ETC-based Traffic Telematics

Synergies between Electronic Toll Collection and Traffic Telematics

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ETC-based Telematics

Trend:
• Re-use of existing tolling infrastructure as basis for other traffic telematics solutions
• In the future electronic toll systems will become the “backbone” for a broad spectrum of traffic telematics solutions

Main drivers:
• Cost reduction (re-use of ETC infrastructure)
• Better data (traffic management & planning)
• Increased safety & security
• Better service for road users (acceptance for toll)
• Additional revenues (concessionaires, EETS service providers)
ETC-based Telematics: Fields of Application

Electronic Toll Collection Systems

Traffic Information, Management & Planning
- Cost reduction and better data through capturing traffic data from the toll system

Safety & Security
- Improved safety and security through better traffic enforcement and observation

End-user Mobility Services
- Better service for the driver through value added services (>> increasing acceptance for toll!)

Industry Solutions
- Additional revenues through utilizing the ETC infrastructure for implementing industry solutions
Selected Sample Applications
Sample application 1: Traffic monitoring

Features:
- Calculation of real-time travel times and level-of-service
- Web front end
- XML interface to traffic management centers

Field of application:
- Traffic management (incident detection and travel time prediction)

Benefits:
- Cost savings (reduced traffic sensor network)
- Better quality in traffic information
Sample application 2: Traffic flow analysis

Features:
- Route analysis of vehicles on tolled roads

Fields of application:
- Traffic planning
- Traffic policy
- Others (e.g. advertisements)

Benefits:
- New dimension in traffic analysis (> better data for political decisions, infrastructure planning etc.)
Sample application 3: Traffic Statistics

Features:
- Traffic statistics for the tolled road network

Fields of application:
- Traffic planning
- Traffic policy
- Others (advertisement)

Benefits:
- Cost effective generation of traffic statistics
- Permanent counting (high data quality)
- Additional data (e.g. segment based data, statistics based on toll attributes [emission class, nationality])
Case Study: Traffic data capturing on CZ highways

- Calculation of travel times and level of service based on toll data for all sections of the tolled road network in CZ
- Capturing of short-term and long-term traffic data using the laser scanner of the Enforcement stations
- Provisioning of the data to the national traffic management center in Ostrava via XML web services

[Image of Traffic Management Center]
[Image of Telematics Platform]
[Image of Tolling System]
[Image of ETC Roadside Infrastructure]
Outlook

Passenger car tolling will push ETC-based telematics applications

- Traffic management: better data quality
- High OBU penetration leads to increasing market potential for commercial add-on applications (e.g. access, payment)

EETS will further drive ETC-based telematics services

- EETS service providers will offer additional service in order to attract users

Toll tariff-based traffic management

- More and more traffic will be managed based on variable or dynamic tariffs
Think of traffic as an opportunity!

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