

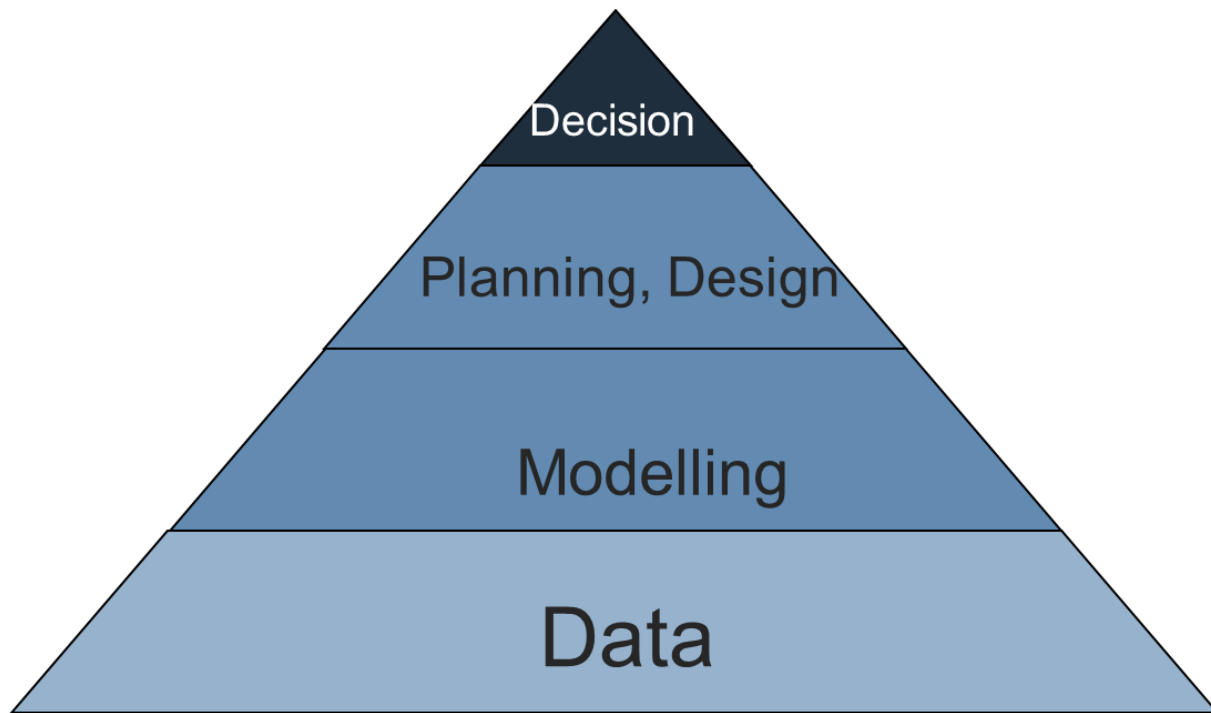
A Travel in Time

How technology has changed the way we collect transport data in Auckland

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Joint Modelling Application Centre (JMAC)

IPENZ - 9 March 2016

Why do we need to understand data?



Overview

Traditionally vs Current:

- Traffic count data?
- Travel time data?
- Travel pattern data?

- Is there a clear winner?

Comparison of:

- Sample size
- Accuracy
- Processing speed
- Cost



How to collect traffic count data?



Manual count



Inductive loop



Pneumatic tube



SCATS



CCTV



Radar

How to collect travel time data?



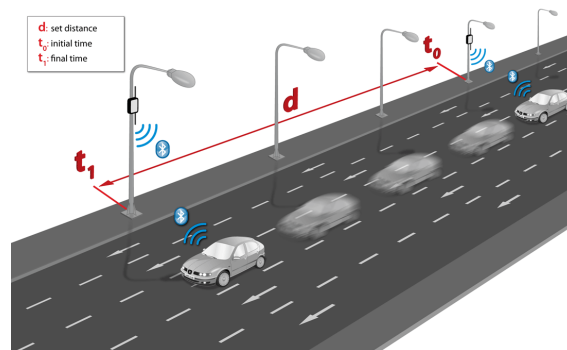
Floating vehicle survey



GPS



Automatic Number Plate Recognition
(ANPR)



Bluetooth

Why do we need to collect travel pattern data?

- Transport: movement of people from one location to another
- Important for transport modelling, planning



How to collect travel pattern data?

Traditionally: Household travel survey, on board survey



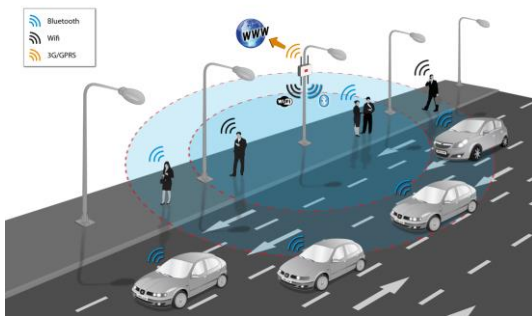
Benefit:

- Comprehensive and detailed
- Ask when, where, why

Issue:

- Small sample size
- Expensive
- Infrequent

How to collect travel pattern data?



Personal Device



AT HOP



ANPR



GPS

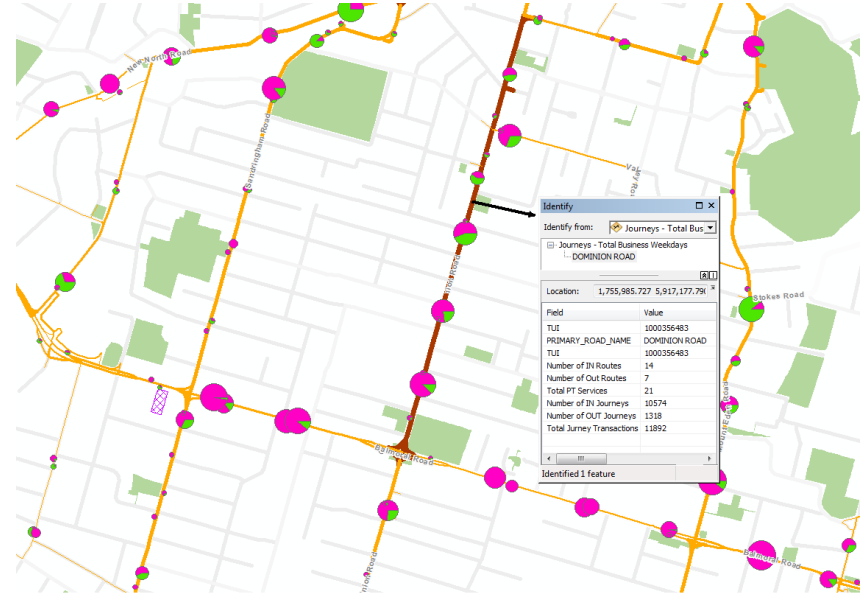
AT HOP

- 60% PT trips
- Stop to stop
- Along route



Uses:

- PT operation & monitoring
- Validate PT model
- PT planning



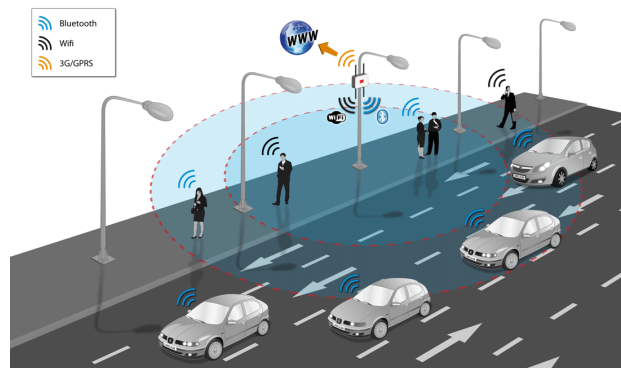
Personal Device

Examples:

- Work trip pattern to Auckland Airport
- AT cross boundary flows
- Build transport model matrices

Issues:

- Data processing time
- No trip purpose



Traditional survey vs big data

- Sample size/coverage



Survey data



Big data

Traditional survey vs big data

- Accuracy

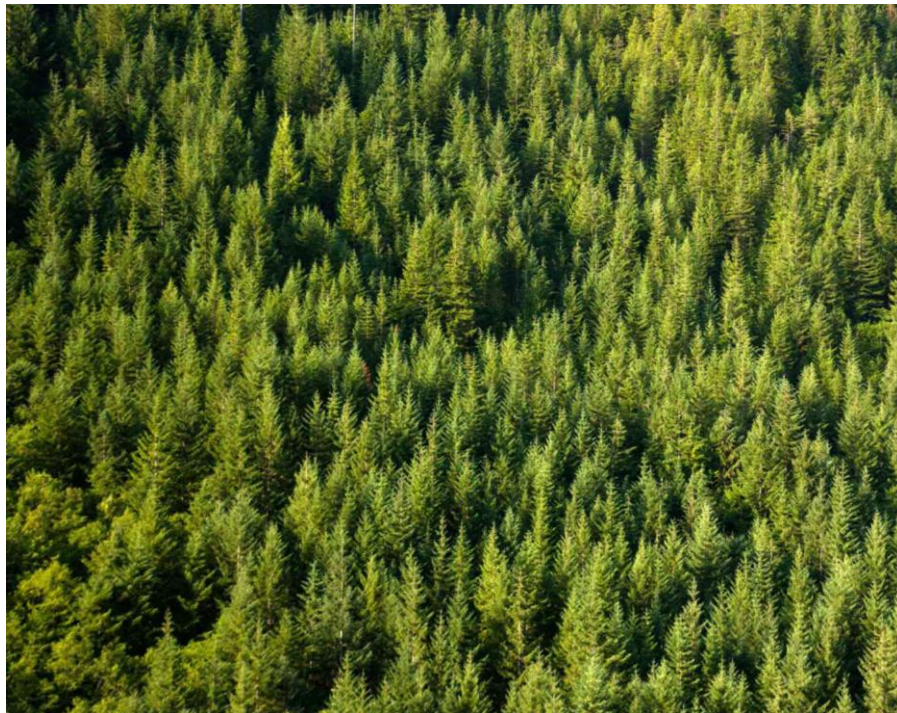


Survey data



Big data

Future: merge different data sources



Thank you!



Questions?