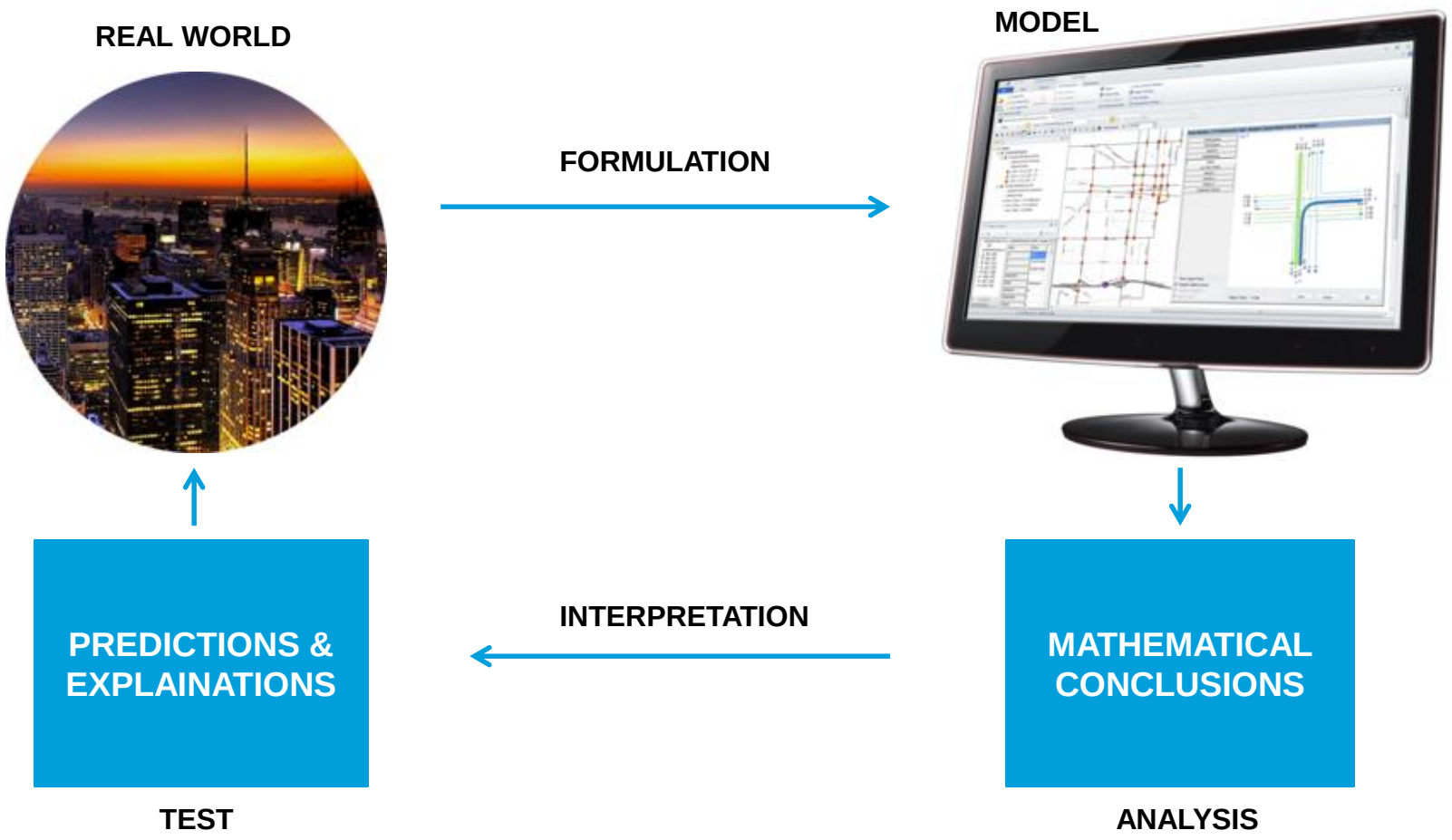
CITILABS
SOFTWARE FOR MODELING &
SIMULATION OF TRAFFIC & LAND USE
esri

What is (transport) modelling?

Train vs Plane: http://www.bettertransport.org.uk/

What is (transport) modelling?

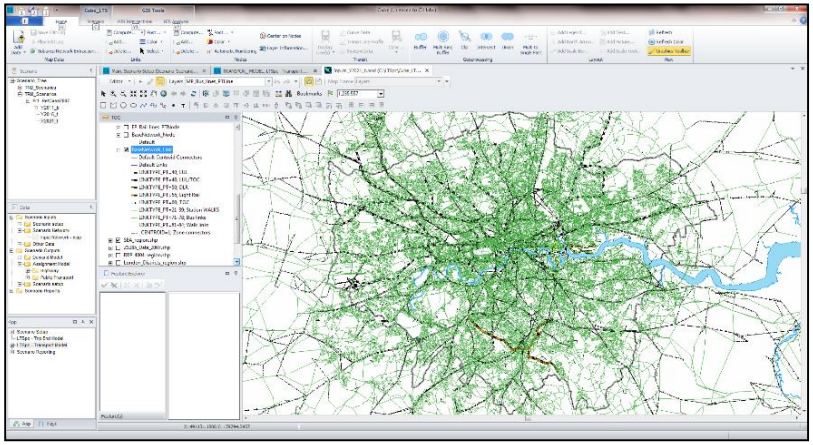
Answer real world questions using mathematical models.



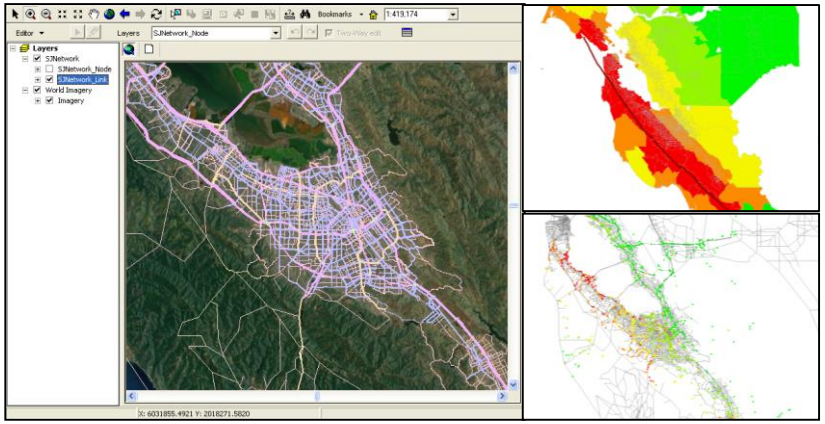
Transportation Modelling

Predict the number of trips, mode and routes taken considering different policy, land use, and infrastructure scenarios:

- What will the traffic be once a road is built?
- How many passengers will be lost if bus services are reduced?
- How many people will find other routes if tolls are introduced?
- How much traffic will a new development generate?
- How are commodities moved by truck in a region?

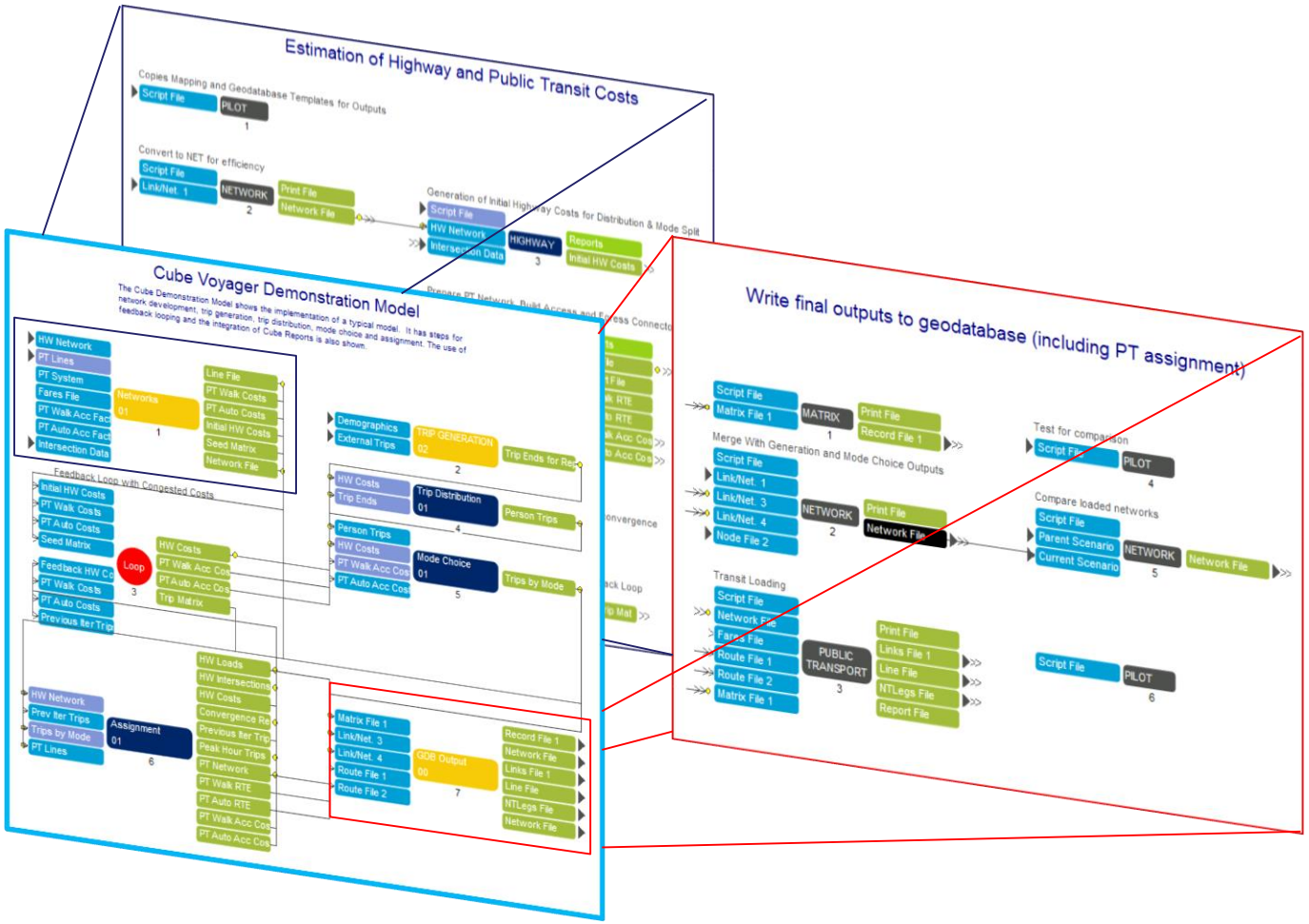


London, UK – strategic transport model



San Jose / Santa Clara County , USA – evacuation transport model

Our Solution: Cube

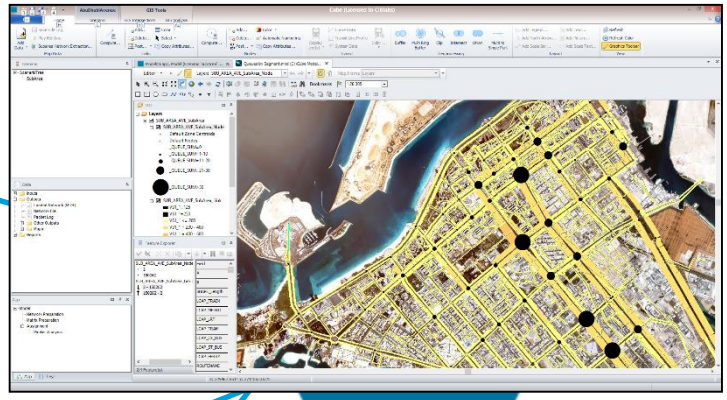


Our Solution: Cube

Expert (Cube) user

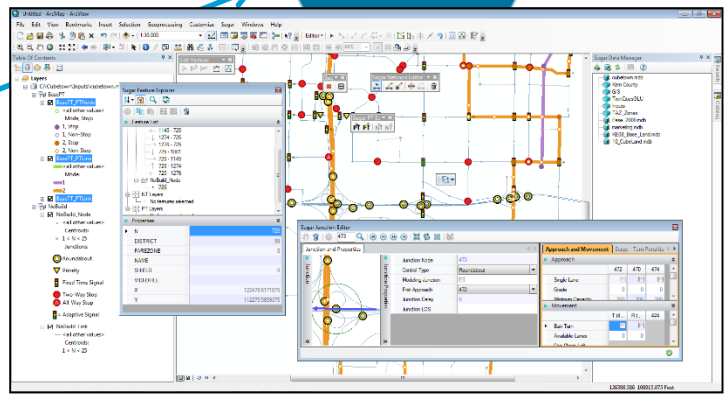
MODEL CREATION & ANALYSIS
Cube Product Suite
ArcGIS

MODEL



DATA

DATA PREPARATION
Sugar Editor
ArcGIS



Non-Expert (Cube) user

Network Analyst and Beyond

ArcGIS Only	ArcGIS +
Analysis with current information	Using a model to make predictions
EXISTING INFRASTRUCTURE	**EXISTING INFRASTRUCTURE PLUS MODEL**
• Find shortest routes • Efficient routing for vehicles • Location of closest facilities • Optimal location for facilities • Service areas	• Traffic demand analysis • Transit revenue forecasting • Project feasibility analysis • Managed lanes optimization • Toll revenue estimation • Land value estimation • Simulations and animations of traffic and pedestrians • Parking lot simulations and optimizations

ArcGIS + Cube

Cube – Sugar – Cube Cloud

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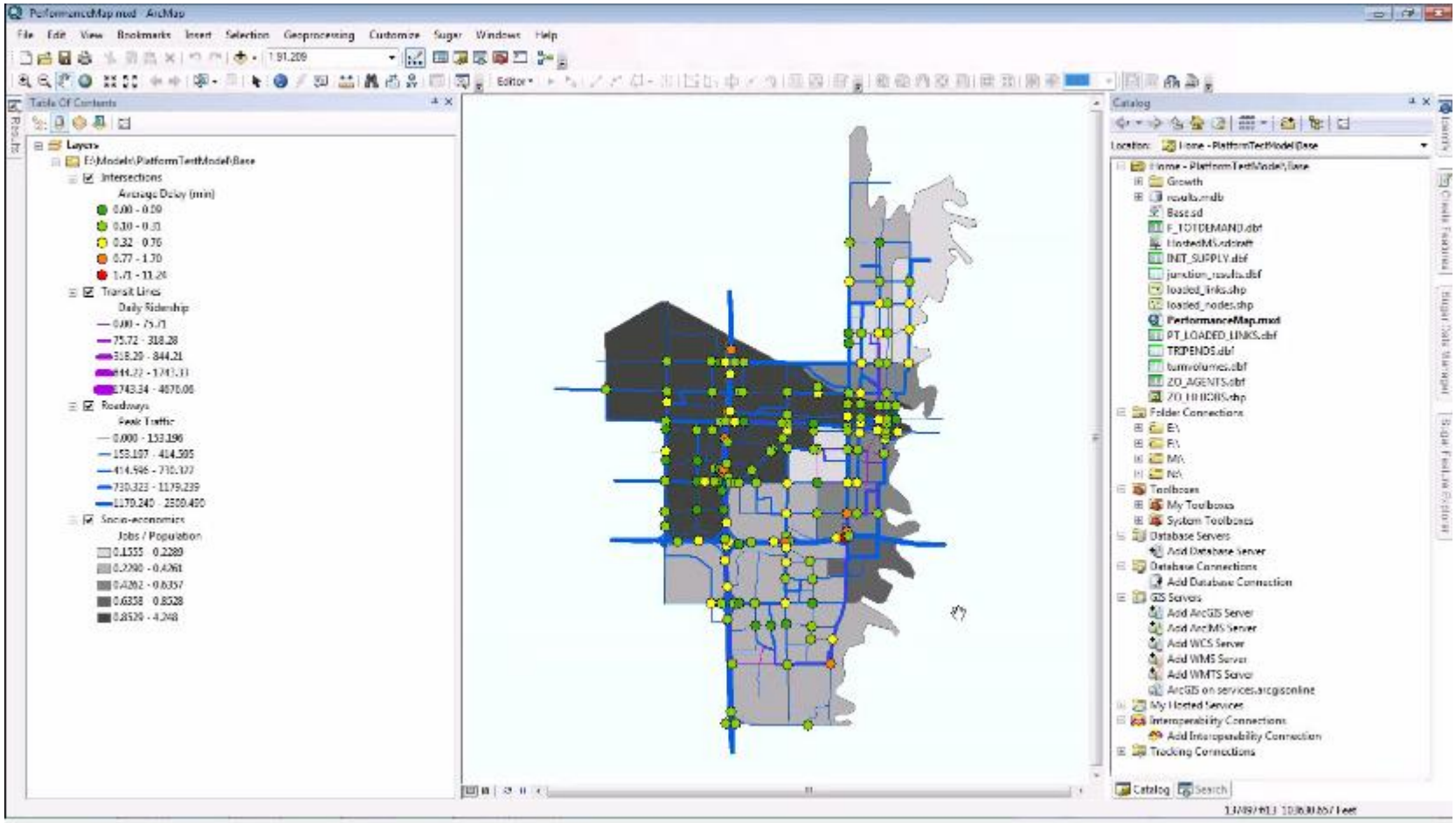
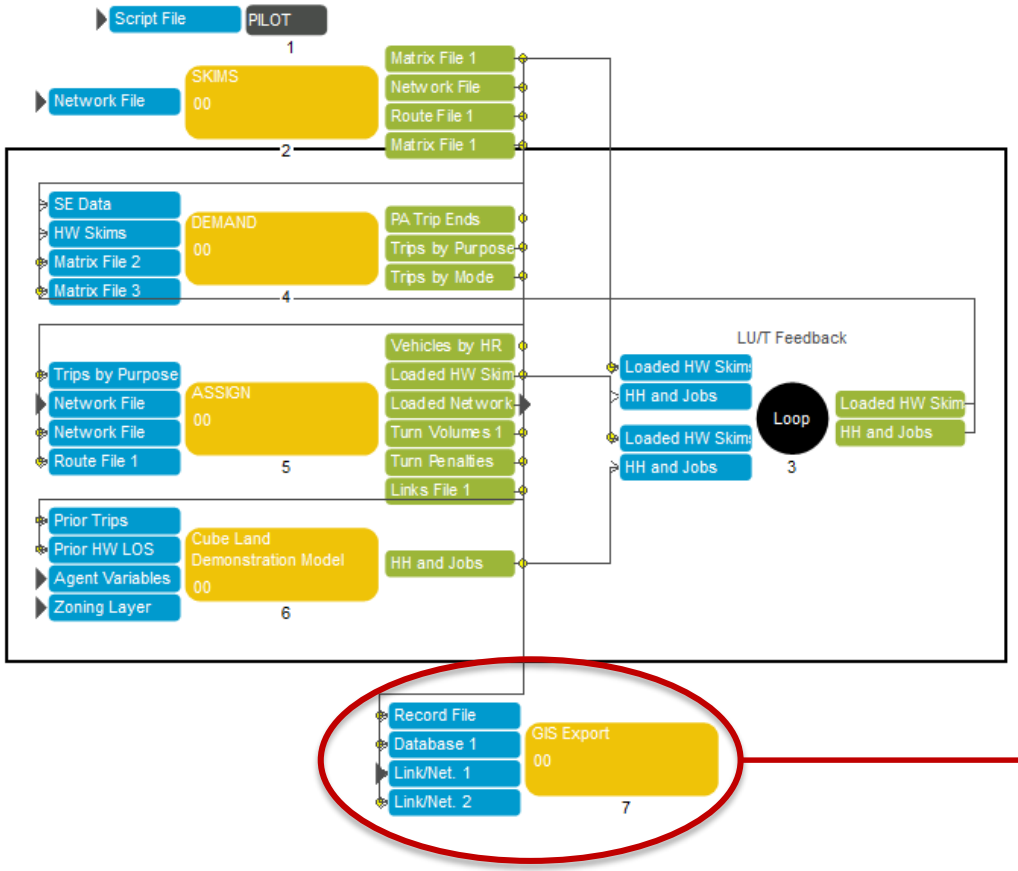
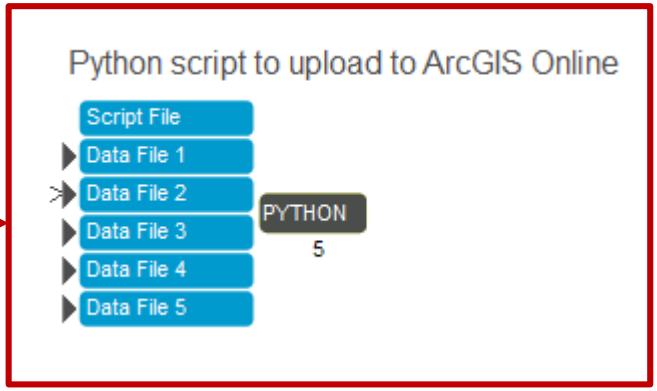
ArcGIS or Cube: Map Template

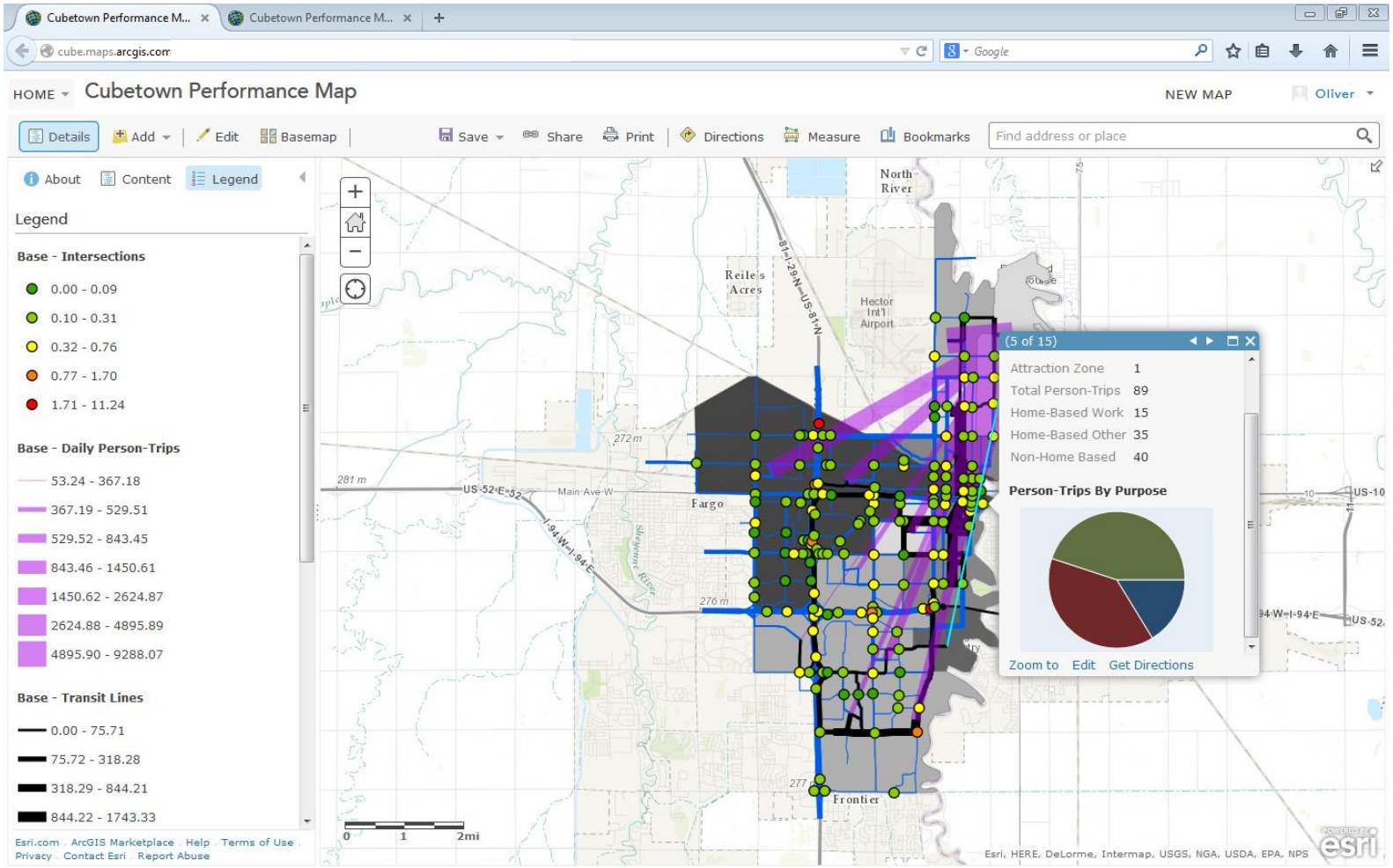


Cube: Upload to ArcGIS Online

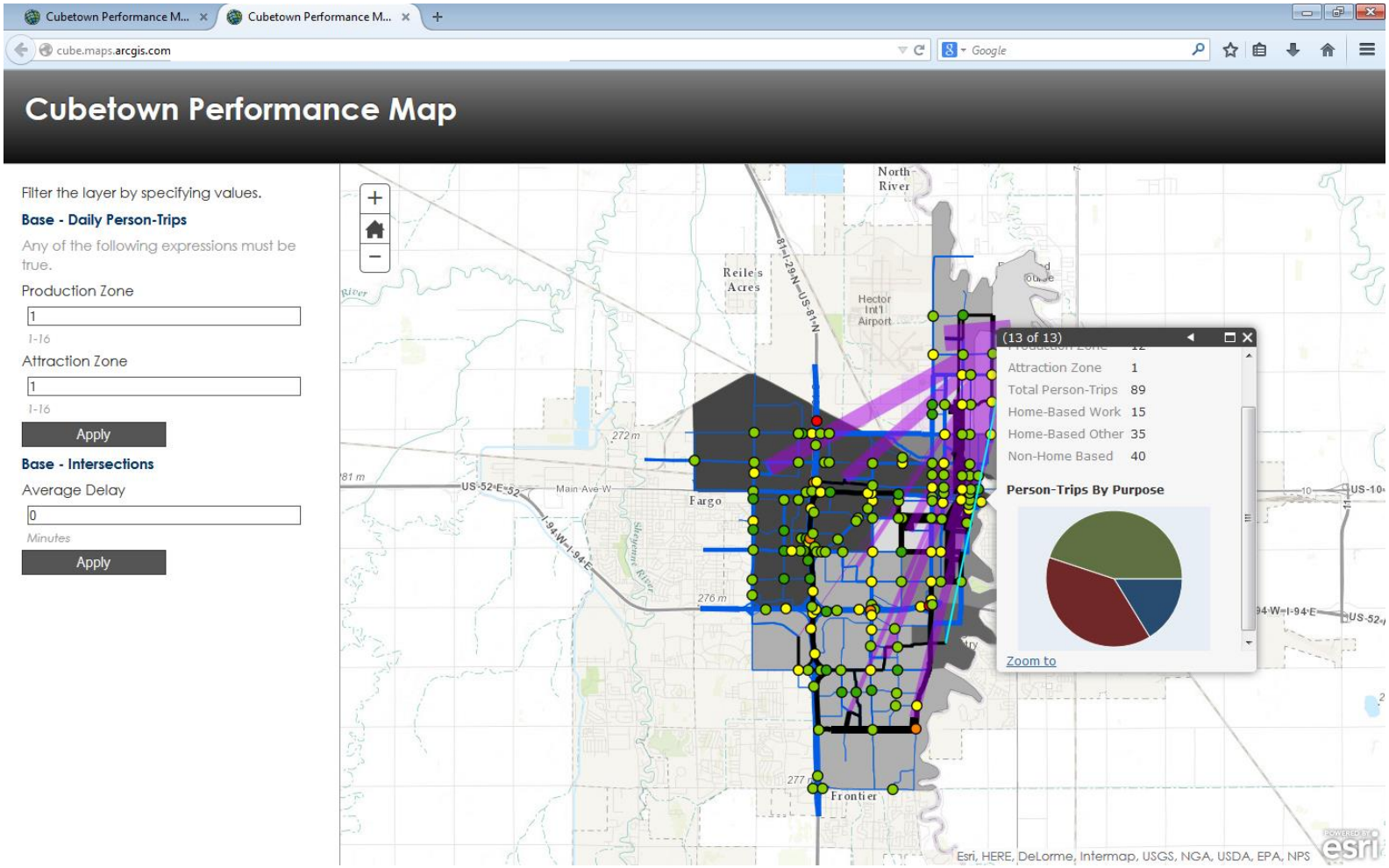




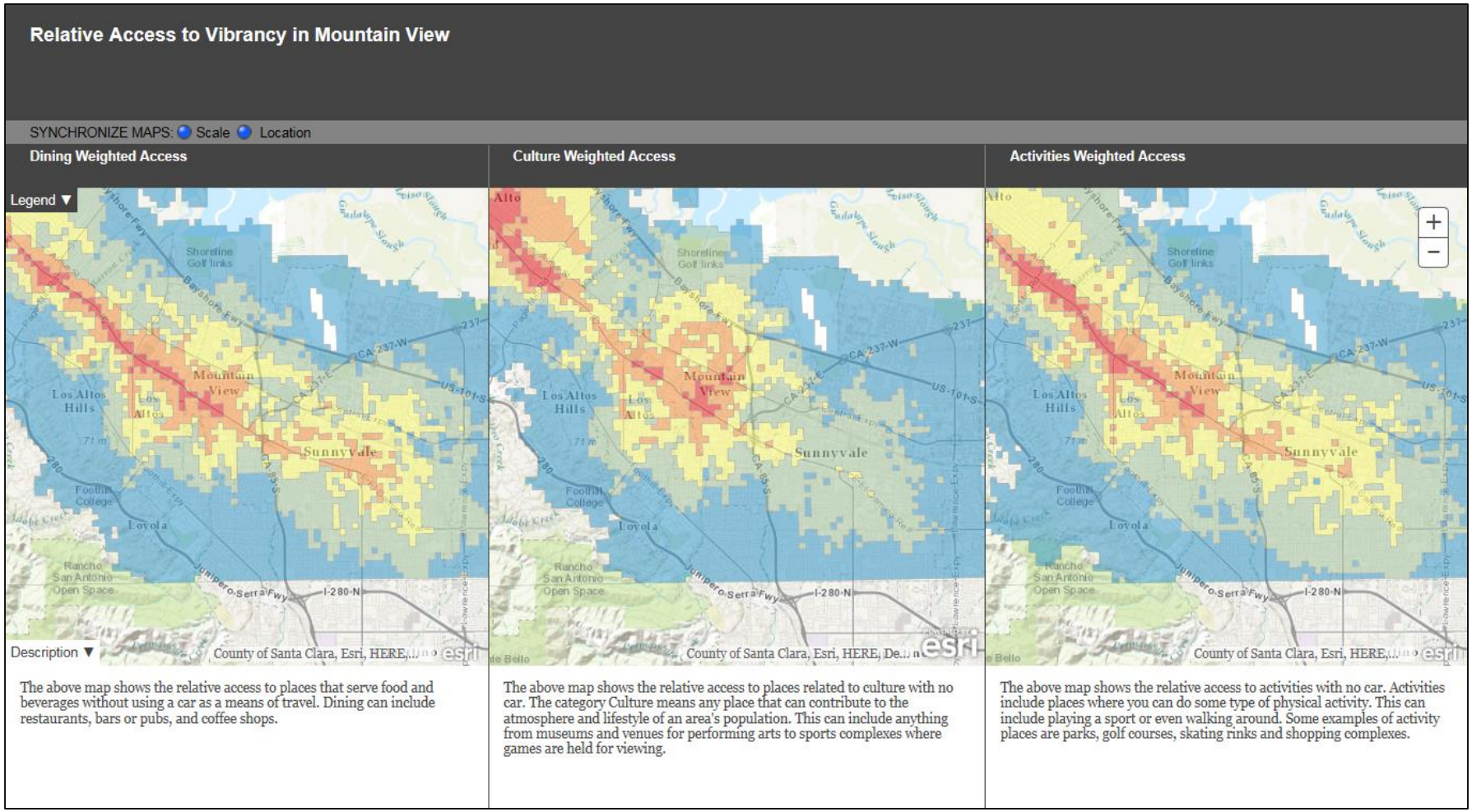
ArcGIS Online: Interactive Map



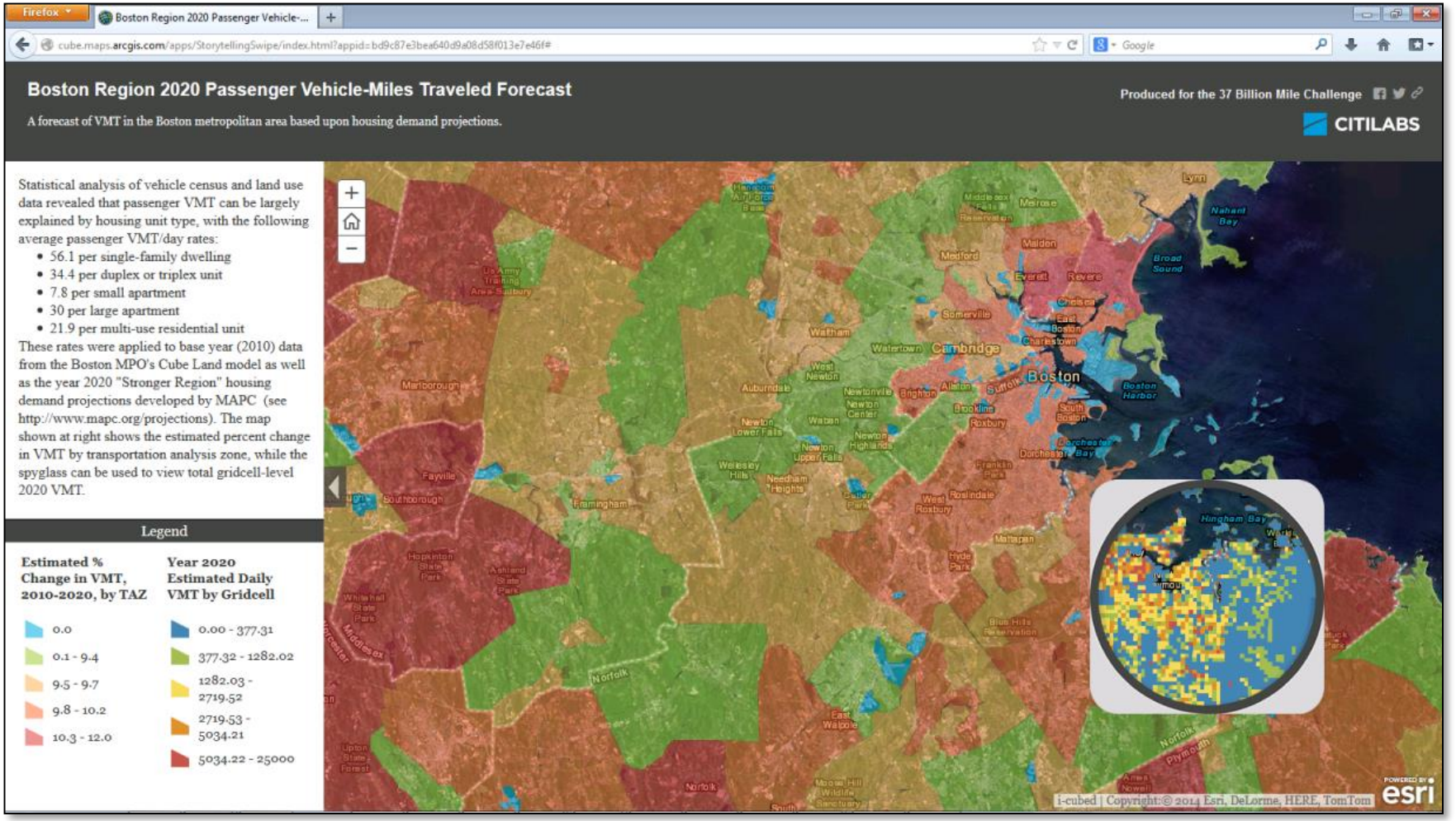
ArcGIS Online: Interactive Application



ArcGIS Online: Accessibility



ArcGIS Online: Land use

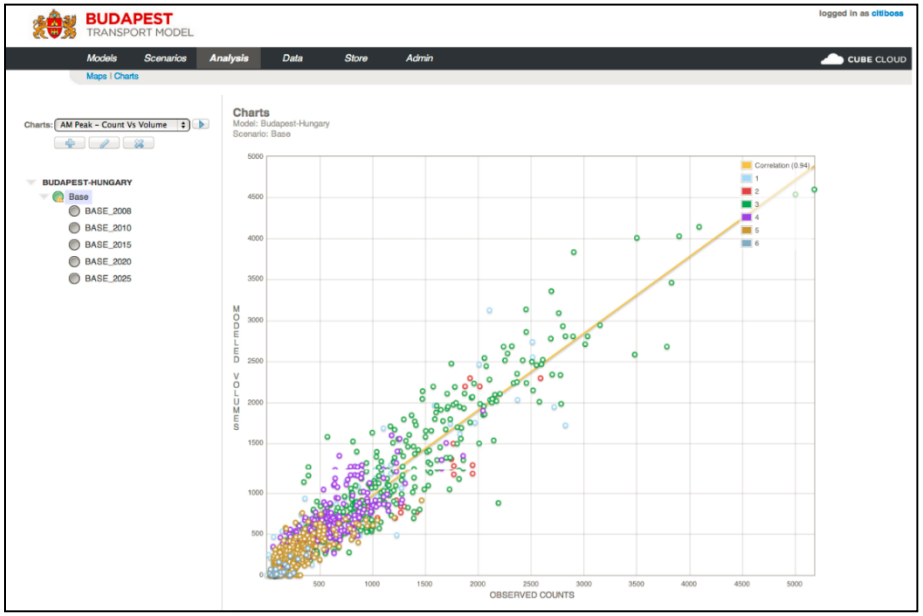


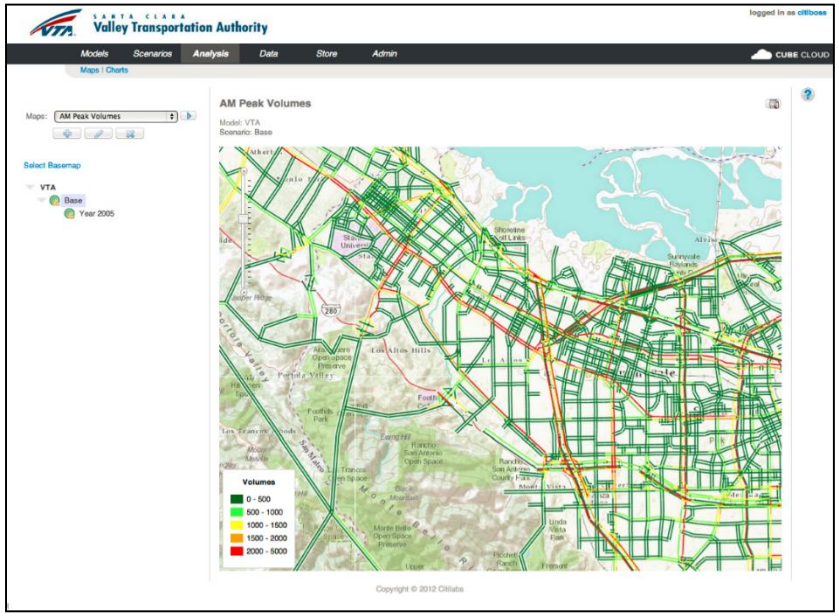
Source: MAPC Cube Land Model / MA Vehicle Census / ESRI ArcGIS Online

Cube Cloud

Cores	Run Time
8	175:13
16	139:03
32	53:40
64	25:57
128	12:41
256	9:58
512	7:17

- Start 1, 10 or 100 scenarios simultaneously
- Improve validation and forecasts by doing more tests





The Future?

- Big Data – HERE, TomTom
  (a modelers savior)

- Autonomous vehicles
  (a modelers nightmare)

- Citilabs Software for all occasions
  (a modelers solution)

CONTACT US

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