

THE CHALLENGES

A State Transit enterprise relied on an outdated and unsupported Oracle OBIEE (Oracle Business Intelligence Enterprise Edition) platform for their reporting needs. Their existing dashboards and reporting were fragmented, often featuring redundant information, and lacking real-time and CDC updates. Many departments relied on OBIEE reports primarily for data extraction, resulting in the creation of numerous excel-based reports and creating unnecessary data silos. This approach frequently caused delays and inaccuracies in information delivery.



We proposed a centralized system to gain actionable insights and analytics-driven decision-making capabilities based on transit data, covering crucial aspects such as transit routes, safety measures, and enhancing customer experience. An integrated solution built on a modern technology stack, including Big Query and Power BI was created, to deliver key performance indicators (KPIs) across essential areas.

Key decision-making areas included.

- Reducing safety incidents.
- Ticket Scheduling
- Optimize route.
- Track product-based profitability.
- Track Service disruptions, Transport congestion, Fare evasion.
- Forecast revenue based on ridership.

ASB Resources data modelling team built a unified data model integrating data streams from different sources to a conformed dimensional model. The solution addressed several issues that plague the public transit system - station/transport congestion, fare evasion, service disruptions & a not so optimized schedule. Essentially, information is collected in a single, central database where trends in passenger travel, patterns of purchase and usage can be easily analyzed and displayed across multiple dashboards and reports.

Operational efficiency by using ASB Resources solution:

- When peak demand starts and stops – Use of Ticket cost effectiveness to boost revenue.
- Which customers are using different services and what services are overused - Customer profitability and value analysis including customer churn analysis.
- During periods of busy congestion by sending live updates to customer phones – Hassle free travel with recommendations.
- Incentivize riders to choose alternative routes via promotional offers – Balancing ticket sales to Customer.

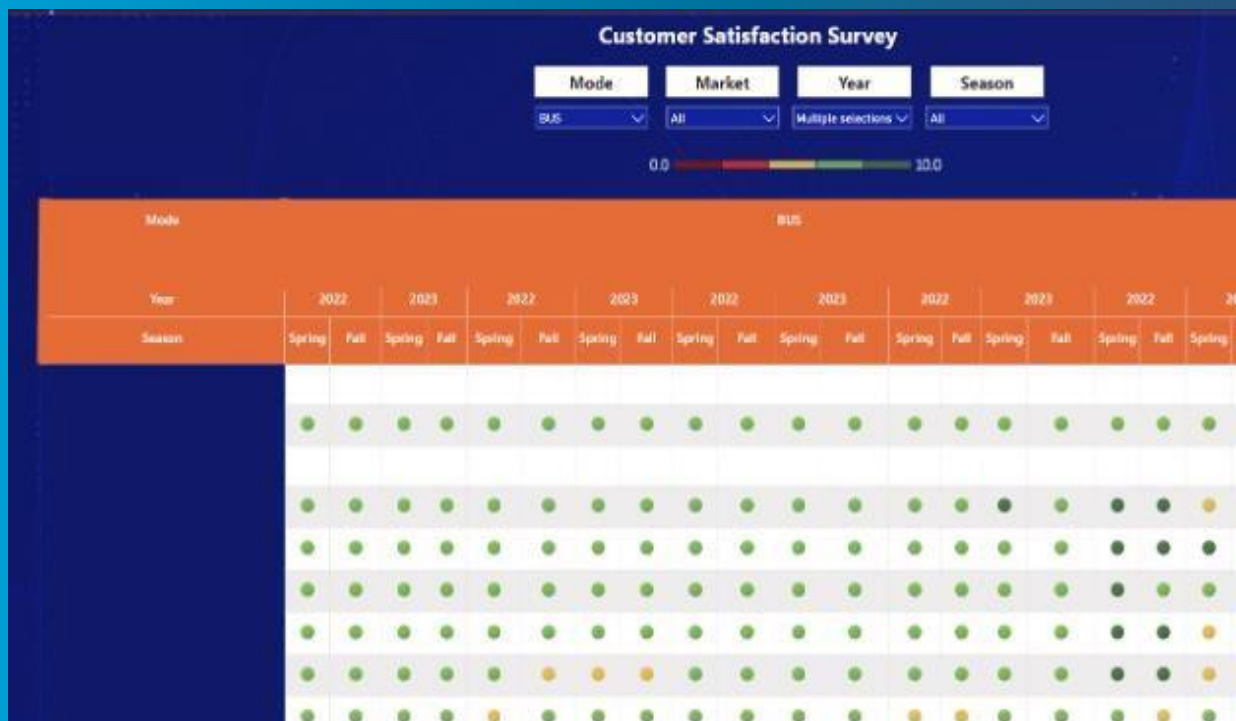
KEY FEATURES

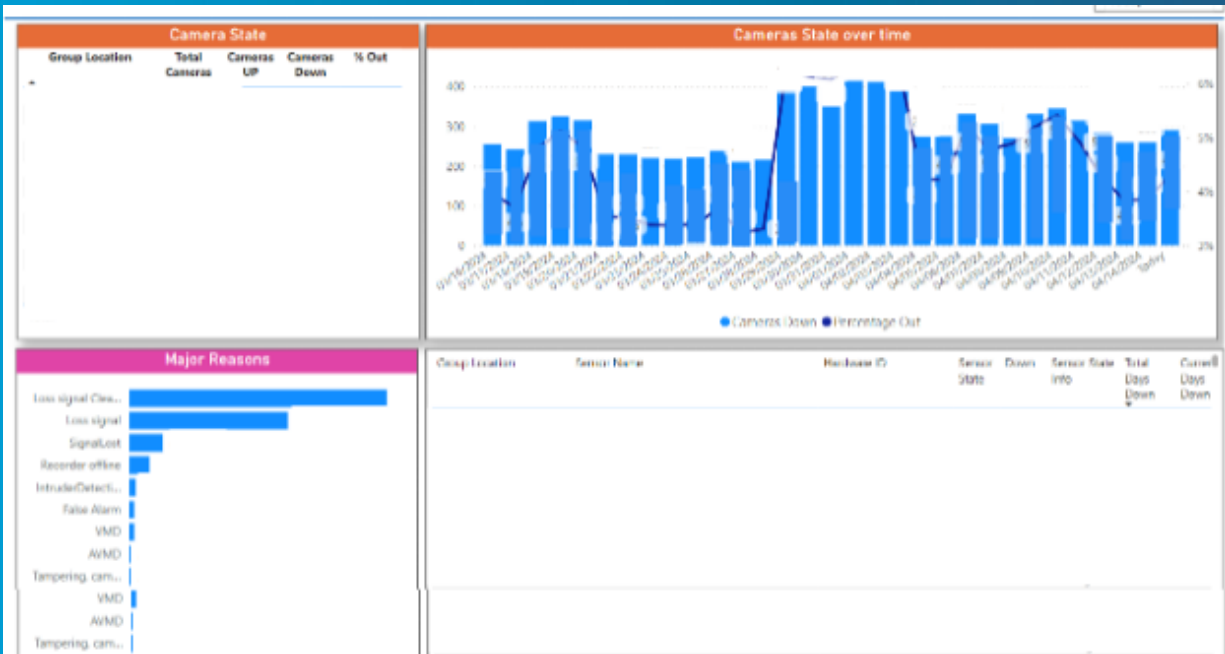
- A comprehensive solution for train/bus/Light rail operators to enable them to view their schedules, route, ticketing, and passenger's information inclined with it's profit / revenue and operations.
- A dashboard provides a map-based statistics overview of locations with scheduling, route, ticketing, and passenger.
- Geospatial intelligence and insight into passenger demand enables operators to explore new avenues of revenue. On average, planners using the solution have observed a 10 to 15% increase in revenue.

TECHNOLOGY STACK

- Database: Big Query, Google Analytics, Oracle, SQL Server
- ETL: SQL Loader/PL SQL/BQ pipes
- Reporting tool: Power BI

THE SOLUTION





Accident/Incident Overview



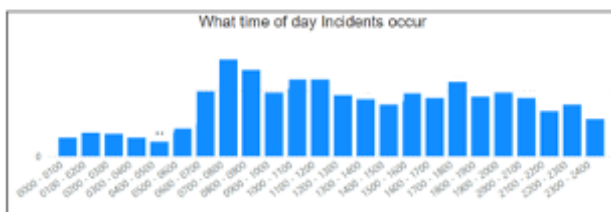
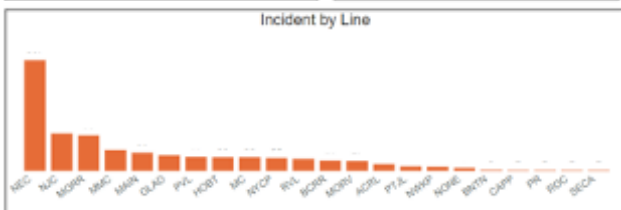
Details

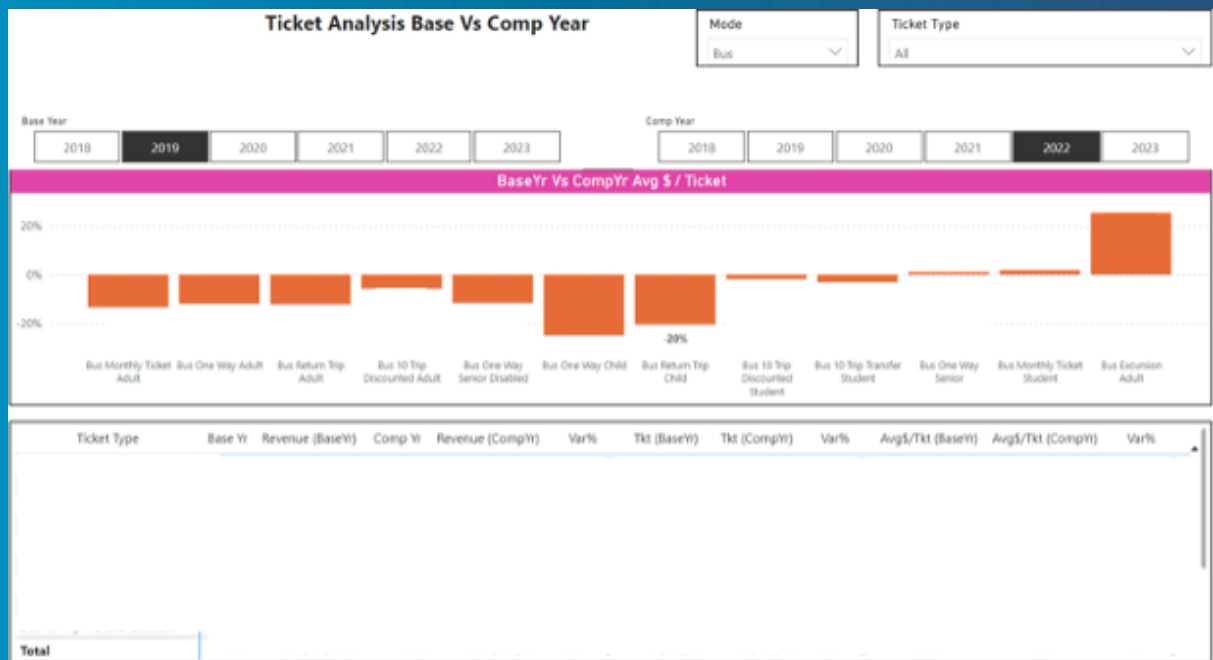
Year/Month	Total Incidents	Employee Incidents	Employee On Duty Injuries	NonEmployee Incidents	Rail Road Incidents	Grade Crossing

Total

Safety Rail Incidents

Incident Date
1/1/2022 12/31/2023





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