

Metro Christchurch

Network Review Update

Metro Christchurch Current Operating Position

- Patronage down by 32.1%
- Deficit \$5.8million
- Low commerciality ratio – 36.6% Nov 2011
(vs. 50% expected by NZTA)
- NZTA expect us to “do more with less”

EQ Impact on the Christchurch Network

- **Loss of population from Christchurch**

About 3%, but key bus user groups such as students down 10% or more.

- **Permanent attractor losses**

Newly dispersed employment hubs are much harder to service with public transport. This could see about half of previous journey to work trips by bus being unrecoverable in the next few years (i.e. about 15% of system-wide patronage)

- **Lower proportion of adults travelling**

From 57% to 53% (11/10 vs. 11/11) resulting in...

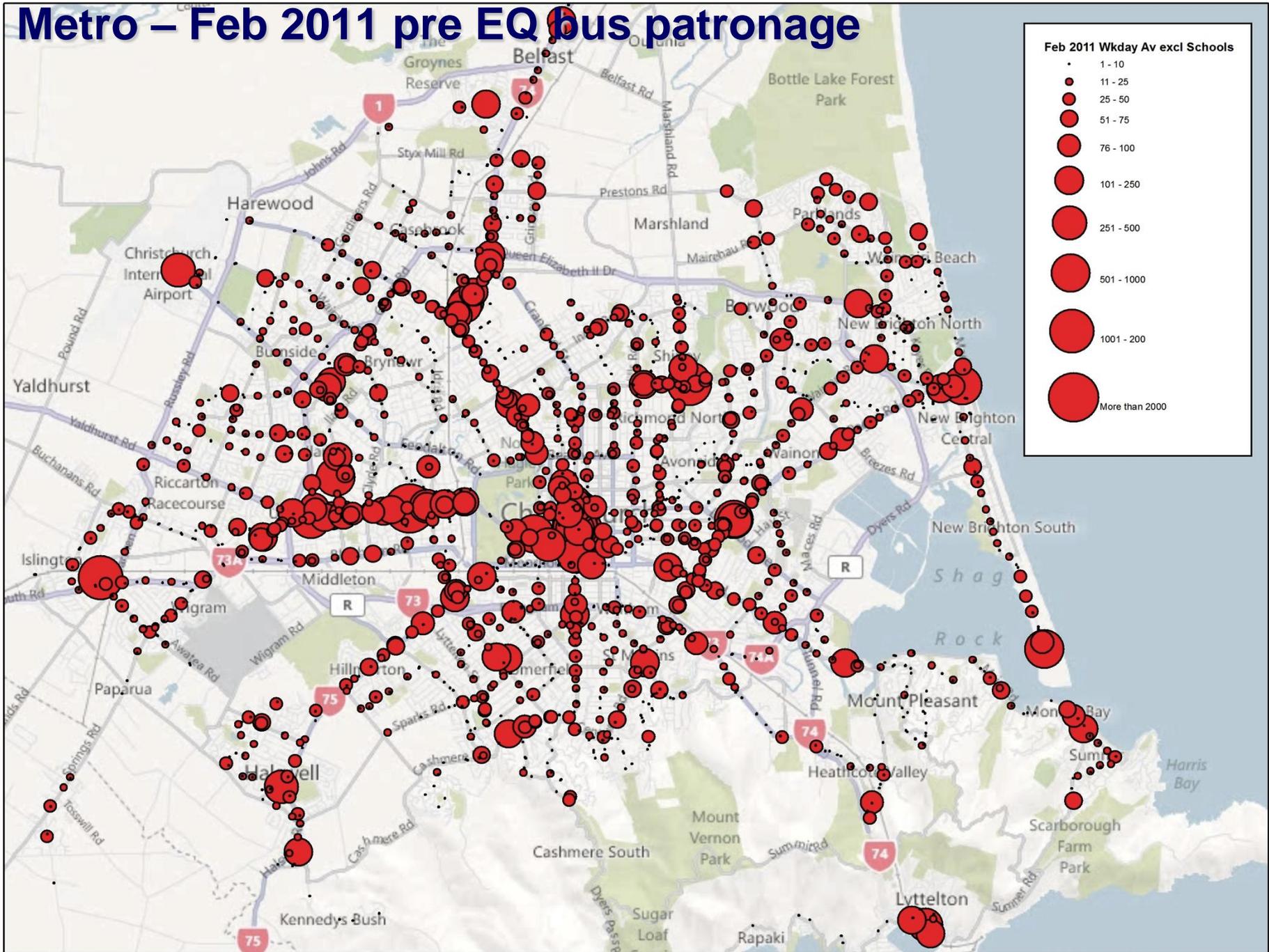
- **Lower Average Fare Revenue per Passenger**

From \$1.45 to \$1.40ex GST (11/10 vs. 11/11)

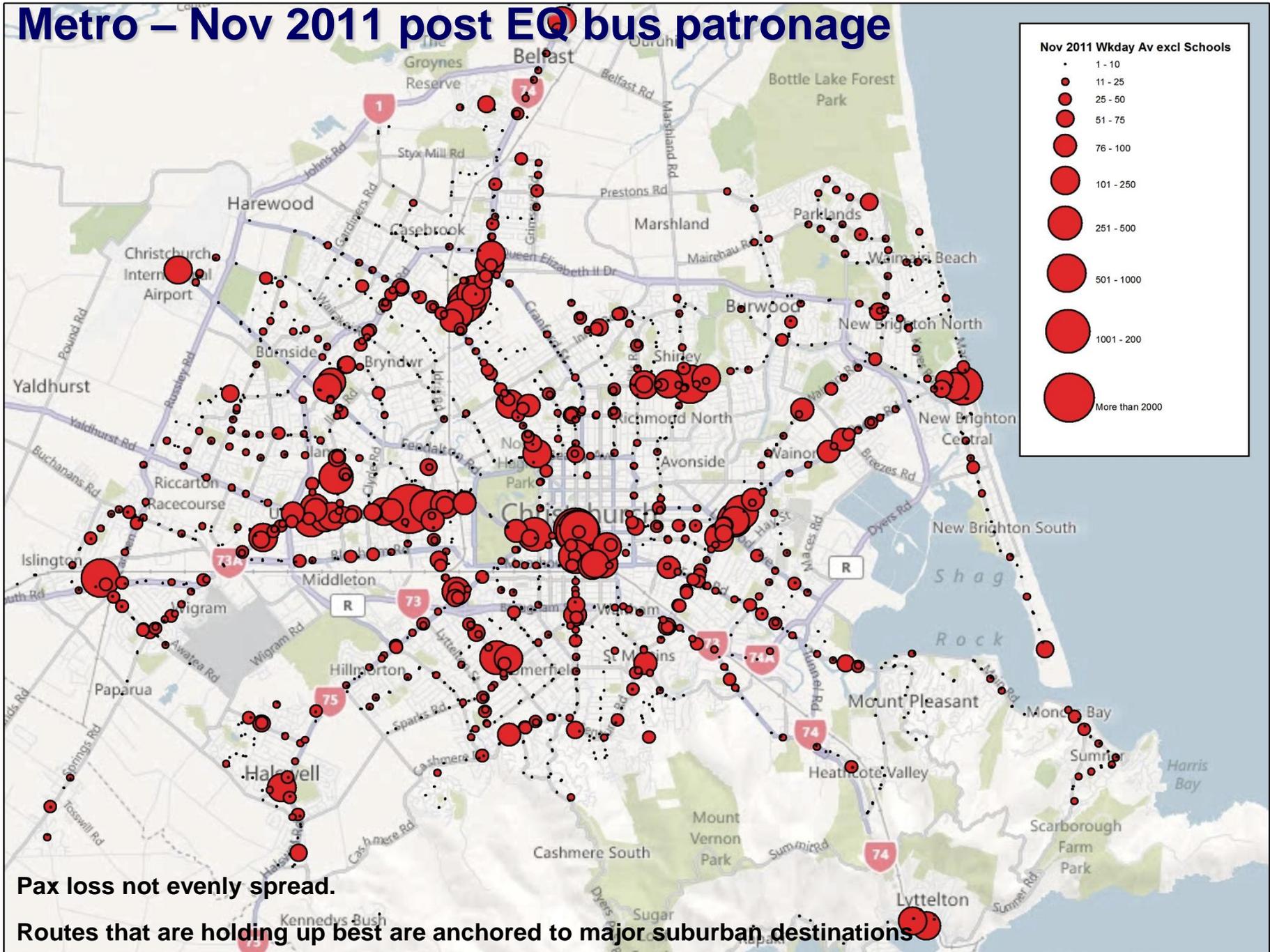
- **Reduced route productivity**

From 0.9 pass/km pre quake to less than 0.4 immediately post Feb, with bounce back to ~0.55-0.6 pass/km.

Metro – Feb 2011 pre EQ bus patronage



Metro – Nov 2011 post EQ bus patronage



Strategic Direction

Network faces a critical choice:

- Retain existing network model and cut service levels to reduce costs.
 - Risk patronage will also drop leading to less revenue and possible need to cut services yet further.

Or

- Change the network model to more efficiently service the market at a reduced overall cost.
 - Opportunity to refocus the network onto suburban destinations and provide a platform for future patronage growth.

Current Network Issues

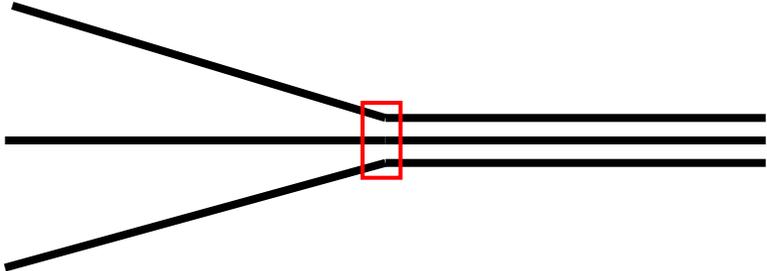
- **Low commerciality ratio** (36.6% Feb 2012)
- **Significant duplication of bus routes and overprovision of capacity.**
 - Papanui Rd 15 per bus pre EQ vs. Now 7 (Mar 2010 vs. 17 Nov 2011)
 - Riccarton Rd 15 per bus pre EQ vs. Now 8 (Mar 2010 vs. 17 Nov 2011)
- **Bus routes that bypass local retail and employment areas.**
- **Complex route structure**
 - many low frequency 'stand-alone' bus routes perceived as 'fragmented' and do not support 'anywhere to anywhere' travel.
- **Timetables generally not co-ordinated.**
 - Capacity limitations of CBD bus stops preclude timed connections being made between ~28 city bus routes.
- **Most routes travel to/through CBD Central Station**
 - Places significant pressure on city street network.
 - Higher than necessary passenger accumulation driven by passengers waiting for a specific low frequency bus route.

Existing Network Issues – Some Examples



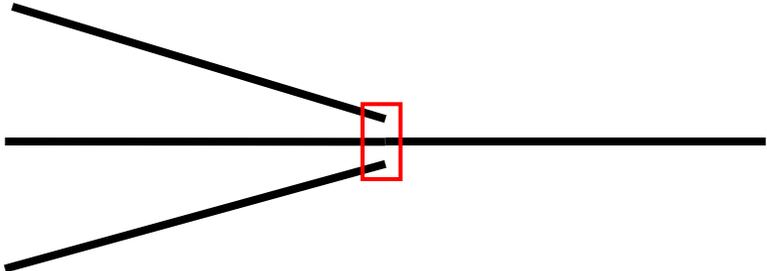
- Some routes have very little unique catchment.
- Almost all routes run through to city leading to significant overlap on trunk sections.
- Significant overprovision of capacity (7 per bus am peak Papanui Rd)
- Complex network for travel on key corridors.
- Routes that bypass local suburban destinations.

Route Duplication is Costly



6 units of vehicle kilometres for a given area of coverage (100%)

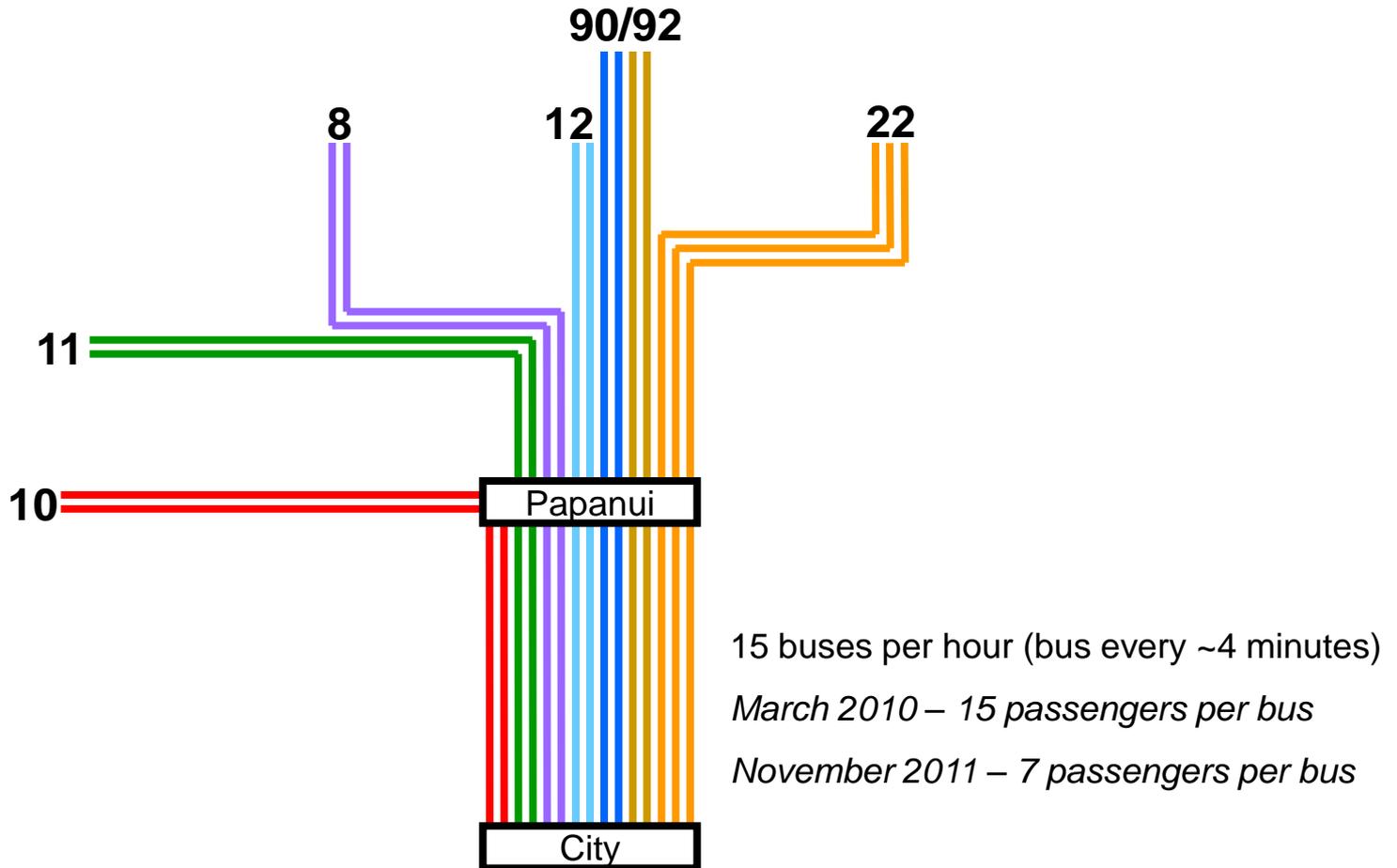
Vs.



4 units of vehicle kilometres for same area of coverage (66%)

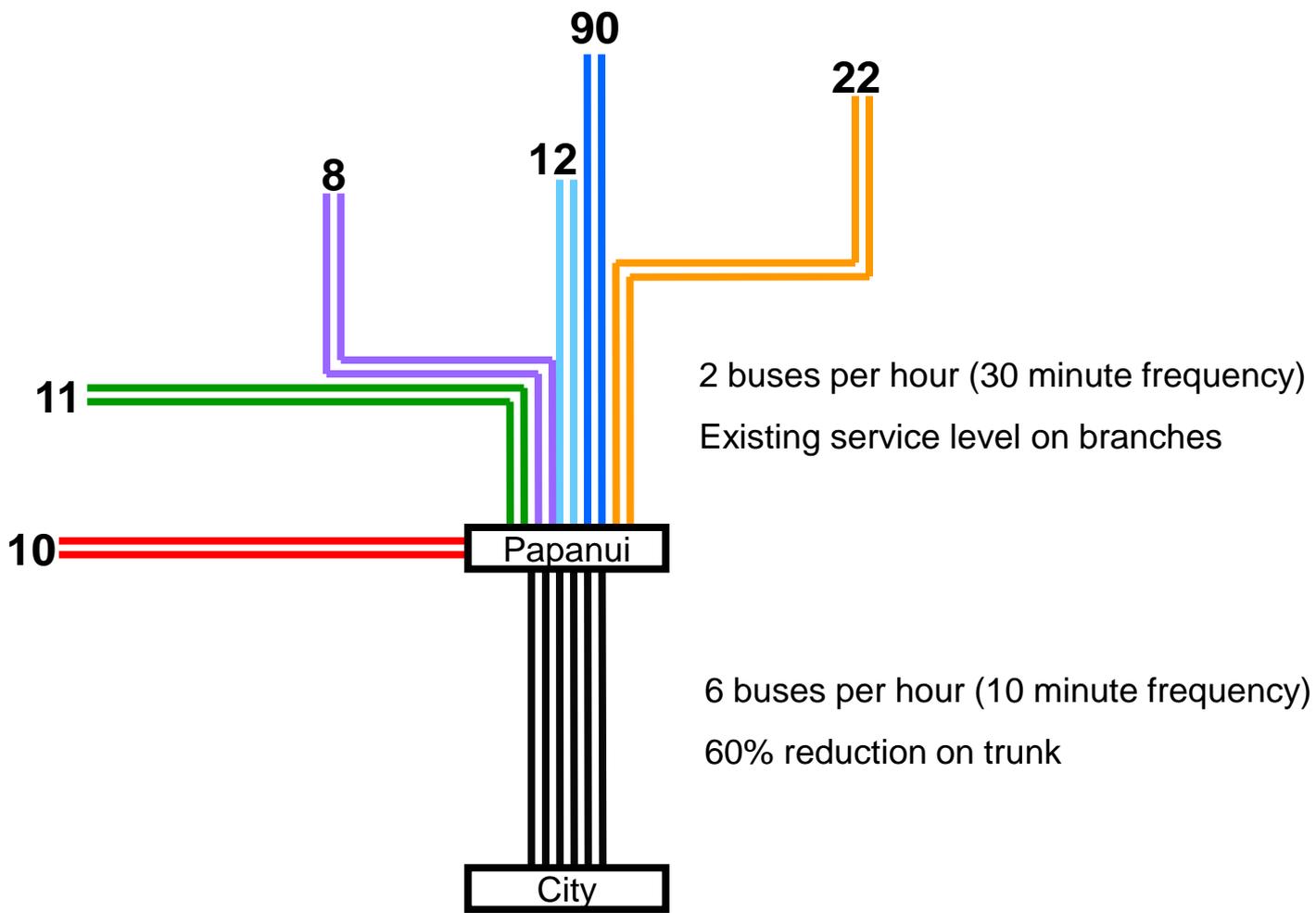
Route duplication on key corridors

Papanui Road route group – Peak buses per hour



Benefit of reducing route duplication

Papanui Road route group – peak buses per hour



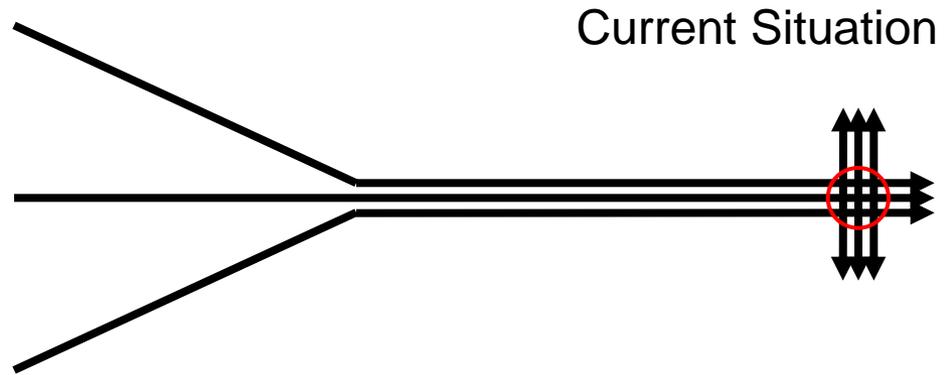
Network Design Principles

- **Efficiency**
 - Reduce unnecessary route duplication (every route has a decent bit of catchment).
 - Aggregate demand on key corridors (more efficient use of vehicles and drivers).
- **Simplicity**
 - Aim for no more than 6 frequent core bus routes through the CBD.
 - Facilitates timed connections for 'anywhere to anywhere' travel.
 - Improve network legibility.
 - Opportunity to grow patronage on the core of the network where majority of boardings currently occur
- **Destinations**
 - Refocus local network to serve major suburban attractions (minimise need to transfer)
- **Directness**
 - Core routes follow the most direct path to facilitate cross-town travel.
- **Timed connections**
 - Facilitate 'anywhere to anywhere' travel (beyond nearest centre)
- **Service levels and span matched to role of routes in the network**
 - All day 'Frequent Network' connecting key destinations.
 - Frequent peak services to employment hubs
 - Local community connections
 - Peak only commuter services

Network Concepts

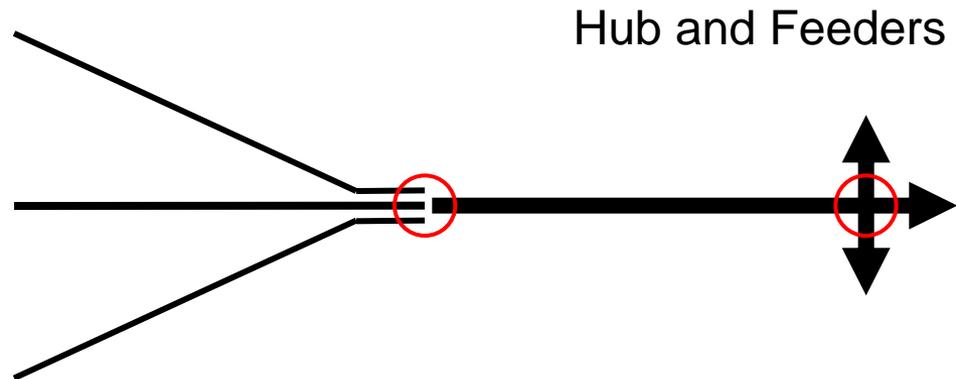
Radial Routes (current situation)

- High level of duplication on trunks.
- Many low frequency routes connecting in CBD.
- Provides direct service to CBD but poor connections across suburbs.
- Requires significant CBD interchange facilities.



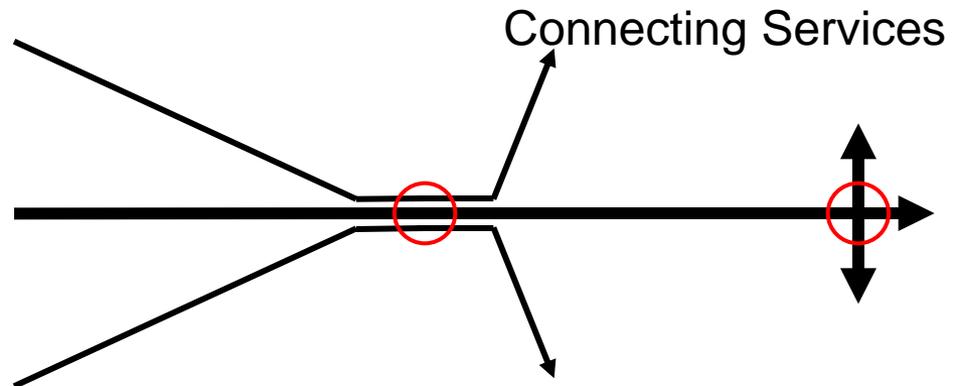
Hub and Feeders

- Maximum efficiency.
- Simple frequent core network.
- Few very high frequency routes connecting in CBD.
- Passengers travelling beyond local hub must transfer.
- Doesn't improve cross suburban connections.
- Requires significant suburban interchange facilities.

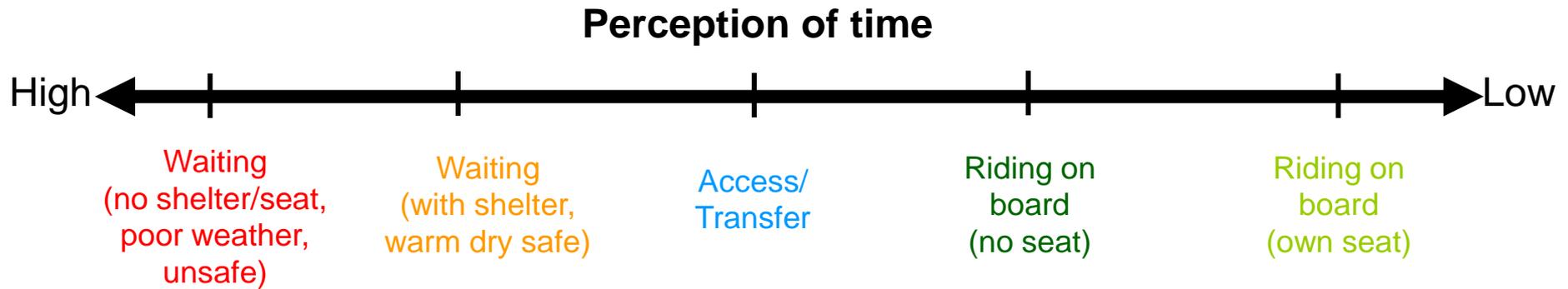


Connecting Services

- Reduced duplication on trunks
- Simple frequent core network
- Few high frequency routes connecting in CBD.
- Passengers from secondary routes may need to transfer however new connections provided for travel to suburban destinations.



Travel Time Perception



- Out-of-vehicle time is perceived to be 2 to 3 times of that of in-vehicle time
- Wait time perception is influenced by the quality of the waiting environment
- To minimise the impact of transferring aim to:
 - minimise out-of-vehicle time and,
 - focus on the quality of the transfer environment

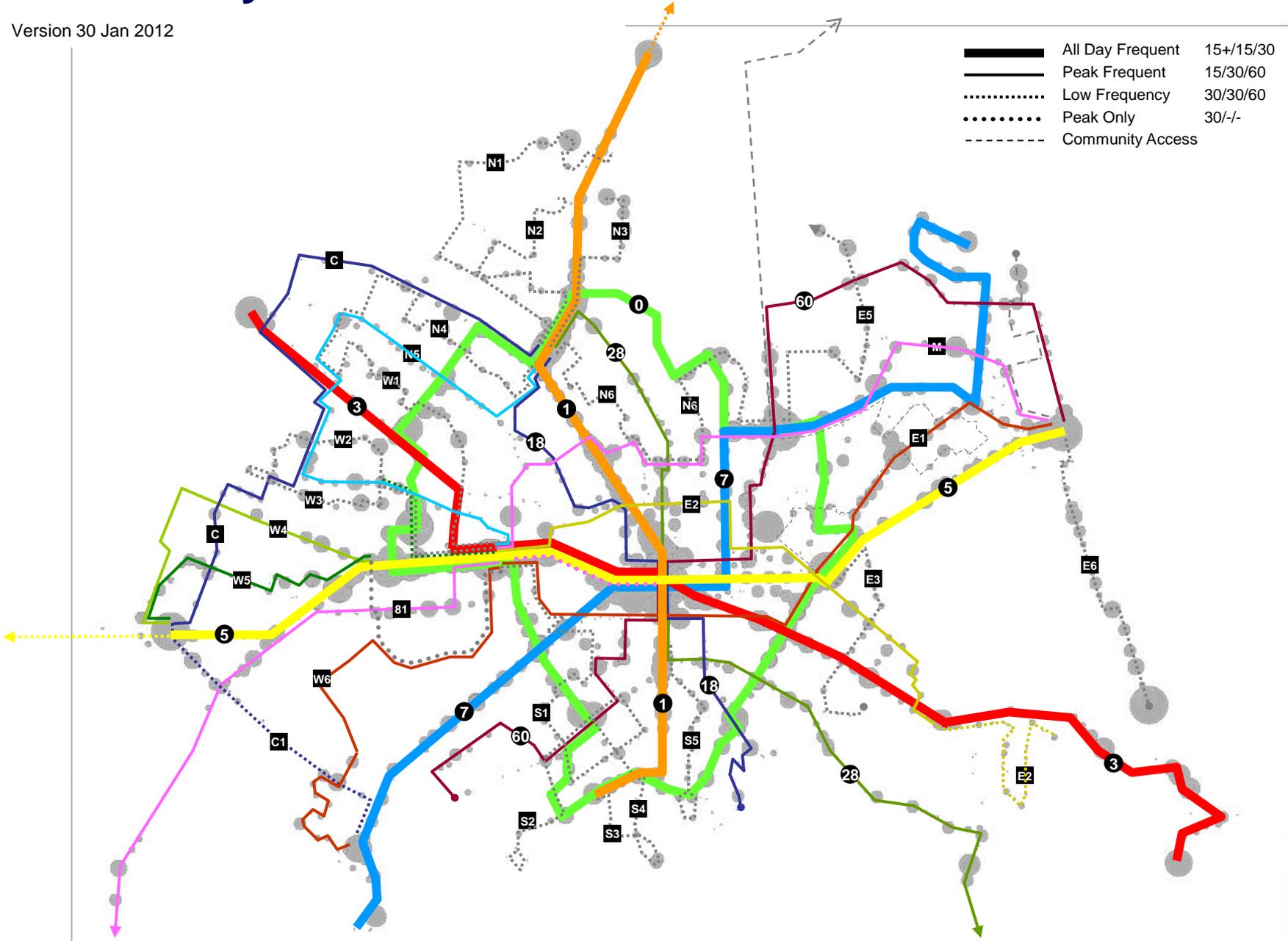
Operational Considerations

- Limited ability to turn buses at suburban hubs.
- Limited space for bus layovers at suburban hubs.
- Peak traffic congestion and lack of bus priority.
- Ticketing system and outer zone services.
- Branded buses.

Preliminary Full Network Plan

Version 30 Jan 2012

	All Day Frequent	15+/15/30
	Peak Frequent	15/30/60
	Low Frequency	30/30/60
	Peak Only	30/-/-
	Community Access	



Network Redesign Approach

Stage 2 network changes to be phased in:

- Remove poorly used trips (Part A)
- Introduce pilot to test new network (Part B)
- Modify remainder of network subject to outcome of pilot (Part C)

North/South Corridor

North/South corridor for network pilot

- 35% of vehicle kms
- 28% of passenger boardings
- Papanui Rd corridor heavily duplicated and over capacity (am peak inbound 7 per bus Papanui Rd)
- Transfers:
 - Minimise requirement to transfer in pilot area
 - Infrastructure
- New service model provides opportunity to:
 - Improve access to suburban destinations
 - Provide a simpler network for travel between City and Papanui

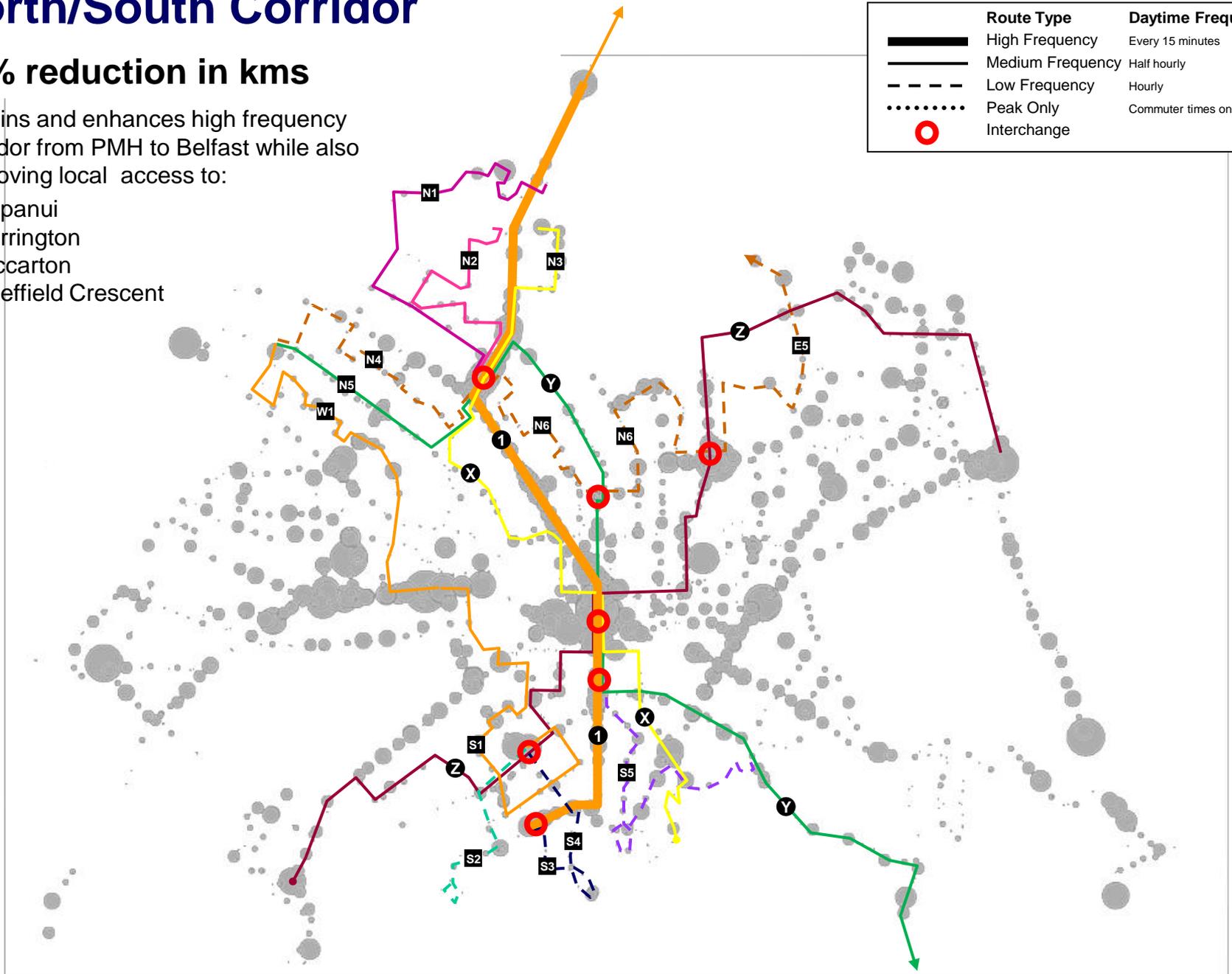
North/South Corridor

25% reduction in kms

Retains and enhances high frequency corridor from PMH to Belfast while also improving local access to:

- Papanui
- Barrington
- Riccarton
- Sheffield Crescent

Route Type		Daytime Frequency
	High Frequency	Every 15 minutes
	Medium Frequency	Half hourly
	Low Frequency	Hourly
	Peak Only	Commuter times only
	Interchange	



Growth Opportunities

Short term growth opportunities

- Better connections to local suburban malls and employment areas
- Simpler core network to market to new users

Medium term growth opportunities

- Develop and enhance new cross suburban services (i.e. Bealey Ave, Moorehouse Ave).
- Service new urban growth areas (i.e. Wigram)
- Direct commuter services to as CBD rebuilds.