Legislative Studies on Overweight Trucks Operating Under Permit

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Chief of Technology
### Background of the Bills

<table>
<thead>
<tr>
<th></th>
<th>HB2917 Sand and Gravel Trucks</th>
<th>HB1645 Pipe Cleaning Trucks</th>
<th>SB1321 Petroleum Tank Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configuration</strong></td>
<td>Mainly 3 or 4 axle SU</td>
<td>3 axle SU</td>
<td>2 axle SU</td>
</tr>
<tr>
<td><strong>Payload</strong></td>
<td>Gravel, sand, etc.</td>
<td>Water, debris</td>
<td>Heating oil, propane</td>
</tr>
<tr>
<td><strong>Overweight Allowance</strong></td>
<td>+5,000 - 11,000 lbs. More for 5+ axles</td>
<td>+10,000 lbs.</td>
<td>+4,000 lbs.</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Applies to 7 SW VA severance tax counties only. Since 1999.</td>
<td>DMV estimates only 20 trucks affected in VA</td>
<td>Temporary one year fee of $800</td>
</tr>
</tbody>
</table>
## Legislative Requirements

<table>
<thead>
<tr>
<th>Mandate</th>
<th>HB2917 Sand &amp; gravel</th>
<th>HB1645 Pipe cleaning</th>
<th>SB1321 Tank wagons</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDOT to recommend legislation by 12/1/07</td>
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<td>VDOT to implement permanent fee structure by 7/1/08. No APA requirement.</td>
<td></td>
</tr>
</tbody>
</table>
Study Approach

• Objective: Estimate additional maintenance costs of overweight vehicles operating under permits
  – Focus: added weight-related pavement damage
  – Higher axle weights increase pavement damage—ample scientific evidence
  – Number of axles and axle configuration are key
  – Conservative approach in terms of bridges
Study Approach, cont.

• VTRC pavement damage model uses standard engineering pavement design concept of 18,000 lb. equivalent single axle load (ESAL)
  – Pavements designed to carry a certain number of ESAL’s before needing repair/replacement

• Calculated overweight-under-permit vs. non-overweight ESAL’s for each truck type

• Identified % of budgeted FY07 maintenance costs attributable to:
  – Axle loads 16%
  – Costs Common to all vehicles 79%
  – Costs attributed to specific vehicles 5%

• Calculated added FY07 maintenance costs due to overweight-under-permit ESALs for each truck type
Cost Responsibility Study

• Study request from Secretary
• Examining both truck and passenger vehicles
• Methodology capable of examining all truck classes
• Draft report nearing completion
Findings

• Businesses seek overweight exceptions to improve their efficiency and use the full payload capacity of larger trucks
  – Or because they believe the *Code of Virginia* already makes overweight exceptions for businesses similar to theirs

• Calculation of added annual maintenance cost due to operating overweight under permit is sensitive to ESAL increase and the estimates of mileage traveled

• Same approach can be used to estimate added maintenance cost of a single overweight trip
Findings, cont.

• Sand and gravel not hauled in same types of trucks as coal any longer
  – Sand and gravel overweight exception does not appear to provide a “safety net” for coal haulers in downturns
  – Instead, the exception benefits gas well drilling, which is a strong market
### Results of the Cost Analysis

<table>
<thead>
<tr>
<th>Truck</th>
<th>GVW Before Code Change (lb.)</th>
<th>GVW After (lb.)</th>
<th>Annual Miles</th>
<th>Added ESALs</th>
<th>Added Maintenance Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 axle SU tandem for gravel/sand</td>
<td>49,000</td>
<td>60,000</td>
<td>40,000</td>
<td>0.70</td>
<td>$1,023</td>
</tr>
<tr>
<td>4 axle SU tri-axle for gravel/sand</td>
<td>65,000</td>
<td>70,000</td>
<td>70,000</td>
<td>0.26</td>
<td>$675</td>
</tr>
<tr>
<td>3 axle SU tandem for pipe cleaning</td>
<td>52,000</td>
<td>64,000</td>
<td>13,000</td>
<td>0.48</td>
<td>$229</td>
</tr>
<tr>
<td>3 axle SU tandem for hydroexcavation</td>
<td>54,000</td>
<td>64,000</td>
<td>6,000</td>
<td>0.39</td>
<td>$85</td>
</tr>
<tr>
<td>2 axle SU petroleum tank wagon</td>
<td>32,000</td>
<td>36,000</td>
<td>26,000</td>
<td>0.24</td>
<td>$227</td>
</tr>
</tbody>
</table>
Proposed Legislative Options

• Option A: Establish fees only for the 3 specific types of haulers using added maintenance cost approach.
  – Update analysis bi-annually to reflect VDOT’s maintenance cost experience

• Option B: Recommend that fees be established in same way for all haulers currently eligible for no-cost overweight permits by 2009
  – Includes: concrete, containerized cargo, excavated material, well-drilling equipment, solid waste, cotton modules

• Exempt both options from Administrative Process Act