



Future Ready Mass Rapid Transit and Land Use Integration

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Presentation themes



Mass Rapid Transit



Land Use Integration



Future Ready



Case Studies



Future considerations



Mass Rapid Transit



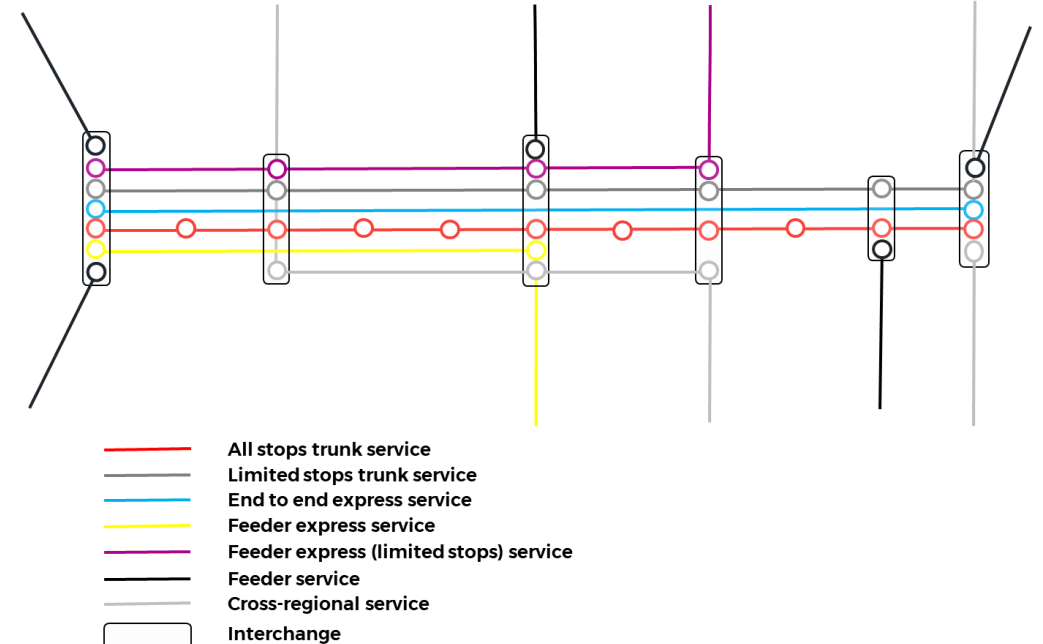
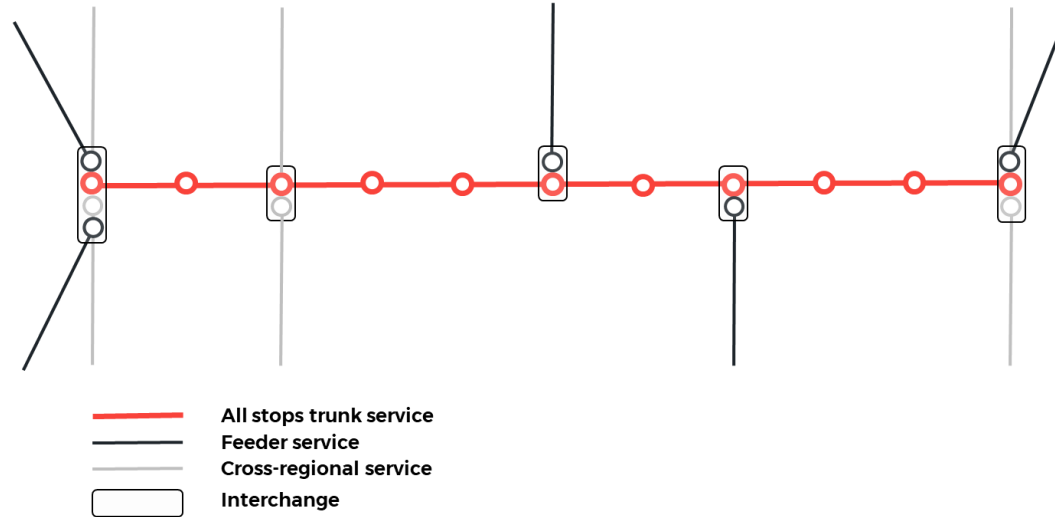
Key function

Light Rail:

- **strong passenger catchments** within walking distance of stops
- high levels of **priority** and often exclusive priority along a trunk corridor to ensure **capacity** and **frequency** of service
- **Vehicle capacity** to support growth in transit use from those established by bus services.

Bus Rapid Transit:

- an **area-wide** system using a trunk corridor (often with a high degree of priority if not exclusive priority)
- potential to integrate feeder services and provide **'single seat'** travel
- **flexibility** of buses to run different routes off the main trunk corridor



Differences between light rail and bus rapid transit



- Bus based public transport, while having the advantage of being more flexible, is also able to be **more easily amended** or have investment **scaled back** if the impetus to public transport network development were to be diluted.
- Bus systems may **lack the capacity** to achieve the required urban transformation in the public transport system to meet city building aims.
- Light rail has the potential to **increase land use intensity** and renewal along the links in the public transport network to a greater extent than bus based systems.





Land Use Integration

Factors affecting land use change with rapid transit



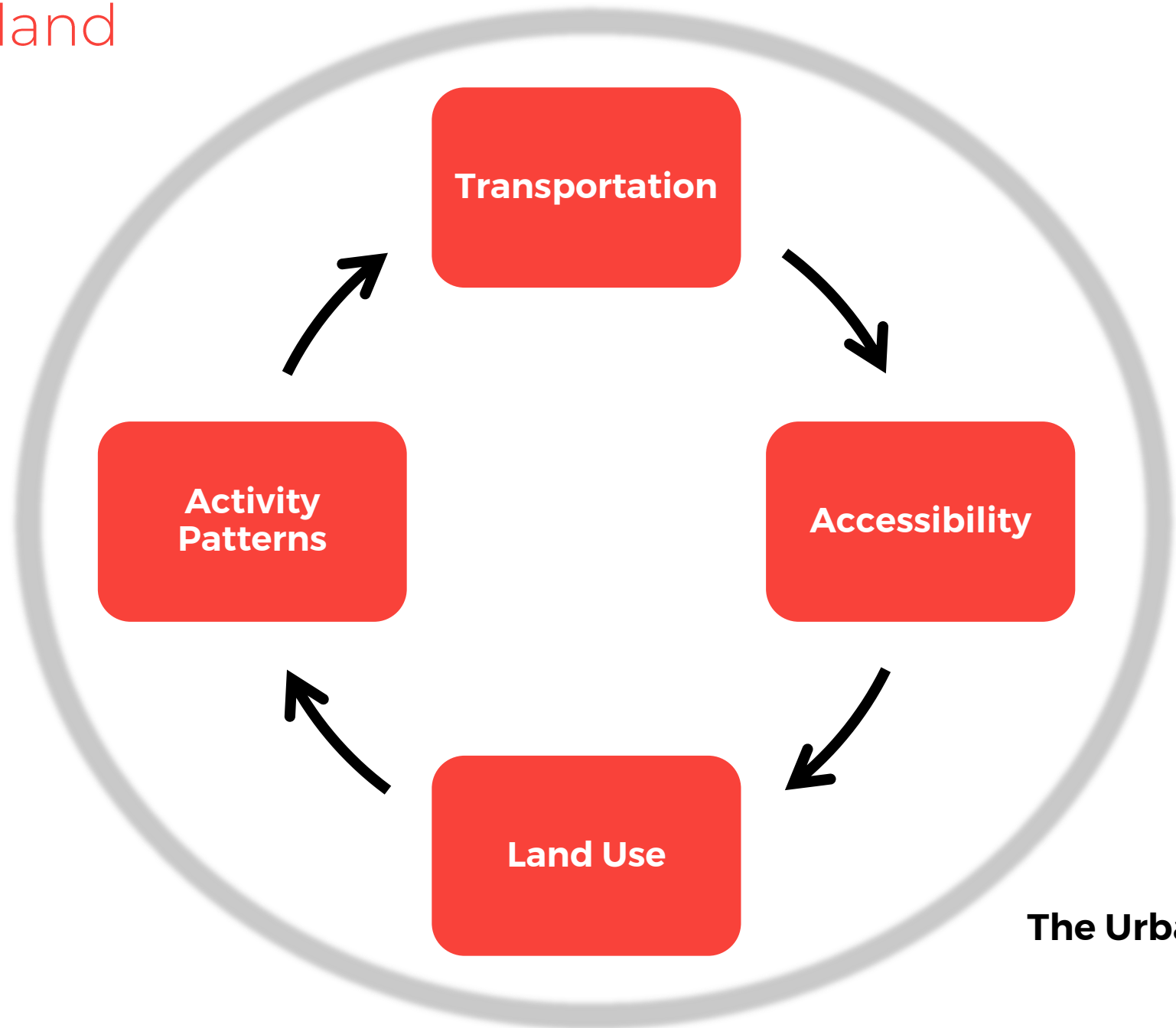
Improvement in **accessibility**

Positive regional economic, population and employment **growth** and **demand** for development

Positive physical conditions in transit corridor and stop areas

Available land for development and **ease** of land assembly

Complimentary government planning and **policy**



Source: Higgins, Ferguson, Kanaroglou, 2014



The Urban System

Source: Giuliano, 2004

Future Ready – Plan and design with the future in mind



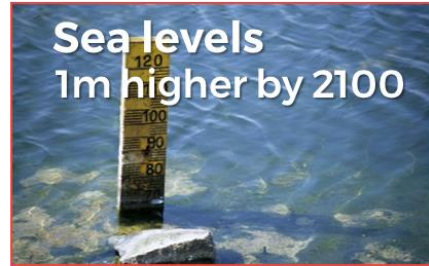
Planning and design transport **today** with the **future in mind**.

See the **future** more **clearly** by integrating **future trends** into the way we plan.

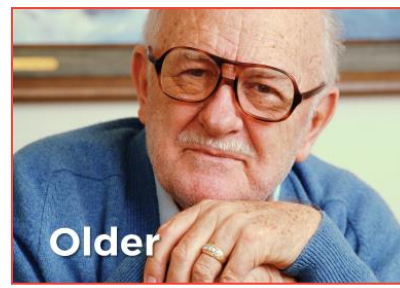
Innovation is built-in as part of the **business-as-usual** planning and design process.

Future Ready delivers peace of mind, lower lifecycle costs and resilience.

Climate



Society



Technology



Resources



Future Ready – Rapid Transit's enabling role



Climate

- Reducing private vehicle use

Society

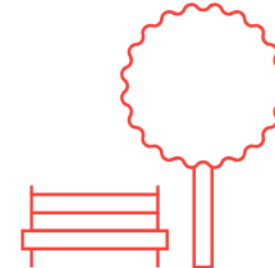
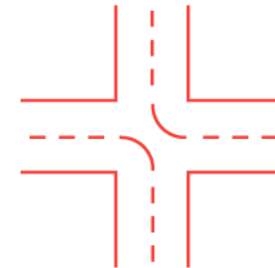
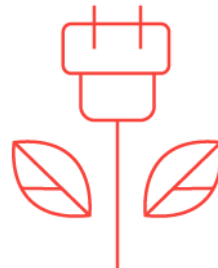
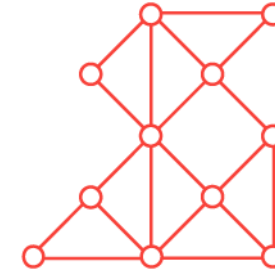
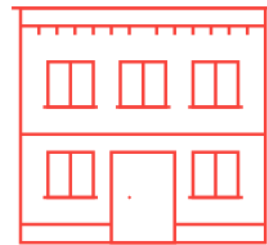
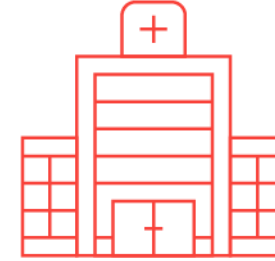
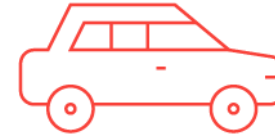
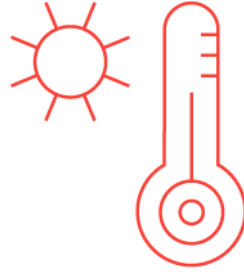
- Increasing community accessibility
- Reducing social exclusion
- Connecting an ageing population
- More affordable housing
- Supporting compact, more walkable cities
- Improving healthy communities

Technology

- Embracing electric
- Minimising redundancy
- Integrating services
- Catalysing innovation

Resources

- Boosting sustainable energy
- Maximising road space use
- Limited city space





Newcastle Light Rail



Social inclusion

- **Increasing** numbers of empty nesters moving to the city centre
- Supporting a **car-free** lifestyle

Density

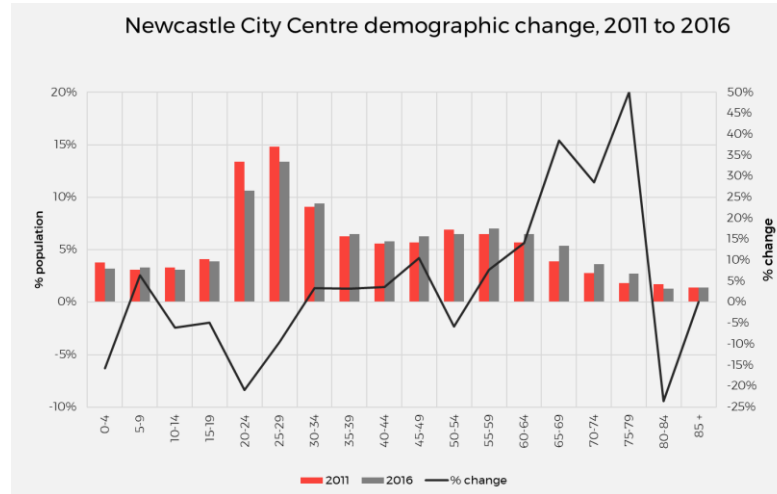
- Light rail supporting increased **inner city density** for commercial, residential and educational land uses

Electric

- The first **all wire-free system** in the southern hemisphere
- **Upgradeable** as technology develops

Urban Renewal

- A **key pillar** in the delivery of the transport project



Parramatta Light Rail

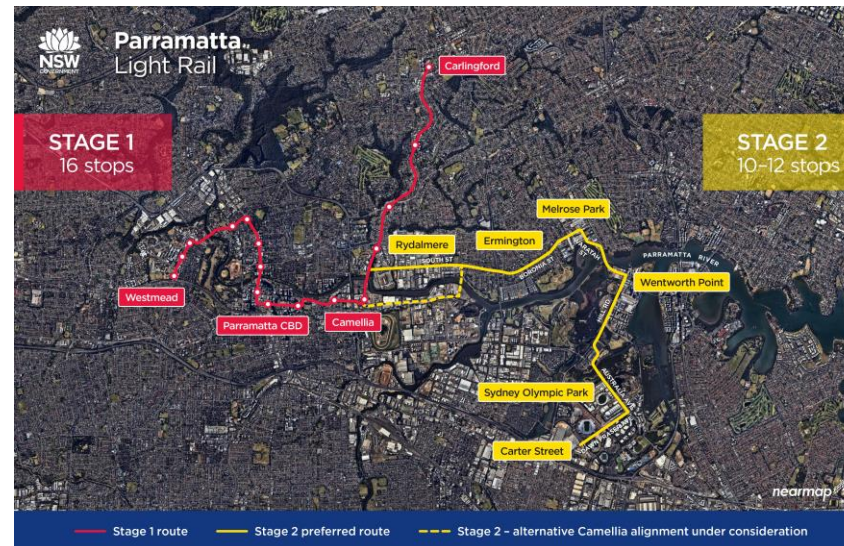
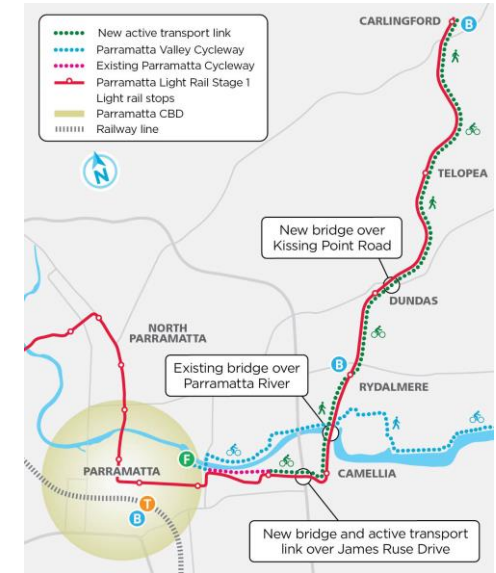


Active Transport

- Promoting **healthy** lifestyles
- **Leveraging** the delivery of light rail to create linkages
- **Increasing passenger catchments** to light rail stops

Retro-density

- Supporting **established** and **newly** planned high density developments
- **Sustainably** supporting the increase in visitation to Sydney Olympic Park Parklands
- Supporting the **development** of the Central River City (Parramatta)



Canberra Light Rail



Social housing

— **Renewal** of public housing along the corridor and **integrating** them with new developments.

Density

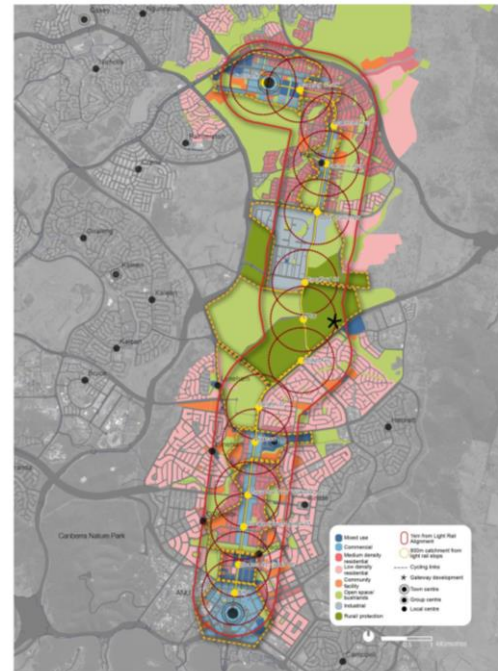
— Introducing **corridor based density** outside of the city centre and the traditional town centres.

Car orientated

— Providing **high quality and high frequency** transit into car-dominated outer suburbs.

New service model

— Developing and integrated transport network with **Light Rail as its core spine** and crossed by rapid bus corridors.





Future Considerations



Auckland and Wellington



Common Central Government **objectives for rapid transit.**

Common **objectives for urban development.**

Different **sized** and density cities.

Very different **topography**

Different **transport system structures.**

Different **urban development patterns.**

Different stages of rapid **transit project** development.

Both cities share **constrained street environments** with significant cross-network conflict

Integrating transport and urban development



Source: NZTA, 2019

Next steps



Clearly consider the **roles that rapid transit can play** as part of the broader transport system in the major urban centres of New Zealand.

Consider the development of rapid transit in **coordination with other major public transport projects** to ensure that benefits to each project are **maximised** and **not cannibalised** or double counted.

Understand the **desired land use responses** and urban outcomes balanced with **existing** and **future demands** and in line with **community expectations**.

Through a **future ready** lens, consider what city plans can be **leveraged** and what mega trends can be addressed through the **investment in rapid transit**.



ABOUT US

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