
Commercial Vehicle Inspection Facilities (CVIF)

**How Teamwork Lead to an Innovative
Solution**

CSVA Conference October 25, 2004

This Presentation...

Three Aspects:

- Study Overview
- Selected Results
- Where are we now?

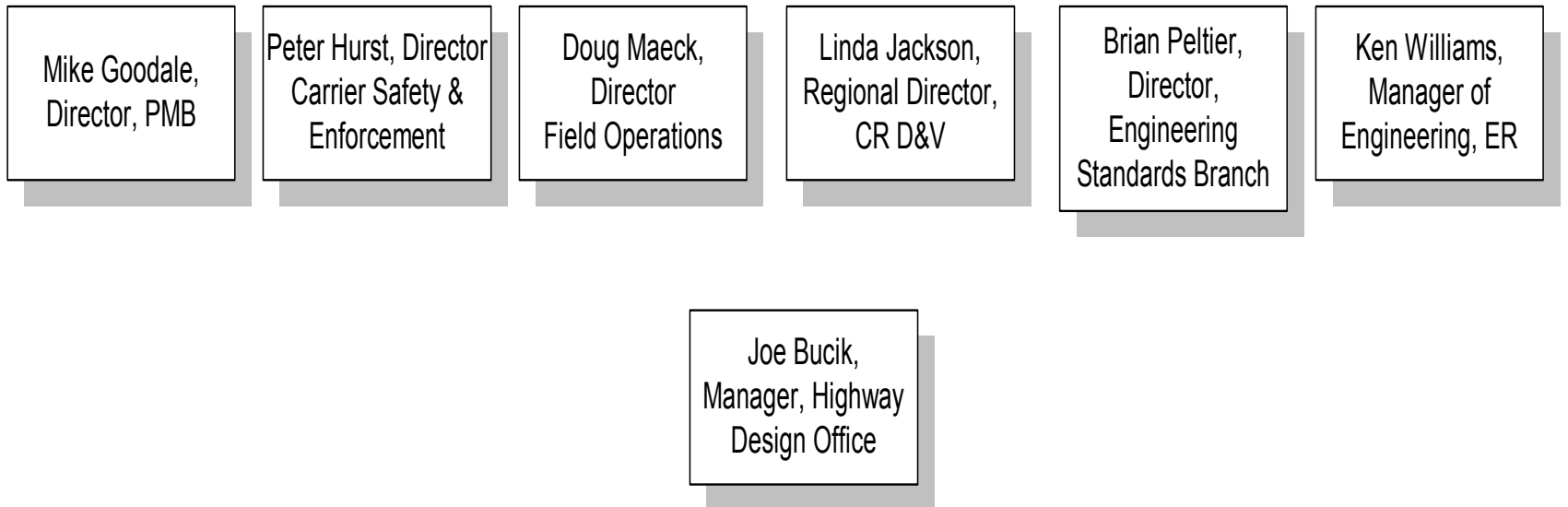
Change Potential

In planning for the CVIF Value Engineering study, it was obvious that change was possible because:

- The existing standards were 30 years old
- Staff from Road User Safety and Engineering do not normally work together
- Occupational Health and Safety and Personal Security issues were bringing about change.

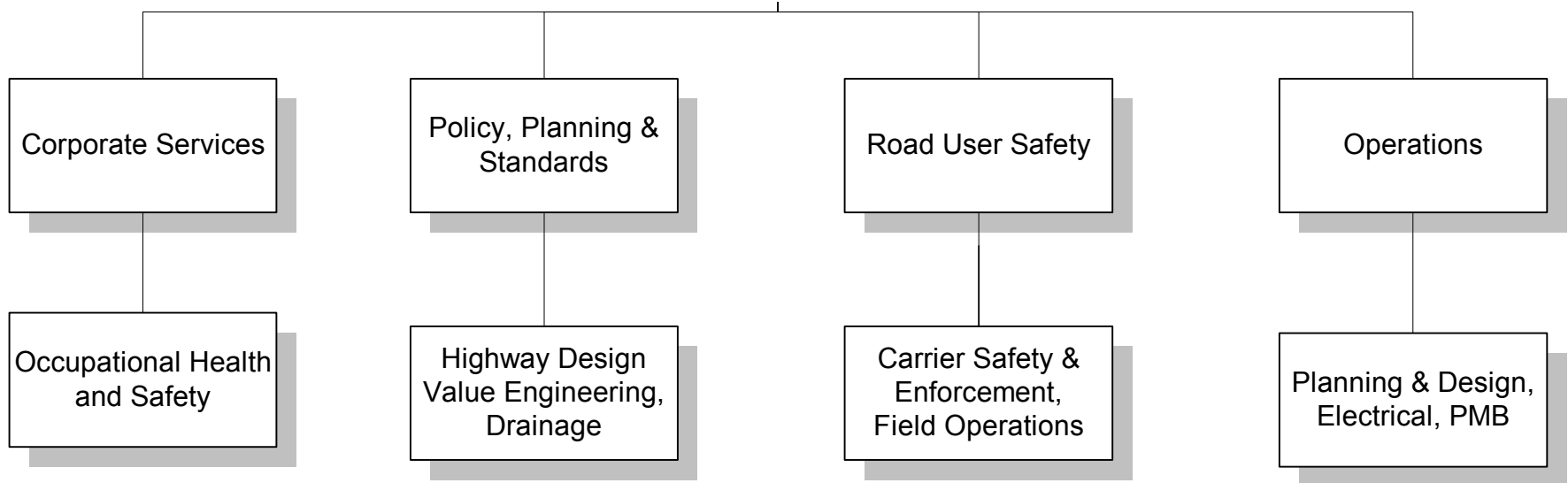
Steering Committee

A steering committee was formed to provide policy and scope direction.



Ministry Wide Team

- A large team with 22 MTO members attended a workshop that occurred over 4.5 days in Sept 2002.



Consultant Team

- A team of 5 consultants supplemented the MTO members during the workshop.
- 3 members from National Capital Engineering (NCE), which lead the study, and 2 from Marshall Macklin Monaghan (MMM).

Study Overview

Challenges/Opportunities

- Current Designs (A, B, C, D) developed in 1975
 - Most existing facilities reflect this philosophy
 - Primary focus was on weighing, paperwork
 - Expansion difficult
- Current Inspection Practices (since late 1980's)
 - Primary focus on mechanical and driver fitness
 - Level 1 inspections typically introduce 45 min. delay to clients
- Mismatch between facility design and practice



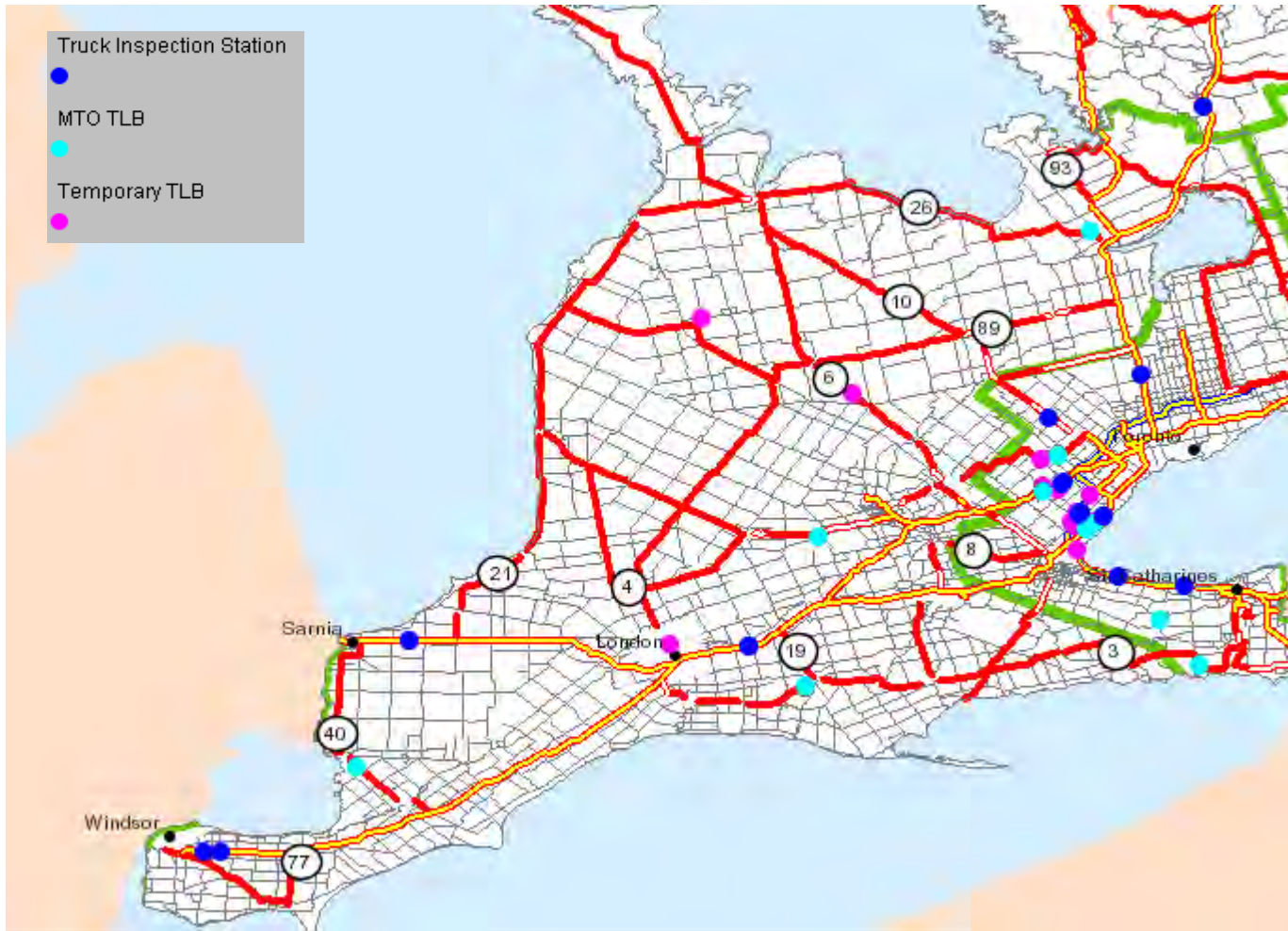
Data Collection

- Prior to the VE study on CVIF's, a survey was developed and distributed province-wide to gather information on truck lay-bys.
- The survey served 2 purposes:
 - To gather geographical information about each lay-by in Ontario to generate maps.
 - To gather information on the physical layout, usage, and facilities for each lay-by.

Central Region



Southwestern Region



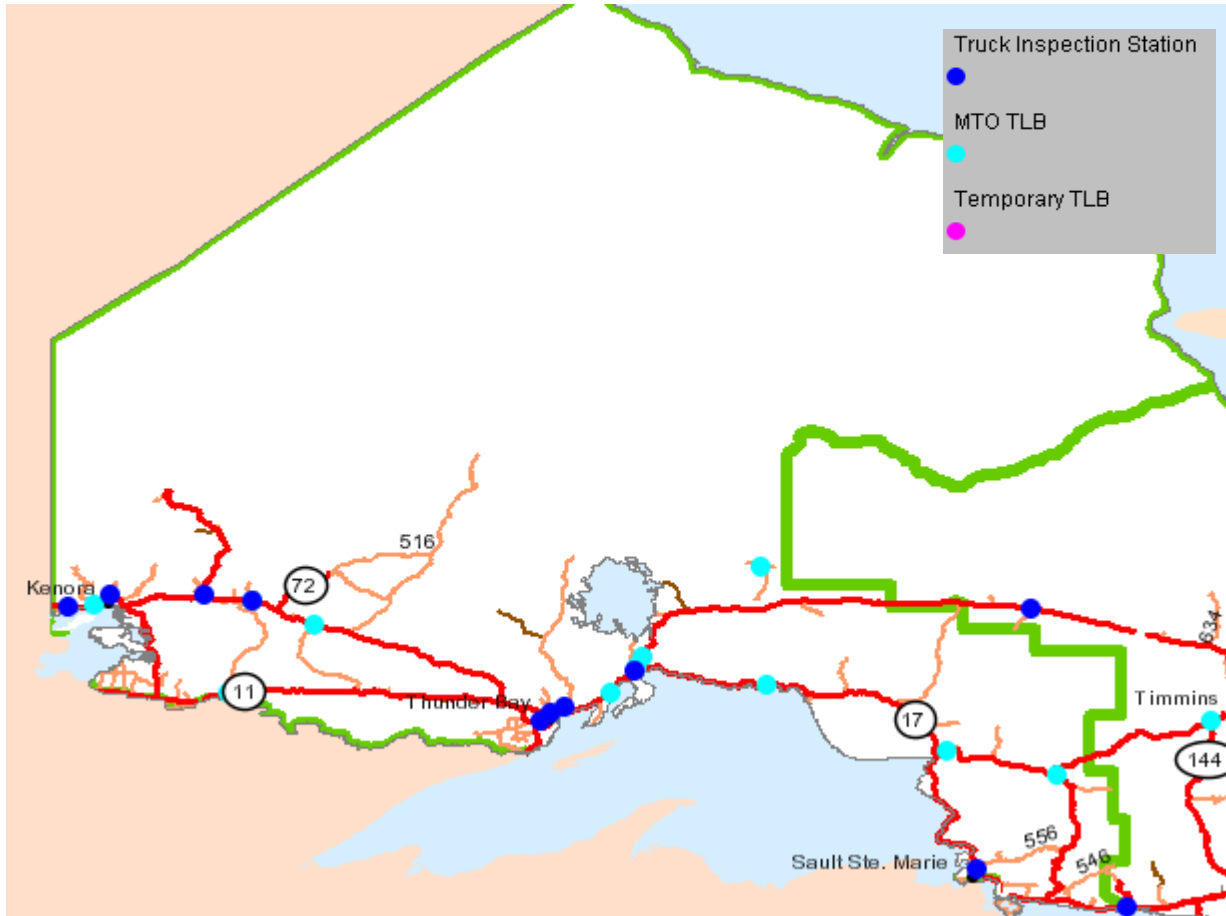
Eastern Region



Northern Region



Northwestern Region



Additional Data

- An additional survey was conducted at 3 locations: Whitby TIS, Oakville South TIS, and Putnam South TIS in order to get an idea of the composition of truck traffic passing through each scale, and overall TIS operations.
- In particular, data was collected on vehicles ‘too low to inspect’, usage of inspection bays, and usage of OOS parking.



Additional Data (continued)

Selected Results Summarized:

	Whitby	Oakville S	Putnam S
Percent of Trucks "Too Low To Inspect":	1.13%	1.88%	14.71%
Average Time an Inspection Bay is Occupied	35	33	47
Average Time a Vehicle is OOS:	169	104	90
Average Time a driver is kept on site:	37	N/A	69

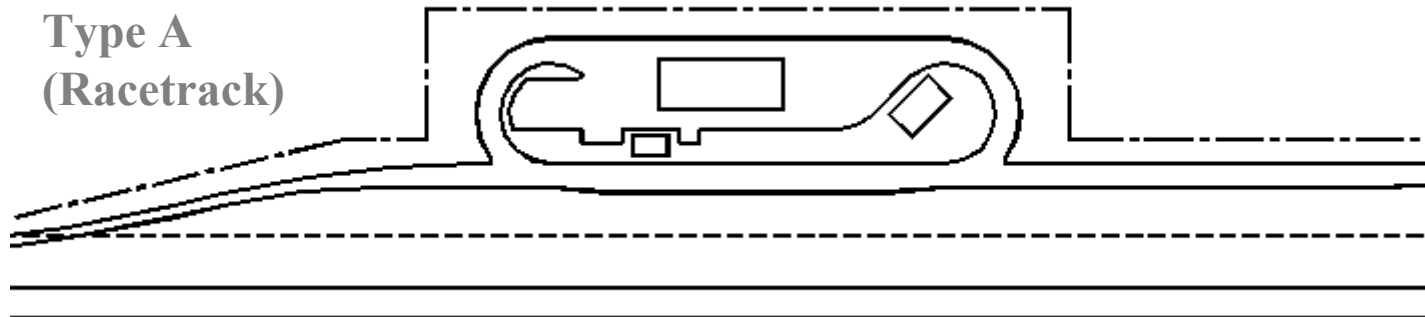
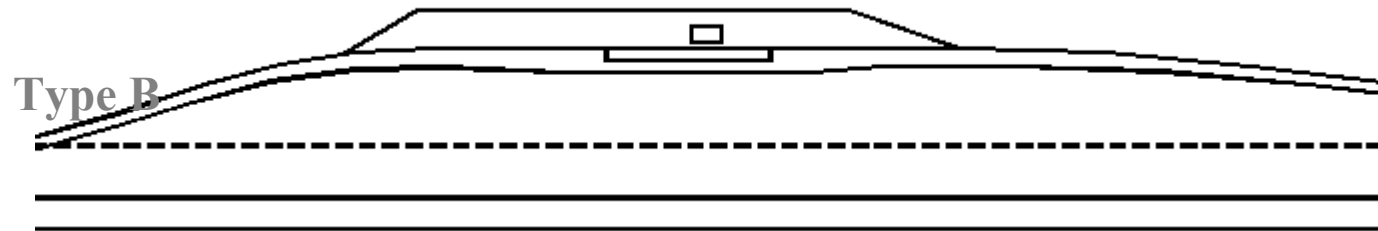
All time in minutes



Data Analysis

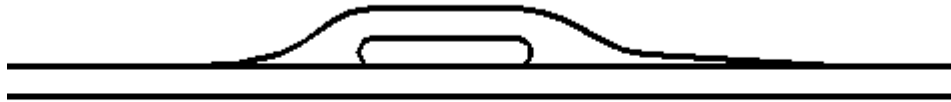
- Both surveys provided detailed information on existing CVIF's with respect to their usage and needs.
- Using this data, some generalizations regarding future CVIF design could be made (e.g. the number of inspection bays in relation to the total number of inspections performed at a particular facility).

Existing Facility Configurations

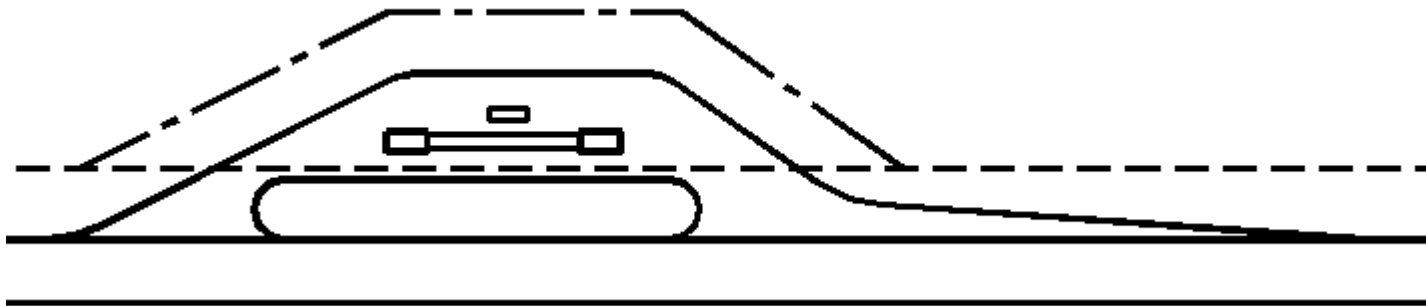


Existing Facility Configurations

Type D



Type C



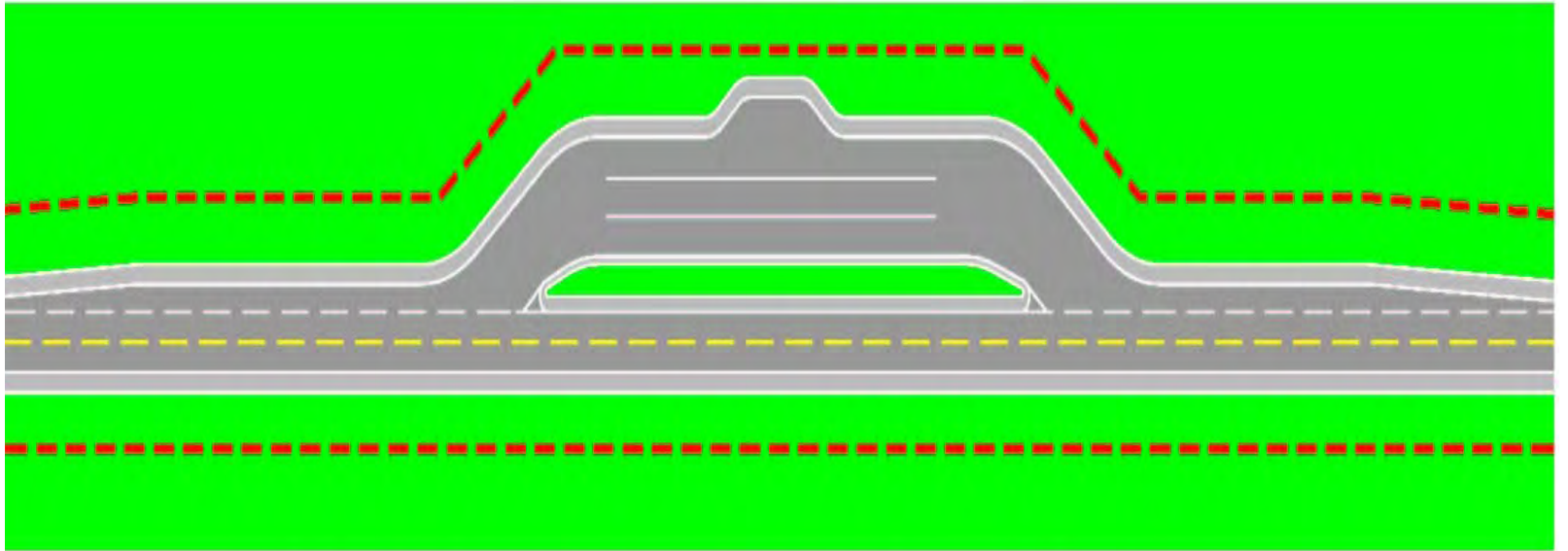
Facility Models

- Currently 4 models
- Proposed 2 models
 - Variances
 - Number of officers accommodated
 - Size of triage plaza
 - Number of inspection bays/lanes
 - Number of out of service spaces
 - Weigh Scale (provided/not provided)
 - Building (provided/not provided)

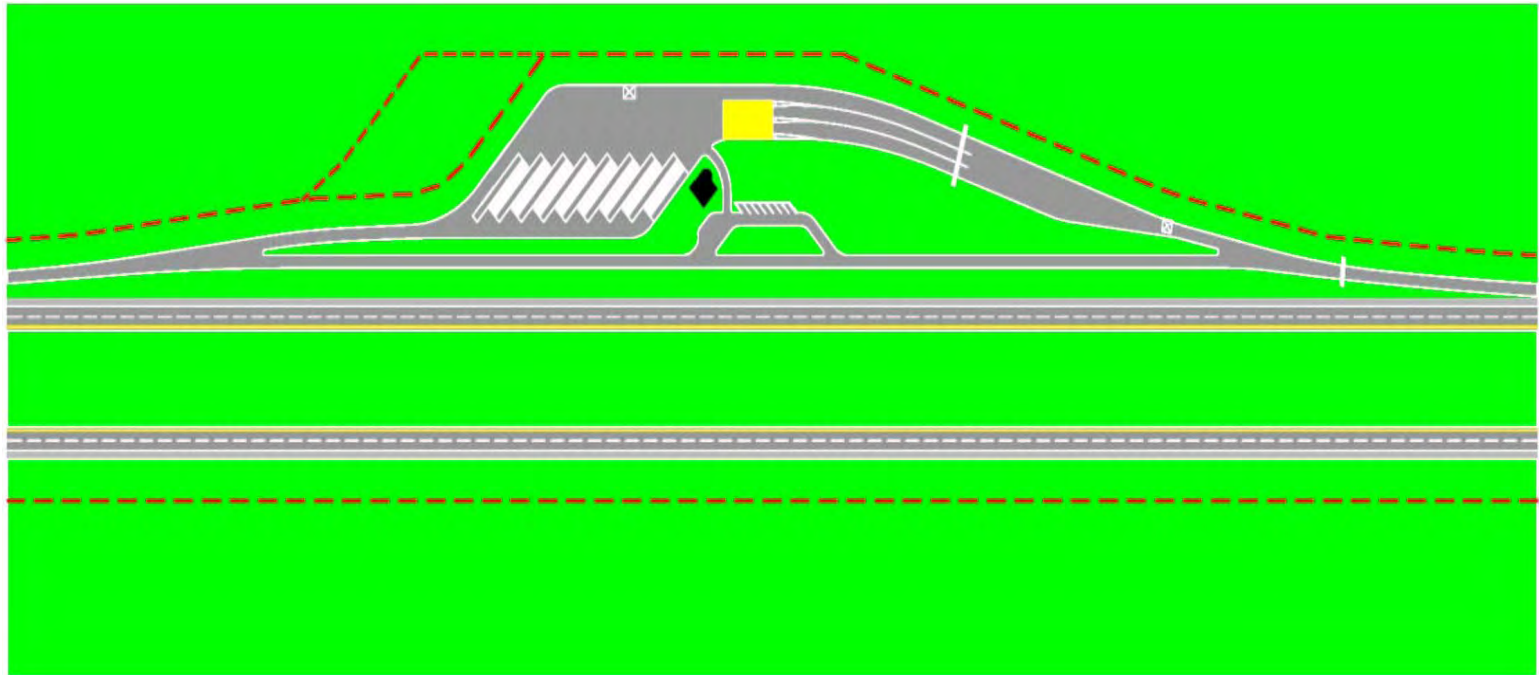
Inspection Processes

- Current Approach
 - Selection
 - Weighing, plate check, rolling observation
 - Inspection
 - Level 1 (~45 minutes); Level 3 (~15 minutes)
- Proposed Approach
 - Selection
 - Selected WIM, triage (plate check, static observation)
 - Selected weighing
 - Inspection
 - Level 1 (~45 minutes); Level 3 (~15 minutes)

CVIF Type I



CVIF Type II



Facility Size

- Influences
 - Operating Scenario
 - Corridor, border (outbound/inbound), seasonal, etc.
 - No. of Officers assigned to a location
 - Inspection bay/lanes requirements
 - Out of Service parking requirements
 - Building and staff parking requirements

VE Ideas

The VE team was split into sub groups to develop ideas.

- Site Operations
- Site Development
- Strategic
- Safety/Security
- Technology



The following ideas represent some of the concepts that the team developed.

Operations

Ideas that affect operations include:

- Standardize the signage and signals at CVIFs
- Expand Triage Approach to all Regions



Operations - Signs and Signals

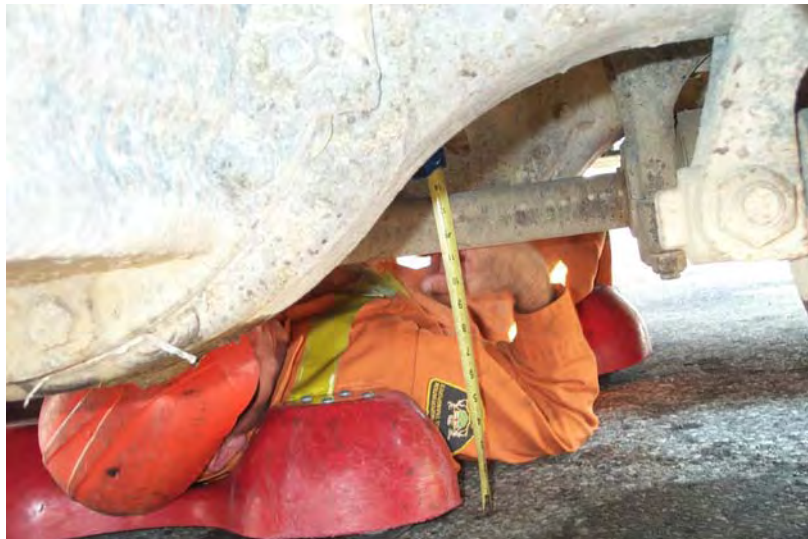


Signage/Signal Examples

Operations

There are a number of ideas that affect the inspection areas such as:

- In-ground lighting to illuminate undercarriage
- Cover entire inspection area with white durable surface coating; hatch marks each side of inspection area
- Provide a simple gas station style canopy in the triage area/ inspection area
- Construct Depression in Inspection Area
- Install truck ramps to raise vehicles



Site Development

Ideas that affect Site Development include:

- Create a platform or raised work area to place inspector at eye height of driver.
- Develop a universal power/communications strategy for CVIFs detailing criteria (permanent/portable)



Site Development

A number of site development ideas related to engineering standards such as:

- Standardize requirements of SWM design; maintenance requirements;
- Pavement structure (all 4 TIS facilities reviewed had different deep strength pavement designs)
- Electrical standards - task lighting, security, ramp
- Length of access ramps



Safety & Security

Ideas that were considered to influence staff safety and security include:

- Provide a permanent hard surface inspection pad at all sites
- Increase Officer/Client separation where feasible, while ensuring effective face-to face interaction



Strategic /Policy

Ideas affecting policy or strategic direction include:

- Construct some Facilities as Joint Rest Areas. Could affect CVIF layouts.
- Share CVIF Location with Others (i.e. OPP)
- Form a cross-regional team to review and prioritize CVIF improvements

Technology & ITS

There were a number of technology and ITS ideas:

- WIM Scale on ramp to select vehicles for overweight weighing
- Transponder Based Pre-clearance
- Automated system to calculate axle weights to determine total vehicle weight at all scale locations
- Queue management with automated detectors

Where are we now?

The VE Study was held in late September 2002. Several follow-up meetings have been held to work out more of the technical details. Recommendations which were presented to the Steering Committee in March 2003. Ideas endorsed were:

- The proposed Inspection Process (Triage)
- CVIF I Concept
- CVIF II Concept

Where are we now?

- Endorsement from the Ministry's Managers of Engineering to proceed with the Design Guideline Development of both the CVIF 1 and 2 was received in Sept 2003.
- Consultant assignment for the design guidelines for the CVIF 2 was initiated in the fall of 2003.
- Consultant is currently underway with the Design Guideline Development with a target completion date of Spring 2005.
- Guideline development is being jointly-managed by Highway Design Office and Southwestern Region Planning and Design Section.

Where are we now?

- This assignment includes the development of geotechnical, foundation, landscaping, illumination, geometric and environmental design guidelines
- MTO Head Office is developing signing guideline standards.
- The assignment also includes a design component for the development of a heat tracing system and a raised ramp or a depressed inspection area for vehicles too low to inspect.

Teamwork

- “The co-operation and combined efforts of the four divisions involved in the VE Study played an important role in developing such an effective design. We are all very pleased with the overall process and final results.”

Peter Hurst, Director of the Carrier Safety and Enforcement Branch