Electronic Toll Collection Systems in India

: Current Issues and Way Forward

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   A leading Providers of ETC and other ITS Solutions for Highways and Urban Infrastructure .

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

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➢ High Growth in Traffic

➢ Congestion and delay caused by stopping to pay at the tollbooths.

Issues with ETC in India

➢ **At Gurgaon-Delhi border an ETC**

   - Cash Transaction Speed

     450 vehicles / Hour

   - Actual ETC Speed

     700 Vehciles / Hour

➢ **Expected ETC Speed**

   1200 Vehicles / Hour

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

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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.
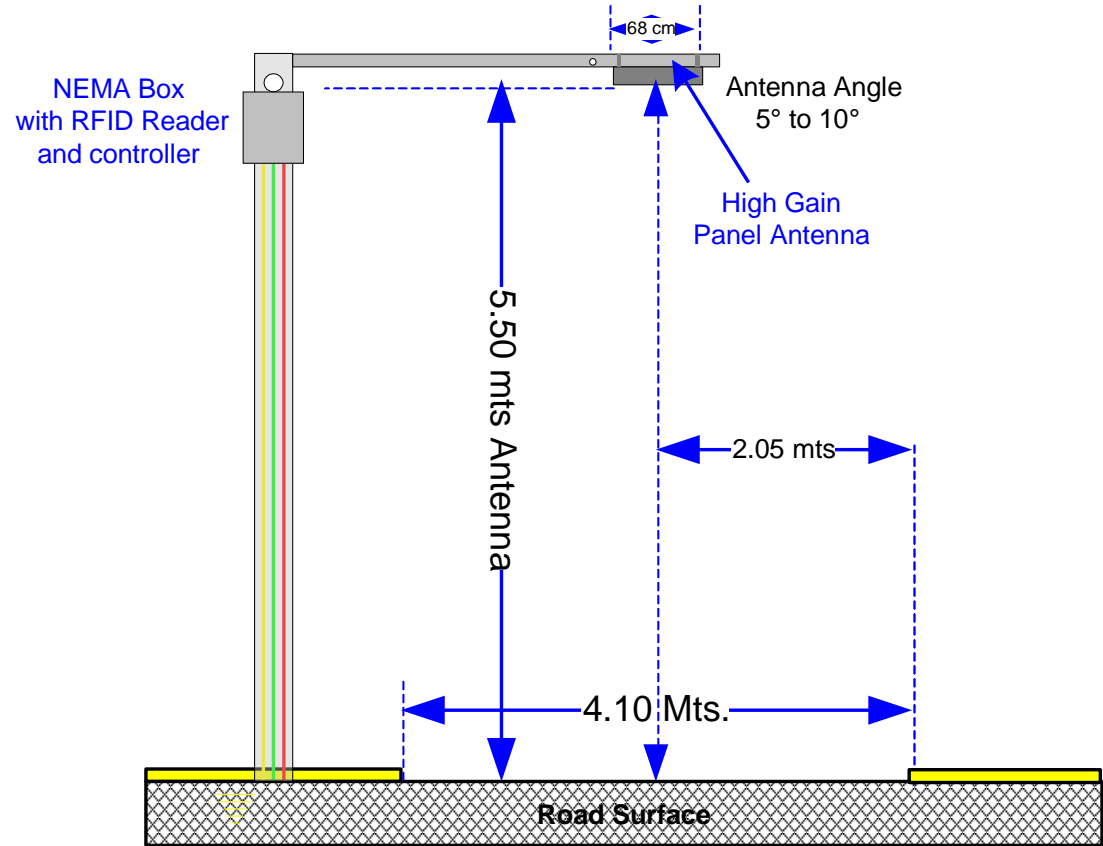
Solutions for making ETC Successful

1. Mandatory Education as part of Diver
    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
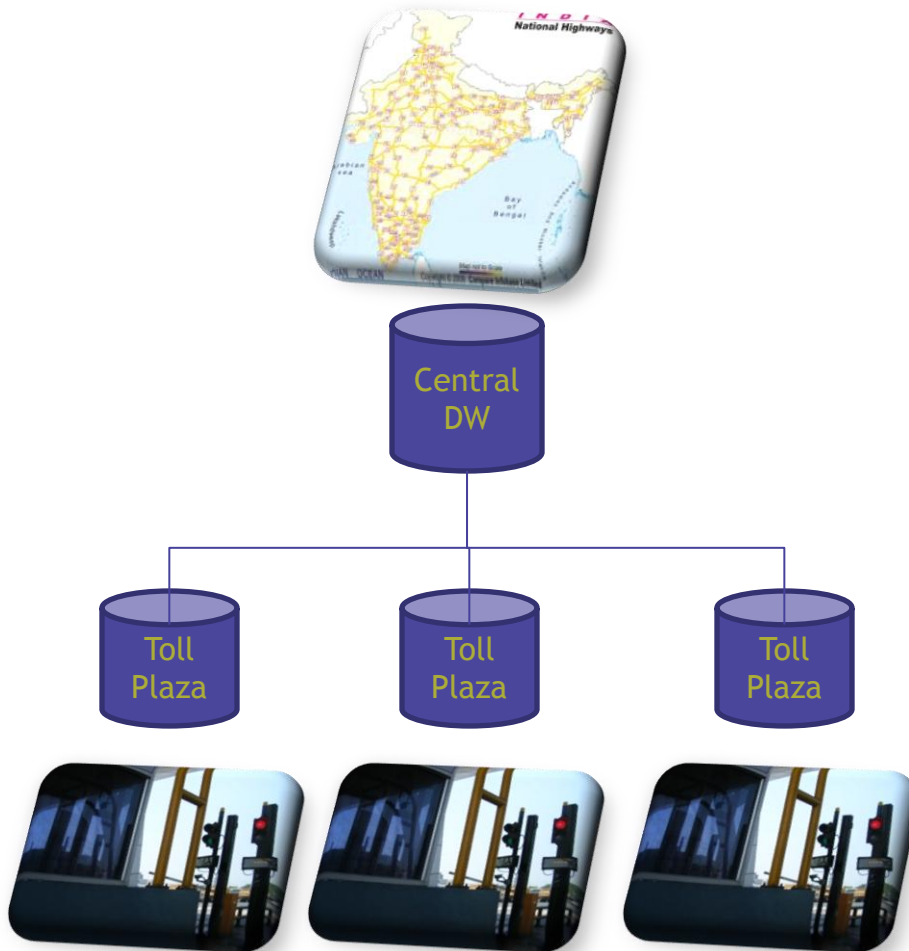   Plazas for

NHAI has defined a National Standard :18000-6c with Rfid Tag

10.5 cm

5.0 cm

1236545

68 cm

NEMA Box
with RFID Reader
and controller

Antenna Angle
5° to 10°

High Gain
Panel Antenna

5.50 mts Antenna

2.05 mts

4.10 Mts.

Road Surface

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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

- 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

- 2 Truck Drivers

1. Banta Singh – Who Did not use ETC

2. Santa Singh – Who Used ETC

QUESTIONS AND ANSWERS

THANK YOU !
FOR YOUR ATTENSION