Auckland Network Performance Monitoring and Reporting: Evolution Through Collaboration

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Network Performance Measures: Introduction

- Best use of available data
- Importance of system dynamics
- One network approach

Network Performance

- Operational
- Safety
- Infrastructure
- Maintenance
- Environment
- Productivity
- Economics

How Operational Performance works

Measuring
- DATA
- Journey Time
- Congestion
- Economic Value

Analysing
- Network Modification Analysis
- Bottlenecks
- Network Deficiencies etc

Reporting
- Strategic Intent
- Operational tactics
- Resource allocation

Data Quality Trade-Off

Accuracy vs. Coverage

Network Performance Reports: Initial
Data Mining: Signal vs. Noise

Throughput

Network

PM

SH16

NW

Peak

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Data Mining: Signal vs. Noise

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One Network: Optimisation

Represent System Dynamics

Understand System Dynamics

One Network: Performance

Challenge:

- Motorways
- Interchanges, arterials + local roads
- Alternative modes (SOV, HOV, Buses)

Consistent performance measures
- Data issues
- Measurement issues

One Network: Optimisation

- Opportunity cost
- Multi-criteria optimisation

Summary

- “Noisy” data is not worthless
- Understand network interactions
- One network trade-offs
Thank you

**FUNDAMENTAL PRINCIPLES**
1. Spatial and temporal aggregation.
2. Demand linked.
3. Consistency between measures.
4. Ease of implementation.
5. Allow for future enhancement.

**DATA QUALITY**
1. Accuracy
2. Completeness
3. Validity
4. Coverage
5. Timeliness
6. Accessibility

**Network Performance Measures: Key Concepts**

**Mining error prone data: Signal vs Noise**