

To Board of NZUAG

Cc

From Myles Lind

Date 5 August 2019

Subject Potential role of NZUAG with regards to Infrastructure Data Standards

Purpose

The objective of this paper is to create an awareness of the:

- Planned implementation of asset data standards throughout New Zealand infrastructure sector.
- Multiple sector representatives with interests in this space.
- Need for coordination of activities during the data standard implementation processes.
- Opportunity to plan a coordinated embedding and long-term governance model for infrastructure data standards.

Background

The 2015 National Infrastructure Plan (NIP) identified a need for national data standards for infrastructure. It noted that the widespread use of shared infrastructure data standards would bring significant benefits through shared learnings and benchmarked and in addition, enable infrastructure interdependencies to be better understood. In 2017, Land Information New Zealand published asset metadata standards for three waters, roading and light commercial / residential building infrastructures. No specific funding was provided to implement these standards across the sectors.

In 2018, NZTA led the development of a programme business case (PBC) to understand the benefits and costs of implementation the roading data standard. This PBC identified that across the land transport sector, legacy data practices and mechanisms have resulted in bespoke, siloed and inefficient asset management data systems. Addressing this problem through the implementation of a common data standard was likely to be challenging due to the distributed way that land transport assets are currently stored and managed throughout New Zealand.

With Local Government NZ support, the PBC has provided the basis for NZTA to develop and implement an Asset Management Data Standard (AMDS), with, and on behalf of, the land transport sector.

The design of the standard and the population of the elements, attributes and technical specifications is well underway using a co-design model with subject matter experts from across the sector.

NZTA is seeking to design a comprehensive implementation and embedding process for the standard. This process is being completed through a staged business case approach. Implementation across the 90 councils and highways contracts is expected to take up to nine years, spanning three Long Term Plan (funding) cycles.

Infrastructure Data Integration

The NIP identified the need for national infrastructure data standards. The NZTA is leading the population and publication of the land transport data standard. The three waters and light building/residential data standards have been developed by Land Information New Zealand and is being implemented as pilot studies through the National Technical Standards Committee (NTSC). The NTSC is chaired by Greg Preston from the University of Canterbury (QuakeCore).

NZTA and councils, in their duties as roading authorities, also own and operate three waters infrastructure (i.e. drainage pipes) as well as building facilities. As such, to successfully implement the land transport data standard, at least some aspects of the three waters and buildings standards also need to be made operational by land transport owners at the same time they implement the roading standards. Consequently, NZTA and councils are represented on the NTSC.

Implementation of Data Standards

The implementation of a suite of infrastructure data standards, in nationally beneficial timeframes is complex. Implementation of a common data standard requires investment in systems, staff and technical experts. There are also potential challenges in the confidence of measuring benefits realisation at a local level.

NZTA is currently developing the indicative business case for implementation of the land transport data standards, including technology enablers and support tools to help deliver local benefits.

NZTA has provisions under the Land Transport Management Act which can support the local implementation of data standards, to achieve nationally beneficial outcomes. The legislation and structure of the water sector and building sector don't easily provide this same opportunity.

NZTA currently plans to implement the land transport data standards, with essential three waters data components, over a period of up to nine years, starting from mid 2021. During this time, NZTA proposes to be the lead agency for capturing and responding to land transport feedback on additional development or refinement of the land transport data standards. Implementation plans for other data standards are also being progressed through the NTSC.

Embedding of Data Standards

Embedding of all infrastructure data standards will require a consistent, collaborative approach across many sector partners. It will likely require a central body to oversee the effectiveness and maintenance of the suite of infrastructure data standards. This leads to the question, which agency is best to lead this for New Zealand and how will they be funded? Table 1.0 outlines agencies with an interest in data standards and potential claim to be the national governors of data standards over the medium to long term.

Table 1.0 – Parties with an Interest in Data Standards

Agency	Interest in Data Standards
Statistics New Zealand	Central Government “home” for standards and partner on location referencing standards.
Department of Internal Affairs	Central Government Agency for Local Government performance and partner on location referencing standards.
Land Information New Zealand	Central Government “home” for data and information and partner on location referencing standards.
National Technical Standards Committee	National sector interest group, with links to LINZ
NZ Utilities Advisory Group	National co-regulation partner under Utilities Access Act and the Code of Practice.
Infrastructure Commission	Central Government “home” for quality infrastructure investment
(Proposed) Drinking Water Regulator	Central Government “home” for water infrastructure health outcomes and associated investment
NZ Transport Agency	Central Government Agency for land transport outcomes and investment and lead partner on location referencing standards.

Discussion

Due to the number of interested parties, and the likely levels of investment that the various sectors will be making in implementing data standards, there is an opportunity to early on, seek high level agreement and alignment on actual interest and roles in the transition to embedding of data standards.

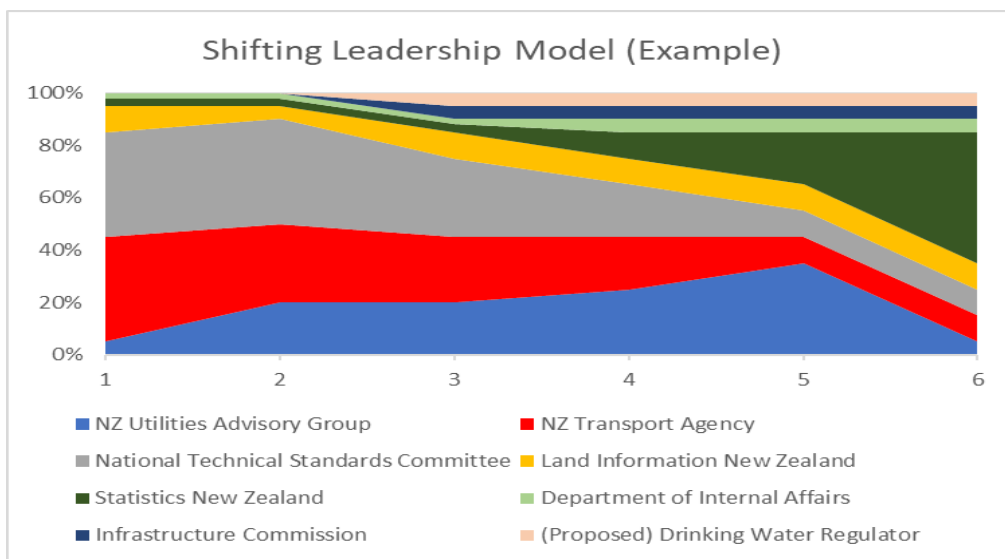
This process of gaining this alignment would benefit from a champion. There are potential advantages of the alignment champion being from the agencies listed in Table 1.0 and having a broad, mandate or interest across multiple infrastructure types.

Part of the alignment process would need to consider which agencies have access to existing mechanisms (i.e. government mandate, legislation etc) that could serve to ensure data standards are implemented and embedded across the infrastructure sector in a consistent timeframe. The NZUAG, through its Code of Practice could be one such agency due to its breadth of influence over multiple road owners and utility operators. As such, the NZUAG is in a unique position to be a lead agent for implementation data standards across multiple infrastructure sectors.

In addition, it is suggested that successful embedding of the suite of data standards will require consideration to how best to store, maintain and digitally disseminate the data standards to users (engineers, planners, developers, designers, contractors etc), from a shared location, via a common, electronic system in accordance with the Code.

It is proposed that given the broad mandate of the NZUAG under the Utilities Access Act, and the representation of the many infrastructure owners at the NZUAG Board and its sector education responsibilities, that the NZUAG consider being the medium term, lead agent for ensuring the embedding of infrastructure data standards.

One option could be agreement to a shifting leadership model as illustrated below. Under this approach the interested parties take less or more of the lead of the coordination process as the implementation and embedding processes progress over time. A funding model for this approach will need to be agreed.



Recommendation

It is recommended that the NZUAG Board:

1. Investigate the strategic opportunity of embedding national infrastructure data standards against its legislated duties and its current strategic plan / business activities.
2. Meet with Greg Preston of the NTSC to discuss synergies and opportunities to support / lead the embedding of infrastructure data standards.
3. Attend a workshop with NTSC and other representatives to develop a position paper for the sector on how the sector will ensure the successful implementation of the infrastructure data standards, using a shifting leadership model, or other approach.
4. With sector representatives, develop an options paper setting out a preferred solution for the coordinated embedding, funding and long-term governance model for infrastructure data standards in New Zealand.