



Freight Community System Strategic Business Case

Pre-Webinar Consultation Material

July 2021

Contents

1.	Pre-Consultation Reading Materials	3
2.	Consultation Focus Areas	14
3.	Consultation by Transport Mode	17
4.	Consultation by Use Case	25
5.	Next Steps	35



**THINK
FREIGHT**

1

**e-Consultation
Loading Materials**

Strategic context

A Freight Community System has direct actions contained within **the NSW Freight and Ports Plan 2018-23** and **Future Transport Technology Roadmap** and supports the overall vision of the NSW Government.

After decades of improvement, Australia's freight productivity has stagnated.

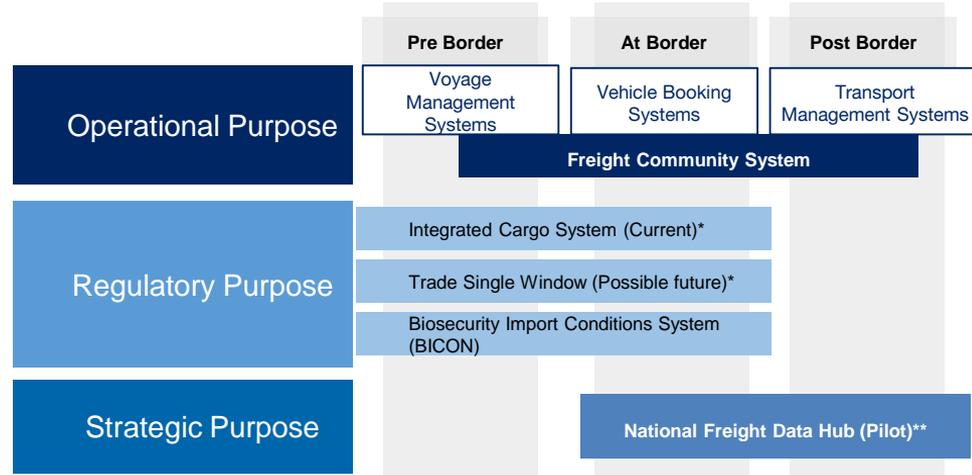
A digital and transparent solution such as a Freight Community System could provide visibility across the supply chain for all participants and will help bridge the inefficiencies that have resulted in stagnating productivity.

Stakeholder feedback captured during the Port Community System feasibility highlighted the significant benefits of a broader reaching Freight Community System for New South Wales.

A Freight Community System has the ability to improve the competitiveness of the freight and logistics industry in NSW. The enablement of secure information exchange between public and private stakeholders can drive productivity gains across the supply chain.

Transport for NSW is the leading agency tasked with collecting and analysing data, improving efficiency, velocity and productivity through ports, delivering key projects to improve throughput and visibility at ports and undertakes stakeholder engagement for complex supply chain issues is perfectly placed to lead this work.

Transport for NSW is responsible for driving strategies to improve efficiency to and from NSW's ports and does this by collecting and analysing data, improving efficiency and productivity through ports, delivering key projects to improve throughput and visibility at ports and undertakes stakeholder engagement for complex supply chain issues. Transport is well placed to lead this work



* A solution primarily focused on trade related regulatory information between Business and Government (B2G) and Government-to-Government such as export/import declarations, permits, licenses, payment of duties and taxes, etc.
 ** Federal Government project enabling open data and freight data exchange to enable strategic planning, performance and operational decisions for Australia's freight and supply chains

A Freight Community System enhances business to business transactions

Freight Community System

A digitised system enabling freight network supply chain participants to rapidly and securely exchange information, business to business.

- A neutral and open electronic platform which is independent of established supply chain interests
- Business to business communication between enterprises
- Enables trusted end-to-end visibility of the supply chain
- Facilitates commercial interactions between commercial supply chain participants
- Key stakeholders are freight sector operators and their customers (importers, exporters & distributors)



Air Freight



Air & Seaports



Container Freight



Warehousing



Rail Freight



Sea Freight



Intermodal Terminals

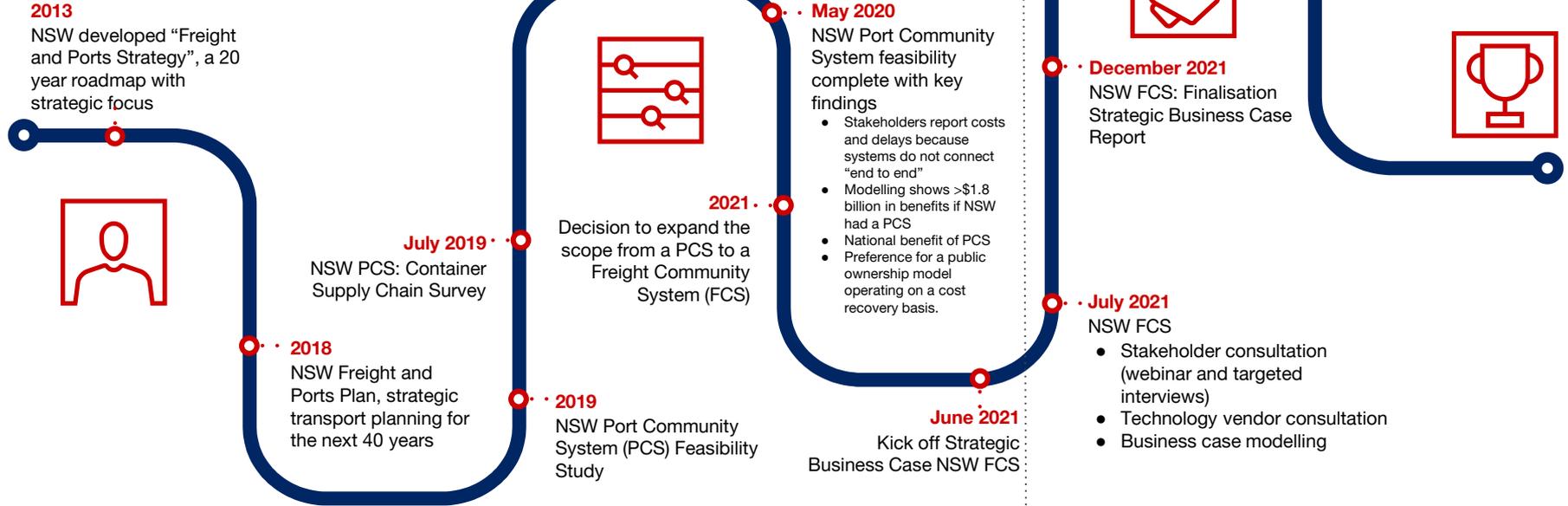


Road Freight



Customers

Journey to date



A set of guiding principles are informing the development of the Freight Community System Strategic Business Case

Trust 	Ease of Use 	Delivers Value 	Efficiency 	Growth 	Adoption 
<p>An open, secure and trusted data sharing</p> <p>Independent of established supply chain interests</p> <p>Information is managed appropriately to protect privacy and security</p>	<p>Easy to integrate and start using</p> <p>It augments (not replaces) the systems that are already part of Australia's supply chains</p> <p>Solutions should be evolutionary and open</p>	<p>Focused on solving the highest value problems</p> <p>Addresses key pain points of freight sector operators and their customers in the air, road, rail and sea supply chains</p> <p>Prioritised development of solutions to the highest value problems</p>	<p>Visibility that delivers velocity and efficiency</p> <p>The platform will enable goods to flow through the supply chain more quickly providing instant visibility and manage avoidable costs and fees</p>	<p>Start small and scale fast to address key problems</p> <p>Development should be agile and iterative to focus attention on value delivery</p> <p>Trade-offs and prioritisation should be guided by the principles and the desirability, viability and feasibility of solutions</p>	<p>The technology solution should enable adoption with high availability & scalability</p> <p>Lowest possible barriers to entry to encourage small firms to participate</p> <p>As a business critical system, availability, adaptability and scalability are vital</p>

Freight is a critical part of the NSW economy and is made up of many operators across modes of transport

The freight industry is worth over \$66 billion to the NSW State economy (at least 13% of Gross State Product).

The freight task is expected to grow 28 per cent by 2036 and there are key infrastructure investments underway (ie. Aerotropolis)

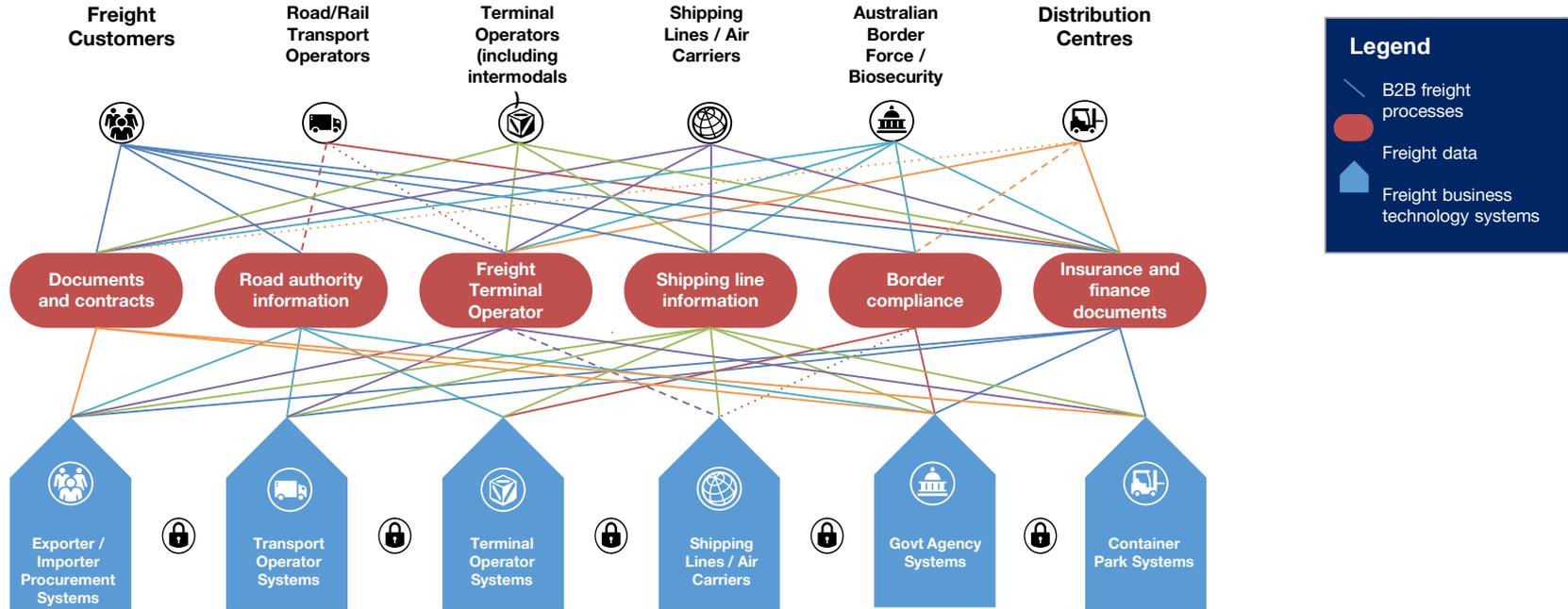
The contribution made by sea, rail, road and air freight enterprises is demonstrated in the diagram across in terms of tonnes moved annually.



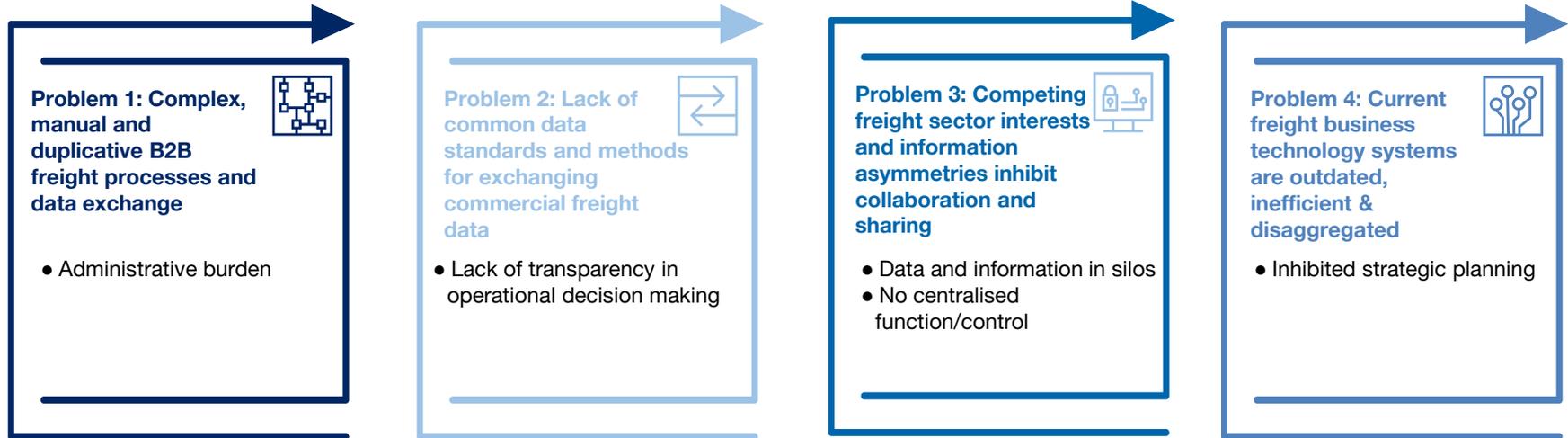
Source: TfNSW, NSW Freight and Ports Plan 2018-23

Source: 2016 freight volume provided by TfNSW
Number of enterprises from IBISWorld Industry Reports;

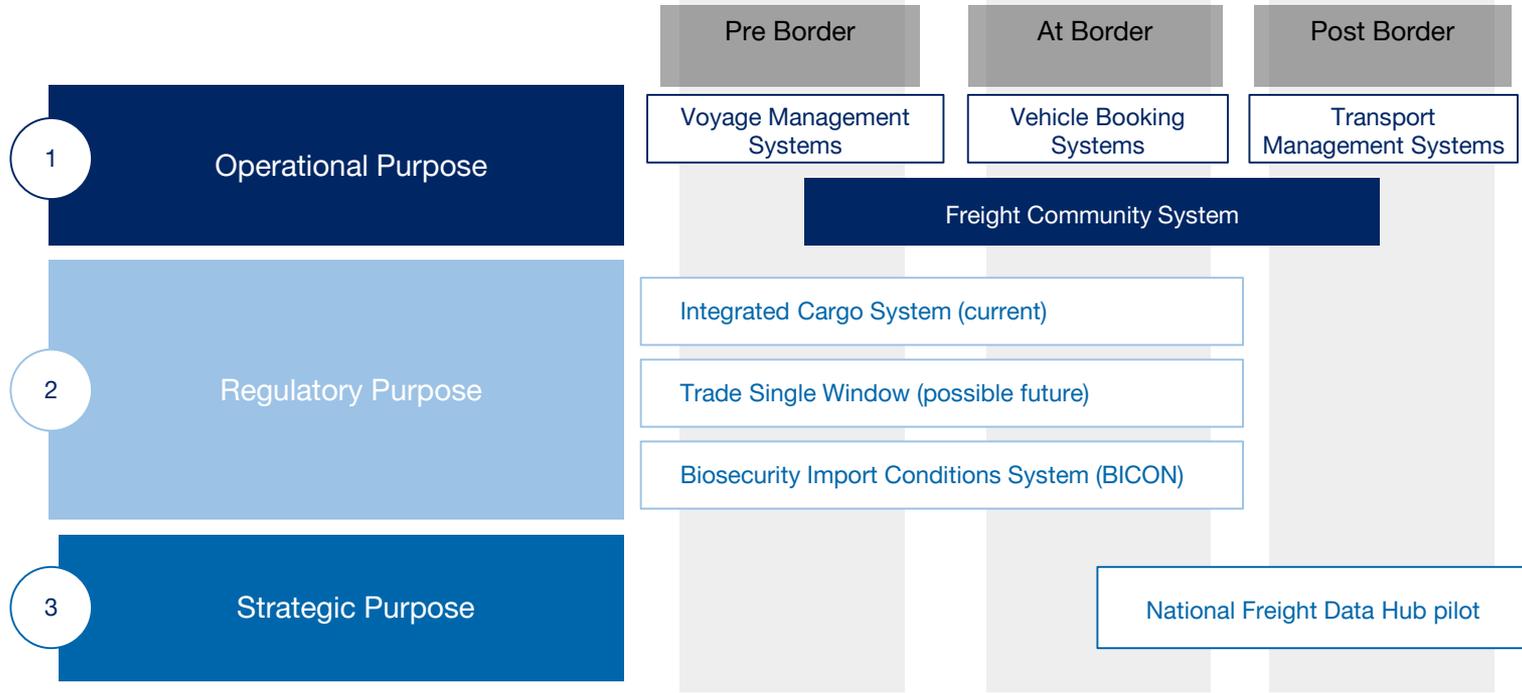
Freight journeys are facilitated by B2B transactions, processes and data sharing



This leads to problems for freight sector operators & their customers



A Freight Community System could complement other investments and capabilities to solve operational problems



A Freight Community System is comprised of governance, regulation, funding & technology

Governance	Regulation	Funding	Technology
Potential roles, responsibilities and ownership of a FCS and its users (e.g. industry, government, regulators)	The potential extent of required government intervention or changes to existing policy and/or regulation to support a FCS	Varying opportunities for funding and commercial pricing to promote take up and support government and industry costs	Technology approaches that progressively support the data requirements, additional functionality, use cases and business requirements

Rather than test the full spectrum of options against each design element, we will leverage work completed to date (including the strong preferences indicated through previous stakeholder engagement) to test and validate the following hypothesis as the preferred approach:

Governance	Government	Governance relationship	Industry/ independent
Regulation	Market - leverage existing regulatory frameworks	Market & Government - voluntary with minimum viable enabling regulation (eg. privacy)	Government - explicit government regulation
Funding	Consolidated revenue - funded by government	Partial User Charges - some percentage of user pays	Commercialised - 100% funded by users

We will also test technology approaches that progressively support additional functionality, use cases, and business requirements

Technology	Basic Functionality	Moderate Functionality	Enhanced Functionality
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Design element - Technology

Across the spectrum of technology functionality from basic through to moderate and advanced, what level of capability should the Freight Community System offer?

Functionality	BASIC	MODERATE	ENHANCED
Data Retention	No to Limited Data Retention FCS coordinates and automates the transfer of the data which is retained only to satisfy a use case	Rule-Based Data Retention FCS stores the data which is subsequently deleted based on flexible business roles	Full Data Retention FCS maintains a full history of the data exchanged
Data Insights & Analytics	No Data Reporting & Analytics FCS offers no data reporting and analytics functionalities	Data Reporting FCS provides a series of pre-designed reports	Data Reporting & Analytics FCS provides a series of pre-designed reports and analytics
Data Access & Experience	API / No to Limited User Interface FCS is predominantly a system-to-system solution using API as the main approach to exchange data	API & User Portal FCS offers both API and a portal through which businesses can submit data, and access reports and analytics	API, User Portal & Database Access In addition to the previous option, businesses can access the raw data directly stored in the FCS database (e.g. for download)
Data Segregation	Data Logically Segregated The data is stored in a database that is shared across all businesses, and logically segregated for confidentiality		Data Physically Segregated The data provided by a business is stored in a database dedicated to that business

A blue truck with two dogs in the back and a white ETS truck in the background. The blue truck is in the foreground, and the white truck is in the background, slightly blurred. The sky is blue with some clouds.

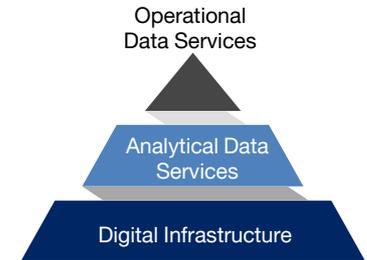
Think Freight

2 Consultation Focus Areas

Market research points to nine high level use cases which could be solved through a FCS

As a freight sector operator ...

1	Booking: I want to quickly and easily reserve freight-related resources so that I can progress the movement of my goods	
2	Instruction: I want to transmit freight movement instructions to my supply chain businesses electronically so that I do not have to duplicate transmission and I have a non-repudiable record	
3	Authority and permission: I want to be able to provide authority-related information to my supply chain partners so that they can be permitted to progress the movement of my goods	
4	Monitoring: I want visibility of my freight so that I can make planning decisions and identify potential disruptions and bottlenecks	
5	Hindsight: I want historical event information to better understand my import/export/domestic supply chain-related processes and performance	
6	Foresight: I want to understand upcoming freight-related resource availability to inform my supply chain decisions	
7	Insight: I want to analyse freight event-related data to better optimise portions of my supply chain	
8	Data Exchange: I want to send and receive information through a trusted, secured and independent infrastructure to improve coordination of existing freight data and promote data sharing	
9	Data Standards: I want common data standards to be used across the community to improve efficiency and avoid ambiguity in communication, and to encourage innovation and reduce ecosystem costs	



An FCS provides digital infrastructure and services to improve data exchange between operators & customers



Digital infrastructure is the technology patterns and standards that enable communication between participants.

An FCS could define the digital infrastructure that allows freight sector operators to exchange data consistently, securely and reliably.



Services encapsulate business functions and are the means to supply, manipulate and retrieve data.

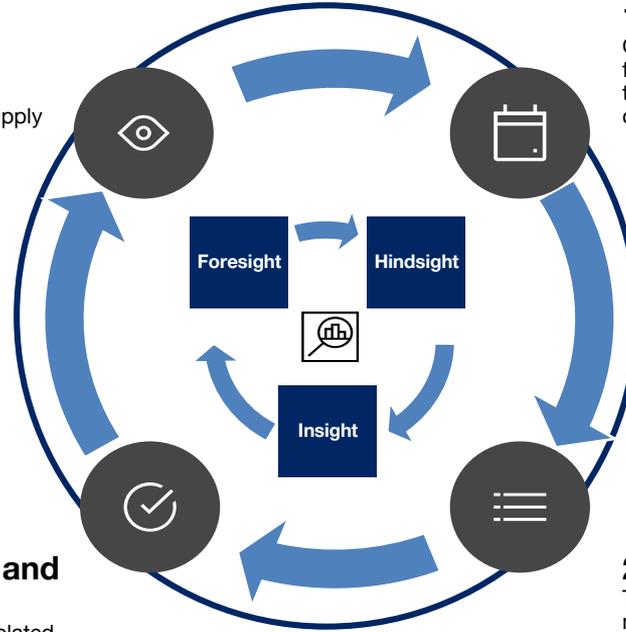
An FCS could deliver services that allow freight sector operators to provide data required by other operators (including the port) and visibility of current state of the freight ecosystem. This includes any insights generated through analytics performed on FCS data holdings.

4. Monitoring

View freight event information to make appropriate plans further along in the supply chain

3. Authority and permission

Provide authority-related information to supply chain businesses so that they can be permitted to progress with the movement of goods

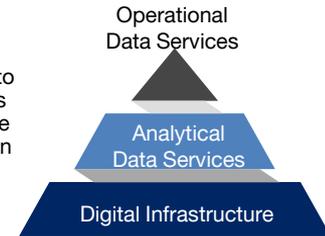


1. Booking

Quickly and easily reserve freight-related resources to progress the movement of goods

2. Instruction

Transmit freight movement instructions to supply chain businesses electronically to not have to duplicate transmission and have a record



Consultation approach

Defined use cases will be reviewed based on a scoring methodology across three dimensions using a DVF Framework, assessing Desirability, Viability and Feasibility:

- **Desirability:** Level of desirability from the perspective of the customer and overall business view
- **Viability:** Expected level of impact of the initiative on its corresponding value lever(s)
- **Feasibility:** Level of implementation complexity, change management requirement and time to realise value

Using a DVF Framework has proven to be highly useful for major freight and supply chain technology optioneering processes.

Underlying Levers and Attributes	
Desirability	Addresses problems <i>To what extent would this use case address a defined key problem and the enduring questions? Will this promote innovation?</i>
	Market failure <i>Does it deliver upon an evidenced market failure? Is there a role for government?</i>
	Collaborative culture <i>How much would this initiative contribute to improving collaboration and open data and exchange among sector participants?</i>
Viability	Delivery of benefits <i>How substantive are the benefits of the use case anticipated to be?</i>
	Key stakeholders <i>To what extent does the use case support sector stakeholders / address their articulated needs?</i>
	Risk Management <i>How big would the expected impact of the use case be for addressing risks/potential failures in supply chain/decision making?</i>
Feasibility	Implementation Complexity <i>How much complexity (cost and technical) is involved in the implementation of the use case?</i>
	Change Management Requirement <i>How much change management is required to drive this use case? Is there likely substantial regulatory requirements to be implemented?</i>
	Time Requirement to Realise Value <i>How quickly can value be realised from engaging in this use case?</i>

Think Freight

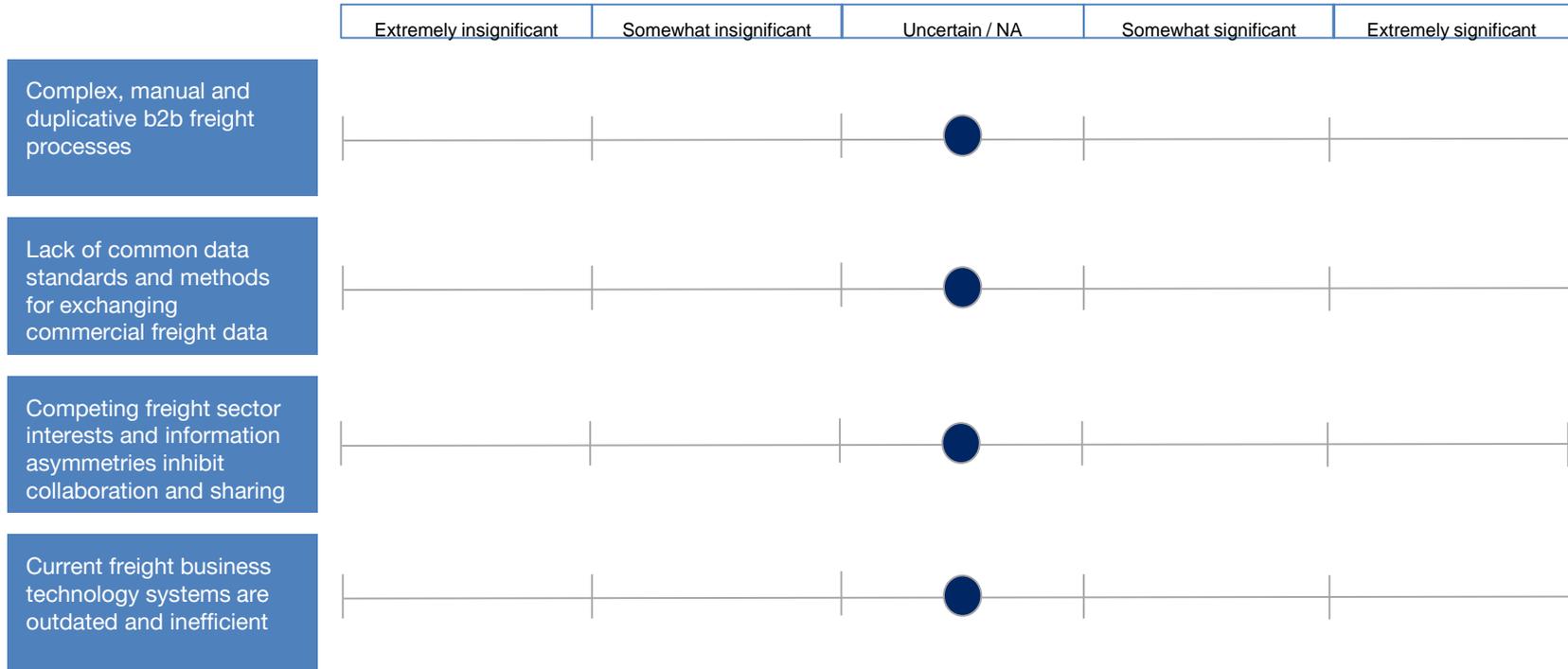


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Consultation By Transport Mode

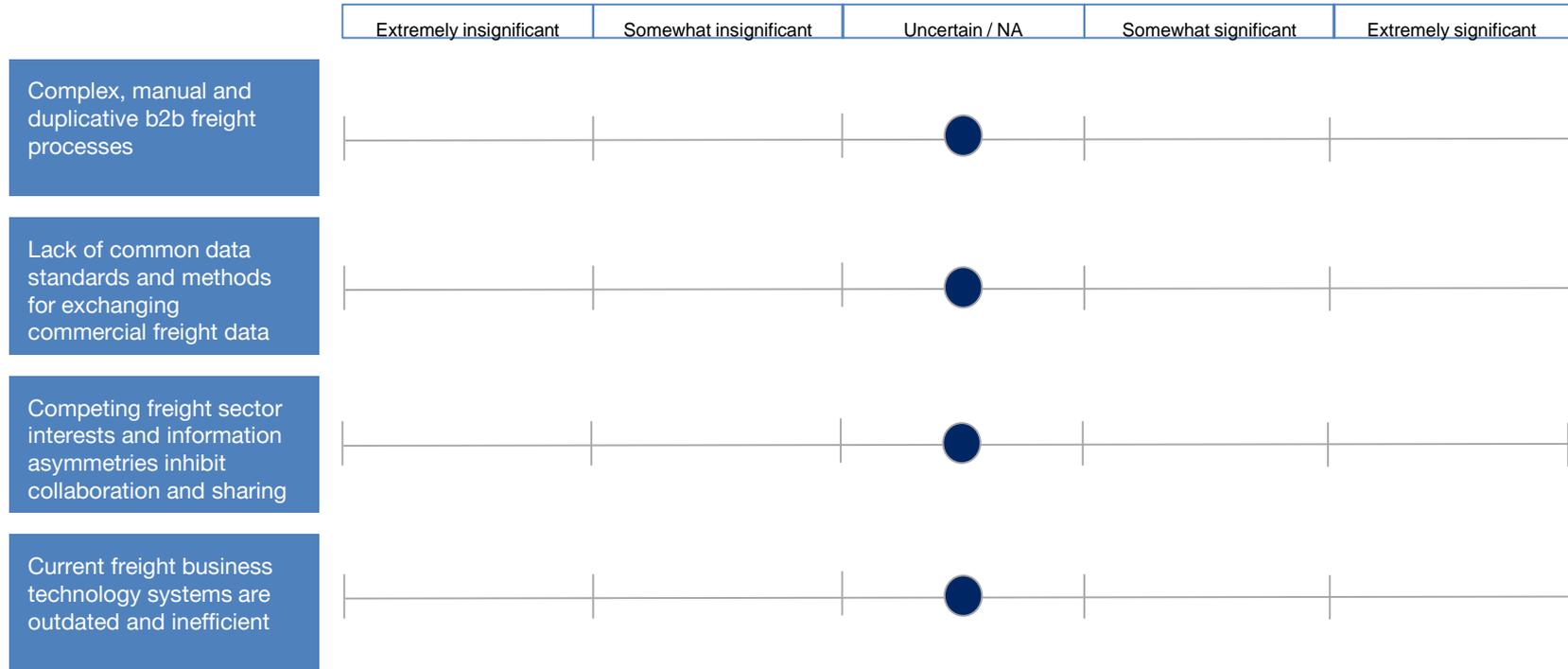
Consultation: Pain points by transport mode

How significant are each of the following problem statements to **sea freight** movements?



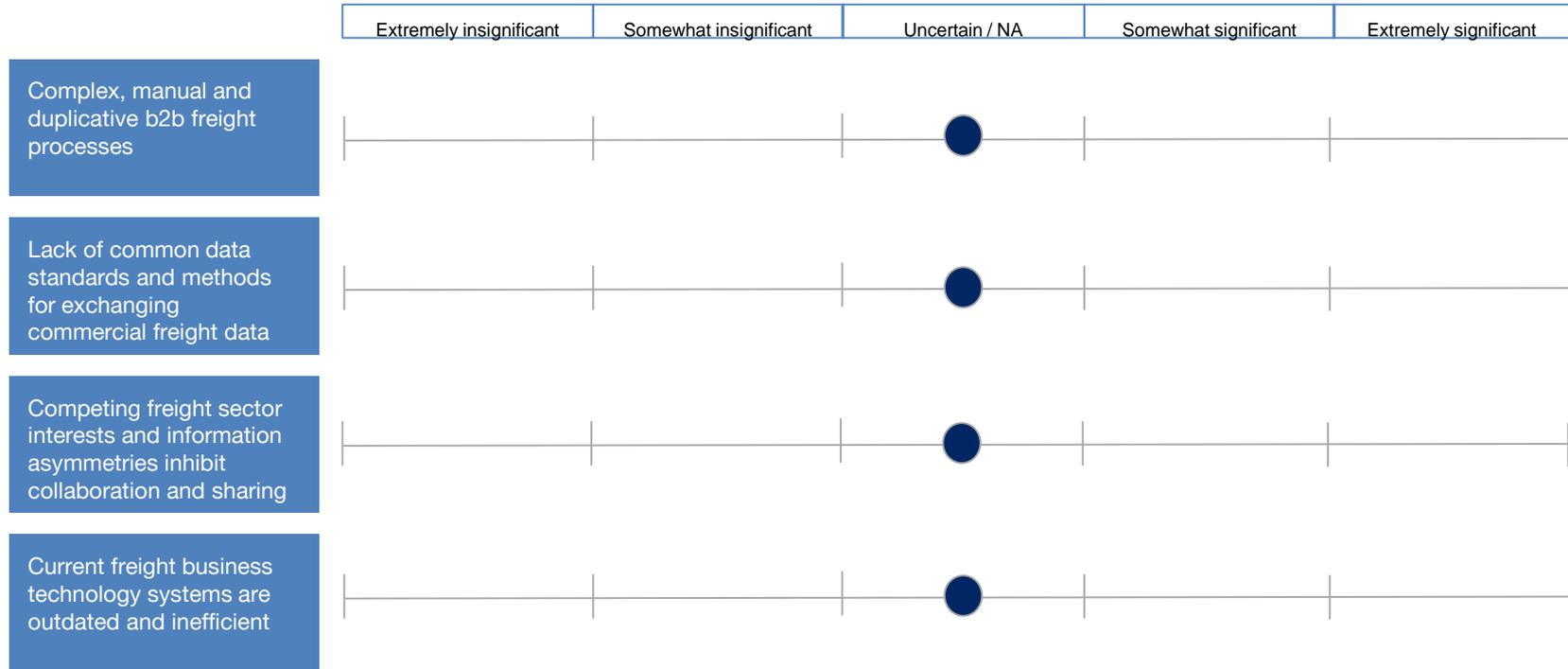
Consultation: Pain points by transport mode

How significant are each of the following problem statements to **air freight** movements?



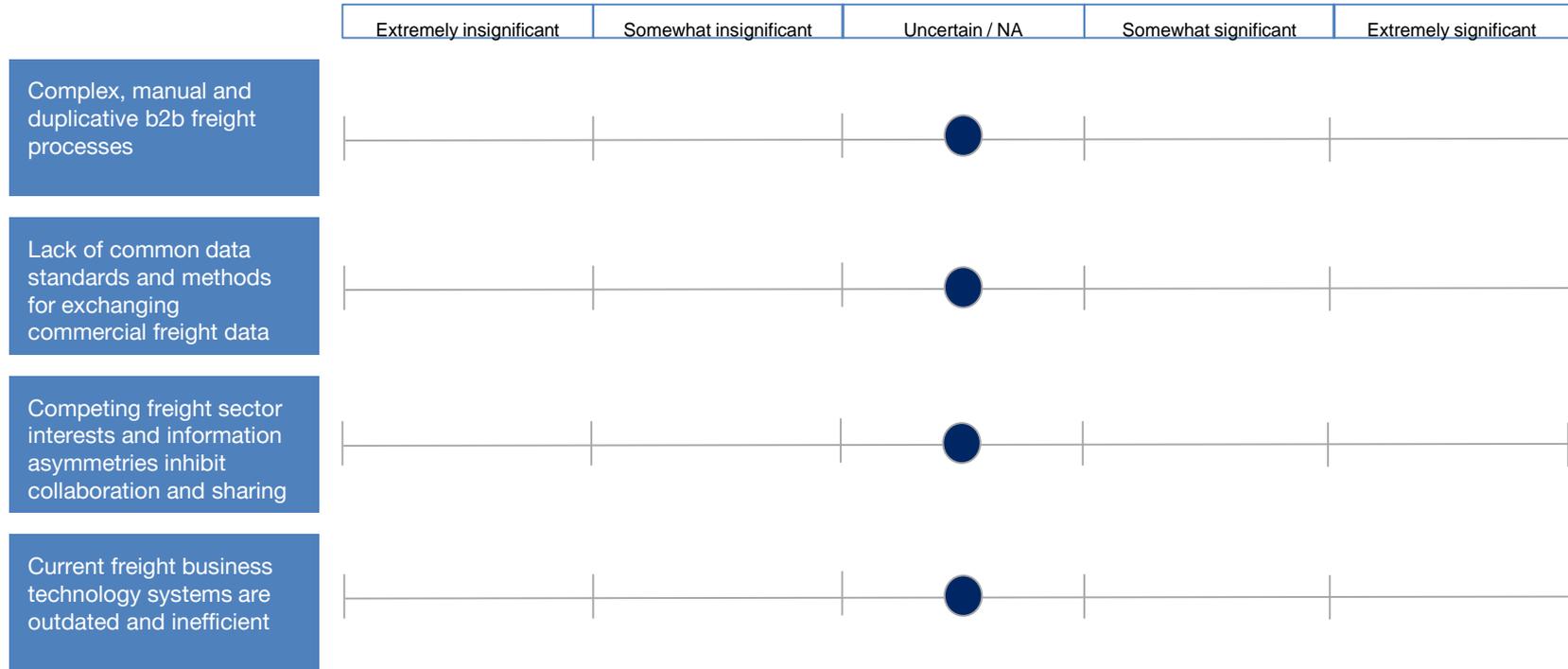
Consultation: Pain points by transport mode

How significant are each of the following problem statements to **road freight** movements?



Consultation: Pain points by transport mode

How significant are each of the following problem statements to **rail freight** movements?



Consultation: Pain points by transport mode

How significant are each of the following problem statements for **intermodal** movements?

Extremely insignificant	Somewhat insignificant	Uncertain / NA	Somewhat significant	Extremely significant
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Complex, manual and duplicative b2b freight processes



Lack of common data standards and methods for exchanging commercial freight data



Competing freight sector interests and information asymmetries inhibit collaboration and sharing

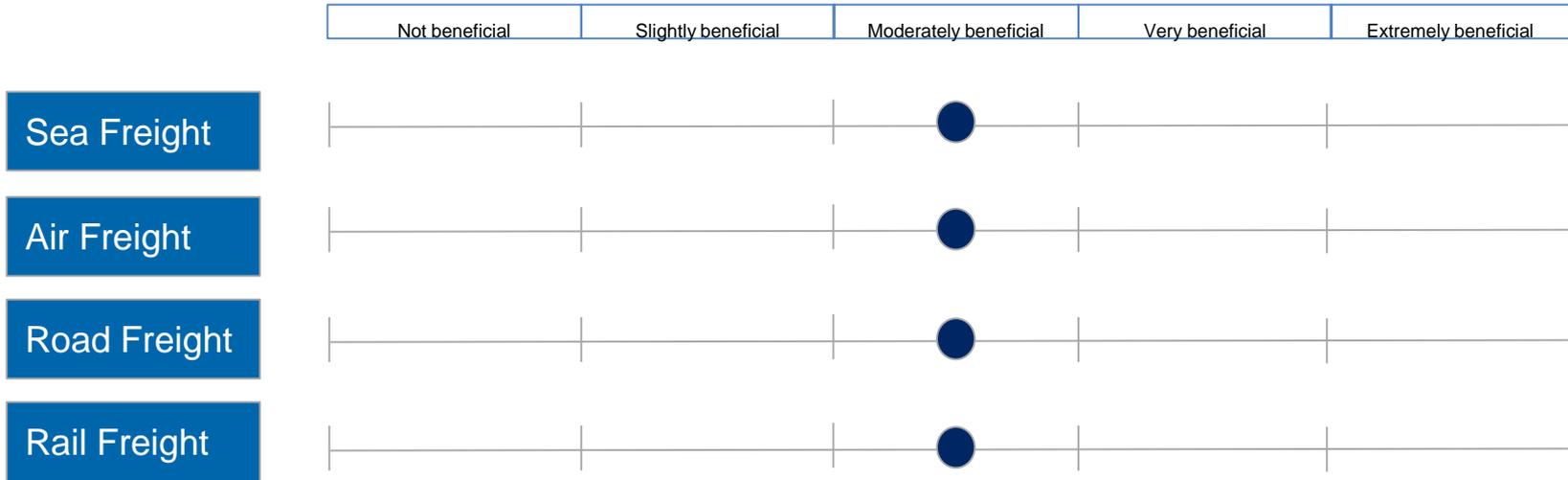


Current freight business technology systems are outdated and inefficient



Consultation: Overall benefit by transport mode

How beneficial would investment in a Freight Community System for New South Wales be for each mode of transport listed below?



An aerial photograph of a rural landscape. In the foreground, a long freight train with colorful containers (green, orange, blue) is driving on a two-lane asphalt road that curves through the fields. The landscape is dominated by golden-brown, harvested agricultural fields. In the middle ground, there are several farm buildings, including a large white silo and a cluster of smaller structures. The background shows a flat horizon under a clear blue sky. The overall scene is bright and sunny, suggesting a clear day.

**Think
Freight**

**4 Consultation By
Use Case**

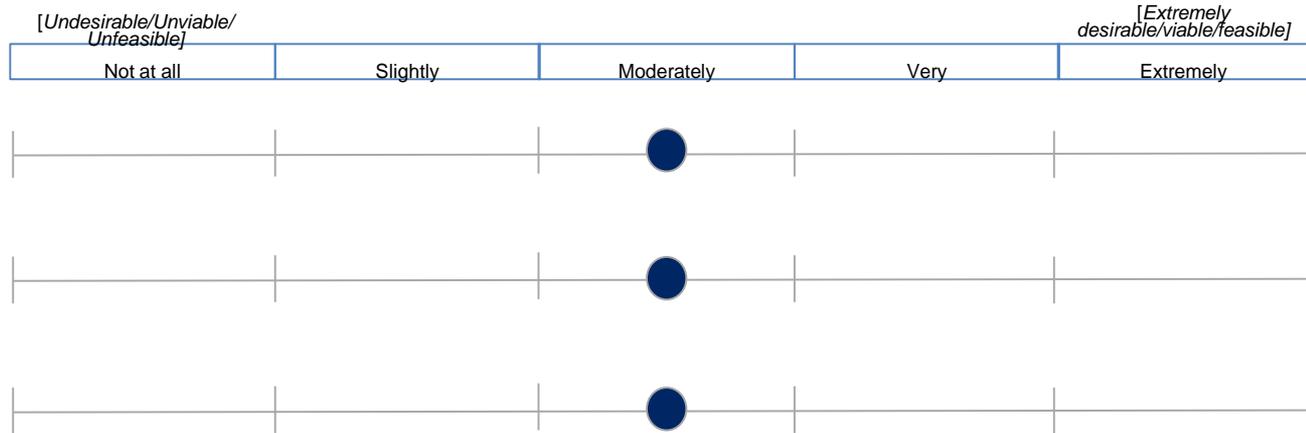
Use Case consultation

Use case 1

1. Booking

I want to quickly and easily reserve freight-related resources so that I can progress the movement of my goods

Examples: Container, Cargo Ship | Trucks | Sea Cargo Space | Road Cargo Space | Rail Cargo Space | Air Cargo Space



Desirability

Viability

Feasibility

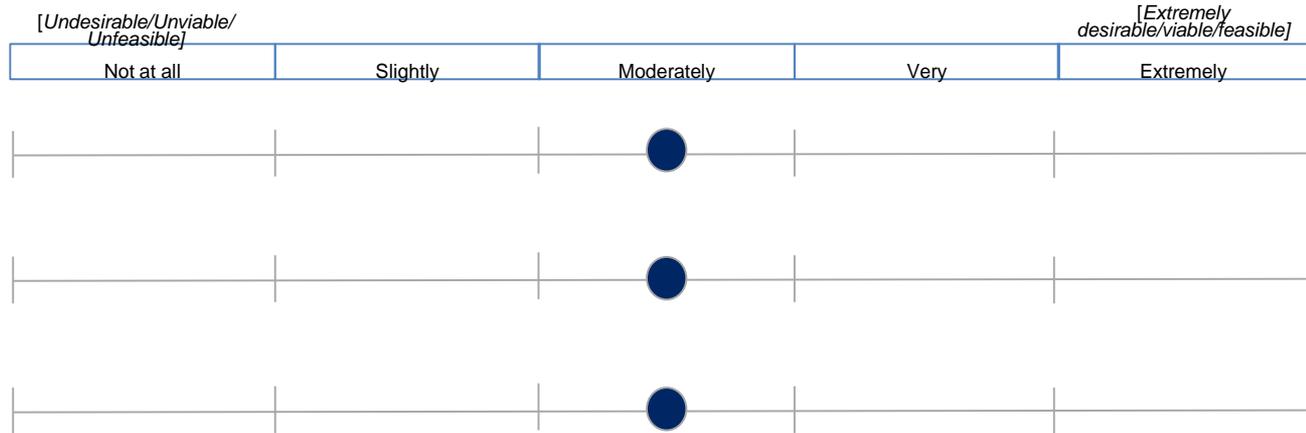
Use Case consultation

Use case 2

2. Party instruction

I want to transmit freight movement instructions to my supply chain businesses electronically so that I do not have to duplicate transmission and have a record.

Examples: Shipping instructions | Delivery instructions, loading and discharge info



Desirability

Viability

Feasibility

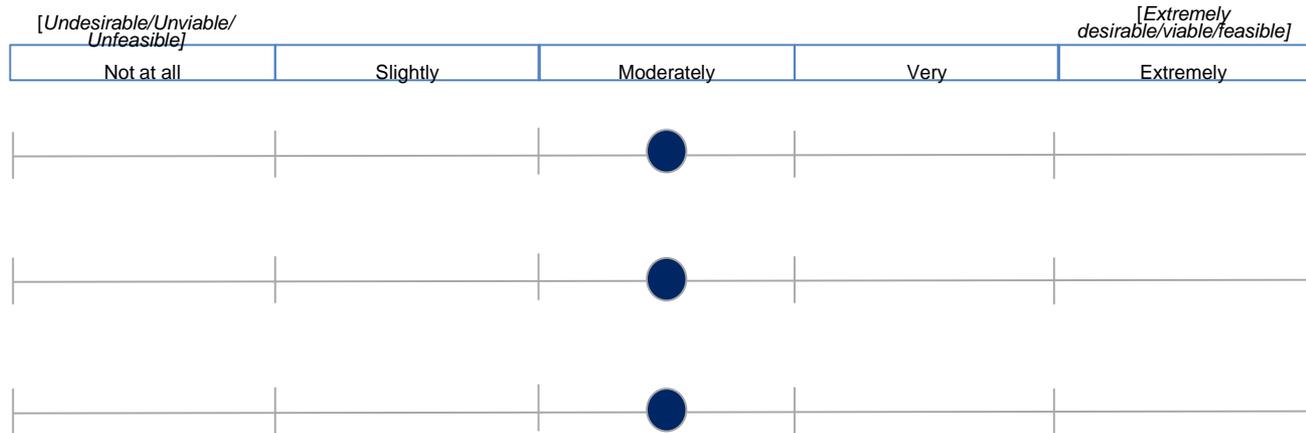
Use Case consultation

Use case 3

3. Authority and permission

I want to be able to provide authority-related information to my supply chain partners so that they can be permitted to progress with the movement of my goods

Examples: Certificates | Licences | Permits | Dangerous goods declarations | Import / Export declaration | Consignment notes | Bill of lading



Desirability

Viability

Feasibility

Use Case consultation

Use case 4

4. Monitoring

I want visibility of my freight so that I can make appropriate plans further along in my supply chain

Examples: Sea/Air/Road/Rail Containers/Cargo location | Container/Cargo Release Status / Info | Transhipment Info | Truck position tracking | Arrival/departure time | Passenger network Loading | Discharge Info



Desirability

Viability

Feasibility

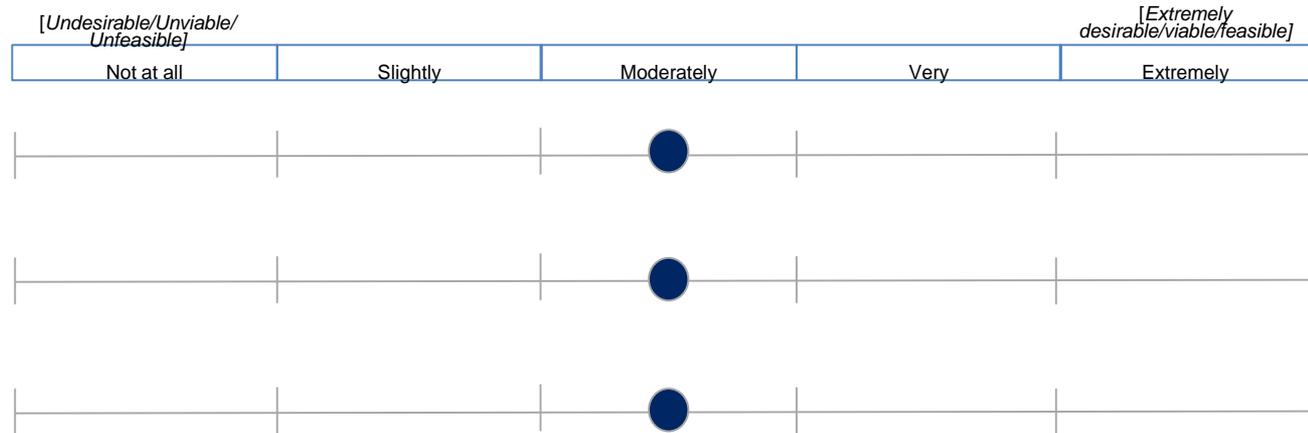
Use Case consultation

Use case 5

5. Hindsight

I want historical event information to better understand my import/export/domestic supply chain-related processes and performance

Examples: Sea/Air/Road/Rail Container and cargo allocation | Traffic and commute information | Container throughput | Air freight information



Desirability

Viability

Feasibility

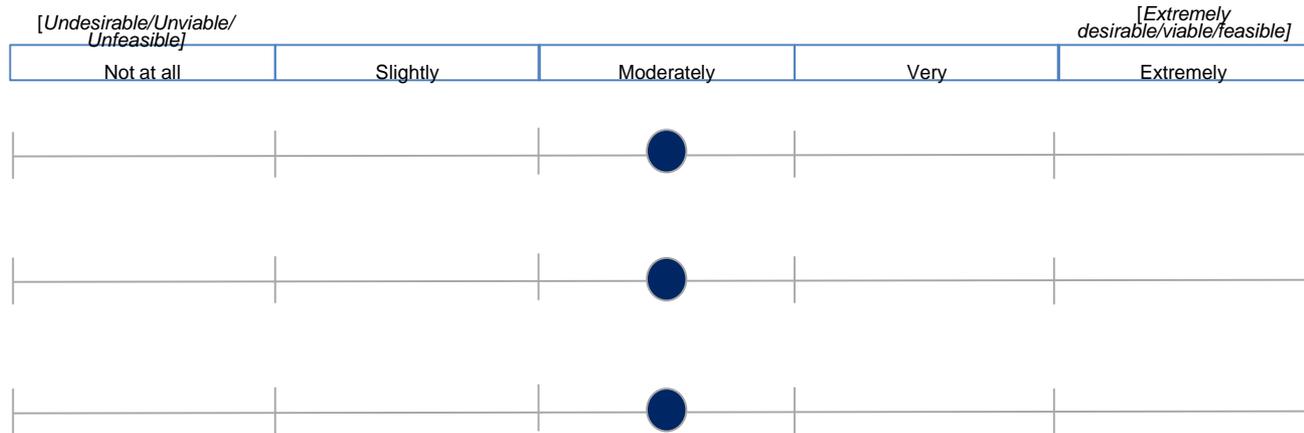
Use Case consultation

Use case 6

6. Foresight

I want to understand upcoming freight-related resource availability to inform my supply chain decisions

Examples: Import activity and timing | Domestic supply chain activity and timings | Export activity and timings |



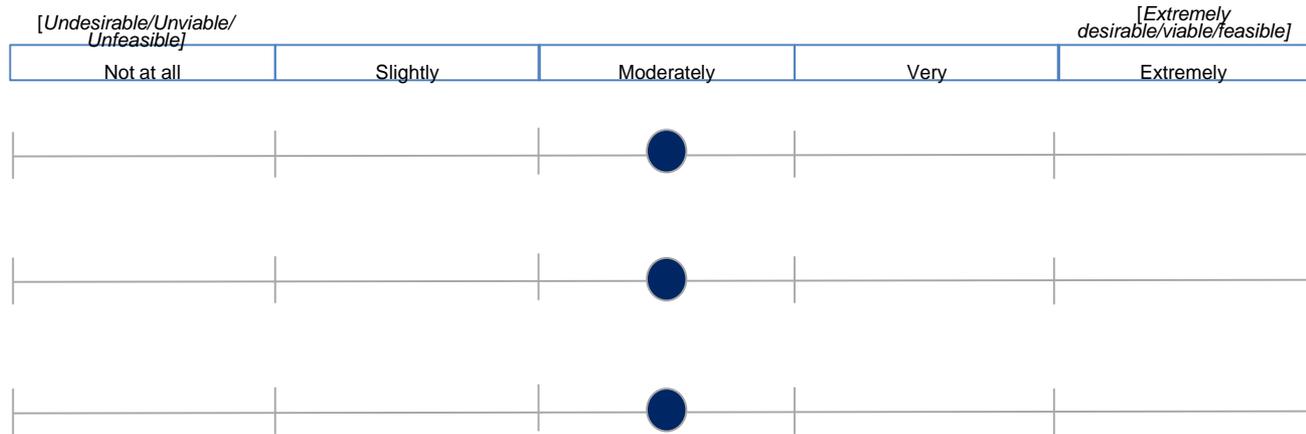
Use Case consultation

Use case 7

7. Insight

I want to analyse freight event-related data to better optimise portions of my supply chain

Examples: Sea/Air/Road/Rail Container allocation | Container throughput | Backloading | Traffic and commute trends | Urban freight | Air freight



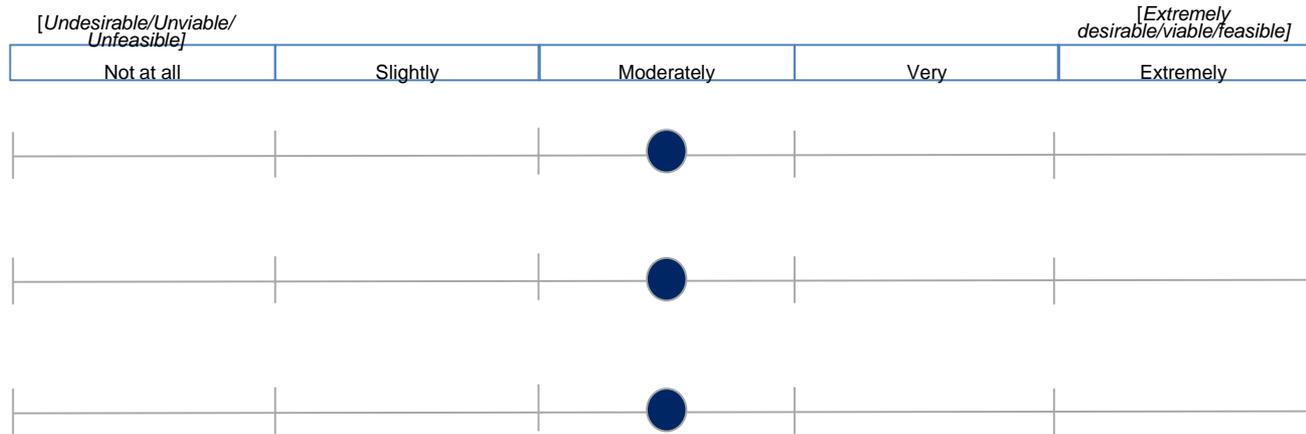
Use Case consultation

Use case 8

8. Data Exchange

I want to send and receive information through a trusted, secured and independent infrastructure to improve coordination of existing freight data and promote data sharing

Examples: Application Programming Interfaces | Electronic Data Interchange



Desirability

Viability

Feasibility

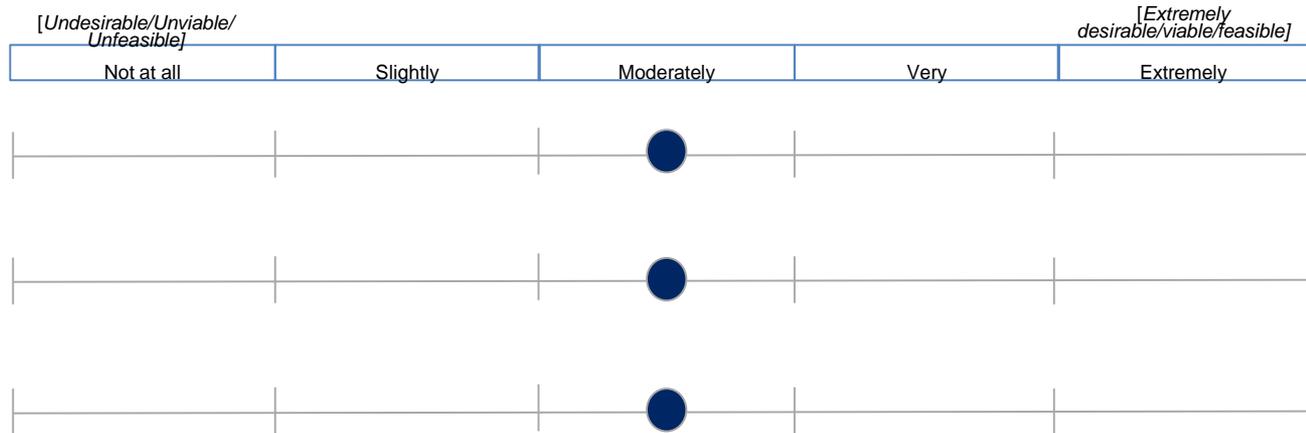
Use Case consultation

Use case 9

9. Data Standards

I want common data standards to be used across the community to improve efficiency and avoid ambiguity in communication, and to encourage innovation and reduce ecosystem costs

Examples: Freight Data Standards



Desirability

Viability

Feasibility

Think Freight



5 Next Steps

Written Submissions

Are there other relevant considerations which have not been addressed?

A large, empty rectangular box with a thin blue border, intended for written submissions or answers to the question above.

Next steps

1. Synthesise feedback from the two webinars
2. Identify participants in priority sectors to conduct depth interviews
3. Receive and review any written submissions
4. Finalise Strategic Business Case in September 2021

For written submissions, please contact:

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