



Centralized Electronic Tracking of Cargo & Passenger Vehicles

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AVP(Business Development , IT), DIMTS



Delhi Integrated Multi-modal Transit System Limited

Joint Venture of Govt. of NCT of Delhi and IDFC Foundation

An ISO 9001, 14001, OHSAS 18001, ISO 27001 & CMMI L3 Certified Company

- Introduction
- Facilitation of Cross Border Trade using Technologies
- Challenges
- How to overcome the challenges
- Proposed Key Features of Centralized Electronic Tracking Portal
- Technology Components
- Vehicle Tracking – For Visibility
- E-Seal-For Safety & Security
- Electronic Ticketing- For passenger Vehicles
- BBIN Experience
- What Role DIMTS can play

DIMTS is a 50:50 Joint Venture of

Government of National Capital Territory of Delhi (GNCTD)

&

Infrastructure Development Finance Company Ltd. (IDFC; USD 10 billion assets under management; power, highways, ports, etc.)

Chief Secretary of Government of National Capital Territory of Delhi is the chairman of the company

Vision

To create an environment where the majority of trips take place by public transport in preference to personal motorized transport



About DIMTS



Advisory
Services



Transport
Planning



Engineering



Transport
Technologies



Operations

End to End Solutions – Urban Mobility

DIMTS – in Numbers



2,000 Buses



50,000 TSR



25,000 PSV



400 + Water Tankers



40 + Make



80 GB Data /Day

Form-23A



GOVERNMENT OF NATIONAL CAPITAL
TERRITORY OF DELHI

VEHICLE REGISTRATION CERTIFICATE

Particulars not to be used as Residence Proof



12,00,000 Vehicle
Registration



38,00,000 Smart Card
License

1500 ETMs



850,000 E-Tickets



- 90,000 connected vehicles , sending data feed every 10 secs
- 3,00,000 Kms/day, Bus routes
- 50,00,000 Kms /day, Paratransit
- 50,00,000 Kms/day ,PSV
- 800,000 passengers /day



MINISTRY OF ROAD TRANSPORT & HIGHWAYS, GOVERNMENT OF INDIA

NATIONAL LEVEL VEHICLE SECURITY AND TRACKING SYSTEM



MORTH - National Level Vehicle Security and Tracking System

Scope is to support MoRTH in formulating and implementing the scheme “Security for Women in Public Road Transport in the Country”

Project is planned to be funded from the Nirbhaya Fund.

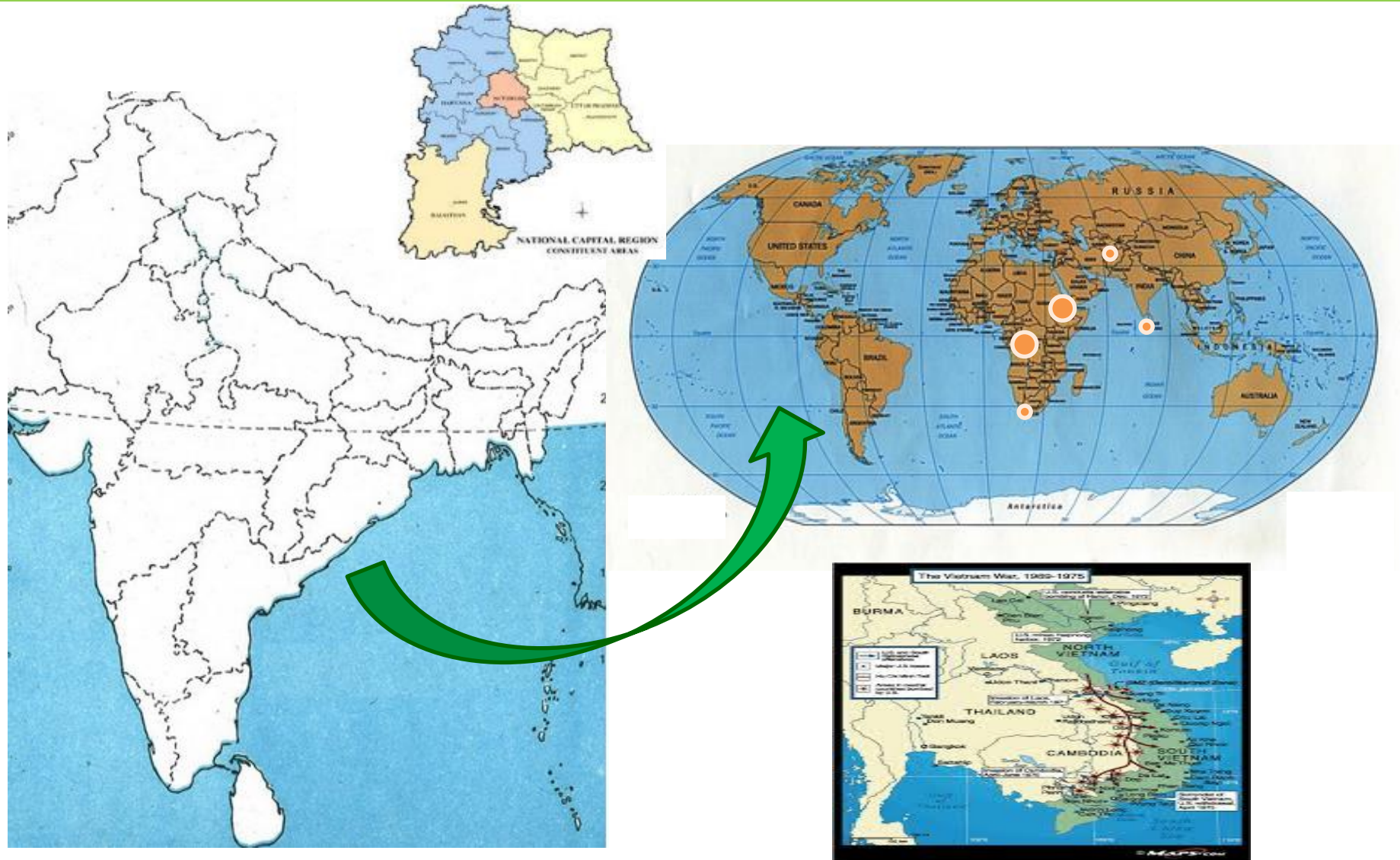
Following components are proposed

A National
Backend Data
Centre.

CCC in 32 cities
covering more
than 3 million
vehicle

Installation of
GPS
CCTV
Panic Buttons
in nominated PSVs

Areas & Geographies



Projects and clients across 21 states in India and 5 countries

Facilitation of Cross Border Transportation

- Seamless movement of cargo, personal and passenger vehicles between countries
- Seamless exchange of data amongst countries
- Ensuring visibility of vehicles during transit
- Enhancing safety & security of cargo

Challenges

Policies & Regulations



Heterogeneous Transport Regulations

Lack of Unified data sharing architecture



•Complex procedures

Ensuring visibility

•Safety & Security issues

Transshipment

•Transshipments at borders

DELAYS



AFFECTING BUSINESS

Growth



Policy & Regulations

Infrastructure

Technologies

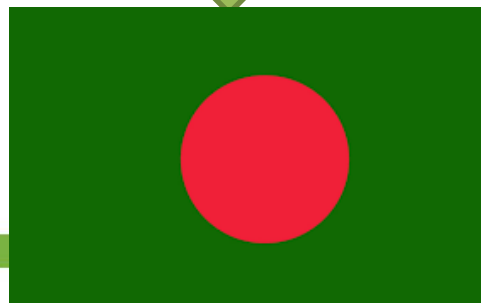
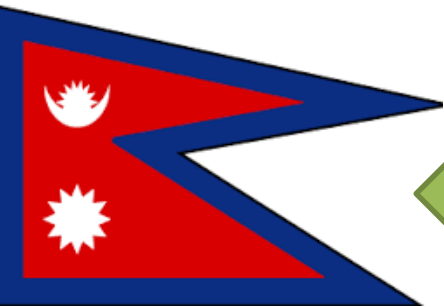
What is required to overcome the Challenges ?

- Need of a Centralized portal /single window platform
- Technology Architecture to enable seamless flow of information amongst different countries & concerned stakeholders
- Adoption of GPS technology to ensure visibility of cargo/passenger vehicles
- Adoption RFID & e-seal technologies to ensure safety of cargo

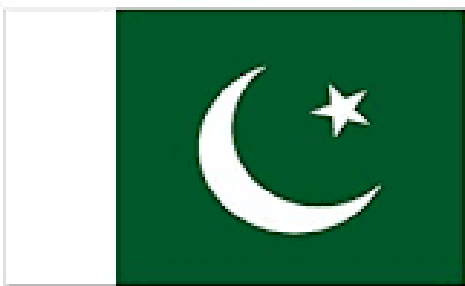
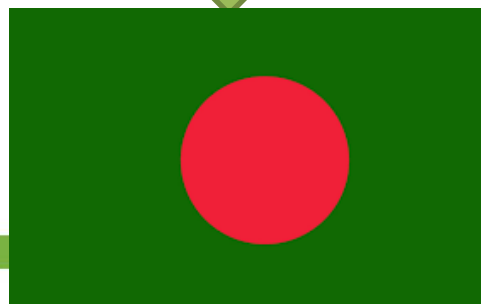
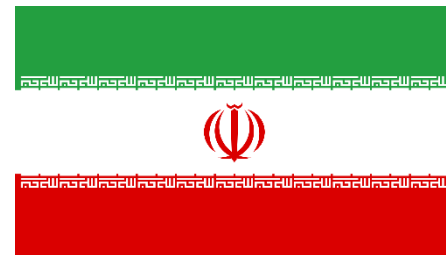
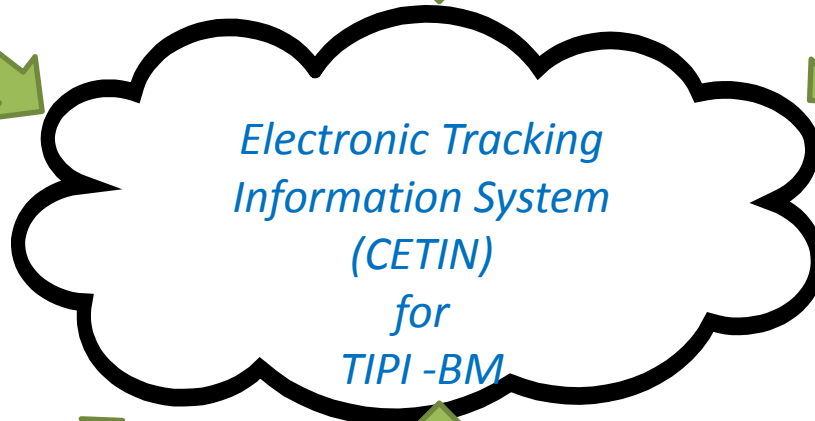
BBIN



*Electronic Tracking
Information System
(CETIN)
for
BBIN*



TIPI-BM



Key Features of Proposed Central Portal

Registration of :

- Transport operators
- Importers and Exporters
- Cargo vehicles
- Valid insurance companies
- Crew including details of passport, visa, driving license etc
- Relief vehicles, Recovery vehicles and Diplomatic vehicles

Details of :

- Authorised officials
- Entry and exit points, Immigration Check Points, Land Customs Stations, Rest or recreation places, Repair facilities, Refueling Centers, Toll points etc with their geo-fencing on GIS map
- Authorized Routes and their geo-fencing on GIS map
- Various fees and charges payable by the transport operators

Key Proposed Features of Central Portal:

- Capture movement of vehicles vis-à-vis authorised routes.
- Capture date and time of vehicles reaching/crossing various points of interest
- Real-time tracking of vehicles and display of their movement on GIS map vis-à-vis authorised route and points of interest.
- Raise alerts in case of specified incidents such as vehicle deviating from the authorised route, vehicle overstaying in the host country etc.
- Communication of alerts to designated officials of home country, host country and transport operator through SMS/email.
- Incident reporting through mobile app/platform, for accident/breakdown/repair of vehicle, sickness/accident of crew, incident to cargo, etc.
- Capture extension of stay of vehicle in the host country will be captured in the platform along with reasons.
- Repairs performed/parts/accessories added in the vehicle in the host country will be captured in the platform.

Key Proposed Features of Central Portal:

The Central electronic tracking platform will allow issuance/ generation of following documents:

- Issuance of Crew Identity Card by Home country
- Issuance of Permits by home country and counter-signature by host countries through digital signature
- Document for Temporary Admission by Home country
- Cargo Manifest by Home country
- Transit Declaration by Transport Operator
- Entry and exit endorsements

Key Proposed Features of Central Portal:

- Various reports will be generated through this platform including:
 - Reconciliation reports for entry and exits
 - Over stay reporting
 - Route deviation report
 - Vehicle movement history report
 - Incidents report
- The platform will allow **automatic release of bonds** on exit of vehicle from the host country.
- User authentication and role-based access to the platform.
- The common electronic platform will be accessible to authorised officials of all BBIN/TIPI-BM countries and other stakeholders through secure log-in mechanism.

Technology Components for Cargo Vehicles



Electronic Vehicle Tracking

- **AVL Application**

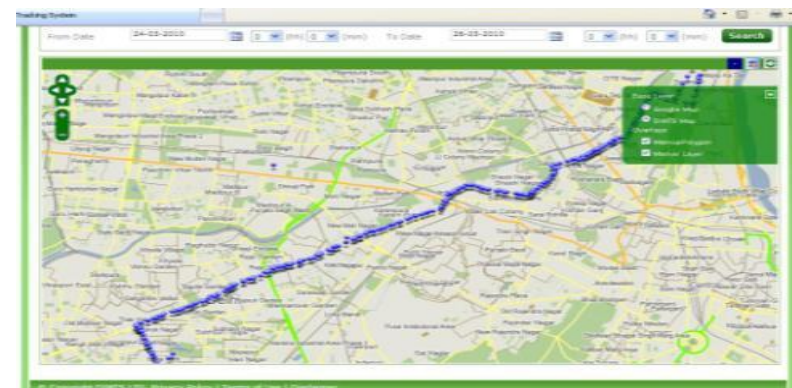
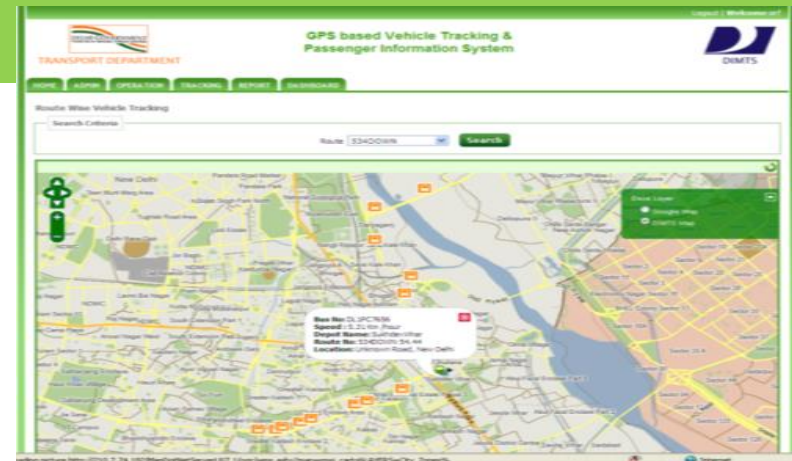
- Real time tracking on GIS maps own @ 1:2000 scale
- Route wise tracking and vehicle running information.
- History tracking with trail of location updates.
- Monitoring at Check posts

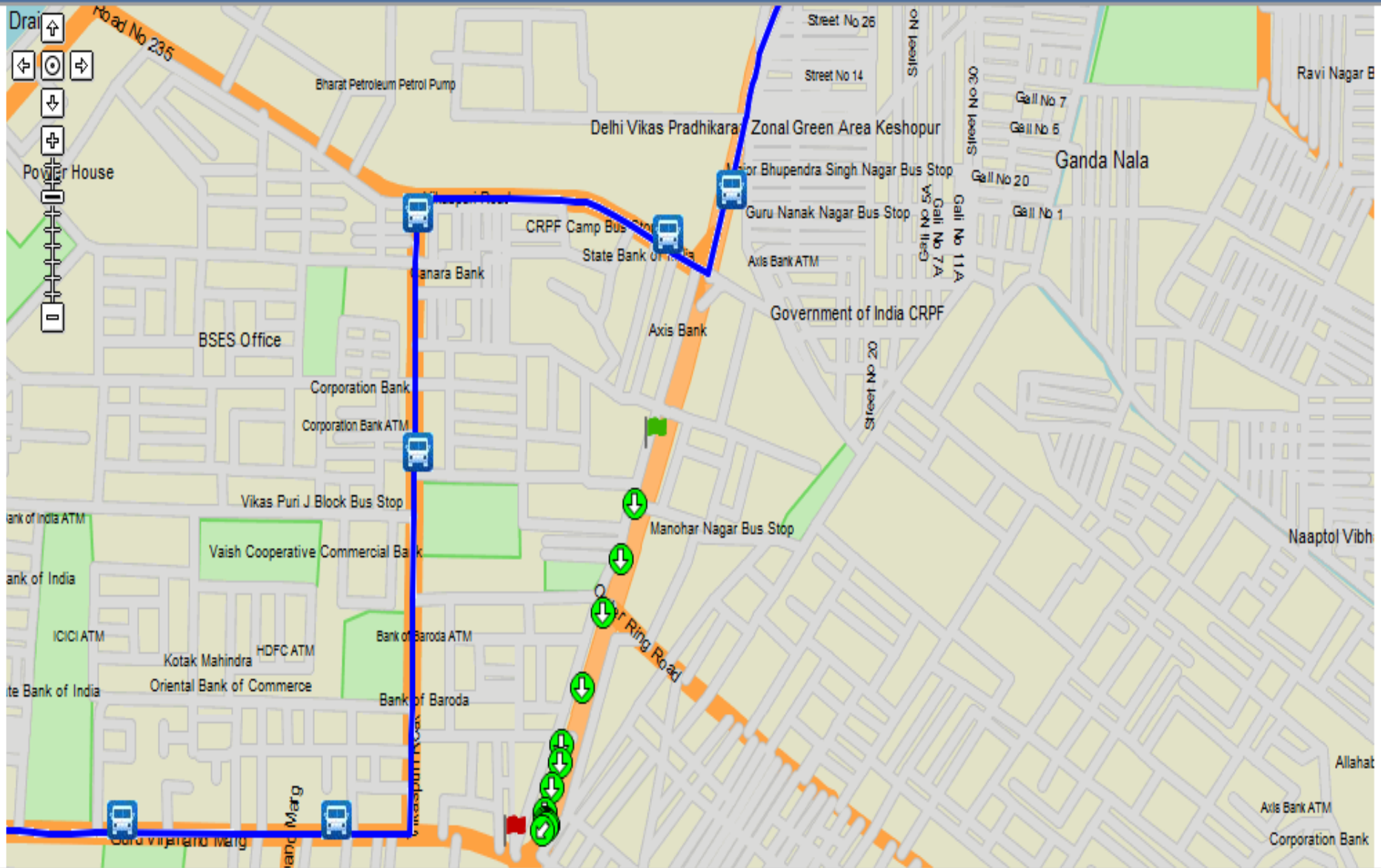
- **Dashboard:**

- Complete cargo movement and current status dashboard for the BBIN/TIPI-BM stakeholders and Authorities

- **MIS reports :**

- Alerts dashboard to manage alerts, and respond to deviation violations & e-seal tampering

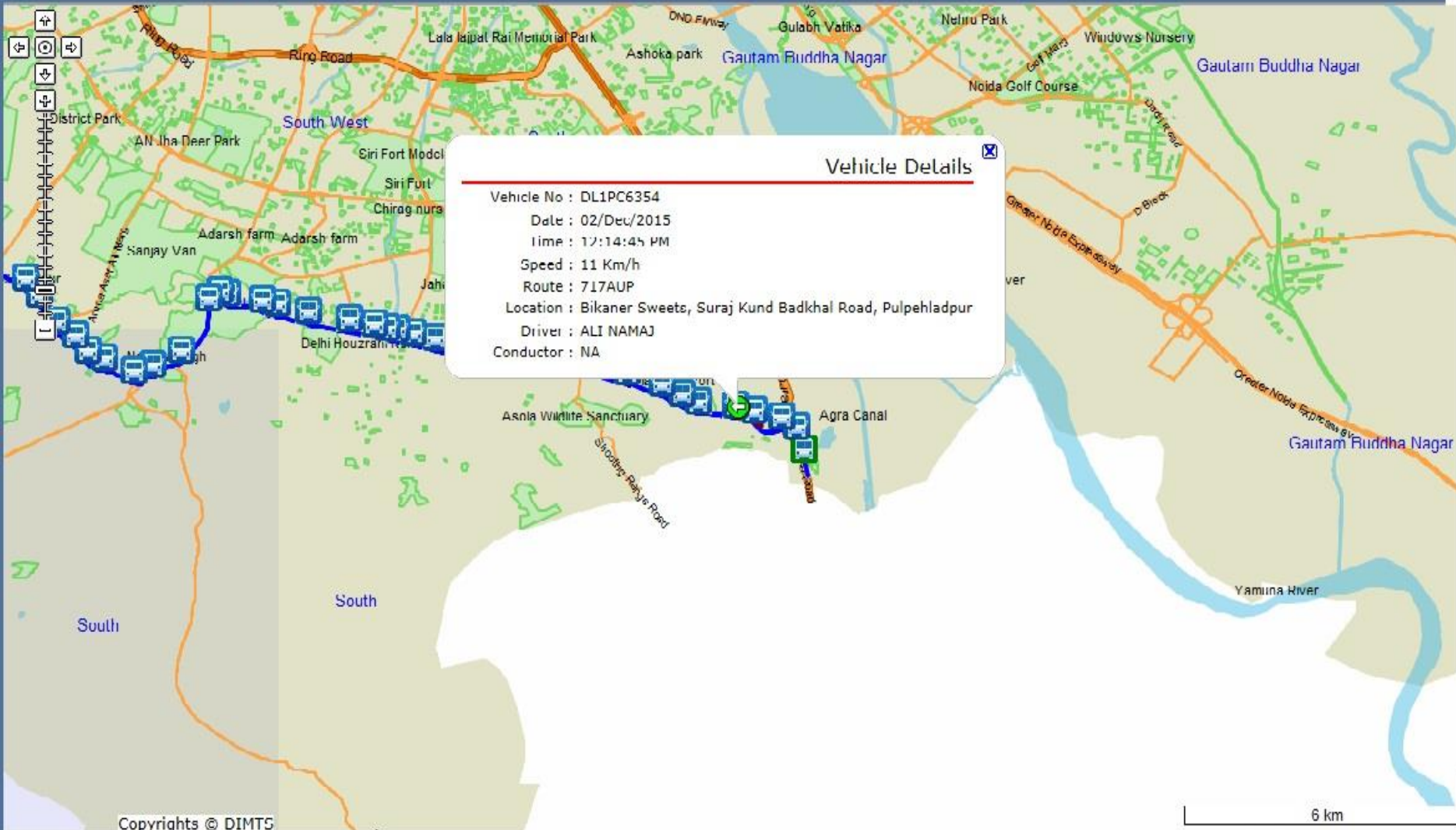




Real Time Tracking

Map Position

Vehicle :
DL1PC6354



Vehicle Details

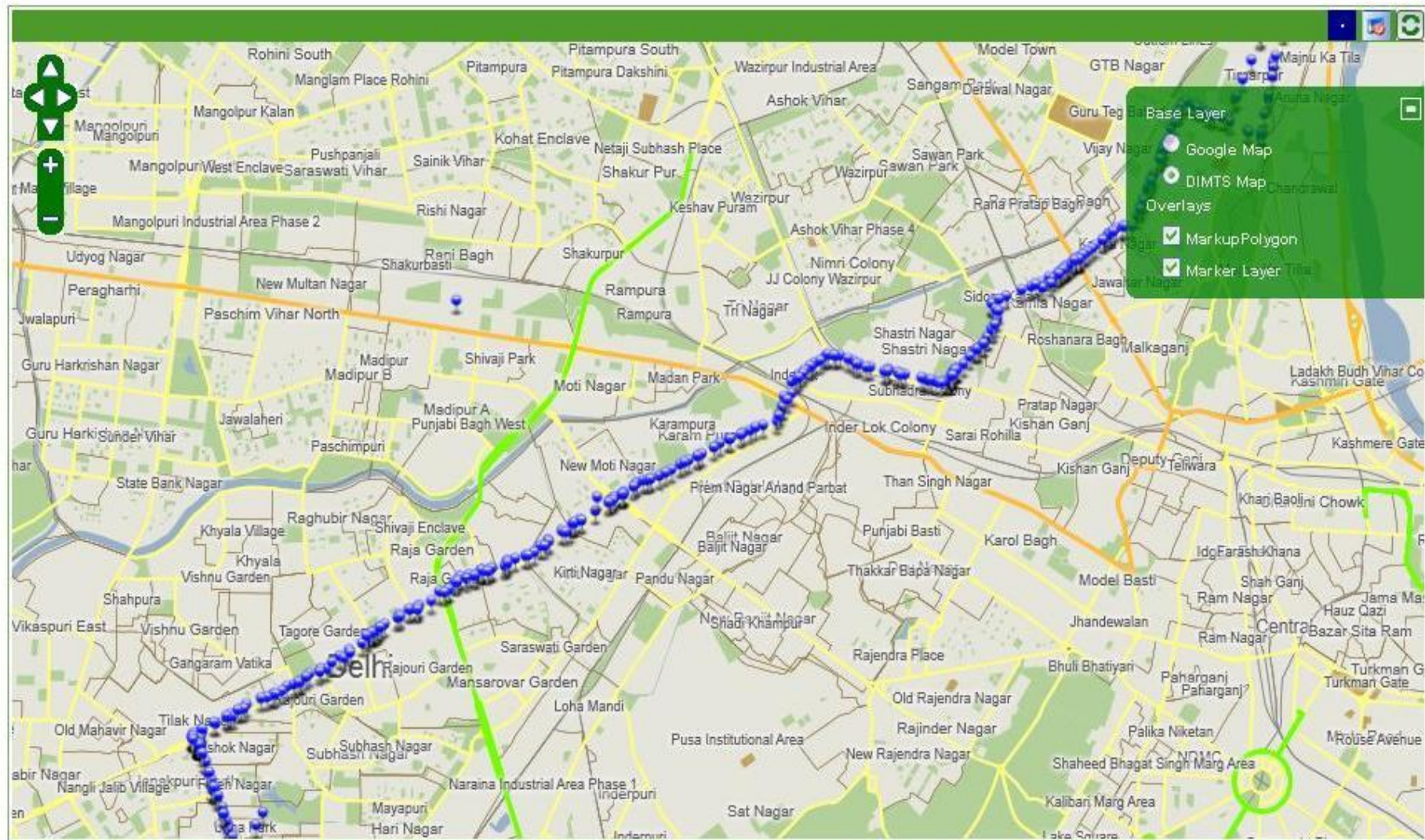
Vehicle No : DL1PC6354
Date : 02/Dec/2015
Time : 12:14:45 PM
Speed : 11 Km/h
Route : 717AUP
Location : Bikaner Sweets, Suraj Kund Badkhal Road, Pulpehladpur
Driver : ALI NAMAJ
Conductor : NA

History Tracking

Tracking System



From Date (hh) (mm) To Date (hh) (mm)



- Centralised portal will have following functionalities :
 - Online KYC of Exporter.
 - Online ordering of seal to empaneled vendors.
 - Association of self sealing data by exporter on the portal
 - Bulk association using MS Excel file upload facility.
 - Activity / Status Dashboard for Exporter.
 - Online support, help desk and FAQ.
 - Report for Exporter and Customs.
- The registered exporters will get login credentials for access to the centralized portal
- Authorised officials can check the seal status using RFID readers at the port /check points

Process flow for e-Seal

3 Self Sealing Data association

1

Request for e-seals

Centralised Portal

Exporter

Customs
(verification using
RFID Reader)

2

Seal
Delivery

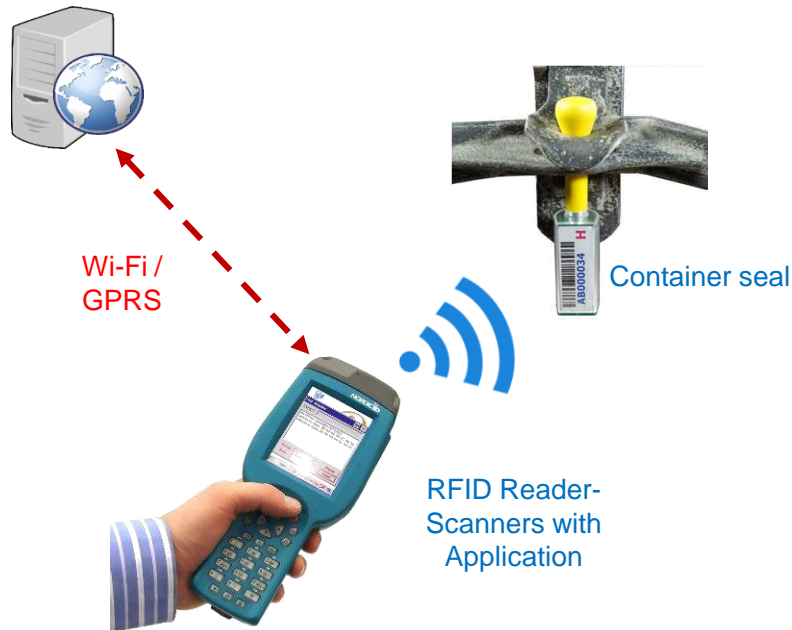
4

- Registered exporters would login on Centralised portal to place order for seals.
- New exporters needs to register with IEC number and required to go through KYC process to get login credentials. Registration and KYC are one time processes.
- Exporters will fill-up required details (Quantity etc.) and place the order.

- Order placed to one the empanelled vendors would be confirmed to exporter.
- Vendor would do thorough testing & confirm all Seals would be in good condition before dispatch.
- Vendor would associate all seal serial numbers to exporter on the centralised portal before dispatch.
- Seals would be shipped to exporter.

- Exporter would login to fill-up following information related to self sealing data association:
 - IEC No. (would come automatically after login)
 - Shipping bill No.
 - Shipping Bill Date
 - e-seal number (validation for valid seal number)
 - Date of sealing
 - Dime of sealing
 - Destination Customs station
 - Container No.
 - Trailer-Truck Number
- This self sealing data association would be stored on the Centralised Portal.
- Alternatively exporter can bulk upload self sealing data from MS Excel using import utility

Centralised Portal



- Sealed containers can be verified by the authorized officials/Custom officials at the check points using RFID Readers
- Verified Seal date-time would be updated to Centralised portal.

Technology Components for Passenger Vehicles



Electronic Ticketing for passenger vehicles

- Real Time data transfer through GPRS
- Smart Card Enabled
- Over the air configuration & update of master data, configuration data and application



Backend System enables:

- Real time ticketing information to key stakeholders
- Ticket revenue update
- Performance analysis on Route,
- Day-end Revenue reconciliation

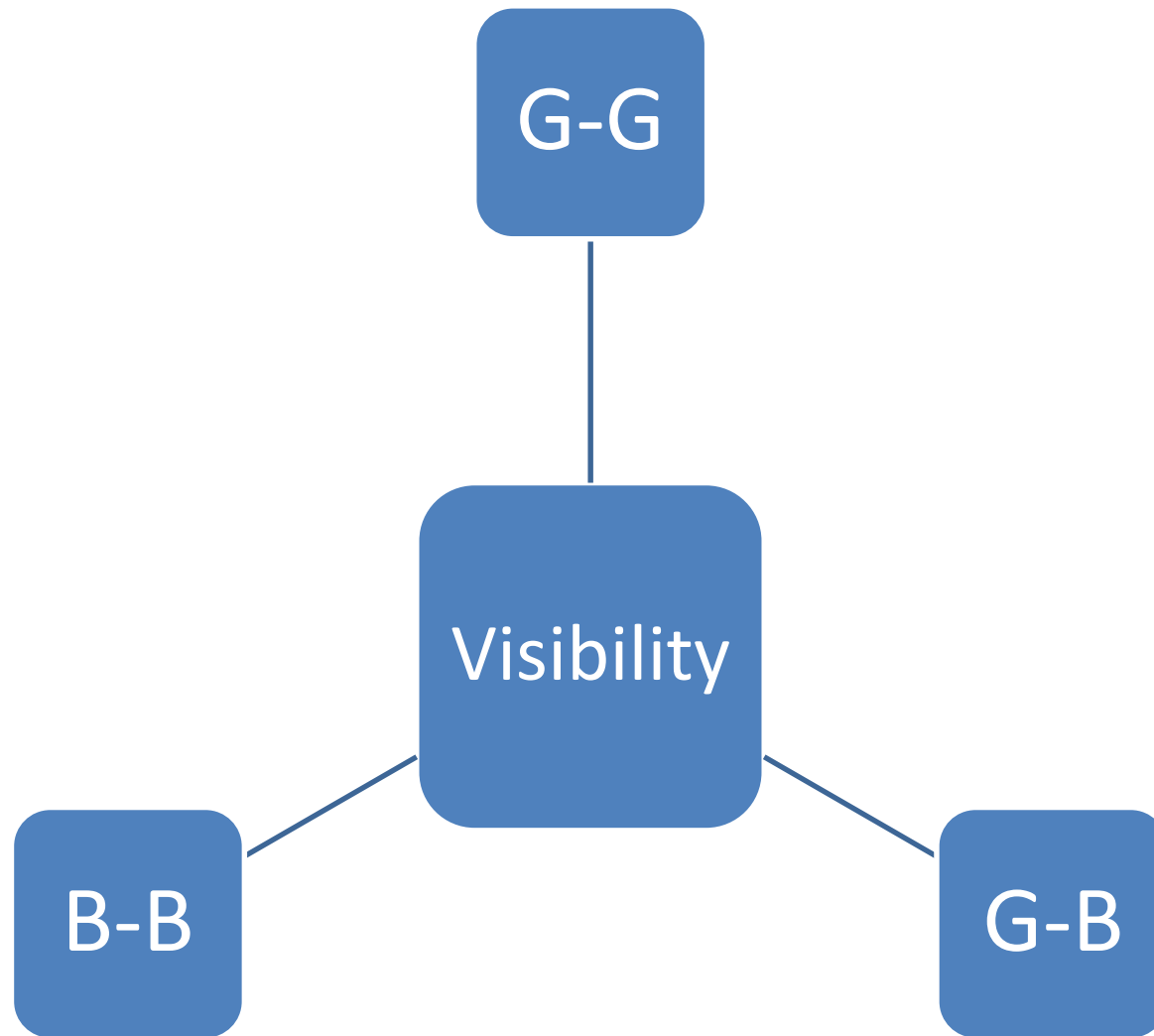
Passenger Information System

On Board Voice Announcement



- On-board passenger information system integrated with GPS unit & CCTV
 - Voice announcement
 - Display of names of approaching bus stops
- Passenger Information Displays at Bus Stations
 - Dynamic update of the approaching buses and ETA





Our Experience - BBIN

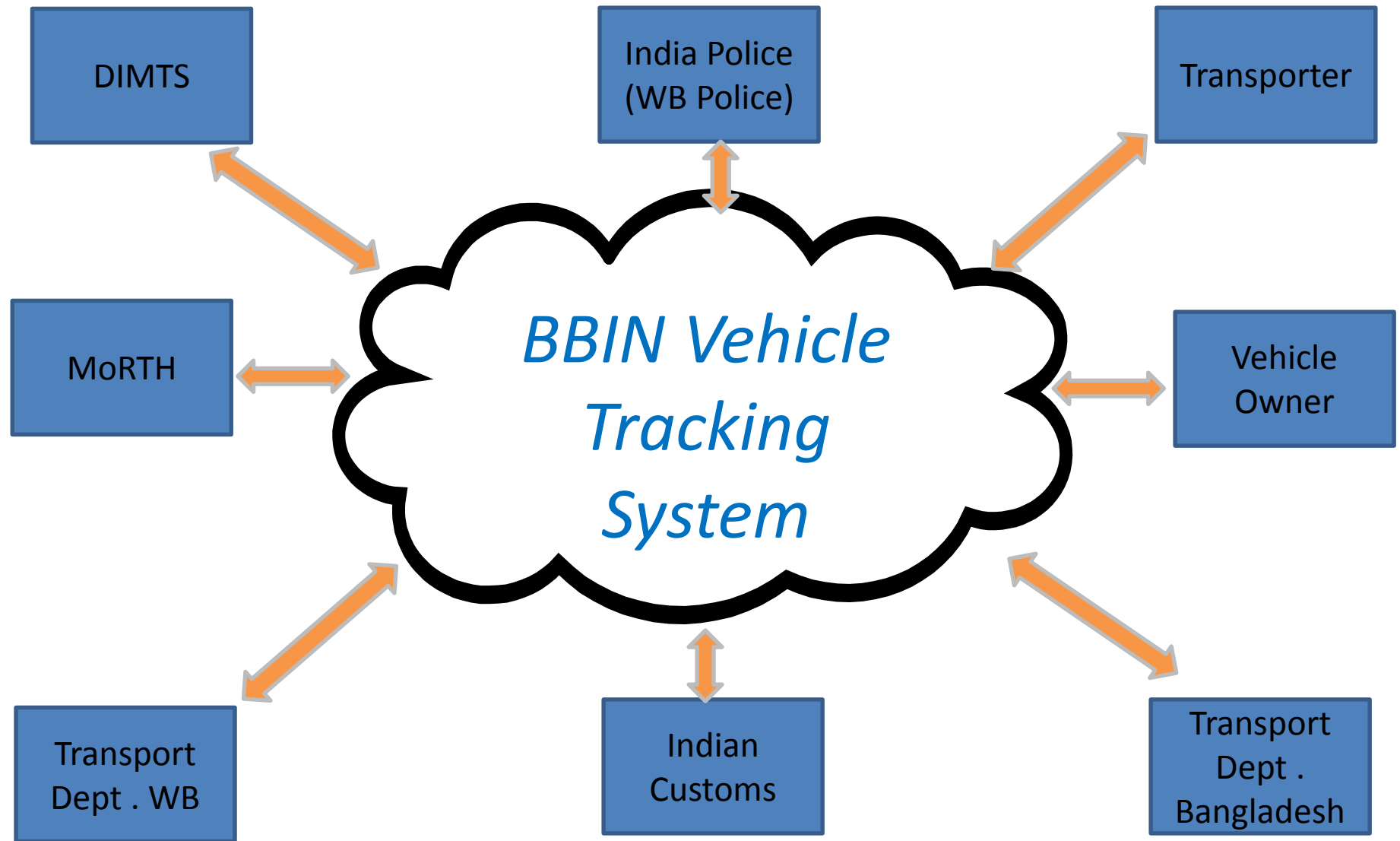
Bangladesh- Bhutan-India- Nepal (BBIN) Trial Run (Technology Powered by DIMTS)



BBIN Flag Off Day



Web User Access Report during Trial Run

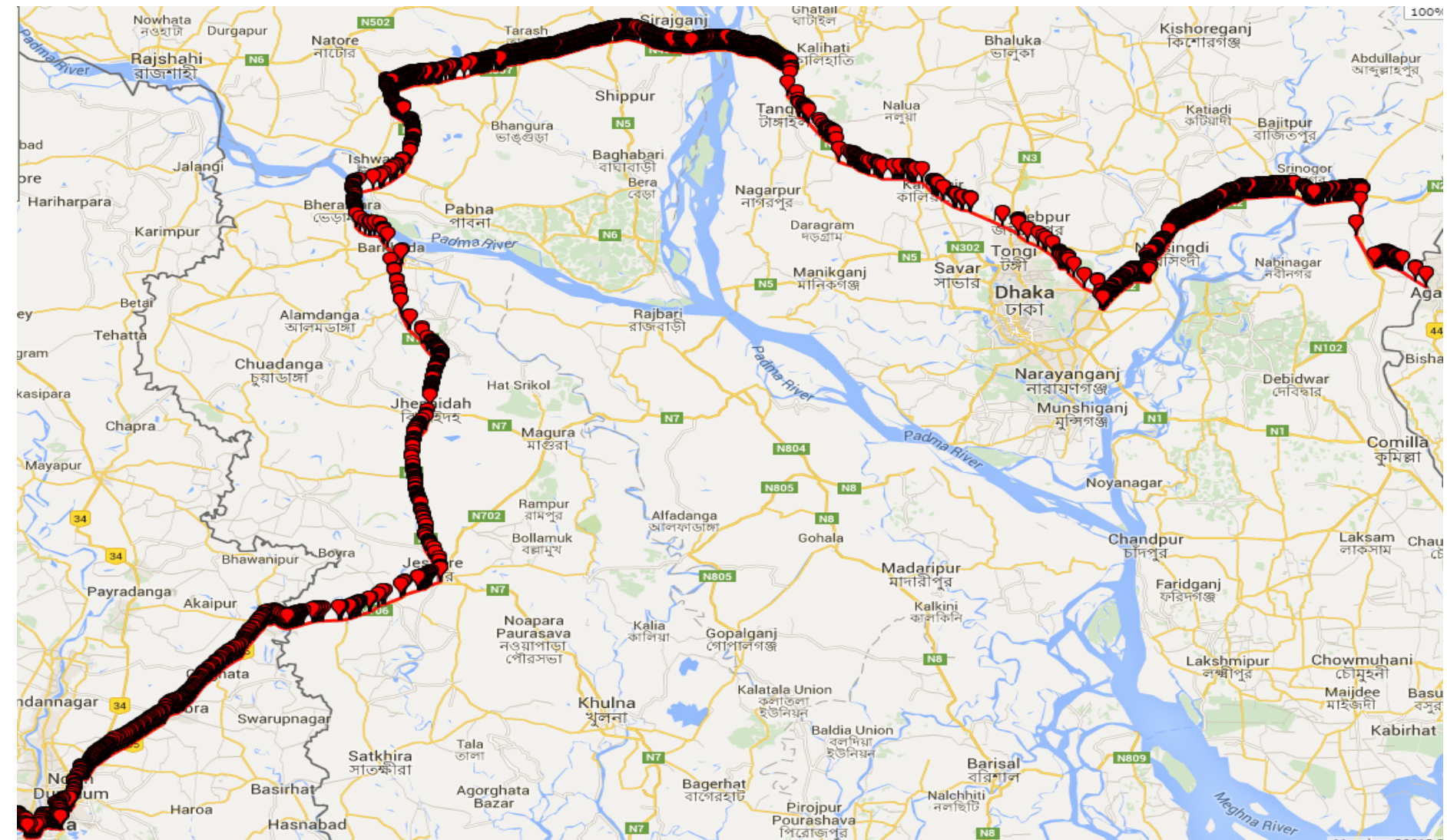


Web User Access Report during Trial Run

Sr.No	User ID	User Name	No. Of Attempts	User Category	Last Login DateTime	Last Logout DateTime
1	1000	admin	98	admin	11/5/2015 9:36	11/5/2015 7:35
2	1007	Courier	1	Transporters	11/1/2015 8:19	11/1/2015 8:19
3	1002	CustomIndia	7	CustomDepartment	11/4/2015 16:41	11/4/2015 16:44
4	1004	MORTH	10	Ministries	11/3/2015 14:06	11/3/2015 14:10
5	1006	PoliceBangla	3	Police	11/2/2015 11:25	11/2/2015 21:35
6	1005	PoliceIndia	1	Police	11/1/2015 14:03	11/1/2015 16:35
7	1013	TDBangla	1	Ministries	11/1/2015 8:18	11/1/2015 8:19
8	1008	WB04F 2042	2	VehicleOwner	11/1/2015 9:13	11/1/2015 9:14
9	1009	WB11B 9519	1	VehicleOwner	11/1/2015 9:14	11/1/2015 9:14

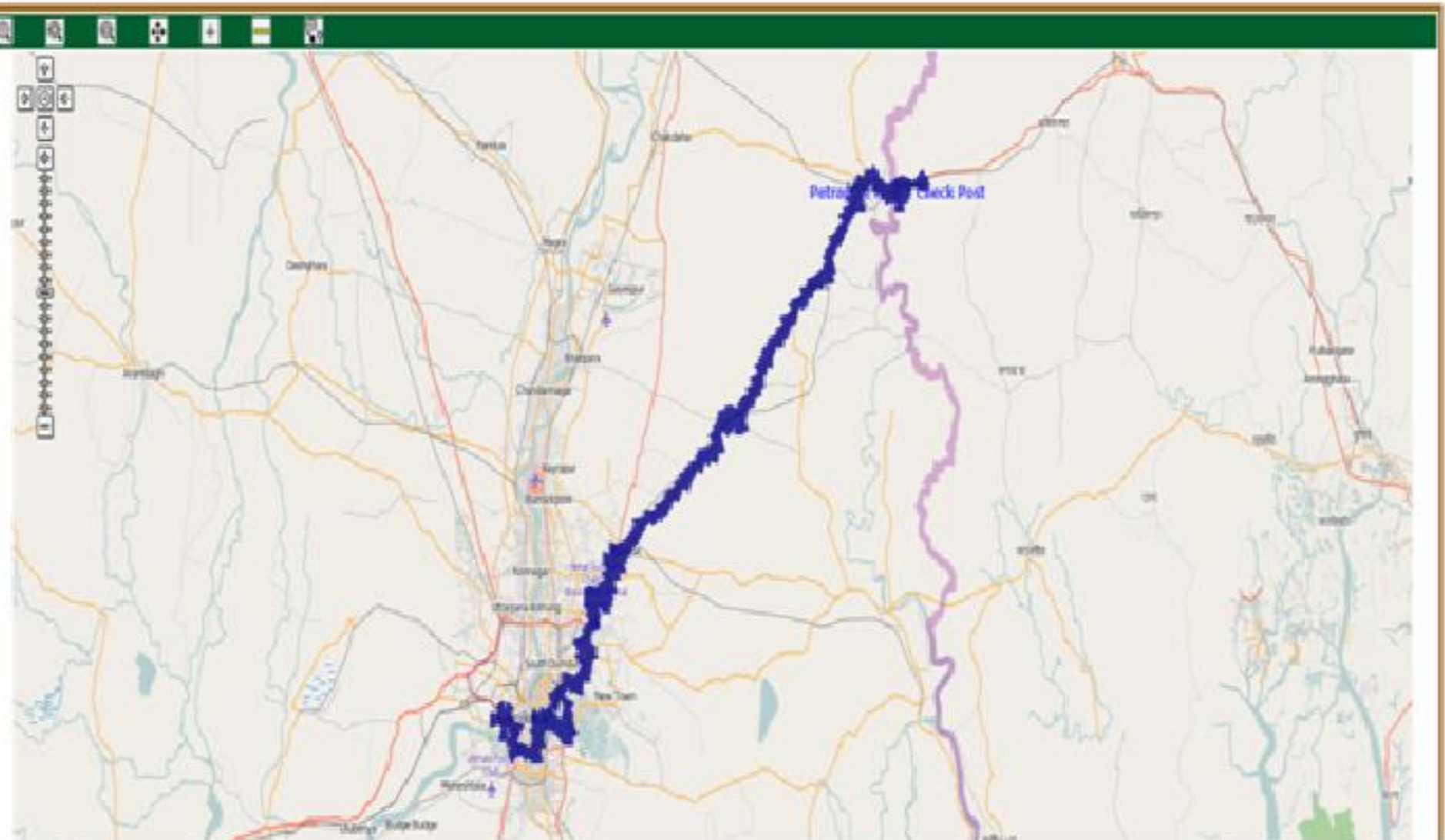
Route Tracking of Container Truck

Complete Route -Kolkata – Dhaka - Agartala



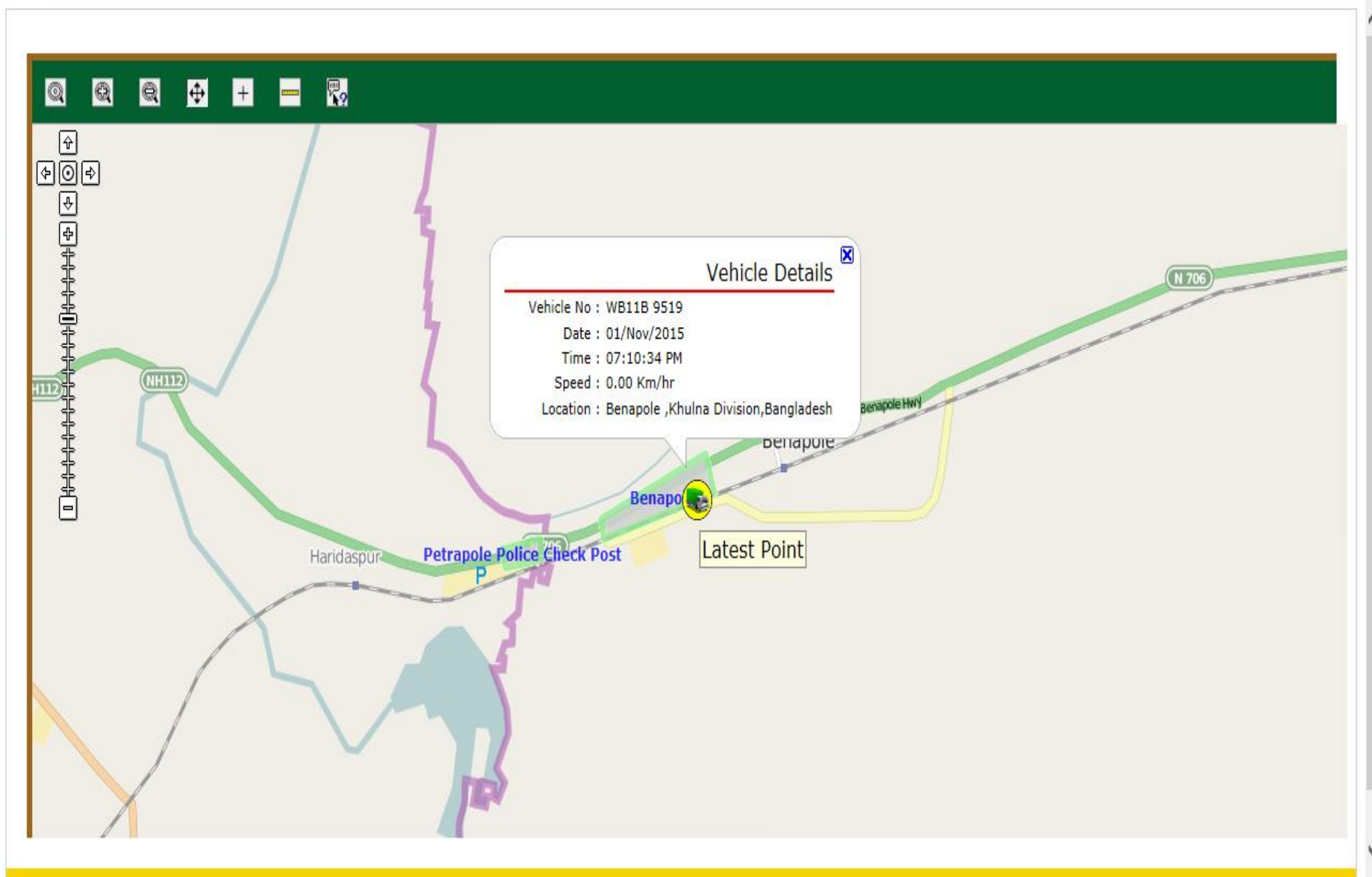
Route Tracking of Container Truck

- Day1: From 1st Nov (11:00 AM) – 1st Nov (11:50 PM)
- Vehicle Travels from Kolkata to Bangladesh Border – Benapole Police Checkpost



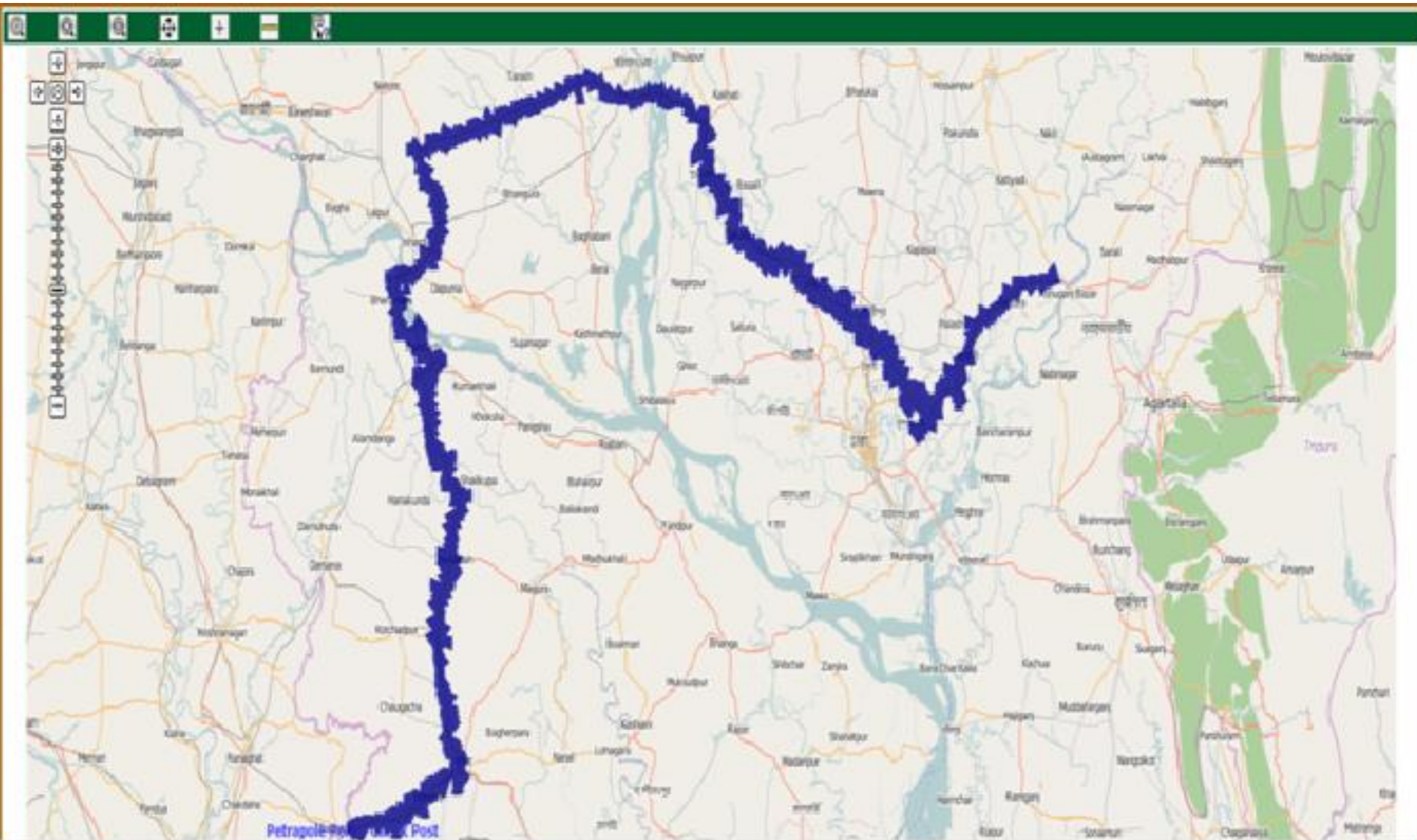
Route Tracking of Container Truck

<http://psv.autotrac.in/bbin/onMap/Vehicle.aspx>

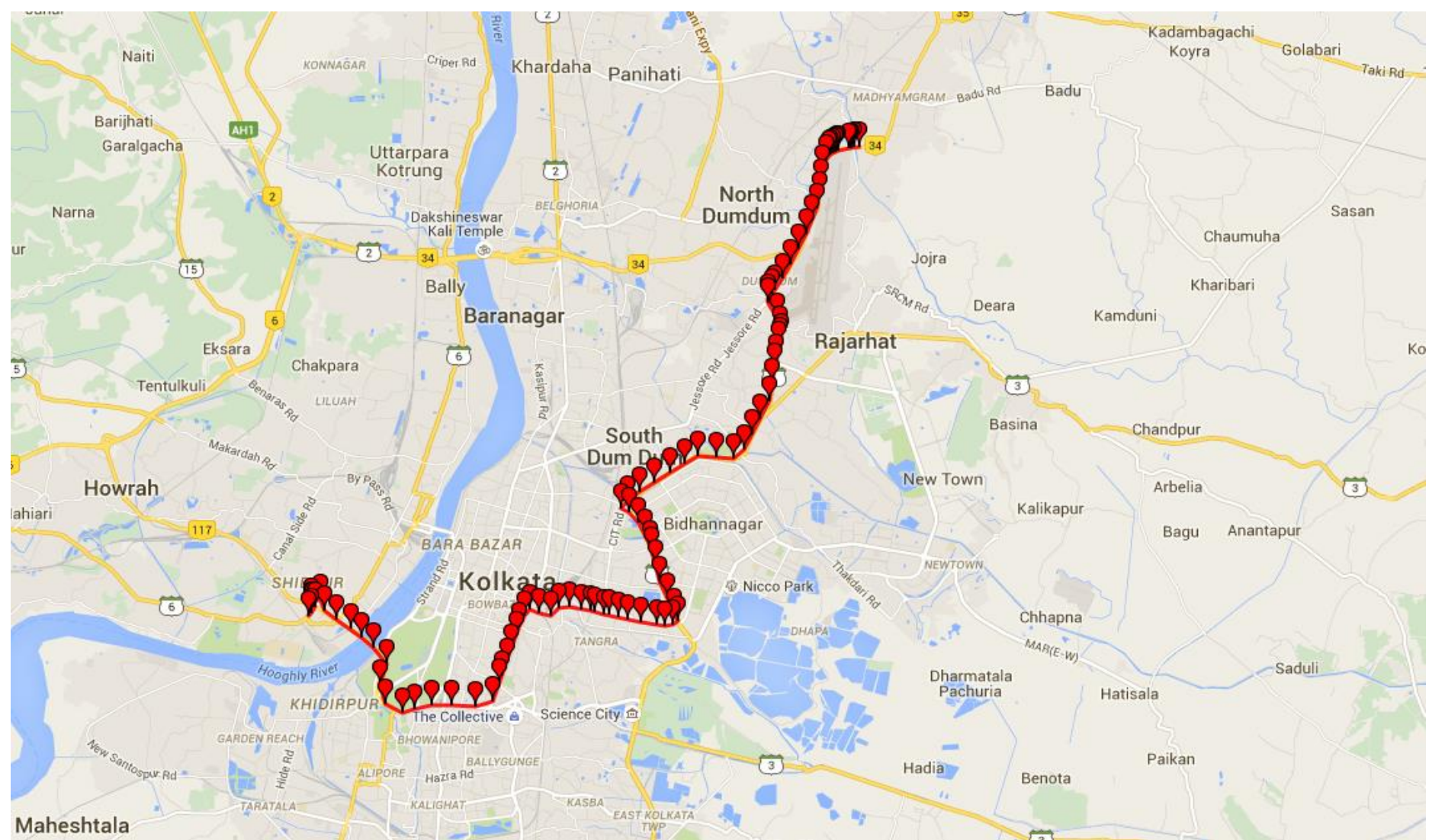


Route Tracking of Container Truck

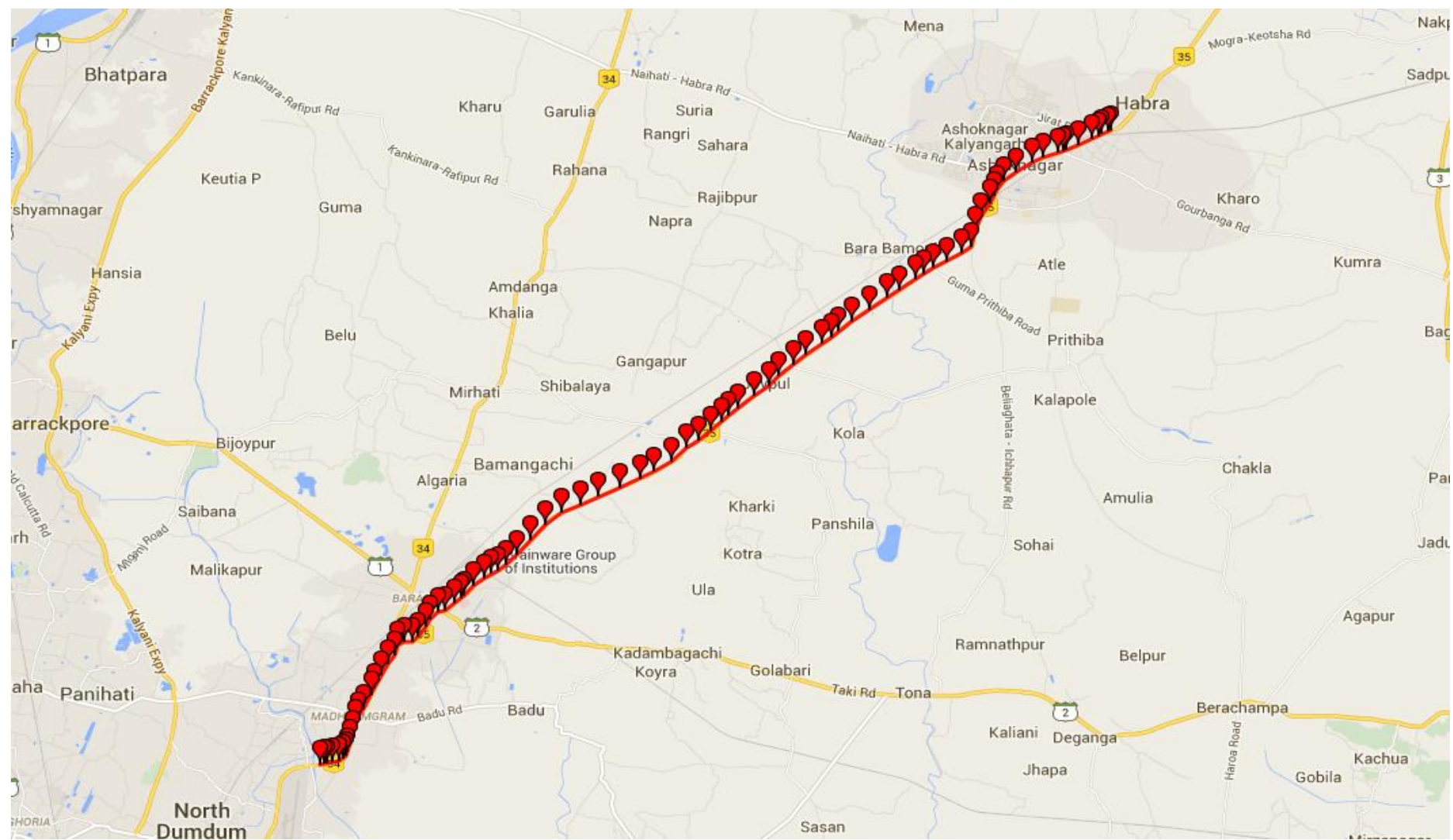
- Day2: From 2nd Nov (12:00 AM) – 2nd Nov (11:50 PM)
- Vehicle Travels from Bangladesh Border – Dhaka
- Day3: Dhaka - Agartala



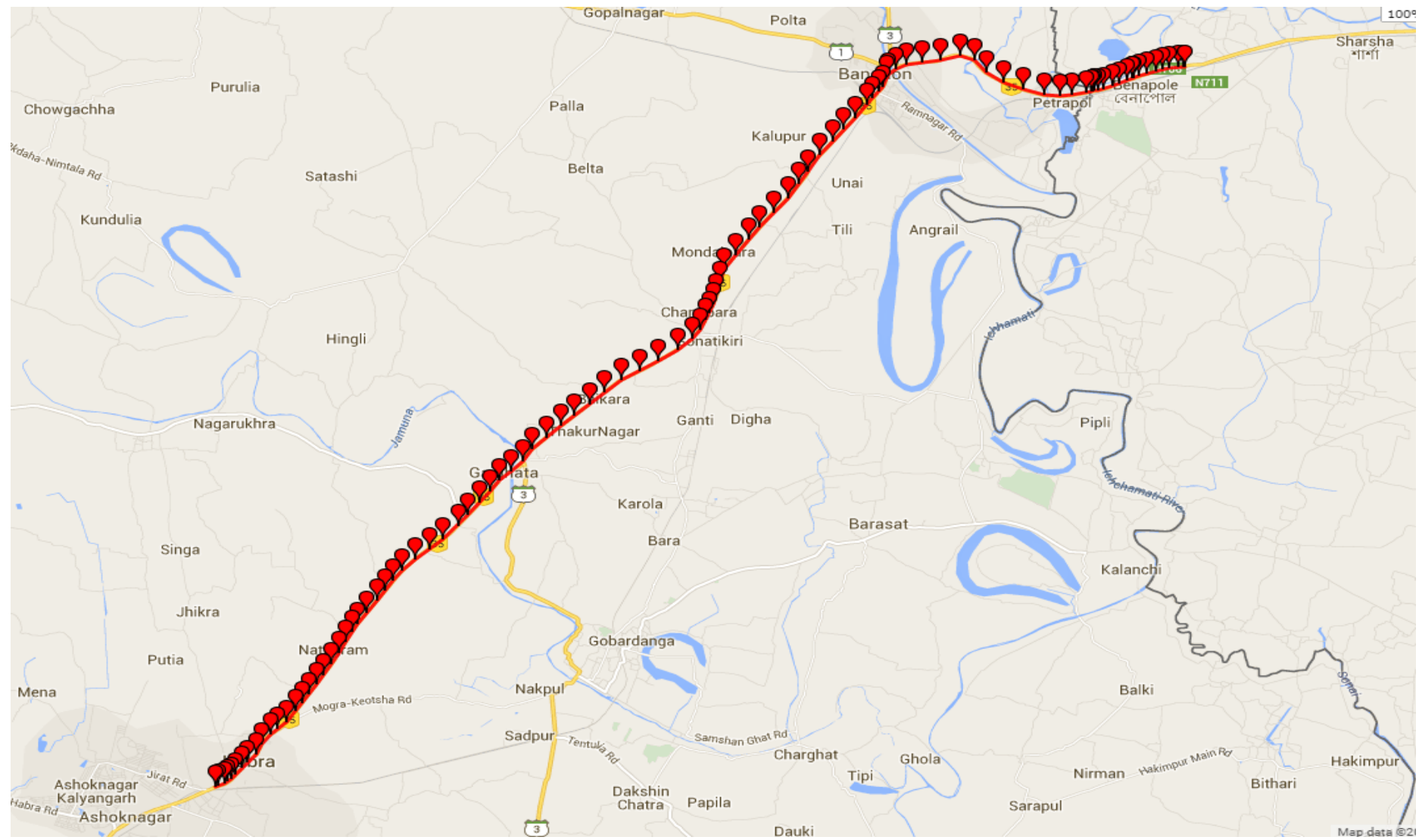
Nabanna Bhawan – BT College Bus Stand



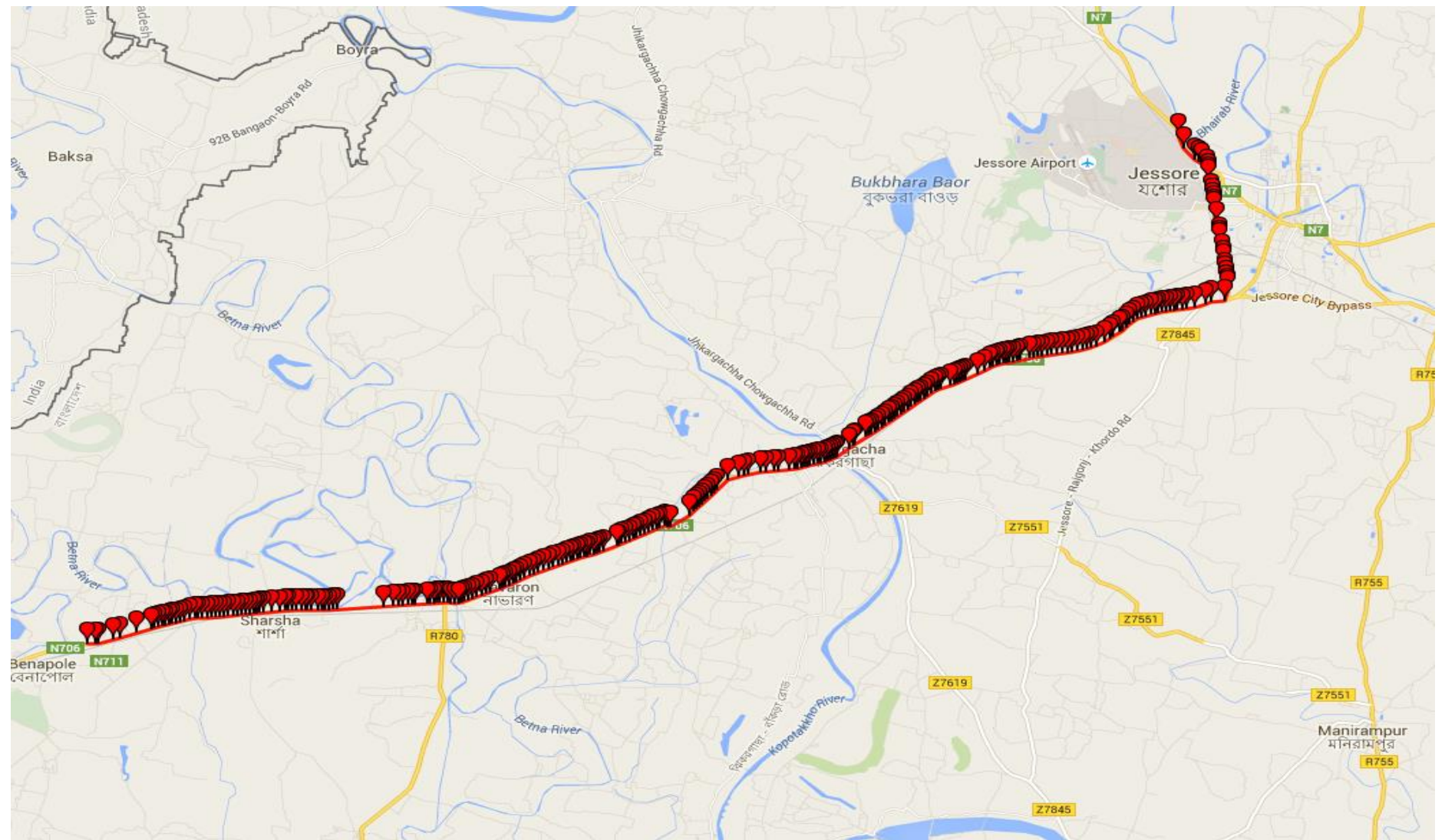
BT College Bus Stand – Howrah Station



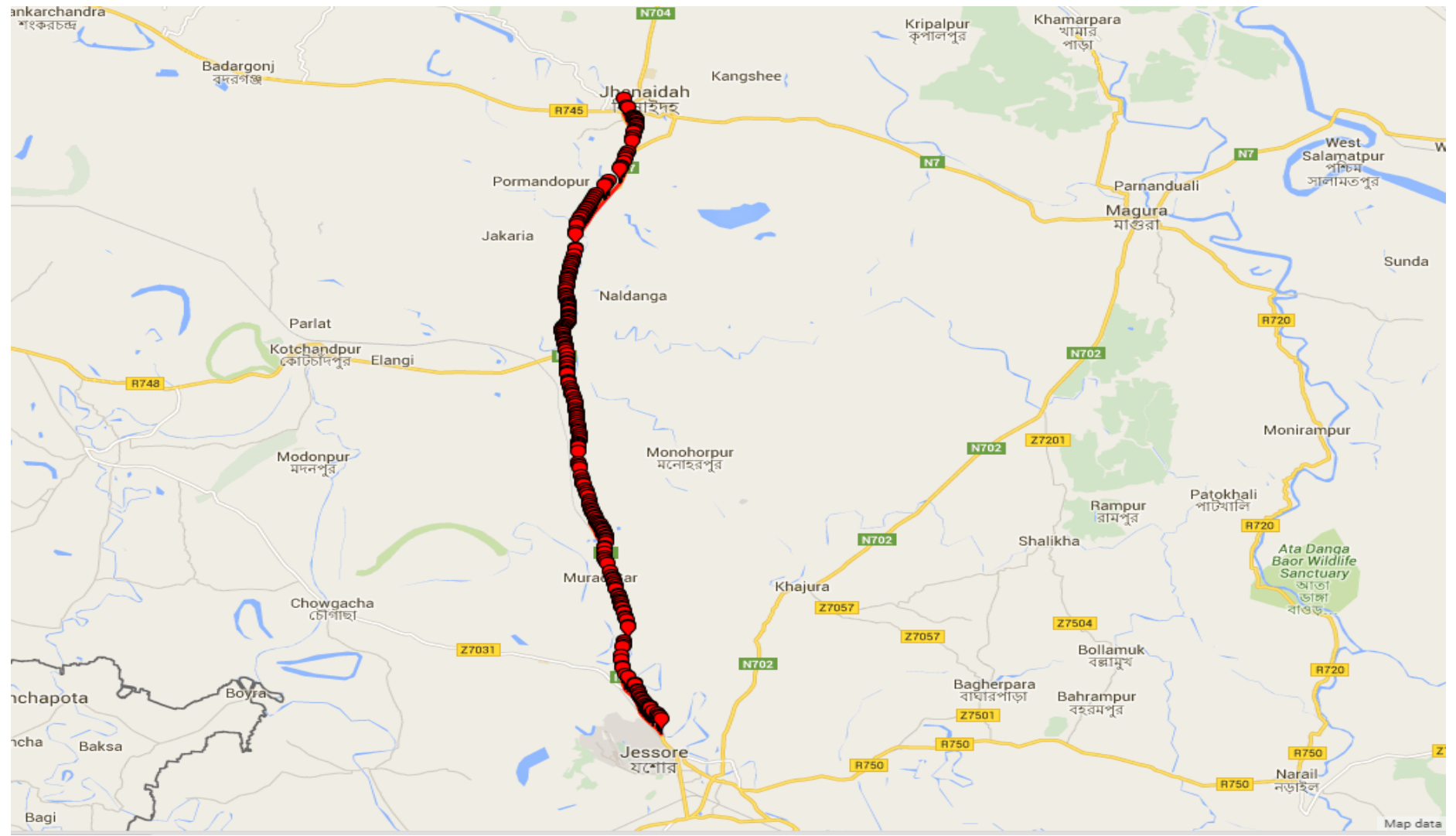
Howrah Station – Benapole Border Check Post



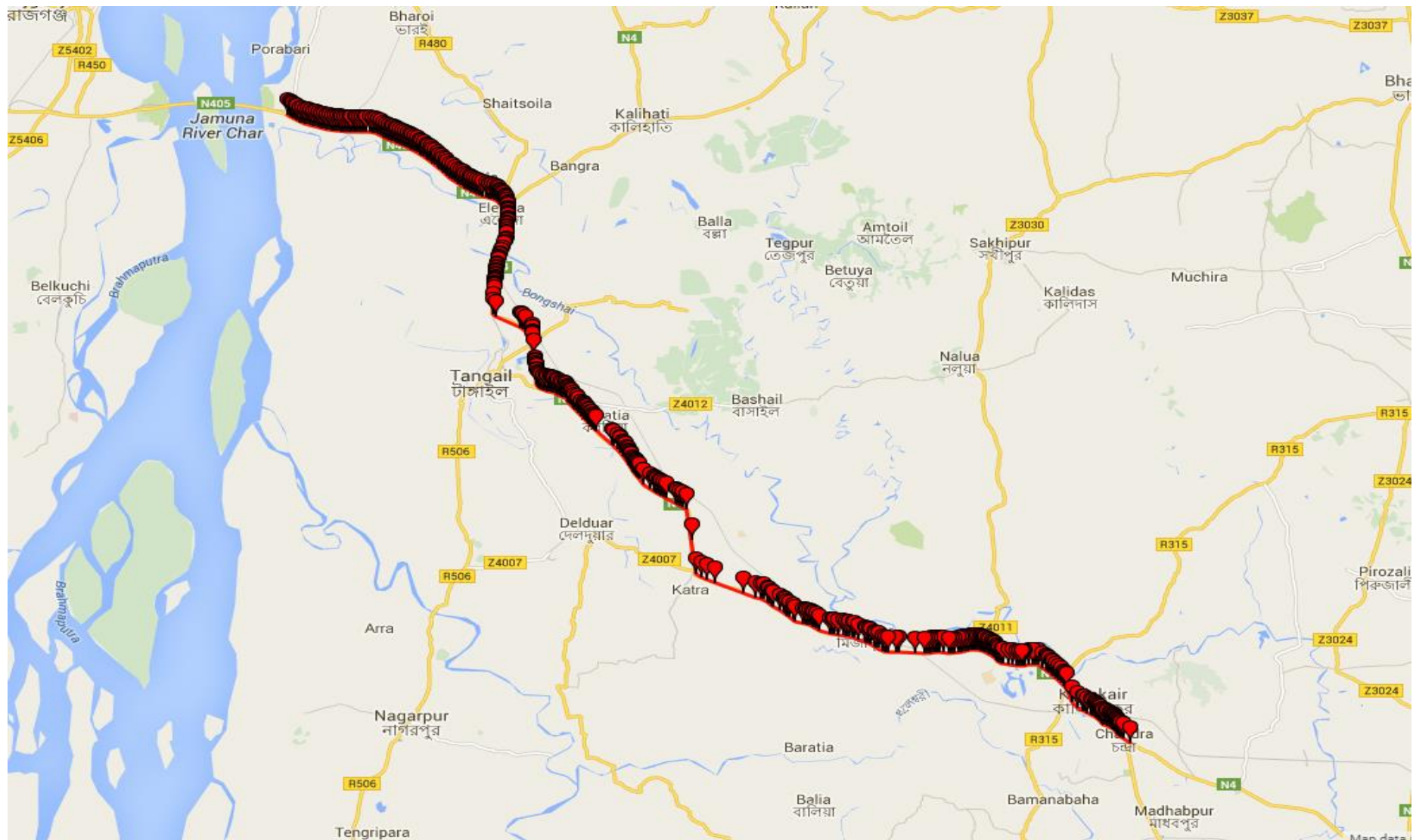
Benapole Check Post – Jessore Cantt Railway station Bangladesh



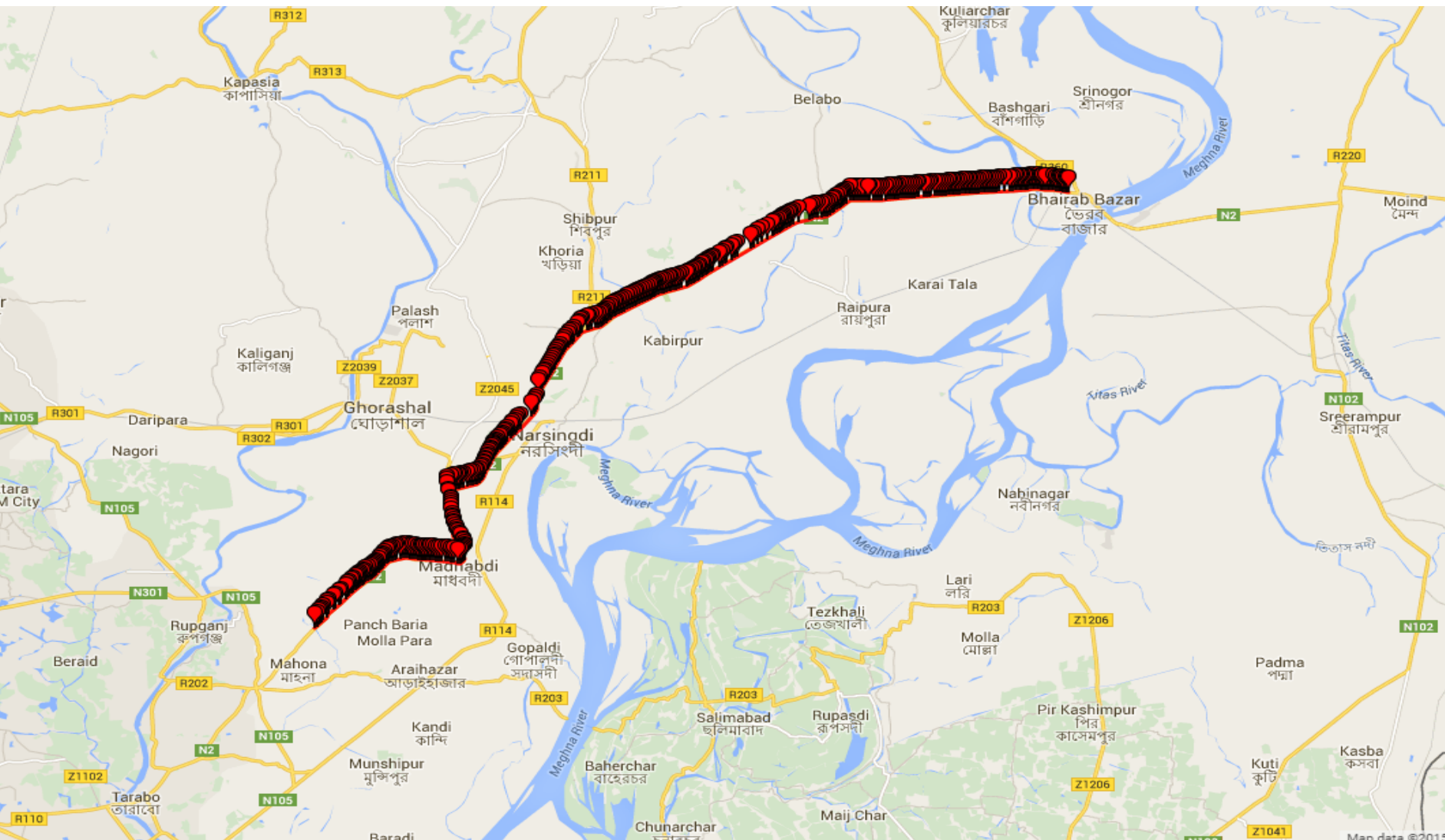
Jessore Cantt Railway station Bangladesh - Jhenaidah



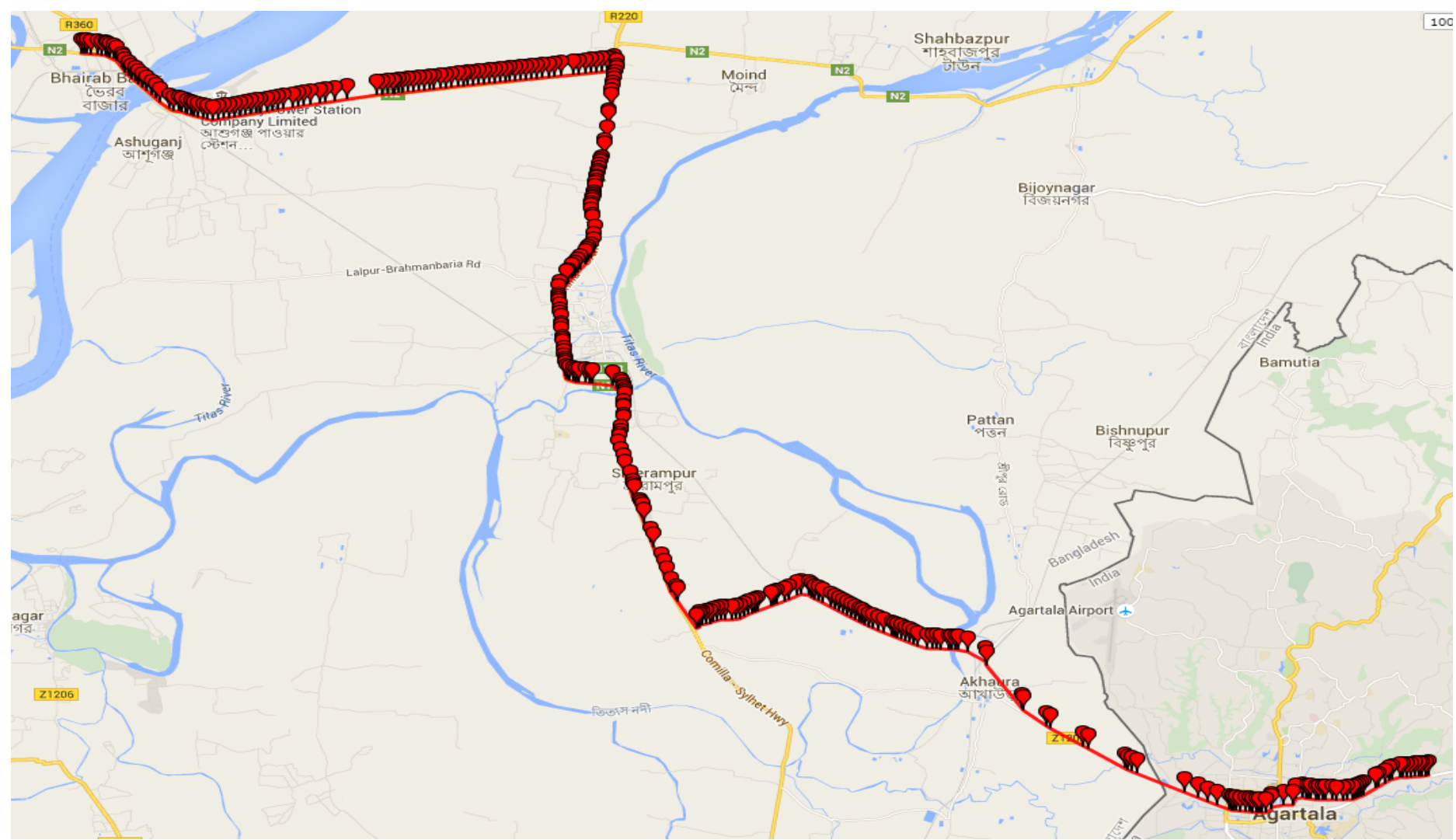
Bangabandu setu – Chandra Bus Terminal



Pachrukhi – Bhairab Bazar



Bhairab Bazar - Agartala



What Role DIMTS can play

- DIMTS can play a role of nodal agency as a neutral & trusted agency which has an expertise in transit domain
- DIMTS can provide :
 - **Universal backbone /Centralised Portal for** Vehicle Tracking for Cargo & Passenger Vehicles
 - E- seal Alert system for Cargo Vehicles
 - Electronic Ticketing (Paper Tickets & Smart Cards) for Passenger vehicles
 - Software integration in multi stakeholder, multi-device & multi-platform scenarios
 - Designing specifications (for GPS & E –seals) & data sharing protocol
 - Vendor Empanelment

DIMTS – Value Proposition

Interoperable

Device
Agnostic

Single window
Single Login

Scalable

Vendor
neutral

Disparate
System
Integration



Universal Adaptor –
Universal backbone

- Development /Intergation with online **vehicle permit issuance system**
- Integration with Custom Authorities' system to facilitate seamless documentation for cross border trade
- Providing a **Dashboard** to Customs, Police ,MoRTH Ministry of External affairs , Min. of Home Affairs & other stakeholders ,as required.
- Facilitate to set up **CCC (Command & Control Centre)** in BBIN & TIPI-BM

Proven System & Readily Deployable

Thank You

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