



Economic Commission for Europe
Inland Transport Committee

Working Party on Transport Trends and Economics

Urban mobility and Public Transport: Challenges
and prospects


The role of Big Data and IoT in Urban Transports

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The transports played a big role for the development of our world.

Several changes are coming to transportation.

The question is we are ready for it or not ?

The arrival of new technologies and services that help cities and vehicles can reach a global value up to 2.5 Trillion per year in 2025.

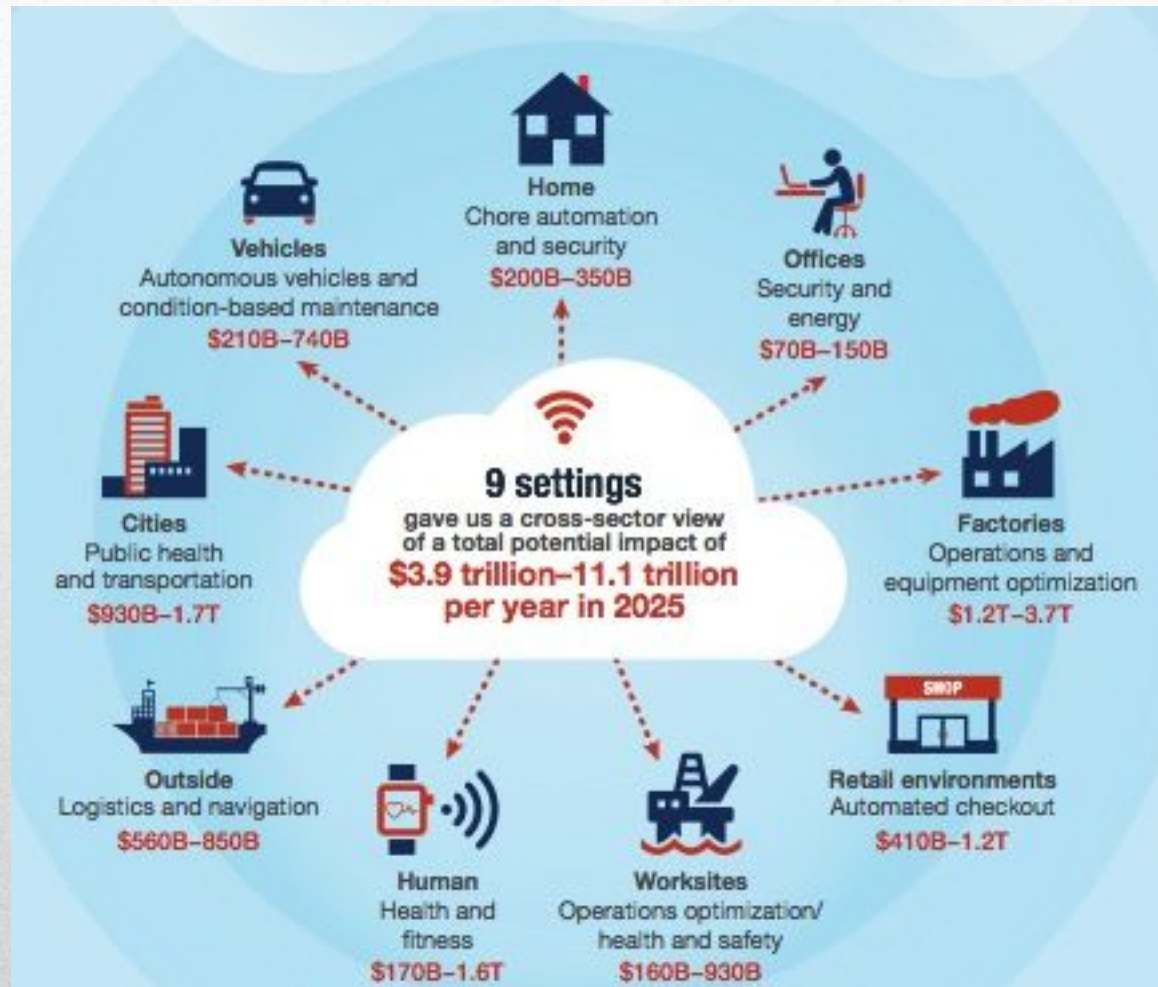
The information everywhere world has opened up new opportunities to make the existing transportation network far more efficient and user friendly.

BIG DATA means in transport and elsewhere – has emerged from the convergence of rapidly decreasing costs for collecting, storing and processing, and then disseminating data. Decreasing costs for sensors has led to a proliferation of sensing platforms transforming large swathes of the analogue world into digitally processed signals. Decreasing data storage costs have allowed the retention of data that had previously been discarded.

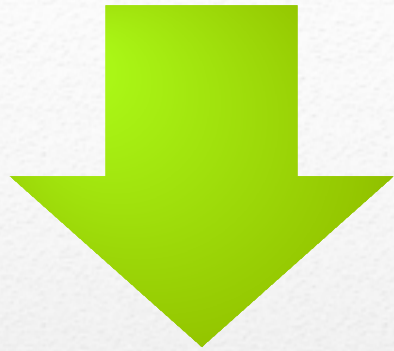
IoT means sensors and actuators connected by networks to computing systems.

These systems can monitor or manage the health and actions of connected objects and machines.

Introduction







In 1982 the average
American
Commuter*
spent up to 14 hours
a year in traffic

ANNUAL COST OF CONGESTION**



In 2010 the average
grew up to 34 hours.

If things don't
change the value
will reach 40 hours
in 2020.



101 Billion in 2010

133 Billion in 2015

175 Billion in 2020

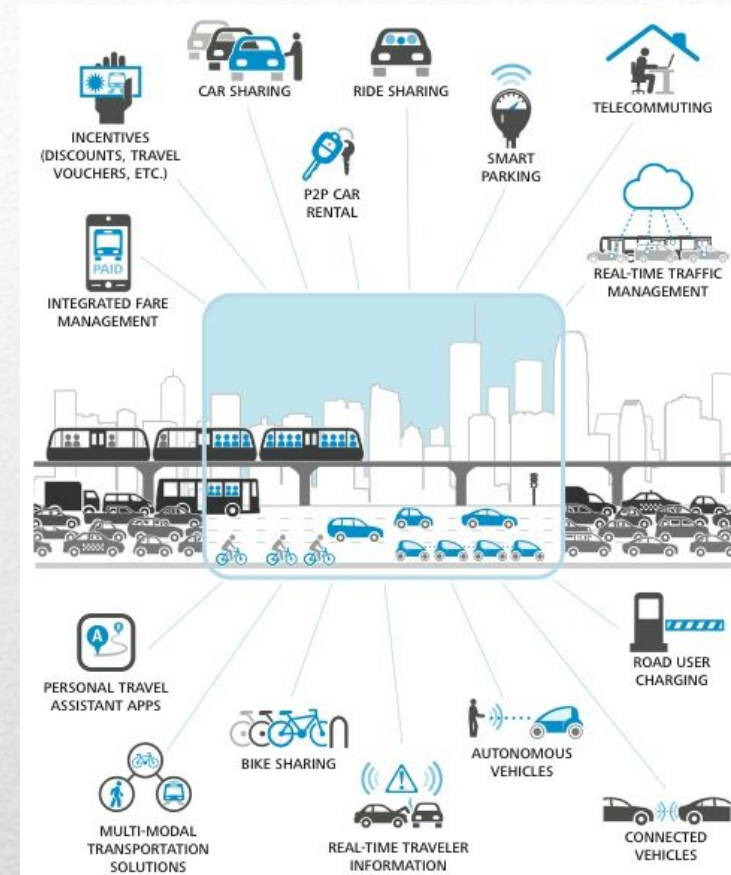
The role of Big Data and lot in Urban Transport

SI-IES - European Services Institute

* Texas Transportation Institute ** Urban Mobility Report – TTI 2011

The arrival of big data is helping traffic control centers respond more quickly to accidents and backups.

Transportation data needs to be provided in an open format, up to the minute, and readily accessible to anyone who needs it.



The biggest change is that every device is a huge amounts of information



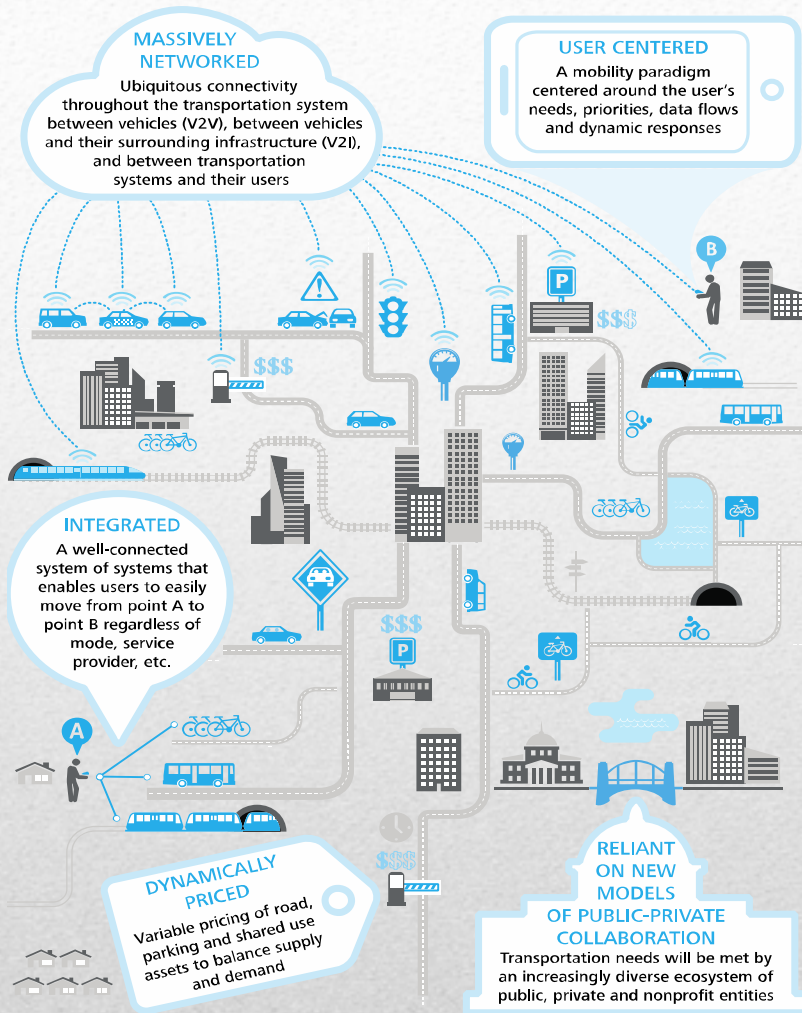
The IoT is already transforming automobiles.

New transport models made possible by mobile phones, apps, and smart card technology, like car sharing, are taking a good that sits idle most of the time and turning it into something else.

In the vehicles setting, we assess the potential for IoT to monitor and improve the performance of planes, trains, and other vehicles while in use, which could generate \$210 billion to \$740 billion per year in IoT impact for this setting in 2025.

Cities have become the locus of a great deal of innovation and experimentation with IoT technology, through so-called smart city initiatives. Since cities are the engines of global economic growth—the 600 largest cities in the world are expected to generate 65 percent of global GDP growth through 2025—the impact of IoT technologies can be substantial.

Internet of Things



In a sense, formerly clear lines—between humans and machines, between ownership and nonownership, between goods and services—blur when information generated and used interchangeably by people and machines becomes ubiquitous.

New transport models made possible by mobile phones, apps, and smart card technology, like car sharing, are taking a good that sits idle most of the time and turning it into something else.

The goal is clear: Transportation data needs to be provided in an open format, up to the minute, and readily accessible to anyone who needs it. MERGING C 2 T.

Digital age transportation system

- CARMA CAR POOL.com Enables users to find nearby people going on your way and share costs.
- TRIPZOOM APP – A smartphone app to travel smarter could cut rush hour traffic in a city up to 5% (EU project SUNSET)
- Rio De Janeiro Municipal Operations Centre
- Domus project
- Wikycity ROME Case Study

Cases

- Recommendations
 - Interoperability
 - Open Data
 - Grid system
 - Cybersecurity
 - Privacy
 - Cultural aspects
 - Human Capital
 - Cooperative Mobility

NEXT ? C2T

**Thank you very much for your attention
!!!**

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Credits:

Big Data and Transport - Understanding and assessing options
– ITF 2015

Digital-Age Transportation: The Future of Urban Mobility –
Deloitte University PRESS

THE INTERNET OF THINGS:

MAPPING THE VALUE BEYOND THE HYPE - Mckinsey
Global Institute 2015

Domus Project - SI-IES – European Services Institute 2015

Big Data and Urban Mobility – World Bank 2014

Conclusions