

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

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WORKSHOP AGENDA *

** Actions may be taken on any item listed on the agenda*

FEBRUARY 28-29, 2008

**SANTA ROSA ROOM
Embassy Suites Hotel La Quinta
50-777 Santa Rosa Plaza, La Quinta**

In compliance with the Americans with Disabilities Act and Government Code Section 54954.2, if you need special assistance to participate in a Commission meeting, please contact the Clerk of the Board at (951) 787-7141. Notification of at least 48 hours prior to meeting time will assist staff in assuring that reasonable arrangements can be made to provide accessibility at the meeting.

2:30 P.M.

THURSDAY, FEBRUARY 28, 2008

2:30 p.m. – 2:45 p.m.

WELCOME AND WORKSHOP OVERVIEW

Jeff Stone, Chair

Anne Mayer, Executive Director

2:45 p.m. – 4:30 p.m.

FOCUS ON GOODS MOVEMENT

Stephanie Wiggins, Regional Programs Director

GOODS MOVEMENT/TRUCK OPERATIONS SHIFT ANALYSIS

Tanya Love, Goods Movement Program Manager

This item is for the Commission to receive and provide comments on the Goods Movement/Truck Operations Shift Analysis report and presentation prepared by Cambridge Systematics, Inc.

4:30 p.m. – 4:45 p.m.

BREAK

4:45 p.m. – 5:00 p.m.

SAN JACINTO BRANCHLINE "PERRIS VALLEY LINE" AD HOC COMMITTEE CONTRACT AWARDS

Stephanie Wiggins, Regional Programs Director

**AGREEMENT WITH STV FOR FEDERAL TRANSIT
ADMINISTRATION COORDINATION AND SMALL
STARTS APPLICATION SUPPORT FOR THE
PRELIMINARY ENGINEERING PHASE OF THE PERRIS
VALLEY LINE PROJECT**

This item is for the Commission to award Agreement No. 08-33-069-00 to STV for Federal Transit Administration (FTA) coordination and Small Starts application support for the preliminary engineering phase of the Perris Valley Line (PVL) project in the amount of \$200,709.

**AGREEMENT WITH PARSONS BRINCKERHOFF FOR
TRAVEL DEMAND FORECASTING FOR THE
PRELIMINARY ENGINEERING PHASE OF THE PERRIS
VALLEY LINE PROJECT**

This item is for the Commission to award Agreement No. 08-33-068-00 with Parsons Brinckerhoff (PB) for Travel Demand Forecasting for the Preliminary Engineering Phase of the Perris Valley Line project in the amount of \$271,263.

5:00 p.m. – 6:00 p.m.

**UPDATE ON THE IRVINE CORONA EXPRESSWAY
GEOTECHNICAL STUDIES**

*Cathy Bechtel, Project Development Director
Paul Guptill, Kleinfelder*

6:00 p.m.

ADJOURNMENT

The Commission workshop will continue at 8:30 a.m., Friday, February 29, 2008, Santa Rosa Room, Embassy Suites Hotel La Quinta, 50-777 Santa Rosa Plaza, La Quinta.

8:30 A.M.
FRIDAY, FEBRUARY 29, 2008

8:30 a.m. – 10:30 a.m. FOCUS ON LEGISLATION

Aaron Hake, Government Relations Manager
Cliff Madison, Commission Legislative Advocate
Tom Skancke, Commission Legislative Advocate
Kathy Ruffalo, Commission Legislative Advocate

**PLANNING FOR THE NEXT FEDERAL
AUTHORIZATION BILL**

This item is for the Commission to:

- 1) Receive and file presentations by the Commission's federal legislative advocates;
- 2) Authorize the Chair to appoint a Federal Authorization Legislative Ad Hoc Committee to lead the organization of a countywide consensus effort for the next federal transportation authorization bill;
- 3) Adopt principles to guide the Federal Authorization Legislative Ad Hoc Committee's initial efforts;
- 4) Authorize staff to organize a Federal Authorization Advisory Committee consisting of one government relations staff member from each city, supervisorial district, the Riverside Transit Agency, and SunLine Transit Agency to provide support and make recommendations to the Legislative Ad Hoc Committee; and
- 5) Approve the Commission's federal fiscal year (FFY) 2008/09 federal appropriations requests.

10:30 a.m. – 10:45 a.m. BREAK

10:45 a.m. – 11:45 a.m. CLOSED SESSION

**CONFERENCE WITH LEGAL COUNSEL –
ANTICIPATED LITIGATION**

Pursuant to Subdivision (b) of Government Code
Section 54956.9

Number of cases: One

**CONFERENCE WITH LEGAL COUNSEL –
INITIATION OF LITIGATION**

Pursuant to Subdivision (c) of Government Code
Section 54956.9

Number of cases: One

Noon – 1:00 p.m.

DELIVERY PLAN UPDATE AND CLOSING REMARKS

Jeff Stone, Chair

Anne Mayer, Executive Director

1:00 p.m.

ADJOURNMENT

The next Commission meeting is scheduled to be held
at 10:00 a.m., **Wednesday, March 12, 2008**,
Board Room, County of Riverside Administrative
Center, 4080 Lemon Street, First Floor, Riverside.

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	February 28, 2008
TO:	Riverside County Transportation Commission
FROM:	Transit Policy Committee Tanya Love, Program Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Goods Movement/Truck Operations Shift Analysis

TRANSIT POLICY COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to receive and provide comments on the Goods Movement/Truck Operations Shift Analysis report and presentation prepared by Cambridge Systematics, Inc.

BACKGROUND INFORMATION:

At its July 19, 2007 Transit Policy Committee (TPC) meeting, a discussion was held regarding truck traffic congestion related to the movement of goods. Accommodating increased trucking activity while preserving the economic benefits associated with goods movement presents a challenge as more companies are locating their distribution centers in Riverside County. This trend, combined with increased shipping and receiving activity across the region, has meant that the volume of trucks entering Riverside County has grown substantially. According to Caltrans, between 1990 and 2004, truck vehicle miles traveled on state highways in Riverside County grew 20%. Over that same time period, vehicle traffic grew by 43%. The result is an increased demand for the road system.

It should be noted, however, that increased warehousing activity and increased shipping and receiving activity across the region have contributed positively to the economy. As a result, any strategy to reduce the impact of truck traffic must balance the need to preserve the economic benefit associated with truck commerce.

While major infrastructure improvements will continue to be part of the solution, there are other short-term strategies for relieving congestion and improving air quality that the Commission may want to consider. One strategy that staff was directed to review was time of day shifts in trucking activity to relieve congestion during peak passenger vehicle travel periods similar to the efforts made during the Los Angeles Olympics.

To assist with the truck shift analysis, the Commission engaged the services of Cambridge Systematics, Inc. At the November 15, 2007 TPC meeting, consultant staff provided a review of the attached Technical Memorandum on Goods Movement/Truck Operations Shift Analysis. Since that meeting, consultant staff and the Commission's legal counsel reviewed the legality of restricting commercial trucks on Riverside County freeways. For Commission review and comment, a report of restricting commercial trucks will be made during the consultant's presentation.

Attachment: Technical Memorandum – Goods Movement/Truck Operations Shift Analysis

Goods Movement/Truck Operations Shift Analysis

final technical memorandum

prepared for

Riverside County Transportation Commission

prepared by

Cambridge Systematics, Inc.

final technical memorandum

Goods Movement/Truck Operations Shift Analysis

prepared for

Riverside County Transportation Commission

prepared by

Cambridge Systematics, Inc.
555 12th Street, Suite 1600
Oakland, California 94607

date

October 2007

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Executive Summary

Accommodating increased trucking activity while preserving the economic benefits associated with goods movement presents a challenge for Riverside County. Major infrastructure improvements will undoubtedly be part of the solution. However, such improvements take many years to implement. In the meantime, the County must identify short-term strategies for relieving congestion and improving air quality.

One such strategy is to promote time-of-day shifts in trucking activity to relieve congestion during peak passenger vehicle travel periods. This report analyzes the likely impact and feasibility of strategies to achieve time-of-day shifts in trucking activity.

CHARACTERISTICS OF CONGESTION

A first step in determining the effectiveness of encouraging or requiring truck time-of-day shifts is to gain an understanding of the role that freight movement plays in Riverside County's congestion. Several data sources analyzed for this study reveal the following characteristics of trucking-related congestion in the County:

- On average, trucks comprise about 14 percent of daily traffic flow on Riverside County freeways, with much higher percentages in some isolated locations. Truck percentages are much lower during the AM and PM peak periods.
- Truck volumes tend to be highest between the hours of 9:00 a.m. and 3:00 p.m., and exhibit a noticeable drop on most freeways after 3:00 p.m. Truck percentages during the PM peak period tend to be one-half or lower of the daily average. In short, trucks are already avoiding the most congested time periods.
- Nontruck volumes continue to increase in the midday time period. This trend is decreasing the daytime time windows during which truckers are likely to experience uncongested conditions.
- At the same time, truck and nontruck volumes remain relatively low in the overnight hours, with substantial capacity available between 9:00 p.m. and 4:00 a.m. As with daylight hours, however, the AM and PM peak periods are expanding in duration to begin earlier and end later in the day.
- The majority of larger trucks have at least one end of their trip outside of Riverside County, with upwards of one-half of trucks on some freeways passing through the County without stopping.

CONSTRAINTS ON TRUCK TRAVEL

A key question is whether current truck travel patterns are a reflection of business, regulatory, or travel cost constraints. To determine which constraint plays the dominant role, interviews were conducted with trucking companies, distribution centers, and other industry representatives. In addition, municipal ordinances were reviewed, and city staff contacted to gauge the extent of truck-related regulations in the County. The review revealed the following information:

- Business operation practices of receivers have by far the most powerful effect on the timing of warehouse and trucking operations of all factors.
- Many Riverside County jurisdictions have truck route restrictions in place, but time-of-day restrictions exist in only two communities in the County.
- Noise restrictions are quite common throughout the County, although many of the ordinances have exemptions for short-term noise exceedances that would likely be associated with truck movements. The restrictions are most strict in residential areas, which can create problems as residential areas and industrial/warehouse areas are developed in close proximity to each other.
- Nighttime trucking operations currently exist, but are generally not widespread due to business risks and costs that are generally unrelated to government regulations.
- Most trucks face congested conditions at some point during their trip, because congested conditions are now fairly pervasive throughout the day.

LOCAL AND NATIONAL EXPERIENCES WITH TIME-OF-DAY RESTRICTIONS

Although efforts to shift truck travel by time of day are not widespread, there are a number of examples that provide important lessons for any future application of time-of-day restriction or incentive programs. The examples compiled for this study include voluntary shifting of pickup and delivery schedules during the Salt Lake City and Atlanta Olympics, proposed time-of-day truck bans in the City of Los Angeles and the State of California, a freeway truck ban in Beijing, and a study of incentive programs in New York City to encourage shifting of pickup and delivery times. These case studies reveal the following lessons:

- Outright truck bans are legally and politically difficult to implement. The Los Angeles, Beijing, and State of California examples demonstrate that there are difficult political and legal issues associated with outright truck restrictions on freeways.
- Shifting truck schedules requires the cooperation of both shippers and receivers. During both the Atlanta and Salt Lake City Olympics, extensive outreach was conducted to ensure both shippers and receivers could accept off-peak

deliveries. There is anecdotal evidence that the outreach resulted in some time-of-day shifting during the limited period of the Olympics.

- Some industries and businesses are more able to shift to off-peak deliveries than others. The New York City delivery incentive study revealed some of the business and geographic constraints that make receipt of off-peak deliveries easier for some businesses. For example, restaurants located in commercial areas were more open to receiving nighttime deliveries, presumably because they do not risk disturbing sleeping neighbors.
- Incentive programs could have an impact on shifting off-peak deliveries to overnight hours, as shown in the New York City study. However, the study showed that only 50 percent of restaurant owners would accept an incentive equivalent to the cost of additional staff necessary to accept the deliveries, confirming that issues beyond staff cost are at play in delivery scheduling.

IMPLEMENTATION STRATEGIES

There are a limited number of mechanisms through which Riverside County might be able to influence the time-of-day travel patterns for trucks on its freeways. Three strategies were identified for this report, ranging from passive, no-cost policy changes to more direct initiatives that may entail a public-sector cost. The strategies were each evaluated for their feasibility and their likely impact on congestion and air quality.

Loosen Nighttime Noise Restrictions for Industrial Land Uses

This report revealed that nighttime noise ordinances have an impact on truck movements throughout the County, although the impact appears to be small and limited primarily to truck movements in residential areas. Since removing noise ordinances in residential areas is likely to be politically difficult, efforts could be made to remove noise ordinances in the vicinity of industrial land uses. The impact of this strategy on freeway congestion and air quality would be minimal, since it would only affect the movements of a small number of trucks, namely those who are currently operating in industrial areas; whose customers could conceivably accept nighttime deliveries; and who are currently limited from making such deliveries because of noise ordinances. The program would only target trucks with destinations in Riverside County, which are a minority of trucks on Riverside freeways.

Create Incentives for Off-Peak Pickups and Deliveries

Another strategy would be to offer businesses incentives to accept pickups and deliveries during off-peak periods. Research analyzed for this report revealed that only certain types of businesses would be likely to shift their schedules in return for such incentives. A pilot program could be conducted in a limited part of the County to identify the businesses best suited for the program.

The impact of this strategy on congestion and air quality would likely be small. The program would only target trucks with destinations in Riverside County, which are a minority of trucks on Riverside freeways. Moreover, only a small share of those trucks with destinations in the County would be affected, namely those servicing industries that are not already operating after hours, but would do so if offered sufficient incentive. Since this would be an incentive program, there would be few legal or direct political barriers to implementing it. However, there may be indirect political barriers associated with identifying sources of funds to support the program.

Direct Restrictions

A direct alternative to the two strategies described above is to impose time-of-day restrictions on trucks moving on certain roadways. This strategy could be used, for example, to restrict trucks during peak hours on certain freeways or on certain arterial roadways within the County.

Assuming time-of-day restrictions were implemented along the most heavily used freeways, the congestion reduction benefits could be as high as 10 or 15 percent during peak periods on the impacted facility, *assuming that the truck volume reduction is not offset by increases in passenger car volumes*. However, this estimate should be viewed with caution. Most trucks' schedules are set by the needs of their customers, and there is limited room for adjustment. Thus, most trucks would likely shift their route instead of their schedule in order to meet their customers' needs. Truck congestion and pavement degradation would simply shift to other freeways or local roadways. The feasibility of direct freeway restrictions is also uncertain. Any restrictions on freeways would have to be approved by both the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA). There is limited precedent or legal basis for truck restrictions aimed at reducing congestion.

Table ES.1 presents a summary of the feasibility, air quality, and congestion impacts of the strategies discussed above. They are rated as low, moderate, and high for their potential to reduce air quality and congestion problems; and as easy, moderate, and difficult in terms of their feasibility.

Table ES.1 Matrix of Strategies

	Feasibility (Easy, Moderate, or Difficult)	Air Quality Impact	Freeway Congestion Impact
Loosen ordinances in industrial areas	Moderate	Low	Low
Create Incentives for off-peak pickups and deliveries	Moderate	Low	Low
Direct restrictions	Difficult	Could worsen	Moderate

1.0 Introduction

Over the last several years, more companies have been locating their distribution centers in Riverside County. This trend, combined with increased shipping and receiving activity across the region, has meant that the volume of trucks entering Riverside County has grown substantially. Between 1990 and 2004, truck vehicle-miles traveled (VMT) on state highways in Riverside County grew 20 percent¹.

Over the same period, total vehicular traffic has increased even more. Total vehicle miles of travel grew by 43 percent on state highways within the County between 1990 and 2004. The result of these very large increases in demand for the road system, both from trucks and vehicles, is severe congestion and poor air quality.

On the other hand, increased warehousing activity in Riverside County and increased shipping and receiving activity across the region have contributed positively to the economy of Riverside County. Therefore, any strategy to reduce the impact of truck traffic must balance the need to preserve the economic benefit associated with truck commerce.

To address the challenge of reducing truck-related congestion, this report focuses specifically on the potential for time-of-day shifts in trucking activity. This involves encouraging or requiring trucks to travel during less congested midday and/or nighttime periods. Time-of-day shifts are attractive because they are perceived as having the potential to provide a quick means of reducing truck impacts without expensive new infrastructure.

To determine whether time-of-day shifts in trucking activity could be successfully achieved in Riverside County, this report considers several sources of information, which are organized as follows:

- **Section 2.0** clarifies basic questions relating to the contribution of trucks to congestion problems within the County. It establishes the magnitude of congestion reduction benefits that could be achieved from truck time-of-day shifts.
- **Section 3.0** presents some of the regulatory and business constraints that influence truck schedules, and weighs which of them have the greatest impact.
- **Section 4.0** presents background research and case studies that reveal some of the issues surrounding time-of-day shifts in truck movements.
- **Section 5.0** presents three potential strategies for encouraging or requiring shifts in truck schedules and the likely impacts of each.

¹ California Department of Transportation (Caltrans) data.

2.0 Characteristics of Congestion

A first step in determining the effectiveness of encouraging or requiring truck time-of-day shifts is to gain an understanding of the role that freight movement plays in Riverside County's congestion. Key questions include the following:

- How much of the peak-period traffic and congestion problem is related to truck traffic?
- To what extent is the congestion problem related to heavy-duty versus medium- and light-duty trucks?
- Is truck traffic primarily a through movement, or is it generated by economic activity involving Riverside County?
- Are trucks a substantial contributor to congestion on state highways and arterials that are not freeways?

The following section addresses each of these questions in turn using data sets pulled from a variety of sources.

2.1 TRUCKS IN FREEWAY CONGESTION

This section addresses the question of the role that trucks, particularly heavy trucks, play in highway congestion in Riverside County. While this section addresses the portion of traffic volumes represented by trucks, it is important to note that trucks affect highway congestion at a magnitude that is disproportionate to their raw number. According to the Highway Capacity Manual, trucks affect traffic and contribute to highway congestion in two ways:

- They are longer than passenger cars and therefore occupy more highway space than passenger cars; and
- They have poorer operating capabilities than passenger cars particularly with respect to acceleration, deceleration, and the ability to maintain speeds on grades.

The Highway Capacity Manual notes that trucks' operating characteristics are the more critical feature, particularly in terms of congestion. Large gaps tend to exist both in front and in back of trucks, and these gaps lead to inefficiencies in the use of highway space that cannot be completely overcome. The mere presence of heavy trucks tends to affect the speed and placement of vehicles in adjacent lanes, further affecting highway performance. There is also considerable variation in operating characteristics between trucks, and these operating characteristics are affected by how heavily the trucks are loaded. The effect of these operating characteristics is compounded as the percentage of trucks in the traffic

stream increases and/or during peak-period congestion where stop-and-go traffic creates a particular burden for trucks.

Overall Contribution of Trucks to Daily Traffic

Caltrans maintains aggregate data on freeway volumes throughout the State. Analysis of the most recent (2005)² data reveals the following regarding the contribution of trucks to average daily traffic on Riverside freeways:

- Truck’s share of average daily freeway volume ranges widely throughout the County. Truck volumes make up an average of 13.7 percent of traffic on County freeways, but the percentage ranges from 4 percent to 43 percent depending on the location.
- The I-10 and the SR 60 have the greatest volumes of truck traffic and the greatest share of trucks in the traffic stream. Trucks make up an average of 27 percent of the daily traffic stream on I-10 and 13 percent of the traffic stream on SR 60. Daily truck traffic along both freeways averages around 15,000.
- The I-215, I-15, and SR 91 freeways have smaller truck volumes and a smaller percentage of trucks in the traffic stream than the I-10 and the SR 60 freeways.

Table 2.1 shows the absolute number and relative percentages of trucks in the traffic stream for major freeways in Riverside County. The range represents high and low values over the length of each freeway in the county.

Table 2.1 Trucks Share of Average Daily Traffic

	Truck Percent		Truck Volumes	
	Range	Average	Range	Average
I-10	13-43%	27%	9,000-26,000	15,600
SR 60	11-16%	13%	7,000-27,000	15,800
I-215	6-15%	9%	9,000-17,000	10,800
I-15	6-11%	8%	9,000-18,000	11,900
SR 91	5-8%	6%	8,000-17,000	13,200
Countywide	4-43%	13%	50 – 27,000	8,124

Source: Analysis of Caltrans 2005 truck counts.

² Caltrans Truck Counts, 2005, <http://traffic-counts.dot.ca.gov/>.

Contribution of Trucks to Peak-Period Congestion

The information presented above reflects the contribution of trucks to average daily traffic on Riverside freeways. Understanding the contribution of trucks to peak-period congestion is more difficult, given the lack of a single, comprehensive source of data on the variation in truck volumes by time of day for freeways in Riverside County.

There are several data sources that each provides partial answers to the question of how much trucks contribute to peak-period congestion. One of these is Freeway Performance Measurement System (PeMS), a software system that takes real-time input from Caltrans counters and uses an algorithm to develop detailed estimates for several flow parameters. The PeMS can only recognize trucks longer than 16 feet. Any vehicle shorter than 16 feet is classified as a passenger vehicle. As a result, truck counts from the PeMS are substantially lower than the corresponding Caltrans counts. However, time-of-day patterns can still be accurately depicted with the PeMS data. Recent PeMS data from segments of the SR 60, SR 91, and I-15 freeways in Riverside County were analyzed to identify truck time-of-day patterns³.

Figure 2.1 shows large trucks' VMT for both travel directions on these freeway segments. All freeways share a common pattern of VMT peaking during the midday and falling off during the evening and early morning hours, which differs from the two peaked pattern typical of passenger vehicle travel demand.

The pattern of a midday travel peak is more pronounced on some freeways than others. On SR 91, truck travel rises dramatically during the day and decreases just as dramatically during the evening and early morning; whereas travel on SR 60 remains relatively steady all throughout the day.

It should be noted that several of the segments (SR 91 East, I-15 South, and SR 60 East) show a marked dip in travel during the evening peak period (4:00 p.m. to 6:00 p.m.), perhaps due to some trucks attempting to avoid congested conditions on the freeway.

Figure 2.2 shows large trucks' share of VMT for the same freeway segments. Overall, large trucks' share of VMT during peak periods ranges between 2 and 6 percent of total VMT, with the highest shares on SR 91 and I-15. The share of trucks in the PM peak period appears to be lower overall than the share in the AM peak period. During the midday, early morning, and evening periods, the share of trucks rises, simply because there are fewer passenger cars on the roadways. Similarly, the lower share of heavy truck traffic during peak periods is due to very high passenger car volumes during these times.

³ Data was sampled from May 7 to May 18, 2007, and excludes weekends and holidays. Values are median. PeMS data were not available for the I-10 and I-215 freeways in Riverside County.

Figure 2.1 Large Truck Vehicle-Miles Traveled

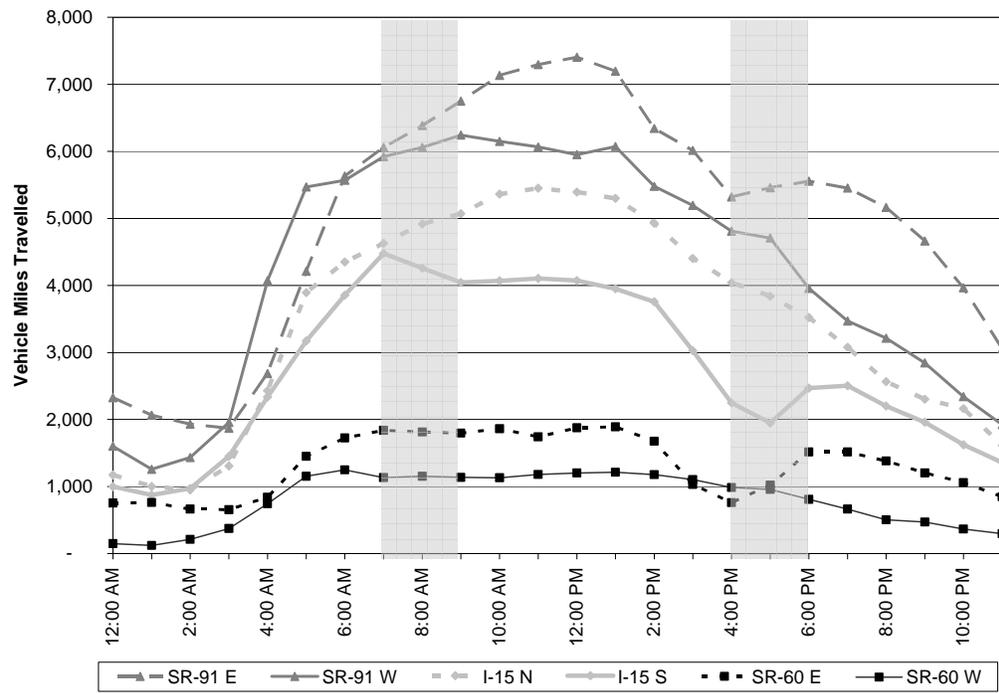
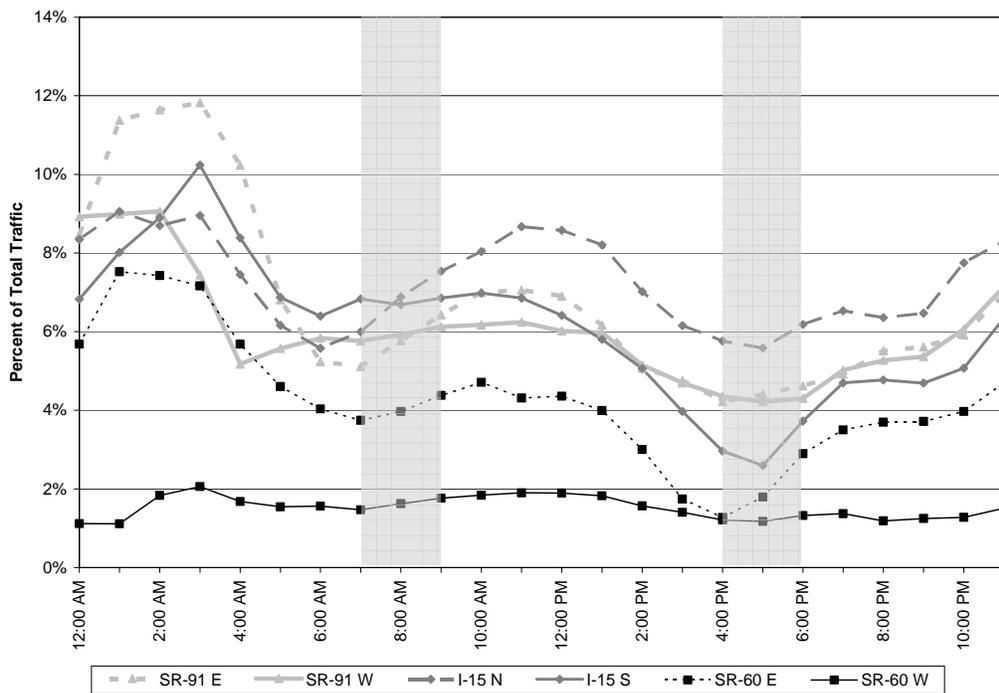


Figure 2.2 Large Trucks' Share of VMT



The Subregional Freight Movement Truck Access Study is another data source that sheds some light on the share of all trucks in peak-period traffic. The study involved the collection of several truck counts at locations throughout the Inland Empire. The data collection included the interchange of SR 60 and I-15 in western Riverside County, which is heavily utilized by trucks.

The data shown in Table 2.2 indicate that the percentage of trucks at the SR 60/I-15 interchange is highest during the midday, and that the percent of trucks in the morning peak is higher overall than in the evening peak. This is consistent with the PeMS analysis. However, the actual percentage of trucks in the peak periods is, as expected, higher than that estimated for the PeMS analysis.

Based on these disparate data sources, a rough estimate is that trucks likely comprise:

- Between 7 percent and 10 percent of AM peak-period freeway traffic on average throughout the county;
- Between 5 percent and 7 percent of PM peak-period freeway traffic on average throughout the county;

Since the average share of trucks on Riverside freeways is 13 percent, and truck peaks do not coincide with commuter peaks, 13 percent can be considered the average upper bound on peak-period shares of trucks.

During the overnight and midday periods, trucks make up slightly higher percentages of freeway traffic. The patterns revealed in the PeMS data show that large trucks' share of freeway travel peaks three times. The peak is highest during the early morning period (12:00 a.m. to 5:00 a.m.); second highest during the midday (10:00 a.m. to 12:00 p.m.) period, and third highest during the evening (7:00 p.m. to midnight). Assuming similar patterns apply to all trucks, and bearing in mind that trucks are an average 13 percent of daily traffic, it is probable that trucks make up:

- Between 13 to 15 percent of early morning (midnight to 5:00 a.m.) freeway traffic on average throughout the county;
- Between 12 to 14 percent of midday (10:00 a.m. to 2:00 p.m.) freeway traffic on average throughout the county; and
- Between 11 to 13 percent of evening (7:00 p.m. to midnight) freeway traffic on average throughout the county.

Note that these values are rough approximations and that the actual volumes of trucks during the evening and early morning periods are low relative to volumes during other times of day, as evidenced by Figure 2.2.

Table 2.2 Share of Trucks by Time of Day
SR 60/I-15 Interchange

	Share of Trucks	Range (By Intersection Approach)
6:00 a.m.-7:45 a.m.	11%	9-15 percent
11:00 a.m.-12:45 p.m.	19%	13-26 percent
4:00 p.m.-5:45 p.m.	8%	4-13 percent

Source: Subregional Freight Movement Truck Access Study, Appendix A, 2003.

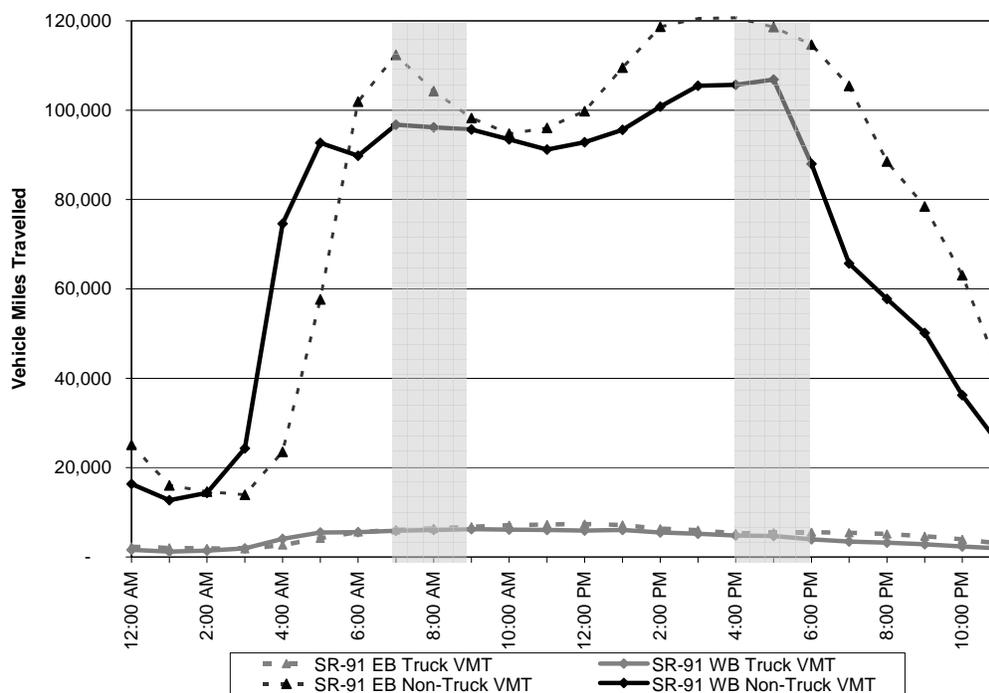
In recent years, it has become widely acknowledged that severe congestion is no longer limited to the traditional peak periods of 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m. This growth in passenger car volumes and congestion into the traditional peak “shoulders” and off-peak hours are reducing the daytime windows during which trucks are likely to experience uncongested conditions.

Figure 2.3 displays VMT data for heavy trucks and other vehicles along SR 91 through Riverside County; the two dark bands represent traditional peak periods. Nontruck travel on eastbound SR 91 displays traditional peaking characteristics, but there is now heavy congested conditions beginning as early as 2:00 p.m. Westbound SR 91 exhibits a nearly constant flow of nontruck travel between 5:00 a.m. and 5:00 p.m.

As shown in Figures 2.1 and 2.3, the peak hours for truck travel in both directions of SR 91 are between 9:00 a.m. and 2:00 p.m. Peak travel volumes for all vehicles are now starting to overlap on the midday borders of the traditional peak periods. It is reasonable to expect that truck and nontruck volumes will continue to grow into the future, with most of this growth occurring outside of the traditional peak periods. As this growth occurs, the midday window of uncongested conditions for truck traffic is likely to shrink and eventually disappear altogether.

In addition to the expansion into the midday time period, the morning and afternoon peak periods are also expanding into the overnight hours. The data in Figure 2.3 show that westbound volumes exhibit a substantial uptick beginning as early as 4:00 a.m., with high eastbound volumes continuing until 9:00 p.m. However, truck and nontruck volumes still exhibit a substantial drop between 9:00 p.m. and 4:00 a.m., indicating that substantial freeway capacity is available between these hours. As with the midday time period, however, it is possible that these overnight windows of uncongested conditions could narrow in the coming years with continued regional growth.

Figure 2.3 Truck and Nontruck Travel by Time of Day
SR 91



2.2 HEAVY-DUTY VERSUS MEDIUM-DUTY TRUCKS IN PEAK CONGESTION

The share of heavy- and medium-duty trucks on the roadways varies by freeway throughout Riverside County. Generally, most truck traffic is comprised of two-axle trucks and five-axle trucks. Three- and four-axle trucks make up a relatively small percentage of truck traffic. Table 2.3 shows the percentage of two- and five-axle trucks for each of the major freeways in Riverside County, including the following:

- On the I-10, 5-axle trucks dominate, comprising between 50 and 84 percent of all truck traffic;
- On SR 60 and the I-15, truck traffic on SR 60 is fairly evenly split between two- and five-axle trucks; and
- On SR 91, truck traffic is fairly evenly split between two- and five-axle trucks, but two-axle trucks dominate.

Table 2.3 Share of Trucks by Axle on Riverside Freeways

	2-Axle %		3-Axle %		4-Axle %		5-Axle %	
	Avg	Range	Avg	Range	Avg	Range	Avg	Range
I-10	20%	13-40%	4%	2-8%	3%	1-6%	73%	50-84%
I-15	40%	34-49%	9%	7-13%	5%	3-8%	46%	40-53%
SR 60	45%	24-60%	9%	4-15%	4%	3-5%	43%	20-68%
SR 91	52%	42-69%	7%	6-8%	4%	4-4%	37%	21-47%
I-215	43%	38-51%	9%	5-15%	5%	2-7%	43%	28-51%

Source: Analysis of Caltrans 2005 truck counts.

Note that while the number of axles gives some indication of the size of the truck, it does not signify truck weight. According to the Vehicle Inventory and Use Survey (VIUS) database for the State of California, on average:

- Thirty-two percent of 2-axle trucks are light-heavy, 59 percent are medium-heavy, and 9 percent are heavy-heavy;
- Two percent of 3-axle trucks are light-heavy, 15 percent are medium-heavy, and 83 percent are heavy-heavy;
- Zero percent of 4-axle trucks are light-heavy, 5 percent are medium-heavy, and 95 percent are heavy-heavy; and
- Zero percent of 5- or more axle trucks are light-heavy, 1 percent are medium-heavy, and 99 percent are heavy-heavy.

Bearing in mind these conversions, the great majority of trucks on Riverside freeways are medium-heavy and heavy-heavy.

Data on the variation in truck types by time of day is very limited. The most recent data come from the 2002 Southern California Association of Governments (SCAG) Goods Movement Truck Count Study, which presented time-of-day model factors by truck weight classes for truck trips internal to the SCAG region. The data shown in Table 2.4 shows that light-heavy and medium-heavy duty trucks follow a similar temporal pattern, with about one-half of truck travel occurring during the midday period, and the remaining travel distributed relatively evenly between the AM and PM peak periods and the nighttime period. In contrast, a greater share of heavy-heavy duty trucks operates during the evening periods.

Table 2.4 Time Conversion Factors for SCAG Region

Truck Class	6:00 a.m.- 9:00 a.m.	9:00 a.m.- 3:00 p.m.	3:00 p.m.- 7:00 p.m.	7:00 p.m.- 6:00 a.m.
Light-heavy	18.1%	46.3%	20.8%	14.8%
Medium-heavy	18.1%	46.1%	20.7%	15.1%
Heavy-heavy	15.6%	41.1%	17.0%	26.3%

Results from the Subregional Freight Movement Truck Access Study indicate that about 50 percent of the trucks that passed through the SR 60/I-15 intersection in the morning (6:00 a.m. to 7:45 a.m.), midday (11:00 a.m. to 12:45 p.m.), and evening (4:00 p.m. to 5:45 p.m.) were 5-axle vehicles, and about 30 percent were 2-axle vehicles. The remainder was 3- and 4-axle vehicles. There was little to no variation in the distribution of trucks by axle throughout the day. However, the overall share of trucks in the traffic stream did vary throughout the day from 11 percent in the morning, to 19 percent in the midday, and 8 percent in the evening⁴.

Taken together, these data sources suggest the following regarding the percentages of medium- and heavy-duty trucks in peak period traffic:

- The dominant truck types are two and five-axle trucks, which each makes up between about one-third and three-fourths of truck traffic, depending on the freeway. Five-axle trucks predominate on the I-10; whereas, two-axle trucks predominate on SR 91.
- Since nearly 60 percent of 2-axle trucks are heavy, and nearly 100 percent of 5-axle trucks are heavy; it can be concluded that the great majority (likely more than two-thirds) of trucks on Riverside County freeways are heavy trucks by weight.
- The share of different truck types does not appear to vary much by time of day, with the exception of heavy trucks, which make up a greater percentage of nighttime truck travel.

2.3 THROUGH VERSUS LOCAL TRUCKS

In order to determine the proportion of trucks on Riverside County freeways that pass-through trucks with no destinations in the County, a select link analysis using the SCAG Heavy Duty Truck Model⁵ was performed. All five major freeways

⁴ Classification counts were collected in May 2003 for all four intersection ramps and for both directions on the I-15 and SR 60 mainlines.

⁵ The updated 2007 model could not be used as it has not been released by SCAG.

in Riverside County (I-10, I-15, SR 60, SR 91, and I-215) were included in the analysis. Table 2.5 presents the results of the analysis showing the percent of trip-end locations for trucks, as well as the composition of truck traffic in terms of light, medium, and heavy trucks. Trip-end locations are classified as:

- **Begin and end in Riverside.** Trip is completely internal to the County;
- **Begin or end outside Riverside.** Trip enters or leave the County; and
- **Begin and end outside Riverside.** Trip is pass through.

The table reveals that the percentage of pass-through truck trips varies by Riverside freeway, ranging between 20 and 58 percent. Pass-through trips represent a large share of truck trips on all freeways, but are actually exceeded by trips beginning or ending outside of Riverside County on all freeways, except I-10. Trips completely internal to Riverside County only represent between 7 percent of 14 percent of total truck trips. Heavy trucks represent the majority of truck trips on all Riverside County freeways, with percentages between 64 percent and 86 percent.

Table 2.6 shows the share of through truck trips by county of origin. There is a wide diversity in the origin location of pass through truck trips on Riverside County freeways. On both I-10 and SR 60, about one-third of through truck trips is originating from points east of the County. Another one-third comes from Los Angeles County, while most of the remainder comes from either Imperial or San Bernardino Counties. For SR 91, Orange County is the largest origin location for through trips, followed by Los Angeles and San Bernardino Counties. Los Angeles, San Bernardino, and San Diego Counties account for nearly all pass through trips.

Table 2.5 Truck Trip Origins and Destinations on Select Riverside Freeways

	Trip End Locations			Composition of Truck Traffic		
	Begin and End in Riverside	Begin or End Outside Riverside	Begin and End Outside Riverside	Light	Medium	Heavy
I-10	10%	32%	58%	5%	9%	86%
SR 60	14%	52%	35%	8%	12%	80%
I-15	7%	50%	43%	12%	24%	64%
SR 91	13%	48%	39%	9%	19%	72%
I-215	13%	66%	20%	11%	26%	64%

Source: Select links analysis of the 2001 SCAG heavy-duty truck model.

Table 2.6 Share of Through Truck Trips by Origin Location

	Imperial	Los Angeles	Orange	San Bernardino	Ventura	Arizona	San Diego
I-10	16%	29%	6%	12%	3%	34%	1%
SR 60	12%	32%	14%	10%	0%	32%	0%
I-15	0%	38%	9%	16%	2%	0%	34%
SR 91	6%	20%	38%	23%	0%	12%	0%
I-215	0%	20%	1%	50%	2%	0%	26%

The data in Tables 2.5 and 2.6 indicate that nearly all large truck trips have at least one trip end outside of Riverside County, with anywhere from about one-third to one-half of all truck trips passing completely through the County without stopping. These truck trips begin or end all over Southern California and neighboring states. Taken together, these trends suggest that it will be difficult to address truck operation patterns on a jurisdiction by jurisdiction basis.

2.4 TRUCKS ON LOCAL ROADWAYS

The following three sources of truck counts in Riverside County were identified to help determine the extent of truck traffic on local roadways:

1. **Screenline counts on nine arterial roadways spread throughout the County.** The counts were collected in 2006 to 2007 to validate the SCAG heavy-duty truck model. Trucks make up between 4.9 and 15.2 percent of the average daily volume on the selected roadways (Table 2.7).
2. **The Coachella Valley Association of Governments provided truck counts collected during AM, midday, and PM periods in February of 2007 at five arterial intersections.** The counts show truck percentages in the range of three to four percent (Table 2.8). The lower percentages at these sites, relative to the SCAG validation counts, is likely due to the fact that the counts were collected only for peak periods, and because of differing land uses around the count sites.
3. **The City of La Quinta provided three days of truck counts from Eisenhower Drive north of Avenue 50, collected in January 2004.** The counts show trucks to be 8 percent of daily traffic. Trucks make up 10 percent of AM peak period (8:00 a.m. to 9:00 a.m.) volumes on average; 7 percent of midday (11:00 a.m. to 12:00 p.m.) volumes, and 5 percent of PM (4:00 p.m. to 5:00 p.m.) volumes.

Table 2.7 Truck Percentages on Arterial Roadways in Riverside County

	% of Trucks
Jefferson St S/O 48 th , Indio	11.2
Washington St S/O 48 th , La Quinta	10.5
Ramon Rd E/O Gene Autry, Palm Springs	15.2
Ramona Expressway – W/O Lakeview Ave, Nuevo	7.4
Van Buren St N/O 50 th , Coachella	4.9
Perris Blvd N/O SR 215, Perris	5.8
Jackson St S/O 48 th , Indio	11.4
Monroe St S/O 48 th , Indio	8.7
J. F. Kennedy Dr W/O E/O Moreno Beach, Moreno Valley	8.9

Table 2.8 Truck Percentages at Coachella Valley Intersections

Coachella Valley Intersection	% of Trucks
Date Palm & Ramon	2.7%
Sunrise & Ramon	1.6%
Monterey & Fred Waring	2.1%
Gene Autry & Vista Chino	4.4%
Monterey & Gerald Ford	4.4%
Total	3.0%

For arterial roadways, limited evidence shows a similar time-of-day pattern to the freeway counts. Counts collected during the AM, mid-day, and PM peak periods at five intersections in the Coachella Valley reveal that truck volumes are highest in the midday and higher in the morning than in the afternoon. However, overall vehicles increase through the day, and therefore trucks make up the largest share of traffic during the morning peak. Larger trucks travel the most during the morning and noon times, while travel by smaller trucks is more constant.

2.5 SUMMARY OF KEY POINTS

A review of truck traffic data in Riverside County reveals that:

- On average, trucks comprise about 14 percent of daily traffic flow on Riverside County freeways, with much higher percentages in some isolated locations. Truck percentages are much lower during the AM and PM peak periods.

- Truck volumes tend to be highest between the hours of 9:00 a.m. and 3:00 p.m., and exhibit a noticeable drop on most freeways after 3:00 p.m. Truck percentages during the PM peak period tend to be one-half or lower of the daily average. In short, trucks are already avoiding the most congested time periods.
- Nontruck volumes continue to increase in the midday time period. This trend is decreasing the daytime time windows during which truckers are likely to experience uncongested conditions.
- While available capacity is decreasing during the midday time period, capacity is still relatively abundant in the overnight hours, particularly between 9:00 p.m. and 4:00 a.m. As with daylight hours, however, the AM and PM peak periods are expanding in duration to begin earlier and end later in the day.
- Truck traffic tends to be either very large tractor-trailer combinations or smaller local delivery trucks. The majority of larger trucks have at least one end of their trip outside of Riverside County, with upwards of one-half of trucks on some freeways passing through the County without stopping.

3.0 Constraints on Truck Travel

The analysis in the previous section raises the deeper issue of why these time-of-day patterns exist. There are three dominant factors that are likely to be guiding the temporal movements of trucks throughout Riverside County:

1. Business constraints,
2. Regulatory constraints, and
3. Cost of travel constraints.

The public sector can only indirectly affect the business constraints of industry, and can marginally impact cost of travel constraints. However, the public sector controls regulatory constraints placed on truck travel.

This section gauges the prevalence of restrictions on truck travel in Riverside County and explores the importance of these restrictions vis-à-vis business and cost of travel constraints in shaping truck travel patterns. This information helps in the appraisal of strategies to encourage truck time-of-day shifts by removing restrictive regulations; and in determining whether time-of-day restrictions on freeways could conflict with existing truck-related regulations at the municipal level.

3.1 GOVERNMENTAL REGULATIONS

Direct Ordinances

A comprehensive search was conducted to identify truck-related ordinances in place within Riverside County. By reviewing the transportation ordinances in municipal codes and speaking with several municipal planners, code enforcers, and officials in city clerks' offices, several common themes were identified.

The review revealed that, except for small outlying towns that do not experience significant truck volumes, most municipalities in Riverside County have truck route restrictions in place. These restrictions typically prohibit freight trucks in excess of a specified weight from traveling along certain roads, generally in central commercial areas. Some of these cities also require that freight trucking firms apply for a municipal permit to travel through the city limits or along certain city roads when hauling an oversized load.

In contrast to the widespread nature of truck route restrictions, there were only two cities identified in the County of Riverside that have truck time-of-day restrictions in place. These are:

1. The City of Indian Wells prohibits truck movement on portions of several streets between the hours of 9:00 p.m. and 9:00 a.m. The resolutions authorizing the ordinances cite health and safety as the reason for limiting truck movements.
2. The City of Palm Desert prohibits truck movement in its central traffic district between 7:00 a.m. and 6:00 p.m. In addition to freight trucks, garbage trucks and some large construction vehicles are also prohibited during these times.

Indirect Ordinances

While only two municipalities have direct time-of-day truck restrictions in place, many municipalities indirectly limit truck movements by time of day through noise or lighting ordinances. To explore this issue, noise and lighting ordinances in all but two in Riverside County cities were catalogued⁶. Appendix A contains the complete results of the noise ordinance review. Lighting ordinances in a few cities were also catalogued, but were found not to be relevant to the study purpose, so a comprehensive review was not pursued⁷.

The review of noise ordinances revealed that noise issues are addressed in all of the municipal codes in the County. Some cities have very general restrictions on nuisance noises, while other cities specify sound level limits by time of day and land use. The following types of ordinances are those most likely to have an impact on truck movements and/or business operating hours:

- **Noise standard by time of day and land use.** Twelve cities set noise standards by time of day for different land uses. These standards apply principally to fixed noise sources. Many cities exempt roadway traffic noise, indicating that such noise is better governed through the principals set forth in a city's General Plan (all California cities must include a noise element in their General Plan). Some cities allow the noise levels to be exceeded for short periods of time.
- **Noise standard by land use only.** Three cities set noise levels by land use only, and do not differentiate allowable levels by time of day. These levels apply to fixed sources of noise, not roadway traffic.

⁶ Staff at the City of Canyon Lake were not available to assist with a search of the municipal code, and the municipal code was not available for Internet review. The City of Lake Elsinore did not respond to repeated messages, and the municipal code was not available for Internet review.

⁷ Lighting ordinances appear to be used primarily to ensure minimum levels of lighting for community safety, rather than to restrict maximum lighting levels.

- **Noise standard by time of day only.** Two cities set a noise standard that varies by time of day, but not by land use. These levels apply to fixed sources of noise, not roadway traffic.
- **Transportation-specific noise standards.** Three cities set noise standards that specifically targets noise from transportation or land uses adjacent to transportation facilities. Two cities (Calimesa and Perris) simply make reference to the California Motor Vehicle Code, which already sets noise limits by vehicle type. Corona sets decibel limits by land uses adjacent to transportation facilities.
- **Restrictions on loading and unloading.** Five cities restrict the times that loading and unloading activities can take place. Some cities specifically mention that the restriction only applies to loading and unloading of containers or trash into trash compacters.
- **Restriction on idling.** Four cities restrict idling of large vehicles by time of day, unless the idling is caused by traffic congestion.

The City of Palm Springs is an example of a municipality that sets noise levels by both zoning and time of day. Table 3.1 shows the general noise restrictions in Palm Springs.

Table 3.1 Palm Springs Noise Restrictions

Zone	Time	Sound Level (in dBA)	
Residential	Low Density	7:00 a.m.-6:00 p.m.	50
		6:00 a.m.-10:00 p.m.	45
		10:00 p.m.-7:00 a.m.	40
High Density		7:00 a.m.-6:00 p.m.	60
		6:00 a.m.-10:00 p.m.	55
		10:00 p.m.-7:00 a.m.	50
Commercial		7:00 a.m.-6:00 p.m.	60
		6:00 a.m.-10:00 p.m.	55
		10:00 p.m.-7:00 a.m.	50
Industrial		7:00 a.m.-6:00 p.m.	70
		6:00 a.m.-10:00 p.m.	60
		10:00 p.m.-7:00 a.m.	55

General Plans

On the issue of noise, there tends to be a strong two-way linkage between a city's General Plan and municipal ordinances. Several cities make direct reference to their General Plan in their noise ordinances, indicating that cities may be relying on their General Planning process to provide a policy framework to control noise, especially from roadway traffic. This linkage and policy framework implies that noise ordinances tend to flow from a municipality's General Plan process, and do not exist in isolation.

The State of California General Plan Guidelines⁸ requires that cities include a noise element in their General Plan. Although the Guidelines do not stipulate specific allowable noise thresholds, they do require communities to map existing noise levels and, if possible, to project those noise levels over the life of the General Plan. The Guidelines do not stipulate specific noise thresholds that must be followed, but provide recommended guidelines and require that communities adopt strategies to meet their noise abatement goals.

Consequently, all municipalities in the County of Riverside have a noise element in their General Plan document. These elements may contain noise abatement goals or mitigation measures that could conflict with any efforts to increase allowable noise levels in the municipality. For example, the City of Murrieta's General Plan document contains over 20 noise-related policies, including the following:

- *N-1.1c. Protect the noise environment in existing residential areas by requiring mitigation measures for commercial, industrial or other proposed developments which would exceed the noise level standards set forth in the Noise and Land Use Compatibility Guidelines and the City Noise Ordinance as measured at any affected land use.*
- *N-1.2d. Prepare standards to address issues that have the potential for "disturbing the peace" of residential and "after-hours" non-residential areas, such as loud parties, car alarms, home and business alarms, yard maintenance, and hours of operation for construction activities.*

As can be seen, there is a strong policy foundation for the municipal noise ordinances that exist in Riverside County, and indeed throughout California. Even if a local jurisdiction wanted to adopt a less restrictive noise ordinance, it is possible that such a change may trigger the need for a General Plan amendment.

Truck-Related Mitigation Measures in Environmental Documents

In addition to direct and indirect regulations, mitigation measures included in Environmental Impact Reports (EIR) sometimes contain restrictions on truck movements. Several jurisdictions were contacted to identify whether any such

⁸ http://www.opr.ca.gov/planning/publications/General_Plan_Guidelines_2003.pdf.

mitigation measures are typically included in EIRs. Public works and/or planning staff in the following cities were interviewed:

- City of Riverside,
- City of Corona,
- City of Murrieta,
- City of Moreno Valley, and
- March Joint Powers Authority (JPA).

None of these jurisdictions indicated having any mitigation measures in place that limit truck movements by time of day, with the exception of temporary limitations on the movements of construction vehicles. However, some cities have put other non-time-of-day, mitigation measures in place to minimize the impact of trucks in the community. For example, development of the March Business Center, a 1,290-acre property with extensive warehouse uses, required implementation of several truck-related mitigation measures. These included the designation of truck routes, placement of truck signage, installation of truck choke points to prevent trucks from using certain roadways, separation of residential uses from truck routes, and construction of buffers/sound attenuators to reduce noise impacts from the development⁹.

Summary

The prevalence of spatial restrictions on truck movements in Riverside County suggests that truck traffic does present an issue for local jurisdictions. Evidence from recent newspaper articles and discussions with planning staff at local jurisdictions indicate that truck traffic issues are particularly acute around newly developing industrial areas that abut residential areas. Similar issues occur when new residential areas develop adjacent to existing industrial or warehouse areas. In some cases, truck traffic stemming from these developments has stirred community concerns.

By and large, municipalities appear to be addressing these concerns by restricting trucks to certain routes, separating industrial and residential land uses, and restricting overall noise levels. Direct temporal restrictions on truck movements or warehouse hours of operation are not widespread throughout the County. Further, many of the municipal noise restrictions have exemptions for short-term excessive noise levels that frequently accompany itinerant sources such as truck movements along a public roadway.

⁹ Source: Discussion with planning staff of the March JPA, and analysis of the March Business Center Final Focused Environmental Impact Report, 2003.

3.2 BUSINESS OPERATIONS

The question remains as to what extent these restrictions influence the timing of truck travel relative to other constraints, such as business considerations or the costs of travel at certain periods. To answer these questions, interviews were conducted with the following members of the trucking, logistics consulting, and warehousing industries:

- Five of the largest trucking companies based in Riverside County. The companies interviewed served the construction, beverage, and food services industries.
- A representative of the California Trucking Association (CTA).
- The manager of a large distribution center located in the City of Riverside.
- A senior staff person at a major logistics consulting firm serving distribution centers throughout Southern California.

Complete interview results are available in Appendix B.

Several themes emerged from the interviews.

Business constraints have a large impact on truck schedules. The interviews revealed that business constraints have a far more powerful effect on the timing of warehouse and trucking operations than do any other constraints. These constraints are unique to each industry and company.

The phrase “we are a customer service industry” came up several times in the interviews with trucking companies. Trucking companies schedule their pickups and deliveries based on the needs of their customers, which stem from the business constraints just mentioned. Some examples of these customer needs include:

- One food service company’s customers requires him to make deliveries at midmorning and lunch break times. Delivery trucks must travel during peak hours to meet this schedule. The trucks typically budget one to two hours on either end of the trip to ensure timely delivery given the congested highway conditions.
- One beverage delivery company indicated that his customers (primarily big-box stores) schedule pickup and delivery times based on when they have staff available to accept the delivery. Some companies have after-hours operations, allowing him to schedule 25 percent of his deliveries during evening hours.
- One company that deliveries heavy construction equipment indicated that they are able to make about 60 percent of equipment deliveries at night. However, certain jobs require that the equipment be delivered during the daytime, when specialized staff are available to receive it.

Regulations have a relatively small impact on truck schedules. Most of the interviewees indicated that ordinances and restrictions play a small role in

shaping the timing of truck pickups and deliveries, or in shaping warehouse hours of operation. However, permit loads and warehouses operating in close proximity to residential areas are more influenced by truck restrictions. Examples of these influences include the following:

- Several trucking companies indicated that ordinances and restrictions have limited impact on their pickup and delivery schedule. Often, these were the same companies that made most deliveries during the day due to their customers' needs.
- One trucking company, which delivers heavy construction equipment, indicated that restrictive ordinances, particularly noise ordinances, have a strong impact on scheduling. This sensitivity to noise is likely related to the fact that this company primarily moves permit loads.
- One trucking company that delivers building materials indicated that customers set pickup and delivery times based on what they are allowed to do in their jurisdiction. Sometimes there are noise ordinances in place that affect when they can schedule the deliveries. If those regulations were removed, it would be up to the customers to say if they wanted deliveries after-hours.
- The CTA representative and the senior logistics consultant both indicated that ordinances primarily impact trucks moving through residential areas. Since distribution centers are primarily located outside of residential areas, ordinances have less of an impact on them.
- A warehouse owner/operator in the City of Riverside indicated that local ordinances and noise restrictions had little impact on his pickup and delivery schedule. He maintains nighttime operations, except for the hours of 2:00 a.m. to 4:00 a.m., which is between shifts.

Nighttime delivery is only possible for certain industries. Following on the theme of business constraints shaping pickup and delivery schedules, the interviews revealed that only certain industries are able to accept nighttime deliveries. Many of those that can accept nighttime deliveries already do so. For example,

- The senior logistics consultant indicated that most of the distribution centers that accept nighttime deliveries are large importers/exporters. Large distribution centers can take nighttime deliveries, because they maintain very large yards that can fill up during the nighttime, and because they have the resources to hire nighttime guards. Small distribution centers and stores do not have the resources to stay open at night.
- One trucking company indicated that some of his warehouse customers maintain nighttime operations, but others do not, because they do not want to compromise the family lives of their workers.
- The representative of the CTA indicated that nighttime delivery comes with risks and costs that only certain companies are willing to bear. These include:

- Higher cost of doing business at night,
- Higher labor costs at night,
- More theft of cargo at night, and
- More expensive to keep warehouses open at night.

Many trucks must travel during the peak hours. As a consequence of the business constraints of their customers, many trucking companies must dispatch trucks during peak-travel periods. These companies indicated that they often leave several hours of buffer to ensure timely pickup and delivery during congested periods. The representative of CTA pointed out that, regardless of the timing of their trip, most trucks face congested conditions because these conditions are no longer limited to certain times of day. In other words, there is no longer a well-defined peak period.

3.3 SUMMARY OF KEY POINTS

A review of the regulatory and business operations information reveals that:

- Many Riverside County jurisdictions have truck route restrictions in place, but time-of-day restrictions exist in only two communities in the County.
- Noise restrictions are quite common throughout the county, although many of the ordinances have exemptions for short-term noise exceedances that would likely be associated with truck movements. No examples of maximum lighting levels were found in municipal ordinances.
- The municipal noise restrictions are most strict in residential areas, which can create problems as residential areas and industrial/warehouse areas are developed in close proximity to each other. These noise conflicts may be better addressed through greater attention during land use planning and site development activities.
- There tends to be a strong two-way linkage between a city's General Plan and municipal ordinances on the issue of noise. This linkage and policy framework implies that noise ordinances tend to flow from a municipality's General Plan process, and do not exist in isolation. Even if a local jurisdiction wanted to adopt a less restrictive noise ordinance, it is possible that such a change may trigger the need for a General Plan amendment.
- Business operation practices of receivers have a far more powerful effect on the timing of warehouse and trucking operations than do any other constraints (including government regulations).
- Nighttime trucking operations currently exist, but are generally not widespread due to business risks and costs that are generally unrelated to government regulations.
- Most trucks face congested conditions at some point during their trip because congested conditions are now fairly pervasive throughout the day.

4.0 Local and National Experiences With Time-of-Day Policies

Increasing truck congestion is affecting many areas around the country, resulting in negative air quality, safety, maintenance, and mobility impacts. Managing these negative impacts, while retaining economic productivity associated with truck movements, is a common challenge.

Some local jurisdictions have attempted to meet this challenge by either studying or implementing time-of-day restrictions on truck movements. The few implementation examples have tended to coincide with limited duration events, such as the Salt Lake City, Atlanta, and Los Angeles Olympic games. Nonetheless, their experiences help to inform any policy choices being considered in Riverside County.

This section synthesizes the experiences of other jurisdictions with truck time-of-day restrictions, and provides relevant background information drawn from the research literature. The section concludes with a synopsis of the lessons learned from these sources.

4.1 BACKGROUND INFORMATION

NCHRP Synthesis 314: Strategies for Managing Increasing Truck Traffic contains a survey of truck congestion management practices at 28 state departments of transportation (DOTs) and eight metropolitan planning organizations (MPOs) around the country. The study found that the most common approaches to coping with increased truck congestion are:

- Use of weigh-in-motion devices that communicate truck identity and weight information electronically to enable the truck to bypass roadside weigh stations;
- Special climbing lanes for trucks;
- Restrictions on truck uses of certain travel lanes; and
- Improved incident management to keep traffic flowing after incidents involving trucks.

In contrast to the measures listed above, time-of-day truck restrictions are not a widespread strategy for coping with truck traffic congestion. Some states have implemented time-of-day restrictions at spot locations (e.g., over the Hoover Dam in Nevada), but most jurisdictions surveyed for the NCHRP report reported avoiding time-of-day truck restrictions because of insufficient benefits and

potential implementation difficulties (Douglas, 2003). However, many states do restrict permit trucks from traveling during certain hours due to safety issues (Mannering et al., 1993).

Some academic researchers have raised concerns regarding the potential effectiveness of peak-period truck bans, noting that:

- Trucks generally represent only a small proportion of peak-period traffic, thus restrictions on trucks will not likely result in significant congestion reduction (Grenzeback et al., 1990; Mannering et al., 1993; and Mussa and Price, 2004).
- Time-of-day restrictions on trucks on certain roadways could result in diversions of trucks to roadways that are not designed for trucks, resulting in safety and maintenance issues (Mussa and Price, 2004).
- Latent demand may quickly consume any capacity freed up by truck restrictions (Mussa and Price, 2004; and Campbell, 1995).
- Peak-hour truck restrictions will not necessarily improve air quality since emission rates are very sensitive to vehicle speed. Therefore, air quality improvements will only result if the speed differential between the peak and the off-peak period are great enough. In addition, if trucks divert to slow-moving roadways to avoid time-of-day bans on major arterials, their emissions may increase. Accurate predictions of vehicle speeds are necessary to determine the air quality impact of truck time-of-day restrictions (Campbell, 1995; and Mussa and Price, 2004).

4.2 ATLANTA 1996 SUMMER OLYMPIC GAMES

The dual challenges of transporting thousands of visitors while maintaining acceptable air quality led Atlanta city officials to aggressively implement a suite of transportation control measures during the 1996 Olympic Games.

Measures included increases in the quantity and frequency of transit services; outreach efforts to encourage voluntary shifts in normal working hours and increased telecommuting; and closure of the downtown to private automobile travel (Freidman et al., 2001). In addition, an outreach campaign was conducted to encourage commercial vehicles to voluntarily consolidate their deliveries and, as much as possible, shift them out of peak hours. This effort required the cooperation of private businesses (groceries, retailers, distribution centers, etc.), which had to adjust their hours of operation to receive off-peak deliveries (Atlanta Regional Commission, 2007b).

Traffic counts were collected at four locations through the metropolitan area to gauge the impact of the transportation control measures on traffic volumes. Weekday morning peak traffic counts decreased 22.5 percent from normal levels, while 24-hour traffic counts showed little change from pre-Game levels. Much of

the reduction in peak-hour traffic can be attributed to heightened transit ridership, which increased 217 percent during the Games (Friedman et al., 2007).

In addition, surveys of employers in metropolitan Atlanta indicated that there was a widespread effort to adjust schedules around the Games, including shifting of work hours; compression of the work week; and increased vacations (Cambridge Systematics, 2001). There were no empirical studies of the impact of truck delivery shifts on peak-hour traffic, since they were just one of many changes in place during the Games.

However, anecdotal evidence from the freight industry indicates that shifts did occur. Most freight stakeholders appreciated having the opportunity to deliver during off-peak hours, since it allowed them to improve their bottom line by reducing the costs associated with traveling during congested periods. Outside of the Olympics, they are forced to travel during congested periods to meet the delivery requirements of their customers (Atlanta Regional Commission, 2007b).

Off-peak deliveries are so attractive to the freight industry that they raised the issue during recent discussions surrounding Atlanta's Freight Mobility Plan, which is currently under development. The delivery industry, particularly Coca-Cola, which is headquartered in Atlanta, suggested that an Olympics-style campaign be conducted to encourage local businesses to accept off-peak deliveries. The possibility of piloting such a campaign in a limited section of the City is under discussion. It has been acknowledged that this type of pilot would require working with the diverse delivery needs of local businesses to make off-peak delivery possible. Some of these needs include just-in-time delivery (manufacturing sector), narrow delivery windows (grocery sector), and quick delivery of hot cement to construction sites within three hours of mixing (construction industry). More detailed needs are listed in Atlanta's Freight Mobility Plan Needs Assessment (Atlanta Regional Commission, 2007a).

4.3 SALT LAKE CITY 2002 WINTER OLYMPIC GAMES

The Salt Lake City Olympic Games brought more than half a million visitors into the City during several weeks in the winter of 2002. Increased transportation demand from all the visitors was expected to create significant congestion issues for the city if nothing was done to manage it.

Several steps were taken to contain congestion and meet the transportation needs of the visitors. Those steps included deployment of enhanced Intelligent Transportation Systems (ITS) technology to help manage travel during the games, development of the Olympics Games Transportation System to transport spectators to and from events, and development of a Transportation Demand Management (TDM) Plan to reduce "background" traffic levels during the games.

The TDM plan was developed by a coalition of local agencies and a public relations consulting firm. It included a suite of measures designed to reduce

background traffic by at least 20 percent for specific major routes impacted by Olympic traffic. Strategies included encouragement of increased transit use, car-pooling, shifting of work hours, and shifting of routes and times (especially for trucks), and other approaches.

As in the Atlanta Olympics, adoption of these measures by the public and by businesses was on a voluntary basis. Gaining their participation required extensive outreach efforts. To encourage shifting/consolidation of truck routes and delivery times, outreach was conducted to both trucking companies and to businesses on the receiving end.

In combination, the traffic management programs implemented during the Olympics were very successful at containing congestion. Overall, total traffic (including visitors and residents) were reduced 15 to 20 percent during the Olympics from normal levels.

The extent to which shifts or reductions in truck movements contributed to the drop in congestion is not certain. However, there is some evidence that truck trips were reduced during the games. Truck counts collected at one site (Parley's Canyon) during the games showed a reduction of daytime truck trips as compared to normal levels. However, no corresponding increase in truck trips at night was measured, indicating that there was no time-shifting of truck trips. Rather, the daytime truck trips were either diverted to another route or foregone during the Games.

The Utah DOT also collected truck counts at the truck Ports of Entry (POEs) operated by Utah DOT. These showed that the number of entering trucks fell by between 1,800 and 7,000 from normal levels, depending on the location. Percentage reductions in truck counts were not recorded. Truck counts at one of the POEs showed some shifting from daytime to night.

4.4 CALIFORNIA URBAN FREEWAY GRIDLOCK STUDY

Concerned with rising peak-period congestion and growing volumes of large trucks on freeways, the California Legislature commissioned the Urban Freeway Gridlock Study in the late 1980s. The study assessed the extent of truck-related freeway congestion in the Los Angeles, San Diego, and San Francisco metropolitan areas; and evaluated several strategies to cope with truck congestion, including strategies to restrict truck freeway access by time of day.

The analysis of the nature of peak-period congestion in the three metropolitan areas revealed that large truck volumes did not contribute significantly to freeway congestion. Large trucks represented a small (two to three percent) proportion of freeway traffic on all the highways that were sampled. The authors pointed out that trucks were perceived as having a larger impact on congestion than they actually were due to the high visibility of trucks in the traffic stream.

However, traffic incidents involving large trucks were found to contribute significantly to nonrecurrent congestion. Truck-involved accidents were estimated to account for 20 percent of the total cost of nonrecurrent congestion.

To address concerns surrounding the effects of trucks on traffic flow, the study evaluated the candidate strategies for managing truck traffic. The strategies were evaluated for their feasibility, likely impact on congestion, and likely economic impact. The strategies assessed for the study were:

- **Traffic management strategies.** These strategies might include freeway design improvements for trucks and ITS enhancements to benefit trucks. These strategies would not reduce the number of trucks on the roadway, but would likely reduce stop-and-go traffic somewhat and improve truck safety, thus reducing congestion associated with incidents.
- **Incident management.** Enhanced incident management activities (e.g., reduction in time required to locate and clear incidents) would reduce some of the nonrecurrent delay associated with truck-involved incidents. This strategy is highly feasible and would build on programs already in place. However, it would not address recurring congestion problems.
- **Night shipping and receiving program.** A nighttime shipping and receiving program would reduce congestion by requiring that larger businesses (e.g., warehouses, oil refineries, etc.) do most of their shipping and receiving at night. Smaller businesses would not be subject to the requirement due to the heavy economic burden of maintaining nighttime hours. This strategy would require buy-in from many industry groups, and could be vulnerable to legal challenge. The economic impact would be costly, unless businesses could find offsetting savings from conducting nighttime deliveries. The effect on peak-period congestion would be small, but air quality would likely be improved by reducing truck emissions during daylight hours.
- **Peak-period freeway truck ban.** This strategy would limit the hours in which large trucks could operate on freeways. It would likely negatively impact air quality, because engine emissions would increase as trucks divert to slower arterial routes. Average freeway speeds would increase slightly, but the ban would not significantly relieve peak-hour congestion, due to the small percentage of trucks in the traffic stream. Moreover, such a ban would be subject to legal challenge, as it could be judged to conflict with the Federal government's mandate to protect interstate commerce.

Rather than choosing one of these strategies, the Urban Freeway Gridlock Study recommended employing several of them to combat peak-period congestion. The study's final recommendations were that the Caltrans should:

- Expand and intensify traffic management programs;
- Expand incident management programs;

- Conduct a pilot program to determine if a cost-effective night shipping and receiving program can be developed; and
- Research whether limited “spot” peak-period bans on trucks would be legally justifiable for safety reasons.

Peak-period freeway bans over large sections of freeway were not recommended.

4.5 NEW YORK CITY DELIVERY INCENTIVES

More than 67 million trucks travel in and around New York City each year. The intensity of truck traffic, combined with high levels of passenger vehicle congestion, has created severe congestion problems for the City.

Nighttime delivery incentives have been explored as a means of reducing congestion and the cost burden it imposes on the commercial sector. One study in particular, entitled “Effectiveness of Financial Incentives for Off-Peak Deliveries to Restaurants in Manhattan, New York” (Hoguin-Veras et al., 2006), analyzed the receptiveness of an important group of receivers, the restaurant sector in Manhattan, to policies aimed at fostering off-peak deliveries.

The restaurant industry was targeted because restaurants are usually open during the nighttime, and previous research suggested that both carriers and receivers of these goods would be interested in off-peak deliveries. Furthermore, it was estimated that the 6,500 current restaurant and drinking establishments in Manhattan receive somewhere between 36,000 and 42,000 deliveries per day, resulting in 18,000 to 21,000 daily truck trips, implying that even small changes in the delivery patterns for these establishments could yield significant improvements to the City’s congested roads. As a point of reference, New York City’s 22 toll river crossings facilities administered by the various transportation agencies handled over 43 million trucks in 2006. Assuming that these are distributed over a six-day week (excluding Sundays), this would equate to nearly 138,000 daily trucks, meaning that the restaurant and drinking places sector represents approximately 13 percent to 15 percent of total truck traffic in Manhattan.

The survey asked receivers whether they would be willing to accept off-peak deliveries provided that they were rewarded financially through four different incentive programs:

1. Tax deductions for one worker,
2. Unspecified government subsidies,
3. Unspecified tax cuts, and
4. A 20-percent surcharge in shipping costs during the peak hour.

The results from these questions are shown in Table 4.1. As shown, more than one-half of the establishments surveyed stated that they would be willing to accept off-peak deliveries under the first two programs, nearly one-half (46 percent) said they would do so if tax cuts were provided, and one-third said that they would do so for a 20-percent reduction in shipping charges.

Those restaurants, located in commercial areas, already open during peak hours, and those with long (multihour) deliveries were found to be more receptive to the idea of receiving deliveries after hours. In addition, interviews with selected restaurateurs revealed that the availability of a backdoor for nighttime delivery and the restaurant's orientation (breakfast, lunch, dinner, and bar) are all important considerations when determining if nighttime delivery is feasible.

These findings suggest that while some members of the restaurant industry can accommodate off-peak deliveries, others cannot because of business and logistical constraints. Even generous incentives are not always enough to make up for the business losses or logistical problems associated with off-peak deliveries.

4.6 LOS ANGELES TRUCK ORDINANCE

In 1987, the City of Los Angeles, with the strong backing of Mayor Tom Bradley, developed a draft ordinance to establish a pilot program to regulate large truck transportation during peak periods. The ordinance stated that 70 percent of large trucks would be prevented from operation on city streets between 6:00 a.m. and 9:00 a.m., and between 4:00 p.m. and 7:00 p.m. The primary justification for the ordinance was air quality considerations. The proposed restrictions were highly controversial, and were dropped from discussion after Mayor Bradley's term was ended (Campbell, 1995).

Table 4.1 Receivers' Willingness to Accept Off-Peak Deliveries by Incentive

Incentive	Accept Off-Peak Deliveries?	
	Yes	No
1. Tax deduction equal to salary of one worker doing off-peak deliveries	55.40%	44.60%
2. Government subsidy to restaurants receiving off-peak deliveries (amount not specified)	57.80%	42.20%
3. Tax cut for companies receiving off-peak deliveries (amount not specified)	46.30%	53.70%
4. 20% reduction in shipping charges during off-peak hours	33.33%	66.67%

4.7 BEIJING'S BADALING EXPRESSWAY

Although this case study is not an effort to move truck traffic to the off-peak period, it presents a situation in which a mandate was issued to reduce truck traffic on a particular highway. It also presents the immediate fallout from that mandate.

The Badaling Expressway is a roadway in China that links Beijing to the Badaling stretch of the Great Wall of China. It continues toward Yanking and leaves Beijing, becoming the Jingzhang Expressway. The original design of the expressway was for the use of tourism vehicles traveling between the capital's downtown and the Great Wall, but lately the expressway had become a crucial route for trucks going from Beijing to other neighboring provinces like Hebei and Shanxi.

Mayor Wang Qishan of Beijing cited the growing volume of truck traffic on the expressway, in addition to the fact that many of these trucks were normally being driven over their design weight limits as the cause for an increasing number of fatal accidents on the roadway. As a result, on December 14, 2005, the City of Beijing banned overloaded vehicles and heavy trucks from the Badaling Expressway, following a tragic accident that killed 24 people on December 5. The new regulation has been tightly enforced, with 29 checkpoints along the roads that lead to the Expressway, citing all truckers with loads exceeding 2 tons.

The new regulation added significant burdens on Highway 110, which is the only alternate route that trucks can take to access Beijing's downtown area and the Badaling. In the days after the ban took effect, the number of trucks using the route reached 8,000 per day, while the highway is only designed to have capacity for 2,500 to 3,000 vehicles per day. This volume of truck traffic, combined with the time and effort involved in inspecting trucks, led to queues exceeding 2,000 trucks and extending over 30 kilometers (over 18 miles).

Authorities expressed that the ban of trucks on the expressway was only a make-shift way to reduce traffic accidents on the expressway, and that a second expressway was likely to be built connecting Changping and downtown Beijing in the near future.

4.8 SUMMARY OF KEY POINTS

The case studies and background research presented in this section provide several important lessons for any future application of time-of-day restrictions on truck movements:

- Shifting truck schedules requires the cooperation of both shippers and receivers. During both the Atlanta and Salt Lake City Olympics, extensive outreach was conducted to ensure both shippers and receivers could accept off-peak deliveries.

- The Atlanta and Salt Lake City examples were short-term applications of time-of-day initiatives. In both of these cases, normal economic activity in the regions was interrupted, and businesses had the opportunity to avoid any short-term interruptions by increasing inventories prior to implementation of the time-of-day initiatives.
- Outright truck bans are legally and politically difficult to implement. The Los Angeles and Beijing examples and the Urban Freeway Gridlock Study demonstrate that there are difficult political and legal issues associated with outright truck restrictions on freeways. Perhaps for these reasons, there are few examples of freeway time-of-day restrictions on trucks.
- Some industries and businesses are more able to shift to off-peak deliveries than others. The New York City delivery incentive study revealed some of the business and geographic constraints that make receipt of off-peak deliveries easier for some businesses than others. For example, restaurants located in commercial areas were more open to receiving nighttime deliveries, presumably because they do not risk disturbing sleeping neighbors.
- Incentive programs could have an impact on shifting off-peak deliveries. The New York City study shows the potential for incentive programs to be used to encourage shifting of deliveries to after hours. However, the study showed that only 50 percent of restaurant owners would accept an incentive equivalent to the cost of additional staff necessary to accept the deliveries. This confirms that issues beyond staff costs are at play in the scheduling of deliveries.

5.0 Potential Implementation Strategies

This section identifies and evaluates three potential strategies that could be used to influence the time-of-day travel patterns for trucks on Riverside County free-ways. The strategies progress from passive, no-cost policy changes to more direct initiatives that may entail a public-sector cost. None of the strategies address time-of-day ordinances or restrictions at the city/county level since such direct ordinances either do not exist or do not influence truck travel patterns.

5.1 LOOSEN NIGHTTIME NOISE RESTRICTIONS FOR INDUSTRIAL LAND USES

Description

A thorough search conducted for this study revealed that few cities in Riverside County have ordinances that directly limit truck movements by time of day. However, many cities have noise ordinances in place that could be indirectly confining some truck movements, or business hours of operation, to daytime hours.

Interviews with representatives of cities and trucking companies suggest that these ordinances only impact certain types of trucks in some areas. They appear to have the greatest impact on large/heavy trucks moving in the vicinity of residential areas, and little to no impact on the schedules of other types of trucks.

Given this finding, it would seem that loosening noise ordinances in *residential* areas would have the greatest effect on truck movements. But such a strategy may be politically difficult given that noise ordinances are put in place to protect residents from unwanted nighttime disturbances. Residents are not likely to react positively to large increases in nighttime pickups and deliveries around their homes.

An alternative strategy would be to work with cities to loosen noise ordinances that may be directly or indirectly restricting truck movements in the vicinity of industrial areas. This would potentially allow some trucks to make more of their pickups and deliveries during off-peak periods.

Impact on Congestion and Air Quality

The research conducted for this review suggests that ordinances play a small role in determining truck pickup and delivery schedules. While some trucking companies, particularly those making deliveries of oversize loads, indicated that

ordinances restrict their operations, the majority of those interviewed said that business constraints, not ordinances, have the greatest impact on their pickup and delivery schedules. For example, a food service delivery company reported needing to make food deliveries in accordance with workers' morning and lunch break periods. These customer needs determined the schedule.

Since ordinances have limited influence on truck schedules, the strategy of loosening ordinances to encourage more nighttime delivery in industrial areas would likely have a minimal effect on congestion and air quality. Only a small subset of trucks would be affected, namely those who are currently operating in industrial areas; whose customers could conceivably accept nighttime deliveries; and who are currently limited from making such deliveries because of noise ordinances. The research conducted for this study suggests that few trucking companies are in this position.

Assuming this small subset of companies could be successfully targeted, the impact on congestion and air quality would be small. In fact, congestion might not be impacted at all, unless most of these companies currently travel during congested periods. Some of them could already be traveling in the less-congested midday time period.

Feasibility

As indicated in Appendix A, there are 14 cities in Riverside County that restrict noise levels by time of day only or time of day plus land use, and there are an additional 3 cities that restrict loading and unloading and/or excessive idling by time of day.

Since many of these cities set higher allowable noise levels for industrial uses, the question remains as to whether increases in nighttime shipping and receiving activity would exceed the current standards. Undoubtedly this potential would depend on the extent of the increase and the sensitivity of the surrounding land uses. Further study may be needed to determine how much shipping and receiving could increase without violating each city's standard.

If nighttime shipping and receiving activity could increase noise without violating proposed noise levels, those revised levels could be implemented. This revision would involve contacting elected officials in the aforementioned 14 cities and persuading them to propose an amendment to the municipal code. However, since many cities also include noise policies and mitigation measures in their General Plans, amendments to the General Plan may also be required. If such amendment is needed, the cost and complexity of modifying the noise ordinances are likely to grow substantially.

Implementation of this strategy is feasible if a General Plan amendment is not needed, but would require the cooperation of elected officials and planning staff throughout Riverside County. As mentioned previously, gaining political buy-in is most likely if the strategy is limited to industrial, rather than residential areas. If the increases in noise adversely affect surrounding communities or conflict

with principles outlined in the city's General Plan, there could be political opposition to this strategy.

5.2 CREATE INCENTIVES FOR OFF-PEAK PICKUPS AND DELIVERIES

Description

Overwhelmingly, trucking companies set their pickup and delivery schedules according to their customers' needs. These needs vary from receiving lunchtime deliveries of food to receiving hot cement at a construction site within a few hours of mixing.

For a good share of industries, these schedules cannot be altered since they are tied to the organization's business model or to major logistical constraints. A simple example is fine restaurants lacking back doors. In the New York City case study discussed previously, such restaurants reported they could not accept nighttime deliveries, because they could not be loading and unloading boxes in front of their customers.

However, there are undoubtedly some industries for whom nighttime or off-peak deliveries make business sense, and many of them have already begun operating after hours. A consultant contacted for this study indicated that most major importers in the SCAG region operate after hours, because they have the financial wherewithal to cover the higher cost of doing business at night, and because they have large enough warehouses to accommodate containers accumulated at nighttime.

There is a final group of businesses that is not currently accepting off-peak pickups and deliveries, but could reasonably do so given appropriate incentives or help to remove minor logistical barriers (including, for example, the nighttime noise ordinances discussed previously). These businesses could include:

- Operators of small- to middle-sized warehouses not already operating at night;
- Large big-box stores not already operating at night; and
- Small businesses already open at night (e.g., restaurants).

These businesses could be offered direct and indirect incentives for accepting off-peak deliveries, including, for example, deductions or direct subsidies to offset the costs of operating at night (e.g., the costs of maintaining additional staff, nighttime guards, and so on). The incentives could be offered in proportion to the amount of freight redirected to the nighttime. However, the incentives may necessitate financial commitment from the public sector.

Impact on Congestion and Air Quality

The impact of this strategy on congestion and air quality would likely be small. The program would only target trucks with destinations in Riverside County, which are a minority of trucks on Riverside freeways. Moreover, only a small share of those trucks with destinations in the County would be affected, namely those servicing industries that are not already operating after hours, but would do so if offered sufficient incentive. All in all, the percentage of trucks impacted would be small, as would the likely congestion and air quality benefits. If the program could be extended across multiple counties, the benefit would be greater, as it would affect a greater proportion of trucks.

Feasibility

Since this would be an incentive program, there would be few legal or direct political barriers to implementing it. However, there may be indirect political barriers associated with identifying sources of funds to support the program. One possibility would be to begin the program as a pilot in a small section of the County. This would help determine whether any businesses would voluntarily shift hours without incentives, which types of businesses could shift with minimal incentives, and which types of businesses would require major incentives. The Atlanta Regional Commission is currently considering such a pilot program.

5.3 DIRECT RESTRICTIONS

Description

A direct alternative to the two strategies described above is to impose time-of-day restrictions on trucks moving on certain roadways. This strategy could be used, for example, to restrict trucks during peak hours on certain freeways or on certain arterial roadways within the County.

There are few examples of such time-of-day restrictions, although the State of California and the City of Los Angeles have both studied them in the past. In both cases, it was decided not to implement the restrictions because of political and economic concerns and logistical barriers.

Impact on Congestion and Air Quality

Depending on where they were implemented, freeway truck restrictions could have a significant impact on congestion on the targeted facility. Along certain sections of the I-10 and SR 60 freeways, for example, truck Annual Average Daily Traffic (AADT) exceeds 20,000, and trucks make up as much as 27 percent of daily traffic.

On most freeways, however, trucks make up a much smaller percentage of traffic, especially during peak-travel period. Several data sources analyzed for this study suggest trucks likely make up between 7 to 10 percent of AM peak-period

traffic and between 5 to 7 percent of PM peak-period traffic on average. Trucks make up a larger percentage of off-peak period travel.

Assuming time-of-day restrictions were implemented along the most heavily used freeways, the congestion reduction benefits could be as high as 10 or 15 percent during peak periods on the impacted facility, *assuming that the truck volume reduction is not offset by increases in passenger car volumes*. In an interconnected transportation network, however, a single facility cannot be looked at in isolation. There are several reasons to be cautious when considering the systemwide benefits of a freeway time-of-day restriction:

- Most trucks' schedules are set by the needs of their customers, and there is limited room for adjustment. Most trucks would likely shift their route instead of their schedule in order to meet their customers' needs. Truck congestion and pavement degradation would simply shift to other freeways or local roadways.
- If trucks shift off freeways to local roadways, they may be forced to move at slower speeds. Generally, slower speeds are associated with increased emissions.
- Since there is a great deal of demand for peak-hour travel, it is probable that any new capacity freed up by peak-hour truck restrictions would be quickly consumed by passenger vehicles.

Feasibility

To determine the legality of time-of-day restrictions on freeways, interviews were conducted with staff of Caltrans Goods Movement Division and the Federal Highway Administration (FHWA) Office of Freight Management.

Several legal barriers to time-of-day freeway restrictions were identified:

- The Federal government is charged with protecting interstate commerce. Any large-scale restriction on trucks movements, whether on or off freeways, could be challenged on the grounds it interferes with interstate commerce. For example, the State of New Jersey recently tried to confine interstate truck travel to a few major expressways in the State. The U.S. Third Circuit Court of Appeals struck down the restriction because it violated the dormant commerce clause of the U.S. Constitution¹⁰.
- Several freeways in Riverside County, including most of SR 60 and SR 91, are part of a Federally-designated National Network of truck routes, which are set in law (23 CFR 28 658.11). States are prevented from restricting large-

¹⁰See American Trucking Association and US XPRESS, INC., vs. Christine Todd Whitman, 2005, available online at <http://vls.law.villanova.edu/locator/3d/Feb2006/042201p.pdf>.

truck operations on these routes. States are allowed to apply to the FHWA for exceptions, including time-of-day restrictions. Approval of requests for restrictions will be contingent on the ability to justify significant negative impact on safety, the environment, and/or operational efficiency. The FHWA staff interviewed for this study indicated that there is little precedent for whether the FHWA would approve time-of-day restrictions because of truck congestion. Exceptions based on safety considerations have been accepted in the past.

- Any time-of-day restriction on state-owned highways would also have to be approved by Caltrans. According to the Caltrans web site and interviews with Caltrans staff, state law forbids highway restrictions to truck access, except for “safety and engineering” reasons. There is no mention in the law of time limitations. However, a peak-hour truck restriction would hinder trucks from making deliveries and would probably, therefore, be considered a restriction under the law. In order to enact a time restriction, it would be necessary to validate a safety issue by traffic study¹¹.

5.4 ALTERNATIVE STRATEGIES

This report has focused specifically on the possibility of reducing truck traffic by encouraging or requiring trucks to shift their activity patterns by time-of-day. However, there are a several alternative short-term strategies to reduce truck-related congestion. Exploring any one of these in detail is outside the scope of this report. It is still worth noting, however, strategies that could be considered in detail in later studies. A few examples include the following:

- **Enhanced incident response programs.** Traffic incidents, especially major incidents involving trucks, tend to make up a large share of nonrecurrent congestion. Incident response programs aimed at quickly removing incidents from the roadways can reduce congestion and improve the predictability of freeway travel.
- **Traffic management strategies.** Traffic management strategies, such as reconstruction of high accident ramps, enforcement of safe truck operation, and provision of real-time traffic information can help reduce accidents, and therefore congestion, associated with trucks.
- **Value pricing.** Applying pricing schemes to congested freeways can be a very effective method of congestion reduction. In the United States, pricing schemes have been applied primarily to new freeway capacity, but have been used successfully abroad to reduce congestion across entire freeways or geographic areas.

¹¹See <http://www.dot.ca.gov/hq/traffops/trucks/trucksize/fs-restrict.htm>.

5.5 SUMMARY OF KEY POINTS

Table 5.1 presents a summary of the feasibility, air quality, and congestion impacts of the strategies discussed above. They are rated as low, moderate, and high for their potential to reduce air quality and congestion problems; and as easy, moderate, and difficult in terms of their feasibility.

Table 5.1 Matrix of Strategies

	Feasibility (Easy, Moderate, or Difficult)	Impact on Air Quality	Impact on Freeway Congestion
Loosen ordinances in industrial areas	Moderate	Low	Low
Create incentives for off-peak pickups and deliveries	Moderate	Low	Low
Direct restrictions	Difficult	Could worsen air quality	Moderate

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Appendix A. Noise Ordinance Overview

Table A.1 presents, for cities in Riverside County, an overview of the nature of noise restrictions that may be affecting the movement of trucks or business hours of operation. The types of restrictions are described in the following sections and an example is provided for each restriction.

Noise Standard by Time of Day and Land Use

Twelve cities set noise standards by time of day for different land uses. These standards apply principally to fixed sources of noise. Many cities exempt roadway traffic noise, indicating that such noise is better governed through the principals set forth in the city's General Plan (all California cities must include a noise element in their General Plan). Some cities allow the noise levels to be exceeded for short periods of time. An example from the City of Banning municipal code is as follows:

It shall be unlawful for any person to operate or cause to be operated, any single or combination of fixed source or non-stationary source type of equipment or machinery except construction equipment used in connection with construction operations, that individually or collectively constitute an identifiable sound source in such a manner as to cause the sound level at any point on the property line of any property to exceed by five (5) decibels or more, the noise level limits set forth in subsection C.1, plus allowances for time duration in subsection C.2.

Subsection C.1

<i>Zone</i>	<i>Time</i>	<i>Sound Level (A-weighted) Decibels</i>
<i>Residential Low Density</i>	<i>7 a.m. to 6 p.m.</i>	<i>50</i>
	<i>6 p.m. to 10 p.m.</i>	<i>45</i>
	<i>10 p.m. to 7 a.m.</i>	<i>40</i>
<i>Residential High Density</i>	<i>7 a.m. to 6 p.m.</i>	<i>60</i>
	<i>6 p.m. to 10 p.m.</i>	<i>55</i>
	<i>10 p.m. to 7 a.m.</i>	<i>50</i>
<i>Commercial</i>	<i>7 a.m. to 6 p.m.</i>	<i>60</i>
	<i>6 p.m. to 10 p.m.</i>	<i>55</i>
	<i>10 p.m. to 7 a.m.</i>	<i>50</i>
<i>Industrial</i>	<i>7 a.m. to 6 p.m.</i>	<i>70</i>
	<i>6 p.m. to 10 p.m.</i>	<i>60</i>
	<i>10 p.m. to 7 a.m.</i>	<i>55</i>

Subsection C.2

<i>Duration of Sound</i>	<i>dB(A) Allowance</i>
<i>Up to 30 minutes per hour</i>	<i>+ 3</i>
<i>Up to 15 minutes per hour</i>	<i>+ 6</i>
<i>Up to 10 minutes per hour</i>	<i>+ 8</i>
<i>Up to 5 minutes per hour</i>	<i>+11</i>
<i>Up to 2 minutes per hour</i>	<i>+15</i>
<i>Up to 1 minute per hour</i>	<i>+18</i>
<i>Up to 30 seconds per hour</i>	<i>+21</i>
<i>Up to 15 seconds per hour</i>	<i>+24</i>

Table A.1 Noise Ordinance Overview by Jurisdiction

	Noise Standard by Time of day by Land Use	Noise Standard by Land Use Only	Noise Standard by Time of Day Only	Exemption for Motor Vehicles/ Arterial Traffic	Transportation-Specific Noise Standard	Restriction on Loading & Unloading	Idling Restrictions	General Policies Only
Cathedral City		✓		✓		✓	✓	
City Of Blythe	✓							
City of Banning	✓							
City of Beaumont		✓						
City of Calimesa	✓				✓		✓	
City of Coachella	✓			✓				
City of Corona	✓				✓			
City of Desert Hot Springs				✓		✓	✓	
City of Hemet		✓						
City of Indian Wells	✓							
City of Indio				✓		✓	✓	
City of La Quinta								✓
City of Moreno Valley	✓			✓				
City of Murrieta	✓			✓				
City of Norco			✓					
City of Palm Desert	✓							
City of Palm Springs	✓					✓		
City of Perris			✓		✓			
City of Rancho Mirage	✓							
City of Riverside	✓					✓		
City of San Jacinto								✓
City of Temecula								✓

Notes: All cities mention the issue of unwanted noise in their municipal ordinance. However, very generic noise restrictions (e.g., general prohibitions against loud, annoying noises), were not catalogued. Not all noise restrictions were catalogued. For example, very specific restrictions on the operations of garbage trucks, ice cream trucks, and construction vehicles were not catalogued, though they are common. Staff at the City of Canyon Lake were not available to assist with a search of the municipal code and the municipal code was not available for Internet review. The City of Lake Elsinore did not respond to repeated messages, and the municipal code was not available for Internet review.

Noise Standard by Land Use Only

Three cities set noise levels by land use only, and do not differentiate allowable levels by time of day. An example from the city of Hemet municipal code is as follows:

...no use, except a temporary construction operation, shall be permitted which creates noise of a maximum sound pressure level greater than the value given at the locations given in the following table. The sound pressure levels shall be measured in decibels (0.002 dynes per square centimeter) with a sound level meter and associated octave band filter conforming to standards prescribed by the United States of America Standards Institute. Sound shall be muffled so as not to become objectionable due to intermittence, beat frequency, or shrillness.

Octave Band (Cycles Per Second)	NOISE LEVELS	
	Zone Boundary M-1	Zone Boundary M-2
Below 75	72	79
75-149	59	74
150-299	52	66
300-599	46	59
600-1,199	42	53
1,200-2,399	39	47
2,400-4,799	34	41
4,800 and above	32	39

Noise Standard by Time of Day Only

Two cities set a noise standard that varies by time of day but not by land use. An example from the city of Perris municipal code is as follows:

...it is unlawful for any person to willfully make, cause or suffer, or permit to be made or caused, any loud excessive or offensive noises or sounds which unreasonably disturb the peace and quiet of any residential neighborhood or which are physically annoying to persons of ordinary sensitivity or which are so harsh, prolonged or unnatural or unusual in their use, time or place as to occasion physical discomfort to the inhabitants of the city, or any section thereof. The standards for dBA noise level in Section 7.34.040 shall apply to this section. To the extent that the noise created causes the noise level at the property line to exceed the ambient noise level by more than 1.0 decibels, it shall be presumed that the noise being created also is in violation of this section.

Time Period	Maximum Noise Level
10:01 p.m.-7:00 a.m.	60 dBA
7:01 a.m.-10:00 p.m.	80 dBA

Exemption for Motorized Vehicles

The noise thresholds set by time of day and land use apply principally to stationary sources of sound. Six cities explicitly exempt motor vehicles from the noise standards applied to stationary sources. Several cities indicate that noise from motor vehicles is addressed in the General Planning process (California cities are required to have a noise element in their general plan), and several also mention that noise from motor vehicles is regulated by the California Motor Vehicle Code and the Federal Noise Control Act of 1972. Examples from Cathedral City and Moreno Valley follow.

Cathedral City

The following activities and noise sources shall be exempt from the provisions of this chapter:

- A. Those noise events in the community (e.g., airport noise, arterial traffic noise, rail-road noise) that are more accurately measured by application of the general plan noise element policy, utilizing the community noise equivalent level (CNEL) method.*

City of Murrieta

The following activities shall be exempt from the provisions of this chapter:

- H. Motor, Vehicles on Public Right-of-Way and Private Property. Except as provided in this chapter, all vehicles operating in a legal manner in compliance with local, state, and Federal vehicle noise regulations within the public right-of-way or on private property.*

Transportation-Specific Noise Standards

Three cities set noise standards that specifically targets noise from transportation or land uses adjacent to transportation facilities. Two cities (Calimesa and Perris) simply make reference to the California Motor Vehicle Code, which already sets noise limits by vehicle. Corona sets decibel limits by land uses adjacent to transportation facilities. An example from the city of Corona follows:

- (a) Roadway noise. A noise study shall be performed prior to the construction of new master planned roads, roadway improvements, rail lines and/or prior to the construction of residential or sensitive land uses adjacent to existing or master planned roads or railways. The noise study shall identify the existing and future noise contours for the roadway and propose mitigation measures to reduce the noise impacts to a maximum of 65 dBA CNEL in the private outdoor living area*

of residences and to a maximum interior noise level of 45 dBA CNEL for residential and sensitive land uses, as shown in Table 2.

b) Airport noise. Sensitive land uses, site-built homes, and institutional uses are prohibited in airport noise contours above 65 dBA CNEL. All subdivisions within two miles of the Corona Municipal Airport or within the 65 dBA CNEL contour shall show and record an aviation easement for the benefit of the airport. The aviation easement shall provide notification to potential buyers and occupants of the presence of the easement and the potential for over flights and aircraft noise.

Noise studies required. As referenced in division c) of this section, there are essentially two different types of noise sources that have been identified in Corona and each has its own noise metrics as well as its own required noise studies. The noise metrics used for transportation related noise sources is the CNEL which is a 24 hour time weighted average noise level. The noise metrics used for stationary sources are defined as noise levels that cannot be exceeded for certain percentages of time.

Restrictions on Loading and Unloading

Five cities restrict the times that loading and unloading activities can take place. Some cities specifically mention that the restriction only applies to loading and unloading of containers or trash into trash compacters. An example from the city of Indio follows:

(B) Controlled hours of operation. Notwithstanding the provisions of Chapter 151 of this code it shall be unlawful for any person to operate, permit, use or cause to operate, any of the following:

(2) Loading and unloading of vehicles, operating of fork lifts or cranes within 1,000 feet of a residence [exempted if distance from residential area exceeds 1,000 feet or as it may be reduced by the Planning Commission subject to design review or conditional use permit]; and

(3) Construction tools and machinery.

Other than between the hours of:

(1) Pacific Standard Time.

(a) Monday through Friday, 7:00 a.m. through 6:00 p.m.

(b) Saturday, 8:00 a.m. through 6:00 p.m.

(c) Sunday, 9:00 a.m. through 5:00 p.m.

(d) Government Holidays, 9:00 a.m. through 5:00 p.m.

(2) Pacific Daylight Time.

(a) Monday through Friday, 6:00 a.m. through 6:00 p.m.

(b) Saturday, 7:00 a.m. through 6:00 p.m.

(c) Sunday, 9:00 a.m. through 5:00 p.m.

(d) *Government Holidays, 9:00 a.m. through 5:00 p.m.*

Restrictions on Idling

Four cities restrict idling of large vehicles by time of day, unless the idling is caused by traffic congestion. Example from the city of Desert Hot Springs:

No person shall operate or permit the operation of any motor vehicle with a gross vehicle weight rating in excess of 10,000 pounds, or any auxiliary equipment attached to such a vehicle, including but not limited to refrigerated truck compressors, for a period longer than 15 minutes in any hour while the vehicle is stationary, on a public right-of-way or public space, and within 150 feet of a residential dwelling or noise sensitive zone, between the hours of 7:00 p.m. and 7:00 a.m., for reasons other than traffic congestion.

Appendix B. Interviews

Trucking Company 1

Person interviewed: Dispatcher **Based in:** City of Riverside **Fleet size:** 300-350 trucks **Area:** Construction sites all over California

What is the business? Delivery of heavy construction equipment (e.g., paving equipment – often wide, low-bid loads).

Does the company try to avoid peak-hour traffic? Traffic is a nightmare and the firm does everything it can to avoid it. The firm splits shifts so that they have an early morning and evening (after 6:00 p.m.) shift to avoid traffic.

How much do the trucks have to travel during the peak hour? The firm avoids having trucks travel during the peak hour as much as possible. However, at times it is forced to travel during the peak hour, because there are no alternative routes (due to bridge height restrictions, load restrictions, etc.), and in cases where it has a job that requires accessing the freeway. As an example, they currently have a job on the I-60 freeway that requires them to make deliveries during peak hours even though traffic is extreme.

Is the company constrained by local ordinances when it sets its pickup and delivery times? They often are required to get permits to travel through local areas with large /oversize loads. They would like to be able to move more freely later at night, but noise laws keep them from doing so.

Does the company ever do nighttime deliveries? They sometimes move their equipment at nighttime to get it ready for the next day. It is easier for them to do this in unincorporated areas of the County where there are fewer residents to be disturbed by the noise.

Trucking Company 2

Person interviewed: Dispatcher **Based in:** Mira Loma **Fleet size:** 150-200 for-hire trucks **Area:** Deliveries all over the West Coast

What is the business? This firm is a for-hire trucking company. Most of its work is with the beverage industry. It does pickups from the warehouses of big beverage companies like Nestle water and Tropicana, and then delivers them to distribution warehouses or directly to large stores such as COSTCO. It rarely makes deliveries to small stores.

Does the company try to avoid peak-hour traffic? They do not make a concerted effort to avoid peak-hour traffic. They simply budget extra time for the trip depending on where they must make the delivery. If it is a local pickup, they allow an extra hour; and if it is to downtown Los Angeles, they would allow an extra hour to two hours on either end.

How much do the trucks have to travel during the peak hour? About 75 percent of their deliveries are during the day. They operate at the behest of their customers. Their customers schedule the pickup and delivery times, based on when they have the staff availability and they try to meet the request, so they often have to travel in congested conditions.

Is the company constrained by local ordinances when it sets its pickup and delivery times? In a few (5 percent) cases, local noise ordinances have affected their schedules, but it rarely occurs.

Does the company ever do night-time deliveries? About 25 percent of their deliveries are nighttime deliveries. They do these deliveries when their customer asks for them. Again, they do not schedule their deliveries; their customers do. Some of the larger customers maintain 24-7 operations at their warehouses, so some of them want to schedule deliveries at nighttime. But a lot of them feel their employees' need to have time off at night to be with their families, so they avoid 24-7 operations.

Trucking Company 3

Person interviewed: Dispatcher **Based in:** Riverside **Fleet size:** 50-100 **Area:** Southern California

What is the business? They deliver large pavement-grinding machines to construction sites throughout Southern California. They do some deliveries to the ports, but it is not a big part of their business.

Does the company try to avoid peak-hour traffic? Yes. They try to make all of their deliveries at night or in the very early morning so they avoid peak-hour traffic. For example, if their drivers have to be in Los Angeles in the morning, they will leave at 4:00 a.m.

How much do the trucks have to travel during the peak hour? Sometimes they have to travel during the day because of job constraints, such as when they need to meet someone at the job site to move the equipment with a special moving vehicle.

Is the company constrained by local ordinances when it sets its pickup and delivery times? They are somewhat constrained by local regulations. They are aware of all the local ordinances and they work around them. For example, they cannot go into the City of Los Angeles between 6:00 a.m. and 9:00 a.m., and they cannot deliver in Irvine after dark. They work around these regulations and they affect their scheduling somewhat. However, they are able to make about 60 percent of their deliveries at night (between 6:00 p.m. and 4:00 a.m.). The other 40 percent of deliveries are scheduled during the day, mostly because of because of job constraints.

Does the company ever do nighttime deliveries? Sixty percent of their deliveries are at night.

Trucking Company 4

Person interviewed: Dispatcher **Based in:** Mira Loma **Fleet size:** 50-100 **Area:** Inland empire (Riverside and San Bernardino)

What is the business? They deliver food (lunch trucks and industrial catering trucks) and vending machines.

Does the company try to avoid peak-hour traffic? They cannot avoid peak-hour traffic. All of their trucks leave the yard at 6:00 a.m., and most return by 2:30 p.m.

How much do the trucks have to travel during the peak hour? Their trucks have to travel during the peak hour because of their customer's needs. The customers indicate when they are planning to take their lunch and morning breaks, and they have to be there with the delivery during those break times.

Is the company constrained by local ordinances when it sets its pickup and delivery times? Most of their trucks are smaller trucks. They never have issues with noise ordinances or any other ordinances. Ordinances do not affect their schedules at all. They noted that ordinances are only a problem with very big trucks.

Does the company ever do nighttime deliveries? No.

Trucking Company 5

Person interviewed: Dispatcher **Based in:** Norco **Fleet size:** 50-100 **Area:** Plants located all over California and the Southwest (Arizona and Nevada)

What is the business? They deliver building materials (bricks, stone, and wood) to companies such as Home Depot, tile stores, and other businesses.

Does the company try to avoid peak-hour traffic? No. They serve their customer's needs. They schedule the deliveries according to their customers' request.

How much do the trucks have to travel during the peak hour? About 75 percent of their deliveries are made throughout the day, with the exact time depending on their customer's schedule. When they must travel in congested conditions, they budget an extra hour or two hours on each end.

Is the company constrained by local ordinances when it sets its pickup and delivery times? Indirectly. Their customers set the pickup and delivery times based on what they are allowed to do in that jurisdiction. Sometimes there are noise ordinances in place that affect when they can schedule the deliveries. If those regulations are removed, it would be up to their customers to say if they wanted deliveries after-hours.

Does the company ever do nighttime deliveries? About 25 percent of their deliveries occur after hours. Some of their customers (e.g., Home Depot) stay open relatively late and so they ask for deliveries after hours. Once again, they make deliveries based on their customer's schedule. They are a customer-service company.

Trucking Association

Person interviewed: Intermodal Chairperson

What is your sense of delivery constraints on trucks in the evening periods? Why/why don't they deliver during the evening? Trucks serve their customers. When they are on the road during peak periods, it is because of their customers. When they deliver at night, it is also because of their customers. Also, there is no such thing as a "peak" period in California any more. The freeways are congested all day.

- Nighttime delivery has risks,
- Higher cost of doing business,
- Higher labor cost,
- More theft of cargo at night, and
- More expensive to keep warehouses open at night.

What about ordinances? How much do they restrict truck movements? Ordinances have an impact on trucks going into residential areas. The big distribution centers tend to be far from residential areas, so ordinances do not have as much of an impact on them.

Logistics Consulting Firm

Person interviewed: Senior consultant **Based in:** Long Beach

What is the business? A management consulting firm providing supply chain management strategy, operations, technology, and organization solutions to distribution centers throughout Southern California.

What is your experience with nighttime deliveries at warehouses? In general, who can make them and who can not? The largest importers can take nighttime deliveries because they maintain very large yards. A number of the top 100 importers are located in Riverside County. They can take large deliveries because they are big enough to be able to hire a nighttime guard and to keep staff around, and because they can accumulate containers in their yard.

Small importers do not have the extra staff available, and they do not have the space. Normally, they will receive one small load of containers during the day, unload them, and then a truck will come again and take the empty containers out to make space for another load. If they receive the nighttime delivery, the containers would accumulate and there is not space for that.

How much do local ordinances restrict the warehouses? If the warehouses are near residential areas, they might be restricted from operating at night. It is common for the community to come together to prevent the warehouse from operating at night. This happened with Big 5 Sporting Goods in Riverside.

Distribution Center

Person interviewed: Distribution center manager **Based in:** Riverside

Note: This company was not willing to answer detailed questions. The interviewee indicated that they maintain nearly 24 operations at their distribution center, and that they are not restricted by local ordinances. This is interesting given that there was a great deal of press surrounding the issue of nighttime operations at this warehouse; the community was heavily opposed to warehouse construction and the possibility of nighttime operations.

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	February 28, 2008
TO:	Riverside County Transportation Commission
FROM:	San Jacinto Branch Line Ad Hoc Committee Stephanie Wiggins, Regional Programs Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Agreement with STV for Federal Transit Administration Coordination and Small Starts Application Support for the Preliminary Engineering Phase of the Perris Valley Line Project

SAN JACINTO BRANCH LINE AD HOC COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to award Agreement No. 08-33-069-00 to STV for Federal Transit Administration (FTA) coordination and Small Starts application support for the preliminary engineering phase of the Perris Valley Line (PVL) project in the amount of \$200,709.

BACKGROUND INFORMATION:

On December 13, 2007, the PVL project received a medium-high rating and approval from the FTA for entry into project development. The FTA rating allows the PVL project to remain eligible for future Small Starts funding. (The PVL project seeks \$75 million in Small Starts funding.) However, the FTA rating is not final. FTA will rate the PVL project on an annual basis and at the completion of final design. As a result, staff seeks consultant support for the required ongoing coordination with FTA and preparation of the annual Small Starts report during the next 14 months of preliminary engineering.

The planning division of STV provided the Commission FTA coordination and New Starts/Small Starts application support since 2004. Staff recommends that STV be awarded the agreement for the preliminary engineering phase of the PVL project given its New Starts/Small Starts experience and familiarity with the PVL project. Retention of STV for the next phase of project development will also ensure continuity.

Financial Information					
In Fiscal Year Budget:	Y	Year:	FY 2007/08	Amount:	\$200,709
Source of Funds:	Measure A			Budget Adjustment:	N
GLA No.:	221 33 85101 P3800				
Fiscal Procedures Approved:	<i>Theresa Trevino</i>			Date:	02/07/2008

Attachments:

- 1) Scope of Work
- 2) Contract Cost Estimate

Scope of Work – FTA Coordination and Small Starts Application Support
December 2007
Perris Valley Line Project

Task 1 – Project Management and Coordination

Project management and coordination includes those activities associated with administrative and managerial tasks from the period January 1, 2008 through July 31, 2009. This task also includes time for participation in meetings reviewing project status, project deliverables, ridership update meetings, meetings with other agencies (including FTA) and other meetings held in person or via conference call.

Task 2 – Cost Uncertainty Analysis

Provide updates and revisions to the Cost Uncertainty Analysis in cooperation with and in response to comments from FTA staff. Updates and revisions to the Cost Uncertainty Analysis may include:

- Revision of Report text
- Updates to the unit cost uncertainty for specific line items
- Review of Industry experience in unit cost uncertainty
- Cooperation with Engineering Consultant to determine Cost Uncertainty and Schedule Uncertainty

:

Task 3 – Small Starts Application Support

Provide continuing support for the development of up to two updates to the Small Starts application, including:

- Updating of Performance Measurements and Completion of Small Starts Project Templates
- Updates to the Transit Supportive Land Use and Future Patterns Criteria Package, including:
 - Review of new development in the corridor
 - Updates to demographic data, if available from SCAG or RCTC
 - Updates to corridor land use policies
- Ridership Forecast Coordination for PE – Continue to coordinate and manage ridership activities including regular reporting mechanisms (status calls) to ensure adequate progress by subconsultant and appropriate support from SCAG
 - Review results of the model update
 - Provide direction for outputs required for subsequent updates to the Small Starts application

- Update Small Starts Quantitative templates for travel time savings, air quality / energy, cost effectiveness (including annualized capital costs), system efficiency and cost effectiveness (costs per new rider)

Task 4 – Updates to the Financial Commitment Elements of the FTA Small Starts Application

Provide continuing support for the development of updates to the Financial Commitment element of the Small Starts application, including:

- Incorporation of Refined Cost Estimates from the Engineering Consultant
- Incorporation of Updated Quantities from RCTC Budget documents
- Update to the 20-Year Cash Flow including updates to the Year of Expenditure and revisions to line items for Sources and Uses of Funds
- Response to Questions from FTA's Financial Assessment Contractor

Task 5 – Additional Services to Support Completion of Environmental Assessment

Provide additional services in managing completion of the environmental Documents, including:

- Update and completion of air quality analyses, in compliance with new local and federal air quality regulations
 - new PM2.5 and PM10 conformity procedures and mobile source air toxic emissions analysis requirements
 - new dispersion modeling analysis was required to address parking lot impacts
 - updated localized carbon monoxide impact analysis was also necessary.
- Additional support for review of the documents with new RCTC staff members and with RCTC's outside legal counsel and document management and coordination including incorporating the additional air quality analyses discussed above in the final environmental documents.

Exhibit 1 FTA Coordination and New Starts Application Support																						
Direct STV Labor Hours								Direct STV Labor Costs						Other Direct Costs			Fee	Total Costs by Task				
TASK	Amodei	Diaz	Venturato	Manzoni	Bonstead	Bernhard	Gismondi	TOTAL HRS	Rate	Amodei (Proj Dir.)	Diaz (Proj. Mgr)	Venturato (Proj. Engr.)	Manzoni (Planner)	Bonstead (Planner)	Bernhard (FTA Coord.)	Gismondi (FTA Coord.)	TOTAL LOADED LABOR COST BY TASK		STV Travel and Other Costs	Subcontractor Costs	Total Other Direct Costs	Fee on Labor at 10%
	(Proj Dir.)	(Proj. Mgr)	(Proj. Engr.)	(Planner)	(Planner)	(Planner)	(Planner)		Base	\$ 69.72	\$ 62.05	\$ 102.32	\$ 31.90	\$ 27.00	\$ 80.92	\$ 73.56						
									Fully Loaded (Overhead at 130%)	\$ 160.36	\$ 142.72	\$ 235.34	\$ 73.37	\$ 62.10	\$ 186.12	\$ 169.19						
Task 1	Project Management & Coordination	24	200	-	80	24	16	344		\$ 3,848.54	\$ 28,543.00	\$ -	\$ -	\$ 4,968.00	\$ 4,466.78	\$ 2,707.01	\$ 44,533.34	\$ 2,500.00		\$ 2,500.00	\$ 4,453.33	\$ 51,486.67
Task 2	Cost Uncertainty Analysis Update	-	80	40	40			200		\$ -	\$ 11,417.20	\$ 9,413.44	\$ 2,934.80	\$ 2,484.00	\$ -	\$ -	\$ 26,249.44	\$ 2,500.00		\$ 2,500.00	\$ 2,624.94	\$ 31,374.38
Task 3	New Starts Application Updates	24	120		80	160	16	24	424	\$ 3,848.54	\$ 17,125.80	\$ -	\$ 5,869.60	\$ 9,936.00	\$ 2,977.86	\$ 4,060.51	\$ 43,818.31	\$ 2,500.00		\$ 2,500.00	\$ 4,381.83	\$ 50,700.14
Task 4	Financial Plan Updates	24	120	-	40	120		16	320	\$ 3,848.54	\$ 17,125.80	\$ -	\$ 2,934.80	\$ 7,452.00	\$ -	\$ 2,707.01	\$ 34,068.15			\$ -	\$ 3,406.82	\$ 37,474.97
Task 5	Additional Services to Complete Environmental Assessment																	\$ 29,673.00	\$ 29,673.00			
TOTAL HOURS		48	400	40	120	280	40	928		\$ 11,545.63	\$ 74,211.80	\$ 9,413.44	\$ 11,739.20	\$ 24,840.00	\$ 7,444.64	\$ 9,474.53	\$ 148,669.24	\$ 7,500.00	\$ 29,673.00	\$ 37,173.00	\$ 14,866.92	\$ 200,709.16

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	February 28, 2008
TO:	Riverside County Transportation Commission
FROM:	San Jacinto Branch Line Ad Hoc Committee Stephanie Wiggins, Regional Programs Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Agreement with Parsons Brinckerhoff for Travel Demand Forecasting for the Preliminary Engineering Phase of the Perris Valley Line Project

SAN JACINTO BRANCH LINE AD HOC COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to award Agreement No. 08-33-068-00 with Parsons Brinckerhoff (PB) for Travel Demand Forecasting for the Preliminary Engineering Phase of the Perris Valley Line project in the amount of \$271,263.

BACKGROUND INFORMATION:

On December 13, 2007, the Perris Valley Line (PVL) project received a medium-high rating and approval from the Federal Transit Administration (FTA) for entry into project development. The FTA rating allows the PVL project to remain eligible for future Small Starts funding. (The PVL Project seeks \$75 million in Small Starts funding.) However, the FTA Rating is not final. FTA will rate the PVL project on an annual basis and at the completion of final design. As a result, staff seeks consultant support for the required ongoing coordination with FTA and travel demand forecasting/ridership estimates during the next 14 months of preliminary engineering.

PB provided the Commission travel demand forecasting to support the New Starts/Small Starts application since 2006. PB's efforts created a commuter rail ridership forecasting model approved by FTA for the PVL Project. Staff recommends that PB be awarded the a sole source contract for the preliminary engineering phase of the PVL project given its commuter rail ridership forecasting experience and familiarity with the PVL project. Retention of PB for the next phase of project development will also ensure continuity.

Financial Information					
In Fiscal Year Budget:	Y	Year:	FY 2007/08	Amount:	\$271,263
Source of Funds:	Measure A			Budget Adjustment:	N
GLA No.:	221 33 85101 P3800				
Fiscal Procedures Approved:	<i>Theresa Trevino</i>			Date:	02/07/2008

Attachment: Scope of Work

TRAVEL FORECASTING SUPPORT DURING PRELIMINARY ENGINEERING FOR THE PERRIS VALLEY LINE IN RIVERSIDE COUNTY

PB is pleased to submit this cost proposal and general scope to support the Riverside County Transportation Commission (RCTC) with the travel demand forecasting elements of the Small Starts Submittal during Preliminary Engineering for the Perris Valley Line. Our knowledge of the model and the FTA process combined with our travel forecasting experience, technical expertise, and understanding of the Small/New Starts Reporting make us well suited to undertake these tasks. In addition, we look forward to continuing with the next phase of this project.

Bill Davidson and Dawn McKinstry will continue to work with RCTC on this important project. Bill's credentials in both the development and application of travel forecasting models are nationally recognized. In addition he has worked closely with FTA on the development of User Benefits which are a key measure in comparing projects in the Small/New Starts Process. Dawn will support Bill on this project, managing the day-to-day activities, completing the model runs, Summit analysis and preparation of the Small Starts information. Dawn has performed more New Starts and Summit Analyses in this region than any other consultant. Because of their involvement in the previous phase of the project, both Bill and Dawn are familiar with the model and the project, and can begin work as soon as PB is given the approval. The proposed work effort includes six primary tasks, including:

Testing of 2010 station locations, which includes making two additional model runs for the opening year. PB will coordinate with RCTC staff to determine the station locations to be tested. These model runs will include adding, moving, or deleting potential Perris Valley stations. For each model run the transit networks will be created with the revised station locations, and the paths, skims, and fare information will be prepared for input into mode choice, and the highway networks will be re-skimmed to provide highway travel time information for input to mode choice. Mode choice will be run and reported, including mode of access and parking demand by station. Additionally the transit assignments will be made and reported, including station ons and offs, and peak load points. Summit will also be run to compare the hours of user benefits with previous runs of other station configurations, which can be used by others to develop the cost effectiveness.

Perform the Initial Model Runs for 2030/2035, which includes coordination with SCAG, and obtaining the latest demographics and trip tables for 2035, if the 2035 information is not available the 2030 demographics and trip tables will be used. SCAG is in the process of updating the Regional Transportation Plan and future year demographics. PB will disaggregate this information to the RCTC model's zone structure, and then make some initial model runs for the No Build, Baseline, and Build Alternatives. Additionally the supporting statistics such as changes in household size, workers per person, densities, trip generation levels, comparison of travel time changes over time etc. will be analyzed and provided to RCTC and FTA as an early evaluation of the new forecast year data.

Conduct the Risk and Uncertainty Analysis, which was introduced as part of the May 2006 FTA policy guidance. This is an essential step to determine the reliability of the forecast results and quantify the risks and uncertainties inherent in those forecasts.

There are three fundamental elements needed to complete this analysis – a stepwise build-up of forecasts (series of seven forecasts), an evaluation of selected inputs and operating parameters, and an assignment of probabilities to each of the elements of the forecast to develop a range of forecasts. A technical memorandum to document the forecasts developed under the risk and uncertainty analysis will be written.

Continue with the FTA Coordination. We have learned that early and frequent coordination with FTA pays off in the end. This is a key element in the work plan, to ensure FTA has an opportunity to provide reviews and input on our work. PB primarily anticipates conference calls with FTA and one or two face to face meeting to discuss our findings.

Prepare the Travel Forecasting Small Starts Related Information and Templates, it is anticipated that a submittal will be made in the summer of 2008. As a part of the Small Starts Submittal, FTA requires specific templates, and many require input from the travel forecasting effort. PB will provide input to templates 1, 3, 7, 8, 9, 10, and complete the Quality Control Template. Also in 2008 it is anticipated that FTA will require several additional Summit runs, comparisons, quality control reporting, and detailed transit assignment results. The comparisons will include the 2030 (or 2035) No Build to today, and the opening yearⁱ versus today. The detailed transit assignment results will include ons, offs, and load volumes (in production/attraction format and by direction), mode of access, station to station transit riders, average trip length, and mode of egress, and station boardings by transit dependents.

Documentation and transmittal of the model to SCAG. Documentation of the mode choice model will be completed. In addition, transmittal of the mode choice model, networks, and related model files will be made to SCAG on a DVD.

The cost associated with this effort is \$271,263; this assumes an overhead rate of 1.574, and a fee of 12 percent. PB estimates approximately 1800 hours of labor and 2 trips each for two people to Washington, D.C. to meet with FTA.

ⁱ FTA has more broadly defined the opening year forecast as the forecast which represents a reasonably matured level of service provision following opening of the system for revenue service.

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	February 29, 2008
TO:	Riverside County Transportation Commission
FROM:	Aaron Hake, Government Relations Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Planning for the Next Federal Authorization Bill

STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Receive and file presentations by the Commission's federal legislative advocates;
- 2) Authorize the Chair to appoint a Federal Authorization Legislative Ad Hoc Committee to lead the organization of a countywide consensus effort for the next federal transportation authorization bill;
- 3) Adopt principles to guide the Federal Authorization Legislative Ad Hoc Committee's initial efforts;
- 4) Authorize staff to organize a Federal Authorization Advisory Committee consisting of one government relations staff member from each city, supervisorial district, the Riverside Transit Agency, and SunLine Transit Agency to provide support and make recommendations to the Legislative Ad Hoc Committee; and
- 5) Approve the Commission's federal fiscal year (FFY) 2008/09 federal appropriations requests.

BACKGROUND INFORMATION:

The current legislation authorizing federal investment in transportation will expire on September 31, 2009. The legislation, known as the Safe Accountable Flexible and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), was signed into law by President Bush in 2005, nearly 22 months after the previous authorizing legislation, known as TEA-21, had already expired. SAFETEA-LU authorized transportation spending totaling \$286 billion over five years. The bill contained a record-setting 6,300+ earmarks, which are specific projects selected for funding outside of any competitive or objective process by members of Congress. Although SAFETEA-LU committed unprecedented levels of funding for transportation, the bill received criticism for being loaded with earmarks for projects that ostensibly were not national transportation priorities. SAFETEA-LU facilitated the birth of the infamous phrase, "Bridge to Nowhere," which referred to a

\$220 million project in Alaska to connect a small city with its local airport on an uninhabited island. Such projects came to represent the public's perception of wasteful spending and poor judgment by Congress.

While earmarks may have been a symptom, the underlying cause in SAFETEA-LU was the lack of a vision or purpose for the federal government's role in transportation. The original purpose of federal investment in transportation was to build the interstate highway system. With that mission complete, leaders in Washington, DC had not developed the next national transportation priority to guide their spending. This left members of Congress with hundreds of billions of discretionary dollars to parlay for political gain rather than objective need. It could also be argued that at the time, there was no political crisis to compel Congress to do anything different.

In 2008, and looking ahead to 2009 and beyond, the environment is different:

- The account that funds transportation is months away from insolvency;
- Congress is under pressure to reduce the number of earmarks in bills it passes;
- The economy is in a downturn;
- Concerns over global warming and greenhouse gases are paramount issues;
- Global trade is escalating exponentially; and
- A consensus has been reached that the federal government lacks a vision for the nation's transportation system.

This environment in Washington, DC presents a historic opportunity to reform the federal approach to transportation.

The purpose of this agenda item is to begin the Commission's preparation for participating in the writing of the next federal transportation authorization bill. Riverside County's voice in the next legislation will be important for many reasons including, but not limited to:

- Riverside County has grown to 2.1 million people and is projected to become the second most populated county in California;
- Congestion is spiraling – the county will need more than \$13 billion to meet its minimum highway needs by 2030;
- Tolling will be an important tool to expand highway capacity in Riverside County;
- Goods movement is a national issue that directly impacts the local economy and quality of life; it is not adequately accounted for in SAFETEA-LU; and
- Commuter rail is being expanded.

A Regional Approach

Members of Congress have begun to ask that local governments adjust their approach to requesting funds for projects. Constraints on federal revenues and the pressure to reduce earmarks have led many members to focus on fewer projects and only those of regional significance that reach a very high threshold of priority. Some members have also asked that funding requests be vetted at public meetings and approved by elected bodies. This attitude has revealed itself in the preparation for the FFY 2008/09 appropriations cycle. Staff fully believes that this trend will continue into the next authorization bill when needs will far outstrip available funds, earmark availability will be restricted, and where a cacophony of voices will strain to be heard.

Therefore, staff believes it is in the strategic interest of Riverside County to forge a regional consensus around the county's transportation needs for the next authorization bill. Developing a unified position will aid the Riverside County delegation and the state's two Senators in advocating for Riverside County priorities and enhances the opportunities for the county to receive more funding and achieve policy objectives.

While this may be easier said than done, the Commission has demonstrated precedence for forming diverse coalitions that can successfully speak with one voice. The Commission has been a leader in the five-county Southern California Consensus Group at the state level to advocate for the Trade Corridor Improvement Fund (TCIF). More locally, in 2006, the Commission united around a highway delivery plan for the first 10 years of the renewed Measure A that prioritized several important projects. The Commission has also spoken with one voice on the issue of grade separations and mitigating the impacts of goods movement.

Ideally, under the Commission's leadership, the cities, the county of Riverside, and transit operators in Riverside County could develop a consensus set of principles, policies, and priorities to put forward to Congress and the Administration for the next authorization bill. The business communities throughout the region ideally would also play a role in advancing the region's interests and participate collaboratively with government. A solid partnership within Riverside County would also go a long way towards the Commission's participation with other commissions in Southern California and statewide efforts led by Caltrans to promote a "California Consensus." However, such an effort in Riverside County will require political leadership from the Commission.

Therefore, staff recommends that the Commission authorize the Chair to appoint a Federal Authorization Legislative Ad Hoc Committee to lead the Commission's effort to advocate a regional consensus in Washington, DC for the next authorization bill.

As negotiations over the next bill ramp up, it will become increasingly important for Commissioners to be active and engaged in dialogue; an ad hoc committee devoted to this important legislative effort would provide the Commission with a focused task force of elected officials who can speak with a regional voice. Additionally, the level of effort that will be required during the later stages of the bill's development may require more frequent meetings and trips than the monthly Commission meeting cycle provides. Thus, an ad hoc committee adds to the Commission's flexibility to respond to events in Washington, DC

Additionally, staff recommends the Commission adopt a set of principles at the outset to guide the initial work of the ad hoc committee. Suggested principles include:

- I. In the face of a severely limited funding environment, it is to Riverside County's competitive advantage to be cohesive in its message to Washington, DC regarding our transportation needs.
- II. Local agencies within the county should work in a cooperative and collaborative fashion with the Commission towards supporting funding requests for regional transportation priorities.
- III. It should be the goal of local agencies that projects of regional significance are communicated by more than one entity.
- IV. Projects and programs supported by the Commission, cities, the county, and transit agencies, at minimum, must meet the following criteria:
 - a. Have a clear federal "nexus";
 - b. Have a clear region-wide benefit; and
 - c. Be deliverable within the timeframe of the authorization legislation.
- V. The Commission encourages the Riverside County congressional delegation and California's Senators to unite behind, and focus upon, the regional transportation priorities adopted by the Commission and its coalition of cities, the county, and transit agencies.

Staff further recommends that the Commission convene a staff-level Federal Authorization Advisory Committee (FAAC) exclusively focused on supporting the regional consensus work of the Federal Authorization Legislative Ad Hoc Committee. This advisory committee should be inclusive of all of the cities and supervisorial districts represented on the Commission, as well as the two non-municipal transit operators in the county. Staff recommends that Commissioners appoint one staff representative from their city or supervisor's office, and an

alternate, to attend regular meetings of the FAAC. The FAAC would be led by Commission staff. This body would be responsible for making recommendations to the ad hoc committee pursuant to the principles adopted by the Commission at this workshop.

FFY 2008/09 Appropriations Requests

Responding to the environment in Washington, DC described in this report, staff is recommending a slate of appropriations requests for FFY 2008/09 that are regional in nature, have a clear federal nexus, and reflect previously stated Commission priorities.

Congressman Ken Calvert

- Grade Separations on Alameda Corridor East in Riverside County (\$10 million)
- Support President Bush's budget request for Perris Valley Line (\$50 million)
- Mid County Parkway (\$5 million)

Congressman Jerry Lewis

- Grade Separations on Alameda Corridor East in Riverside County (\$10 million)
- Support President Bush's budget request for Perris Valley Line (\$50 million)
- Interstate 10 Eastbound Truck Climbing Lane (\$4.12 million)

Congresswoman Mary Bono Mack

- Grade Separations on Alameda Corridor East in Riverside County (\$10 million)
- Support President Bush's budget request for Perris Valley Line (\$50 million)
- Realignment of SR-79 (\$5 million)

Congressman Darrel Issa

- Support President Bush's budget request for Perris Valley Line (\$50 million)

Senator Dianne Feinstein

- Grade Separations on Alameda Corridor East in Riverside County (\$10 million)
- Support President Bush's budget request for Perris Valley Line (\$50 million)

Senator Barbara Boxer

- Grade Separations on Alameda Corridor East in Riverside County (\$10 million)
- Support President Bush's budget request for Perris Valley Line (\$50 million)