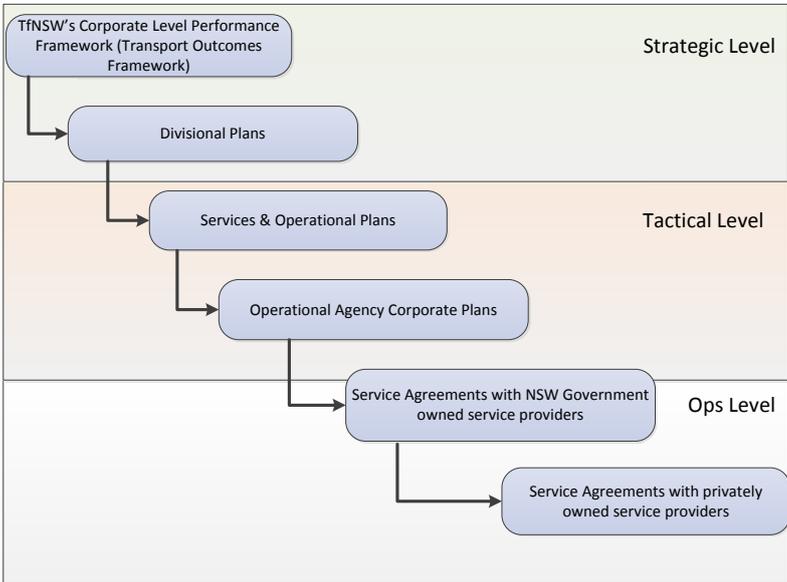
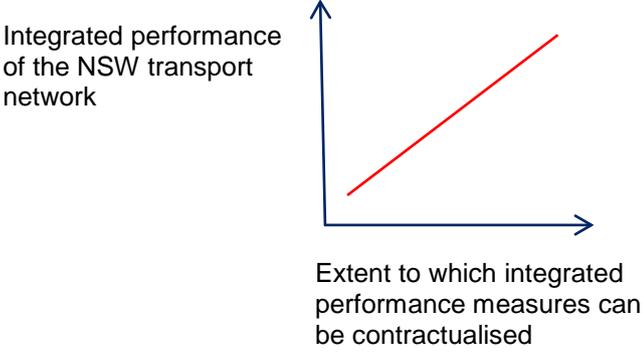


Problem Description

Question	Response
<p>Description of the problem and purpose of the proposed research</p>	<p>This Problem Statement builds on Problem Statement IS18-01, which looks at the development of integrated performance measures. However, this problem statement looks at the question of options for ‘operationalising’ the measures that may eventuate from IS18-01.</p> <p>As Transport for NSW (TfNSW) operates under a purchaser/provider framework (i.e. a centralised procurement function from arms-length operators), a particular question that arises is the extent to which integrated performance measures could be contractualised.</p> <p>The below graphic seeks to illustrate the challenge. It uses a strategic-tactical-operational¹ categorisation of responsibilities.</p> <p>Strategic level: the strategic level includes the formulation of general aims and the broad determination of the means that can be used to attain these aims. Its focus is on the policy aims and asks, “What do we want to achieve?”</p> <p>Tactical level: the tactical level is about making decisions around acquiring means that can help reaching general aims, and how to use these means most efficiently. Its focus is on service design, and asks, “What service can help us to achieve the aims?”</p> <p>Operational level: the operational level makes sure the orders are carried out and that this happens in an efficient way. Its focus is on asking, “How do we produce that service?”</p>
	
	<p>It may be clear that achieving more integrated transport pertains to the strategic level, and is TfNSW’s core business. However, the suggested challenge is in determining the extent to which this could also apply at the tactical and operational levels.</p>

¹ Van de Velde, D. (1999) *Organisational forms and entrepreneurship in public transport: classifying organisational forms*. Transport Policy. 6(3), 147-157.

Hypothesis & Variables

Question	Response
<p>For explanatory research, please describe a clear hypothesis with variables for testing</p> <p>For exploratory research, please describe how the proposed research will contribute to future explanatory research</p>	<p>As an extension of IS18-01, it is proposed that increasing the extent of transport integration is not just dependent upon the ability to develop 'integrated' performance measures. Rather it is the possibility of driving accountabilities for integration 'deep' into the organisations responsible for delivering transport services. To test this hypothesis, it is proposed that it is the extent to which such measures can be contractualised (i.e. included in service contracts) that determines their effectiveness in driving more integrated transport.</p>  <p>The graph features a vertical y-axis labeled 'Integrated performance of the NSW transport network' and a horizontal x-axis labeled 'Extent to which integrated performance measures can be contractualised'. A red line starts at a low point on the y-axis and extends upwards and to the right, indicating a positive correlation between the two variables.</p>

Strategic Criteria & Alignment

Question	Response
<p>Alignment with strategic theme</p>	<p>This Problem Statement is aligned with the Strategic Research theme of 'Future Mobility'. This theme is focused on the improved management of the transport network as an integrated whole, as opposed to a series of separate model networks.</p>
<p>External driver of change analysis</p> <p>Outline how the research will better position TfNSW to respond proactively to macro drivers of change</p>	<p>We use PESTLE analysis to identify and describe the external drivers of change that this research would help TfNSW be in a better position to respond to.</p> <p>Political</p> <p>It is a recognised strategic trend that there is an increasing public and political expectation for closer coordination of government services i.e. for more 'joined-up' and integrated service provision. It is also likely that use of contracting to secure transport services will continue. Innovative contracting approaches may be required to address the challenge of increasing service coordination and service contracting simultaneously.²</p> <p>Economic</p> <p>New service offerings such as Mobility as a Service will be dependent upon closer integration and coordination of services that offer end-to-end transport product to customers. The idea of examining the type of contractual framework that provides incentives for more coordinated journeys is therefore possibly an important precursor to the type of contractual/administrative frameworks that will need to be in place for Mobility as a Service to operate effectively.</p> <p>Social</p> <p>Determining the optimal accountability arrangements for integrated transport may help achieve the societal benefits of improved coordination. These include the benefits for health and wellbeing that can be attributed to less time travelling, more time in incidental physical activity (walking and cycling), more opportunities to participate in work, education and civic, cultural and recreational activities.</p> <p>Technological</p> <p>New technologies and digital data sources makes more innovative approaches to measuring performance, and potentially contracting, as there are opportunities for increased specification of service and attribution of performance issues.</p>
<p>Forward looking</p>	<p>The project is not attempting to address an immediate issue, and therefore offers time for a considered approach to researching, developing and testing options for cascading accountability for integrated performance measures into service contracts.</p>
<p>Potential research impact</p>	<p>The impact of the research is potentially significant, and could influence both the structure and form of TfNSW's future service contracts for public transport services.</p>

² Pollitt, C., and Bouckaert G. U. (2011) *Public Management Reform: A Comparative Analysis - New Public Management, Governance, and the Neo-Weberian State*, OUP Oxford, 2011.

Technical Criteria

Question	Response
Innovation Outline how the proposed research will result in new knowledge	This project would extend the innovation of IS18-01 from not just asking whether integrated performance measures are possible, but also the extent to which they can be operationalised under a purchaser-provider framework.
Basis in completed research and/or observed practice	While the idea of using service contracts as coordination mechanisms across modes may be uncommon in public transport, it has a well-developed application in supply chain management. ³ Supply chain contracts often seek to provide incentives to all the participants in a decentralised supply chain, in order to simulate the performance of an integrated one. ⁴
Feasible data requirements	It is anticipated the research will not have onerous data requirements, and that these can be provided by TfNSW and/or operators.

Level of Collaboration & Resource Requirements

Question	Response
Level of collaboration Please select the level of collaboration required to complete the proposed research	<p>1. 'Quick-Fire' Research <input type="checkbox"/></p> <p>Intense bursts of research activity (e.g. under 8 weeks). Intended to make use of 'hackathon'-type environments, where students/researchers work collaboratively and intensely on particular problems involving data interrogation and visualisation.</p> <hr/> <p>2. Undergraduate Final-Year Research <input checked="" type="checkbox"/></p> <p>Suitable for final-year undergraduate students (e.g. capstone, Honours) as part of the research requirements for their undergraduate degree (i.e. 1 to 2 semesters).</p> <hr/> <p>3. Higher Degree Research <input checked="" type="checkbox"/></p> <p>Project may form whole or part of a postgraduate research degree (i.e. Masters, PhD), and contribute to new knowledge (i.e. 1 to 3 years).</p> <hr/> <p>4. Major Collaborations and Funded Research <input type="checkbox"/></p> <p>Project may form the basis for a significant collaboration agreement between TfNSW and the relevant research institution, including major competitive grant funding (e.g. Australian Research Council funding with TfNSW as an industry partner).</p>
Comments	This project could form all or part of a PhD or Master of Research, or may be dealt with through sequenced capstone type projects.
Supporting TfNSW resources	TfNSW will facilitate access to data requirements and subject matter experts (up to 4 hours per week).

³ Govindan, K., and Popiuc, M. N. (2011) *Overview of coordination contracts within forward and reverse supply chains*. Journal of Cleaner Production. 47. 10.1016/j.jclepro.2013.02.001.

⁴ Tsay A. A., and Lovejoy, W. S. (1999) *Quantity Flexibility Contracts and Supply Chain Performance*, Manufacturing & Service Operations Management, Vol 1, 89-111.