# Delivering the Goods

# AUCKLAND FREIGHT PLAN

SUMMARY REPORT I SEPT 2020





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# **ACKNOWLEDGEMENTS**

Auckland Transport would like to acknowledge the following participants for engaging in the development of the Auckland Freight Plan:

- Auckland Council
- New Zealand Transport Agency
- Ministry of Transport
- KiwiRail
- Auckland Airport
- Ports of Auckland
- National Road Carriers Association
- Automobile Association
- Road Transport Association NZ



The Auckland Freight Plan (the Freight Plan) has been developed by Auckland Transport (AT) to improve freight literacy and provide a freight lens to inform integrated transport planning. Freight movement in Auckland was last reviewed in detail and documented in 2006. The resulting Strategic Freight Network (SFN) was not formally adopted or well communicated and has not been updated in response to changing needs. An updated Freight Plan is needed to address stakeholder challenges in the movement of goods across the Auckland network, and to appropriately support freight movement.

Freight is a key enabler of economic activity and fundamental to the liveability of a city. During COVID-19 freight movement was recognised as an essential service, keeping Auckland moving, grocery store shelves stocked, and supplies delivered to critical businesses throughout the lockdown period. The resilience of the supply chain and its people will continue to be a key part of New Zealand's economic recovery.

The development and implementation of this Plan forms the basis of Auckland Transport's long term engagement with freight industry stakeholders in order to understand and work to address the critical challenges specific to the safe, efficient and sustainable movement of freight across Auckland.



### This Freight Plan will

- demonstrate AT's commitment to the freight industry
- improve our understanding of freight movement and its challenges
- identify actions AT and partners can undertake to address challenges and improve results, ensuring that this critical mode is supported.

#### Its core function is to

- improve freight literacy
- identify critical challenges for freight movement in Auckland
- define measurable outcomes
- better reflect and embed freight in AT's planning hierarchy through Future Connect, which will develop the ideal future transport network for all modes, reflecting the Strategic Freight Network as a key component
- direct resources to prioritised workstreams and agreed actions for future freight network improvements and investigations, including projects to be considered for Regional Land Transport Plan prioritisation, major services, optimisation initiatives, policy changes or trials.



Responding to the needs of our freight customers, and building on the key challenges identified in the Regional Land Transport Plan (RLTP), the Freight Plan identifies and seeks to address the critical challenges specific to the safe, efficient and sustainable distribution of freight across Auckland. The Freight Plan develops a set of workstreams and activities to address and mitigate these challenges, including improving the performance of the strategic network.

The Freight Plan is also informed by, and has an important function to support, the outcomes and objectives set out in the key strategic documents such as the Government Policy Statement for Land Transport (GPS) and the Auckland Plan.

The Freight Plan has been developed collaboratively through the Freight Reference Group (FRG – refer to Section 7.1 for an outline of the engagement process). This group includes representation from: Auckland Transport, NZ Transport Agency, Auckland Council, Ministry of Transport, KiwiRail, Automobile Association, Road Transport Association NZ, National Road Carriers Association, Auckland Airport and Ports of Auckland. Together, this group is tasked with overseeing the development and implementation of the Freight Plan.



Freight is a key enabler of economic activity and fundamental to the liveability of a city. Freight movement represents the goods (and services) that are produced, purchased, consumed, exported, imported, discarded or recycled. Freight vehicles include heavy commercial vehicles (HCV)—with a gross vehicle mass of more than 3.5 tonnes, and light commercial vehicles (LCV)—with a gross vehicle mass not exceeding 3.5 tonnes.

Within Auckland, freight moves primarily on the state highways, motorways, and arterial road network. However, in industrial areas, freight movements make up a substantial proportion of travel on local roads as they provide access to warehouses and distribution centres. Additionally, LCVs such as Uber, trade and postal services also use local roads rather than dedicated HCV freight routes. These freight movements are part of the wider supply chain, which includes the tens of thousands of Aucklanders who work in warehouses, distribution centres, ports and drive trucks and trains across the region.



Figure 1 Freight task interactions and complexity

As New Zealand's largest city, Auckland is a large consumer of goods and services, but also has a key role in the production and distribution of freight to the rest of the country.

The major freight gateways in the Auckland region are Ports of Auckland (PoA), MetroPort Auckland and Auckland International Airport. These intermodal cargo gateways are some of New Zealand's most significant import and export gateways both by volume and value.

The freight task is complex. As depicted in Figure 1 there are many freight interactions and freight is a component of many journeys and supply chains. Freight movements originating in Auckland are overwhlemingly transported by road (95%), however there are benefits and opportunities to increase the share of freight using rail, air and coastal shipping for some commodities.

This Freight Plan aims to increase freight literacy and understanding that freight moves around Auckland in a variety of vehicle types, fulfilling a multitude of functions. To meet the demands of customers, and be more agile and efficient, the industry is adapting their fleet and transitioning to smaller trucks and light commercial vehicles for distribution of goods.

Auckland is highly self-sufficient with approximately 84 percent of the freight task being internal to Auckland, the balance being freight moving into or out of the region largely via the airport or seaport, which form the national and international gateways to our region.

Auckland's seaport, managed by PoA, handles the following approximate annual volumes:

- Containers (1million containers (twenty foot equivalent units (TEU))
- Bulk and breakbulk products (6million tonnes)
- Vehicle imports (300,000 vehicles)

As at 2019, 13 percent of freight was moved from PoA by rail, with just 10 percent moved by rail nationally. The majority of freight vehicle movements within Auckland are relatively short, which may help to explain why the majority of Auckland's internal freight is transported via the road as opposed to rail, which is better suited to much longer trip distances. Most of the freight moving from PoA by rail is destined for regions south of Auckland. There is also competition for capacity on rail lines between passenger and freight services. Freight train movements are largely limited to the interpeak periods, when timetabling of metro service operations allows an appropriate slot.

While the global and national freight task is mainly about supply, driven by shipping and rail schedules, the local freight task is about consumer demand, including sorting and delivery from distribution hubs to the customer.

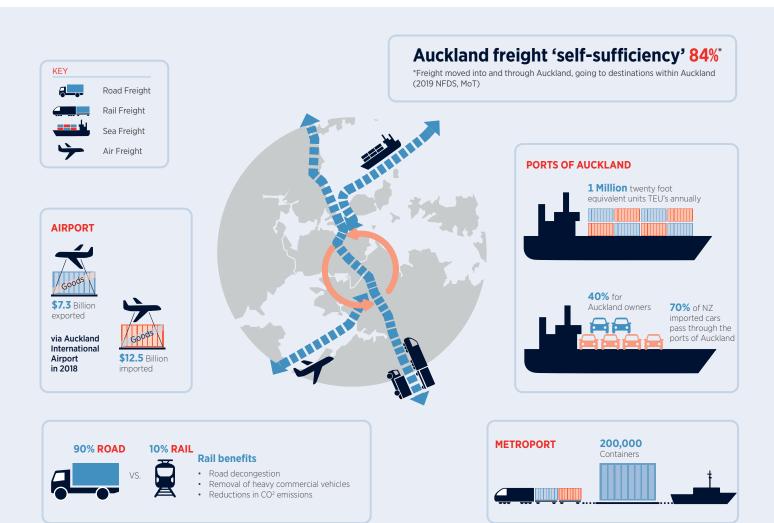


Figure 2 Auckland Freight overview

#### **INDUSTRY INSIGHT**



#### **Ports of Auckland**

PoA is owned by Auckland Council and is New Zealand's largest container Port. It provides container terminal handling, bulk cargo handling, freight hub, cruise industry support and generally supports the country's trade and growth.

In 2015, Auckland Council set up the Port Future Study to analyse options for the future of the Port. The study concluded that the Port may need to move in the future, but in the interim more infrastructure was needed for the existing Port. This led to the development of a 30-year master plan.

The master plan vision is for PoA to become a leading sustainable port at the global level, woven into the fabric of Auckland and driving the city's sustainable growth. PoA has taken a triple bottom line approach – managing and co-ordinating environmental, social and financial demands and concerns to ensure responsible and ethical long-term success.

POA supports sustainability targets including being Zero Emission and Zero Waste by 2040 along with supporting NZ's energy transition. The Port has is delivering projects in alignment with its master plan and has further planned improvements over the 5 - 10yr+ horizon.



# **Supply chain challenges**

The Port currently handles approximately one million twenty-foot equivalent units (TEUs) annually. At its peak, there are 27,000 truck movements per month all between the hours of 7am and 7pm. This is expected to rise with the automation of the straddle carriers, placing pressure on the supply chain.

Supply chain weaknesses often get exposed at peak times. Any operational Port closure or reduction in productivity, even if only for a few days, can cause severe congestion and take several months to fully recover, especially in peak import season. An inefficient operational system unable to run 24/7, congestion on roads, rail, ports, depots and customer premises, and labour shortages all contribute to wasted capacity and inefficiency at the Port.



# 4.1 Strategic Freight Network – a key planning tool

The SFN was developed in 2009<sup>1</sup> as a policy action from the Auckland Regional Freight Strategy (2006). In developing the network, focus was placed on the movement of heavy freight which pose specific issues in their use of the transport network in the region.

As part of the development of the Auckland Freight Plan, a review of the SFN has been undertaken to understand how well the strategic network is currently meeting its intent, provide evidence to support the challenges identified by stakeholders, and respond to key observations in terms of access, reliability, safety and performance for freight.

The main functions of the SFN remain unchanged which are to:

- link major areas of freight generation and attraction within the Auckland region, and to and from important locations outside the region
- minimise the impact of freight movement on the community
- provide roads and routes capable of accommodating the largest vehicles within normal legal limits
- offer convenient and reliable travel for freight between key locations.

The Auckland rail network is a key component of the SFN. However, the network review centres on the role and functionality of the SFN within the wider Auckland road network, which carries the vast majority of freight (more than 90 percent by volume). The Plan's focus on the key network connections to ports, the airport and major single-mode and multi-modal distribution depots supports the current focus on mode shift to achieve sustainability and safety outcomes.

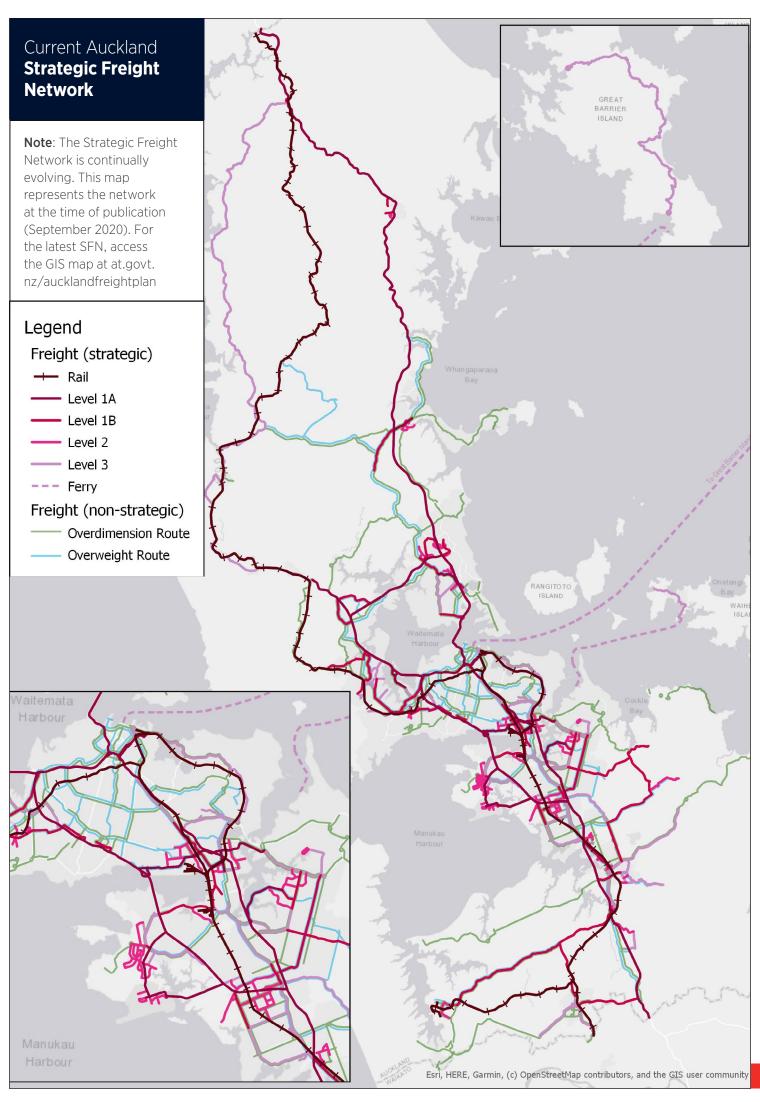
# 4.2 How freight moves on the SFN

As Auckland's population continues to grow, so too does the demand for goods and services. However, it has become increasingly difficult to deliver goods to customers. Managing competing network demands with the safe, sustainable distribution of freight is a critical challenge for Auckland.

In 2017/18, 76.3 million tonnes of freight were moved within, to, from and through Auckland. Freight in Auckland is expected to grow substantially over the next 30 years, with total freight carried in the region projected to increase to 108 million tonnes by 2046, influenced by population growth as well as trends in import, export and manufacturing.

While there is currently no way of tracking overall freight vehicle movement patterns or trends, a sample of commercial data, consisting of over one million actual commercial vehicle trips across the Auckland network in the month of March 2017 provided some insights. It showed that freight vehicle activity was concentrated in the south, with over half (57 percent) of all medium and heavy commercial vehicle (MHCV) movements finishing in the southern local board areas. The majority (79 percent) of MHCV trips leaving PoA finish in the southern local board areas. This southerncentric freight focus coincides with the high concentration of employment in freight-related activities including transport and warehousing, manufacturing, construction and wholesale trade.

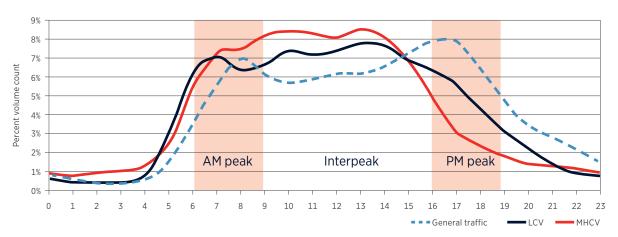
 $<sup>^1\,\</sup>mathrm{A}$  Regional Strategic Freight Network for Auckland – Draft report Revision 3A, Richard Paling, May 2009.



Population growth, constrained geography and increased travel demand has meant many parts of Auckland's transport network are over-capacity, leading to a decline in network performance over the past few years. In response to the demand for the timely pickup and delivery of goods, freight vehicles move around Auckland during the day when customers want things delivered, picked up or serviced. Freight vehicles have typically moved during the interpeak period to avoid the peak periods when network performance is generally poor. However, increasing 'on-demand' delivery requirements by customers has led to freight vehicles having to move during peak periods, leading to additional peak congestion and longer journey times. This imposes increasing costs on the supply chain.

Figure 3 shows the percentage of commercial vehicle trips undertaken per hour of day for the vehicle fleet comprising the commercial data sample. Freight vehicle movements overwhelmingly occur during the interpeak period (9am to 4pm), with 56 percent of all MHCV activity and 50 percent of all LCV activity occurring during the interpeak (8 percent per hour for MHCVs and 7 percent per hour for LCVs). It demonstrates that the morning peak period (6am to 9am) is almost equally as important. While LCVs drop off slightly after 7am, MHCVs appear to be more active throughout the morning and interpeak, but reduce at a much faster rate than LCVs in the mid-afternoon. This drop off in activity suggests that MHCVs actively try to avoid the evening peak period.

Figure 3 Distribution of Commercial Vehicle Activity by Time of Day (March 2017 Auckland sample)



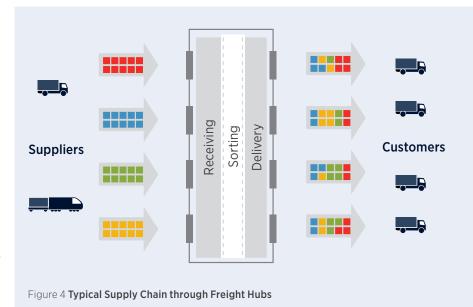
The time profiles show that while freight vehicle activity commences earlier than general commuter traffic², commercial vehicles are still very active during the morning peak, and continue to rise until reaching a peak in the mid-afternoon and then dropping off before the evening peak period (4pm to 7pm).

This pattern of movement is indicative of Auckland business' 'capacity to receive', which varies greatly. As shown in Figure 4 bulk freight, typically moved in containers, is delivered to freight hubs (many of which are in South Auckland) by road or rail, and are 'de-vanned' or unloaded ready for delivery to the various customers via trucks and vans of varying sizes.

Many customers are small businesses, and logistics is labour

intensive. Freight carriers are restricted to deliver when the customer is available to receive, usually within core business hours, therefore peak period travel is unavoidable.

Industry insights on the following page provides context as to how the Auckland supply chain is adapting and responding to the growth and challenges influencing the freight task



<sup>2</sup> This profile was generated using traffic volume by hour data (all vehicle types) from a sample of arterial roads around Auckland including; Ti Rakau Drive, Lagoon Drive, Ian McKinnon Drive, Constellation Drive, Te Atatu Road, Great South Road Manukau.



#### Mainfreight

Mainfreight is a global logistics provider, offering a full supply chain solution from managed warehousing to international and domestic freight forwarding. This is supported by technology which provides a portal for customers to track freight movements and stock in real-time.

Mainfreight began its operations in Auckland in 1978, soon growing into New Zealand's most extensive freight operator. At present, Mainfreight has 15 independent sites, three Less than Container Load (LCL) silos and 10 major box warehouses feeding the Auckland market. On any given day, Mainfreight transports 160,000 pallets around Auckland and has 50-60 trucks crossing the Harbour Bridge.

Despite the growing freight task (8% per annum), due to congestion Mainfreight is delivering 30% less freight by volume than five years ago. The impact of congestion is resulting in a change to business operations. Operators are turning towards smaller vehicles for deliveries lifting their labour, fuel and insurance costs. One truck and trailer load is equivalent to 4.5 small trucks; putting more vehicles on the road and requiring more drivers to deliver the same volume of freight.

The majority of Mainfreight deliveries take place between 9am and 5pm Monday to Friday. With network congestion growing, the cost of deliveries is increasing. The opportunity to shift to out-of-hours operations (early morning and night time) is limited due to customer needs (i.e. daytime deliveries) and liveability/amenity conflicts such as noise in residential areas.



The declining confidence in travel reliability is impacting investment decisions with a growing need for more freight depots in a diversity of locations to reduce the distance freight must travel around Auckland. Mainfreight secured 3.6 hectares of land in Hobsonville. West Auckland in November 2018 to allow customers in West and North Auckland to be serviced from a local base, instead of relying on facilities an hour's drive away. This reduces reliance on the congested south and central Auckland arterial routes and frees up capacity in the South Auckland branches which, in turn, allows for growth across the greater Auckland region.

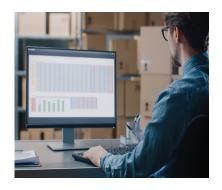
# 4.3 Future influences on freight

Technology is constantly changing the freight and logistics task. Many influences on how freight is moved (now and in the future) are being driven by evolving customer expectations and demands, along with adoption of new technologies as they mature and advance (and the regulatory environment adapts). Some technologies currently being trialled include autonomous vehicles, robotics and localised logistics centres.

Wider transport projects in Auckland will also influence and aid the movement of freight. The delivery of capital projects proposed in the RLTP and Auckland Transport Alignment Plan (ATAP) that improve transport options, network capacity and connectivity, will support and shape Auckland's development through improved freight movement. Investment in public transport, rapid transit and walking and cycling also play a significant role in improving conditions for freight by reducing private vehicles (especially single occupancy vehicles (SOV)).







Through examining the freight plans of several other cities across Australia and Europe, evidence suggests that Auckland is experiencing similar challenges in relation to the function of freight and the wider transport network. The strategic outcomes sought across these jurisdictions are also aligned. The shared overarching challenges include:

- access to city centres and space available for loading zones
- safety issues as a result of competing modes
- reliability of delivery times being impacted by growing congestion
- environmental impacts of emissions
- balance of road space allocation with the provision of safe and dedicated pedestrian and cycle paths.

The freight plans and relevant policy documents for these areas have implemented several actions to address these challenges, including:

- pilot studies for off-peak deliveries
- changes to scheduling (informed by traffic data)
- a focus on congestion and reliability measures
- further research into the function of roads to support the movement of freight
- setting policies to reduce emissions within specific areas
- researching electrification of urban logistics and other technologies
- focusing on modal shift and future planning with land use integration
- collecting and sharing data to manage real time issues.

The need for more data and evidence to inform decision making strongly resonates through all local and international literature reviewed. Greater collection on freight activity data and differentiation of modes can inform:

- optimisation of localised trips
- investigation into freight traffic operating in special vehicle lanes
- review of loading zone restrictions and enforcement
- light commercial freight task composition to understand the role of vans, service industry, on-demand delivery services etc.
- scheduling decisions and understanding of delivery time requirements and constraints.



# Stuff that moves in Auckland

Packaged meals deliveries/week

Construction



truck trips per day

Dairy products (milk)



litres /day

Tonnes of aggregates

(per day)

Recycling



-paper

-metals

335,000

tonnes pa

**Bread ingredients** GO

-marge/butter

salt

-grains

equals 14 truck trips

**General** waste

230,000

tonnes pa



-cars/year x wharf 250,000

> -delivered to city 200,000

**Containers** 

**Fuel** 

8,000,000

litres/day

Supermarkets

2,000,000 plts

plts pa

-20 products FMCG

-100 plts each to each lge supermarket/week **Couriers** 

-couriers AKL 1000+

-100 calls /day

-courier calls daily

120,000+

Library books some 1000s per day

NATIONAL ROAD CARRIERS (Inc.)

Beer

pallets per day





As a growing modern city, and New Zealand's most important economic region, Auckland faces a range of critical challenges to ensure the ongoing efficient movement of freight and services. To develop an effective response to these challenges, the freight planning process first sought to identify and confirm with industry and other stakeholders the most critical of these challenges.

Taking the key challenges outlined in the RLTP this plan develops these further (from a freight lens) to determine the most significant challenges affecting the movement of freight in Auckland today and over the next 10 years. Planning policy, data, evidence and research within New Zealand and freight plans from comparable jurisdictions were reviewed and presented to the Freight Reference Group (FRG) and Freight Working Group (FWG) for discussion. From this, four critical challenges were agreed as outlined below.





#### Safety and health

The movement of freight within Auckland must be free of death and serious injuries (DSI) and contribute towards improved health outcomes.

Evidence to support the criticality of this challenge is as follows:

- Managing the transportation of goods and services and ensuring the safety of all road users is paramount. Unfortunately, trucks tend to be over-represented in serious crashes. In a collision between a heavy vehicle and a light vehicle or vulnerable road user there is a much higher probability of death or serious injury than in a collision involving only light vehicles.
- In Auckland over the four years 2016-2019 there were between 220 and 250 trucks crashes per annum.
- While only making up 9% (45 DSI) of all DSI in 2014, Heavy Vehicle DSI increased 100% to 89 in 2017, making up 11% of all DSI
- Anecdotal evidence suggests that freight vehicles use rat running to avoid congestion.
   This places greater pressure on local roads and triggers safety concerns.

#### **Congestion and growth**

Auckland's sustained growth is creating greater network congestion and journey disruption, which is making it harder for freight to efficiently access markets.

Evidence to support the criticality of this challenge is as follows:

- Auckland's population is now approaching 1.7 million people and is forecast to grow to two million by 2028 and up to 2.7 million by 2048. Freight kilometres over the next 30 years are projected to increase by 53% nationally, with freight kilometres travelled within Auckland projected to rise by 85%. This increase in freight travel will exacerbate congestion, resulting in longer travel times and a subsequent increase in costs to operators and consumers if no intervention or improvements are undertaken.
- Based on traffic conditions at peak times relative to free-flow speed, Auckland now ranks 47th in the world in terms of traffic congestion.
   Congestion is significantly worse than Australasian cities of comparable population size including Perth, Adelaide and Brisbane.
   The cost of congestion in Auckland has been widely quoted as around \$1 billion per annum.
   Congestion is spreading across the day, across the network, and is projected to worsen.





### Road space and urban amenity

Increasing demand for more modal choices and improved urban amenity means trade-offs are needed to manage the limited network space available.

Evidence to support the criticality of this challenge is as follows:

- Auckland's roads and streets support walking, cycling, public transport, general traffic and heavy vehicle routes, servicing and delivery, and parking. Competing demands for the same space (particularly where roads are narrow or crowded) creates conflicts.
- The needs of the freight mode are unique and require specific cosideration in the strategic planning and design of roads and streets to address the pressures of growth in existing urban areas and new growth areas.
- Loading zones in most city centre locations are highly sought after and experience high occupancy rates, often delaying deliveries.
   At 'peak' delivery periods when drivers want to access the dock or loading zone, they may experience loading zone delay-one of the most common delays for freight vehicles. This is often due to the manual planning and execution processes which can be inefficient, high cost and high risk. Loading zone queues can result in freight vehicles circling the area or double-parking, causing disruption and safety issues for other road users and pedestrians. Delays add considerable costs to delivery, which are often passed on to the customer.

#### **Environment**

Moving freight within Auckland produces negative environmental effects and loss of amenity.

Evidence to support the criticality of this challenge is as follows:

- Transport-related emissions account for around 40% of Auckland's total emissions, which is significant considering the C40 2030 target of reducing Auckland's emissions by 50% (across all sectors, including transport).
- Trucks generate noise, vibration and pollution from exhausts, engines, reversing beepers, and tyres during the transporting, loading and unloading of goods.
- Planning restrictions exist to manage negative sensitivities and protect the amenity of neighbours. Delivery timing restrictions and the impacts of congestion can force deliveries and collections into time periods that are not the most efficient or time effective.



The critical challenges to ensure the ongoing efficient movement of freight and services are framed around six key outcomes, which the proposed interventions and freight action plan are aligned against, as outlined below.



# **Productivity**

The efficient movement of freight within Auckland is recognised and maintained as a critical service for the wellbeing of our region, its people and New Zealand as a whole.



# Competitiveness

The supply chain within Auckland is cost effectively managed and monitored to enable the freight industry to provide its customers with reliable access to goods and services.



#### Safety & security

Moving freight should be safe and secure.



## **Sustainability**

Freight moves sustainably through a resilient network that does not inhibit innovations and changes in technology.



#### **Acceptance**

Provision for freight is appropriately recognised in the planning system and balanced with other transport users and land use demands.



## **Smart freight**

Management of Auckland's land transport network is innovative and customer focused to ensure it is fit-for-purpose to deliver goods and services.



AT views this Plan as a step-change in acknowledging freight's importance in people's lives and the economy; recognising its part in the transport system and balancing it within all of Auckland's movement needs.

Importantly it provides a framework, through implementation of the revised Strategic Freight Network, to enable planning for freight as a core transport mode and a key part of the integrated Auckland Network. Through identification, protection and monitoring of the Strategic Freight Network, Auckland Transport can plan proactively to avoid conflict, reduce rat running, and enable improved freight movement.

This Plan will continue to evolve, but initially helps set the tone for prioritising freight and integrating it into the Future Connect planning. The action plan assumes that the projects delivered through the RLTP hold congestion steady through better travel choice and mode change.

A key aim was also to improve the understanding of freight within Auckland Transport and the community, with a focus on industry engagement and relationships.

# 7.1 Engagement Road Map

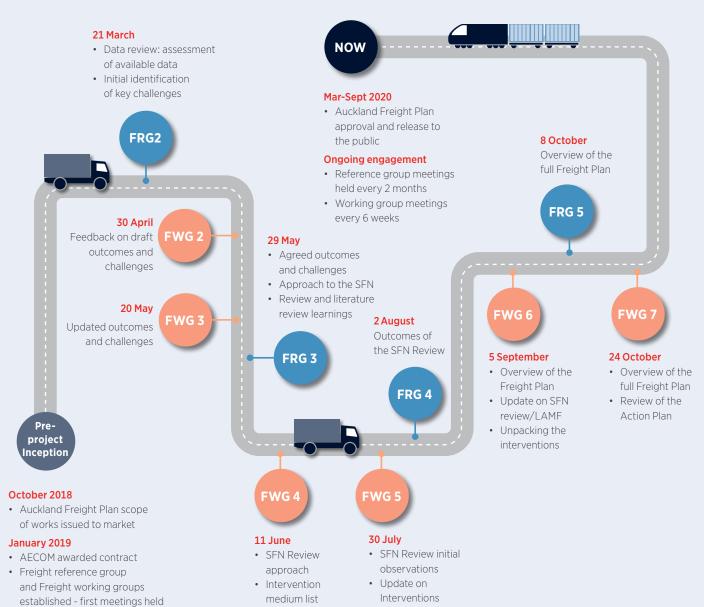
The FRG and Freight Working Group (FWG) have been key stakeholders in the Freight Plan development. The FRG is a representative forum that was consulted, providing input, advice and preference for dealing with strategy, policy, technical and operational issues relating to freight and commercial transport. FRG members are typically represented by their Executive (GM, National/Country Manager, CEO) and consider national level industry trends and challenges, as they impact Auckland.

The FWG comprises people working at an operational (local or City) level and is a combination of AT's internal strategy and operations units,

government partners, and industry. The core purpose of the group is to help shape the Freight Plan and turn the Plan into actions. The FWG met at six weekly intervals during the plan development. This group will have an ongoing role in the implementation of the Freight Plan. This was supplemented by presentations with National Road Carriers association, Mainfreight and PoA. These 'industry insights' provided valuable context to the operational issues faced by the supply chain on a daily basis.

Both the FRG and FWG played a key role in developing the challenges, outcomes and providing industry voice and context.

Figure 5 Freight Plan Engagement and Development Process overview



# 7.2 Shaping the interventions

Following the agreement of the critical challenges and outcomes, a long list exercise was undertaken identifying interventions and actions from the freight industry 'low hanging fruit' document, the literature review and feedback from early engagement with the FRG and FWG.

The interventions have been progressively developed to directly address the identified critical challenges, as well as data issues identified through the Strategic Freight Network review. Through this and consultation with the FRG and FWG, the interventions were grouped under five key themes:

- Building freight knowledge: focus on consolidating key data and information to inform decision making;
- **Stronger relationships:** to promote sharing of information, raising awareness of freight issues and best practice, and encouraging better behaviours;
- Smarter freight movement: to identify pain points on the network and help support the safe, efficient and sustainable movement of freight in Auckland;
- Optimising loading & servicing: trial new ways of working, guidance, technology opportunities to improve last mile freight operations; and
- Aligning Freight & Strategy: opportunities to incentivise/ encourage safe, efficient and sustainable freight operations through the planning process.

# 7.3 Implementation

The action plan represents only the first steps towards understanding and addressing the freight agenda in Auckland. It is essential that the Plan remains flexible enough to take advantage of new opportunities, emerging needs and is developed and built upon in any revision of the RLTP, taking into account resourcing, budget, policy and other constraints and opportunities.

For that reason, the actions are categorised for implementation as shown in Table 1 and the summary of actions can be seen at a glance in Table 2.

Table 1 Freight plan implementation categories

Implementation Category	Definition	
А	Implementation by AT using available programmes	
В	Implementation by partners/FRG members using available programmes	
С	Implementation by AT/partners/FRG members requiring new funding	



# 7.4 An integrated approach

AT is developing Future Connect (an Integrated Transport Plan), which will identify the long-term plan (up to 30 years) for Auckland's future transport network. Future Connect will be consistent with the Auckland Plan objectives and the ATAP strategic approach, and will guide subsequent strategies and plans.

Future Connect will develop the ideal future transport network for all modes, reflecting the Strategic Freight Network as a key component. The highest ranked issues and opportunities across the Auckland regional network will inform proposals for future freight network improvements and investigations. Proposals could include capital projects to be considered for RLTP prioritisation, major services, optimisation initiatives, policy changes or trials, and will draw on the interventions identified as part of the Freight Plan.

AT has a commitment to Vision Zero; an ethics-based transport safety approach that places responsibility on people who design and operate the transport system to provide a safe system. The Freight Plan recognises and embodies the Vision Zero principles and, whilst cast through a freight lens, also recognises that safety is paramount to 'get freight there safely, and as efficiently as it can'.

Public and active transport investment also supports the movement of freight in Auckland. Targeted investment through the RLTP to provide quality integrated land use, safe access to and from public transport, and safe infrastructure for active modes, will support the city to move away from the dominance of single-occupant private vehicles, to a city where public transport and walking and cycling play a more important role. This will see a better use of network capacity, ease congestion and network constraints, and aid safer and more efficient movement of freight.

Tranport contributes the largest source of emissions in the Auckland region (at ~43%; noting that about 80% of this is light vehicles, 20% heavy vehicles). The Freight Plan recognises the importance of improving the efficiency of freight systems in order to reduce emissions and target climate-compatible development. The freight industry is also committed to invest in and support better environmental outcomes.



# **7.5** Next Steps

With the approval of the Plan by the Auckland Transport Board, the Freight Plan has now been released and will be progressively implemented subject to funding, to ensure that this critical mode is supported. It will also ensure that the transport system is delivered in an integrated manner, considering the needs of all modes in accordance with Auckland Transport and wider Council and Government goals.

The release of this plan is intended to provide stakeholders with opportunities to proactively engage in plans, proposals and other consultations with freight impacts, and increase awareness of the freight task and issues by communicating the freight story to the public. A key component of the next steps of engagement is also to promote the revised Strategic Freight Network map to be used as a key integrated network planning tool.

Table 2 Freight Action plan summary

			Categor	у	
Themes	Intervention	Α	В	С	Responsibility
	A1-1				Integrated Network Planning / Asset Management
Building freight knowledge	A1-2				Subject to funding
	A1-3				Subject to funding
	A1-4				Business Technology ITS programme
	A2-1				Subject to funding
	A2-2				Subject to funding
	A2-3				Subject to funding
	B1-1				FWG/FRG
	B1-2				FWG/FRG
Stronger	B1-3				FWG/FRG
relationships	B1-4				FRG
	B1-5				Subject to funding
	B2-1				NZTA
	C1-1				Integrated Network Planning
	C1-2				Integrated Network Planning
	C1-3				Network Management
	C1-4				Network Management / Strategic Projects
	C1-5				Subject to funding
Smarter freight	C1-6				Subject to funding
Smarter freight movement	C2-1				Subject to funding
	C2-2				Subject to funding
	C2-3				Subject to funding
	C3-1				FWG
	C3-2				FWG
	C3-3				FWG
	D1-1				Strategic Projects
	D1-2				Subject to funding
	D1-3				Subject to funding
Optimising loading	D1-4				Subject to funding
& servicing	D2-1				Subject to funding
	D3-1				Subject to funding
	D3-2				Subject to funding
	D3-3				Subject to funding
	E1-1				Subject to funding
	E1-2				Subject to funding
	E1-3				Subject to funding
	E2-1				Safety / FWG
	E2-2				Safety / FWG
Aligning freight	E2-3				Safety / FWG
& strategy	E3-1				Auckland Council / Ministry of Transport
	E3-2				Auckland Council / Ministry of Transport
	E3-3				Subject to funding
	E4-1				Integrated Network Planning / Network Management

# 7.6 Action Plan

A BU	ILDING FREIGHT KNOWLEDGE		
	Intervention	Objective	Implemer Categor
A1	FREIGHT DATA/INFORMATION PORTAL		
A1-1	Building upon current AT workstreams and actions <sup>3</sup> , investigate and understand what data is currently being collected, by whom and how it is formatted. In the short term, consolidate existing freight industry commercial data, routing data, traffic count, travel speed (GPS), crash data and other network performance data and identify critical gaps in ability to inform decision making, in the Future Connect viewer.	<ul> <li>Bring the array of different data sets and information across organisations together into one place.</li> <li>Application of same data across project analyses for greater consistency.</li> <li>Opportunity to drill into safety issues.</li> </ul>	A Integrated Network Planning / Networ Manageme
A1-2	Feasibility Study to determine the best model of consolidation and management of industry-derived freight information / data, to overlay general network data including traffic counts, travel time, safety, disruption and other network performance data in a safe, private, acceptable and accessible manner to inform decision making, including costing and consultation.	<ul> <li>Provide greater insight of freight network performance and freight movements.</li> <li>Improve quality of data collected to inform value based decision- making and reporting.</li> </ul>	С
A1-3	Based on the Feasibility Study, develop implementation plan for portal/data bank model, ownership and methodology for collecting and updating multiple data sets in a safe, private, acceptable and accessible manner. Users/contributors to the portal are expected to include freight operators, NRC, cargo owners, businesses, freight associations, local and national government.	<ul> <li>Collaboration of data from both industry and local authorities to guide the setting of targets and monitoring.</li> <li>Improve efficiency, management and safety of the industry through accurate, reliable and relevant data.</li> </ul>	С
A1-4	Deploy more "sensors" specific to monitoring freight movement. E.g. using CCTV or Automatic Number Plate Recognition to count vehicles and in particular freight vehicles. Requirements to first be benchmarked, and then for annual review.	<ul> <li>To fill gaps in the numerous data sets that don't currently identify/specify vehicle type.</li> </ul>	A Business Technology programn
<b>A2</b>	FREIGHT MODELLING		
A2-1	Establish freight modelling needs and possible approaches to understand future freight task based on outcomes of the Freight Data Portal feasibility study.	Improve representation of the future	C (AFC)
A2-2	Review and update modelling strategy and programme with the Auckland Forecasting Centre and to align with findings from #1.	freight task to inform decision making.  • Develop regional freight modelling	C (AFC)
		capability to demonstrate and provide	

- Current AT workstreams and actions
   Review of traffic count programme to ensure sites of interest to freight are regularly counted
   Separation of bus data from the heavy data in existing counts to give a clearer freight picture
   Engaging suppliers on the TMS Panel to review and possibly implement technological solutions if/where required
   Ongoing project with BT for an in-house storage facility and analytics interface is underway, may provide some solutions that need further investigation



# **B** STRONGER RELATIONSHIPS

	Intervention	Objective	Implement. Category	
B1	CONTINUE FREIGHT REFERENCE GROUP AND FREIGHT WORKING GROUP			
B1-1	Build on existing cooperation and understanding already established through the FRG and FWG. Evolve terms of references for groups including guiding principles, membership criteria and how the group can better inform decisionmaking with AT in current and future environments.	<ul> <li>Foster collaboration, cooperation and understanding.</li> <li>Share perspectives of freight needs in Auckland.</li> <li>Clarity of group structure, objectives, accountability and performance.</li> </ul>	A/B (FWG/FRG)	
B1-2	Collaboratively develop joint objectives, metrics and performance measures for the FRG and FWG. These could be informed by the Freight SOI measures.	Enable FRG and FWG to have clear direction, consistency, accountability and measurable outcomes.	A/B (FWG/FRG)	
B1-3	Investigate opportunities for new and wider industry partnerships and greater collaboration to foster information and better understanding of issues.	<ul> <li>Improve information sharing and collaboration with reference groups.</li> <li>Create opportunities to share approaches and potential efficiencies.</li> </ul>	A/B (FWG/FRG)	
B1-4	Establish a mechanism/agreement for elevating the FRG as a key stakeholder within the consultation, planning and decision-making process.	<ul> <li>Elevation of the FRG as a key stakeholder within the consultation process.</li> <li>Facilitate greater freight industry involvement in decision-making processes.</li> <li>Formal establishment of freight representation inclusion on freight-specific issues with AT/AC.</li> </ul>	A/B (FRG)	
B1-5	Explore avenues for a Freight Forum/Conference. This could be an extension of, or combination with, existing National Road Carriers Forum or other existing forums.	<ul> <li>Wider messaging and communication of freight issues and opportunities.</li> <li>Co-presentation by AT and industry to share progress on initiatives and trials.</li> </ul>	С	
B2	FREIGHT OPERATOR RECOGNITION SCHEME (FORS)			
B2-1	Investigate feasibility, appetite and process for implementing a freight operator recognition system (recognising that the NZ Transport Agency are reviewing monitoring and compliance of the heavy vehicle industry, utilise opportunities for any Auckland FORS scheme to complement the new NZTA framework.)	<ul> <li>Encourage and support high levels of operational efficiency and safety standards.</li> <li>Creates an optimal forum for collaboration, cooperation and participation with industry.</li> <li>Improve all areas of sustainable distribution including reduction in CO2 emissions, congestion, collisions and operator costs.</li> <li>Recognise compliance and reduce penalty charge notices.</li> </ul>	B (NZTA)	

# **C** SMARTER FREIGHT MOVEMENT

	Intervention	Objective	Implement. Category
<b>C</b> 1	TARGET FREIGHT NETWORK PAIN POINTS		
C1-1	Review and validate recommended changes to the Strategic Freight Network (SFN) in alignment with the Future Connect review of Strategic Networks, and communicate the revised SFN to be used as a key integrated network planning tool. Ongoing, for Quarterly review (in line with monitoring of SOI measure).	<ul> <li>Improve freight efficiency and reliability for freight without compromising safety of people or goods.</li> </ul>	A Integrated Network
C1-2	Using the updated SFN, conduct further analysis to provide greater insight for appropriate network and safety improvements for freight movements, to 2031 in alignment with Future Connect inputs to RLTP.	Increased utilisation of road space.	Planning)
C1-3	Review SOI 'pain point' locations and associated programme for investigation of interventions to improve the efficiency of freight movements against the SOI measures.	Optimised journeys through active network monitoring and targeted minor investment, including re-purposing of existing infrastructure to prioritise people and goods movement.	A Network Management
C1-4	Review and address issues/opportunities on Grafton Gully/ The Strand including review of the concepts identified in the City Centre Master Plan (Access for Everyone).	Protection and enhancement of access to the Waitemata Seaport, Auckland's primary international freight gateway.	A Network Management / Strat. Projects
C1-5	Identify and implement freight priority measures, including opportunities for priority signalling and lanes in key strategic locations on the SFN.	Optimise Auckland's Freight     Network now and for the future.	С
C1-6	Working with industry, develop a programme to investigate removal of parking near intersections or on arterials on the Level 1 SFN.	Reduce significant delay/ impediment to strategic freight movements.	С
C2	FREIGHT OPTIMISATION FUNDING		
C2-1	Support and enable efficient freight movement, through targeted funding requests for freight priority and optimisation measures to ensure that ongoing achievement of the SOI measure.	As per SOI measure, 85% of Level 1A and Level 1B roads to be performing at LOS C or better.	
C2-2	Signal optimisation including priority signalling or increased green time using predictive signalisation or smart solutions to minimise disruption of the flow of freight at key locations on key strategic freight routes.	Improve freight efficiency through reduced acceleration, braking and disruption of the flow of freight through intersections.	С
C2-3	Undertake research including review of international practice to understand advantages and disadvantages of shared use of Special Vehicle Lanes. Scenario test and establish likely benefits and costs from both travel time and safety perspectives. Potentially conduct controlled trial/s.	<ul> <li>Increase reliability for freight without compromising safety of people or goods.</li> <li>Increased utilisation/ productivity of road space.</li> </ul>	
<b>C3</b>	ACCESS RESTRICTIONS		
C3-1	Identify areas that could benefit from general traffic access restrictions to enable goods delivery in key locations.	Improve access for freight through reduced competition for access.	A/B (FWG)
C3-2	Investigate innovative solutions (such as electronic bollards) that could be applied to limit access for key functions only, such as freight, maintenance and emergency services.	Utilise technology to simplify access restrictions, monitoring and enforcement.	A/B (FWG)
C3-3	Explore potential for access restrictions within a registration system such as FORS.	Simplify by incorporating into a wider programme initiative.	A/B (FWG)

## **D** OPTIMISING LOADING & SERVICING

	Intervention	Objective	Implement. Category
D1	LOADING AND SERVICING PROGRAMME		
D1-1	Investigate the direct and consequential impacts of the "Access for Everyone" (A4E) concept under the City Centre Master Plan, including the legal and operational changes to enable A4E access restrictions (e.g. the ability to restrict street access at certain times to some types of vehicles) in ways not currently provided for, to ensure efficient servicing and delivery sector to support a thriving economy (RLTP proposal).	<ul> <li>The CCMP notes the need for a collaborative effort by AT and Council on the substantial work required to scope, business case, and prioritise all of the new CCMP projects (as well as NZTA on the Level 1A Strategic Freight Network interfaces).</li> <li>Some of the new investment will need to be delivered by AT, so AT will seek support in accommodating this within the next Regional Land Transport Plan.</li> </ul>	A Strategic Projects
D1-2	Develop a scope for a delivery and servicing toolkit that will identify the range of suitable solutions for each type of conflict and street type. The toolkit will contain related guidance and best practice examples, such as side-road loading, showing when each approach is applicable.	<ul> <li>Improve servicing standards and consistency of good practice by industry.</li> <li>Improved utilisation and efficiency.</li> </ul>	С
D1-3	Explore functionality of existing AT Parking Mobile Application (or alternative means) to include driver rest areas and other freight related information as identified in consultation with industry and users.	Enabling industry to plan freight movements & utilise driver amenities more efficiently and effectively.	С
D1-4	Undertake research to understand options for improving loading zone efficiency, compliance and enforcement with the use of technology. Understand technology capability including real-time occupation and detection as well as remote control, automated enforcement or physical restrictions, scalability and integration to include in AT carparks & controlled spaces e.g. Victoria Street, and sharing of existing loading facilities (private).	<ul> <li>Improve servicing standards and consistency of good practice by industry.</li> <li>Improved utilisation and efficiency.</li> </ul>	С
D2	LOCAL AREA FREIGHT MANAGEMENT		
D2-1	Identify and agree case study area/s for testing of the Area Freight Management framework (e.g. Favona), with the intent of developing a "toolbox" of design/management measures to align with the objectives of the Strategtic Freight Network. Trial the application of the framework to the agreed area/s.	To provide focus on the movement of freight in locations of high demand and/ or high importance for the freight industry and wider supply chain while managing reserse sensitivity effects, and provide guidance about areas within Auckland that have specific freight movement & loading and servicing requirements.	С
D3	INVESTIGATE ALTERNATIVE LAST MILE OPERATIONS		
D3-1	Working with industry (via the servicing & loading reference group) investigate feasibility of 'out-of-hours' and 'out-of-rush hour' freight deliveries. Understand drivers and how to incentivise. Establish a suitable trial scenario, with a focus to consider and mitigate negative externalities.	<ul> <li>Alleviate pressure on the network during peak hours to increase operator efficiency and overall network performance.</li> <li>Align to CCMP A4E concept and timeframes.</li> <li>Undertake trial of out of out-of-hours deliveries and assess outcomes and feasibility for wider use.</li> </ul>	С
D3-2	Study to determine benefits of 'decarbonising' freight/ logistics in major urban centres. This would include understanding possible incentives and options to encourage the industry and businesses. Measures could include the introduction of special lanes, charging facilities and criteria for cost exemption. Establish most likely opportunities in Auckland (align with Auckland Climate Plan).	<ul> <li>Accelerate and improve uptake of clean freight and delivery systems.</li> <li>Reduce fuel consumption and emissions.</li> <li>Improve efficiency of freight distribution through consolidated trips.</li> </ul>	С
D3-3	Working with the industry, develop pilot site(s) nearcentre consolidation sites and alternative last-mile delivery methods. Build upon the pilot with OnaMission to ensure data collection discipline is in place to capture utilisation, benefits and lessons learnt (align with Auckland Climate Plan).	<ul> <li>Reduce delays, costs and negative externalities associated with large numbers of small delivery vehicles accessing centres daily.</li> <li>Spread delivery times and reduce impact on congestion.</li> <li>Flexibility and convenience for businesses and residents to pick up goods.</li> </ul>	С

#### **E** ALIGNING FREIGHT & STRATEGY

	Intervention	Objective	Implement. Category
E1	LAND USE PLANNING CHANGES TO SUPPORT FREIGHT		
E1-1	Undertake an Industrial Land Capacity Assessment (or similar) to consider temporal demand and supply of industrial/commercial land for freight function/use.	Understand the current and future freight generating areas including scale and potential access and network resilience issues/ reverse sensitivities.	С
	Review AC land use and structure plan for	• Locate freight-intensive activities to maximise efficient movement of freight transportation.	
E1-2	protecting land in suitable locations near key freight routes for freight-generating activities.	Ensure land use is future-proofed for growth and change of freight task to avoid poor accessibility and compromised land use outcomes.	С
E1-3	Review and harness opportunity to incorporate innovative freight measures into the consenting and planning process.	Improve the likelihood of improving accessibility and network reliability through mechanisms including designation routes for construction traffic to reduce road damage, to increase capability to receive out-of-hours and larger deliveries as well as unloading deliveries and compacting waste on site.	С
E2	SAFETY OUTCOMES PLAN		
E2-1	Disseminate and embed Vision Zero principles and practices into industry practices (Strategic) aligning with Vision Zero action plan and timescales.		A / B Safety/FWG
E2-2	Establish standards and measures collectively with industry to prioritise safety and mitigate safety issues and concerns, continuing and enabling current AT workstreams and actions <sup>4</sup> . (Operational)	<ul> <li>Better integration of safety issues pertaining to freight within safety plans and reports.</li> <li>Work with commercial transport operators and industry to help adopt safe and sustainable transport technology.</li> </ul>	B AC/MOT
E2-3	Assist industry with implementing safe fleet management (e.g. investigating fleet types which better suit the urban environment, like lower cabs) and travel planning common practice through policies, technology and procurement, over Short/Medium/Long Term horizons.	Implementation of measures to reduce severity of incidents freight are involved in.	С
E3	SUSTAINABLE FREIGHT DISTRIBUTION FLEET MANAGEM	ENT	
E3-1	Advocate and support the Auckland Climate Plan to deploy clean energy and low emission initiatives in the Port and Wynyard Quarter areas including hydrogen production, solar power generation, shore power connections at cruise and freight shipping terminals, electrified port logistics, renewable energy, retrofitted hybrid systems and low emissions zones.	<ul> <li>Accelerate and improve uptake of clean freight and delivery systems.</li> <li>Reduce fuel consumption and emissions.</li> <li>Improve efficiency of freight distribution</li> </ul>	B AC/MOT
E3-2	Support MOT with the Green Freight Project investigating the role of alternative fuels in reducing Green House Gas emission from the transport sector.	through consolidated trips.	
E3-3	Work with industry to consider how schemes such as FORS can help accelerate the uptake of these practices and/or how industry can contribute to, or benefit from, government trials and initiatives (e.g. low emissions bus trials and hydrogen production, other incentives).	Accelerate conversion to zero carbon fleets.	С
E4	MODAL PRIORITISATION		
E4-1	Undertake a review of freight prioritisation relative to other modes (with a focus on arterials) utilising the updated Roads and Streets Framework, in alignment with Future Connect.	Reduce risk, uncertainty and conflict between modes and desired outcomes on a corridor.	A Integrated Network Planning / Network Management
<b>E</b> 5	DEVELOP DELIVERY & SERVICING (DSP) AND CONSTRUC	TION LOGISTICS PLAN (CLP) GUIDANCE	
E5-1	Investigate and understand how plans such as CLPs and DSPs have been applied in other jurisdictions.  Collaboratively develop guidance on freight efficiency plans for businesses.	<ul> <li>Improve operational efficiency and sustainable distribution.</li> <li>Reduction in duplicative trips and emissions.</li> <li>Reduction in unsafe practices and poor safety outcomes.</li> <li>These plans may provide a potential platform to trial some initiatives.</li> <li>Develop greater understanding of business operations and issues.</li> </ul>	С

Current AT workstreams and actions
 Freight Reference Group and Freight Working Group coordination of the development and implementation of the Auckland Freight Plan (AT INP)
 Unsafe loading and unloading practices project team who are reviewing traffic management processes and practices.

