

EMPOWERING PUBLIC TRANSPORTATION WITH ANALYTICS

For a Government transport authority in APAC, Wipro delivered 19% savings in a year through its best-in-class analytics driven solution



Client Background

The client is a statutory board under the Ministry of Transport of an Asian country, which spearheads land transport developments across the country. It is responsible for the planning, design, development, management and maintenance of the transit systems, roads and related facilities. It also plans the long-term transport needs of a major city of the country with the ultimate goal of providing a smooth and seamless journey for its inhabitants.

Industry Landscape


While planning long-term transport goals, the transportation departments of most governments face the dual challenges of creating a scalable as well as streamlined infrastructure. Confronted with fast paced socio-economic development and increased pressure on land transport networks, the use of analytics emerged as highly useful in planning and policy formulation.

The Opportunity

With a population of over 4 million, the city of interest for the client body, is expecting the population to grow by 25% by 2020 and host more than 10 million tourists per day. The economy is growing significantly and all these trends were adding to the pressure on the existing infrastructure. The client body handles more than 12 million ticketing transactions per day and wanted to develop and fine-tune the land transport (whether by car, bus or train) policies using advanced analytics to ensure comfort, convenience and pricing of the city public transport.

The scope was identified as the implementation of an enterprise data warehousing platform that would enable the client to perform in depth analysis of bus, train ridership and taxi availability for meaningful trend analysis, long term policy planning and data mining.


Estimated Business Benefits

 **67%** improvement

in the time taken in Extraction, Transformation and Loading.
Query response time for 100 Mn records reduced from 18 hours to only 15 minutes

 **19%** cost savings

compared to the old data and reporting systems

 **13%** increase

in workforce productivity, annually

Improved quality of Citizen services by ensuring better frequency of bus/train in crowded stops and interchanges

The Solution

With over 12 million records being captured on a daily transport basis, Wipro designed its solution to enable speedy response time and to provide comprehensive information for the analysis of historical performance and general traveling patterns.

Wipro's solution consolidated anonymized data from disparate transactional systems, performed high-volume data crunching and enabled the business users to perform statistical analysis on the information from different perspectives. This solution was built leveraging the following components:



Teradata for the Data Storage



Informatica for ETL



BO for the Reporting and Dash boarding.

The analytics on the data integrated in this enterprise platform enabled the business users to:



Develop and refine the land transport policies



Optimize operations like passenger loading and frequency



Locate transport facilities and areas of congestion within the transport network

This system is now an integral part of client's policy planning to support an overall vision of making public transport a preferred mode of transport, optimizing road network and meeting diverse needs of people. A data-driven policy and planning decisions with fast turnaround enabled the client to build a people-centered land transport system.

Solution Highlights

- Data Integration process implemented for incoming data from Transit and Traffic Management Applications, Vehicles and Manual sheets
- Data Layer constituted an ODS, normalized data warehouse and subject oriented data marts
- Presentation layer set up with 100+ reports, 20+ dashboards, OLAP & Data mining models
 - Generated 70 new analytical reports within 3 months
 - Improved daily data transformation and loading by 67%
- Delivered commendable performance, processing 100Mn records in 18 minutes

ANALYTICS ROADMAP

Phase 0 - 2015	Phase 1 - 2016	Phase 2 - 2017
POC of Feedback system Integration informatica Upgrade PLANET Big data Preparedness	Taxi data Integration on Big data Platform Feedback Data Integration (Text Only) Self Service BI Advance Visualization & Geospatial reporting Tableau Enterprise Server Integrated BI Portal	Feedback Data Integration (Voice) Teradata Upgrade Integration Layering) of data from various System Advance Analytics

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