

Agent Based Model for New Zealand Transport System

Project Monty

Julie Mugford
Data Analyst
Analytics and Modelling
Ministry of Transport

Why an Agent Based Model?



Government decisions on transport can have long lasting and large impacts on society

An ABM allows us to answer many important questions that traditional aggregated transport models struggle to answer.

- **What would be the social, economic, cultural, environmental and network impacts of introducing a congestion charge in Auckland?**
- **What will the transport emission profile for New Zealand look like in 2050?**
- **How does new infrastructure change land use and travel patterns?**

How: The Model Components



Transport Supply Synthesis

Multi-modal Network
Generation



Demand Synthesis

Population Synthesis
Agent Characteristics
and Behaviours



Simulation

Configuration &
Simulation



Output

Outputs,
Benchmarking



Julie Mugford
Data Analyst
Analytics and Modelling
Ministry of Transport – Te Manatū Waka
J.Mugford@transport.govt.nz
www.transport.govt.nz



ARUP

Thank you.

