Public Transport Futures Study

- 2008 -

Public Transport Futures Study

Purpose:

- To develop a strategic passenger transport network plan to best serve the UDS land use pattern to 2041
- To undertake a preliminary assessment of suitable future passenger transport modes that would best serve that network

Closely related to Strategic Transport Study

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Methodology:

- Used census and transport model data to plot UDS future travel patterns
- Focussed on morning peak, journey to work travel patterns
- No pre-conceptions about PT mode
- Identified key travel demand corridors
- Assessed the network with different PT mode shares (6%-40% range)

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Key Network Findings 1:

- Increased demand for cross-suburban trips eg. South West to Belfast
- Still strong demand to CBD
- Network demand problems on corridors leading to the CBD - need for public transport priority measures

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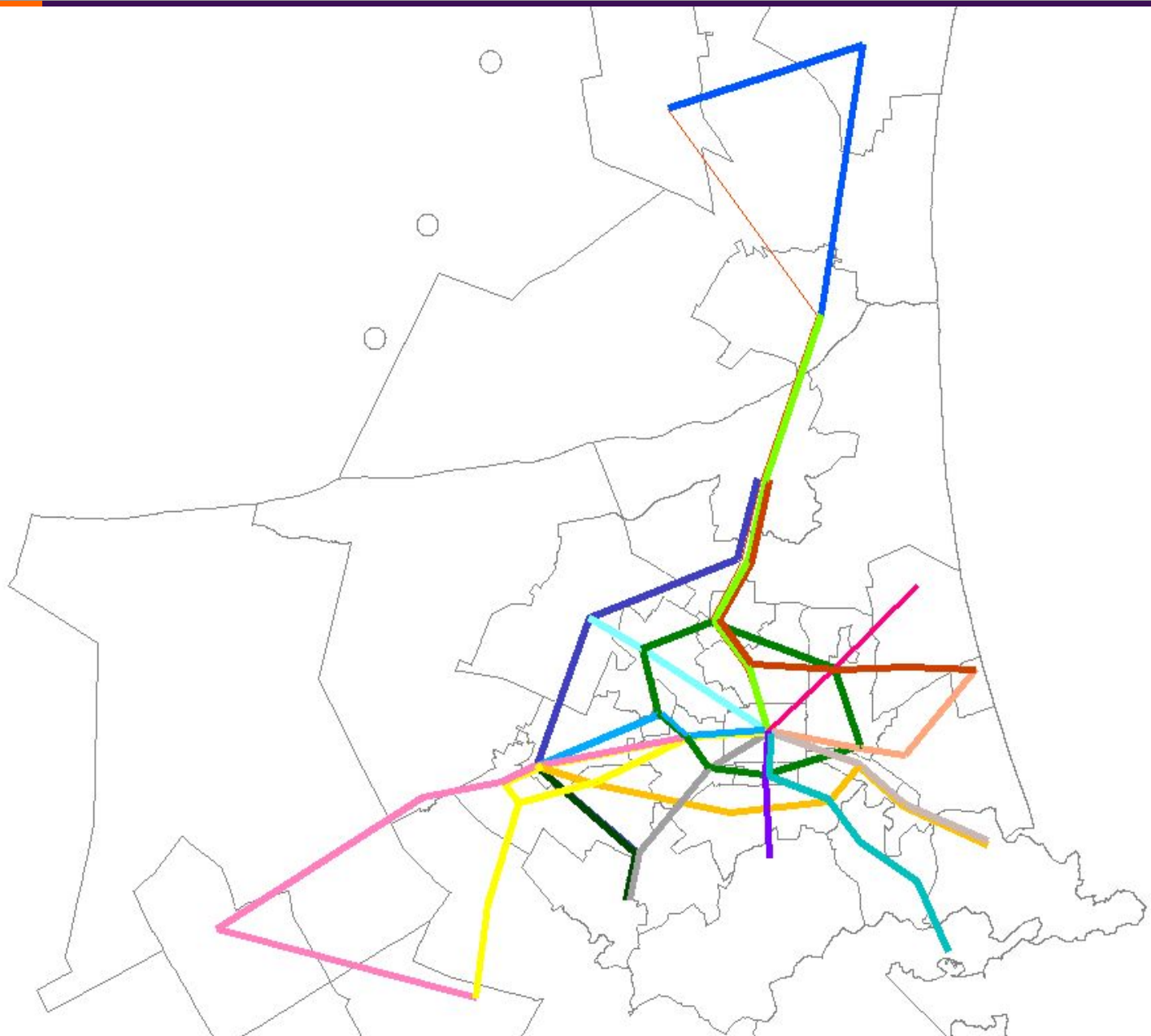
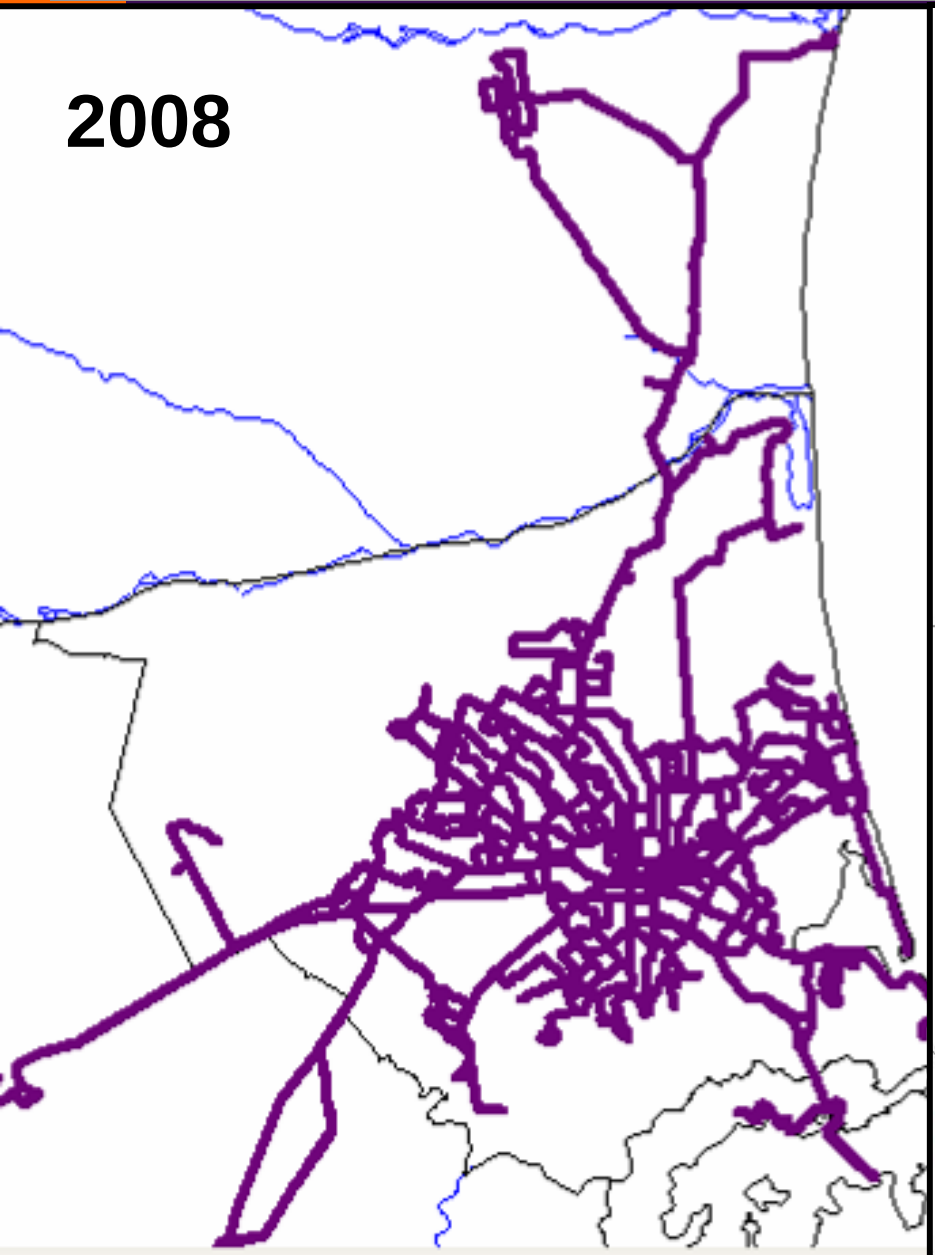
Key Network Findings 2:

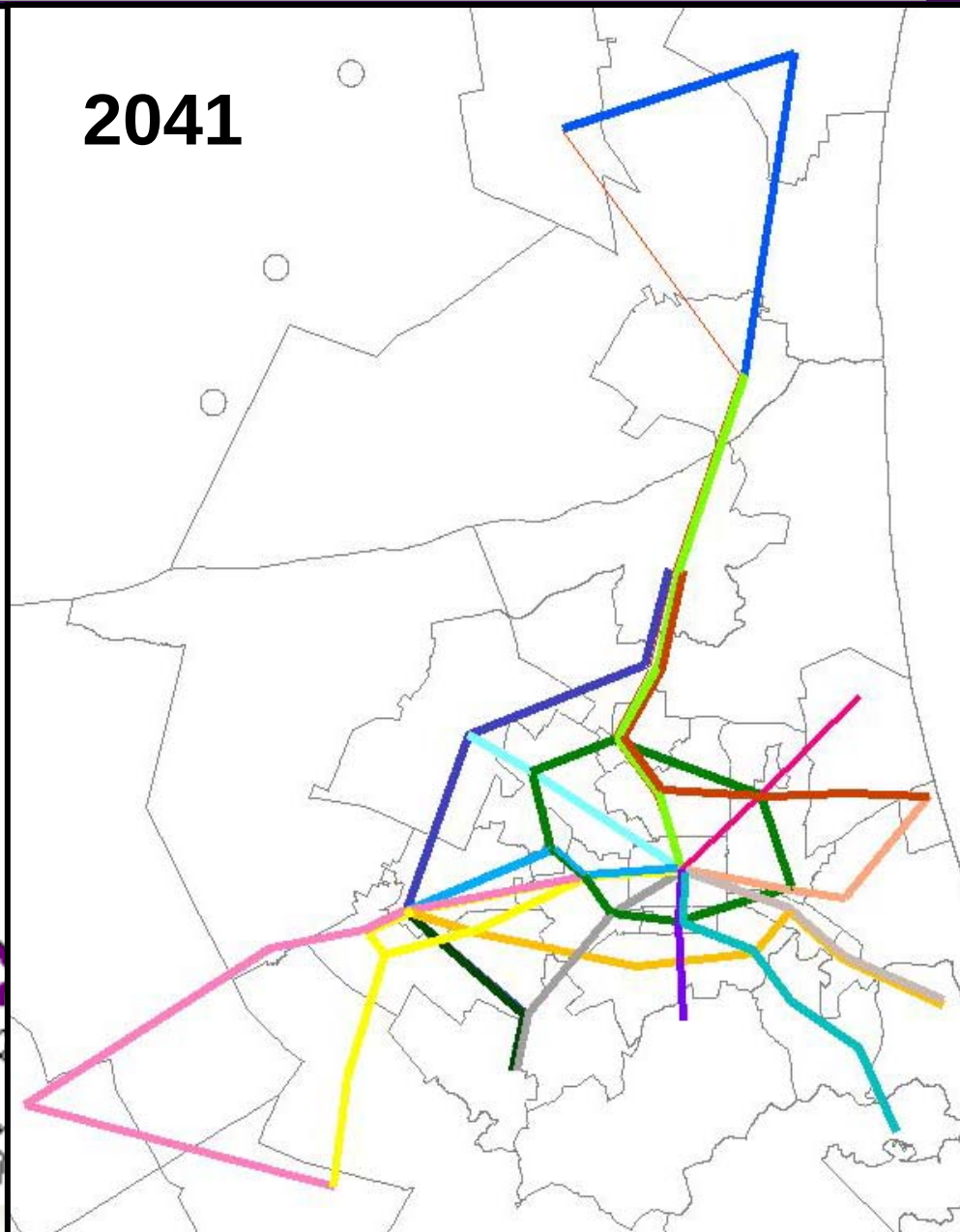
- Strongest growth in demand prior to 2026 so improvements needed early
- More long distance trips driven by early growth in greenfield areas eg. SW and Belfast
- Public transport mode share may need to be higher than current targets to meet its role in wider transport policy

Recommended Strategic PT Network



Current and Future PT Networks





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Preliminary Mode Assessment Findings:

- Examined public transport demand scenarios at 6% (RLTS), 12% (CRETS), 20% (UNZTS), 40% (stretch target)
- AM peak PT work mode share is now 4.5%
- Even at 40% stretch mode share our busiest corridors <5,000 passengers per hour
- Strong CBD focussed flows
- Significant cross-suburban flows

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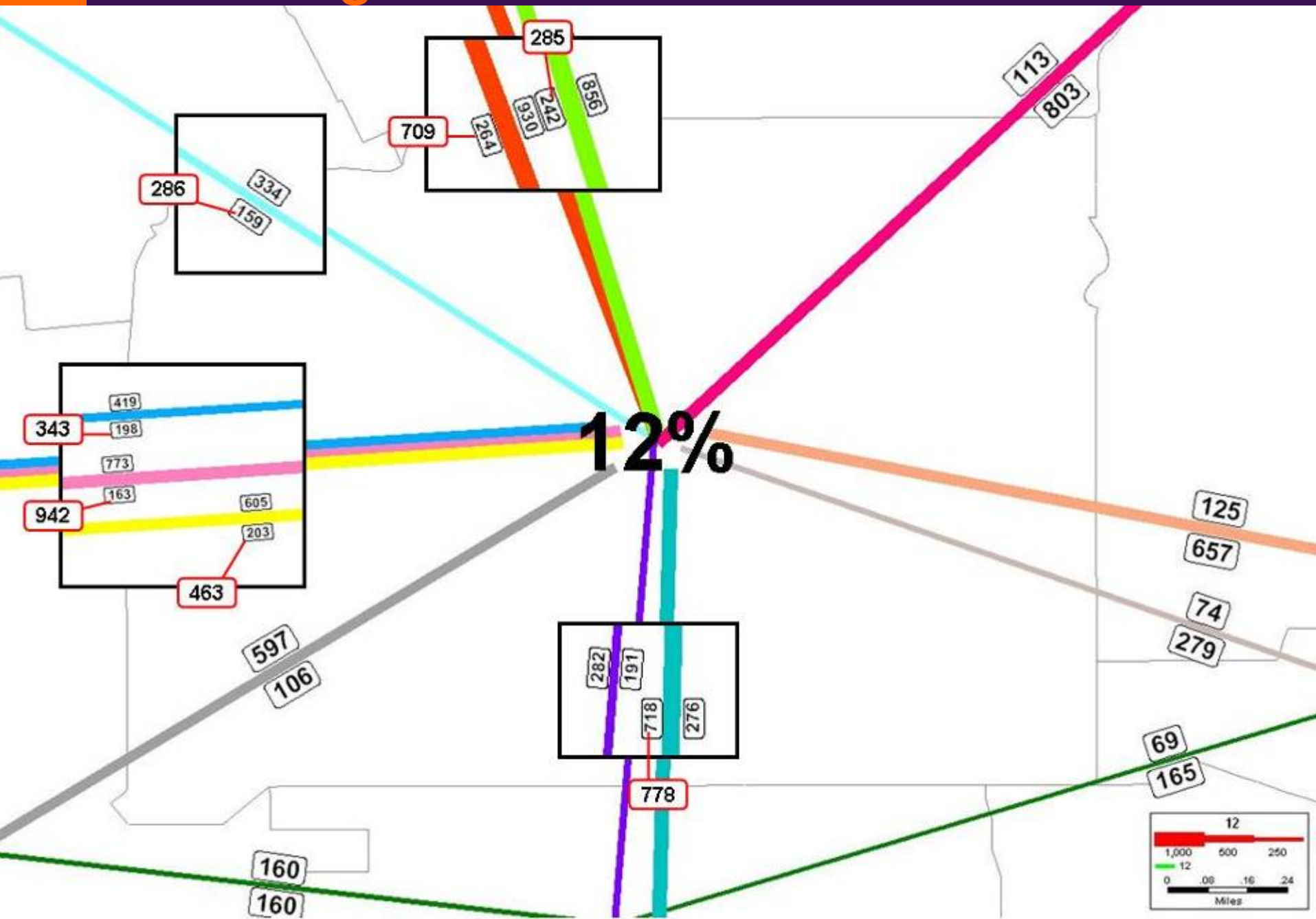
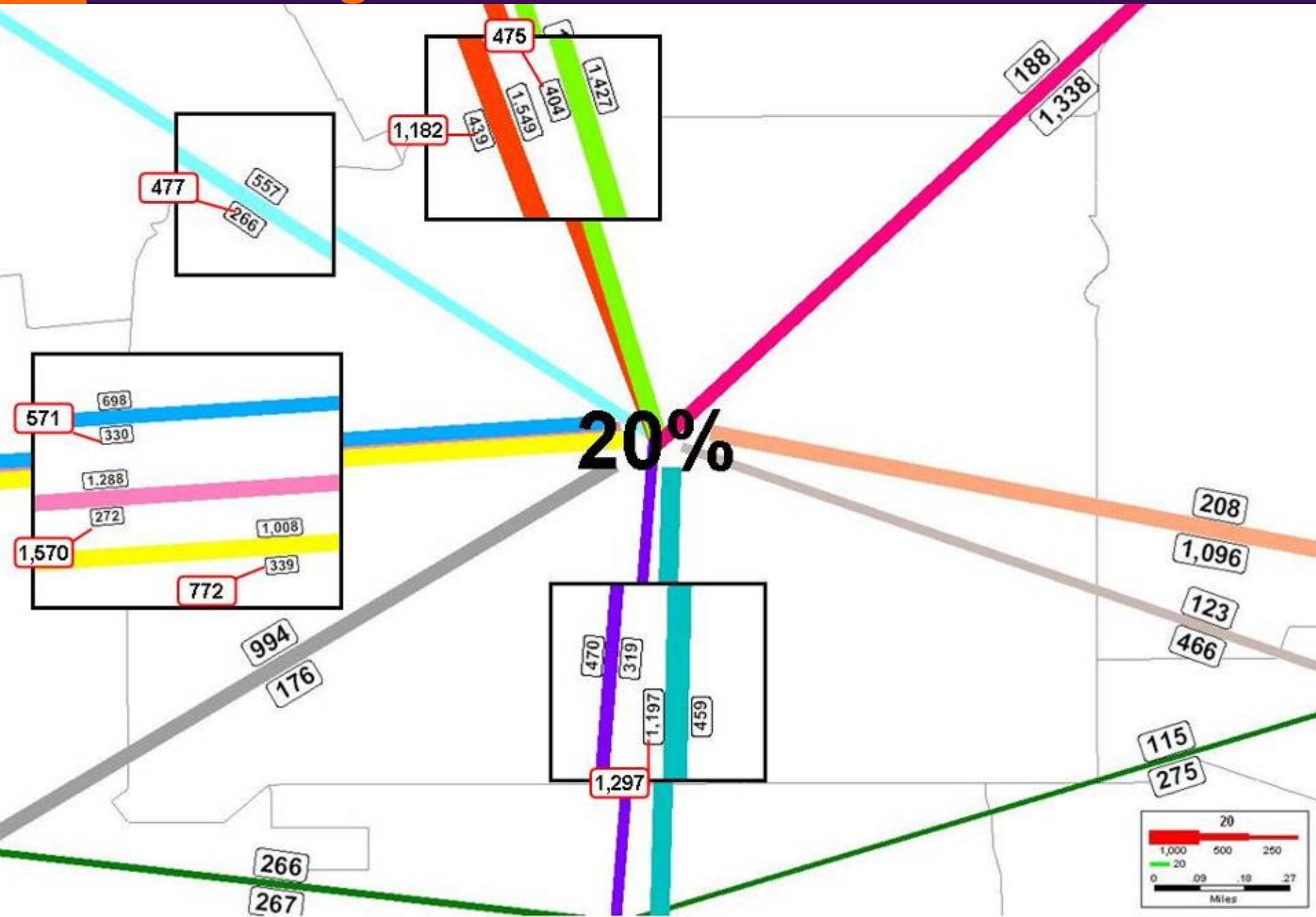
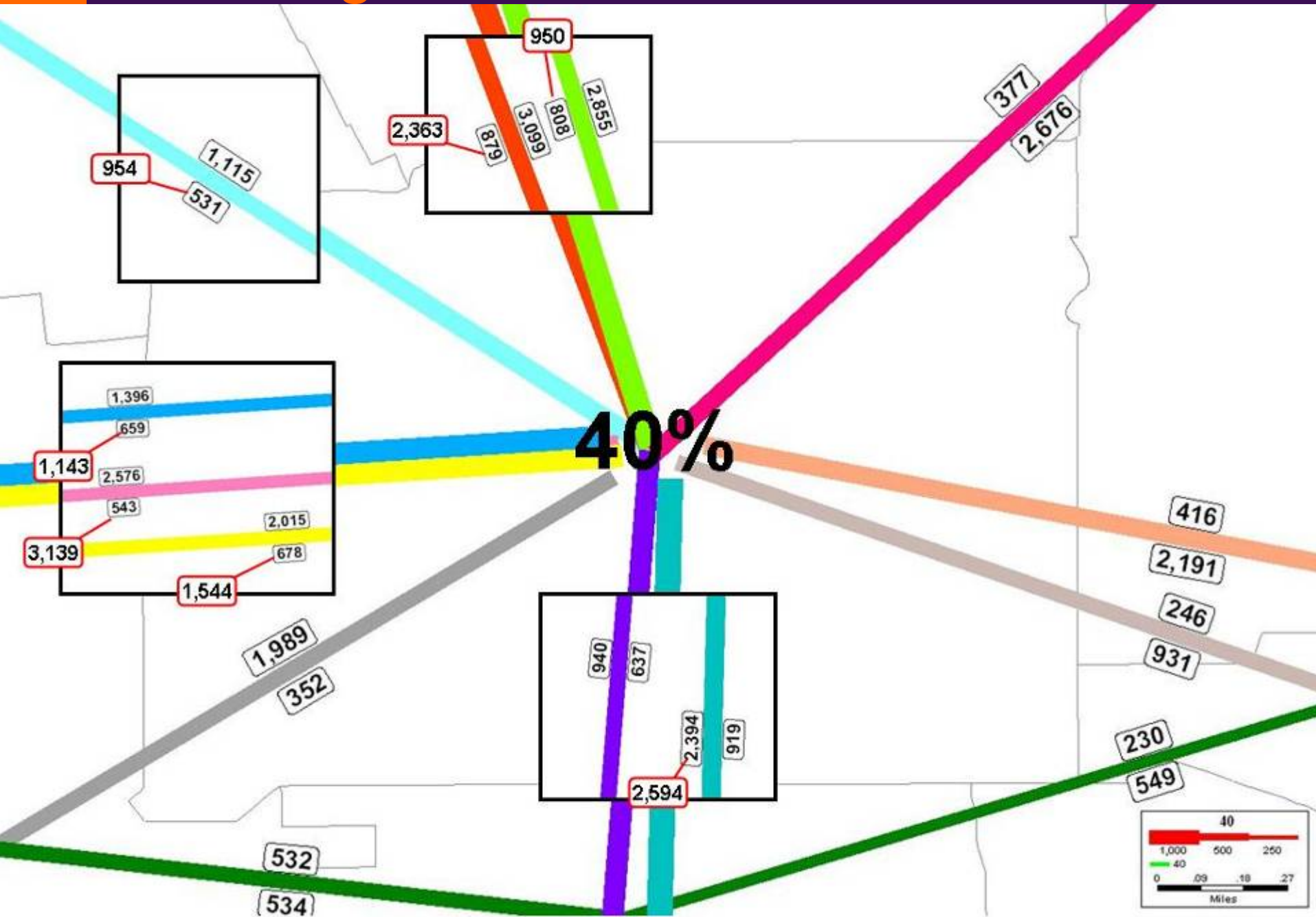
Findings – 12% Mode Share



Findings – 20% Mode Share



Findings – 40% Mode Share



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Key Findings:

- Network characteristics and patronage levels compatible with buses even at “stretch” target
- Buses able to meet 2041 network needs
  - Sensitivity tests confirmed this even with 1/3rd higher demand than 2041 peak period projections
  - Dispersed origins/destinations mean bus based system is best able to meet people’s needs (without transferring)
  - Northern and western corridors indicate need for ‘higher capacity’ solution to meet demand

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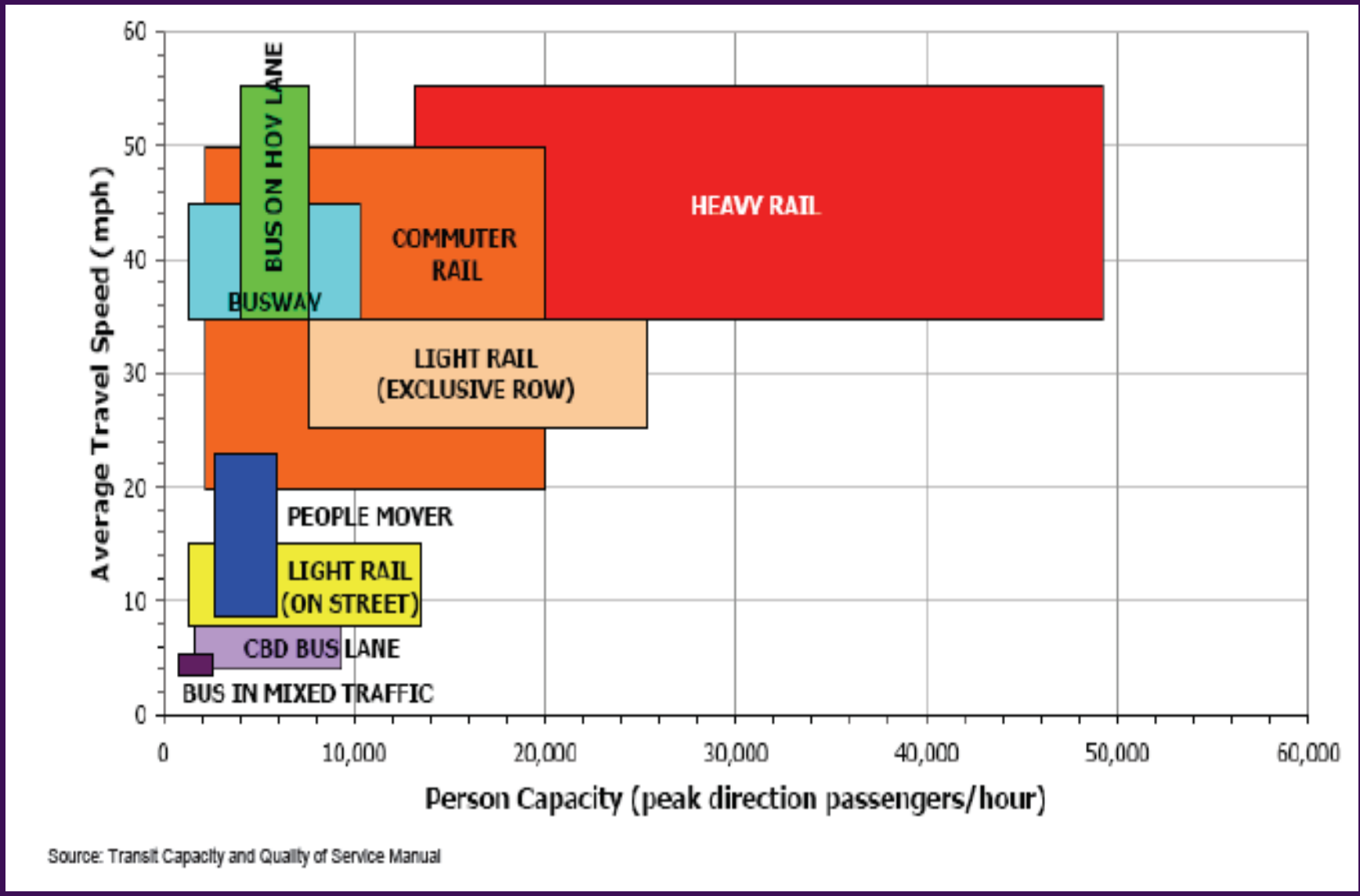
Public transport performance by mode



Source: Transit Capacity and Quality of Service Manual

Comparison of Different Modes

	Bus	Tram	Train
Passenger Capacity per hour	Up to 10,000 (busway)	Up to 10-15,000	Up to 25-45,000
Operating Cost	$2 per km	$10-$15 per km	$10-$15 per km
Capital Cost of Vehicles	$300,000 - $500,000	$2-$8 million per unit	$10-$12 million per unit
Infrastructure Costs	$? bus lane per km	$10-25 million per km	$30-100 million per km

PT Operating Costs 2007/08 = **$28 million** for entire network

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Future Challenges for Public Transport

- Ensure services take people to the heart of activity centres
- Provide new services to growth areas as early as possible
- Encourage employer/developer travel plans
- Carrots and sticks will be needed to achieve modal shift
- Supporting infrastructure is essential
- Innovative and sustainable funding mechanisms needed

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Study Conclusions

- Current network is well-placed to be enhanced
- Trips have dispersed origins and destinations but much improved under UDS compared to the BAU
- CBD will continue to be important focus but also increased cross-suburban demand
- Indications are that bus-based system is capable of meeting future travel demand
- Indications higher capacity approach needed on north and west corridors to cater for higher PT mode shares

Study Recommendations

- Most growth occurs by 2026 so bold moves needed early to avoid problems – bus priority, TDM to achieve mode change
- Need to especially cater for longer trips which are more time-sensitive – priority essential
- Need to amend targets to reflect the increasing role of public transport in the future, if problems to be avoided
- Develop local networks in Waimakariri and Selwyn Districts
- Build a layered network from higher capacity PT to local access services

Key Actions

Short Term (within 5 years)

- Complete Chch transport interchange, bus priority programme, TDM programme (ongoing)
- Set appropriate future targets
- Investigate sustainable funding mechanisms (allowing for frequency increases and infrastructure)
- Investigate north and west corridor options

Medium Term (within 10 years)

- New cross-suburban routes
- Establish suburban interchange network

Long Term (within 15 years)

- Implement layered PT network
- Consolidate improvements eg. frequency

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What next?

- Multi-modal investigation on north and west desire lines
- Ensuring UDS growth continues to support passenger transport objectives through integrated planning – PC1

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