Helsingin Bussiliikenne

Using smart data to improve Helsinki's bus system.

A large amount of data and its smart analysis have resulted in smoother bus traffic, more satisfied passengers and benefits for the environment.

TIGHT MARGINS IN A COMPETITIVE SECTOR

Public transport in the Helsinki, Finland, metropolitan area is a highly competitive sector. Calls for tender (bids) for transportation services are organized up to twice a year, with the decisive factors being pricing and equipment. Pricing is mostly determined by fuel costs. Equipment evaluations also include driving habits. Since margins are small, cost-efficient operations are crucial. Helsingin Bussiliikenne Oy (HelB), the city bus operator, has monitored total fuel consumption for many years, but did not have the accurate data it needed to determine all cost factors in sufficient detail. They also lacked detailed data on driver performance.

PRECISE INFORMATION TO SUPPORT OPERATIONS

To gather more accurate details, sensors and data collection equipment were installed in HelB buses. The large amount of data collected from sensors is stored in a SQL Server database, converted for analysis, and processed by CGI together with HelB.

The solution has provided valuable details on routes and even drivers.

"The real benefits have sprung from the integration of this data with our ERP system," comments Michael Andersson, Technical Director of HelB.

VISUALIZATION AND DRIVER-SPECIFIC DATA FACILITATE MEASURABLE IMPROVEMENTS

For visualizing the driving data, HelB and CGI have adopted the Microsoft Power Map tool. The application facilitates the presentation of a huge amount of data on a map, showing places where hard braking is common, for example.

In driver performance tests, demerits are given for hard braking, which often results in dangerous situations. Abrupt stops also cause discomfort to passengers, thereby diminishing customer satisfaction.

Mr. Andersson noted that the map display makes it easier to handle and use large data volumes. This helps supervisors, for example, to discuss issues about specific routes with the drivers and to compare different drivers and their styles.

Data collection and analysis have confirmed the importance of good driving habits. Reports indicated double-digit percentage differences in fuel consumption between drivers. The number of hard braking maneuvers varied considerably, too.

CASE STUDY
GOVERNMENT

State, provincial and local government

Key benefits
- Lower fuel consumption, which saves costs and reduces the carbon footprint
- Fewer traffic hazards
- Higher customer satisfaction

"Driving technique really has an impact, and thanks to the system, we can now explain this to our drivers."

Michael Andersson,
Technical Director,
Helsingin Bussiliikenne Oy

The data gathered has made it possible to give drivers precise feedback on their technique. In addition to individual performance reviews, HelB posts a list of its most efficient drivers to the depot billboard every week.

Promoting a smoother driving style has already produced tangible results. Better anticipation of situations has reduced the number of major collisions, and the system has made it easier to avoid unnecessary idling.

"Our latest customer satisfaction survey was conducted after the introduction of the system, and the results were clearly better than in the past," states Mr. Andersson.

The map application also helps to develop regional public transport as a whole. Andersson gives an example: "We can inform the city's route planning body (HSL) or Public Works Department of dangerous locations or routes whose schedules are too tight."

CGI AS A PARTNER

CGI has more than 30 years of experience in providing transport management and business intelligence solutions. As a partner of numerous transport companies worldwide, CGI offers innovative concepts for improving processes and customer satisfaction.

68,000 experts in 40 countries make it possible to operate on a global scale while maintaining local presence and support.

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