Current Trends - *Change and Disruption*

Increasing congestion in cities - connected and autonomous vehicles - decline in auto ownership by millennials - stagnation in public transport - growth of transportation network companies…
Current Trends - *Opportunities*

New data sources to better understand mobility patterns – big data analytics and spatial analysis – breaking down the silos – smart cities and smart transportation
New Data Sources

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New Data Sources

TERALYTICS MOBILITY INSIGHTS

Human Behavior from Telecom Data

WE PREDICT THE PAST.

SafeGraph is unlocking the world’s most powerful data so that machines and humans can answer society’s toughest questions.

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San Francisco Pride Parade June 25, 2017

A time lapse recording of the SF Pride Parade that attracted more than 1 million participants this year. The events layer assists to understand not only where people are, but why they are there.
New Data Sources

Leveraging Traffic Cameras for Real Time Counts and Speed Data
Big Data Transport Trends

Three V’s of Big Data:
Volume – Velocity - Variety

Sensor Information generating massive amounts of data magnifies the problem of understanding and context
Big Data

Big Data GeoAnalytics
Esri’s new IoT platform
Esri Insights
Space Time Cube
Big Data & Machine Learning

New York City Buses & Cabs equipped with Mobileye
Use of Machine Vision / Learning to Identify Pedestrians
This mesh view highlights where near-collisions occur throughout the day. Click on the explore button on the bottom right to interact with the map.
In Manhattan, the average heading of near-collisions is parallel to the street. This means that most warnings occurred with people who were moving in the same direction as the vehicle.
Discovering Patterns

However, in Brooklyn, most near-collisions occurred as people tried to cross the street.
NYC’s pedestrian fatalities reached an all-time low in 2017

Mayor Bill de Blasio announced that under Vision Zero, traffic-related deaths are down overall

By Ameena Walker  |  Jan 8, 2018, 12:15pm EST
Breaking down the silos
Breaking down Silos

Making Auckland the World’s Most Livable City

Our Vision:
The World’s Most Livable City

Fair, Safe and Healthy
Green
Prosperity and Opportunity
Connected and Accessible

Culturally Rich and Creative
Beautiful and Loved
A Maori Identity

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Breaking down Silos

The Open Data Portal is a public platform where the NZ Transport Agency shares open data. You can explore, analyse, and download data in a range of formats. Open data enables engagement and collaboration to solve important issues. Let's make great journeys to keep New Zealand moving together!

How to use the Open Data Portal

Search for the data you need using the filters above. You can find out more about how to use the Open Data Portal, or you could choose to see all data.
Smart Cities
Smart Cities

Los Angeles Vision Zero
Part of LA GeoHub

Vision Zero is a global initiative whose goal is to reduce severe injuries and deaths in roadway collisions.

Vision Zero Maps & Applications

- High Injury Network
  - This Story Map explores the High Injury Network in relation to health outcomes and other ongoing strategic planning efforts.

- Vision Zero: A Data-Driven Approach
  - A walk through of Los Angeles’ data-driven approach to Vision Zero.

- Vision Zero Los Angeles
  - The plan to eliminate traffic fatalities in the City of Los Angeles by 2025.

- Collision Landscape in Los Angeles
  - Five years of fatal and severe crashes involving pedestrians or bicyclists (2006-2013).
City of Los Angeles
Is Already Implementing a Community GIS

Solutions Cross Departments
Expanding Their GIS to Support Everyone
Smart GIS Enables New Types of Collaboration

Connecting Individuals, Organizations and Communities

...Creating a Nervous System for Our Planet
Smart Cities

1. URBAN CONTEXT
These maps represent the physical and regulatory context of the city. Click on the buttons below to see the city in various ways.

- Traditional 2D Map
- Dynamic 3D Scene: Visual information to see the city in a new way. These buildings represent the city schematically and make a good base for visualizing information.
- 3D Schematic View
- 3D Cartesian View

- Volumes of current height districts can be shown along with realistic buildings.
- Current Height Districts
- While current land use can be visualized on the buildings themselves.
- Current Land Use by Building

2. UNDERSTANDING GROWTH CAPACITY
The next few sections show how much capacity is possible at these important scales — at the neighborhood, district, and by parcel. It is easier to see patterns when the data is shown at a parcel level. Surplus demand is understood overall, shown at the neighborhood level. Transportation analysis zones (TAZs)
The future of transport is…