RESULTS OF I-95 CONGESTION TOLLING STUDY

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ISSUE
What are the results of the state Department of Transportation’s (DOT) I-95 Tolling Study?

SUMMARY
The September, 2016 I-95 tolling study, conducted for DOT by consultant CDM Smith, examined tolling strategies to manage traffic flow through the use of variable tolling (congestion pricing) on the heavily travelled stretch of I-95 between New Haven and the New York border.

According to DOT, traffic congestion along this segment of I-95, which increased by 19% between 2001 and 2011, costs drivers hundreds of millions of dollars in wasted time and fuel.

The consultant focused on five all-electronic tolling (AET) alternatives, none of which would require toll booths. The alternatives differed in the toll rates charged, the number of highways tolled, and whether an additional lane would be added to I-95.

It concluded that while any of the tolling alternatives could provide significant traffic relief and provide new revenue streams, the two best options involve adding one lane to I-95 in each direction between Bridgeport and Stamford. The first option would toll only I-95 between New York and New Haven. The second option would toll the same segment of I-95 and also toll the same stretch of the Merritt Parkway. Drivers on I-95 would pass under 12 gantries between New York and New Haven and drivers on the Merritt would pass under 10 gantries between the same locations.
The tolls would vary by time of day. The study assumed toll rates on both I-95 and the Merritt of 50 cents at each gantry during peak travel times and 35 cents during off-peak hours. A full-length trip on I-95 during peak travel times would therefore cost $6; a trip during non-peak hours would cost $4.20. The same trips on the Merritt Parkway would cost $5 and $3, respectively.

The study estimated the first of these two alternatives would net between $6.5 billion and $6.8 billion in revenue over 25 years; the second alternative, between $8.7 billion and $9.2 billion over the same period. The study also found that, averaged over 25 years, widening I-95 and tolling it would save 10 million hours per year in travel time, and that widening I-95 and tolling both it and the Merritt would save 12 million hours per year in travel time.

The study said additional analyses will be needed if DOT chooses to proceed with tolling the I-95 corridor.

**STUDY BACKGROUND**

DOT received funding under the Federal Highway Administration’s (FHWA) Value Pricing Pilot Program, or VPPP, to study ways to improve traffic flow in two of the state’s most heavily congested areas: I-95 from New York to New Haven, and I-84 in Hartford.

Although the federal government generally bans tolling of interstate highways, VPPP is one of several FHWA programs allowing states to toll in specific circumstances. Under VPPP, FHWA provides grants to state and local governments to study ways to manage traffic flow through “congestion pricing” or other strategies. Connecticut has one of the 15 VPPP slots. Additional information on tolling and the VPPP program can be found in OLR Report 2015-R-0048.

**Congestion Pricing**

Congestion pricing typically refers to charging a higher toll during busier drive times, such as rush hours, and lower tolls, or none at all, at other times. Its purpose is to encourage drivers who do not want to pay the higher toll to (1) drive at less busy times, (2) use other routes, or (3) take public transit. Drivers who choose to pay the higher toll should see less traffic and quicker travel times. There are several ways to implement congestion pricing, including changing toll rates according to actual traffic conditions.

**Conditional Slot**

DOT’s VPPP slot is conditional because the department has not entered into a tolling agreement with FHWA and so far has no plans to implement tolls. To make the slot permanent, Connecticut must decide whether to proceed with tolling. If DOT
decides to proceed, it must develop a pricing strategy and enter into a tolling agreement with FHWA. The state must also complete an environmental review and comply with all applicable federal and state laws.

**All Electronic Tolling (AET)**

AET systems bill drivers in one of two ways, depending on whether a driver has a pre-paid toll account, such as E-Z Pass, and the accompanying transponder. Tolling gantries search vehicles that pass beneath them for transponders and debit the pre-paid accounts of drivers who have them. Cameras on the gantries photograph the license plates of vehicles that do not have transponders. Bills are mailed to the owners of those vehicles.

**TOLLING ANALYSIS**

“The I-95 corridor experiences extraordinary amounts of recurring delay over the 47 miles between New Haven and the New York state line,” the study said. “On average, congestion spans over a length of more than 25 miles, lasting for more than 4 hours during both the AM and PM periods. Route 15 [the Merritt Parkway] experiences similar congestion levels, although these tend to be somewhat shorter in duration. This congestion has been estimated by the Texas Transportation Institute to cost Connecticut close to a billion dollars annually.”

The study found that congestion pricing has the potential to significantly reduce the congestion levels.

The consultant examined a number of tolling plans, among them one that involved adding a lane to I-95 and tolling only that lane, leaving the existing lanes toll-free. But it discarded this option, finding that it generated too little revenue compared to either the cost of building the additional lane or the amount of revenue that would be generated by tolling all the lanes.

The report focused on five alternatives, and found that two of these showed the most promise: (1) widening I-95 and tolling it or (2) widening I-95 and tolling both it and the Merritt Parkway. The study said that the money generated by the tolls could “support most (if not all) of the cost of widening.”

It found that the first option, widening I-95 from Bridgeport and Stamford and tolling it from New York to New Haven, would attract more traffic to the widened highway, but that this could be redirected to other routes, thereby improving I-95 traffic flow without overburdening the Merritt Parkway.

Widening the same stretch of I-95 and tolling the New York to New Haven segments of both it and the Merritt Parkway also shows promise, the study said, because it would balance traffic flow while providing relief to the Merritt.
Besides these two options, the study also examined three other strategies that did not involve widening a portion of I-95. These were:

1. Tolling the existing lanes of I-95 at peak and off-peak rates of 50 cents and 35 cents respectively, at each gantry;

2. Tolling the existing lanes of I-95 at peak and off-peak rates of 80 cents and 56 cents, respectively, at each gantry; and

3. Tolling both the existing lanes of I-95 and the Merritt Parkway at peak and off-peak rates of 50 cents and 35 cents, respectively, at each gantry.

**REVENUE ESTIMATES**

The study estimated that, depending on which of the five alternatives is chosen, the cumulative net revenue for 25 years (2020 through 2044) would be between $6.2 billion and $9.2 billion. The average annual gross revenue ranged from $275 million for tolling an unaltered I-95 to $380 million when I-95 is widened and electronic tolling gantries placed both on it and the Merritt Parkway. Table 1 below shows the estimated net toll revenue over the 25-year period for both state operated tolls and tolls operated by a third party.

**Table 1: Estimated Net Toll Revenue Over 25 Years**

<table>
<thead>
<tr>
<th>Tolling Alternative</th>
<th>Toll Rates</th>
<th>25 Year Total Net Revenue (billions)</th>
<th>25 Year Total Net Revenue (billions)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>State Operated Tolls</td>
<td>Third-Party Operated Tolls</td>
</tr>
<tr>
<td>Tolling Existing I-95</td>
<td>Peak: 50¢ Off-peak: 35¢</td>
<td>$6.5</td>
<td>$6.2</td>
</tr>
<tr>
<td>Tolling Existing I-95</td>
<td>Peak: 80¢ Off-peak: 56¢</td>
<td>$9.2</td>
<td>$8.9</td>
</tr>
<tr>
<td>Tolling Existing I-95 &amp; Merritt Parkway</td>
<td>Peak: 50¢ Off-peak: 35¢</td>
<td>$9</td>
<td>$8.5</td>
</tr>
<tr>
<td>Tolling Widened I-95</td>
<td>Peak: 50¢ Off-peak: 35¢</td>
<td>$6.8</td>
<td>$6.5</td>
</tr>
<tr>
<td>Tolling Widened I-95 &amp; Existing Merritt Parkway</td>
<td>Peak: 50¢ Off-peak: 35¢</td>
<td>$9.2</td>
<td>$8.7</td>
</tr>
</tbody>
</table>

Source: Executive Summary, Connecticut I-95 Corridor Congestion Relief Study, September 2016
STUDY FINDINGS

Tolling Existing I-95
The study found that while tolling existing lanes provided substantial travel time improvement and generated significant toll revenue it would “likely be a tough sell” because it would not add new capacity. But toll revenue might be used to help finance alternative modes of travel in the I-95 corridor, such as express bus service and Metro North.

Widening I-95, No Tolls
The study noted that widening I-95 without adding tolls would provide some congestion relief, but that more traffic would soon fill the highway along its busiest sections. In addition, this traffic would have to weave and merge along four lanes rather than the current three lanes.

Widening I-95 and Tolling It
The study found that widening and tolling I-95 has the most potential for congestion relief. Although widening would pull in cars from the Merritt Parkway and Route 1, the proposed tolls would enable the system to manage demand during peak hours and have a "tremendous positive impact on travel speed." The study determined that this alternative would net $6.8 billion in toll revenue over 25 years if the state operated the tolls and about $6.5 billion over that period if the state contracted with a third-party to operate them.

The study noted that if this alternative is chosen, the southern terminus of the extra lane should be at the New York border to avoid creating a bottleneck in Stamford.

Widening I-95 and Tolling Both It and the Merritt Parkway
The study said that widening I-95 and tolling both it and the Merritt Parkway would result in a substantial time savings for commuters. However, this option would offer slightly less congestion relief than tolling only a widened I-95, the study found, because more drivers would choose to use a tolled, widened I-95 rather than pay a toll on the Merritt Parkway. But this option would also generate 35% more revenue than just tolling a widened I-95, with the additional benefit of possibly balancing traffic between the two highways by changing the toll rates. The study said this additional revenue could be used for Merritt Parkway improvements or to fund public transit or Metro North. It found this alternative would net $9.2 billion in toll revenue over 25 years if the state operated the tolls and about $8.7 billion over that period if the state contracts with a third-party to operate them.
PROPOSED ALL-ELECTRONIC TOLLING (AET) LOCATIONS

Source: Executive Summary, Connecticut I-95 Corridor Congestion Relief Study, September 2016

PF: cmg