



AN URBAN TRANSPORTATION TECHNOLOGIES OVERVIEW

With IoT revolution we discover new ways how urban transportation could operate more efficiently and sustainably, and improve the quality of life for the people they serve.

An urban transportation includes system operations, infrastructure design, construction and management. Today, technology provides the ability to make correct decisions improve service and optimize resources.

Basically, transportation providers today have several objectives and challenges.

- Manage traffic and supply chain – predict demand, make correct decisions and optimize capacity, assets, and infrastructure
- Improve the travelers experience and communication
- Increase operational and energy efficiency while reducing environmental impact.
- Ensure safety and security through data-driven safety performance evaluation, incident management and emergency evacuation

These goals could be accomplished with 4 steps:

1. Collecting data on real-time network conditions
2. Identifying behavior and usage patterns
3. Predicting demand
4. Encouraging a smart use of available infrastructure, resources and capacity

Copler use Big Data tools and predictive analytics to enable transportation companies reduce costs and better serve travelers, improve profitability and optimize performance. Predict the traffic behavior, and social, economic and environmental impacts of development decisions.

Here are some use cases of technology and data usage in transportation

Tracking systems, connected devices and smart cards

1. Collect maximum information about travelers and discover when, where and how people travel and what transport they use
2. An overview of a current situation and analytics of historical data enable to forecast traffic and passengers flows for specific periods and plan traffic accordingly considering exceptional situations.
3. Ability to make a tactical fixes for city jams and reduce bottlenecks
4. Allocate resources efficiently, save energy and time

Travelers interaction and communication tools

- Travelers value easy ticketing, reduced delays and ability to control their journey.
- Communication plays an extremely important role here: when services are delayed, passengers want to know what's happening, why and when it is supposed to be resolved.
- It's all about providing timely, relevant information to travelers through the channel of their choice, keeping them informed and advising them on alternative travel options.
- Real-time data in electronic boards or traveler apps helps communicate issues timely – and ultimately improve customer satisfaction.
- An automated communication tools also allows to learn more about passengers and offer them personalized services, recommendations, or a customized discount

Parking management and guidance systems

Intelligent parking management systems, combined with data analytics, can help to get insights on how the parking space is being used, carry out everyday process, eliminate the need for spreadsheets and high human attention, quickly guide cars to empty spots - and reduce the number of cars cruising for parking.

The data also help to get the right parking pricing system, maximize productivity and optimize rates and profitability – by real-time visibility of parking behavior, monitoring and prediction of parking lots usage.

Smart cars, autonomous vehicles and infrastructure

- The big data technologies impact smart car industry and make driving safer and more comfortable.
- The data-driven car provides a more engaging driving experience, connects with other devices, and “make decisions” based on computations derived from the environment.
- Driver assistance systems, auto parking technologies, emergency braking kicks evolve gradually into fully autonomous cars, so self-driving cars are not a science fiction anymore, this is a rapidly evolving technology supposed to navigate safely through city streets.