The Future of Transport Planning

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Transport Planning is Changing…

Climate emergency declaration by New Zealand government includes commitment to 2025 targets

5:22 pm on 2 December 2020

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Prime Minister Jacinda Ardern has committed the government and the public sector to going carbon-neutral by 2025, as she declared a climate emergency.

NEW ZEALAND

Aucklanders expected to halve their car use to meet carbon emissions target

15 Aug, 2022 03:09 PM

4 minutes to read

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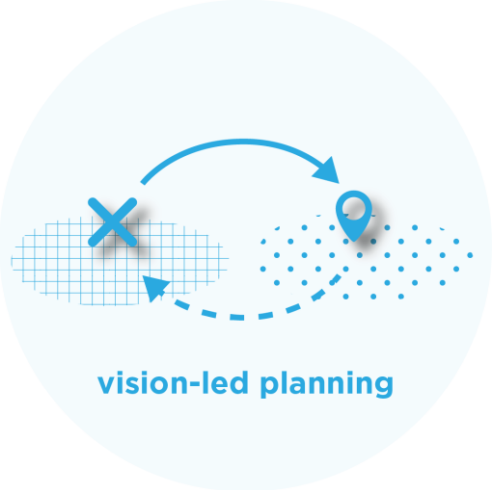
The Future of Transport Planning

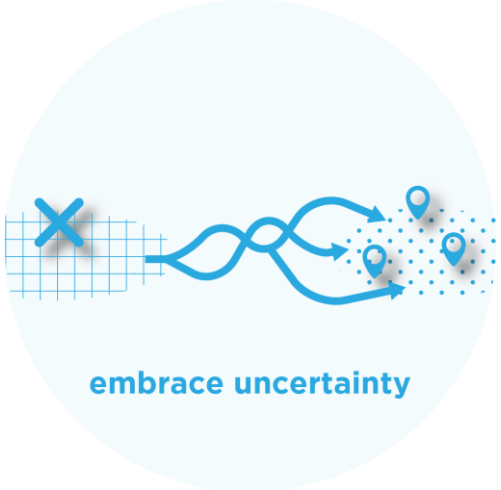
What we do now	‘Predict and provide’: Investment based on projected transport demands	Focus on providing physical mobility	Complexity and uncertainty are not well recognised or managed

What we need to do instead



‘Decide and provide’: Investment based on a preferred vision for the future

Focus on providing access to needs and opportunities



Integrate uncertainty throughout transport planning

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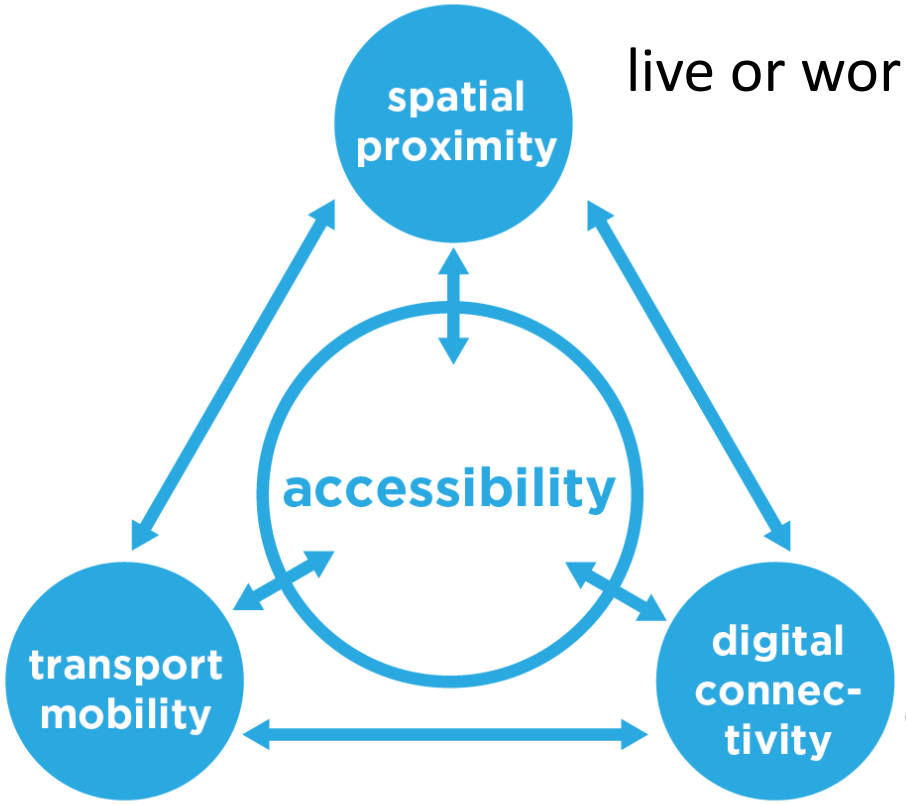
There are different ways to access opportunities:



live or work near them

travel to them

connect online

Image: Lyons and Davidson, 2016

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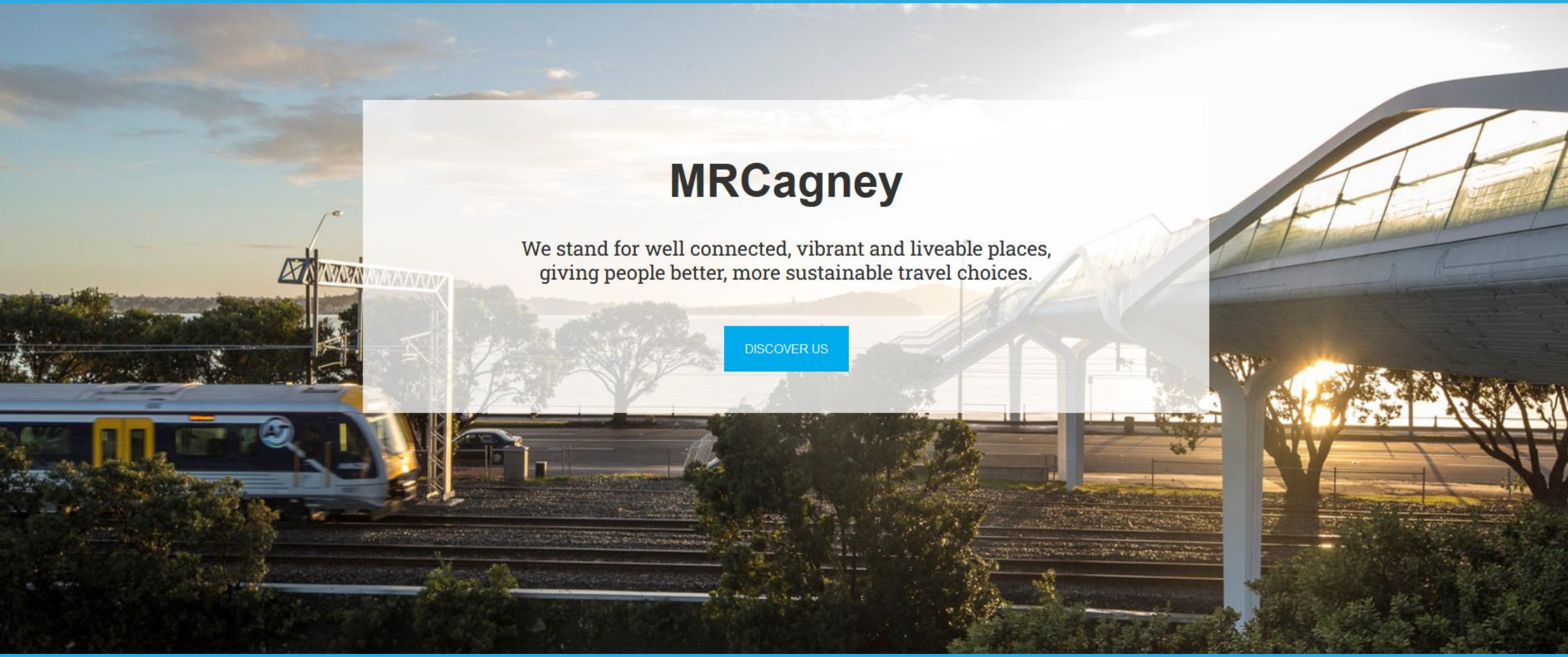
Changing How We Use Transport Models

- Current overreliance on models
  - Existing models use past trends to predict future travel demand, but models can't predict major changes in how we choose to travel, either from disruptions or changing trends
  - Strategic models don't adequately capture how pedestrians or cyclists use transport networks
  - Focus on travel time savings instead of broader impacts of transport
- Instead, we can use models:
  - To test trend-breaking futures (e.g. reducing VKT)
  - To understand uncertainty
  - As one tool among many to support decision making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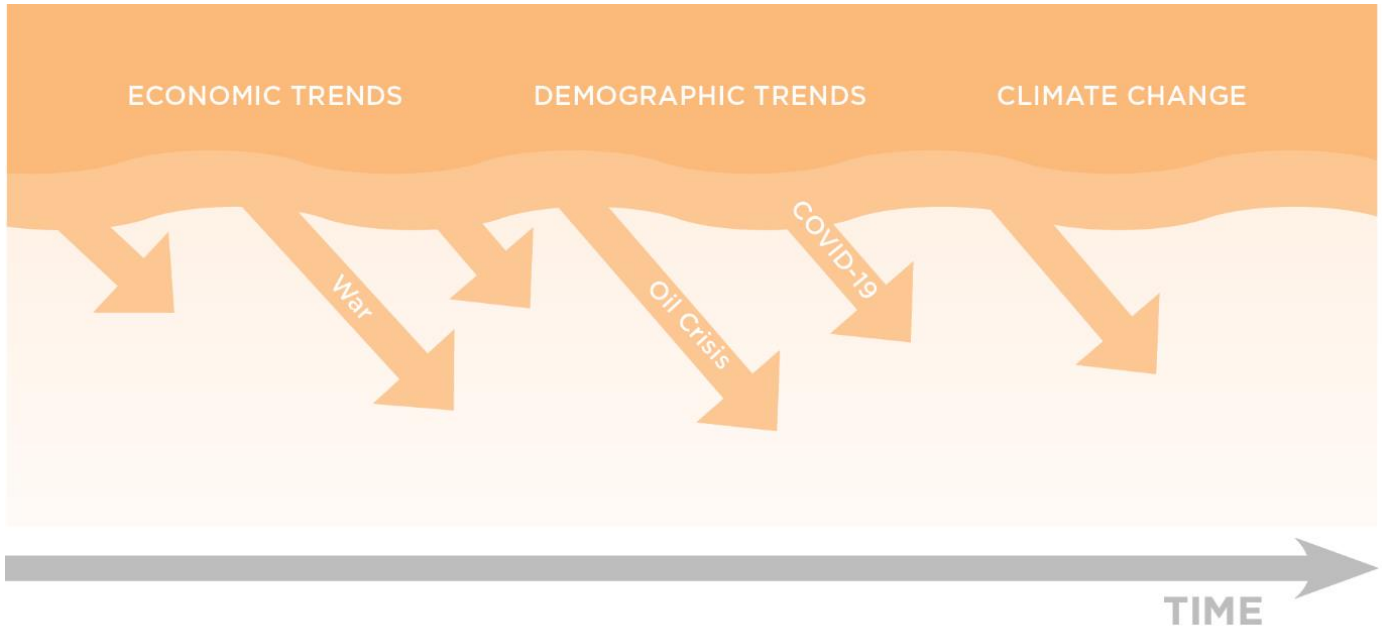
How We Do Modelling: Scenario Planning

What is Scenario Planning?

- Planning for uncertainty
- Acknowledging the unknown future



← known uncertainties

← unknown uncertainties

- What other scenarios would you test?

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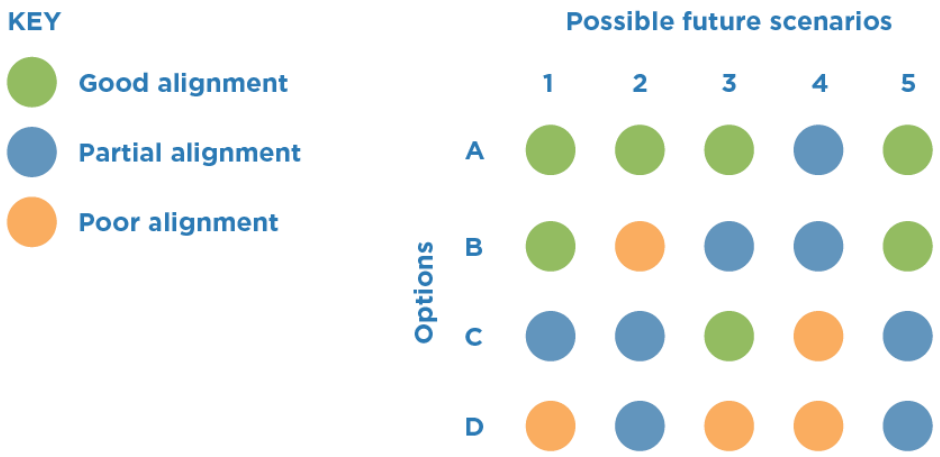
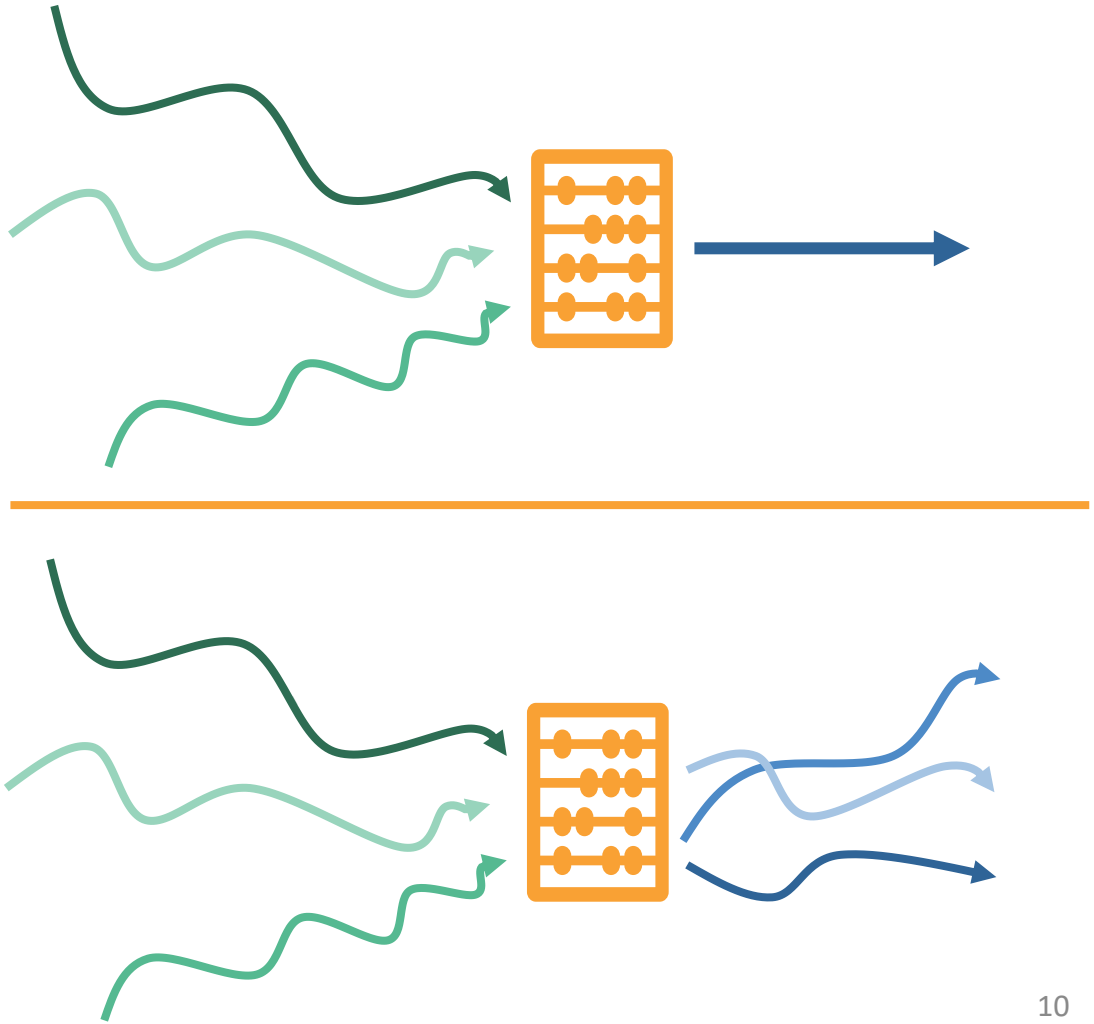
Why Should We Do Scenario Planning?

- To test things we can't control
- Because the future is uncertain
- To test the impacts of different policies or investments
- So we can design **adaptability** into projects
- So we can respond to changes when they happen

Modelling for Uncertainty





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How We Communicate Modelling: A User Guide

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How are Your Models Being Used?

- Do you know how your models are being used?
- Do you think you should know?
- Would you give different caveats for different use cases?
- How can you avoid your models being misused?

Ethical Requirements

"Being transparent about what we don't know is a matter of ethics"

— *How to communicate uncertainty*, published by Africa Check, Chequeado and Full Fact, October 2020

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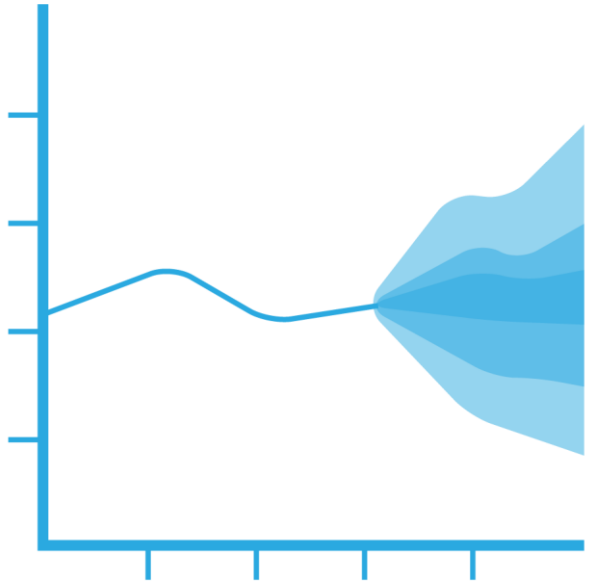
Communicating Limitations

- What are the assumptions in your model?
- How sensitive is the model to those assumptions?
- What are the limitations of your model?

Communicating Uncertainty

Fan charts



Multiple line charts

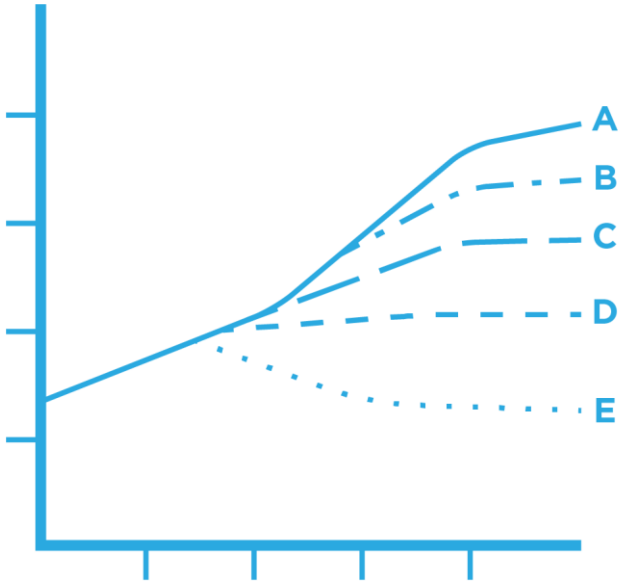


Image source: [TAG Uncertainty Toolkit]

Improving Capabilities: Professional Development

Learning From Others

- International experts
- Peer-to-peer learning
  - Forums
  - Community of practice
- Resources for users of models
  - Training sessions
  - Handbook

Training For Users of Models

- What types of models exist?
- When should use each model?
- What questions can the model help you answer?
- What do you need to state in your model requests?
- What new features have been added to the models recently?

Handbook For Users of Models

- What are the common limitations of models?
- What does the model assume?
- How confident is the modeller in the predicted output?

How can you help others to use models better?

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