Managing Crowds and Events with Mobile Data

Smart City Expo World Congress 2016

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Crowd Management with Mobile Data

- Anonymised, Aggregated data can be used to understand movements of people and vehicles
- Real-time and historic location data sets are applicable across many city services
    - Entertainment Events & Festivals
    - Transport Management & Capacity Management
    - Infrastructure Planning
    - Retail
    - Stadiums
- Mobile operators well placed to enter this market as they have geo-location data available to them.
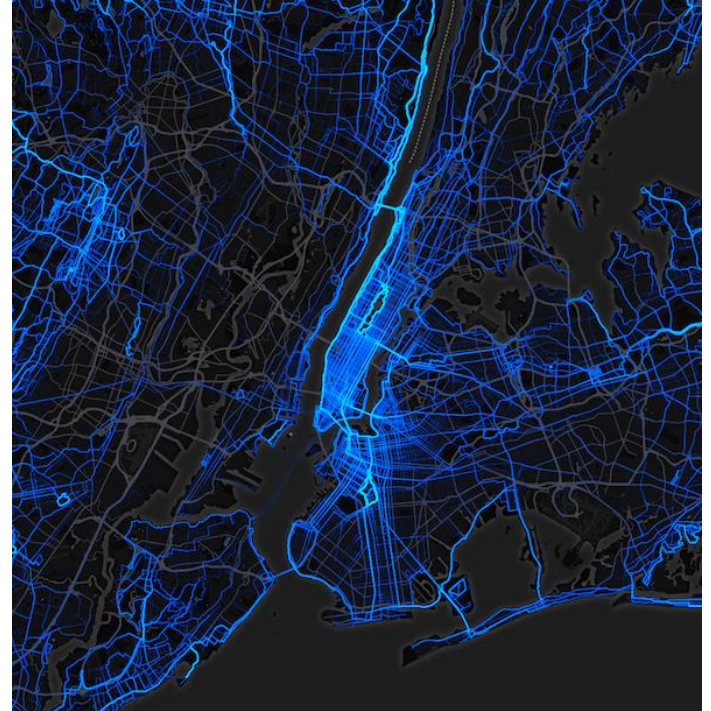
Using Mobile Data to improve city life

Tele2 making use of existing network information to visualize and predict traffic flows in Vilnius

- Anonymous aggregated data can be used to understand how people travel into city
- Big Data Intelligence can break down mode of transport, locations visited
- Actionable data for infrastructure planning, public transport companies, traffic monitoring, and other stakeholders.
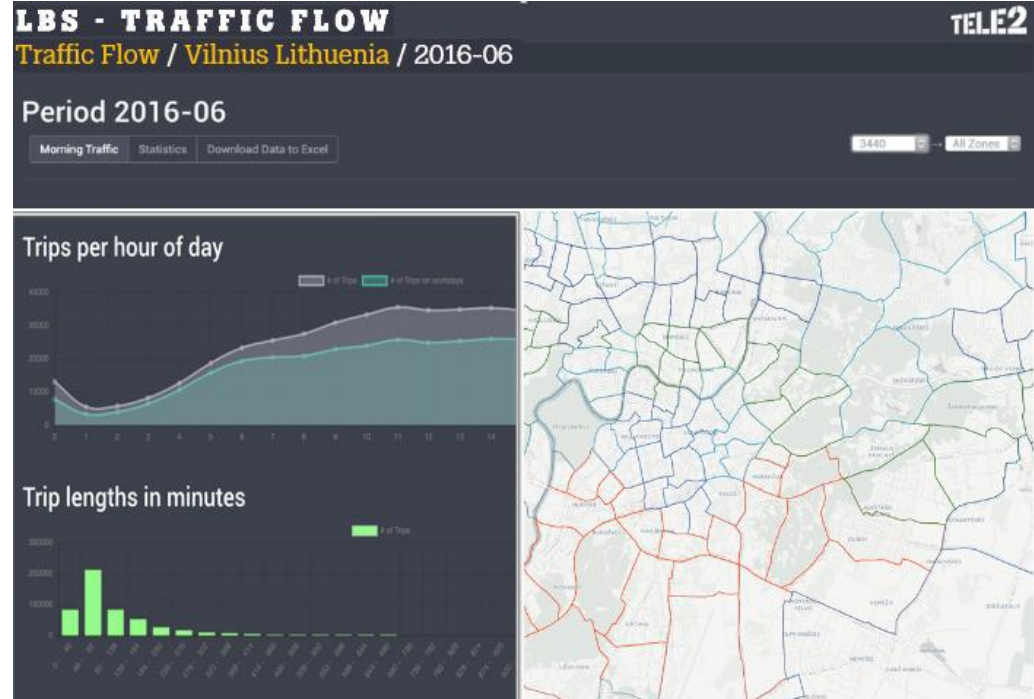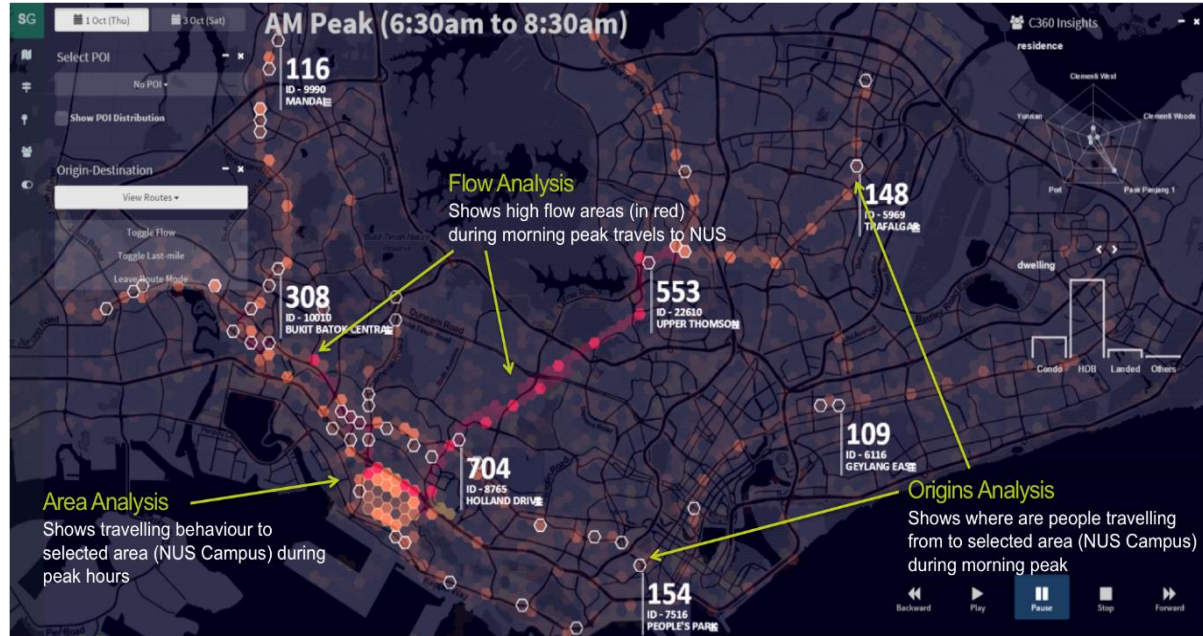
Powerful Data Analytics Tools for cities

Use of anonymised mobile location data combined with other data sets provides powerful analytics tools for smart cities, institutions, businesses and citizens

Demographics
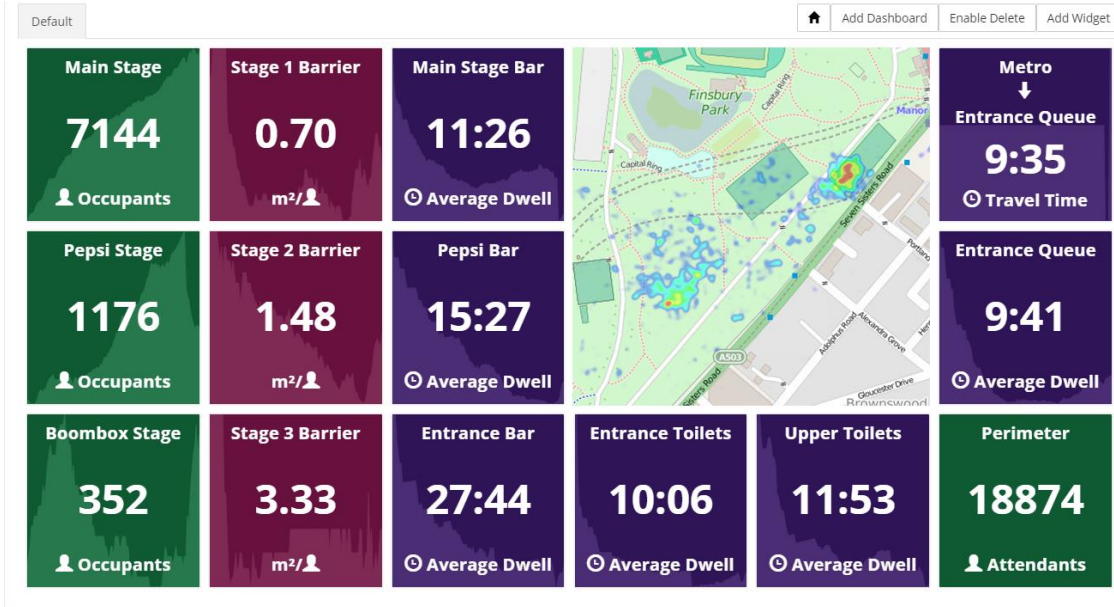
Behaviours

Lifestyle

Interests

Education

Personality

Mobile Operators have multiple sources of data

1 Network-led

2 Mobile phone-led

3 Personal/wearable device-led

4 Sensor-led
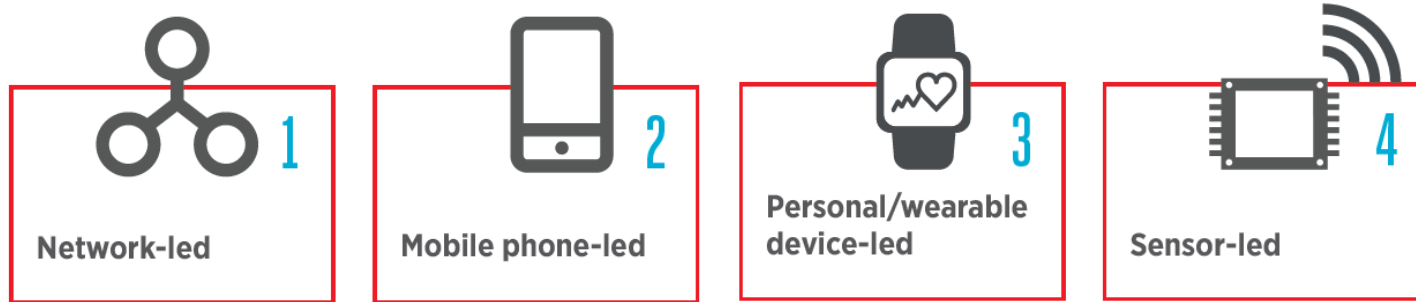
Hybrid services give the ability to obtain the most relevant data for specific scenarios and locations
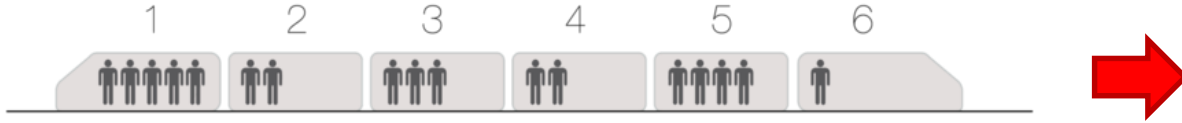
Event Management: Music Festival crowds

Crowd Connected

- Real time data allows accurate location tracking and highlights of trends or issues

- Network data allows wider view around site – when people are arriving, loading on local transport etc.

- IoT Sensors give depth of local insight

Smart City: Transport loading

- Real-time Data from transport system eg Ticketing, IoT Sensors, cross- referenced with historic + location data = accurate loading information by carriage

- Machine learning
  - predictive loading can be calculated for different stations and days of week. Historic trends, weather conditions etc can be used to predict loading.

- Intelligence can be used by transport operator to improve loading & make better use of existing capacity rather than adding new infrastructure.

Mobile Operator Capabilities for Crowd Management

1 Devices/Sensors
- Personal mobile devices
- Sensor deployments

2 Data
- Mobile network data
- Personal device data
- IoT sensor data
- Aggregation/anonymisation

3 Analysis/Prediction
- Real time analysis of current situation
- Analysis of historical trends
- Predictions for organisational and citizen planning

4 Sensor-led
- Visualisation of crowds - real-time and historic

Crowd Management & Mobile Operators

- Crowd Management offers new insights for cities based on location data analytics
  - Both Commercial & Government sectors can benefit
- Mobile operators uniquely placed to obtain location data
  - IoT sensors and mobile data provide unique solution.
- Flexibility of data means that cities can focus on specific geographic areas or the whole city
  - Covering both people & transport
- Services are available from many mobile operators today.

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