## CRL & LRT

## Constructing Excellence 21 October 2015

**Steve Hawkins** 









Early works on Google Earth



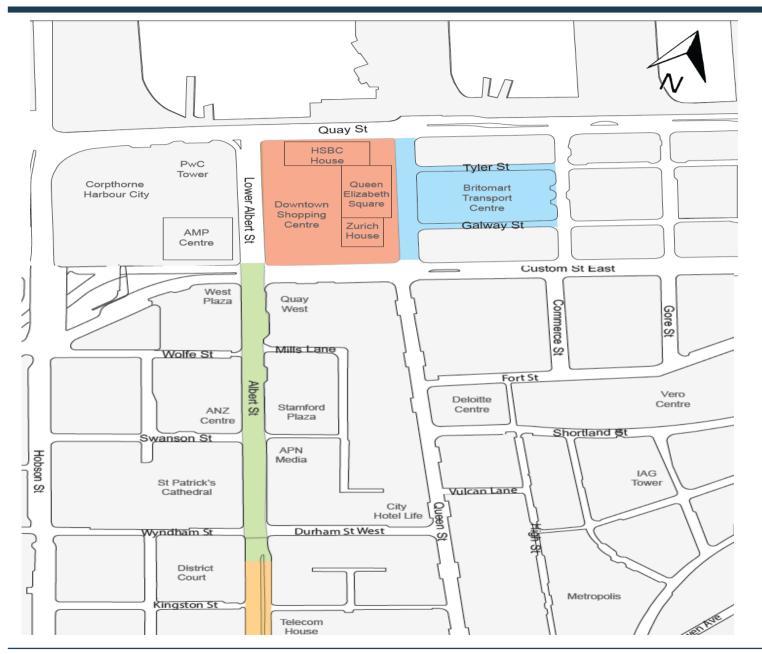


#### **Britomart Station – temporary operations**













**Developments on Google Earth** 





#### **Planning Effective Delivery**





# LRT

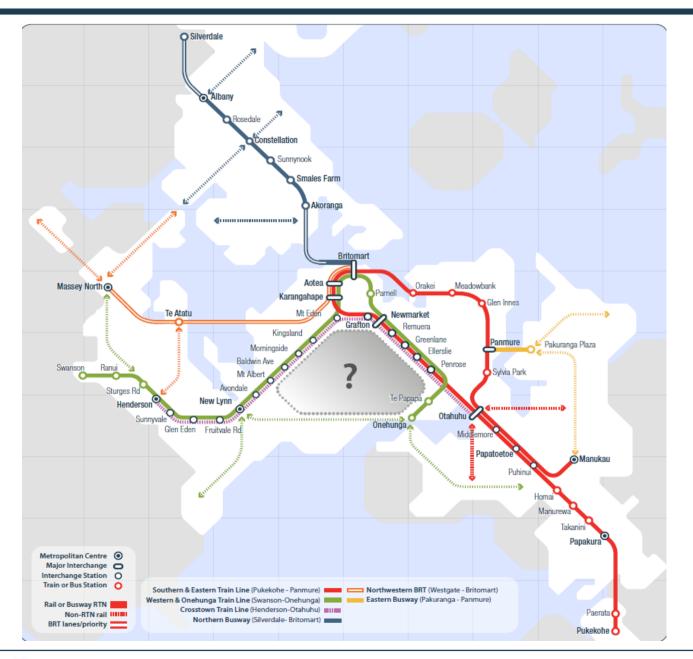




## What is the problem?











### **Demand over and near capacity**

CRL



CRL

CRL





R

## Existing conditions on the bus network





#### **Bus flow service volumes**

Flow Rates for Exclusive or Near - Exclusive Lane			
ARTERIAL STREETS			
Free Flow	25 or less	15	
Stable Flow - Unconstrained	26 to 45	35	
Stable Flow - Interference	46 to 75	60	
Stable Flow - Some Platooning	76 to 105	90	
Unstable Flow - Queuing	106 to 135	120	
Forced Flow - Poor Operation	Over 135*	150*	
CBD STREETS			
Free Flow	20 or less	15	
Stable Flow - Unconstrained	21 to 40	-0	
Stable Flow - Interference	41 to 60	60	
Stable Flow - Some Platooning	61 00	70	
Unstable Flow - Queuing	81 to 100	90	
Forced Flow - Poor Operation	Over 100*	100*	
*Results in more than one-lane o	peration		

This is the problem (unstable flow and queuing after 80 buses per hour)





## **Existing conditions: Symonds Street (AM Peak)**







## **Options investigated**





**Option 1:** High Bus investment

**Option 2:** Light Rail investment





## **Option 2: Light Rail Investment Scenario**





#### Light Rail on Google Earth





## **Overseas examples: Bus and LRT**





### **Overseas example: Brisbane BRT**







### **Overseas examples: Brisbane BRT**





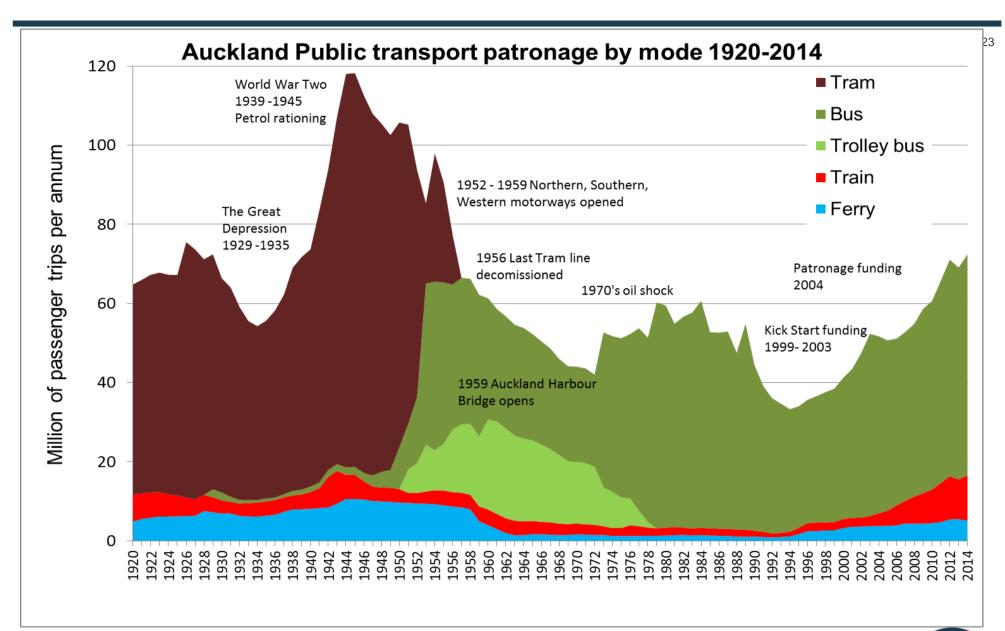


**Overseas examples** 

## Trams at the Bourke Street Mall











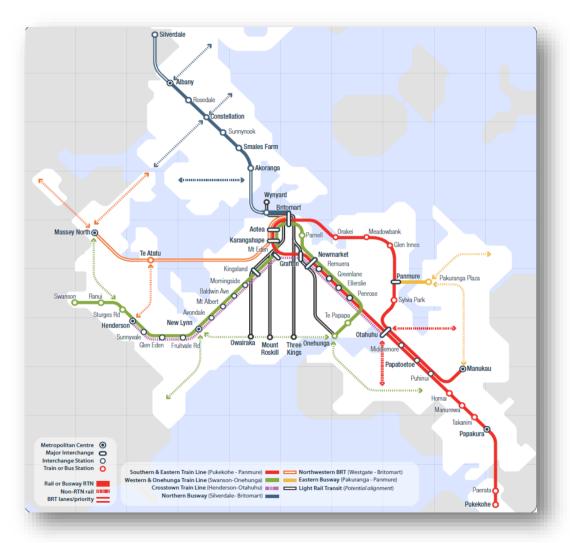
## **Commuter and light rail**

## Metro rail - CRL - links what exists

• A regional solution to optimise rail for an efficient transport network

#### Light rail - a new solution

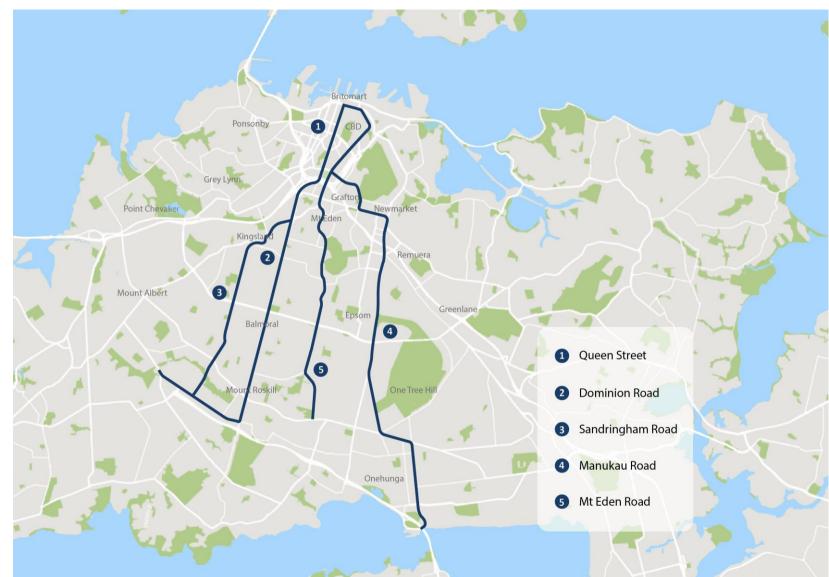
• Optimises road within the transport network







Staging







#### **Planning Effective Delivery**





## **Concept images**







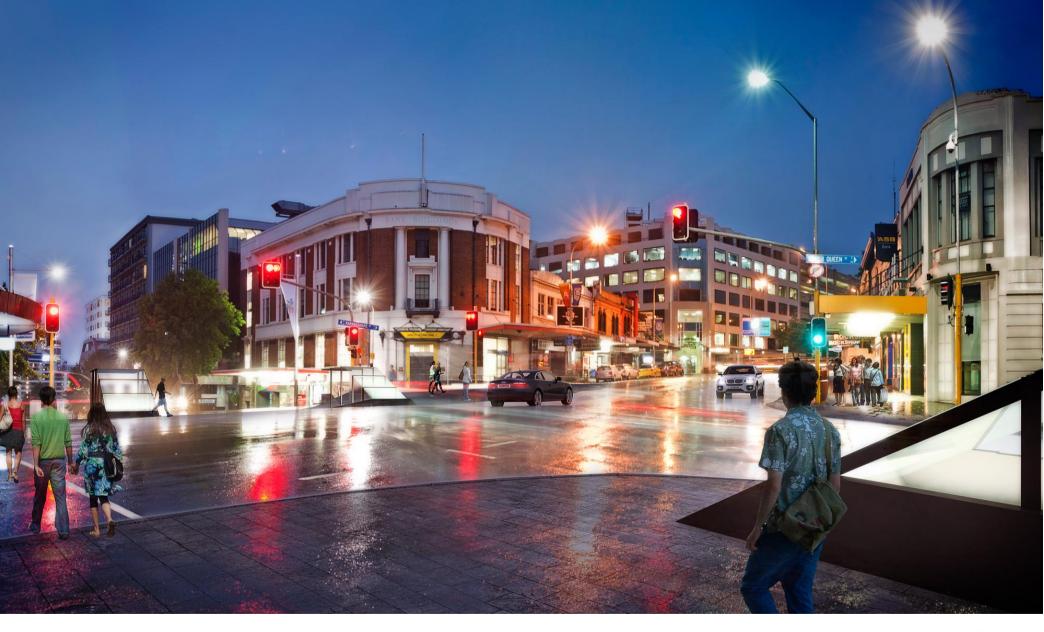












































to Waitakere **Delivering transport choices** to get you where you want, when you want.

r Vision

Platform 4