



**NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.**

AUCKLAND TRANSPORT: INSTITUTIONAL CONGESTION?

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OUTLINE

The Auckland Transport 'problem'

Case study: CBD rail link

- Benefit-cost ratio of 3.5
- Implies ability to self-fund

What might prevent self-funding?

- Provision of public goods
- Inability to extract consumer surplus
- Coordination costs

Possible ways forward



THE AUCKLAND TRANSPORT 'PROBLEM'

Agreement there is a problem, but causes are disputed, including:

- Under-investment in infrastructure
- Traditional cost-benefit analysis techniques create too high a hurdle
- Institutional bias towards private transport
- Failure to complete motorway network
- Fragmented planning, funding & implementation



AUCKLAND TRANSPORT PLAN 2009

“A coordinated programme for the delivery of an integrated, efficient transport system”

Collaborative planning

- 12 institutions involved (now 4)

Significant projects proposed for 2009-19

- Only partly funded
- Funding is fragmented and siloed



CASE STUDY: CBD RAIL LINK



3.5km of new underground rail track

3 new stations allow greater CBD coverage

Through traffic at Britomart station allows 3x trains/hour to suburbs

\$2bn construction cost



CBD RAIL LINK: COST-BENEFIT ANALYSIS

Cost-benefit analysis ¹	Cost (\$m)	Benefit (\$m)
Capital and operating cost	1520	
Revenue (users)		190
Decongestion of roads		673
Surplus for existing public transport users		409
Surplus for new public transport users		237
Net CBD increased productivity		3333
Net benefit		3322
Benefit-cost ratio (BCR)		3.5

¹ *KiwiRail & Auckland Transport (2010)*
2010 dollars, net present value at 8% discount rate.



FUNDING PROPOSAL: CBD RAIL LINK

Funding proposal ¹	Cost (\$m)	Contribution (\$m)
Capital and operating cost	1520	
Revenue (users)		190
Shortfall	1330	
Local government (targeted rates)		532
Central government		798

Central government reluctant to commit, citing:

- current Auckland infrastructure commitments
- rising debt due to global financial crisis
- Christchurch earthquake costs

¹ *KiwiRail & Auckland Transport (2010)*



INTERNAL FUNDING LOOKS FEASIBLE

A BCR 3.5 project is extremely attractive

- Only need to appropriate 29% of total benefits to cover full costs (anything else is profit)
- A single organisation should jump at the project

Gains from trade sufficiently high that it should be possible for multiple institutions to bargain to achieve the same outcome (Coase Theorem)

So why is this not occurring?

- Three possible barriers: public goods, consumer surplus appropriation and coordination costs



1. PUBLIC GOODS

Classic problem: lighthouse services

- non-excludable and non-rival, requiring tax funding
- Solution: fund via an excludable and rival (private good) proxy for use, e.g. port berthing charges or seafarer's union fees

Rail transport user benefits are *private goods*

Increased CBD productivity is a *private* benefit

- to landowners, firms and employees

Decongestion benefit is rival

- excludable via congestion charging (e.g. CBD cordon)



2. CONSUMER SURPLUS APPROPRIATION

If the benefits of an improved service accrue only to consumers (e.g. because of a price ceiling) then it may not be possible to fund the improvement

Price ceilings may arise in public transport due to patronage or low-income access targets

- Project revenue of \$190m c.f. consumer surplus of \$646m highly suggestive of a price ceiling

Price discrimination can achieve both goals

- Technically enabled by integrated ticketing



APPROPRIATING THE BENEFITS

Public goods and consumer surplus appropriation problems appear solveable

Benefit	\$m	Mechanism
Decongestion of roads	673	Congestion charging
Surplus for existing public transport users	409	•Increased fares
Surplus for new public transport users	237	•Price discrimination
Net CBD increased productivity	3333	•Targeted rates •Tax increment financing



3. COORDINATION COSTS

Multiple parties involved, with different:

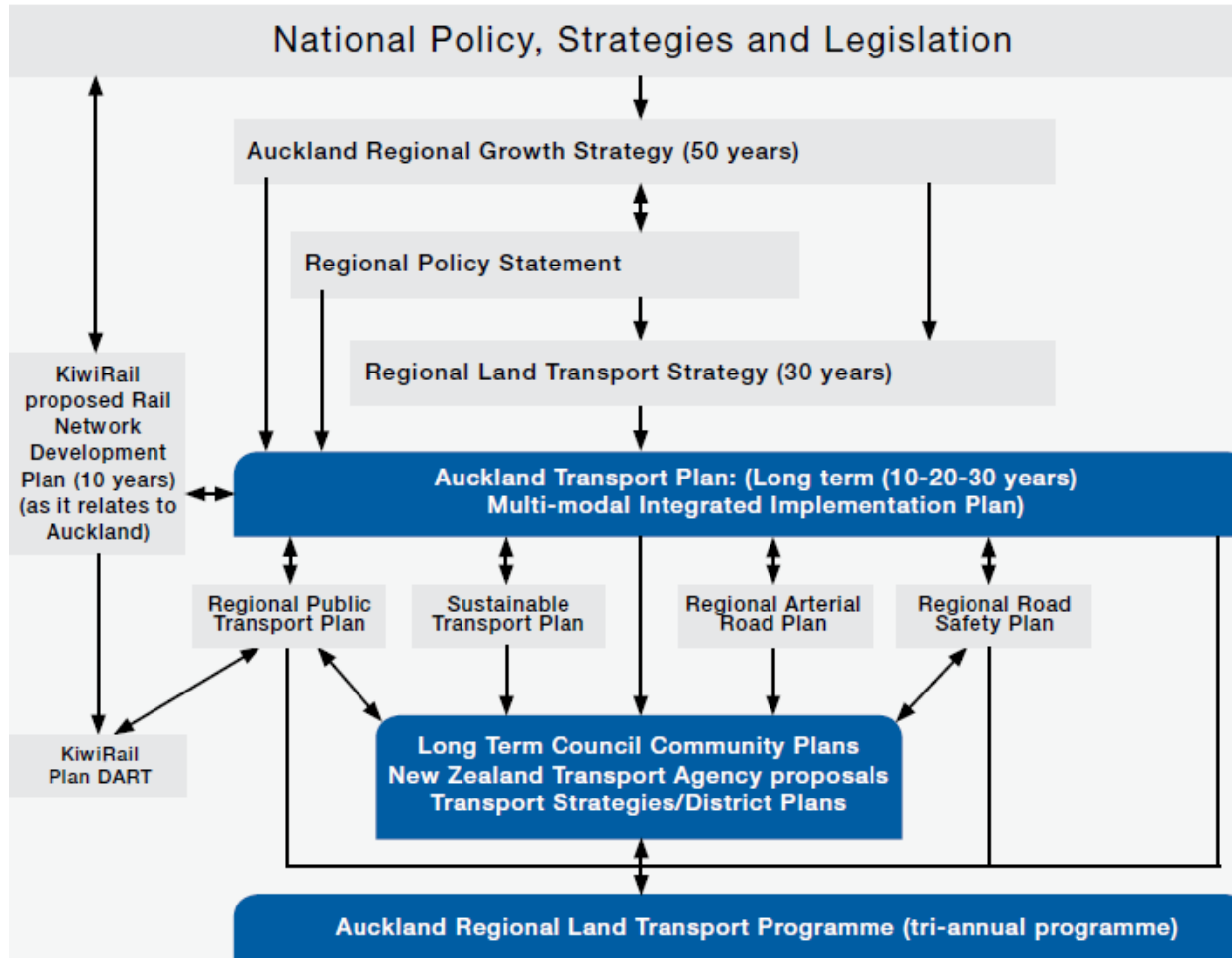
- expectations of the future
- abilities to appropriate gains
- exposure to risk
- access to funds
- regulatory restrictions
- institutional biases
- political/decision-making cycles

Very costly to reach agreement

- Only partly addressed by council amalgamations



COORDINATION PROBLEM: PLANNING



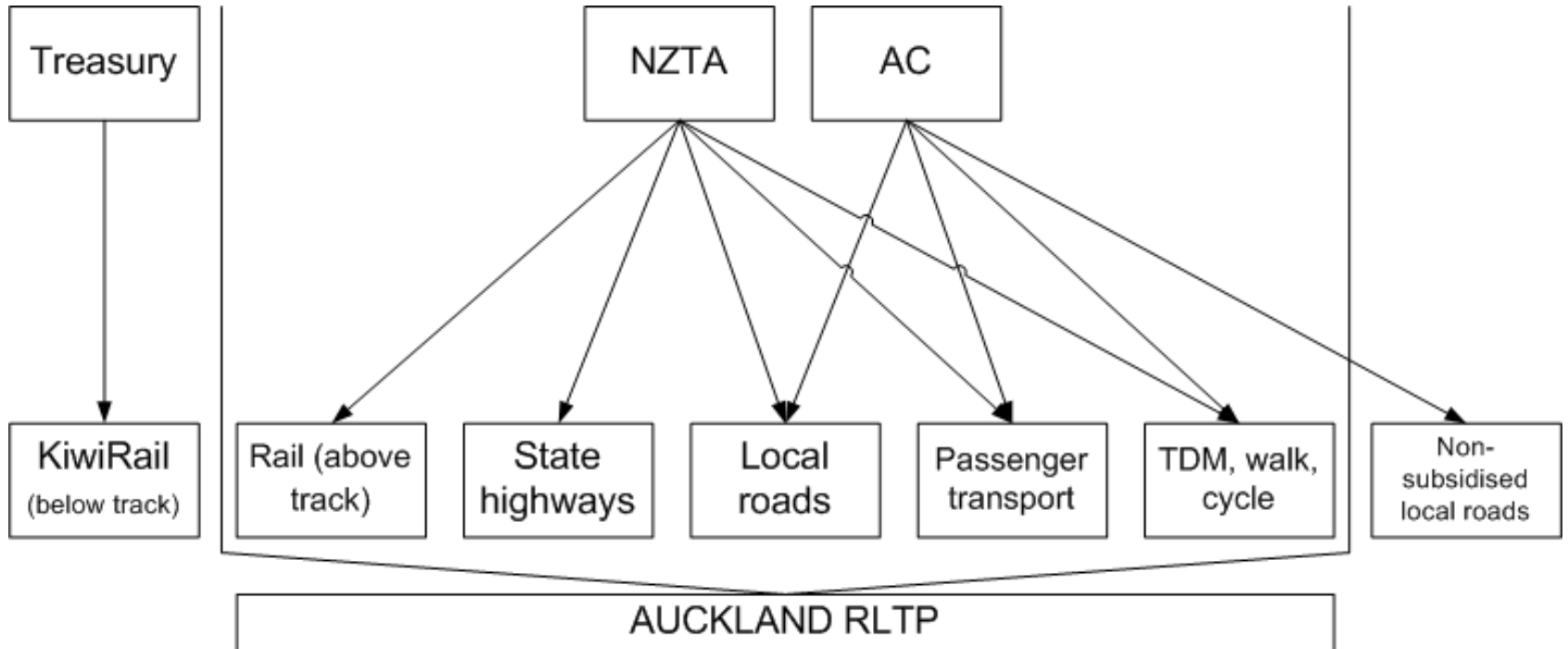
Plus the new spatial plan!

Source: *Auckland Transport Plan 2009*



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COORDINATION PROBLEM: FUNDING

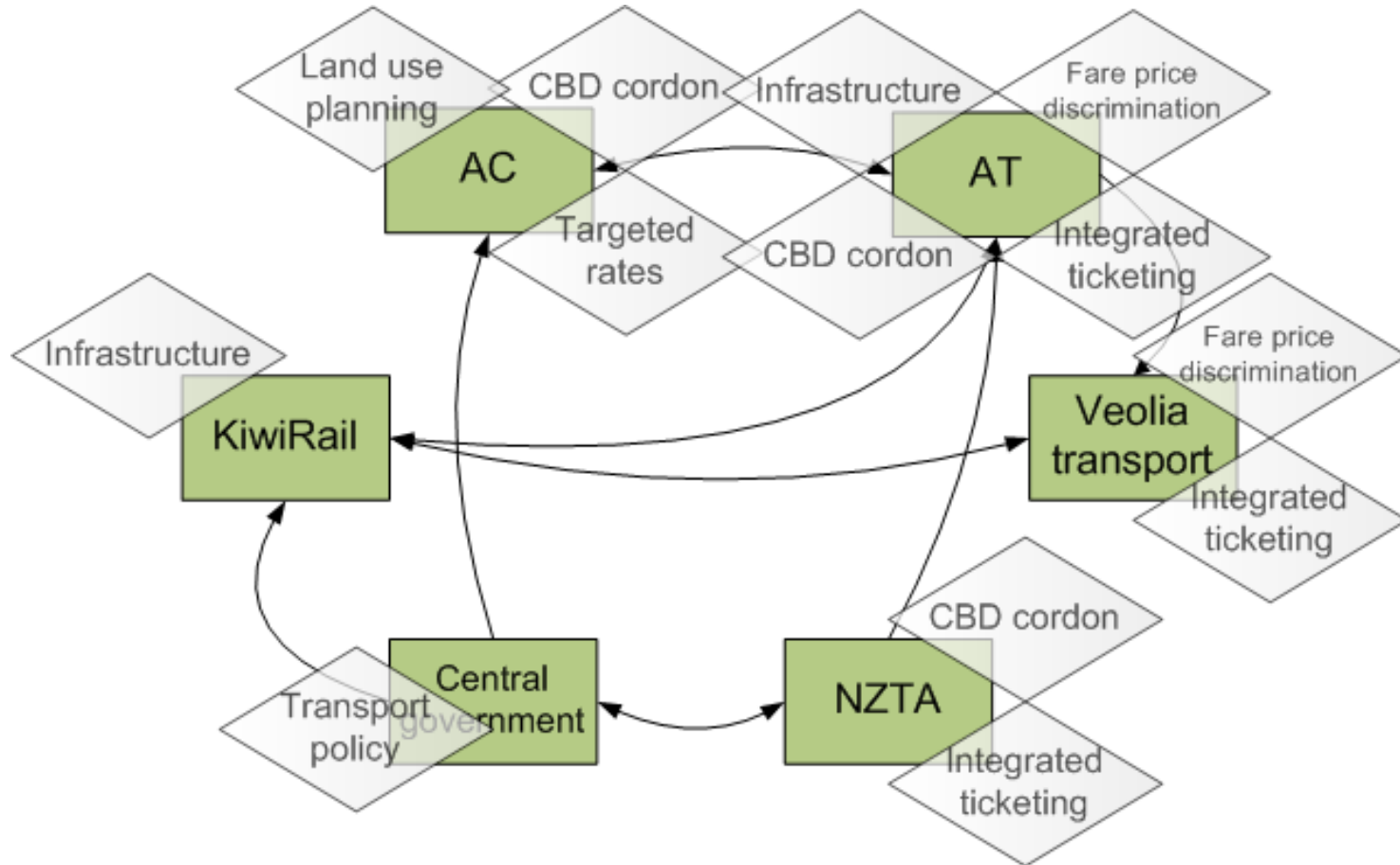


Based on: *Auckland Transport Plan 2009*



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COORDINATION PROBLEM: ORGANISATIONS



SUMMARY

If CBD rail link CBA is robust, Auckland Council should be able to self-fund it via increased passenger fares, congestion charging and/or targeted rates

High coordination costs or institutional bias most plausible explanation for making project contingent on central government funding

Can institutions be redesigned to reduce coordination costs?



POSSIBLE WAYS FORWARD

Use ownership to align interests

- Should AT own the commuter rail network?
- Should AT own the Auckland state highway network?
- AT could control AKL share of NZTA revenue

Simplify planning

- Are there too many parties with veto power?
- Is the integration of planning over-valued?
 - Trade-off between planning gridlock and ‘optimal’ infrastructure
 - Auckland is big enough to take risks...



QUESTIONS & DISCUSSION

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