

# ETC Interoperability For CVO

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# Introduction

- What is the Question?
- Definitions
- Stakeholders and Motivations
- Factors to Consider
- CVO Strawman



# Why Standards?

- Transportation/Economy Relationship
- Efficiency in Transportation
- Significant Role of ETC in Efficiency
- Standards Relationship to ETC
- ETC - Widely Deployed ITS Application
- Toll Operators are Inherently Involved



# Interoperability vs. Compatibility

- Compatibility - Frequencies, Protocols, Message Sets
- Interoperability - That Necessary to Effect Customers Use of One Transponder Seamlessly From System to System
- Not Just ETC But CVO and Other ITS Applications



# “Back Office” Issues

- Payment Clearinghouse Operations
- Methods of Payment
- Policies - Charging for Transponders, Discounts, Methods of Communicating Balances, Charging for Statements etc.



# Marketplace Issues

- Private Resources Expended to Establish & Deploy the Technology
- Physical Plant to Manufacture
- Striving For a Return
- Compatibility is a Concern to Finances
- Will Defend Their Markets



# Stakeholders in Interoperability

- Government - Efficient Transportation
- Business - Protect Market Return
- Toll Operator - Recover Investment & Collect Revenue
- Freight Operator - Privacy, Efficiency & Protection of Proprietary Information
- Vehicle Manufacturer - Profitable & Marketable



# Factors Affecting Proposal

- Just in Time Inventory Control
- Precise Scheduling/Dispatching
- Small Improvements in Transportation Efficiency Effect Freight Margins
- 150 Million Passenger Cars
  - Few Trips Outside of a Region
- 1.5 Million Interstate Freight Vehicles



# CVO Interoperability Strawman

- New Specification for CVO Application
- More Than Just ETC
  - Vehicle Information, Registration etc.
  - Bill of Lading Information
  - Driver Information
- Inclusive Application
  - Safety Inspection, Weigh in Motion, Border Crossing, ETC Other ITS Apps.



# CVO Interoperability Strawman

- Central Clearinghouse/s - Public or Private
  - Registration
  - Toll Payment
- Specific CVO Corridors Defined
  - Smoothes Transition
- North American CVO Logo
- Private Freight Information



# CVO Interoperability Strawman

- Additional ETC Equipment for CVO
- Guaranteed Revenue
  - VES Unnecessary
- Natural Transition to Standard for Interstate Travel
- Marketplace - Large “ETC” Application



# Summary

- “Bottom Up” Deployment Rather Than “Top Down” Standards
- Motivations of Stakeholders Must Be Considered
- Transportation Efficiency - Significant Factor to the Economy
- Electronic Commerce Panel, Start

