

# ***APPENDIX K***

***TSM/TDM Alternative – Description of Goods  
Movement Strategies, Cambridge  
Systematics, Inc., September 2002***

## **ENHANCED DESCRIPTION OF GOODS MOVEMENT STRATEGIES (ALTS. 2, 4, 10)**

### ***Alternative 2 – TSM/TDM Alternative Section on Goods Movement***

- **Empty Container Management**

The purpose of this strategy is to reduce the amount of truck trips on I-710 by eliminating the need for some of the truck movements of empty containers. This would help meet study objectives of improved LOS on I-710 (by reducing truck trips) and improving the efficiency of goods movement. With the current drayage practices, it often takes four or more truck trips to move a container from the terminal to the appropriate receiving warehouse and then back to the container owner. Access restrictions at private storage locations and container retrieval often require intermediate truck trips and transfers to complete a single dray. For example, import containers may leave the port for delivery to the importer; the empty container is returned to the port for storage; the empty container is moved to an exporter for use; and the full container is then moved back to the port for export. More complex versions of this system with additional intermediate trips are possible.

An empty container management system would facilitate direct exchange of empty containers between importers and exporters or off-site storage of empties. Implementation of empty container management systems would require supporting information systems to track and schedule container movements, greater interchangeability of container types, and changes in legal/institutional arrangements associated with liability for and security of containers. Possible incentives to improve empty container management could include:

- Developing a collaborative port security system that provides systemwide access for all port pre-screened truck drivers
- Standardizing containers to provide for use across increased commodities (making exchanges off-site more feasible)
- Tracking and accounting of containers across the entire port that allows for flexibility in time and type of containers retrieved by shippers (e.g. surplus containers - owned, distributed and tracked by the port).

- **Expanded Drayage Truck Emission Reduction Program**

The purpose of this strategy is to reduce truck emissions in the port region. The Gateway Cities C.O.G. is developing a pilot program that provides incentives for truck owners to improve the emissions of their fleet operating in the Gateway Cities Subregion. The improvements in the emissions level can occur through improved emissions control devices put onto vehicles (retrofitting/repowering) and/or replacing older (and high emissions) diesel trucks with newer diesel trucks. Many of the short haul drayage moves between the port and local warehouses are made by owner operators, operating older, high emissions vehicles. These owner operators have more limited capital resources with which to upgrade their equipment. The pilot program will demonstrate how an incentive program could be designed to reach these drayage operators and get them to upgrade their vehicles. The proposed alternative can expand on this ongoing pilot program by:

- identifying (and targeting) owners of high emissions trucks in the port area
- expanding the administrative facilities of the current program (e.g. increased advertising and technical support from program participants) in order to reach a wider audience

- increase the amount of funding available to ensure that more vehicles are upgraded
- provide funding for an alternative fuels option including performing a feasibility study and creating an alternative fueling infrastructure

- **Extended gate hours**

The purpose of this strategy is to reduce the amount of truck trips using the I-710 during peak vehicle hours. This meets the study objective of managing time of day of demand for the I-710. In the current Transportation Master Plan for the Port of Long Beach and Los Angeles, the “best case” scenario analysis includes the assumption that port operations will expand to near 24/7 operations by 2020. Even with these extended operating hours, 40% of the weekday truck trips are projected to occur during the current daytime hours (8:00AM to 5:00PM). This would amount to an increase in truck traffic at the port of 38% during the morning peak (8-9AM) and an increase of 12% during both the midday (2-3PM) and PM peaks (4-5PM) in 2020 compared to 2000.

Optimal pricing policies for port operations can be used to magnify and accelerate the shift away from daytime operations. The basic concept would be to levy fees on users of the port during premium (peak) hours. Pricing policy could involve a mixture of two strategies that are on a continuum of pricing options:

1) Create a disincentive for peak operations (the fee), and thereby “pushing” operations away from daytime hours.

2) Generate revenues from peak operations (fees collected) that are used to subsidize off-peak operations costs (i.e., paying the incremental overtime costs of off-hour dock worker wages), thereby “pulling” some of the existing operations into evening and hoot hours.

The implementation of a daytime port user fee must minimize administrative costs and minimize avoidance by port shippers. Two possible implementation solutions include imposing an “entry fee” on truck drivers as they enter the port or the use of pre-paid transponders on port trucks that automatically deducts a fee for each use of the I-710 during daytime hours.

Fees could be levied by a joint powers entity in the study area and could be collected by terminal operators at the terminal gates.

### ***Alternative 4 – Low Truck Alternative Section on ITS Improvements***

The purpose of this strategy is to move trucks on the I-710 more efficiently using the technologies available from Intelligent Transportation Systems (ITS).

- **Explanation of Port ITS Improvements in No Build Alternative and Potential Improvements**

The port has received preliminary funding for an Advanced Transportation Management and Information Systems to apply proven technologies within and in the vicinity of the two Ports. The goal is to provide truckers dispatchers, terminal operators, traffic engineers, system operators and others with seamless traffic surveillance along the Ports’ access points to better assist travel, manage incidents and effectively divert truck traffic to various entrance and exit points of the two Ports. This system can be enhanced through the following activities:

1) Expanding the integration capacity of the proposed system with increased bandwidth, processing speed and/or integration. This would allow the port’s system to accept more data from an expanded installation of ITS in a greater number of arterial corridors and increased ITS coverage on the freeways

2) Providing post-processing support for transmittal of useful data to truck operators. This would take information from public sector ITS and information about traffic and parking conditions at the port and combine it with information about container availability that could be processed to feed information about to private scheduling systems.

- **Explanation of Private Sector Systems Enhancements**

Private sector system enhancements can be tied into the ATMIS systems under development at the port. This would build on the post-processing systems described above by developing advanced scheduling systems that would integrate public data about traffic conditions with private data about container availability, intermodal connection schedules, availability of on-site parking for trucks, etc. This type of information can then flow back into the public sector systems for improved traffic operations management. For example, major shippers at the port can input expected daily (and even hourly) variability in vehicle activities into the system to help refine estimates of recurrent traffic in the port and throughout the system. Additionally, terminal operators can input key operational variables that will influence the speed of goods movement on the terminals, and thereby affect truck traffic downstream. Anticipated changes in the customer base can also be incorporated into long-term traffic flow predictions by the ports' ATMIS system.

### ***Alternative 10 – High Goods Movement Alternative Section on Systemwide Goods Movement Improvements***

- **Adding Staging Areas for Trucks**

Under this plan, land can be set aside as staging areas to allow for evening and late night truck deliveries close to the port region. The purpose of this alternative is to reduce the amount of truck traffic on I-710 during peak vehicle hours. Currently, most warehouse and distribution facilities and the marine terminals at the port load/unload trucks during normal business hours. As congestion in the I-710 corridor increases, trucks making long trips to and from these warehouse/terminal facilities must increasingly travel during the morning and evening peak periods if they are to meet their morning and late afternoon pickup and delivery schedules. If staging areas were available at strategic locations throughout the study area, drivers could bring trailers/containers to the staging areas during off-peak hours and they could be delivered after the peak period is over. For example, a driver needing to bring a trailer to a warehouse for a mid-morning delivery could drop the trailer in a staging area the night before and it could be carried by another driver to the final destination after the morning peak period is over. This strategy could also be designed so that staging facilities are located in areas that would divert traffic away from over-utilized facilities like the I-710. Staging areas could either be owned and operated by public entities, or incentives could be provided to private developers to encourage creation of these facilities.

- **New Near Dock Rail Facility**

Near dock rail facilities are rail lines located close to the port's docks (but not on port property). The purpose of near dock rail is twofold. First, it will reduce the amount of truck drayage to inland rail facilities (e.g. Hobart Yard). This will reduce traffic on the I-710, since a significant portion of the truck traffic on the I-710 is from truck trips draying goods to inland rail facilities. In addition, current off-dock rail intermodal yard capacity is severely strained and new capacity will surely be required to handle the tremendous forecast growth in international cargoes. If this capacity is developed remotely from the ports, it will create increased truck VMT and more congestion on the I-710. Near-dock rail at appropriate sites in the study area could reduce the amount of I-710 that would be subject to handling the drayage for this increase in traffic.

- **Land Use Management Program (incentive zones)**

This program would serve two objectives. The first would be to get cities within the study area to plan for growth in truck-intensive land uses through a more collaborative process that would distribute the impacts of this growth in ways that would minimize the negative congestion impacts on the I-710. While each city would still need to pass its own comprehensive plan and its own zoning ordinance, in this alternative, cities would agree to develop a comprehensive land use plan for truck-intensive uses at the sub-regional level prior to adoption of local zoning plans. The second objective that could be met would be to create land use incentives to encourage warehouse/terminal owners to operate in ways that would make more efficient use of existing freight transportation infrastructure (e.g., off-peak operating hours). “Operationally-benign freight zones” could be created that would grant incentives such as zoning bonuses or property tax abatements to owners who were willing to operate facilities in beneficial ways such as over extended hours, with low noise loading/unloading systems, etc.