a Certificate of Public Convenience and Necessity from the California Public Utilities

Commission (nor is one required under State law); therefore, market demand (i.e., need) for the crude oil and its refined products is not a factor in this screening evaluation.

B.7.2 ALTERNATIVES SCREENING METHODOLOGY

As described in the PEA Section 2.3.2, SFPP's goals in selecting the proposed route were (1) providing the shortest practical route to connect the Watson and Norwalk stations, (2) remaining in close proximity to existing SFPP pipelines in the area in order to reduce inspection and maintenance costs, (3) avoidance of narrow streets with limited space for construction, (4) use of wider, commercial/industrial avenues rather than residential streets based on the preferences of the jurisdictions in the vicinity of the pipeline route, (5) remaining in jurisdictions in which SFPP currently has facilities, and (6) passing adjacent to ARCO's Hynes Station between Paramount Boulevard and Cherry Avenue.

In an EIR, alternatives are evaluated in a screening process for two overall purposes: (1) to eliminate alternatives that do not conform to CEQA requirements; and (2) to distinguish alternatives to the project from other EIR elements (such as suggested mitigation measures).

Alternatives to the proposed project were selected based on the input from the public and local jurisdictions during the EIR scoping hearings. The alternatives screening process consisted of three steps:

Step 1: Define the alternatives to allow comparative evaluation

Step 2: Evaluate each alternative using the following criteria:

- Potential for reduction of significant impacts of the proposed project
- Technical and regulatory feasibility
- Consistency with SFPP's objectives and public policy objectives.

Step 3: Determine suitability of the proposed alternative for full analysis in the EIR. If the alternative is unsuitable, eliminate it from further consideration.

Feasible alternatives that did not clearly offer the potential to reduce significant environmental impacts and infeasible alternatives were removed from further analysis. In the final phase of the screening analysis, the environmental advantages and disadvantages of the remaining alternatives were carefully weighed with respect to potential for overall environmental advantage, technical feasibility, and consistency with project and public objectives. These criteria are discussed in the following sub-sections.

B.7.2.1 Project Objectives

Objectives of the proposed project are described in Section A.2.2. For this screening analysis, general project objectives were taken into consideration, including both SFPP's "private" objectives, and the "public" policy objectives of the CPUC and other agencies. The PEA includes a description of SFPP's "private" objectives for the proposed project. CEQA requires that objectives also be evaluated in terms of public policy goals, which are similar but not identical to those of SFPP. As stated above, CEQA does not require that alternatives meet all project objectives, but they should meet the primary objectives.

Table B.7-1 presents SFPP's objectives of the proposed Carson to Norwalk Pipeline Project, and the corresponding public policy objectives, if applicable.

Table B.7-1 Objectives of the Proposed Project

SFPP Objectives	General Public Policy Objectives
Primary Objectives	
<ul style="list-style-type: none"> • To expand capacity of a common carrier petroleum products pipeline to transport products from refineries in Los Angeles area to market areas in the southwest. • To offer economically feasible common carrier transportation service to producers who are already producing petroleum product based on current and projected market demands and current technical capabilities of these refineries • To route, design, construct and operate a state-of-the-art pipeline in full compliance with all local, state, and federal rules and regulations, in a manner which avoids or minimizes the impacts to the environmental resources to the maximum extent feasible, and poses no significant risks to the public health and welfare. • To reduce the potential need for tanker truck transportation of petroleum products from Los Angeles area refineries, in accordance with many governmental agencies policy that prefer the pipeline transportation mode over tankering. • To minimize routing and construction related disturbance to residential areas. 	<ul style="list-style-type: none"> • To provide common carrier pipeline capacity for petroleum products in response to increasing demand in the southwest U.S. • To approve construction and operation of a state-of-the-art pipeline that avoids or minimizes impacts to the environment, where feasible. • To utilize industrial corridors, where feasible, and minimize use of routes with residential homes or other sensitive land uses (e.g., schools, hospitals) • To maximize use of pipeline transportation over trucks or trains, because it is a safer mode of transporting petroleum products and produces fewer environmental impacts (especially with regard to air quality, noise, and traffic considerations) over the long-term.
Secondary Objectives	
<ul style="list-style-type: none"> • Access to ARCO Hynes Station (on Paramount Boulevard) for future tie-in by ARCO • To minimize the number of jurisdictions affected by the project. • To locate new facilities in the same jurisdiction and as close as possible to existing SFPP facilities. 	<p>[No public policy objectives]</p>

B.7.2.2 Significant Environmental Effects of the Proposed Project

If an alternative clearly does not provide any environmental advantages as compared to the proposed project, it is eliminated from further consideration. At the screening stage, it is not possible to evaluate potential impacts of the alternatives or the proposed project with absolute certainty. However, it is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them to general conditions of the subject area. In this alternatives analysis, a preliminary assessment of potential significant effects of the proposed project was completed, resulting in identification of the following impacts:

- Construction impacts (traffic, noise, air quality) on sensitive receptors, especially residential areas and schools.
- Potential for operational accidents (product spill, fire) to impact sensitive receptors, especially residential areas and schools.
- Potential for groundwater contamination resulting from a pipeline accident, especially adjacent to water well and reservoir on Studebaker Avenue.

These impacts were used as the basis for selection and evaluation of alternatives.

B.7.2.3 Feasibility

For the screening analysis, the technical and regulatory feasibility of various potential alternatives was assessed at a general level. Specific feasibility analyses are not needed for this purpose. The assessment of feasibility was directed toward reverse reason, that is, an attempt was made to identify anything about the alternative that would be infeasible on technical or regulatory grounds. For this proposed project, those issues relate to:

- Crossing of rivers and freeways (boring under major rivers or freeways requires an area for excavation on each side of the crossing).
- Availability of space in roads and railroad or utility corridors, and the likelihood of obtaining a right-of-way easement from these owners.
- CEQA does not require elimination of a potential alternative based on cost of construction and/or operation/maintenance.

B.7.3 SUMMARY OF SCREENING RESULTS

Alternatives identified by SFPP, local jurisdictions, and the public are listed in Table B.7-2 according to the determination made for analysis. Those listed in the first column have been eliminated from further consideration (see rationale in Section B.7.4), and those in the second column are evaluated in detail within each issue area of Part C of this EIR and described in Section B.8. Note that transport of products by truck and/or train is also considered as part of the No Project Alternative.

Table B.7-2 Summary of Alternative Screening Results

Alternatives Eliminated From Consideration	Alternatives Fully Evaluated in this EIR
<ul style="list-style-type: none"> • South Street Alternative • Alameda Street Alternative • Del Amo Boulevard Alternative • Downey and Flower Alternatives • SFPP's Alondra Alternative • Transmission Corridor Alternative • Compton/Excelsior Alternative • Port of Long Beach Railroad ROW • 91 Freeway ROW • Product Transport by Train or Truck • SFPP to Operate Existing Pipelines with Different Parameters • Use of Existing Edison Pipelines 	<ul style="list-style-type: none"> • No Project Alternative • Santa Fe Alternative • Cherry Alternative • Paramount Alternative • Alondra Alternative • Bellflower Rail Alternative • Artesia Alternative • Shoemaker Alternative

B.7.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The following discussions describe the alternatives eliminated from full EIR analysis and the basis for their elimination.

B.7.4.1 South Street Alternative

This alternative was suggested during scoping as a possible way to reduce impacts on the residential areas in Norwalk and the businesses on Artesia Boulevard. It would diverge from the proposed route by following South Street east past Paramount Boulevard, through the Cities of Lakewood, Cerritos, and Artesia. It would then turn north on Shoemaker, and west on Excelsior to the Norwalk Station. This route would avoid the

portions of the proposed pipeline on Artesia Boulevard, 166th Street, and Norwalk Boulevard. This route was rejected because it would traverse considerably more residential area than the proposed route (on South Street and the southern portion of Shoemaker), thus not providing the possibility of reducing or eliminating significant impacts of the proposed project.

B.7.4.2 Alameda Street Alternative

This alternative would utilize Alameda Boulevard north from Del Amo Boulevard in Rancho Dominguez (Los Angeles County), rather than Rancho Way and Laurel Park. It was considered because Alameda is an industrial corridor with no adjacent residential areas, and it would avoid construction near the Dominguez Hills and Del Amo Mobile Estates. This alternative was rejected as not being technically feasible primarily because of the Alameda Corridor Project. The Alameda Corridor Project is a multi-billion dollar rail-port transportation improvement project. Various phases of the Alameda Corridor project are currently under construction and construction of other phases will continue over the next several years. In addition, the Alameda Corridor already carries several major pipelines, and because it has been designated as the primary truck and rail route between the Los Angeles harbor and the major rail centers and industrial areas of Los Angeles, it is not considered a feasible route for the addition of a new pipeline.

B.7.4.3 Del Amo Boulevard Alternative

This alternative would follow Del Amo Boulevard east through Long Beach into Lakewood and then follow Paramount Boulevard northward. It would eliminate the Laurel Park, Rancho Way, Victoria, and South Street portions of the proposed route, allowing use of a more industrial and less residential route. This alternative was eliminated for the following reasons:

- Construction across the very congested I-710 Freeway area and the MTA Blue Line crossing would be technically difficult and would result in significant traffic impacts.
- The sub-structure below Del Amo Boulevard is very congested with existing pipelines between Wilmington Avenue and Atlantic Boulevard. According to California State Fire Marshal maps, portions of the following pipelines occupy Del Amo Boulevard, with all four lines in the street in some places:
 - ARCO Lines 80 and 90
 - SFPP 24-inch line
 - Powerline 8-inch line.

B.7.4.4 Downey/Flower Alternative

The use of Downey Boulevard (between Artesia and Alondra) and Flower Street (between Paramount and Lakewood) was considered in order to potentially reduce impacts of the proposed route along Artesia Boulevard. These streets were eliminated from consideration because they are primarily residential and include large schools. For these reasons, they would not offer environmental advantages in comparison to the proposed route.

B.7.4.5 SFPP's Alondra Alternative

SFPP, in its PEA, proposed an Alondra Alternative that would diverge from the proposed route by continuing north on Paramount Boulevard past Artesia, then would turn east on 68th Street (which becomes Park Street) to Lakewood Boulevard, where the route would turn north to Alondra Boulevard. It would follow Alondra east to Norwalk, where it would turn north to the Norwalk Station.

This alternative, as defined by SFPP, was eliminated because it did not reduce potential significant impacts of the proposed route. In particular, it included one segment (approximately one mile long, on 68th and Park Streets between Paramount and Lakewood) where sensitive land uses are heavily concentrated. This narrow, primarily residential street includes a large elementary school with lunch areas and playgrounds immediately adjacent to the street, numerous single family homes, and a large complex of mobile home residences that are immediately adjacent to the street.

A revised Alondra Alternative has been developed and is fully evaluated in this EIR (see Section B.8.4).

B.7.4.6 Transmission Corridor Alternative

This alternative would follow the proposed route after it is bored under the 710 Freeway into the Southern California Edison (SCE) electric transmission corridor that runs north-south between the freeway and the Los Angeles River. It would then stay in the SCE utility corridor for a total of 4 miles, following the utility corridor north for approximately 1.3 miles, passing under the 91 Freeway (either boring or following the existing Edison access road tunnel beneath the freeway). The transmission lines then turn east just above the 91 Freeway, so the pipeline would be bored under the LA River and stay in the east-west utility corridor that parallels the 91 Freeway (a few blocks north of the freeway) for another approximately 2.7 miles to Lakewood Boulevard. At Lakewood Boulevard, the east-west utility corridor ends, and the pipeline would return to city streets, following Lakewood Boulevard for about 0.6 miles north to Alondra Boulevard, turning east on Alondra to Norwalk Boulevard.

This alternative would reduce pipeline construction in city streets by approximately 4.3 miles, eliminating the need to construct on DeForest Avenue, South Street, Paramount Boulevard, and Artesia Boulevard. In addition, it would eliminate most of the potential safety concerns for the portion of the route within the utility right-of-way, because an accident in the utility corridor would be unlikely to affect people.

This alternative would not meet one of SFPP's objectives (considered in this evaluation to be a secondary objective): passing adjacent to ARCO's Hynes Station on Paramount Boulevard. However, given that SFPP's existing 24-inch line is already connected to ARCO's facility, it is likely that any product that ARCO would need to ship to Colton could be accommodated in this existing line. SFPP also indicated concerns regarding construction adjacent to high voltage electrical transmission lines because it could add an additional construction risk. However, there would be room in most of the corridor to install the pipeline without working directly below the transmission lines. Also, the construction risk in a transmission corridor is not considered to be significantly higher than that of constructing a pipeline in a heavily traveled city street such as Artesia Boulevard.

However, this alternative was eliminated from consideration because Edison stated that its corridor was not available for installation of a pipeline (G. Fairman, pers. com., 11/6/97). Edison's concern is that a buried pipeline would preclude use of a significant portion of its corridor because transmission towers (which require large concrete footings) could not be placed over the pipeline.

B.7.4.7 Compton/Somerset/Excelsior Alternative

This alternative would use Compton Boulevard, Somerset, and Excelsior as the east-west corridor for the pipeline, avoiding South Street, Paramount, Artesia, Studebaker, and 166th Street. It was evaluated to see if it could reduce impacts to residential areas (particularly on Studebaker and 166th Streets). However, these streets include at least as much residential land use as the proposed route, so it would not offer an environmental advantage over the proposed project, and was eliminated.

B.7.4.8 Railroad Right-of-Way

During scoping, it was suggested that SFPP consider use of two railroad rights-of-way (ROWs), the Port of Long Beach ROW (formerly Southern Pacific) and the MTA ROW (formerly Union Pacific). Use of a portion of the MTA ROW within the City of Bellflower is evaluated as an alternative to one segment of the proposed pipeline (see Section B.8.5). However, use of the Port of Long Beach (POLB) ROW was eliminated, for the reasons discussed below.

The POLB ROW runs in a northeasterly direction from Carson, crossing the Los Angeles River south of Del Amo Boulevard, crossing Del Amo just west of Atlantic, continuing northeast to Candlewood where it turns north and passes through the ARCO Hynes station (between Paramount and Cherry). This rail ROW was eliminated because there are several other pipelines already in various portions of the rail corridor, including the following:

- ARCO Lines 93 and 63
- ARCO/GATX line
- DFSP 10-inch jet fuel line
- SFPP 24-inch line (between Del Amo and Orange Blvds.).

B.7.4.9 91 Freeway Right-of-Way

During scoping, it was suggested that the east-west portion of the proposed pipeline be placed in the 91 Freeway right-of-way, rather than in Artesia Boulevard or other surface streets. This alternative was eliminated because Caltrans does not allow hazardous liquid pipelines in state highway rights-of-way.

B.7.4.10 Product Transport by Train or Tanker Truck

The transportation of petroleum products via pipeline is generally considered to be the safest means of transporting petroleum products when compared to either trucking or rail transportation. In addition to accident and spill frequency being lower (see Section C.11 for details), pipeline transportation provides the benefit of minimizing the connections and transfers required between a mobile unit (truck or rail car) and interim or ultimate on-land storage locations. In addition, both trucks and trains use diesel fuel and cause significant air emissions, and both contribute to regional traffic congestion. Therefore, while truck or train transportation would eliminate the construction impacts of the proposed project, the operational impacts (accidents, air quality and traffic impacts) would result in an overall environmental disadvantage in comparison to the proposed pipeline.

Use of trucks and trains is also more expensive than shipping products via pipeline. From SFPP's perspective, the principal disadvantage of pipeline transportation is the high initial capital cost of constructing a pipeline project. Once constructed, the operational costs and environmental effects of transporting petroleum products via pipeline are considerably less than the truck and rail transportation modes.

Note that, while truck and train transportation are not considered environmentally preferable to the proposed project, these modes of transportation are considered in the No Project Alternative scenario that describes options for transport of petroleum products if the proposed pipeline is not built (see Section B.9).

B.7.4.11 Use of Existing Edison Pipeline System

The use of existing underutilized Edison Pipeline and Terminal Company (EPTC) pipelines was considered, as this alternative could eliminate the need for construction of much of the proposed pipeline. EPTC operates

an extensive southern California pipeline system that was designed to provide fuel oil to Edison’s power plants throughout the region. Much of EPTC’s pipeline system capacity is not currently used since the Edison power plants now burn natural gas instead of fuel oil. Use of an existing and underutilized pipeline system as an alternative to the proposed project would require little new construction and no addition of a new potential risk to the communities between Carson and Norwalk. Also, it would save SFPP much of the cost of construction.

The relevant portions of the EPTC pipeline system start at the EPTC Dominguez Hills tank farm, follow Alameda Street south to the Texaco Refinery and then east through Signal Hill and Long Beach to Cypress, turning north on Moody and continuing up Carmenita to Santa Fe Springs. At this point, the EPTC pipeline is one-half mile from the existing SFPP 16-inch pipeline, and a connection could be constructed. Table B.7-3 shows the portions of five EPTC pipelines that could be used by SFPP, depending on their availability.

Table B.7-3 EPTC Lines Between Carson and Santa Fe Springs

EPTC Segment	Age of pipe	Miles	Diameter/Type of Pipe
SFPP Watson Station to EPTC Dominguez Hills tank farm	unknown	2 mi.	16"
Along Alameda Street (from Dominguez Hills to Long Beach)	1974 (24 yrs)	8.5 mi.	16"/5LX, 0.375"
El Real Pump Station (near Wilmington Blvd & Lomita) to Texaco Refinery	1968 (30 yrs)	1.2 mi.	16"/5LX-52, 0.375"
Texaco Refinery to EPTC’s Alnor Pump Station (in Cypress)	1968 (30 yrs)	13.2 mi.	16"/5LX-52, 0.312"
Alnor Station, north on Moody/Carmenita to an appropriate location to join SFPP’s 16-inch Military Line ^a	1962 (36 yrs)	up to 14.5 mi.	12"/5LX-52, 0.281"

^a The Military Line, on Shoemaker from Excelsior to Imperial Highway, parallels the EPTC line on Carmenita (0.5 miles apart), for 2 miles, and then crosses it at the corner of Carmenita and Leffingwell.

While this alternative offers a significant environmental advantage in that minimal new construction would be required, it was eliminated from consideration for the following reasons:

- A portion of the EPTC system is only 12-inches in diameter, allowing a maximum throughput of roughly half of that required by SFPP.
- EPTC’s pipelines range in age from 24 to 36 years old, so there is a concern about the condition of the existing pipelines and associated equipment.
- EPTC is required by the CPUC to maintain the ability to ship fuel oil through the system if there is an emergency where natural gas is not available. This would be expected to occur only rarely, but it would prevent SFPP from having a system available to them 100% of the time.

B.7.4.12 SFPP to Expand Use of Existing Pipelines by Using Different Operating Parameters

If SFPP operated its existing pipelines in a different manner, it is possible that such operation could result in increased throughput through these pipelines. Such operation could eliminate the need for the new pipeline, at least for several more years. Operating information was gathered from SFPP to allow evaluation of two scenarios:

1. Increase throughput in existing 24-inch pipeline between Carson and Norwalk by increasing pumping pressure; split product flow between 16-inch Military Line and 20/24-inch Phoenix West Line at Norwalk or at Industry.
2. Increase throughput in the 16-inch South Line between Carson and Norwalk by replacing the valves and flanges that limit pressure in the line; transfer batches at Norwalk to either (or both) of the existing pipelines to Colton.

The following paragraphs explain why these options were not pursued as alternatives in this EIR.

Option 1. SFPP confirmed that it is technically feasible to increase the throughput of the existing 24-inch line from its existing 350,000 BPD to a total of almost 520,000 BPD, to carry nearly the whole volume of the proposed pipeline, in addition to its current volume. However, this scenario would cause operational problems east of Norwalk. This scenario would not allow full utilization of the underutilized 16-inch Military Line, and it would require either splitting of batches at Norwalk or Industry. Batch splitting would be operationally difficult, because of the wide variety of products that SFPP ships and the relatively small batch sizes. Because of the different pipeline diameters, product from split batches would arrive in Colton at different times. The entire amount of product from Carson could not be kept in the 24-inch pipeline because that line is reduced to a 20-inch line west of the Industry Station, and it could not accommodate the larger volume of product.

Option 2. The South Line, which carries products to the Orange County and San Diego areas, is operating at nearly 80% of capacity. Therefore, it could only carry a small fraction of the throughput required for this project. Also, even if it were used only for that small amount, the transfer of product from the South Line to the Military Line at Norwalk would be operationally difficult, requiring switching of batches from one line to the other.

B.8 ROUTE ALTERNATIVES FULLY ANALYZED IN THIS EIR

Alternative route segments have been identified for five segments of the proposed pipeline. The seven alternative pipeline segments are listed in Table B.8-1 below and resulted from the screening analysis described in Section B.7.

Table B.8-1 Proposed and Alternative Pipeline Segments

	Proposed Route Segment	Miles	Alternative Route Segments: Name & Description	Miles
A	Del Amo (E) - Rancho Way (N) - Laurel Park (N)	1.2	none	0
B	Laurel Park (N) - East across MTA tracks (@ Victoria) & Compton Creek to corner of Santa Fe & Victoria	0.8	Santa Fe Alternative Segment East from Laurel Park (at a point about 1500 feet north of its junction with Rancho Way); east (under Alameda Street, East Alameda, and railroad tracks) into Santa Fe Avenue. Northeast on Santa Fe across Compton Creek to corner of Victoria	0.6
C	Victoria & Santa Fe (E) - Gordon St. - White Ave. - bore under LA River - DeForest Ave (S) - South Street (E) to Cherry Avenue	2.7	none	0

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	Proposed Route Segment	Miles	Alternative Route Segments: Name & Description	Miles
D	South Street (E) from Cherry - Paramount (N) to Artesia	1.5	Cherry Alternative Segment Cherry (N) from South Street; Artesia (E) to Paramount Blvd.	1.5
			Paramount Alternative Segment Cherry/Garfield (N) from Artesia; Alondra Blvd. (E) to Lakewood Blvd.	2.5
E	Artesia (E) from Paramount to Studebaker (N) to 166th (E) to Norwalk Blvd. (N) to corner of Norwalk and Alondra	3.5	Alondra Alternative Segment Lakewood Blvd (N) from Artesia; Alondra (E) from Lakewood to corner of Alondra & Norwalk	4.0
			Bellflower Rail Alternative Segment Lakewood Blvd (N) from Artesia; railroad ROW (just south of Compton/Somerset) southeast to Artesia Blvd.	4.2
			Artesia Alternative Segment Artesia (E) from Studebaker - Norwalk Blvd. (N) to corner of Alondra & Norwalk	2.0
F	Norwalk Blvd (N) from Alondra to DFSP Norwalk entrance; new pipe into DFSP station	0.6	Shoemaker Alternative Segment Alondra Blvd (E) from Norwalk - Shoemaker (N) to corner of Excelsior	1.5
		12.9		16.3

These alternatives are considered in this document for full analysis so that they can be compared to the proposed project. Figure B.3-1 shows generally where these alternatives are located; detailed maps of the proposed and alternative routes are presented at the end of Section B (Map 1 through Map 4). The following sections describe the seven alternative segments:

- | | | | |
|-------|-------------------------------|-------|-------------------------------|
| B.8.1 | Santa Fe Alternative Segment | B.8.5 | Bellflower Rail Alternative |
| B.8.2 | Cherry Alternative Segment | B.8.6 | Artesia Alternative Segment |
| B.8.3 | Paramount Alternative Segment | B.8.7 | Shoemaker Alternative Segment |
| B.8.4 | Alondra Alternative Segment | | |

It should be noted that each of these alternatives shares some portion of the proposed project’s route; each would be a combination of the proposed route with an alternative route segment. Therefore, when the impacts of each alternative are compared to those of the proposed project, only the appropriate segment of the proposed project (that would be replaced by the alternative segment) will be compared.

Each alternative would utilize the same type of pipe and construction methods as identified for the proposed project (described in Section B.4).

B.8.1 SANTA FE ALTERNATIVE SEGMENT

The Santa Fe Alternative is a 0.6-mile alternative in the Rancho Dominguez area of Los Angeles County at the western end of the proposed pipeline (see Map 1 at the end of Section B). This alternative would replace the Laurel Park portion of the proposed route, eliminating construction impacts adjacent to the Del Amo Mobile Estates, the Dominguez Adobe, and Dominguez Seminaries. This route would result in the crossing of Compton Creek about 0.3 miles south of the proposed route (at the same location as the existing SFPP 16-inch pipeline). It would re-join the proposed route at the corner of Victoria Street and Santa Fe Avenue.

River Crossing. This short alternative segment would not differ from the proposed route at the crossings of either the Los Angeles or San Gabriel Rivers. It would cross Compton Creek using the same method as the proposed route, by trenching.

B.8.2 CHERRY ALTERNATIVE SEGMENT

This 1.5 mile long segment would diverge from the proposed route by turning north on Cherry Avenue from South Street, then east on Artesia Boulevard to re-join the proposed route at Artesia and Paramount (see Map 2 at the end of Section B). The Cherry Alternative Segment would eliminate construction on South Street (between Cherry and Paramount) and no construction would occur on Paramount. This alternative is being considered primarily because of the long-term and continuing construction related to the new rail overcrossing on South Street between Cherry and Paramount, which has been disruptive to businesses for a long period of time. No river crossings would be involved. Cherry Avenue is similar in character to Paramount (i.e., primarily industrial).

B.8.3 PARAMOUNT ALTERNATIVE SEGMENT

This 2.5 mile long segment would diverge from the Cherry Alternative segment by continuing north on Cherry/Garfield Avenues for 1 mile to Alondra Boulevard, then turning east on Alondra for 1.5 miles (under the rail overpass) to Lakewood Boulevard. At this point, this segment would join the Alondra Alternative segment (see Map 2 at the end of Section B).

This route, in combination with the Alondra or Bellflower Rail Alternative segments, would allow consideration of an alternative that would eliminate all construction on Artesia Boulevard, which is used as a primary alternative route to the 91 Freeway during commuter hours. Also, Artesia Boulevard includes several sensitive receptors between Paramount and Lakewood, and several major businesses. No river crossings would be involved. This route segment would be primarily located within the City of Paramount. Land uses are primarily industrial and commercial, with a few single- and multi-family residential units.

B.8.4 ALONDRA ALTERNATIVE SEGMENT

The Alondra Alternative is an approximately four-mile alternative route in the central portion of the proposed pipeline route, through the Cities of Bellflower and Norwalk (see Map 3 at the end of Section B). It would diverge from the proposed route by turning north from Artesia Boulevard on Lakewood Boulevard, then east on Alondra Boulevard to Norwalk Boulevard, where it would re-join the proposed pipeline route. This alternative is being evaluated for the following reasons:

- It would avoid passing adjacent to a City of Cerritos water supply reservoir and water well (on Studebaker Road north of Artesia, in the City of Cerritos).

- This route avoids the portion of the proposed route on 166th Street, which is primarily single family residential housing. Alondra Boulevard in the same route portion is a wider street with more mixed land uses.
- This route allows comparison of Alondra and Artesia Boulevards as the primary east-west corridor for the pipeline between Lakewood Boulevard and Norwalk Boulevard.
- This route would avoid construction along Artesia Boulevard and Studebaker Road, where the roads have been recently resurfaced. The local jurisdictions suggested that resurfacing after construction on Alondra would be beneficial and less costly to SFPP than resurfacing streets that have recently been resurfaced.

River Crossing. The Alondra Alternative is the same as the proposed route at the crossings of Compton Creek and the Los Angeles River; therefore those crossings would not differ from the proposed project. The Alondra Alternative would cross the San Gabriel River either by boring or on the Alondra Boulevard bridge over the river. SFPP states in the PEA Amendment that the bridge crossing is considered viable at this time; however, SFPP would bore the pipeline below the river if SFPP determines that the maintenance costs associated with hanging on the bridge are significantly greater than the cost of boring. The Alondra bridge has five other pipelines currently hung from the bridge: three Chevron pipelines, one Powerline pipeline, and one other line.

SFPP has stated that there may not be adequate room for boring at the San Gabriel River crossing of Alondra Boulevard. If bored, the bore pit would be located on the west side of the San Gabriel River, within the flood control channel right-of-way, and south of Alondra Boulevard. The exit pit would be located just south of Alondra and immediately east of the levee wall.

B.8.5 BELLFLOWER RAIL ALTERNATIVE SEGMENT

This route segment would diverge from the proposed route (and from the Cherry and Paramount Alternative segments) by turning north on Lakewood Boulevard for 1.8 miles from Artesia Boulevard to the MTA rail ROW, where the route would turn southeast. The pipeline would be installed in the 100-foot wide rail ROW, at least 10 feet away from the existing tracks, for 2.4 miles until the rail ROW reached Artesia Boulevard. The existing railroad tracks may be removed in the future to allow development of bicycle and equestrian trails in the rail ROW. At that point, the pipeline would turn back into Artesia Boulevard. Map 3 (at the end of Section B) illustrates the route of this alternative segment. The rail ROW crosses Artesia Boulevard at grade, so construction at that junction would not be difficult.

Land uses along the rail ROW are about half single-family residential and half commercial. Half of the residences that are near the rail ROW are located on the other side of the frontage road (Flora Vista); the other half of the residences have their back yards (fences or walls) adjoining the rail ROW. One school, Adventist Union, is located across Flora Vista from the rail ROW.

Construction in the rail ROW would proceed at between 800 and 1000 feet per day, as compared to between 200 and 500 feet per day in city streets. Therefore, even with the longer overall route (4.2 miles versus 2.4 miles on the proposed route), construction would take approximately the same amount of time.

River Crossing. This alternative segment would involve a crossing of the San Gabriel River. While there is an existing railroad bridge over the river, it may not be structurally sound enough to hold the 16-inch pipeline. Therefore, this crossing would be bored, and both bore pits would be located in the rail ROW.

The Bellflower Rail Alternative segment is being considered for the following reasons:

- Use of this alternative segment would eliminate construction impacts on Artesia Boulevard through most of the City of Bellflower, between Lakewood and the 605 Freeway.
- There are fewer residences and sensitive receptors along the rail ROW than along Artesia Boulevard
- There are no other underground utilities in the rail ROW, and construction would proceed at a much faster rate than in city streets.

B.8.6 ARTESIA ALTERNATIVE SEGMENT

This segment would diverge from the proposed route by staying on Artesia Boulevard where the proposed route turns north on Studebaker. This alternative route would continue east of Artesia Boulevard to Norwalk Boulevard, turning north on Norwalk to the Norwalk Station (see Map 3 at the end of Section B). It includes no river crossings, and is being considered for the following reasons:

- It would avoid the City of Cerritos' water supply reservoir and water well (on Studebaker Road north of Artesia, in the City of Bellflower).
- This route avoids the portion of the proposed route on 166th Street which is primarily single family residential housing. Artesia Boulevard in the same route portion is a wider street with more mixed land uses.

B.8.7 SHOEMAKER ALTERNATIVE SEGMENT

During scoping, it was suggested that the proposed pipeline connect to SFPP's existing 16-inch pipeline at a location east of the Norwalk Station (rather than within the existing station), to minimize additional disturbance and eliminate the potential for spills or leaks from the new pipeline to affect the residences immediately surrounding the station. The resulting alternative segment is approximately 1.5 miles long, and would add about 0.9 miles to the total length of the proposed pipeline within the City of Norwalk. It would diverge from either the proposed route or the Alondra Alternative by turning (or continuing) east on Alondra Boulevard from the corner of Norwalk Boulevard, then turning north on Shoemaker Avenue (see Map 4 at the end of Section B).

This segment would connect with the existing 16-inch line near the corner of Shoemaker and Excelsior, nearly a mile east of the Norwalk Tank Farm and SFPP's existing Norwalk Station (see Map 4 at the end of Section B). The existing 16-inch pipeline runs below Excelsior Drive to the corner of Excelsior and Shoemaker, where it turns north on Shoemaker. The connection between the new and existing lines could be made at a block valve just north of Excelsior and immediately west of Shoemaker, adjacent to the trucking yard (SFPP would have to lease or purchase a small piece land for this purpose).

This alternative would have no waterway crossings. It is considered to have the potential to eliminate significant effects of the proposed route in the following ways:

- Construction would not occur on Norwalk Boulevard north of Alondra, nor would it occur within the Norwalk Station itself. Norwalk Boulevard between Alondra and Excelsior is relatively narrow four-lane street, bounded by single-family residential homes. Land uses along Shoemaker and Alondra east of Bloomfield are industrial; the western portion of Alondra (between Norwalk and Bloomfield) includes single- and multi-family residential homes and commercial facilities. However, Alondra is significantly wider than Norwalk, has a center divider, and frontage roads separate many of the homes from the main portion of the street.
- This segment would eliminate the possibility that the new pipeline could leak or spill in the vicinity of the Norwalk Station, which is currently the site of a major clean-up operation due to past petroleum product spills at the location. This contamination is the subject of significant concern within the City of Norwalk, and several homeowners near the station are members of the Restoration Advisory Board (RAB) (see additional discussion in Section C.4, Environmental Contamination). In addition, SFPP is discussing closure of this facility with the Department of Defense and the City of Norwalk.

B.9 NO PROJECT ALTERNATIVE

CEQA requires analysis of the No Project Alternative, which is to include consideration of (a) existing conditions and (b) reasonably foreseeable future conditions that would exist if the proposed project were not approved [CEQA Guidelines Sec. 15126(d)(4)]. Under the No Project Alternative, the proposed project would not be built. Other forms of product transportation would have to be utilized increasingly as demand grows, including the use of existing pipeline capacity, and truck and rail transport. The No Project Alternative represents projects which are currently in place and in operation, as well as projects that could reasonably be expected to start operating during the next several years.

Current SFPP Product Shipment. Table B.9-1 illustrates the total 1996/1997 shipment of petroleum products by SFPP to the three market areas to be served by SFPP’s proposed project. As shown by this table, SFPP currently serves between 60% and 95% of the need for petroleum products in these three areas.

Expected Growth in Demand for Petroleum Products. SFPP proposed the Carson to Norwalk Pipeline Project in response to forecasted growth in product consumption rates for the Phoenix, Tucson, and Las Vegas areas, as well as for Riverside and the Imperial Valley. SFPP’s projections indicate particularly substantial growth in the Arizona and Nevada markets, requiring increased product shipments to SFPP’s Colton Station for distribution to those markets.

Table B.9-1 Existing Product Shipped by SFPP to Relevant Markets *

Market	SFPP Shipment	Method of Shipment	% of Total	Shipped by Others	Method of Shipment	% of Total
Colton/Inland Empire	87,000 BPD	via truck from Colton Terminal to destinations**	80%	21,800 BPD	trucked from LA refineries	20%
Las Vegas & Southern Nevada	106,000 BPD	via CalNev pipeline	95%	5,600 BPD	trucked from LA refineries?	5%

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Phoenix/ Southern Arizona	128,000 BPD	via SFPP pipeline from Colton	60%	68,700 BPD	SFPP pipelines from El Paso	30%
				21,900 BPD	trucked from CalNev (Las Vegas) or Giant Refinery (NM)	10%

* Source: Letter dated October 2, 1997 from D. Cornman, SFPP to M. Chavez, CPUC.

** Trucking is by the refiners/distributors of products, not by SFPP.

SFPP states that attempting to define future product shortfalls to market areas is speculative because the actual shortfall by market area is subject to the requirements and business strategies of the individual shipper (i.e., an oil company such as Shell, ARCO, or Chevron). When shipping demand exceeds pipeline capacity on a common carrier line, shipments of each shipper are reduced on a pro-rated basis to the capacity of the line. With the constant changing of market strategies, both by major oil companies and independents, it is difficult to predict future supply and demand. However, SFPP estimated an annual increase factor for product demand which has been projected over the next four years, and for the year 2015 in Table B.9-2.

Table B.9-2 Anticipated Demand for Petroleum Products

	Annual Projected Increase (%)	1998	1999	2000	2001	2015
Colton/Inland Empire	2.5	89.4	91.6	93.9	96.3	136
Phoenix/Southern Arizona	2.5	131.1	134.4	137.7	141.2	200
Las Vegas/Southern Nevada	3.0	109.5	112.2	115.0	117.9	178
Total		330.0	338.2	346.6	355.4	514

In this table, the year in which demand reaches SFPP's new capacity with the proposed pipeline is about 2015. Table B.9-3 shows the current methods and volumes of petroleum product supply to the three market areas.

No Project Alternative Components. It is difficult to develop a single scenario predicting the distribution of petroleum products in the absence of SFPP's proposed project. A wide range of decisions could be made by shippers (i.e., oil companies) and by SFPP (as the primary transporter of refined products in the region) about which destinations would have priority for receiving product via pipeline. SFPP would not be constructing its proposed new pipeline under this scenario, and it is assumed that no other new pipeline would be built since none are currently proposed. Therefore, this scenario is based on operation of existing pipelines, trucks, and trains to respond to expected demand.

Table B.9-3 Supply of Petroleum Products*

Area	Existing Pipelines Serving Area			Existing Trucks Serving Area	
	Name	Max. Capacity	SFPP 96/97 Avg. Delivery		Average Available Capacity
Colton/ Inland Empire	Military Line (16") West Line (20/24")	350	321	29	87 MBD
Phoenix/ Southern Arizona	Phoenix-West (SFPP)	200	128	72	22 MBD
	El Paso Lines (SFPP)	95	69	26	

Las Vegas/ Southern Nevada	CalNev**	106	106	0	5 MBD
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* All volumes in MBD

** CalNev is not owned by SFPP but is shown here because SFPP is its only supplier of products for shipment to Nevada

Existing methods of petroleum product distribution that could be used include the following:

- **SFPP’s existing 24-inch pipeline between Carson and Norwalk:** This pipeline has a current capacity of 350,000 BPD. SFPP could increase the throughput in this pipeline by adding pumps at the Watson Station and line splitters at Norwalk. These modifications are feasible, but would cause operational and scheduling complications for SFPP (as described in Section C.7.3.11). While SFPP could opt to expand this pipeline system if the proposed Carson to Norwalk Pipeline is not constructed, this option is not considered as part of the No Project Scenario because it would require construction (thus is not part of baseline conditions).
- **Trucks:** Chevron currently uses trucks to carry product from its El Segundo refinery to Inland Empire markets (although until recently Chevron shipped products to Colton via SFPP’s pipelines). Other refiners could also carry product to retailers by truck if pipeline capacity were not available. As previously noted, each truck can carry about 180 barrels of product, so for every 10,000 barrels of product not shipped an additional 56 trucks would be required to drive (round-trip) from Los Angeles refineries to retail destinations. This method is more expensive than pipeline shipment of products (after the initial capital cost of construction), but it does offer flexibility to the shipper. Trucking is considered to be the most likely method of product transportation if the proposed SFPP pipeline is not completed.
- **Trains:** Unocal currently operates a “unit train” daily between Mojave (Kern County) and the GATX terminal in Carson to bring crude oil from Kern County to the refining center in Los Angeles. After unloading crude oil in Carson, the empty train returns each day to Mojave, passing immediately adjacent to SFPP’s Colton Terminal in the Colton rail yard. While train transport of refined products is feasible (and is currently being used in Montana as an interim measure while construction of a new pipeline is being considered), this would require some capital investment, including construction of a train unloading facility in Colton and pipelines to the adjacent CalNev or SFPP pump stations. Therefore, trains were not considered in the No Project scenarios described below.
- **Other existing pipelines:** Could be modified to send product to Norwalk or Colton (e.g., EPTC system, ARCO lines). However, no other operators are known to have plans to ship products, and probably no single pipeline could carry the entire 200,000 BPD proposed by SFPP. Therefore, other California pipelines were not considered in the scenario described below.

The scenario considered most likely to occur is described below.

No Project Alternative Scenario

Given the relatively high cost of transporting product by truck, especially over long distances, the most likely scenario for distribution of petroleum products if the proposed project were not constructed would involve SFPP serving the more distant markets, to the extent possible, via existing pipelines. The closer markets (Inland Empire, southern California) would most likely be served by truck from Los Angeles refineries. If the proposed project were constructed, these markets would be served by truck from Colton.

In the No Project Scenario, summarized in Table B.9-4, the three markets ultimately served by SFPP’s proposed new pipeline would probably be served as described below.

Las Vegas/Southern Nevada: Via the CalNev pipeline, Las Vegas would continue to receive its current level of 106,000 BPD. There are no current public plans by CalNev to expand its pipeline system to the 158,000 BPD that SFPP projects for Las Vegas demand, and such a proposal would require construction of a new pipeline between Colton and Las Vegas (requiring an estimated three- to five-year timeframe for environmental review and construction). This scenario would result in a shortfall in product to Las Vegas of approximately 52,000 BPD, which would be served by truck from Colton (a shorter distance than trucking from Los Angeles refineries). This would result in 289 truck trips per day, with an average distance of 600 miles per round trip (it is assumed that the trucks would return to Colton empty).

Table B.9-4 No Project Alternative Scenario

		Inland Empire	Phoenix	Las Vegas
Ultimate Demand in Area		133,000 BPD	200,000 BPD	158,000 BPD
Arriving Colton via Existing Pipeline		44,000 BPD	200,000 BPD	106,000 BPD
Leaving Colton via Existing Pipeline ^a		0	200,000 BPD	106,000 BPD
Leaving Colton via Truck	Volume	44,000 BPD	0	52,000 BPD
	# Trucks per day	(244 trucks per day)	0	289 ^c
Leaving LA via Truck	Volume	89,000 BPD	0	0
	# Trucks per day	494 ^b	0	0

^a Phoenix-West or CalNev pipelines

^b Truck trips (assuming 180 bbl/truck) would be from Los Angeles to Inland Empire; average trip 170 miles round trip

^c Truck trips from Los Angeles to Las Vegas; average trip 600 miles round trip

Phoenix/Southern Arizona: Via the Phoenix-West pipeline, Phoenix would receive its full projected future demand level of 200,000 BPD, because the existing pipeline has the capacity to meet that demand. Because SFPP owns the Phoenix-West line, it is logical to expect them to fill that line as demand increases in Phoenix, because SFPP will make more money by shipping product to Phoenix than to Colton. Therefore, in this scenario there would be no shortfall in shipments to Phoenix.

Inland Empire (via truck from Colton Terminal): This area would receive products at the level of the remaining SFPP pipeline capacity: 44,000 BPD. The shortfall in Inland Empire supply would be 89,000 BPD (or 494 additional trucks per day traveling in each direction from Los Angeles refineries). It should be noted that in 1996, trucks carried 87,000 BPD (483 trucks) from the Colton Terminal to Inland Empire/Southern California destinations; this level of trucking is considered to be the baseline condition.

Trucking Product Breakdown. The product that would be trucked in the No Project scenario is assumed to have the following parameters:

- Product shipped by truck: 66% gasoline and 34% diesel fuel (all jet fuel transported by pipeline)
- Inland Empire/Southern California destinations (494 trucks per day):

- Los Angeles refineries to Riverside and San Bernardino: 80% of trips, or 155 trucks per day at an average of 140 miles per round trip
- Los Angeles refineries to other (more distant) California areas (e.g., Palm Springs, Blythe, Barstow, Bishop, Escondido): 20% of the truck trips (that would have been served from Colton), or 39 truck trips per day, at an average of 300 miles per round trip
- Las Vegas/Southern Nevada destinations would be served by 289 trucks at 460 miles per round trip (Colton to Las Vegas).

B.10 CUMULATIVE SCENARIO

The cumulative scenario consists of projects that are reasonably foreseeable and that would be constructed or operated during the life of the project. Table B.10-1 lists the various projects comprising the cumulative scenario.

The cumulative projects do not include existing projects that are completed or in operation, with the exception of existing projects that will have increased activities over the baseline time period. Existing projects are included as part of the environmental setting for individual issue areas and analyzed in Part C. The cumulative projects considered for this study are presented by jurisdiction, with their approximate geographic locations. Figure B.10-1 is a map showing the location of each of the projects listed in this section.

The criteria for selection of cumulative projects includes a range of project types from small single family housing developments and road improvements to large commercial developments and rail and highway projects. Proposed and pending projects are presented that would have at least some portion of their area within one mile (on either side) of the centerline of the proposed pipeline route. For large projects such as multi-unit commercial developments, a ten mile corridor was used.

Table B.10-1 Cumulative Scenario - Approved and Pending Projects for the Proposed Route and Alternatives

Site No.	Project	Project Type	Project Location	Project Size	Proximity	Permitting Status/Schedule
REGIONAL PROJECTS						
1	Alameda Corridor Project (Joint Power Authority - Alameda Consolidated Transportation Authority)	Underground rail system, elevated mass transit, redesigned automobile surface facilities from 24th Street to L.A. Harbor (EIR has been certified).	Link LA Harbor area to inland rail and freeway network. Facilitate efficient movement of freight with minimal impact on surface traffic and infrastructure	Linear (north from Port of LA/LB)	Proposed project route and Santa Fe Alternative cross Alameda north of Del Amo Boulevard	Under construction: 1994-1999
CALTRANS PROJECT						
2	Lakewood Blvd. resurface and traffic signal upgrade (1999)	Road improvement	N - S border to border		Lakewood Boulevard crosses the proposed route at Artesia Boulevard, and the Alondra Boulevard alternative between Park Street and Alondra Boulevard	Commence, 1998-1999
CITY OF CARSON						
3	Chemical Distribution Facility	Conditional use permit to construct and operate	20915 S. Wilmington, south of Del Amo	10 acres	South of Watson Station; adjacent to southern station boundary	Currently under construction
4	Asphalt and Concrete Batch Plant	Conditional use permit to construct and operate	2111 E. Dominguez, east of Wilmington	11 acres	Approximately 2,640 feet south of Del Amo Boulevard/proposed route	Denied by Planning Commission and currently under appeal to the City Council
CITY OF LONG BEACH						
5	Concrete Batch Plant	Construct and operate plant	5860 Paramount		Proposed route, north of South Street	To Planning Commission Nov 6, 1997
6	ARCO AM/PM Mini-Mart	Construct and operate	6050 Long Beach Blvd.	n/a	North of Victoria Street/proposed route	To Planning Commission Nov 6, 1997
7	Railroad Overpass	Railroad bridge	South Street and Cherry	n/a	Proposed route would cross the rail ROW and pass under railroad overpass	Under construction
8	Undergrounding of Utilities	Utility	South Street, between Cherry and Paramount	n/a	Proposed route would cross under the utilities	Approved
CITY OF BELLFLOWER						
9	12 Single Family Homes	Subdivision	14601 Cerritos Ave.		North of Compton Boulevard, approximately 4,000 feet north of the Alondra Boulevard alternative	Grading underway
10	New Industrial Building	Construct and operate	9844 Artesia Blvd.	8,121 s.f.	Artesia Boulevard/proposed route, between Bellflower Boulevard and Woodruff Avenue	Approved, awaiting plan check

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Site No.	Project	Project Type	Project Location	Project Size	Proximity	Permitting Status/Schedule
11	4 Single Family Homes	Subdivision	9901 Rose Street		Approximately 1,320 feet south of Artesia Boulevard/proposed route, west of Woodruff Avenue	Approved, awaiting final map
12	New Church	Construct and operate	10577 Alondra Blvd.	8,200 s.f.	Alondra Boulevard/Alondra Boulevard alternative, west of the San Gabriel River	Not approved, awaiting submittal for public hearing
13	5 Single Family Homes	Subdivision	8727 Ramona Street.	n/a	Approximately 700 feet south of Artesia Boulevard/proposed route, west of Lakewood Boulevard	Approved, awaiting revised plans
14	Alondra Median Project (Spring 1998)	Road improvement	West City border to Lakewood	n/a	Alondra Bl., between Hayter Avenue and Lakewood Bl., west of Alondra Bl. alternative	Commence Spring 1998
15	Alondra Resurface Project (Spring 1998)	Road improvement	West City limit to Woodruff Ave.	n/a	Within the Alondra Boulevard alternative route from Lakewood Boulevard to Woodruff Avenue	Commence Spring, 1998
16	Removal of Rail Road Grade Crossings	Rail road construction	West Santa Ana Branch Railroad Tracks	n/a	Rail Road ROW crosses the Alondra Boulevard alternative route on Alondra Boulevard east of Clark Avenue	Expected to be completed 1998-1999
17	Bicycle and Pedestrian Trail and Park	Recreation/transportation	Along ROW for West Santa Ana Branch RR	n/a	Rail Road ROW crosses the Alondra Boulevard alternative route on Alondra Boulevard east of Clark Avenue	No completion date set
CITY OF CERRITOS						
18	Bicycle and Pedestrian Trail and Park	Recreation/transportation	Along ROW for West Santa Ana Branch RR	n/a	Rail Road ROW crosses the proposed route on Artesia Boulevard west of the 605 freeway	No completion date set
19	Removal of Rail Road Grade Crossings	Transportation	West Santa Ana Branch Railroad Tracks	n/a	Rail Road ROW crosses the proposed route on Artesia Boulevard west of the 605 freeway	Expected to be completed 1998-1999
CITY OF NORWALK						
20	Removal of DFSP Norwalk Tank Farm	Industrial	SE corner of Norwalk Blvd. and Excelsior	n/a	At Norwalk Station	Not yet approved by DOD; estimated completion 2001 - 2003
CITY OF LAKEWOOD						
21	Ground Water Monitoring Well	Monitoring well at City-owned water well/reservoir site	3310 Candlewood Street	n/a	3,500 feet southeast of South Street Paramount Boulevard/proposed route	Under construction

B. PROJECT AND ALTERNATIVES DESCRIPTION

Site No.	Project	Project Type	Project Location	Project Size	Proximity	Permitting Status/Schedule
22	Drive-Thru Pharmacy	Walgreen's Pharmacy	3500 South Street	1,900 s.f.	2,700 feet east of South Street and Paramount Boulevard/proposed route	Approved by Development Review Board
CITY OF PARAMOUNT						
CITY OF ARTESIA						
23	Resurfacing of Pioneer Blvd.	Street Improvement	Pioneer Blvd.	n/a	Crosses the proposed route at 166th Street and the Alondra Boulevard alternative route at Alondra Boulevard	Beginning of 1998
24	Resurfacing of Norwalk Blvd.	Street Improvement	Norwalk Blvd.	n/a	Proposed route from 166th Street to the Norwalk Station entrance; Alondra Boulevard alternative route from Alondra Boulevard to the Norwalk Station entrance	Beginning of 1998
25	Traffic Signal at Jersey Avenue & 166th Street	Street Improvements	Jersey Ave. & 166th St.	n/a	Proposed route at Jersey Avenue & 166th Street	Beginning of 1998
26	New Medical Development	Commercial development	17821 Pioneer Blvd.	100,000 s.f.	Approximately 4,000 feet south of 166th Street/ proposed route	Pending City review in 1998
27	Removal of Rail Road Grade Crossings	Transportation	West Santa Ana Branch Railroad Tracks	n/a	Approximately 4,000 feet southeast of Artesia Boulevard and Studebaker Road/proposed route	Undergoing CPUC/MTA review
28	Bicycle and Pedestrian Trail and Park	Recreation/ transportation	Along ROW for West Santa Ana Branch RR	n/a	Approximately 4,000 feet southeast of Artesia Boulevard and Studebaker Road/proposed route	No completion date set
LOS ANGELES COUNTY						

Note: Information from City of Norwalk, City of Compton, City of Paramount, and Los Angeles County is not available.

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Figure B.10-1 Cumulative Projects
(to download this figure please check the Figures Table of Contents)

Map 1 Proposed Pipeline Segment and Santa Fe Alt
(to download this figure please check the Figures Table of Contents)

Map 2 Proposed Pipeline and Cherry, Paramount
(to download this figure please check the Figures Table of Contents)

Map 3 P.P. and Alondra, Artesia, Bellflower
(to download this figure please check the Figures Table of Contents)

Map 4 P.P. and Shoemaker Alt
(to download this figure please check the Figures Table of Contents)