British Columbia’s Green Light Transportation System

A better future for Commercial Transportation
What is the Green Light Transportation System (GLTS)?

- It is an intelligent network of Inspection Stations along Highway 1 and 5 from Vancouver to the BC-Alberta border.
- The inspection stations are being equipped with Weigh-in-Motion (WIM) or Automated Vehicle Identification (AVI) equipment.
- Once a commercial vehicle has been weighed and measured at one site, it will be given a bypass at subsequent inspection stations for the next 12 hours (subject to random inspections).
Where is British Columbia located?
Map showing Green Light Transportation System locations in British Columbia
Why are we doing this?

- Commercial Traffic volumes continue to increase (projected to triple by 2020)
- Number of Inspectors or Inspection Stations cannot increase proportionately
- The Ministry goal is to improve the flow of safe commercial road users
- We need to reduce the number of Inspection Station stops - a benefit for all
Picture of a Weigh in Motion Site at Port Mann East
How does Weigh in Motion (WIM) work?

- At highway speed it checks:
  - Axles, weight, height and length
  - Valid insurance
  - No outstanding Notice & Orders
  - Any Out-of-Service CVSA Inspection notices
  - Safety rating (NSC rating, Intervention Level)
  - Has vehicle already been cleared at a previous Inspection Station in the last 12 hours?

  Signals transponder in the cab either:
  - **Green** light = bypass the scale
  - **Red** light = report to scale
Picture of a Automatic Vehicle Identification Site
How does Automatic Vehicle Identification (AVI) work?

- Is this the first time this vehicle has been encountered in the last 12 hours?
- If yes, it is signalled (red light) to enter the station to be weighed and likely be given a ‘good to go’ for subsequent Inspection Stations for the next 12 hours.
- If this is NOT the first encounter and all the initial ‘credential’ checks were satisfactory, the vehicle will be given a green light to bypass the scale (although always subject to a random check).
- Signals transponder in the cab either:
  - **Green** light = bypass the scale
  - **Red** light = report to scale
This is the display at the Inspection Station

- The ‘rolling’ display shows whether each approaching vehicle has been given a bypass or report to scale signal - red or green bar on the left of the image
How the GLTS System works.....1

1. A GLTS-Registered vehicle passes an AVI mast, is checked against the local database and then signalled.
2. The inspection Station is notified of the approaching vehicle and views the details from its more detailed database.
How the GLTS System works.....3

3. The Inspection Station system notifies the Messaging Interface System of the encounter.
How the GLTS System works.....4

4. The Encounter data is now added to the Vehicle Transponder Registry database.
How the GLTS System works…..5

5. The ‘VTR’ is updated by other CVSE databases
6. The Messaging Interface system updates all Inspection Station and roadside databases with the recent encounter information (within 15 minutes).
There is also a Random Inspection feature:

- Vehicles may be signalled for inspection based on a random percentage selection every time they approach an Inspection Station.
- Initial setting is based on their National Safety Code safety rating and Intervention Level (5% to 100%).

<table>
<thead>
<tr>
<th>NSC Safety Rating Code</th>
<th>Level of Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
</tr>
<tr>
<td>S</td>
<td>5%</td>
</tr>
<tr>
<td>A</td>
<td>25%</td>
</tr>
<tr>
<td>C</td>
<td>100%</td>
</tr>
<tr>
<td>U</td>
<td>100%</td>
</tr>
<tr>
<td>P - Alberta</td>
<td>5%</td>
</tr>
</tbody>
</table>
The system allows network-wide alerts

- Request the Transponder Administrator to change the RRP rating (up and down)
- Ability to stop vehicles at next open GLTS station - either to deal with a problem or even an urgent carrier request.
GLTS Projection of Benefits

- This shows the tangible benefits which the GLTS system should deliver.

<table>
<thead>
<tr>
<th>Type of Benefit</th>
<th>Years 1-5</th>
<th>Years 6-10</th>
<th>Total 10-year benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Driver time savings</td>
<td>127,000 hours</td>
<td>260,000 hours</td>
<td>387,000 hours</td>
</tr>
<tr>
<td>2. Fuel Savings</td>
<td>952,000 litres</td>
<td>1,948,000 litres</td>
<td>2,900,000 litres</td>
</tr>
<tr>
<td>3. Greenhouse Gas Reduction</td>
<td>2,132,000 kgs</td>
<td>4,364,000 kgs</td>
<td>6,496,000 kgs</td>
</tr>
</tbody>
</table>

- Increased benefits will be achieved at Inspection Stations where traffic patterns include a significant number of repeat trips from the same vehicle.
Our Current Timetable

- Roadside Infrastructure currently being installed
- Software components now designed and being developed
- Targeted to start 90-day pilot period Spring 2009
Expansion Plans for British Columbia

Map showing the Green Light Transportation System future phases

Legend:
- 2008-09 Implementation
- 2009-10 Implementation

Port Hardy
Campbell River
Nanaimo
Victoria
Prince Rupert
Terrace
Smithers
Prince George
Quesnel
Williams Lake
Lillooet
Kamloops
Revelstoke
Golden
Kelowna
Penticton
Cranbrook
Victoria
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