Electronic Toll Collection Systems in India

: Current Issues and Way Forward

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Electronic Toll Collection

An example from Delhi Gurgaon Expressway
Electronic Toll Collection

A World-Wide standard process to improve

Cost Recovery
Road Operations Management

e-Tolling allows

Greater Efficiency on Roads
Reduces Fuel Wastage
Enhanced Passenger Experience
Helps with a green environment
Need for ETC

- High Growth in Traffic
- Congestion and delay caused by stopping to pay at the tollbooths.
At Gurgaon-Delhi border an ETC

- Cash Transaction Speed
  450 vehicles / Hour
- Actual ETC Speed
  700 Vehicles / Hour

Expected ETC Speed
1200 Vehicles / Hour
Causes for Low ETC throughput in India

1. Non ETC Users in ETC Lanes
   - Cash payment in ETC Lanes
   - Exempts in ETC Lanes
2. Lane Indiscipline

- Rampant Lane Changes in Toll Plaza
- Violation of the lane markings
3. Tail Gaiting

- One Vehicles closely follows another to avoid payment

- The IR Safety Barrier detects the same and the barrier comes down crashing on the Vehicle Bonnet and creates chaos
4. Run Through

Swings Open Mechanism in Toll Barriers

- Patron sometimes hit the barriers intentionally and try to evade toll by escaping.

- Since ETC operation is faster that Cash the chances of run through are higher.
Solutions for making ETC Successful

1. Mandatory Education as part of Driver License Training covering
   - Rules for ETC Lane Driving

2. Law Creation for ETC Enforcement
   - ETC Red Light Violation
   - NON ETC User in ETC Lane
   - Tail Gating
     with heavy penalties

3. Law Enforcement:
   Government Nominated People at Toll Plazas for
NHAI has defined a National Standard: 18000-6c with RFID Tag
Way Forward for ETC

-Sticker Tags will prevent vehicle to vehicle tag transfers

-Cost Effective Solution @ < Rs. 150 / tag will make it effective

-Tag will eventually be part of the Third Number Plate of HSRP
Way Forward: National Central Clearing House (CCH)

- Central Registry of registered vehicles (tags)
  - Toll Plaza based enabling
- Standardized tags, readers across the country - consider local support, performance, reliability, costs
- Integrated systems - regional, states & country level (with backup)
A case Study of the most effected Road User

1. Banta Singh – Who Did not use ETC

2. Santa Singh – Who Used ETC
QUESTIONS AND ANSWERS

THANK YOU!
FOR YOUR ATTENTION