

Electronic Tolling

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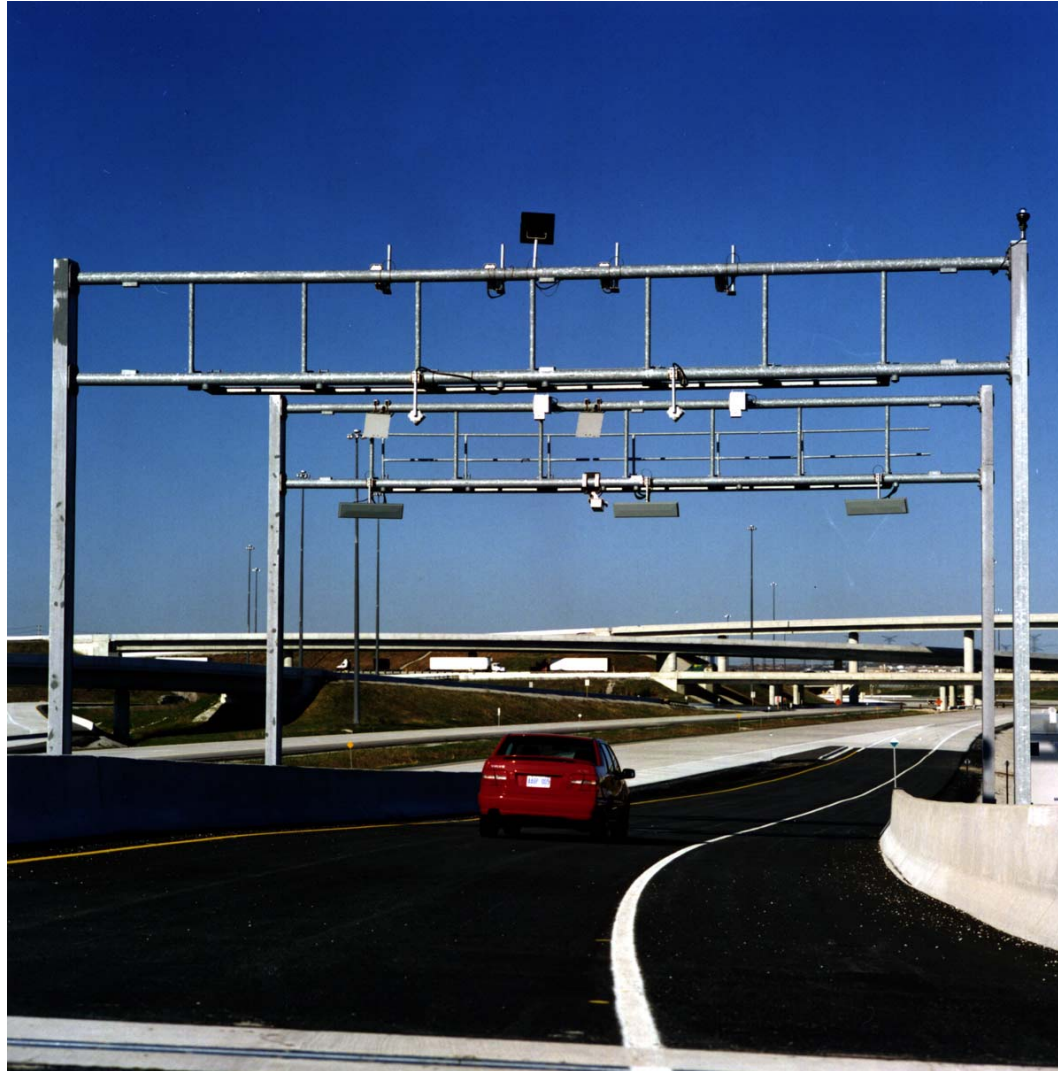
Definition: Electronic Tolling

- Two configurations:
 - Mixed Manual
 - May use transponders & cash options
 - Toll booths and barriers
 - Fully Electronic
 - No toll booths or barriers
 - Free-flow traffic
 - No cash payment option on roadside



Today's Presentation

- Fully Electronic Toll Systems
 - Free flowing traffic
 - Supports road safety
 - No additional land for toll plazas
 - Pre-payment or post-payment options
 - Environmentally sustainable
 - No stop and go
 - Congestion Pricing flexibility



Electronic Toll Systems

- Roadside Data Capture
 - Trip length, vehicle classification, etc.
- Trip Transaction Processing
 - Closed - Distance x rate = toll cost
 - Open – Gantry x rate = toll cost
- Back Office Processing
 - Customer account management
 - Invoicing and collections
 - Transponder inventory management

Electronic Toll Systems in Use

- Highway 407 ETR – Toronto, Canada
 - Tolling began October 1997
 - Raytheon HTMS
 - Video tolling for infrequent users
- Melbourne City Link
 - Tolling began January 2000
 - Combitech Traffic Systems
 - Day Pass for infrequent users

Electronic Toll Systems Planned

- Cross Israel Highway
 - Tolling to begin summer 2002
 - Raytheon HTMS
 - Video tolling for infrequent users
- Urban Concessions, Santiago, Chile
 - 3 of 4 major toll roads awarded
 - Combitech Traffic Systems
 - Day Pass for infrequent users

Challenges of ETS

- Interoperability
 - Standards
 - Trials to prove compatibility of transponders and roadside readers
- Infrequent Users
 - Methods to offer choice – video tolling, day passes
 - Out-of-state users, rental vehicles

Challenges of ETS (cont'd)

- Legislative Framework
 - Right to charge tolls
 - License plate denial
 - Tampering with plate to avoid tolls
 - Seize and impound vehicle of repeat violators

Challenges of ETS (cont'd)

- Multiple Concessionaires
 - One customer- one invoice
 - Standard for transponder/technology
 - Back Office – shared clearinghouse
 - Issues:
 - Collections
 - Violators
 - Technology

ETS: Today

- Challenges are being overcome
- Strong customer acceptance
 - Treatment of infrequent user varies
- Solution to infrastructure pressure
 - Public-private partnership to build and operate
 - Less land required for tolling – no plaza
 - Able to retrofit existing highways

ETS: The Future

- Technology Standards
 - Important for geographic regions
 - Develop depth in industry
 - Competition among ETS suppliers
- Technology Advancements
 - In-vehicle telematics
 - GPS
 - Challenge of retrofits

ETS: The Future (cont'd)

- E-commerce
 - E-purse
 - Smart Card