# Freight data projects in Australia

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## Abstract

As part of the evidence base informing the development of key actions and pragmatic implementation options for better data for operations, planning and investment in transport of people and goods, this paper reports on a review of 52 Australian projects either in operation or in final stages of development related to transport data.

## 1 Introduction

In recent years it has become clear that improved information flows can substantially improve the efficiency and productivity of the freight sectors. The 2018 Inquiry into National Freight and Supply Chain Priorities[1] stated that supply-chain activity and performance must be measured, and that a national approach to data consistency across jurisdictions was essential. It noted that freight performance data, (i) will be used to monitor domestic and global competitiveness over time and identify areas where action is required to maintain and improve productivity; and (ii) should inform the need for capital expenditure and maintenance, regulatory and governance reform, and measuring progress, including implementation of the National Strategy.

## 2 Freight data projects

In late 2018, we undertook a survey of projects involving freight data in Australia, identifying 52 projects of relevance. A full list of the porjects is available provided in our Report[2]. By classifying each data project according to their data accessibility, and data confidentiality, we discerned three distinct groupings:

- Group 1 - Highly aggregated freight data/information (historical or near real time); for example, road link travel times, weigh-in-motion data by axle groups and vehicle classification

- Group 2 – Lightly aggregated freight data/information (historical or near real time); for example, Bluetooth data, truck telematics data, mobile phone data at SA1 level, supply chain data along a key route

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[1] Inquiry into National Freight and Supply Chain Priorities, Report, DIRDC Mar 2108.
[2] DIRDC Freight Data Requirements Study, Institutional Arrangements Report, DIRDC, Feb 2019

- Group 3 – Confidential freight data/information (real time); for example – identifiable compliance and enforcement data, individual supply chain data, image data, e-tag data, individual tracking data.

The diagram below sets out this classification framework. On the x-axis, the factor '*confidentiality*' runs from low (not confidential) to high (highly confidential). On the y-axis, the factor '*accessibility*' runs from high (easily obtained) to low (not easily obtained).

There were 23 projects listed in Group 1 (being the single bottom quadrant), 15 projects in Group 2 (top left quadrant) and 14 projects in Group 3 (top right quadrant). Group 3 data is personally identifiable and therefore confidential to the operator or business and has highly restricted access. Group 2 has lightly aggregated data but such data is still sensitive or confidential as it relates to commercial operations, products and $ values. Finally Group 1 data is more highly aggregated an of a less sensitive commercial value.
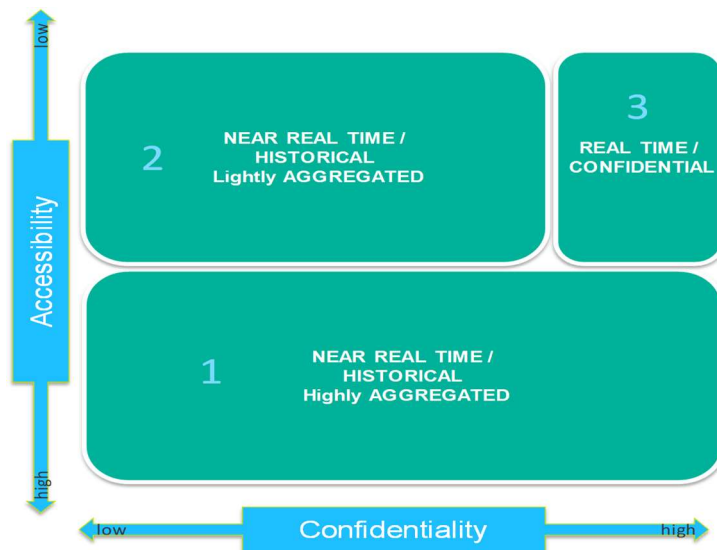


The common elements and differences in the groups are described below.

Common elements: Groups 1 and 2

*Investment and planning focus – information and reports* – Projects in these groups were to enable the collection, integration and presentation and dissemination of specific data/information for purposes related to planning and investment.

*Larger perspective, eg supply chains, infrastructure investment* - The projects had a larger perspective or scope – e.g., national or state level, a supply chain, infrastructure access, asset pricing, platforms for exchange, aggregation of specific data and information, network performances, etc.

*Products and services (*in development and mature) - The projects also include more mature data/information products and services that once started as proof of concepts and trials. In Groups 1 and 2, we can find examples where private, data lightly aggregated, is available as a service or product which is then utilised in the creation of new data/information required in addressing other data/information gaps.

*Data standards / guidance / methods* – in these two groups we also see projects developing standards, processes, platforms and tools for interoperability and scalability across many stakeholders.

*Combining datasets to inform for information gaps -* a few projects involve integration of disparate data collections which when presented together provide more insights for government and industry. Modelling, crash data, traveller information data, road use and road condition data, mass data, freight type data, congestion data and incident data are some such examples.

*Proof of concepts / trials -* some projects involve real world, in field trials requiring sensors, infrastructure, collection systems and connectivity to provide the content for transformation into data and information. Some projects also work the opposite way and disseminate the information back to roadway systems, message boards and road users.

Common elements: Group 3

Group 3 data/information needs are for real-time operational needs, be it as part of the supply chain and logistics operations, or government operations in traffic management (priority, green light progression, incident management), monitoring and compliance.

Thus, some of the issues raised by industry in terms of timeliness and reliability, are key areas that can be addressed with the data and information generated from Group 3 projects. The data in Group 3 provides the feedback loop for fine tuning business and technical solutions to supply chain logistics and network operation.

A further point is that real time data/information, if it stored in a data collection, can be increasingly aggregated and used by projects in Group 1 and 2.

# 3   Observations

For the present, the key observations are:

1.      We should increase our knowledge of and learnings from these 52 projects and position ourselves to invest wisely in future projects.

2.      There are some common functions within each of the projects which should become the key functions in the overall system for freight data/information. We need to support a national approach to strengthen the key common functions.

3.      The projects can be unpacked across several lenses; (i) data, (ii) platforms and technology, (iii) supply chains and (iv) issues. Therefore, the selection of specific projects for implementation can be assessed or ranked upon a selection criterion based on those elements.

# 4   Outcomes

On 6 April 2019, the Australian Government announced a commitment of $8.5m to settle the design of a national freight data hub ($5.2m) and the establishment of a freight data exchange ($3.3m). The funding includes coverage of arrangements for data collection, protection, dissemination and hosting.