THE IMPORTANCE OF ASSET MANAGEMENT IN TRAFFIC ENGINEERING

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OVERVIEW
Overview

• Introduction
• Our Challenge
• Asset Management Defined
• Case Study: When it all goes good
• Summary
• Questions
INTRODUCTION
Who is Opus?
Who is Opus?

41% Asset Management
12% Transportation
9% Water
9% Building Design and Construction
29% Other Infrastructure
Who am I?
OUR CHALLENGE

Panmure Station, Auckland, New Zealand
“If everyone is moving forward together, then success takes care of itself”

Henry Ford – American Industrialist
Why is that relevant today?

• Network Resilience
• Network Redundancy

Urbanization

• Network Demand
• Customer Expectation
• Travel Time Reliability
Even with these pressures..

- We can still deliver
- **BUT!**
  - Collaborate more
  - Consider each system as a whole
  - Plan accordingly
  - Embrace our strengths
DEFINING ASSET MANAGEMENT

Sea to Sky Highway, Canada
Asset Management Defined….

• Delivering the agreed level of service at the least lifecycle cost

OR

• Balancing risk and level of service to optimize the cost of service using evidence based decision making
What AM requires

- Understanding of:
  - Level of Service (condition, performance)
  - Lifecycles (including failure modes)
  - Cost of Service
  - AM orientated Organizational Structure
  - AM systems (for data storage and analysis)
Asset Management is a Balancing Act!

- Budget
- Level of Service Performance
- Risk
- Inventory
- Consequence of Failure
- Services
Why would we bother?

Gains from Asset Management

- Efficiency: 45%
- Effectiveness: 30%
- Governance: 15%
Are there other benefits?

• Yes!
  • Program accuracy increases
    • What ✓
    • Where ✓
    • When ✓
  • Emergency works decrease
    • No need to intervene at short notice ✓
50 Year Projection Of Monthly Rates, Total Expenditures, Debt, And Capital Reserves With Annual 3.39% Increases
What if?

• All agencies knew what, where and when over the next 10 years?
  • Including fleet
• Could we then share this information to overcome:
  • Lack of Network Redundancy?
  • Lack of Network Resilience?
  • Rising Customer Expectation?
What’s in it for you?

• Accurate long term workplans:
  • New projects
  • Retrofit and rehab projects
  • Contingency planning
  • Interim solutions
CASE STUDY – WHEN IT ALL GOES WELL

Northern Busway, Auckland, New Zealand
Wellington, New Zealand
Key Statistics

- 350,000 population
- 220,000 workers
- 60,000 public transport commuters
- Balance by car
- Windiest city in the world!
How 220,000 people are getting around

- Buses
- Trolley buses
- Trains
- Freeways / Cars
- Ferries
- Walking and Cycling
The usual issues:

- Peak time congestion with no redundancy or resilience
- So what happens if one agency has a project that affects capacity?
The work around....

• Each agency develops Asset Management Plan
• Communicate AMP across agencies
• Look for clashes
• Adjust priorities accordingly
• Implement contingency plans (phasing? more trains? hard shoulder?)
The result...

• An integrated transportation network
• Key inter – agency relationships
• Synergized work plans
• Engaged stakeholders
TO SUMMARIZE...
The Importance of Asset Management in Traffic Engineering

- AM defines the work plan:
  - What, where and when
  - The better the AM, the greater the accuracy
  - For ALL transportation agencies
- TE assesses the impact of the work plan
  - Impact is minimized
- The customer is happy!
“If everyone is moving forward together, then success takes care of itself”
THANKS FOR LISTENING

QUESTIONS?

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