



NEPTUNE

Intelligent Public Transport Operations

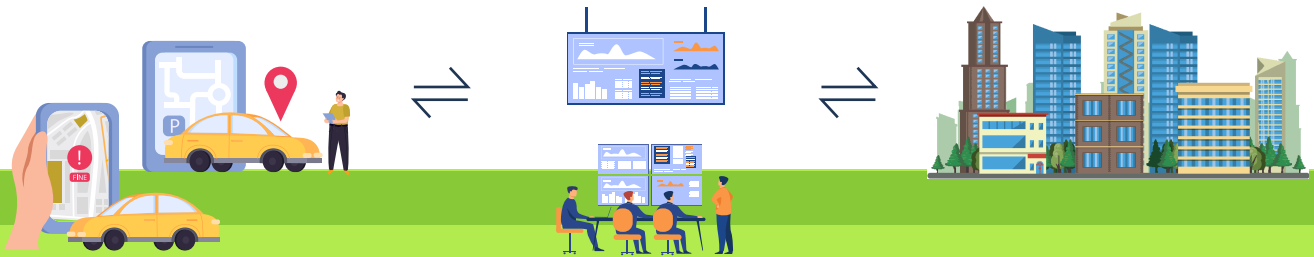
ITS Planners and Engineers Private Limited





NEPTUNE

Transit is a key component of urban transport system and they play a crucial role in reducing congestion. Neptune, the transit management system from ITSPE, can help cities design efficient public transport routes and schedules and manage the operations efficiently.



Buses/Vehicles

Sends locations data to the control room. Displays operational instructions to the driver and conductor.

Control Room

Store & analyse operational data generated by the system. Provides planning and operational management functions

Regional Office

Provides monitoring and operational management functions.



ADVANTAGES OF NEPTUNE



Functionality

Plan, operate and analyse public transport systems and provide traveller information using a single software. Tight integration with external ITS components such as traffic signals, smart parking and CCTV.



Technologically Advanced

Advanced modules such as Demand Response Transport (DRT), route and schedule optimisation, block optimisation and duty optimisation.



Standards Based

Built in line with TransXchange industry standard. Easy export of data in TransXchange, GTFS and CSV formats.



Extensible

Easy integration with external systems such as payment gateways, HR management systems and ticketing systems.





COMPONENTS OF NEPTUNE

The Neptune system can be integrated with a number of on-bus and at bus stop hardware components. The hardware components provide the system with the requisite operational information and displays information to the public.

Hardware Components



On Bus

An industry-grade On-Board Unit (OBU) can communicate both ways with all hardware typically installed on a bus, such as GPS units, CCTV cameras, panic buttons, people counters and LED boards. The system can also directly communicate with these components without an OBU if they are TCP/IP compatible.



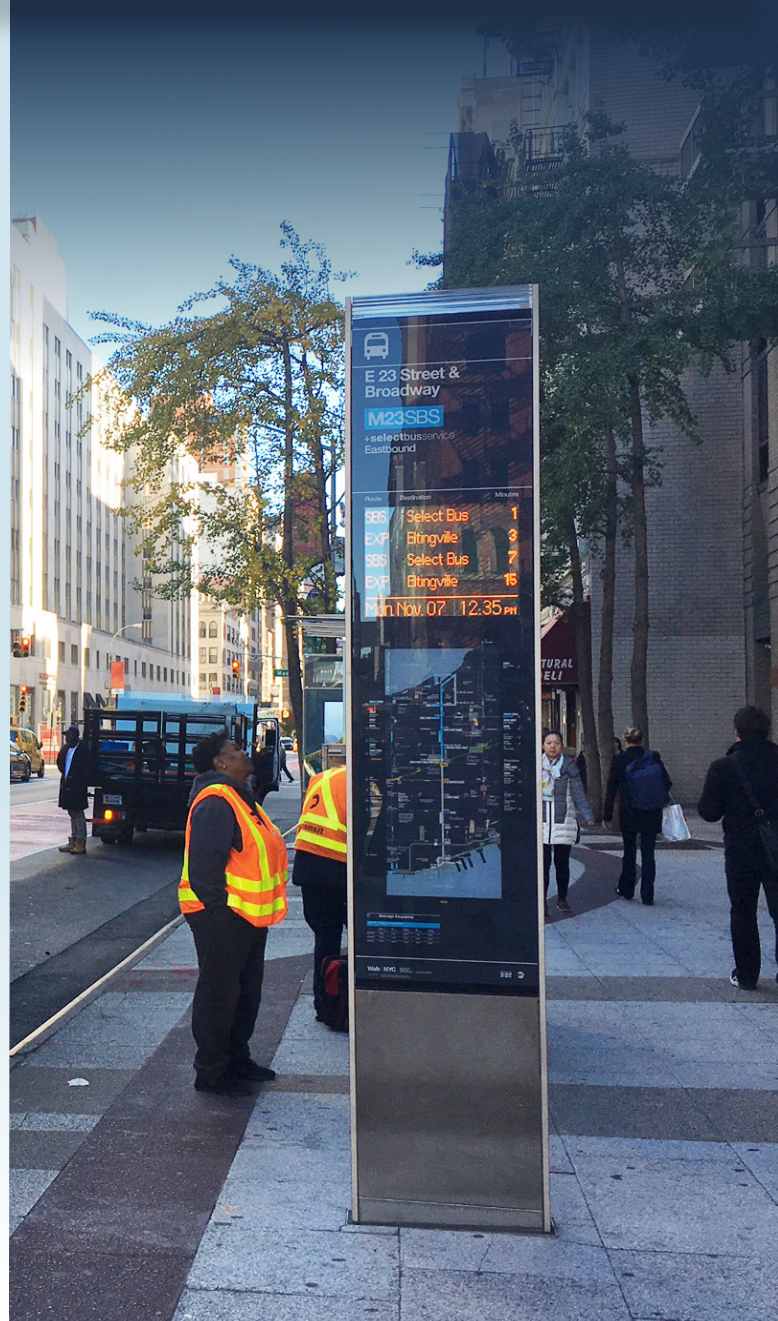
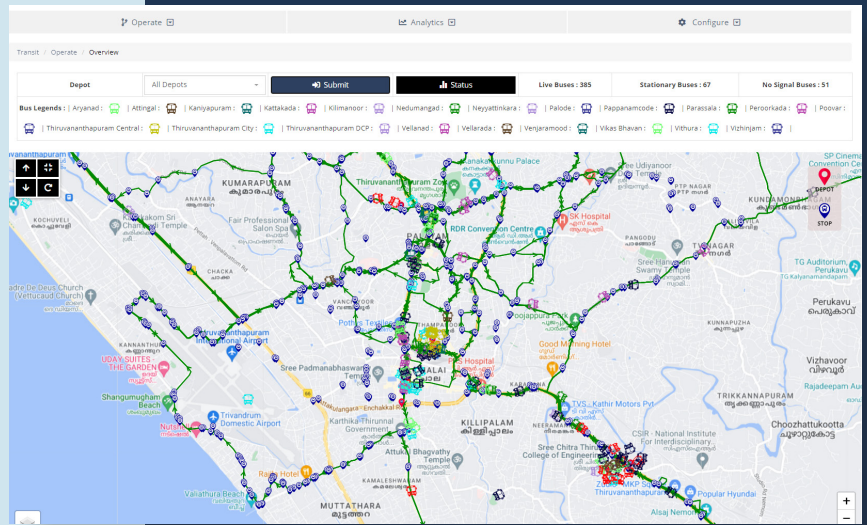
Bus Stops

Display passenger information, public information messages and advertisements on ruggedised LCD televisions and LED boards. Monitor bus stops from the control room using CCTV.



Automatic Fare Collection System

AFC ticketing machines integrated with Neptune can be used to issue tickets and accept payments. AFC can be extended to a seat reservation system on customer request.





Planning & Scheduling

Neptune can be used to record transit demand, generate optimised routes and schedules to suit localised requirements. The system also carries out optimal bus deployment plans and duty schedules once routes and time tables are generated. Neptune uses state-of-the-art AI based optimisation tools to deliver this functionality.



Operations

The system tracks the live location of all buses, compares against schedules and presents a comprehensive operational view in the control room. Alerts are generated for operational deviations such as route deviation alerts, bunching alerts and geo-fencing alerts. The system also generates live departure information for display at bus stops and mobile apps based on operational data.



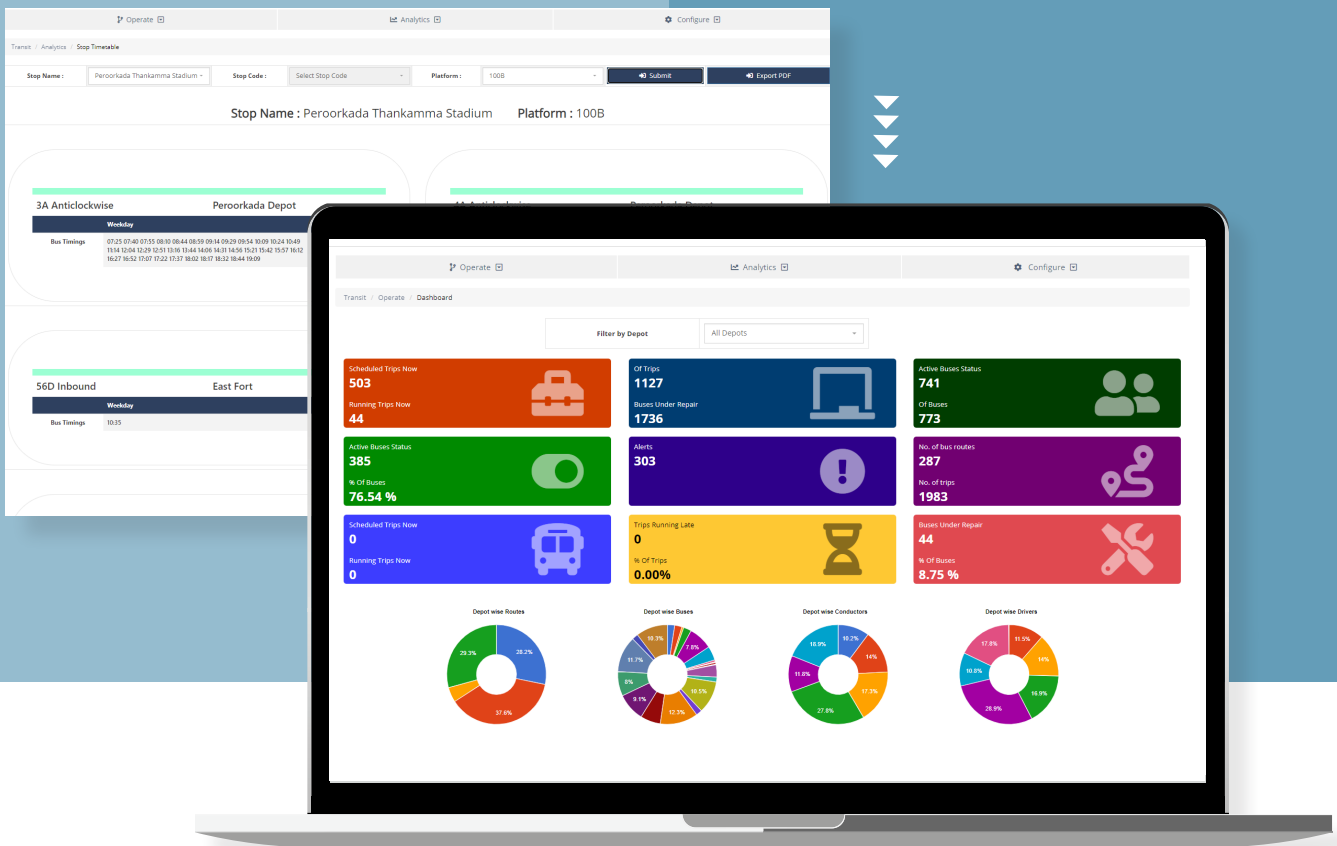
Analytics

Users can understand planning and operational data through lucid infographics, charts and reports. Custom charts and reports can be provided on demand. Insights gathered from the analytics can be used for better planning and increasing the operational efficiency.



Journey Planner

Citizens will be able to access transit timetables and schedules and plan their journey using the transit system using a web application or a mobile application. The transit operator can push traveller information and alerts to the mobile app from the control room.





NEPTUNE USE CASES



City Bus Operators

With information about public transport demand patterns in a city, the operator can optimise bus routes and schedules, operate the system efficiently and stay on top of it all by carrying out analytics and gaining insights from the data generated by the system. The system can also provide bus priority at traffic signals within the city.



Long Distance Bus Operators

Long distance operators can track their buses, monitor their operations and run the seat reservation system on Neptune. The analytics available from the system can be used to improve operational efficiency.



Corporations

Corporations which provide employee transport can use Neptune to optimise vehicle routing thereby reducing operating costs. The system also provides functionality to manage the pick-up and drop off of employees using a mobile application and a web interface.





ITS PLANNERS & ENGINEERS

An ISO 9001:2015 & ISO 14001:2015 CERTIFIED COMPANY

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