**TE MANATŪ WAKA**
MINISTRY OF TRANSPORT

Transport Indicators – May 2022 update

Introduction

There are a total of 37 Transport Indicators, with between five and ten indicators for each of the five transport outcomes (see diagram below). The indicators are designed to be read together as a set. The indicators have been developed based on engagement with internal and external stakeholders, and desk research of international and national research, technical papers, and reports.
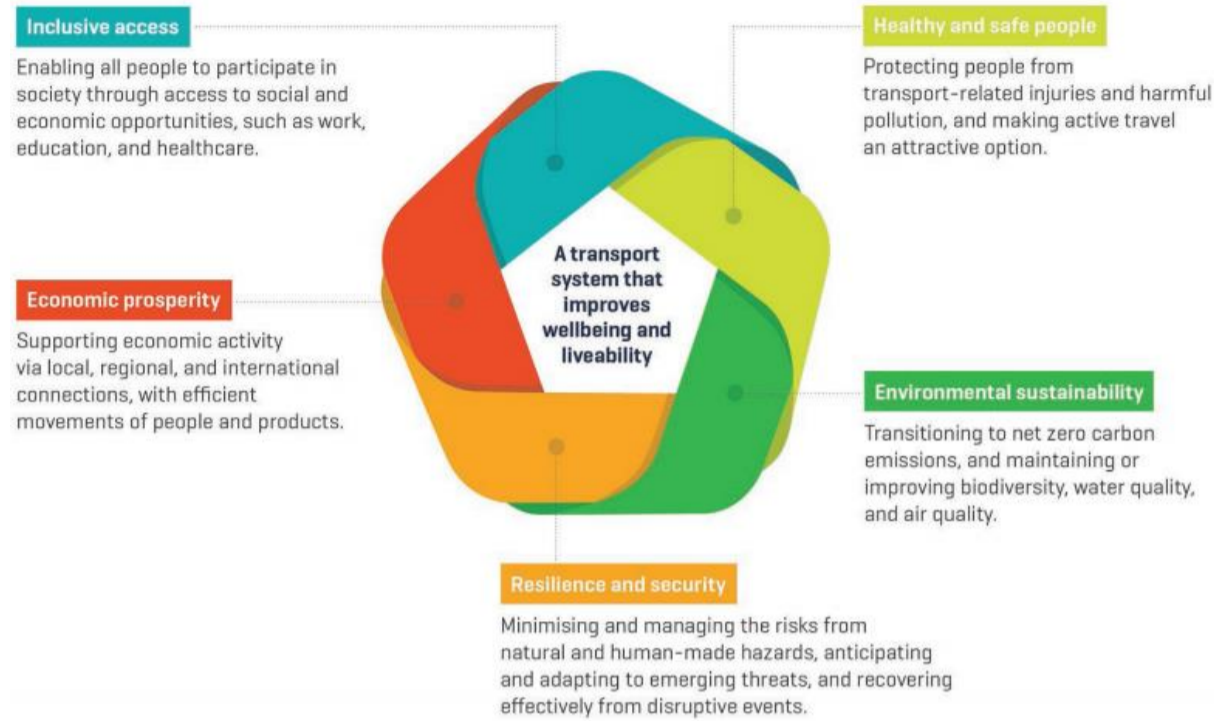
Types of indicators

To assist with the reading of this document, the following icons have been used to depict which modes the specific indicator is available to report on:

🚶	Walking (may include other active modes such as scooters and skateboards, depending on the data source)
🚲	Cycling (includes e-bikes)
🚗	Road transport
🚆	Rail transport
🚢	Maritime
✈	Aviation

Data availability

Transport Indicators are reported on annually from 2018/19. Given the existing data and research gaps, the indicators are introduced in stages based on data availability.

Additional indicators

This list is based on the best available information as of May 2022. While indicators will be largely kept the same year-on-year to allow for analysis of trends over time, there may be some changes to the indicators, for example, additional indicators may be added as new indicators are developed and as new data sources become available (e.g. through changes in technology).

Collated indicators

A summary of the indicators, and what mode/s they relate to is provided below. More detail about the indicators, including definitions and data sources, are provided in the rest of the document. A tick (✓) indicates that that indicator is able to be reported on for the 2020/21 financial year.

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	Indicator	Associated outcome	Walking	Cycling	Road	Rail	Maritime	Aviation
1.	Transport-related deaths	Healthy and safe people 1.1	✓	✓	✓	✓	✓	✓
2.	Transport-related serious injuries	Healthy and safe people 1.2	✓	✓	✓	✓	✓	✓
3.	Transport-sector work injuries	Healthy and safe people 1.3	-	-	✓	✓	✓	✓
4.	Time spent travelling by active modes	Healthy and safe people 1.4	✓	✓	-	-	-	-
5.	Harmful emissions from fuel combustion	Healthy and safe people 1.5	-	-	✓	✓	✓	✓
6.	Exposure to elevated levels of noise from the transport system	Healthy and safe people 1.6	-	-	✓	Not avail	Not avail	Not avail
7.	Contribution of transport and freight movements to New Zealand GDP	Economic prosperity 2.1	-	-	✓	✓	✓	✓
8.	Passengers arriving and departing NZ	Economic prosperity 2.2	-	-	-	-	✓	✓
9.	Travel time reliability within metropolitan and high growth areas	Economic prosperity 2.3	-	-	✓	Not avail	-	-
10.	Travel time reliability on priority tourist routes	Economic prosperity 2.4			✓	✓	✓	Not avail
11.	Freight imports and exports	Economic prosperity 2.5	-	-	-	-	✓	✓
12.	Freight carried domestically (local and regional)	Economic prosperity 2.6	-	-	✓	✓	✓	✓
13.	Travel time reliability for freight transportation	Economic prosperity 2.7	-	-	✓	✓	Not avail	Not avail
14.	Load efficiency	Economic prosperity 2.8	-	-	Not avail	Not avail	✓	Not avail
15.	Freight productivity / utilisations	Economic prosperity 2.9	-	-	Not avail	Not avail	✓	Not avail
16.	Farm expenditure on freight	Economic prosperity 2.10	-	-	✓	✓	✓	✓
17.	Household spending on transport (% of income)	Inclusive access 3.1	-	✓	✓	✓	✓	✓
18.	Population with access to frequent public transport services	Inclusive access 3.2	-	-	✓	✓	-	-
19.	Access to jobs	Inclusive access 3.3	✓	✓	✓	✓	-	-
20.	Access to the natural environment	Inclusive access 3.4	✓	✓	✓	✓		
21.	Rural households without access to a motor vehicle	Inclusive access 3.5	-	-	✓	-	-	-
22.	People unable to make a beneficial transport journey	Inclusive access 3.6	✓	✓	✓	✓	-	-
23.	Unmet need for GP services due to a lack of transport	Inclusive access 3.7	✓	✓	✓	✓	-	-
24.	Perception of public transport	Inclusive access 3.8	-	-	✓	✓	-	-
25.	Perceived safety of walking and cycling	Inclusive access 3.9	✓	✓	-	-	-	-
26.	Security incidents	Resilience and security 4.1	-	-	Not avail	Not avail	✓	✓
27.	Perceived personal safety while using the transport system	Resilience and security 4.2	✓	✓	✓	✓	Not avail	✓
28.	Operator risk profile	Resilience and security 4.3	-	-	Not avail	Not avail	✓	Not avail
29.	Response capability	Resilience and security 4.4	-	-	✓	✓	✓	Not avail
30.	Availability of viable alternative routes	Resilience and security 4.5	-	-	✓	-	-	-
31.	Preparation for loss of traditional transport options	Resilience and security 4.6	✓	✓	✓	✓	-	-
32.	Susceptibility to coastal inundation with sea level rise	Resilience and security 4.7	-	-	✓	✓	Not avail	Not avail
33.	Marine oil spills in NZ waters	Environmental sustainability 5.1	-	-	-	-	✓	-
34.	Greenhouse gases emitted from the NZ transport system	Environmental sustainability 5.2	-	-	✓	✓	✓	✓
35.	Vehicle fleet composition	Environmental sustainability 5.3	-	-	✓	Not avail	Not avail	Not avail
36.	Mode share of short trips	Environmental sustainability 5.4	✓	✓	✓	✓	-	-
37.	Fuel efficiency	Environmental sustainability 5.5	-	-	Not avail	✓	✓	Not avail

Research and data gaps

The table below summarises indicators in the table above that require further work (i.e. those coloured red in the table above), plus other potential indicators that have been identified but no data source currently exists and/or has been identified (denotes with *). These data, information and research gaps are identified as recommended initiatives in the *Transport Evidence Base Strategy*[1] (as per the table below) and will be delivered on via the associated work programme led by the Ministry.

	Indicator	Associated outcome	Relevant mode/s[2]	Recommended initiatives as per the Transport Evidence Base Strategy
1.	Access for people with disabilities and/or limited mobility*	Inclusive access	All modes	R2.3 + Research Strategy
2.	Exposure to elevated levels of noise from the transport system	Healthy and safe people 1.7	Maritime	R11.1 / R11.2 / R10.1 + Research Strategy
3.	Fleet composition	Environmental sustainability 5.3	Rail, maritime, aviation	R1.3 / R1.7 / R1.10 + Research Strategy
4.	Freight productivity / utilisations	Economic prosperity 2.9	Rail, aviation	R3.10 / R3.2 + Research Strategy
5.	Freight travel time reliability	Economic prosperity 2.7	Maritime and aviation	R3.2 + Research Strategy
6.	Impact of the transport system on biodiversity*	Environmental sustainability	All modes	R11.2 + R11.7 + Research Strategy
7.	Integration of land use and transport planning*	Inclusive access	All modes	R5.2 + Research Strategy
8.	Load efficiency	Economic prosperity 2.8	Rail and aviation	R1.12 / R1.3 + Research Strategy
9.	Network vulnerability*	Resilience and security	All modes	R11.10 / R5.1 + Research Strategy
10.	Operator risk profile	Resilience and security 4.3	Road, rail, aviation	R5.1 + Research Strategy
11.	Outages on routes with no viable alternative	Resilience and security 4.8	Maritime, aviation	R5.1 + Research Strategy
12.	Perceived personal safety while using the transport system	Inclusive access 3.7	Maritime	R5.1 + Research Strategy
13.	Regional connectivity	Economic prosperity	All modes	R1.14 + R3.2 + R3.10
14.	Response capability	Resilience and security 4.4	Aviation	R5.1 + Research Strategy
15.	Security incidents	Resilience and security 4.1	Road, rail	R5.1 + Research Strategy
16.	Susceptibility to coastal inundation with sea level rise	Resilience and security 4.7	Maritime, aviation	R5.1 / R11.10 + Research Strategy
17.	Tourist volumes and flows within New Zealand*	Economic prosperity	All modes	R1.15 + Research Strategy
18.	Transport-related water pollution (including contaminants from the roading network, and sewage and waste from sea-going vessels)*	Environmental sustainability	All modes	R11.5 / R11.9 + Research Strategy
19.	Travel time reliability within metropolitan and high growth areas	Inclusive access	Public transport	R.2.4 / R4.19 + Research Strategy
20.	Travel time reliability on priority tourist routes	Economic prosperity 2.4	Aviation	R1.12 + Research Strategy
21.	Utilisation of key movement corridors for people and freight*	Economic prosperity	All modes	R3.6 + Research Strategy
22.	Walkability in urban centres*	Inclusive access	Walking	R3.6 + Research Strategy

Some national-level security data is confidential and therefore inappropriate to be included (and reported on) as part of the Transport Outcomes Framework reporting; these data will be monitored through other mechanisms to assist decision making.

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[1] https://www.transport.govt.nz/mot-resources/transport-evidence-base-strategy/

[2] Noting that some of these indicators are already available for some modes. Modes listed in this column are those where there is currently a data/information gap.

Outcome 1: Healthy and safe people

Protecting people from transport-related injuries and harmful pollution, and making active travel an attractive option.

Theme	Indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Public safety: Ensuring that people arrive safely at their destinations	1.1 Transport-related deaths	The reporting matrixes are different across modes. • Road deaths are defined as when an injury/injuries resulted in death within 30 days of when the crash happened. The dataset includes 1) motor vehicle crashes that occur on a public road and are attributable directly or indirectly to a motor vehicle or its load, and 2) (from 2014 onwards) cyclist crashes including when a motor vehicle is not involved. • Rail deaths are defined as deaths that occurred on the rail corridor involving a rail vehicle. Rail deaths can include suicides. Data can be segmented by rail corridor user types. • Maritime sector deaths are those that occurred in the marine environment. Data can be segmented by sectors: commercial and recreational. • Aviation sector deaths are injuries which result in death within 30 days of the incident and must involve an aviation aircraft. Data can be segmented by sectors: public air transport, other commercial operations, and non-commercial operations.	Reported as number of deaths: total and per 100,000 population. Segmented by: • Mode • Corridor user type/sector (if relevant/ available). • Region (where available).	• Crash Analysis System (CAS) maintained by Waka Kotahi. • Rail Information System (RIS) maintained by Waka Kotahi. • Maritime safety statistics maintained by MNZ. • Aviation safety statistics maintained by CAA.	Road deaths does not include 1) pedestrian deaths when a motor vehicle was not involved (although it is assumed there are few pedestrian deaths that do not include a motor vehicle), nor 2) off-road activities, as these incidents are not recorded in CAS.
	1.2 Transport-related serious injuries	The reporting matrixes are different across modes. • Road serious injuries include fractures, concussions, internal injuries, crushing, severe cuts, lacerations, severe general shock necessitating medical treatment, and any other injury requiring admittance or detention in hospital. • Rail and maritime sector serious injuries are 'notifiable injuries' as defined in the Health and Safety at Work Act (HSWA) 2015. Rail serious injuries can include attempted suicides. • Aviation sector serious injuries are those that requires hospitalisation for more than 48 hours, or results in a fracture of any bone, or involved lacerations which cause severe haemorrhage, nerve, muscle, or tendon damage, or involves injury to an internal organ, or involves second or third degree burns, or any burns affecting more than 5% of the body surface, or involves verified exposure to infectious substances or injurious radiation.	As for transport-related deaths above.	As for transport-related deaths above.	Road serious injuries does not include 1) pedestrian serious injuries when a motor vehicle was not involved, nor 2) off-road activities, as these incidents are not recorded in CAS. Maritime sector serious injuries does not include recreational incidents due to a lack of reliable data.
Workplace safety: Ensuring that people who work in the transport sector are protected from work-related injuries	1.3 Transport-sector work injuries	Work-related injury claims are those made to ACC for work-related injuries. The injury can be either due to an accident event or have happened by gradual process related to the person's work. Only accepted claims are included. Claims identified as self-harm are excluded.	Segmented by: • Mode (road transport, rail transport, water transport, air and space transport) • Severity (fatal, more than a week off work, less than a week off work).	ACC claims for work-related injuries for the transport industry (based on Australian and New Zealand Standard Industrial Classification 2006).	-
Active travel: Improving physical and mental health through physically active travel	1.4 Time spent travelling by active modes	Cycling or walking on a public footpath or road (i.e. does not include walking/cycling off-road e.g. mountain biking). National estimates of number of hours spent walking and cycling per person, per year are based on trip legs made during the survey period. A trip leg refers to a single leg of a journey, between any two stops, with no stops or changes in travel mode.	Reported on a 3-year rolling average. Segmented by: • Age • Gender • Ethnicity • Region (where available).	Calculated based on the Household Travel Survey (HTS) managed by MOT.	This is a sub-set of the mode share indicator being used in Transport Indicators reporting. Mode share by distance travelled is included in the 'Environmental Sustainability' transport outcome, but a specific indicator of time spent engaged in active travel modes is included here because of the focus on public health benefits.

Theme	Indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Air and noise pollution: Protecting people from exposure to harmful pollution from the transport system	1.5 Harmful emissions from fuel combustion	National estimate of: • Nitrogen oxide (NOX), non-methane volatile organic compounds (NMVOCs) and sulphur dioxide (SO2) emissions (in kilotonnes) • PM2.5 and PM10 (in g/kg) emitted from motor vehicles. Emission factors are derived from Waka Kotahi Vehicle Emission Prediction Model.	Amount of each pollutant type Segmented by mode where the data are available (on-road motor vehicle, rail, shipping, aviation).	New Zealand Greenhouse Gas Inventory managed by Ministry of Business, Innovation & Employment (MBIE). Vehicle Emissions Mapping Tool (Waka Kotahi).	Note there are limitations associated with the reporting on NOX, NMVOCs and SO2, e.g. time lag in reporting given the complexity of the method. The reporting on PM2.5 and PM10 are only available for road transport.
	1.6 Exposure to elevated levels of noise from the transport system	The assessment and reporting matrixes are different across modes. "High noise" is defined as >=64 LA eq (Equivalence continuous sound level). Currently this measure is limited to road transport on national, regional and arterial roads.	Reported as: • Absolute number of people • Percentage of total New Zealand population. Segmented by region.	Waka Kotahi's land transport noise pollution model. This model is expected to eventually be able to also report on rail. Equivalent aviation measure based on airport noise contour maps is to be developed.	The land transport noise pollution model is complex and costly, so is likely to be updated every 2 or more years, and reported with a time lag.

Outcome 2: Economic prosperity

Supporting economic activity via local, regional, and international connections, with efficient movements of people and products.

Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Contribution to the economy: Contributing to economic development through transport and freight sector activities	2.1 Contribution of transport and freight movements to NZ GDP	Gross domestic product (GDP) is NZ's official measure of economic growth. This indicator reports on the contribution from the transport, postal, and warehousing service industry.	Reported as dollar amount and percentage of total GDP. Segmented by: • Region • Industry ('road transport', 'rail, water, air, and other transport', and 'postal, courier transport support, and warehousing services').	National Accounts (Industry Production and Investment) managed by Stats NZ.	Annual data are presented as year ended 31 March.
Movement of people: Supporting economic activity through local, regional and international travel connections	2.2 Passengers arriving and departing NZ	Number of people arriving and departing NZ.	Segmented by: • Mode (air and sea) • Location (port).	International Travel and Migration data managed by Stats NZ.	-
	2.3 Travel time reliability within metropolitan and high growth areas	Road measure reports on a score that represents the percentage of journeys that are 'predictable' for that particular route. 'Predictable' is defined as within 5% of the normal travel time for that route (not slower than this). 'Normal' is defined as the average travel time for that route (and time-segment) in the previous financial year. The data is not currently weighted by traffic volume. Travel times along the examined routes are grouped into 15-minute time segments and examined across the morning peak, the inter-peak period, and the afternoon peak. Observed public holidays (and the weekday before/after an observed public holiday) and weekends are excluded.	Segmented by: • Region (Auckland, Wellington, Christchurch, Hamilton, Tauranga, and Queenstown) • Time of day (morning peak/ 07:00-09:00), the inter-peak period/ 10:00-14:00, and the afternoon peak/ 16:00-18:00.	Road measure is reported by Waka Kotahi. Data on travel-times and predictability is sourced from a TomTom API traffic product based upon start/end points for a number of urban journeys in 6 high growth urban areas	
	2.4 Travel time reliability on priority tourist routes	The reporting matrixes are different across modes. • Road measure is reported as the proportion of all journeys made on strategic freight and tourist routes that achieved the predictability target. Predictability is a measure of how consistent the travel time is for customers along a journey (as for 2.7 below). • Rail measure is reported as the percentage of scenic trains arriving on time (i.e. within 15 minutes of scheduled arrival). • Maritime measure is reported as the percentage of Interislander Cook Strait ferries arriving on time (i.e. within 15 minutes of scheduled arrival).	Segmented by: • Mode (road, rail, and maritime) • Region (where available).	Road measure is reported by Waka Kotahi using a Tom API traffic product Scenic trains and Interislander ferries data are maintained and reported by KiwiRail.	-

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Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Movement of freight: Supporting economic activity through local, regional and international freight connections	2.5 Freight imports and exports	Amount of freight importing to and exporting from NZ.	Reported as dollar amount and gross weight in tonnes. Segmented by mode (air and sea).	Import and export statistics from Overseas Cargo Statistics (OSC) managed by Stats NZ.	-
	2.6 Freight carried domestically (local and regional)	The reporting matrixes are different across modes. • Road and rail freight are measured in tonnes and tonnekm • Maritime freight is measured as number of full containers moved coastally (in standardised twenty-food equivalent units/TEU). • Aviation freight is measured as amount of freight transported domestically on non-passenger flights (i.e. does not include freight transported in the belly hold of passenger flights) in tonnes	Reported as gross weight in tonnes and tonnes km (where available). Segmented by mode: • Road • Rail (further segmented by movement) • Maritime (further segmented by port) • Aviation.	Road measure based on the National Freight Demand Study managed by MOT. Rail and maritime data based on FIGS managed by MOT. Aviation data is maintained by CAA.	Aviation data does not include freight transported domestically in the belly hold of passenger flights. Does not capture light freight (e.g. courier) or bulk freight moved coastally. The National Freight Demand Study is not updated every year.
	2.7 Travel time reliability for freight transportation	The reporting matrixes are different across modes. • Road measure is reported as the proportion of all journeys made on strategic freight and tourist routes that achieved the predictability target. Predictability is a measure of how consistent the travel time is for customers along a journey (as for 2.4 above). • Rail measure is reported as the percentage of freight train arrived on time (i.e. within 30 minutes of scheduled arrival).	Segmented by mode (road and rail).	Road measure is reported by Waka Kotahi using a Tom API traffic product Rail data maintained and reported by KiwiRail.	-
	2.8 Load efficiency	The reporting matrixes are different across modes. • Maritime measure is reported as number of empty containers (in TEU) discharged. • Further investigative work required to determine the appropriateness of using weight-right data to inform load efficiency of heavy vehicles.	Maritime data are segmented by ports	Maritime data available from FIGS managed by MOT.	-
	2.9 Freight productivity / utilisation	The reporting matrixes are different across modes. • Maritime based freight utilisation measured by ship rate • Road-based freight utilisation measured to be developed (e.g. vehicle kilometres travelled per heavy vehicle) • Rail-based freight utilisation measured to be developed (e.g. average daily number of freight trains)	Maritime data are segmented by ports	Maritime data available from FIGS managed by MOT.	-
	2.10 Farm expenditure on freight	Total expenditure on freight, including road, rail, maritime and aviation.	Reported as dollar amount spent on freight, and % out of total operational cost	Agriculture intermediate consumption analysis based on National Accounts (Industry Production and Investment) managed by Stats NZ.	This indicator is a proxy for freight cost in general. Annual data are presented as year ended 31 March.

Outcome 3: Inclusive access

Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare.

Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Access: Providing viable transport options for people to access	3.1 Household spending on transport (% of income)	Percentage of household income spent on transport (including 'private transport supplies and services', 'vehicles purchase', and 'passenger transport services').	Segmented by:	Household Economic Survey (HES) by Stats NZ.	The purpose of this indicator is to track the affordability of transportation for people with highest levels of deprivation. Data are collected every 3 years.

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Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
work, education, and healthcare; and to participate in society			• Expenditure type • Equivalised household income • Households with/without Māori • Households with/without a superannuitant • Region.		
	3.2 Population with access to frequent public transport services 🚗🚆	As per Waka Kotahi output class measure: Proportion of the population that is within 500 metres walking distance (isochrones using footpaths, rather than 'as the crow flies') of a frequent bus-stop or ferry terminal, or within 1 km of a frequent rapid transit stop (mainly trains, but also includes grade-separated bus ways). Frequent means scheduled every 15 minutes (or 30 minutes for ferry) during the morning peak Monday to Friday (7am-9am).	As per Waka Kotahi output class measure. Currently only available for Auckland, Wellington and Christchurch but to be expanded to the other metropolitan and high growth urban areas.	Existing Waka Kotahi output class reporting.	In future, this measure may be developed further to provide more nuanced reporting, for example, by different levels of frequency (e.g. 5-10 minutes; 15 minutes) and/or to cover a wider time period (e.g. 7am to 7pm 7 days per week).
	3.3 Access to jobs 🚶🚴🚗🚆	Percentage of jobs accessible within a reasonable travel time during weekday morning peak. "Reasonable time" is defined as: • 45 minutes walk • 45 minutes cycle (door to door – note that this is mapped for a confident cyclist who is willing to cycle on the road) • 45 minutes public transport (includes walking to/from stop and transfers as well as transit) • 30 minutes drive time (equivalent to 45 minutes for other modes to account for approximately 15 minutes to find a carpark and get to/from parked car to destination).	Segmented by mode (walking, cycling, public transport, and driving).	Developed and maintained by Waka Kotahi.	Regional breakdown is not available given some routes are inter-regions.
	3.4 Access to the natural environment 🚶🚴🚗🚆	Percentage of adults aged 15+ years who said it was 'very easy' to get to a public park or green space from where they live.	Segmented by: • Age • Gender • Ethnicity • Disability • Region	New Zealand General Social Survey by Stats NZ.	This is one of the wellbeing indicators in Treasury's Living Standards Framework. Data are collected every 2 years.
Barriers to access: Reducing barriers for people to access social and economic opportunities and essential services	3.5 Rural households without access to a motor vehicle 🚗	Percentage of rural households without access to a motor vehicle, based on the Census question "How many motor vehicles (not counting motorbikes) do the people who live here have available for their use?".	Segmented by region.	NZ Census by Stats NZ.	This is included as an indicator of access given the reduced access to public transport services in rural areas. Data are collected every 5 years.
	3.6 People unable to make a beneficial transport journey 🚶🚴🚗🚆	Percentage of people surveyed that reported they were unable to take a journey that would have beneficial to them in the last week because: • Journey would have been too expensive • Journey would have taken too long • No suitable transport option available • Traffic conditions too bad.	Segmented by: • Age • Gender • Ethnicity • Region (where available).	Waka Kotahi's Customer Experience and Behaviour Journey Monitor Survey.	-
	3.7 Unmet need for GP services due to a lack of transport 🚶🚴🚗🚆	Percentage of children aged 0–14 years and adults aged 15+ years who, in the past 12 months, had a medical problem but did not visit a GP due to a lack of transport.	Reported as percentage of total population (separately for adults and children). Segmented by (using 3-year pooled figures):	New Zealand Health Survey by Ministry of Health.	-

Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
			• Age • Gender • Ethnicity • Neighbourhood deprivation • Disability (from 2019/20) • Region.		
Perceptions: Improving public transport and active travel modes, so that they are perceived as good options	3.8 Perception of public transport 🚗🚈	As per survey questions: Thinking about public transport in your local area, based on your experiences or perceptions, do you strongly disagree, disagree, neither, agree, strongly agree with the following: public transport is: • affordable? • easy to get to? • frequent i.e. comes often? • reliable i.e. comes on time?	Segmented by: • Age • Gender • Ethnicity • Region participating the survey (Auckland, Hamilton, Tauranga, Hutt, Porirua, Wellington, Christchurch, Dunedin).	Quality of Life Survey funded by local governments.	Data are collected every 2 years.
	3.9 Perceived safety of walking and cycling 🚶🚲	As per survey questions: • % agreed they don't feel safe walking in the day • % agreed they don't feel safe walking in the dark • % agreed they don't feel safe walking because of how people drive • % agreed it has become more safe to cycle on the road • % agreed they don't feel safe cycling because of how people drive • % agreed they don't feel safe cycling in the dark	Segmented by: • Mode (walking and cycling) • Age • Gender • Region (where available).	Understanding Attitudes and Perceptions of Cycling and Walking (managed by Waka Kotahi).	-

Outcome 4: Resilience and security

Minimising and managing the risks from natural and human-made hazards, anticipating and adapting to emerging threats, and recovering effectively from disruptive events.

Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Security: Ensuring that transport users are protected from security risks	4.1 Security incidents 🚢✈️	Number of incidents detected and reported. For maritime this includes incidents reported by ports and offshore industry bodies, where the incidents meet the threshold as defined in the Maritime Security Act. For aviation this includes three types of possible event: • in-flight security incidents involving offences against the Aviation Crimes Act 1972 for aircraft which have been screened by the Aviation Security Service • airside security incidents involving offences against the Aviation Crimes Act 1972 at security designed aerodromes where the Aviation Security Service operates • airside incidents involving the introduction of dangerous goods into aircraft screened by the Aviation Security Service.	Segmented by mode (maritime and aviation).	Maritime incidents are monitored and reported by MNZ. Aviation incidents are monitored and reported by CAA.	-
	4.2 Perceived personal safety while using the transport system 🚶🚲🚗🚈✈️	The assessment and reporting matrixes are different across modes. • For land transport (including ferries), this refers to the percentage of respondents who self-reported feeling safe on their most recent journey: *Journey is defined as 'travelling from one place to another at least in part along the road or rail network, and using any form/s of land based transport (e.g. car, bus, train, walk, cycle or ferries). Now thinking about any risks to your personal safety (such as attacks or abuse) during this journey, did you feel…?* (unsafe/ safe based on a 0-10 scale with 6+ indicating 'safe'). • For aviation, this refers to percentage of respondents who self-reported feeling 'safe and secure' or 'very safe and secure' or 'extremely safe and secure' to the question: *'Overall how safe and secure did you feel on your*	Segmented by mode. For land transport measure, further segmented by mode (bus, train, ferry, taxi/ride-share passenger)	Land transport (including ferries): Waka Kotahi's Customer Experience and Behaviour Journey Monitor Survey. Aviation: Feel Safe Survey, managed by CAA & Avsec.	Feel Safe Survey is usually carried out every 2 years from 2016/17. The survey scheduled for 2020/21 was cancelled due to the impact of COVID-19 on international and domestic travel.

Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
		most recent flight?' Note that this only includes travellers who live in New Zealand.			
Risk assessment	4.3 Operator risk profile 🚢✈	Maritime sector operation risk profile data are collected and maintained by MNZ. MOSS risk profile scores are a mechanism to rate the risk level of a new operator. The risk profile score sets the audit frequency and is updated each time an operator is audited under the MTA and assessed under the HSWA. Higher risk operators are audited more regularly, to encourage and ensure improvements to their safety systems. Risk is assessed using the risk profile tool across five domains, which include safety culture, compliance history, operating practice, experience and capability, and organisational factors. These domains are further comprised of 20 indicators, which are then rated between 0 (lowest risk) and 4 (highest risk). These scores are weighted and combined to give an overall risk score. Risk scores are categorised into three risk bands: low risk (0-25%), standard risk (25-62.5%) and high risk (62.5-100%). Risk scores determine when the operation's next audit will be. This can range between one and 24 months from when the Maritime Transport Operator Certificate (MTOC) is issued, and two to 48 months after the initial audit (and periodic audits that follow). The score reported for a given year is based on operations' most recent risk score, which can be up to three years ago, depending on when their last audit was.	Only maritime data are available.	The Maritime Operator Safety System (MOSS) is maintained by MNZ. It is based on Maritime Rules made under the Maritime Transport Act 1994.	-
Readiness to respond: Ensuring that the transport sector has the capability and options to respond to disruptive events	4.4 Response capability 🚗🚢	The assessment and reporting matrixes are different across modes. • Road: National average score and specific items that captures the role of transport in emergency response and management. • Maritime: Number of elements scored amber or green in the Response Capability Matrix assessed every six months over five elements: Maritime Incident Response Team, Marine Pollution Response Service, Search and Rescue, Security, and Response Coordination.	Segmented by mode (maritime and aviation).	Road: National Capability Assessment, conducted periodically (i.e. in 2012 and 2015) by Ministry of Civil Defence & Emergency Management. Maritime: Response Capability Matrix, managed by MNZ.	National Capability Assessment is undertaken periodically, and date for next assessment has not been determined.
	4.5 Availability of viable alternative routes 🚗	Length (km) and percentage of routes of key economic and social corridors with viable alternative routes. Key social and economic corridors are routes along the state highway network which, if closed for an extended duration of time, have significant social or economic impacts on communities. Viable alternative routes are those that are suitable for all vehicles (sealed surface, free of one-lane bridges and meet travel time constraints) and approved by their respective road controlling authority as a recognised detour.	Segmented by region.	Developed and reported by Waka Kotahi.	-
	4.6 Preparation for loss of traditional transport options. 🚗🚆	Percentage of people that report they are prepared for loss of traditional transport options to access social and economic opportunities.	Percentage of people.	The annual Disaster Preparedness Survey commissioned by the Ministry of Civil Defence & Emergency Management	-
	4.7 Susceptibility to coastal inundation with sea level rise 🚗🚆	Length of state highway and local roads and rail at a specific height above mean high water springs (i.e. the highest level that spring tides reach on the average over a period of time). Four sea level rise scenarios are modelled on: • Permanent inundation with 0.5 m sea level rise and representative of present-day typical storm • Permanent inundation with 1.5m sea level rise • Present day 1:100 year storm extent (excludes run-up/overtopping) • Present day 1:100 year storm surge extent (excludes run-up/overtopping) with 1.5m sea level rise	Segmented by region (where available).	Developed and reported by Waka Kotahi. Data was taken from number of sources, compiled into the Tonkin & Taylor Coastal Exposure Assessment – Stage 2 Exposure Assessment to Coastal Hazards report	This information is not expected to change significantly every year so will not be reportable annually. There is no plan yet when the next assessment will be done.

Outcome 5: Environmental sustainability

Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality.

TE MANATŪ WAKA
MINISTRY OF TRANSPORT

Theme	Proposed indicator	Specifications / definitions	Reporting requirements	Data source/s and responsible agency	Notes / limitations
Water quality: Protecting NZ's marine environment	5.1 Marine oil spills in NZ waters	Number of incidents and volume of spills and. Oil spills are categorised into a three-tier response system: • Tier 1: Oil spills responded to and resolved by the operator. The level of response is expected to consist of a timely 'first strike' and includes the capacity for MNZ to assist if there is an escalation to a Tier 2 or Tier 3 response. • Tier 2: Oil spills beyond the capability of the operator acting alone. Response is led and resolved by the local regional council. • Tier 3: Oil spills are generally more complex, of longer duration and impact, and beyond the response capability of the regional council. • Tier undeclared: Small incidents that do not require a response i.e. oil spills disperse naturally.	Reported as number of incidents by tier, and volume of spills.	Incidents are reported directly by operators or via regional councils. Data is maintained by MNZ.	Note the data may be slightly different from previous reporting by MNZ due to use of different data processing approach.
Air quality/ climate change: Supporting NZ's transition to net zero carbon emissions	5.2. Greenhouse gases emitted from the NZ transport system	National estimate of greenhouse gases (kilotonnes) emitted from the NZ transport system, based on carbon dioxide equivalent emissions ($CO2_{-e}$).	Segmented by mode (road, rail, domestic marine, domestic aviation, and other transport)	New Zealand's Greenhouse Gas Inventory, managed by Ministry for the Environment.	Note there are limitations associated with this indicator, e.g. time lag in reporting given the complexity of the method. Emissions from international transport have been excluded since this is outside of NZ jurisdiction.
	5.3 Vehicle fleet compositions	Number and percentage of (1) light vehicles and (2) heavy vehicles that are: • Petrol • Diesel • EV • Other/ not known Number and percentage of VKT by (1) light vehicles and (2) heavy vehicles that are: • Petrol • Diesel • Pure EV	Reported as total number of vehicles, and as percentage of total light/ heavy vehicle fleet. Reported as total VKT, and as percentage of total VKT by light/ heavy vehicle fleet.	Based on fleet statistics published by MOT. In future this is also expected to include equivalent indicators for rail, maritime and aviation.	-
	5.4 Mode share of short trips	Percentage of travel using a particular mode. Short trip legs are defined as =<5km, and are separated into: • Less than 2kms distance • 2-5 kms distance	Reported on a 3-year rolling average. Segmented by: • Age • Gender • Ethnicity • Region (where available)	Calculated based on the Household Travel Survey (HTS) managed by MOT.	This is a sub-set of the mode share measure being used in Transport Indicators reporting. It is these short trips that we are hoping to see a move away from using a motor vehicle to using more active modes (which has positive environmental outcomes as well as public health benefits).
	5.5 Fuel efficiency	Percentage improvements from 2016/17 (baseline year). Rail measure reports on locomotive fuel burn rate (based on litres per 1,000 GTK). Maritime measure reports on Interislander fuel performance (based on average litres per sailing).	Segmented by mode (rail and maritime)	Maintained by KiwiRail.	Maritime measure only includes Interislander ferries.