

"Can Trucks Reduce Congestion on LA Freeways?"

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12 August 2007

With Los Angeles traffic getting worse by the minute, and commute times getting longer and longer, can commercial trucks help reduce congestion and improve traffic flow?

Those who can remember 1984 (the year and not Orwell's novel), might recall the Summer Olympics in Los Angeles and the dire forecasts for traffic gridlock during the Games. Fears of congestion choking off travel and causing mass chaos led to many ideas to reduce congestion. One of the more prominent was to regulate the time of day commercial vehicle traffic could travel public roadways. The main ingredient for this idea was to shift commercial traffic to off-peak hours and require nighttime deliveries to relieve commute congestion during the day. While this was a novel idea at the time, its success was due in part to a short-lived event. The question arises; can we do it again for the long term, and have the same success?

The Setting

Looking at some of the State's most rapidly-growing areas, are there possibilities to ease congestion before gridlock becomes a fact of life? We will take a look at such an area of California, the Inland Empire. Using this setting, we will explore the use of enhanced commercial vehicle regulation, enhanced rail transport and magnetic levitation (maglev)

technology to significantly reduce commercial traffic on public roadways. We will also see what might happen if maglev, or similar emerging means, are not employed to deal with the crush of trucks and cars just over the next horizon.

Growth and Congestion in the Inland Empire

To understand the problem, we must look at the fact the population of California continues to rise each year. During the five year period between 2000 and 2005, the State's population increased 8.7%, while the Inland Empire (San Bernardino and Riverside Counties) increased 17.4%. (Johnson, 2005) According to the U.S. Census Bureau, Riverside County has been recognized as the second-fastest growing county in the nation, while San Bernardino County was ranked fifth. (La Ganga, 2006). The fact these two counties are adjacent to one another; and both are in commuter distance from the metropolitan Los Angeles area, continue to add more and more commuters to our already congested roadways. In a three-year period from 2002 through 2004, The California Department of Transportation (CalTrans) reported Riverside County added more than seven hundred thousand vehicles daily to the region's highways. (California Transportation Department, 2005) At this rate, traffic congestion in Riverside County will double in less than fifteen years.

Transportation Officials in the Inland Empire were not surprised at the migration from Los Angeles and Orange Counties to the Inland Empire. People were searching for affordable homes; something found in abundance in the region. The Inland Empire has not yet developed sufficient local employment to sustain a workforce. (Johnson, 2005) Because of that, new residents are forced to continue to commute to jobs outside of the region to maintain employment. As the population shifts, and commercial traffic from the Ports of Los Angeles and Long Beach increases, these factors will continue to cause congestion to worsen.

The Olympics - Model for the Future

So what can we do to solve this traffic congestion problem?

During the 1984 Olympics, individuals made many changes in their commute habits to avoid the predicted traffic problems. (Simon, 1984) Many of the traffic reduction ideas proposed during this event were accepted and are still in practice today.

Public mass transit, car and van pools, and flexible work hours are all now a way of life for many of us. The Institute of Transportation Studies at UCLA and the Texas Transportation Institute identified population and roadway use in California as growing at a faster pace than roadway capacity. (Bernstein,

2005) This information was based on freeway speed and traffic volume collected by state and local transportation agencies. It is their belief we must explore new ways to combat congestion, like rapid transit bus service, improved metering at freeway on-ramps and synchronized traffic lights, if we're going to be successful offloading vehicles from our roadways.

Three Possible Ideas

The City of Riverside, the Southern California Association of Governments and the Ports of Los Angeles and Long Beach are evaluating several possible solutions to combat congestion. One concept is to use commercial vehicle regulation to remove trucks from the road and reduce traffic. The next is a more innovative idea combining commercial vehicle regulation with rail expansion to create remote inland transportation depots to move commercial traffic away from the region. The third idea uses emerging and future technologies, such as maglev, to determine if they can help provide solutions to our problems while reducing commercial vehicles on the road. These are all good ideas; let's see if any might be a viable solution for the future.

Commercial Vehicle Regulation

Let's start by taking a closer look at commercial vehicle regulation. Little has been done to help reduce congestion and

improve traffic flow through the regulation of commercial vehicles. (Adams, 2006) This simple idea worked during the 1984 Olympics, so it seems reasonable it would work again. If trucks only operated at night, when most of us are home asleep, and were forbidden from using the freeways during commute times, congestion should be reduced. But would this shift of truck traffic from day to night work over a longer period of time, or would it cause other problems of which we're not aware?

How feasible might it be to create a system to regulate commercial vehicles? It most likely would begin with the legislative process to enact law or regulation which law enforcement could enforce. Any proposed bill could face political opposition and lobbying before it would ever be approved. If passed, new laws could affect not only trucks using the ports but all commercial vehicles, including delivery trucks such as Fed-Ex. This could create other issues and problems, such as the lack of delivery service during normal work hours and possible increases in delivery costs to customers. In just these few initial steps, it would not take long to realize this type of forced regulation might be doomed to failure without significant consideration of the needs of commerce.

Operation Free Flow

To address a more voluntary means to control commercial traffic and expand rail use, the city of Riverside is suggesting the implementation of “Operation Free Flow”.(Adams, 2006) This proposal recommends the twenty-four hour operation of the ports, with deliveries mostly made at night (as was done during the 1984 Olympics). It also suggests steps of voluntary container fees to fund port-rail expansion, obtaining federal funding through customs duties to expand transportation corridors, and the creation of remote inland truck depots to transfer cargo. The use of incentives and choices, rather than forced regulation, is a key element to the envisioned success of this proposal. Operation Free Flow has been gaining acceptance; it has even garnered support by the trucking, rail and container industries.

Implementing a proposal like “Operation Free Flow” could be very beneficial to our transportation system. It could make life easier for everyone involved in the transportation of containers through the area. By using voluntary container premiums to offset the costs of infrastructure improvements this proposal will literally pay for itself. These improvements will save time for trucks, reduce congestion and in the end provide savings to commercial vehicles while increasing their profitability. Additional funding, like the use of Customs

duties, could further provide the necessary funds to improve transportation corridors for shipping around the nation.

The proposed fees will help pay for dedicated infrastructure improvements. This will eventually reduce travel times by the trucks allowing them to be more profitable. Also, shifting commercial vehicles to night operation will help reduce congestion during commute times. This translates to more truck trips to and from ports, creating an opportunity for greater profit by the system's users. (Adams, 2007)

Shifting container transportation by trucks to night operations will reduce commercial traffic during commute times in addition to allowing trucks to make more round trips at night saving money for the truckers. Developing remote inland truck depots away from the ports will also help reduce the travel trips of trucks into the area. This will also help shift commuters away from the Los Angeles basin helping to remove more vehicles from the already congested roadways.

Portions of this proposal (including premiums or incentive fees and nighttime operation of commerce) have been approved in the State Assembly and are now awaiting Senate approval. These two aspects of "Operation Free Flow" may become operational sometime in 2008.

The strategies in Operation Free Flow should create a strong first step in the reduction of congestion on Southland freeways during peak hours. Adding in emerging technologies, like maglev, to help improve the efficiency of transporting containers through the area will continue to build upon a potentially successful combination to reduce congestion.

Maglev

An emerging technology being considered by the Los Angeles Harbor Commission and the Southern California Association of Governments to transport containers is the use of “Maglev” or magnetic levitation trains. These trains, powered by magnetic fields in guide-ways, can pull cargo about 90 miles-per-hour with no air pollution. The guide-ways for these trains could be elevated and built along existing highway medians, or along existing railway or utility right-of-ways reducing the need to purchase new right-of-ways through densely populated areas.

The California State University, Long Beach has been tasked with conducting a study to determine the feasibility and cost effectiveness of these trains by the Center for the Commercial Deployment of Transportation Technologies. (Weikel, 2006) Currently there are three proposed lines being evaluated;

- A four point seven-mile system to transport containers between Terminal Island and the Port of Los Angeles leading to a rail terminal just north of the port.
- A twenty-mile system along the Long Beach Freeway to move containers to Los Angeles.
- And, a one hundred-mile network connecting the port with Victorville and Beaumont.

The last proposed line is the one we will focus on because this line would fit in perfectly with Riverside's "Operation Free Flow" proposal possibly increasing its success.

Maglev trains are currently used in China and Japan for commercial passenger use only. The question is can they be adapted to transport containers and cargo? If adapted these trains would be more efficient and could eliminate the use of thousands of trucks and trains, reducing congestion and improving air quality. While all of this sounds very good, maglev technology is just now beginning to be studied here. It is also very expensive, and even though it is becoming more financially attractive it will be some time before we will be able to utilize it. This brings us back to what can we do now to combat this problem.

Conclusion

It's not hard to imagine what will happen to traffic congestion if we do nothing. We will be spending more and more time of our day sitting in traffic, exchanging quality time of our lives with frustration. It is easy to see that doing nothing is not a very inviting future. The time to act is now and failure to act will only create situations of total grid-lock. This could lead to a melt down of the traffic management system as we know it, with the effects reaching into other systems like the economy and air quality.

Transportation planning is a major key to the success in the future. For us to avoid sitting for hours in stopped traffic and develop safe and efficient commuting, we must look at both old and new ideas to plan our transportation future. "Operation Free Flow" is a proposal we should seriously consider, support and implement. Exploring the viability of new technologies, like maglev, as they become available will further improve roadway use efficiency and reduce congestion. It is easy to see voluntary participation through incentive fees will help fund a proposal like this while helping to improve the environment and the commercial transportation system.

This article began with the question, “Can trucks reduce congestion on our freeways”? The answer to this question is yes with the right proposal. Reducing truck trips alone, though, is not enough. We all need to work together and combine all of our ideas and efforts to correct the problems before it is too late.

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