COVID-19 – implications for land transport

How might the current pandemic impact on the land transport system in New Zealand and each region?

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Arataki

Arataki V2 is being prepared now to assess the likely impacts of COVID-19 on the land transport system – to be endorsed by the Board in August

As part of our assessment, we commissioned work to understand the likely socio-economic impacts of COVID-19 on regions and communities

We are using this research to consider the impacts on the land transport system in each region

We will release evidence and insights as they come to hand, to inform RLTPs, the TAIP, etc

Health warning – significant levels of uncertainty. We will monitor and update as things change

Structure of this presentation

- **Research summary** – assessment of the potential impacts of COVID-19 on population and migration flows, including differential impacts across regions and vulnerable communities

- **Initial insights** about implications for the land transport system, based on research report and the Treasury's Slower Recovery Scenario (Scenario 5 – refer last slide for details)

- **Note** that insights for each region, this national presentation and research reports are available here: https://www.nzta.govt.nz/planning-and-investment/planning/arataki/

How will the research and insights be used?

Supporting Waka Kotahi and the sector

- Provide insight into the 'most likely' recovery scenario and the potential impacts

- Identify those parts of the country and system that are likely to be most impacted

- Provide evidence to support where we might 'dial up' or 'dial down' investment in response to the pandemic

- Support update of Arataki to note any shifts resulting from the pandemic

- Provide insight to help shape strategic context in RLTPs

- Help ensure we do not miss opportunities and can be well-informed as we support the recovery effort

What are the likely COVID-19 implications for New Zealand's communities and economy?

Global impacts and response

- A deep V-shaped global recession over the next 12-18 months is current forecast – but significant downside risk that it will be a deeper 'U' shape recession

- World trade estimated to decline 10-20% over 2020/21 and trade growth may not return to its previous rate over long-term due to protectionist policies, reduced airline capacity and supply chain restructuring

- International tourism not likely to recover for at least 18 months beyond what is possible through a Trans-Tasman-Pacific bubble

- Some key trading nations in Asia-Pacific are forecast to recover early and may support an earlier NZ trade recovery

- New Zealand's recovery will be affected by our relationship and performance relative to Australia – any significant divergence between growth and unemployment across the Tasman may have a major impact on net migration.
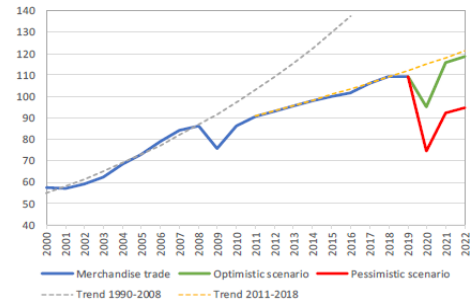
Infometrics

Quarterly World GDP (IMF World Economic Outlook)
2019 Q1=100, dashed lines pre-Covid estimates

- Advanced Economies
- Emerging Market and Developing Economies
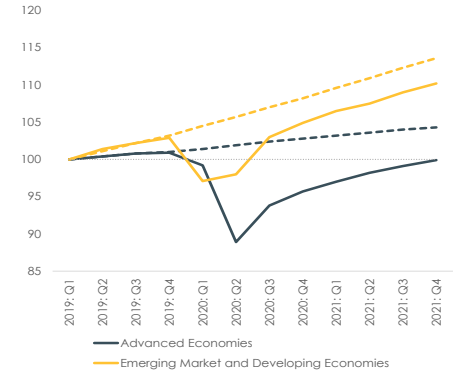
World merchandise trade volume (WTO)
2015=100, dashed lines pre GFC and pre-Covid estimates

- Merchandise trade
- Optimistic scenario
- Pessimistic scenario
- Trend 1990-2008
- Trend 2011-2018

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Impact on New Zealand economy

- Immediate significant impacts on output, employment, investment intentions, people & good flows, spending

- Treasury Budget forecast suggests strong hit to GDP and employment in 2020, a recovery in second half of 2021 and a strong rebound in 2022, however …

- The review suggests the Treasury's slower domestic recovery (scenario 5) is more realistic:

  - Tourism and support industries significantly affected for two years or more

  - Second-round effects of business closures on incomes and investment (some lags evident from GFC)

  - Rise in under-employment and fall in labour force participation

  - Impact on the ability of businesses to attract/retain skills, access capital, invest in R&D and connect with markets & expertise
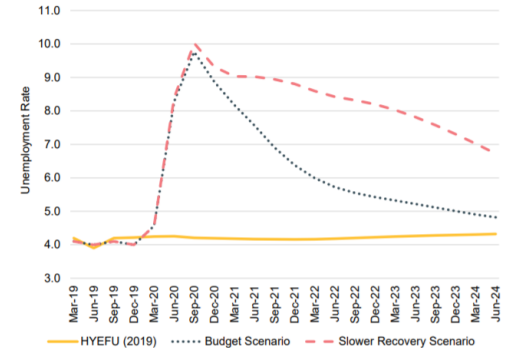

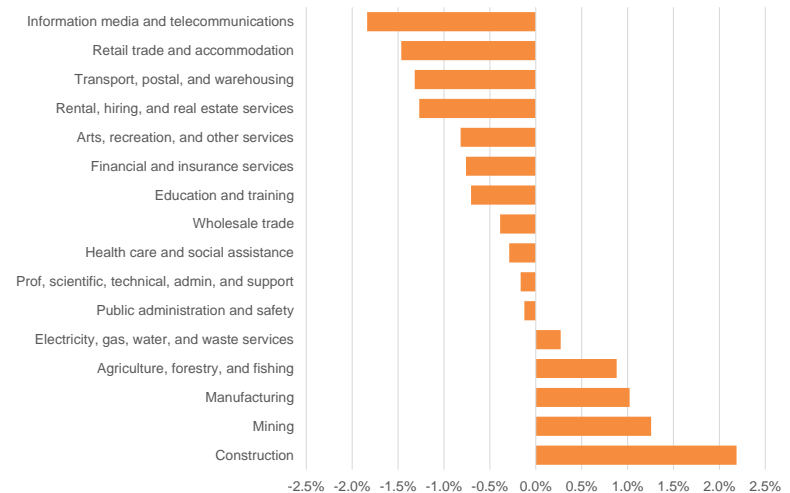Estimated annual nominal GDP, Budget and Slower Recovery Scenario (Treasury)
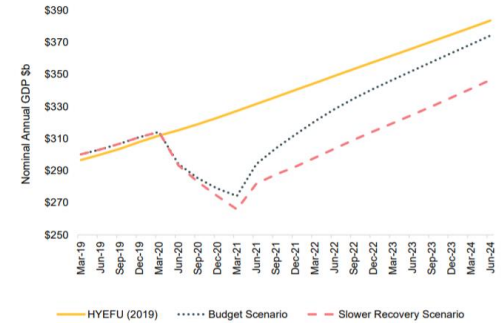
Estimated unemployment rate, Budget and Slower Recovery Scenario (Treasury)

Industry impacts

- Significant short-term negative impact of COVID on key service industries, such as tourism, retail, rental services and transport, while other industries such as agriculture and health are reasonably insulated

- Considerable uncertainty about the medium and long-term impacts. Infometrics modelling of Treasury scenarios, with a focus on a slower recovery scenario, suggests:

  - Tourism and service industry job losses free up labour for other industries over the medium term. Industries likely to benefit most are agriculture, forestry, parts of manufacturing & construction

  - Over the long-term there may be a decline in tourism's contribution to the economy and a slow-down of the decline of manufacturing but not necessarily significant structural change

Employment relative to BAU, 2031, major industries, Slower Recovery Scenario

Industry	
Information media and telecommunications	
Retail trade and accommodation	
Transport, postal, and warehousing	
Rental, hiring, and real estate services	
Arts, recreation, and other services	
Financial and insurance services	
Education and training	
Wholesale trade	
Health care and social assistance	
Prof, scientific, technical, admin, and support	
Public administration and safety	
Electricity, gas, water, and waste services	
Agriculture, forestry, and fishing	
Manufacturing	
Mining	
Construction	

-2.5% -2.0% -1.5% -1.0% -0.5% 0.0% 0.5% 1.0% 1.5% 2.0% 2.5%

Infometrics

WAKA KOTAHI
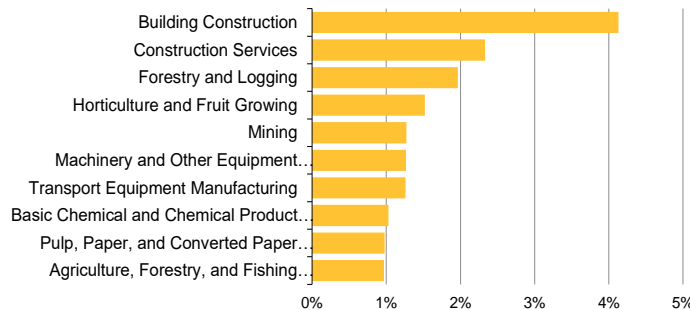NZ TRANSPORT AGENCY

New Zealand Government
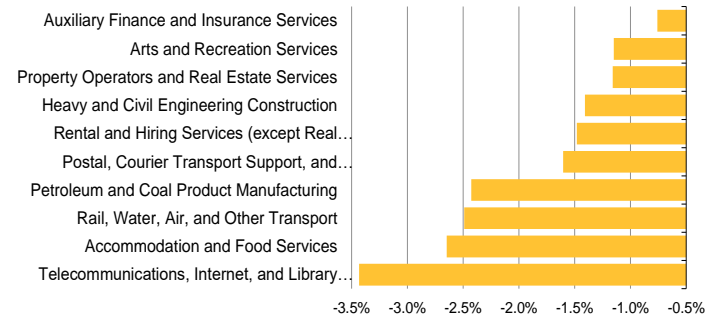
Industry impacts (cont)

At a more detailed industry level:

- Construction (e.g., building construction, construction services), manufacturing (e.g., machinery & equipment, chemical product, transport equipment), and primary industries (e.g., forestry, horticulture, agriculture support services) are expected to have higher shares of employment relative to BAU

- A range of tourism–related industries (e.g., arts & recreation, accommodation & food services, rental service) are negatively affected, as well as transport services (due to air transport), petroleum & coal manufacturing, civil construction and media

- By 2031, most key transport industries (e.g., meat, forestry, horticulture, manufacturing, building, retailing, logistics) are expected to have recovered close to or be ahead of BAU GDP levels

Employment relative to BAU, 2031, 10 best performing industries Slower Recovery Scenario

Industry	Value
Building Construction	~4.1%
Construction Services	~2.3%
Forestry and Logging	~2.0%
Horticulture and Fruit Growing	~1.6%
Mining	~1.3%
Machinery and Other Equipment…	~1.3%
Transport Equipment Manufacturing	~1.3%
Basic Chemical and Chemical Product…	~1.0%
Pulp, Paper, and Converted Paper…	~1.0%
Agriculture, Forestry, and Fishing…	~1.0%

0% 1% 2% 3% 4% 5%

Employment relative to BAU, 2031, 10 worst performing industries Slower Recovery Scenario

Industry	Value
Auxiliary Finance and Insurance Services	~-0.7%
Arts and Recreation Services	~-1.0%
Property Operators and Real Estate Services	~-1.1%
Heavy and Civil Engineering Construction	~-1.4%
Rental and Hiring Services (except Real…	~-1.5%
Postal, Courier Transport Support, and…	~-1.6%
Petroleum and Coal Product Manufacturing	~-2.3%
Rail, Water, Air, and Other Transport	~-2.5%
Accommodation and Food Services	~-2.6%
Telecommunications, Internet, and Library…	~-3.5%

-3.5% -3.0% -2.5% -2.0% -1.5% -1.0% -0.5%
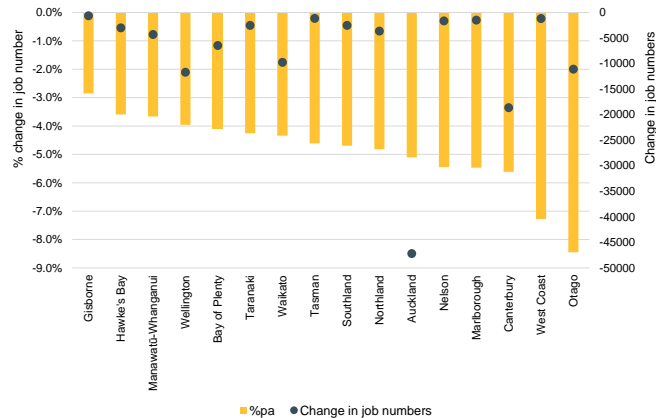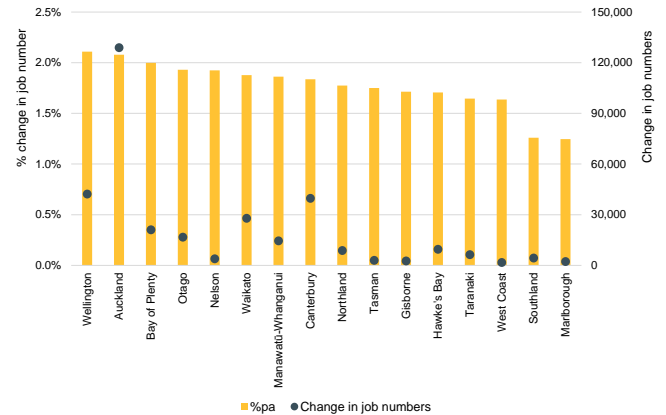
Regional impacts

- Combination of industry and migration effects – those regions with a high proportion of affected service industries and a high proportion of international migrant flows (temporary workers as a proportion of workforce, international students, recent residents) most affected

- Several South Island regions and Auckland face largest immediate declines in job growth, with largest absolute declines in major urban-regions (not unexpectedly)

- Major urban-regions are expected to recover over the long-term as service industries recover

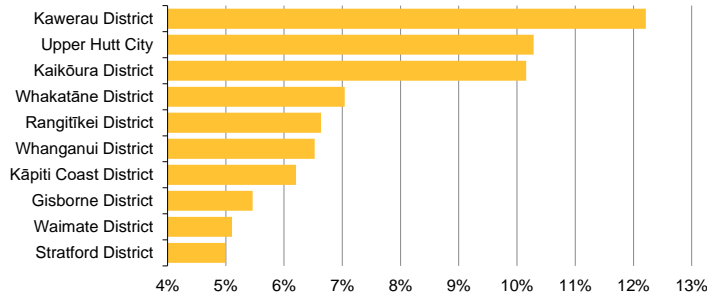**Forecast change in employment by region, 2020-2021, Slower Recovery Scenario**

Forecast change in employment by region, 2026-2031, Slower Recovery Scenario
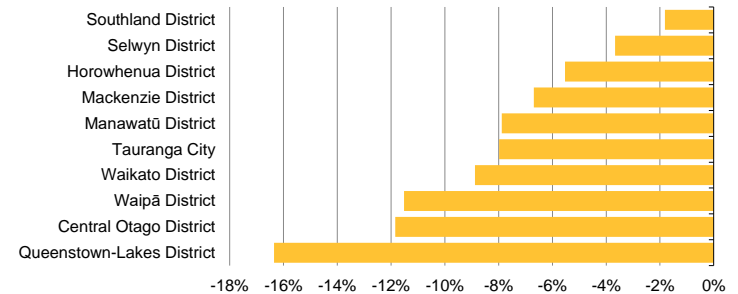
Regional impacts (cont)

- Districts that are primarily reliant on international visitors will be hit the hardest, e.g., Queenstown-Lakes, Mackenzie, Central Otago, and employment & GDP in these areas is expected to remain below pre-COVID trends over the long-term

- Parts of the upper North Island (e.g., Tauranga) are expected to be negatively affected due to slower population growth and spillover effects of downturn in Auckland, e.g., fewer relocations

- Dairy, horticulture and forestry dominated districts will tend to have stronger employment growth over the long-term

Employment relative to BAU, 2031, 10 best performing districts, Slower Recovery Scenario

District	Employment relative to BAU
Kawerau District	~12.2%
Upper Hutt City	~10.3%
Kaikōura District	~10.1%
Whakatāne District	~7%
Rangitīkei District	~6.5%
Whanganui District	~6.4%
Kāpiti Coast District	~6.2%
Gisborne District	~5.4%
Waimate District	~5%
Stratford District	~5%

Employment relative to BAU, 2031, 10 worst performing districts Slower Recovery Scenario

District	Employment relative to BAU
Southland District	~-1.5%
Selwyn District	~-3.5%
Horowhenua District	~-5%
Mackenzie District	~-6%
Manawatū District	~-6.5%
Tauranga City	~-7%
Waikato District	~-8%
Waipā District	~-11%
Central Otago District	~-11.5%
Queenstown-Lakes District	~-16%

Infometrics

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Key urban areas

- **Auckland** – reliance on tourism and gateway role plus large number of international students and high volume of migrant workers means a large short-medium term impact. May be an increase in internal migration as people seek employment opportunities from elsewhere plus a reduction in outward migration as housing market and business relocations cool

- **Hamilton** – more limited exposure to tourism and importance of agriculture, health and government services plus pipeline of infrastructure projects means it will be more insulated than Auckland

- **Tauranga** – affected by reliance on construction and retail, lower skills profile, and less population drift from Auckland. Wider region hit by tourism decline but port and horticulture will provide some cushion

- **Wellington** – shielded from worst due to public sector and major professional services. May be an increase in internal migration due to employment opportunities in government

- **Christchurch** – Southern gateway role and importance of construction activity will mean a medium-term hit. A reversal of recent growth in permanent migrants likely over medium-term

- **Queenstown-Lakes** – will be the hardest hit over long-term due to reliance on international tourism (domestic tourism will not make up for the shortfall), high proportion of migrant workers relative to labour force and reliance on net migration for population growth

Infometrics

Impacts on vulnerable communities

- Migrant workers - significantly affected over short to medium-term (many are in affected industries, many are non-standard workers and have fewer employment protections). Recovery over the long-term will be dependent on the ability & willingness of sufficient numbers of local newly unemployed/underemployed to be redeployed and/or retrain in relevant occupations (e.g., construction, manufacturing, agriculture)

- Young people –more likely to be in casual employment and heavily affected industries (e.g., food services, retail); businesses in other sectors will be reluctant to take on new, younger workers. Likely to be a sharp increase of youth not in employment, education or training (NEETs) in short-medium term and hence affected populations where NEET is already high in Northland, Gisborne, BOP, South Auckland

- Historically, economic shocks have a disproportionately negative impact on Māori and Pasifika (due to both concentration in lower-skilled occupations and self-employment in vulnerable industries). Expected to be a large increase in Māori unemployment (potentially doubling 2020/21), concentrated in Auckland, BOP, Waikato, Canterbury

- While initially the research indicated that impacts on women would be less immediate but no less severe than men in line with previous recessions, more recent data released by Stats NZ reflects that the lockdown has disproportionately impacted women in the workforce as over 60% of sales workers and 70% of hospitality workers are female.
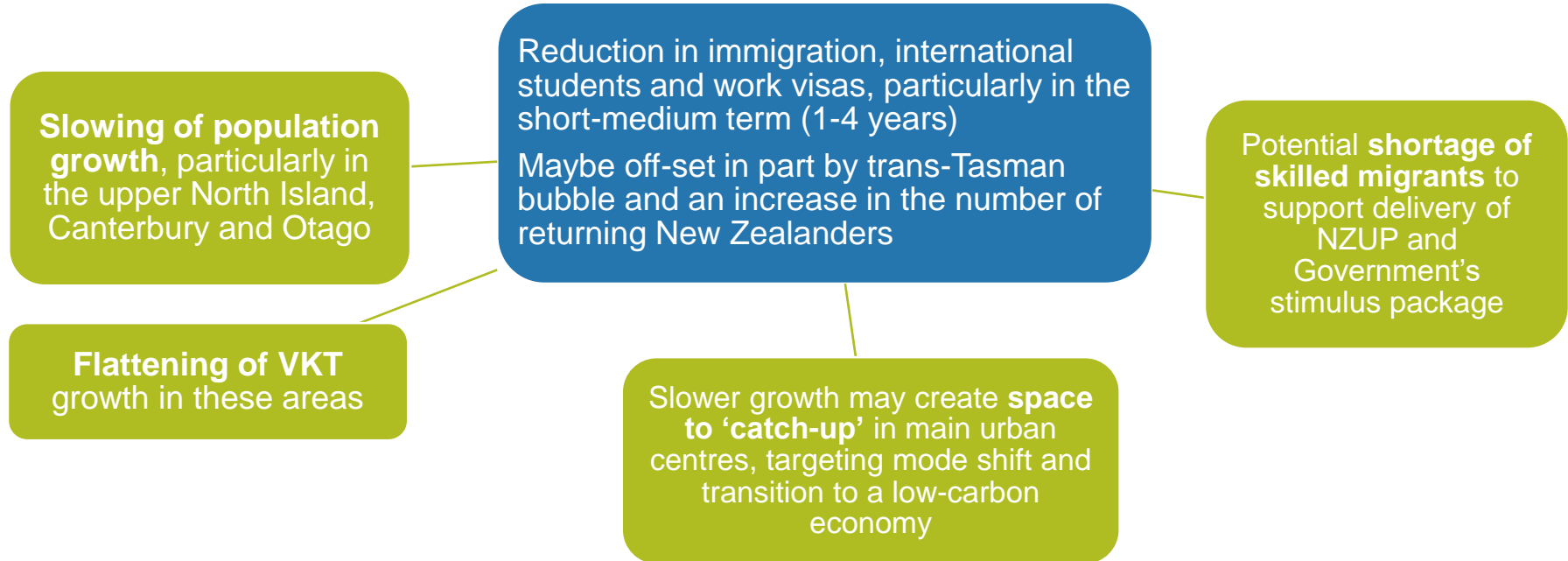
Infometrics

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What does this mean for the New Zealand land transport system?

Migration and demographics

If border restrictions remain in place for an extended period (up to 18 months), then….

Slowing of population growth, particularly in the upper North Island, Canterbury and Otago

Reduction in immigration, international students and work visas, particularly in the short-medium term (1-4 years)

Maybe off-set in part by trans-Tasman bubble and an increase in the number of returning New Zealanders

Potential **shortage of skilled migrants** to support delivery of NZUP and Government's stimulus package

Flattening of VKT growth in these areas

Slower growth may create **space to 'catch-up'** in main urban centres, targeting mode shift and transition to a low-carbon economy

Tourism

If border restrictions remain in place for an extended period (up to 18 months), then….

Major reduction in international tourism

Greatest impact on tourist gateways – Christchurch & Auckland, **and districts that rely on tourism**

Significant drop in revenue in tourist areas and associated service industries

Reduced pressure on transport networks in affected areas

Potential offset from Trans-Tasman bubble

Some offset from domestic tourism, at least in short term

Economic impact

If COVID-19 recovery significantly impacts on employment and household incomes, then….

Reduced trips for work and less discretionary travel especially in hardest hit urban areas e.g. Auckland, Tauranga, Canterbury

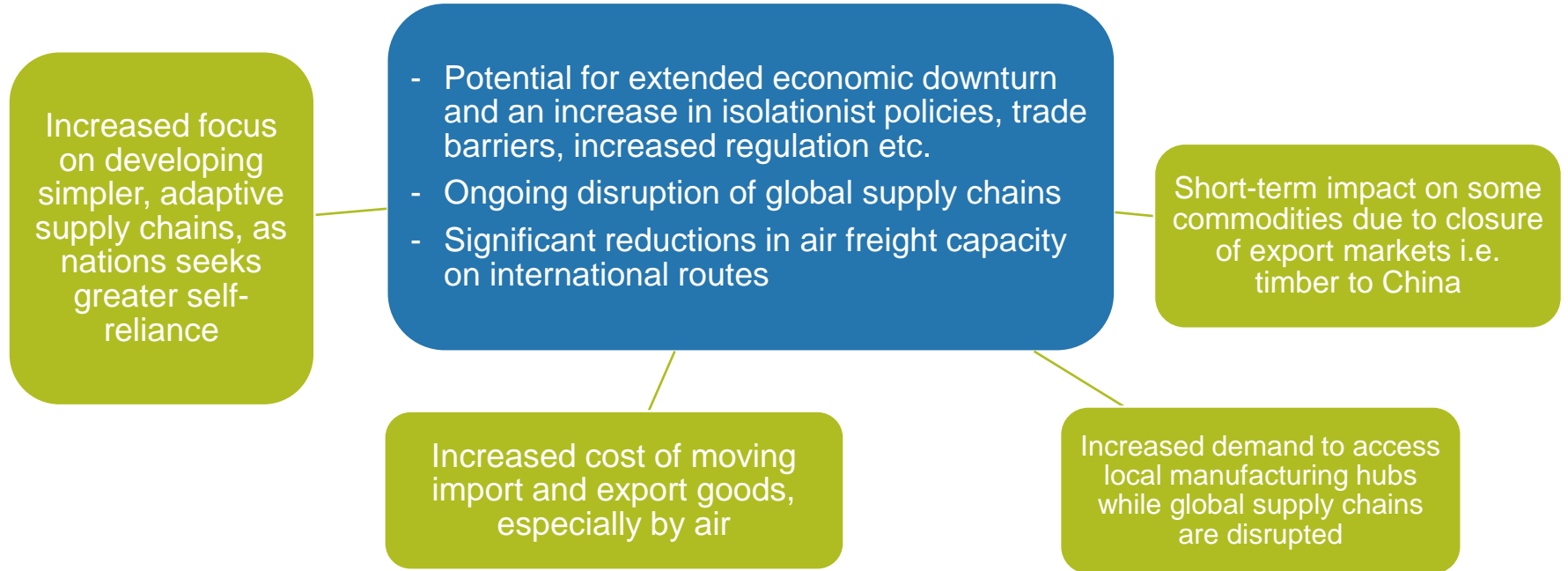Demand relatively stable in lower North Island

- Almost all industries forecast to decline over 12-18 months, with retail, tourism-related and media industries hardest hit over 5-10 years
- Primary production, government and health sectors least impacted, and key to supporting recovery
- Reduced consumer confidence likely to result in reduced spending
- Stimulus has improved outlook and could potentially lessen impacts

Range of stimulus activities and revenue streams in addition to NTLF e.g. NZUP, PGF, CIP, Kāinga Ora

Reduced freight task due to reduced household consumption and economic slowdown

Ongoing need to support export industries, especially in regions and districts with strong primary sectors

Global impacts

If the global community struggles to effectively manage the pandemic, then….

Increased focus on developing simpler, adaptive supply chains, as nations seeks greater self-reliance

- Potential for extended economic downturn and an increase in isolationist policies, trade barriers, increased regulation etc.
- Ongoing disruption of global supply chains
- Significant reductions in air freight capacity on international routes

Short-term impact on some commodities due to closure of export markets i.e. timber to China

Increased cost of moving import and export goods, especially by air

Increased demand to access local manufacturing hubs while global supply chains are disrupted

Vulnerable communities

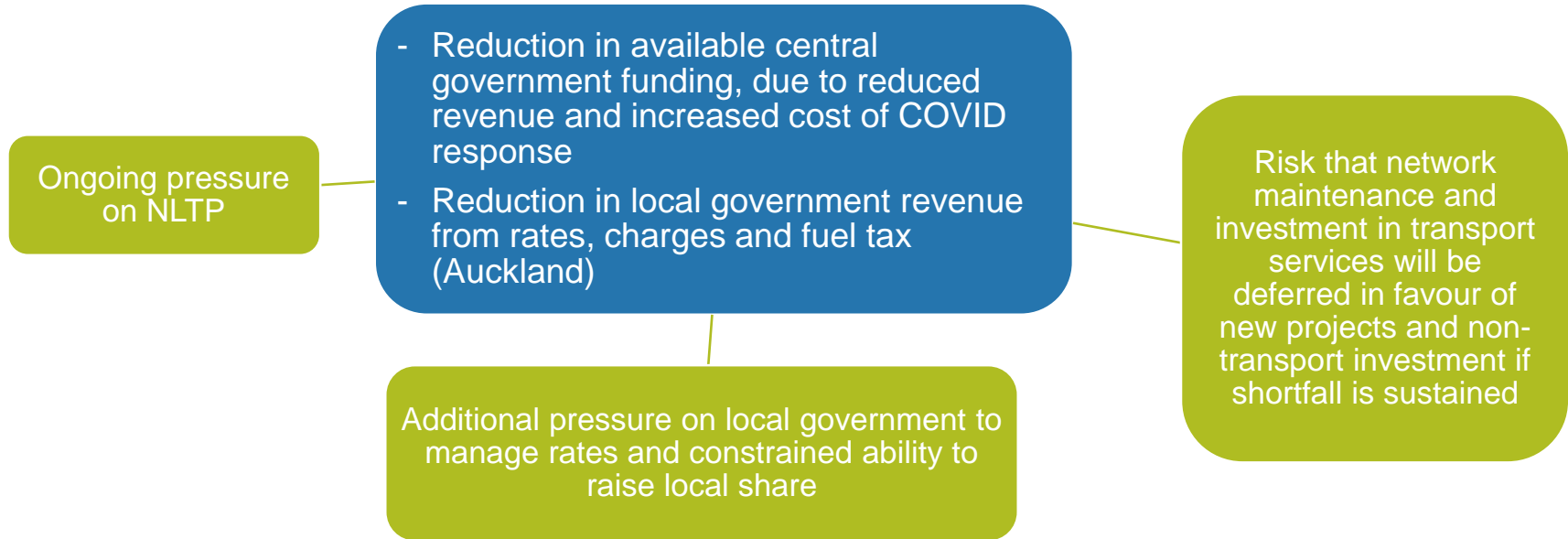If COVID-19 causes a significant and sustained economic slowdown, then….

- Greatest impact on casual and part-time workers and those employed in most impacted industries
- Sharp increases in NEETs expected
- Māori, Pasifika and youth are likely to be disproportionally impacted
- Pasifika, Māori, unemployed and rural towns less likely to have internet access

Need to ensure transport services are available and affordable for these groups

Need for equitable access to education and employment (and other essential services)

Take into account digital divide when designing responses, including non-transport

Funding and financing

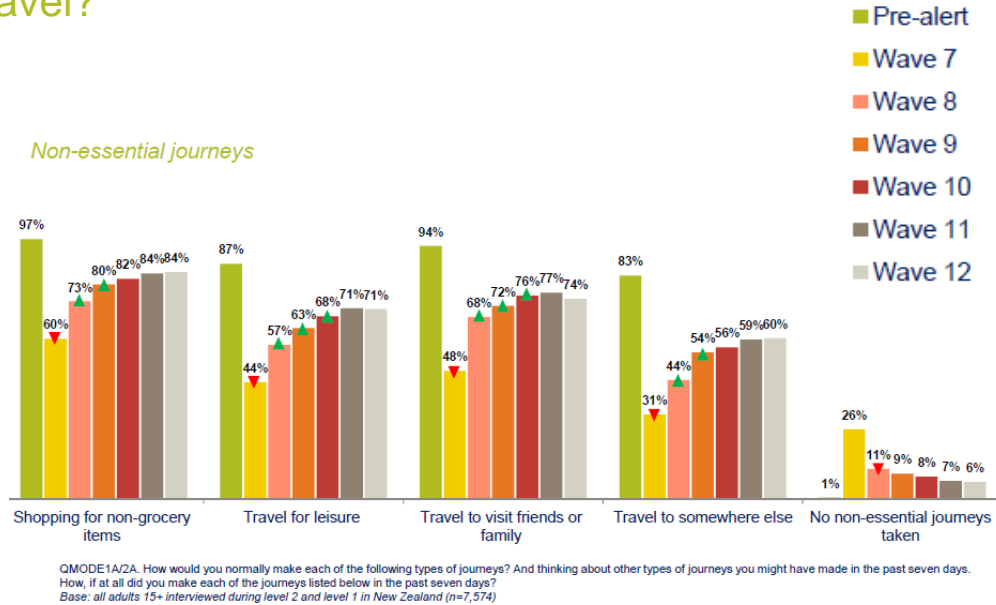If COVID-19 recovery reduces demand for travel, then….

Ongoing pressure on NLTP

- Reduction in available central government funding, due to reduced revenue and increased cost of COVID response
- Reduction in local government revenue from rates, charges and fuel tax (Auckland)

Risk that network maintenance and investment in transport services will be deferred in favour of new projects and non-transport investment if shortfall is sustained

Additional pressure on local government to manage rates and constrained ability to raise local share

Source: Local Government COVID-19 Response Unit – DIA (14 April 2020) Local Government Sector – COVID-19 Financial Implications

https://www.dia.govt.nz/Local-Government-COVID-19-Response

Impacts on customer behaviour

How might COVID-19 impact on how people travel?

- Waka Kotahi surveyed trip patterns and customer attitudes at commencement of Level 4 lock-down

- Results from the first week of Level 1 indicate mode choice is returning to pre-COVID patterns:
  - Travel activity is continuing to return to normal - a small minority are still self isolating in level 1
  - Local journeys continue to increase in level 1
  - Proportion using cars (at least 1/week) has returned to pre-alert levels
  - Use of active modes (at least 1/week) remained relatively constant
  - Use of PT usage continues to recover, chiefly driven by a sharp increase in reported weekly bus usage

- Trip numbers remain significantly lower than pre-alert levels for both work trips and non-essential trips

- Increased working remotely and from home may temper peak demand in the longer-term

Legend:
- Pre-alert
- Wave 7
- Wave 8
- Wave 9
- Wave 10
- Wave 11
- Wave 12

Non-essential journeys

QMODE1A/2A. How would you normally make each of the following types of journeys? And thinking about other types of journeys you might have made in the past seven days. How, if at all did you make each of the journeys listed below in the past seven days?
Base: all adults 15+ interviewed during level 2 and level 1 in New Zealand (n=7,574)

Source: Waka Kotahi COVID-19 transport impact research, Fieldwork waves 1-12 weekly core report (30 June 2020)

What does this mean for regions?

Regional summaries

How might COVID-19 impact individual regions

- The regional summaries help shape regional planning and investment by providing evidence and insights about the impacts of COVID-19 on each region and the impacts relative to the rest of New Zealand

- The following slides outline:
  - each region's reliance on the hardest-hit sectors of the economy, and provide a breakdown of employment forecasts to territorial authority level (using Infometrics modelling outputs for the 'Slow Recovery Scenario - Treasury Scenario 5' as the most likely scenario)
  - potential major economic and demographic shifts from pre-COVID BAU i.e. slowing of growth, reduction in tourism, etc
  - the potential impact on land transport in each region

COVID-19 – implications for land transport in Northland

How might the current pandemic impact on demand for transport?

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Northland

Potential impact on key sectors

- The key sectors in Northland's economy are reasonably well placed to recover from the pandemic, with the exception of retail trade

- International tourism makes up approximately 20% of Northland tourism spend

- The reduction in international tourism may be off-set by an increase in domestic tourism (at least in short term) due to proximity of Auckland

- The region has relatively low reliance on temporary migrant labour (1.2% of labour force, 2019), so will not be unduly impacted by reductions in immigration. Most are employed in the agriculture and horticulture sectors

NOTE – significant levels of uncertainty remain regarding the scale and duration of COVID-19 impacts, particularly in the medium-long term. We will continue to monitor and update as things change.

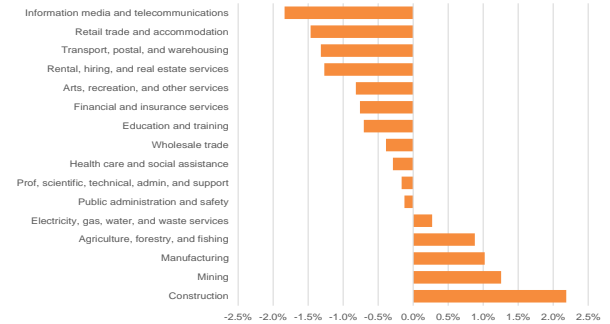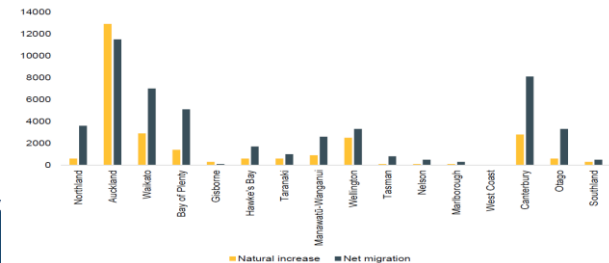**Employment relative to BAU, 2031, major industries, Slower Recovery Scenario**

15.2%
HEALTHCARE & SOCIAL ASSISTANCE

10.7%
GOVERNMENT, ARTS & RECREATION

10.9%
RETAIL TRADE

10.4%
MANUFACTURING

9.6%
EDUCATION & TRAINING

TOP 5 EMPLOYMENT SECTORS
YEAR END MARCH 2018[41]
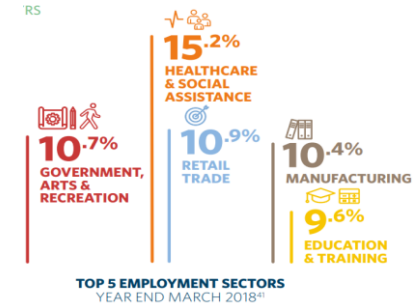
Figure 58: Components of population growth by region, 2018 to 2019

Source: Statistics NZ, Subnational population estimates 2019

Northland

Potential impacts on employment and communities

- Northland's economy had been lagging behind the national average pre-COVID, but the region is forecast to recover relatively well from the pandemic

- Under the Slower Recovery Scenario:
  - the region's forecast fall in employment to 2021 (relative to BAU) is -5.6%, below the national average of -6.7%
  - employment in the region is forecast to return to BAU levels in the latter half of this decade

- Māori and Pasifika, and youth, are likely to experience the greatest impacts, particularly those in smaller regional centres. An increase in youth not in employment, education or training (NEETs) is expected

- Recent population growth driven by net migration. With lower levels of international migration and less 'spill over' from Auckland, Northland's growth is expected to slow significantly in the short to medium-term.
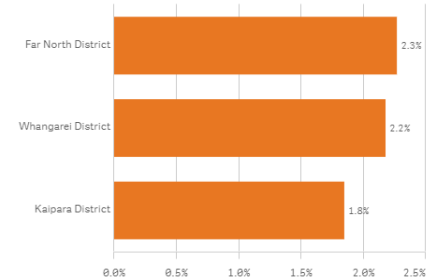

Employment relative to BAU, 2021
Northland - Slower Recovery (scenario 5)

Far North District	-6.5%
Whangarei District	-4.8%
Kaipara District	-6.5%
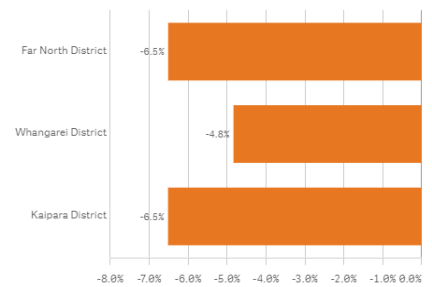
Employment relative to BAU, 2031
Northland - Slower Recovery (scenario 5)

Far North District	2.3%
Whangarei District	2.2%
Kaipara District	1.8%

Employment projections by scenario
Total filled jobs (000),March years (Northland region)

Scenario
- BAU
- Faster Recovery Scen...
- Steeper Decline Scen...
- Slower Recovery Scen...
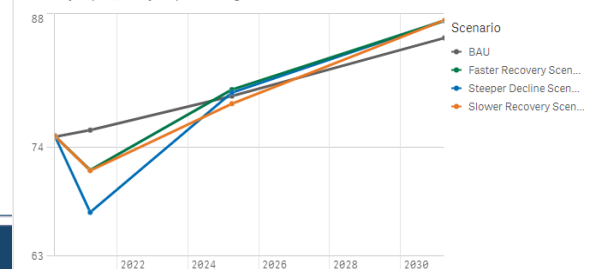
Northland

Potential impacts on the land transport system (over the coming decade)

- Expect an easing of growth in passenger transport demand over the short-term, due to slower population growth and reduced employment and discretionary trips

- No significant changes are expected in the nature, scale and location of transport demand over the medium to long-term. The 10-year outlook remains largely unchanged

- Maintaining safe and reliable connections to Auckland and to domestic tourism centres (including the Twin Coast Discovery Highway) remain important to supporting recovery

- There will be an ongoing need for transport services to support COVID recovery by improving access to employment and essential services for vulnerable communities

- There will be ongoing pressure on transport revenue as a result of the COVID lockdown.

- **Health warning reminder – significant levels of uncertainty. We will monitor and update as things change.**

- **Feedback welcome – arataki@nzta.govt.nz**

Scenarios

Overview of the Treasury scenarios used in this research

In April 2020 the Treasury produced five national scenarios to model the potential economic impacts of the COVID-19 pandemic.

Waka Kotahi commissioned Infometrics and MartinJenkins to undertake further modelling and analysis of Treasury scenarios 1, 4 & 5 to quantify the potential economic impacts at a regional and territorial authority scale

The key assumptions for each of the three scenarios are below:

Scenario	COVID-19 Alert Level	Other assumptions
Scenario 1: Faster Recovery Scenario	Level 4 – 1 month Level 3 – 1 month Level 1/2 – 10 months	Borders assumed closed to foreign visitors for up to 12 months. World annual average real GDP growth is lower than HYEFU by 6% in calendar 2020.
Scenario 4: Steeper Decline Scenario	Level 4 – 3 months Level 3 – 3 months Level 1/2 – 6 months	May be interpreted as a number of shorter periods at Level 4 and/or Level 3 linked by periods at Level 1 and 2.
Scenario 5: Slower Recovery Scenario	As in Scenario One	World annual average real GDP growth is lower than Scenario One by 3% in calendar2020 and 4% in 2021

Source: Treasury Report; Economic Scenarios (13 April 2020) https://treasury.govt.nz/sites/default/files/2020-04/c19-4265378-t2020-973-economic-scenarios-v3.pdf

The **Slower Recovery Scenario** (Scenario 5) is considered to be the **most likely** due to continuing high levels of uncertainty regarding global efforts to manage the COVID-19 pandemic (and the duration and scale of the resulting economic downturn).