

Rail Concept of Operations Model - the pathway to the Rail of Tomorrow

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Transport
for NSW

NSW Transport System Today



Maintains
185,000km of road
infrastructure



Delivers a 41.5 bn program

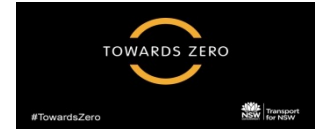
7.5m residents
30m tourists
800,000 businesses



Congestion: 6.1 bn



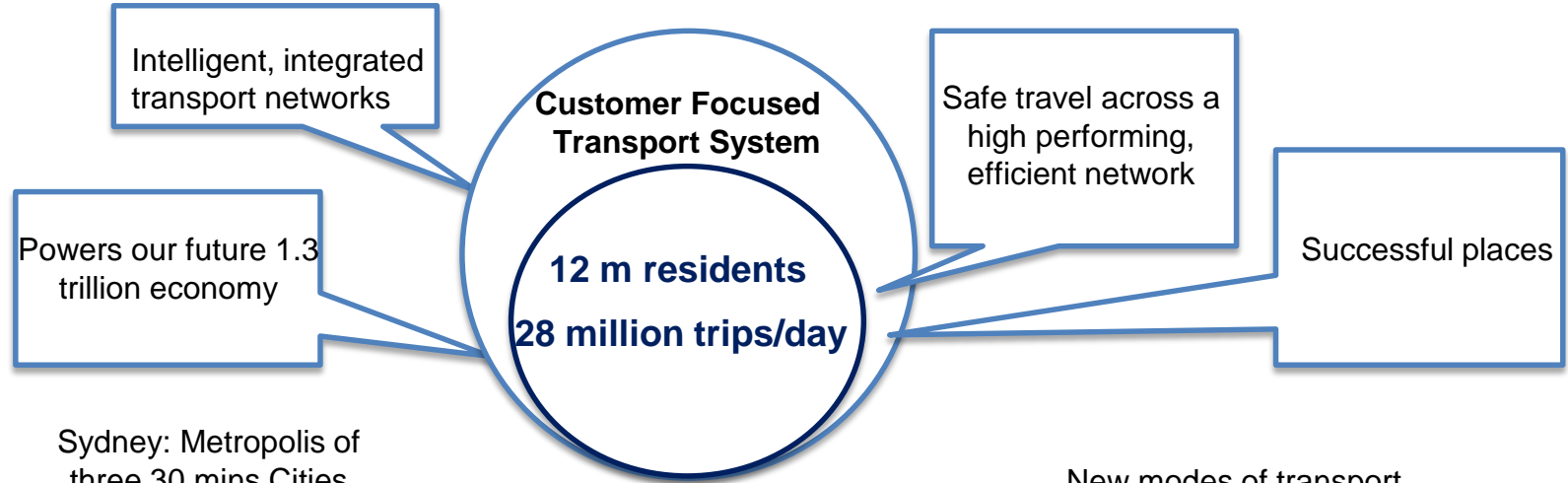
42 % of state's
energy consumption



Safety cost: 7 bn

Rapid technological changes

NSW of tomorrow: Future Transport 2056



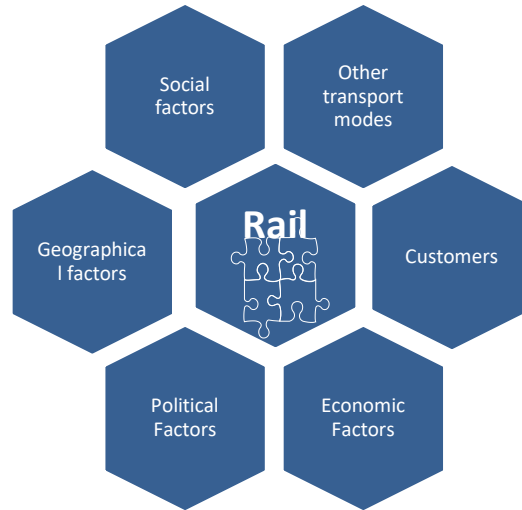
Sydney: Metropolis of three 30 mins Cities



New modes of transport



Rail 'As Is': High Level Interfaces & Challenges



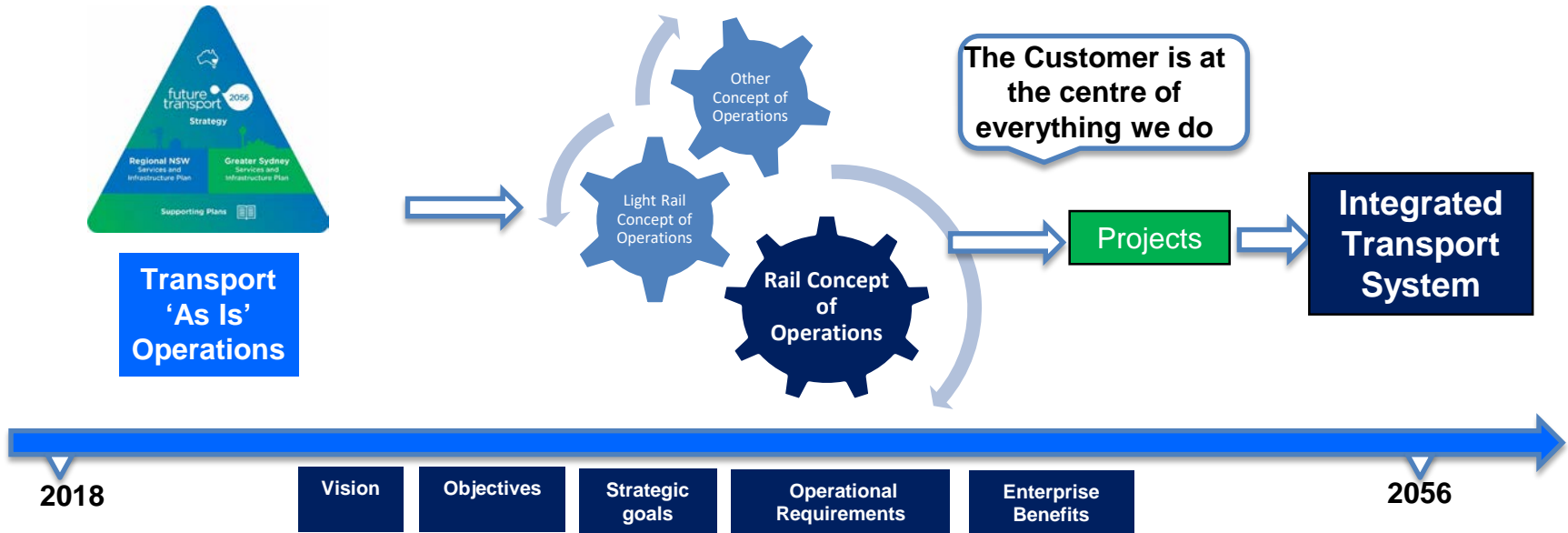
- **Costly rail infrastructure at the end of its life**
- **Need for more reliable services**
- **Fourth Industrial Revolution: Digital Systems Program**

The missing links.....

- Need to define a clear, structured pathway between the Rail 'As Is' and Future Rail 2056
- Plan around operational priorities, customer needs and business benefits
- Translate the Transport for NSW Vision and Strategies into reality
- Transfer the enterprise benefits into Projects-& business operations



Rail Concept of Operations Model - The pathway to the Rail of Tomorrow



Railway Concept of Operations (Rail ConOps) Model: How?

- Research and interrogate the role and thinking used in best practice international Rail Concept of Operations models
- Understand how is the system thinking applied in defining the rail system components and interfaces
- How can Rail ConOps model be used to plan efficiently in order to translate the Future Transport 2056 into reality



Holistic approach

System Thinking

Service Engineering

3M framework



My Research Contribution

- Develop a Rail ConOps model based on international best practice
- Apply Rail ConOps model to the NSW Rail System for: 2019, 2025 and 2056
- Showcase changing paradigms in rail planning (innovation) to align customer's view and transport provider's view
- Influence the way TfNSW will plan for the future at a time of profound transformations worldwide



Questions?