

# FY 2009 RESEARCH PROBLEM STATEMENT

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## TITLE

**IM-09-05 The Role of and Opportunities for the Public Sector in Truck Parking**

## PROBLEM (Description of need)

The 2006 Oregon Transportation Plan (OTP) indicates that an 80% increase in truck traffic can be expected in Oregon in the next 2 decades. The need for overnight truck parking has been increased by recent more restrictive federal requirements about hours of service. Consequently, in many locations there is already a shortage of particularly overnight truck parking, as evidenced by trucks parked at rest areas, on ramps and on freeway shoulders. As growth occurs, this will only worsen.

Nationally, about 90% of truck parking is in private, off-freeway facilities and 10% at rest areas. The focus of the research project is on strategies that state DOTs can employ to increase their 10% to match truck travel growth, without creating unfair competition with the less convenient and often fee-based private facilities. [Note: The private sector also needs to provide an 80% increase in private truck facilities during the 20-year timeframe.]

The underlying public sector problem is threefold:

1. While there appears to be unmet demand for truck parking at public rest areas along the freeway system, there is no accompanying dedicated revenue source, either for construction or for maintenance.
2. Recent national and state studies (AASHTO, WSDOT) show that while freeway rest area truck parking is typically at or over capacity, private truck stops and travel plazas off the freeway often have excess capacity.
3. The intent of the Interstate Highway program was to encourage truck parking primarily at commercial truck stops and travel plazas where services besides restrooms are available. Therefore there is a federal prohibition on building commercial truck parking facilities adjacent to or as part of interstate rest areas that could generate a revenue stream. Privately run rest areas that subsidize public spaces and services through concessions or leases are thus not a possibility right on the Interstate system, unless the law is changed federally.

Typically a commodity in short supply will have its price raised and a commodity in excess supply, will have its price lowered to bring supply and demand back into balance. But due to the mentioned federal restrictions on commercialization of interstates highway rest areas, the normal market resolution of demand and supply imbalances is not available.

There are many other problems, most of them detailed in the literature reported in the next section.

## PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

The research will include:

1. A literature search to identify best practices using the sources listed below as well as others that can be identified. The literature search will focus particularly on solutions to the truck parking capacity issues on freeway systems.
2. Best practices will be grouped into:
  - ▶ TSM/ ITS solutions such as better or real-time signage and parking supply information, using electronic message signs and /or GPS in-cab information.
  - ▶ Capacity expansion at existing interstate rest areas – this could involve making fuller use of existing DOT-owned land; buying more land; moving RVs out of the truck parking area and into a new site.
  - ▶ Capacity expansion through sites other than interstate rest areas being modified to perform double duty, e.g. chain-up areas, weigh stations, big box retail stores.
  - ▶ Capacity expansion through re-opening of closed rest areas.
  - ▶ Other solutions the literature search may reveal.
3. Oregon rest area capacity analysis. Nighttime counts and photography to document current public interstate system rest area night occupancy and duration of stay. Inventory and capacity analysis of additional sites. Inventory of land at rest areas not currently used for parking but that could be converted.
4. Oregon shipper, hauler and trucker interviews or focus groups to get opinions on the most congested areas, the obstacles to more fully using private truck stops and travel plazas, and other issues of concern.
5. Financing options. The truck parking capacity of interstate rest areas is not likely to be significantly increased unless both dedicated capital and operating funds can be created. It does not appear the federal ban on commercialization is a ban on parking fees. A 15 minute rest stop could be free, and bar code or similar technology could be used to bill rest stop users who stay longer. With the advent of parking meter type plug-ins at rest areas for provision of “shore power” during layovers, the meter parking can be set to cover the costs of maintenance and even a capital fund, if desired.
6. Strategic plan for Oregon rest area truck parking expansion.
7. Measurement of safety and other resulting benefits through surveys, accident data analysis etc.

Preliminary sources:

<http://www.fmcsa.dot.gov/facts-research/briefs/intelligent-transportation-truckparking.htm>

Abstract: The objective of this report is to provide background information and lay out the issues for prospective offerors responding to the solicitation in a Broad Agency Announcement seeking concept papers for a demonstration of a technology that conveys real-time information on parking availability for truckers on the road. The report addresses the following questions: (1) is there a shortage of parking? (2) Is the truck parking shortage likely to worsen? (3) What are potential solutions? and (4) what can be done to better match supply and demand?

[http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_syn\\_317.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_317.pdf)

<http://www.layover.com/forums/layovers-lounge-archive/t-truck-parking-shortage-22652.html>

truckers' blog on parking issues; mixed opinions

<http://ntsb.gov/publictn/2000/SIR0001.pdf> Highway Special Investigation Report Truck Parking Areas, 2000

<http://www.tfhrc.gov/safety/pubs/01158/01158.pdf>

This 2002 report documents the findings of a study to investigate the adequacy of commercial truck parking facilities serving the National Highway System (NHS). The study involved: 1) a national assessment of the extent and geographic distribution of parking shortages, 2) research to clarify drivers' parking-related needs and decision-making, and 3) development of a technical guidance document to be used by partnerships of public- and private-sector stakeholders in 49 States (excluding Hawaii) for inventorying current facilities serving the NHS, analyzing current and projected shortages in commercial truck parking at public rest areas and commercial truck stops and travel plazas, and developing plans for action at the appropriate jurisdictional levels. The process involved: 1) the development of an inventory of public and commercial truck spaces serving the NHS, 2) development, calibration, and application of a truck parking demand model, 3) a national survey of truck drivers to determine how drivers plan for and address their parking needs, how truck drivers select when, where, and at which facilities they park, and what truck drivers think of the adequacy of current parking facilities, 4) an estimate of parking demand using a modeling approach, 5) identification of parking deficiencies at the State and corridor level by comparing supply and demand, and 6) identification of improvements that were recommended by State partnerships to mitigate any existing or future problems identified.

<http://notrucks.org/noeasy.htm>

helpful editorial column

<http://72.14.253.104/search?q=cache:ZlBu5nkyw9sJ:www.ctre.iastate.edu/reports/truckpar.pdf+ohio+solution+truck+parking&hl=en&ct=clnk&cd=26&gl=us>

Iowa truck parking study. Contains a 1999 scan of what other states are doing.

[http://environment.transportation.org/pdf/css\\_brochure906\\_v9B.pdf](http://environment.transportation.org/pdf/css_brochure906_v9B.pdf) AASHTO 2006 awards for context-sensitive solutions include two rest areas.

[http://www.truckload.org/members/2004/nl07\\_06\\_04.htm#f](http://www.truckload.org/members/2004/nl07_06_04.htm#f)

support from truckers for truck parking aspects of SAFETEA-LU

<http://www.ohioturnpike.org/history.html>

history of tolling and rest areas etc in Ohio

<http://www.fmcsa.dot.gov/about/aboutus.htm>

## BENEFITS

### *Greater Security and Safety*

Better surveillance could be provided through a combination of human patrol and state of the art electronics.

Enforcement of illegal parking (overstays, wrong location, panhandling, prostitution etc) – this too could be better provided for if funding could be generated.

Separation of large trucks from large RVs and from small trucks/autos from bicycles if a rest area is modified to provide a separate RV area. Cessation of current mix of [often elderly] tourists, and big rigs.

### *Sustainability / Green Design*

Plug-in electric power wherever a facility is remodeled for greater capacity so that truck motors do not have to run all night for heat, ventilation or refrigeration.

Green / LEEDS-certified construction wherever a facility is remodeled for greater capacity including minimizing runoff through state of the art pavement design; park-like environment.

Provision wherever a facility is remodeled for greater capacity for supplying new fuels e.g. for electric vehicles.

### *Intelligent Transportation Systems*

Access to the internet so that drivers can plan their trips with fuller knowledge of weather, road construction etc.

Freeway and entry way signage indicating how many spaces of each type (truck, large RV and auto) as well as amenities are available, reducing risk of out-of-service vehicles and tired drivers on the roads.

## CONTACT PERSON:

## FOR RESEARCH UNIT USE ONLY

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**Gregg Dal Ponte**

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