



INFRASTRUCTURE
VICTORIA

TRANSPORTING MELBOURNE'S RECOVERY

*Immediate policy actions to
get Melbourne moving*



Neil France

Infrastructure Advisor, Networks & Planning

INFRASTRUCTURE VICTORIA: WHO WE ARE AND WHAT WE DO



Prepare a statewide, 30-year infrastructure strategy



Advise government on specific infrastructure matters



Publish original research on infrastructure-related issues



Values are independence, influence, engagement, openness, innovation, people



AGENDA

01



Introduction

02



COVID-19
Impacts
Research &
Modelling

03



COVID-19
Recovery with
reform

04



Policy Options

05



Victoria's
infrastructure
strategy 2021-
2051

01

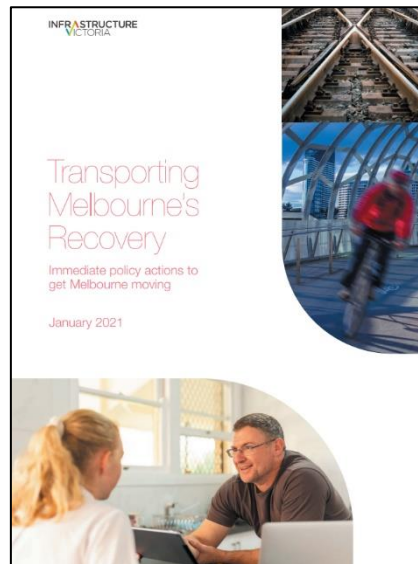


INTRODUCTION & KEY THEMES



REPORT BACKGROUND

- *Transporting Melbourne's Recovery* – first modelling report to understand implications of COVID-19 for transport.
- Initial work on short-run transport challenges during the recovery phase of the pandemic.
- Provides immediate interventions for Victorian Government to consider.
- Identifies a range of options to enable safe, confident travel to get Melbourne moving again as workers return to the city.



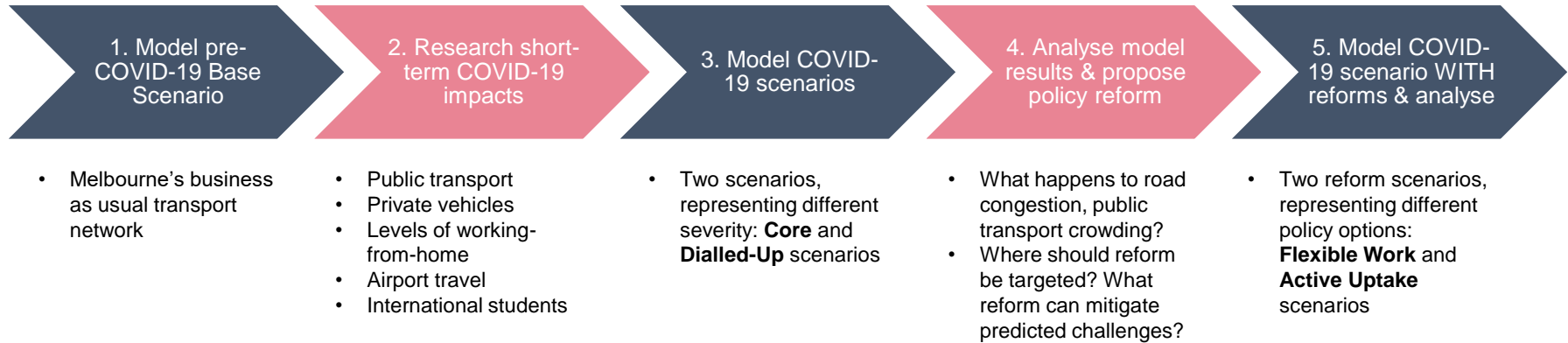
Released January 2021

KEY CONTEXT



- *Transporting Melbourne's Recovery* provides insight into how transport in Melbourne is likely to operate as we transition to a COVID Normal. Timeframe: next 12-18 months.
- Situation where we have risk of COVID in community, no lockdown, but behavioural changes (greater preference for cars, lower for public transport).
- Worsening congestion, poor public transport utilisation – not the direction we want Melbourne to be heading in.
- Policy options to avoid poor, entrenched transport habits – avoid risks of long-term damage to Melbourne's liveability and economic recovery.

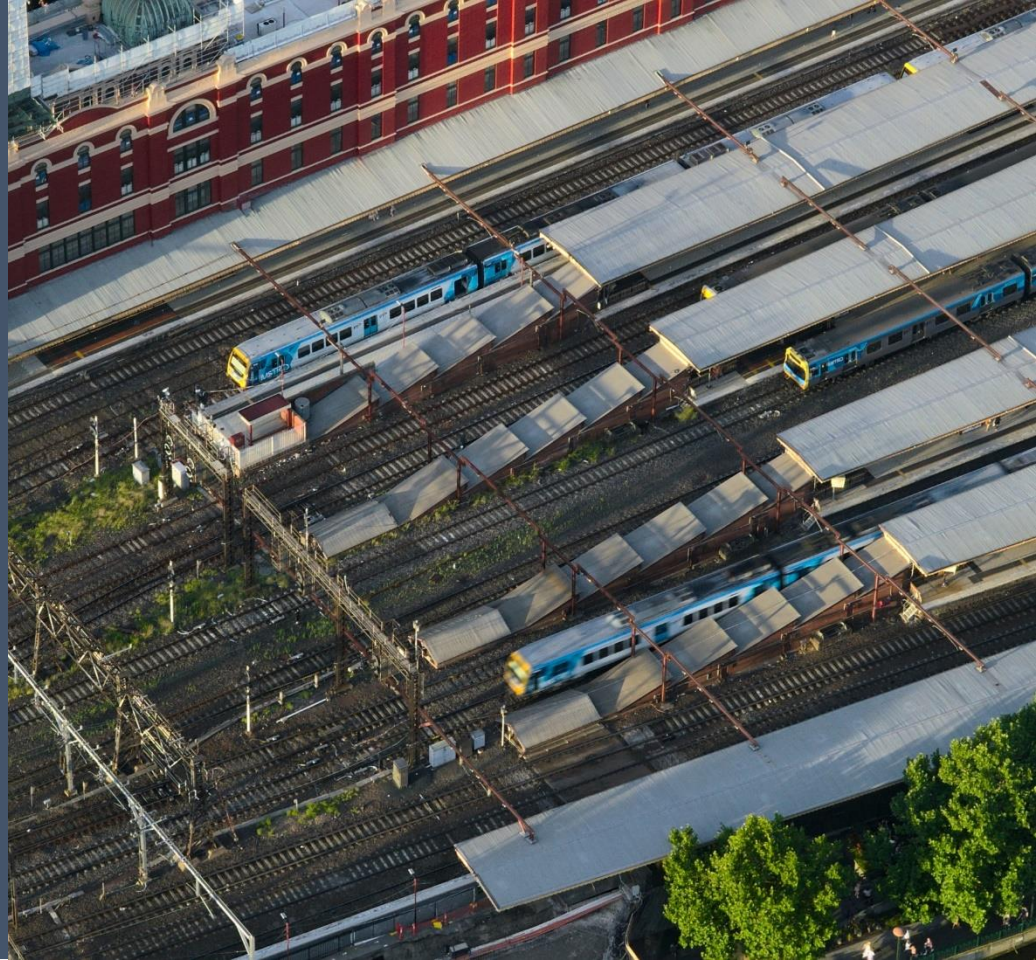
SHORT-TERM COVID-19 PROJECT CYCLE



02



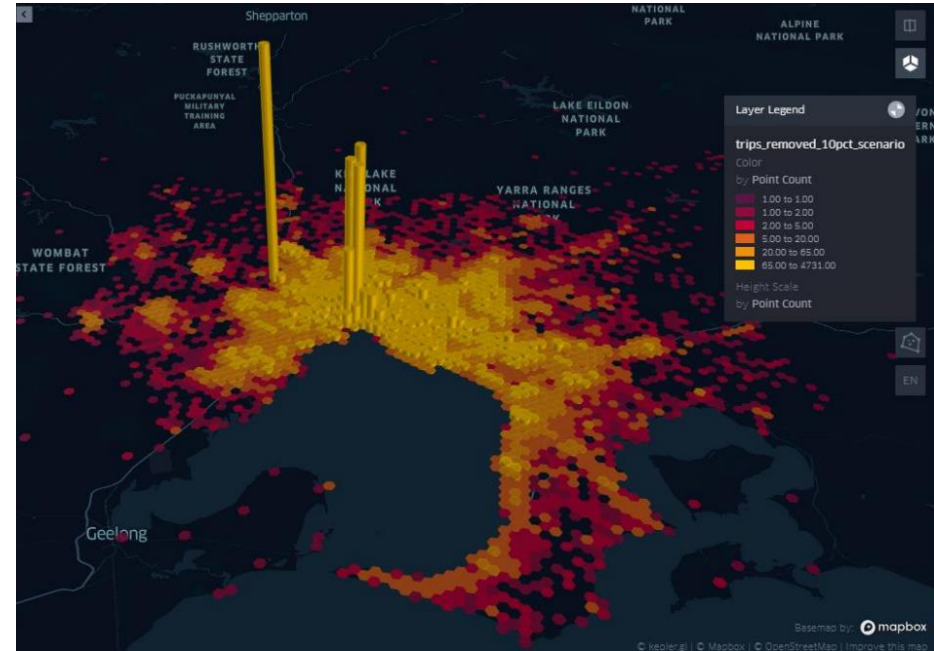
COVID IMPACTS RESEARCH & MODELLING



WORKING FROM HOME ADJUSTMENTS

- Google data suggests workplace activity likely to recover to between **80%** and **90%** of pre-COVID-19 levels
- Only occupations identified that can work from home - using DELWP and Dingel and Neiman (2020) research

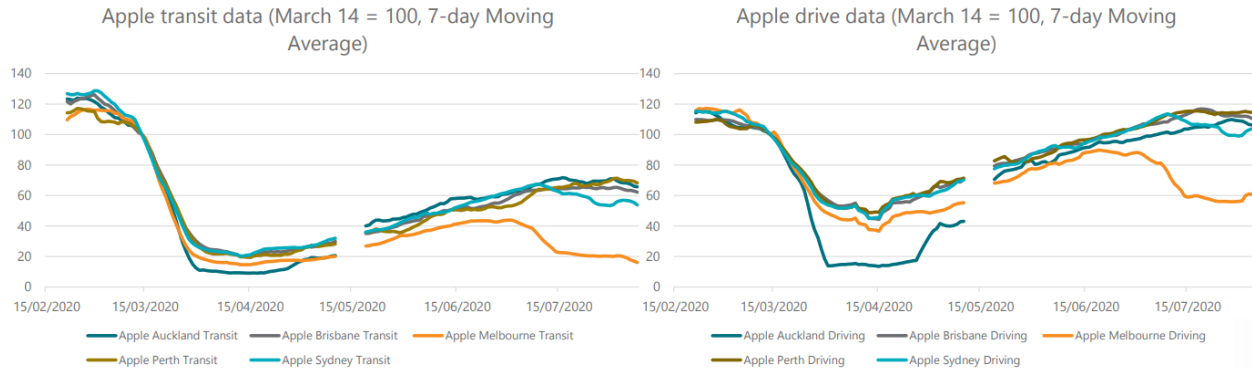
Google data - Workplace and Residential readings as a percentage of Pre-Lockdown



Destination locations of removed trips, VLC

PUBLIC TRANSPORT AND CARS

- Large declines in public transport usage – even in cities with minimal cases, public transport does not appear to have reached within 70% of baseline.
- Melbourne's second lockdown had a significant impact on patronage (lower than 10% of baseline)
- At the time of analysis (late 2020), driving in other cities had almost fully recovered – more resilient to the impacts of COVID-19 compared to public transport.

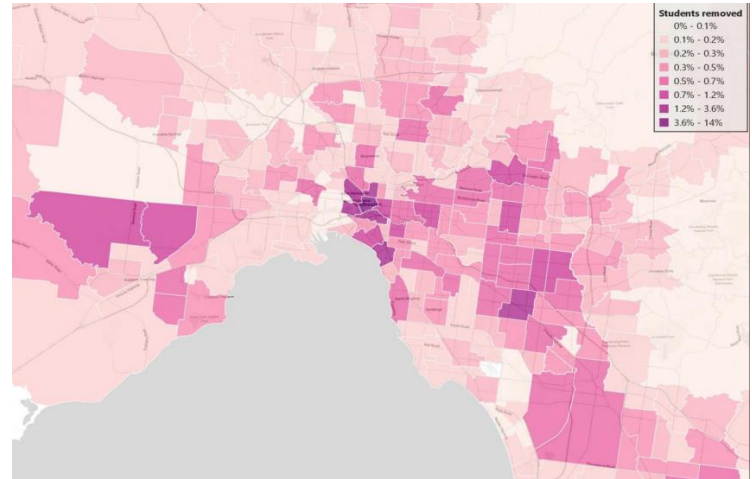
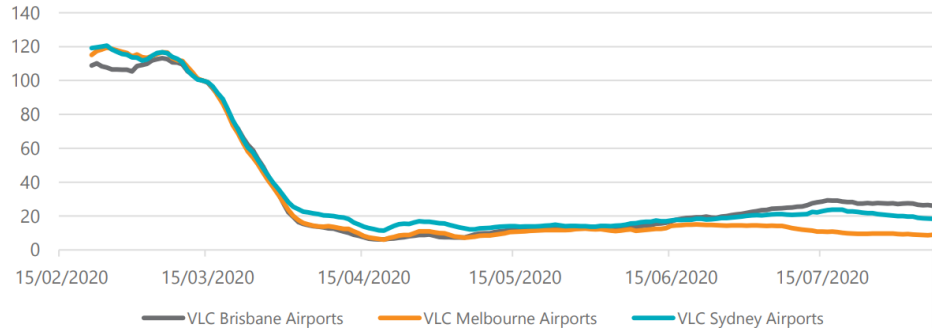


	Mode	Core scenario	Dialled-Up scenario
Percentage change in mode share	Car	5% increase	7% increase
	Public transport	37% decrease	55% decrease

INTERNATIONAL TRAVELLERS & STUDENTS

- As at May 2020, monthly total airport passengers were at less than 20% of baseline levels for all major Australian cities. In New Zealand, Auckland's airport experienced a small recovery in 2020, driven almost entirely by domestic passengers.
- International student visa approvals declined around 20% nationally between FY18/19 and FY19/20 (Department of Home Affairs Student visa data). Mitchell Institute reports that in April 2020, only 30 international students arrived or returned to Australia, compared to over 46,000 in April 2019.

VLC Airport data (March 14 = 100, 7-day Moving Average)



SCENARIO MODELLING SUMMARY

- Two COVID-19 scenarios were developed, based on the adjustments observed in the COVID-19 impacts research.
 - **Core scenario** forms the most accurate representation of Melbourne's recovery that IV could predict
 - **Dialled-Up Scenario** represents even larger travel behaviour change and economic disruption
- Both COVID-19 scenarios are derived from the Base 2018 version of the Melbourne Activity and Agent Based Model (MABM).

Table 6. MABM – summary of COVID-19 scenarios, compared with the Base scenario

	Core scenario	Dialled-up scenario
Private vehicle (change in mode share)	5% increase	7% increase
Public transport (change in mode share)	37% decrease	55% decrease
Working from Home adjustment	Commuter travel reduced to 90% of usual levels (ie. 10% WFH)	Commuter travel reduced to 80% of usual levels (ie. 20% WFH)
Airport travel	50% decrease in passenger volumes	70% decrease in passenger volumes
International students	20% reduction in student levels	60% reduction in student levels

SCENARIO MODELLING RESULTS

COVID Normal scenarios

- Road congestion in Inner Metro increases significantly with a user preference shift to private vehicles – up to 15% increases (100,000 additional car trips).
- Average vehicle speeds reduce by 20-30% compared to pre-COVID-19, down to under 21 km/h in AM peak.
- Analysed public transport and applied illustrative physical distancing flags, 1.5 metres between commuters. Morning peak train services face the largest challenge.

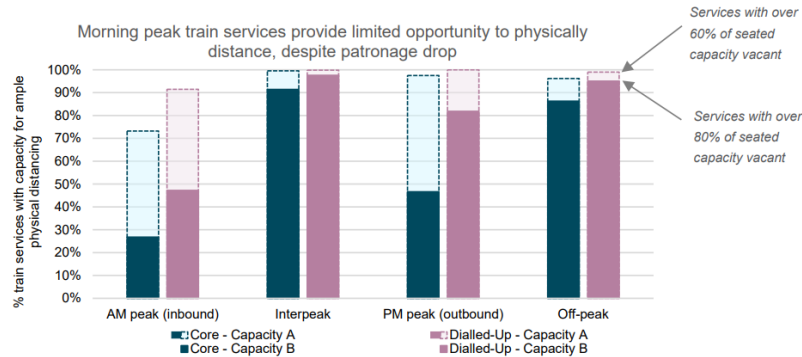


Figure 25. Train service seated capacity levels (Capacity A and B) available to physically distance, by time period

Inner Melbourne car volume increases

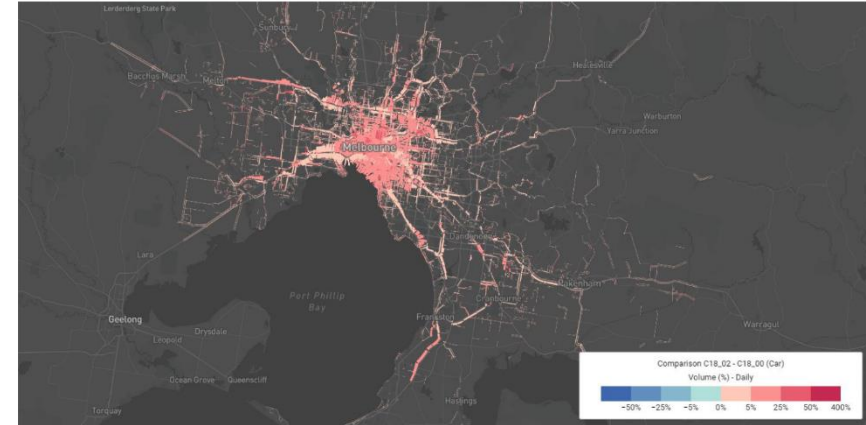


Figure 11. Base vs. Core scenario - car volume increase (daily)

Outer Melbourne car volume decreases



Figure 12. Base vs. Core scenario - car volume decrease (daily)

03

→ COVID RECOVERY & REFORM



COVID NORMAL WITH REFORM SCENARIOS

- COVID Normal scenarios presented a dilemma for Melbourne's transport network – despite greater levels of working from home, high levels of private vehicle congestion occur in Inner Metro due to a significant shift away from public transport. Although there is a fall in public transport usage, a selection of services are only able to provide limited opportunity to physically distance.
- Two further reform scenarios were developed to help mitigate this dilemma:
 - **Active Uptake scenario** – up to a 50% increase in active mode share for Inner Metro, shifting trips away from at-capacity roads and public transport
 - **Flexible Work scenario** – up to 25% working from home level and greater flexibility in work hours, allowing workers to start either earlier or later in the day (arrival time window expanded from 8am-10am to 7am-11am)

Table 9. Summary of model runs using the MABM

Category	Run name	Description
Pre-COVID-19	Base	The Base year, pre-COVID-19 – this used the latest 2018 validation of the MABM.
COVID Normal	Core	COVID-19 run with 'most expected' adjustments to WFH, car preference, domestic and international travel/students.
	Dialled-Up	COVID-19 run with even greater adjustments to WFH, car preference, domestic and international travel/students.
COVID Normal with Reform	Active Uptake	A forced shift of trips to/from/within Inner Metro region to active modes (walking & cycling) – using Core scenario as the base.
	Flexible Work	Greater flexibility in work activity start times and a forced shift to even greater WFH levels – using Core scenario as the base.

SCENARIO MODELLING RESULTS

COVID Normal with Reform scenarios

- Active uptake scenario creates an additional 265,000 cycling and walking trips within Inner Metro – contributing to a reduction of 40,000 delay hours on Inner Metro roads – equivalent to around 18 minutes stuck in traffic per week, for every inner Melbourne car driver
- Greater flexibility in work hours incentivises over 80,000 earlier work trips beginning at 7am (along with increased train patronage during this period).
- With the flexible work scenario, over 90% of morning peak train services are able to operate with ample room to physically distance (1.5 metres between commuters)

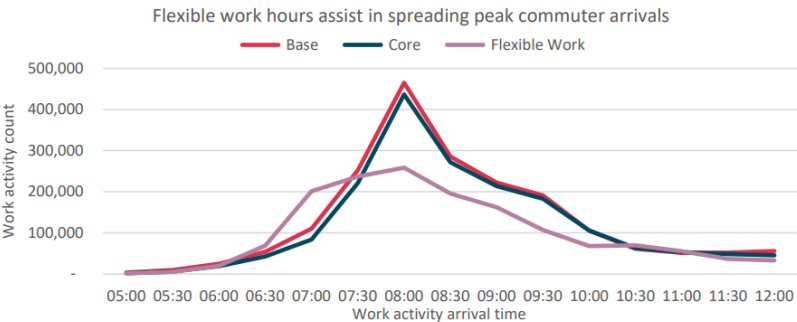


Figure 37. Work activity start time for Base, Core and Flexible Work scenarios

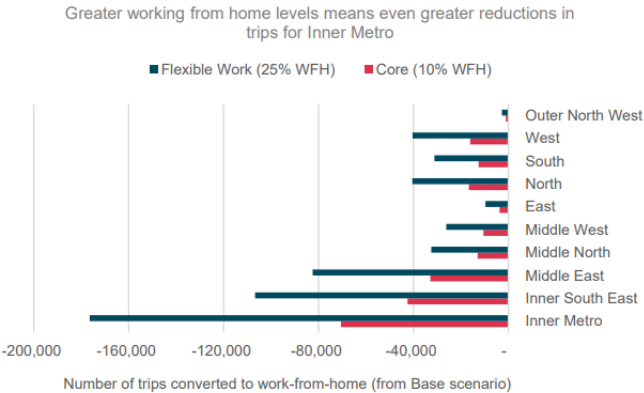


Figure 31. Removed trips from the network in Core and Flexible Work scenarios, by region

Active Uptake = increased walking & cycling in inner Melbourne.

Flexible Work = flexible start/finish times and increased working-from-home.

What policy can be used to support these adjustments?

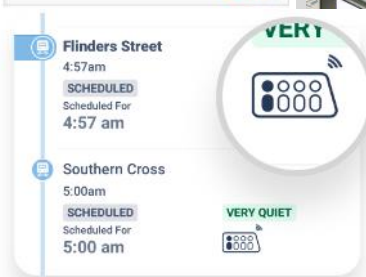
04

→ POLICY OPTIONS



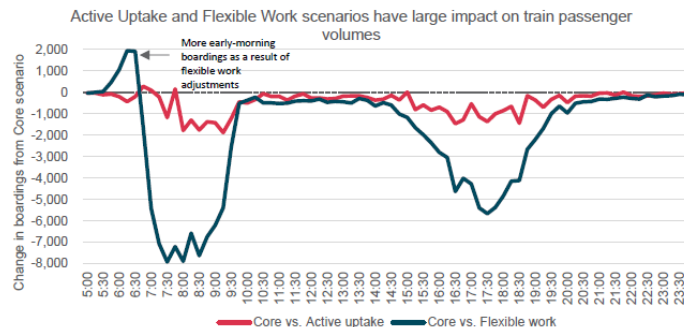
GOVERNMENT DIRECTIVES & GUIDANCE

1. Monitor social distancing levels and provide clear directives on mandatory mask use for public transport.
2. Develop responses for COVIDSafe travel through signage, increased staffing/enforcement or assistance in managing capacity limits.



PRICING MECHANISMS

1. Monitor crowding and patronage levels of new off-peak transport services and consider the impacts of permanent off-peak fare discounts (for all modes).
2. Remove the Free Tram Zone (FTZ).
 - 35 million trips per year in the FTZ
 - increased from 18.5 million pre FTZ
 - patronage increased by 30% in first year
3. Incentives to encourage people to cycle



Building A Train Network For The Future

01 December 2020

Victorian passengers will benefit from an extra 450 train services every week under a timetable redesign which will boost capacity and seize the benefits of the Victorian Government's major transport infrastructure projects.

Share this page

Twitter
Facebook
LinkedIn

INFRASTRUCTURE PROVISION

1. Monitor crowding and patronage levels of new off-peak transport services and continue to revise public transport scheduling to support peak spreading.

MEDIA RELEASE

MORE SERVICES TO KEEP VICTORIANS SAFE ON PUBLIC TRANSPORT

JULY 10, 2020

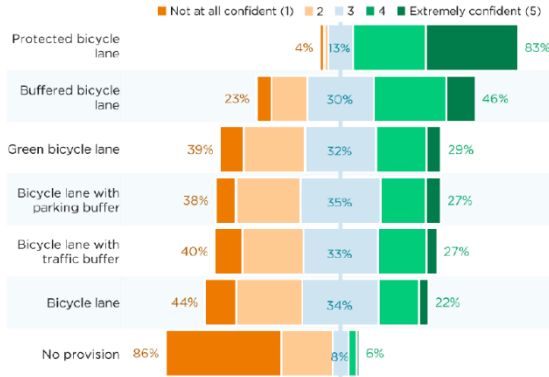
The Victorian Government is adding hundreds of new train and tram services to the state's busiest lines every week to give passengers more choice on when they travel and help maintain physical distancing across the network.

Minister for Public Transport Ben Carroll today announced further measures as part of the Government's public transport response to coronavirus, with the new services starting next week alongside changes to make journeys safer for both passengers and frontline public transport staff.



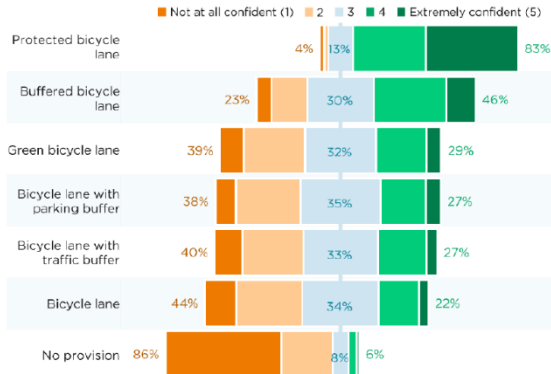
INFRASTRUCTURE PROVISION

1. Monitor crowding and patronage levels of new off-peak transport services and continue to revise public transport scheduling to support peak spreading.
2. Deliver larger, more permanent separated cycling corridor upgrades with complementary pop-up bike lanes.



INFRASTRUCTURE PROVISION

1. Monitor crowding and patronage levels of new off-peak transport services and continue to revise public transport scheduling to support peak spreading.
2. Deliver larger, more permanent separated cycling corridor upgrades with complementary pop-up bike lanes.
3. Support local government to re-allocate parking and road space for pedestrians and economic activity.



GOVERNMENT COLLABORATION & LEADERSHIP

1. Continue to monitor and regulate working-from-home levels to ensure workplaces remain safe.
2. Provide government leadership and nudges towards greater flexible work through processes, public campaigns, collaboration with industry and the use of the VPS as an example of best practice.





thank
you



VICTORIA'S INFRASTRUCTURE STRATEGY 2021-2051

Volume 1

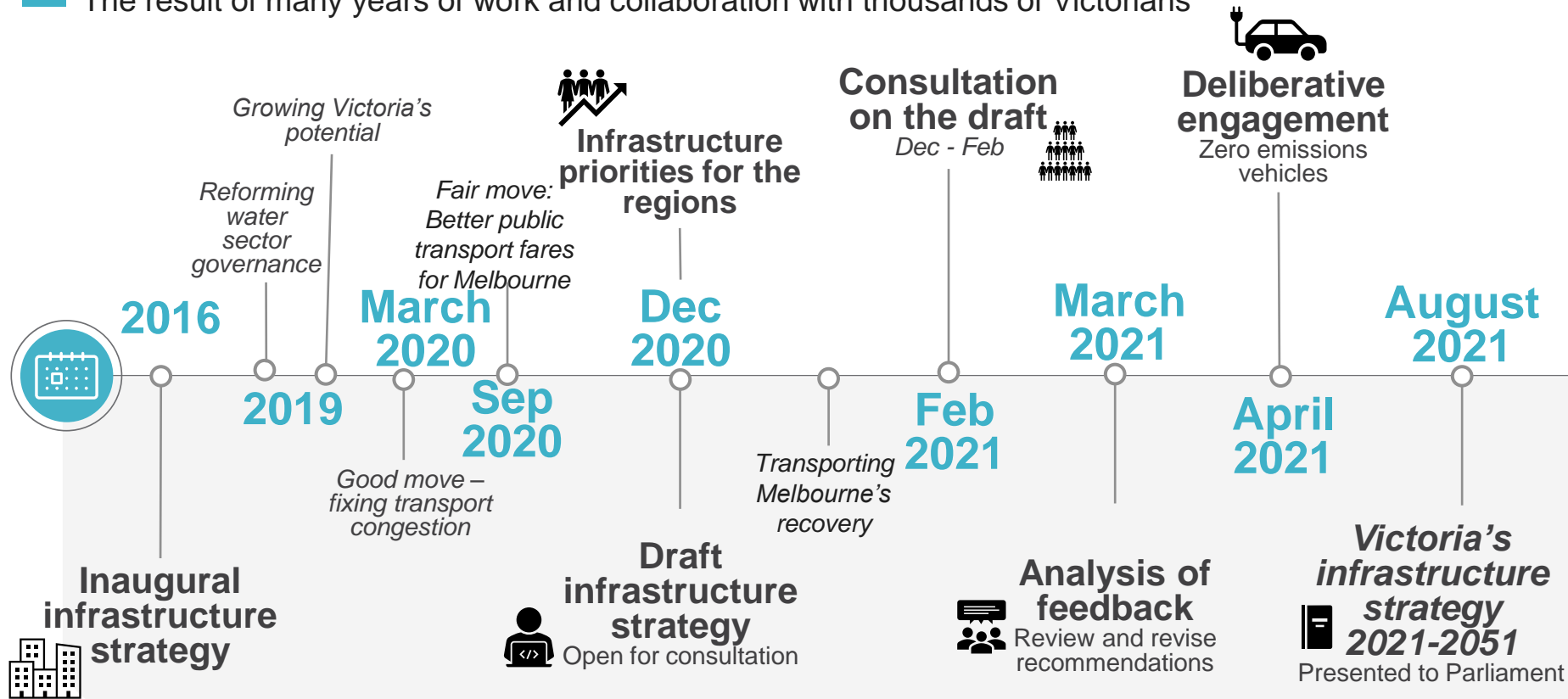
Victoria's
infrastructure
strategy
2021-2051



Peter Kartsidimas
Director Networks & Planning

TIMELINE: THE JOURNEY

— The result of many years of work and collaboration with thousands of Victorians



Confront long-term challenges

Navigate the energy transition

Respond to a changing climate

Embed resilience

Embrace technology and innovation

Build a circular economy

Manage urban change

Integrate land use & infrastructure planning

Create thriving urban places

Steer changes in travel behaviour

Adapt infrastructure for modern needs

Harness infrastructure for productivity/growth

Shape the transport network for better access

Align social infrastructure with better service delivery

Plan for growth areas

Develop regional Victoria

Enhance regional market access & economic growth

Better connect the regions

Foster regional health, wellbeing & inclusion



CONFRONT LONG-TERM CHALLENGES

- **Accelerate low and zero emissions vehicle uptake**
- Match renewable energy generation with transmission infrastructure
- Increase energy efficiency and manage energy demand
- Confirm pathways for gas infrastructure while reaching net zero emissions
- Build climate change into infrastructure decisions
- Streamline decisions on water management and infrastructure
- Build back better after emergencies, and adapt to changing coastlines
- **Use new technologies for more efficient and effective transport, health and justice services**
- Reduce waste, improve waste sorting, secure recycling infrastructure and create demand for recycled products



→ **MANAGE URBAN CHANGE**

- **Integrate land use and infrastructure planning with clear, public infrastructure plans**
- Reform infrastructure contributions to be fairer and help pay for infrastructure
- Encourage more diverse housing options in well-located established areas
- **Prioritise open space combined with good walking and cycling infrastructure**
- **Boost the tram network and improve public transport accessibility**
- **Reallocate road space to priority uses**
- **Reform public transport fares and road user charges to better use our transport system**
- Upgrade and renew social infrastructure



HARNESS INFRASTRUCTURE FOR PRODUCTIVITY AND GROWTH

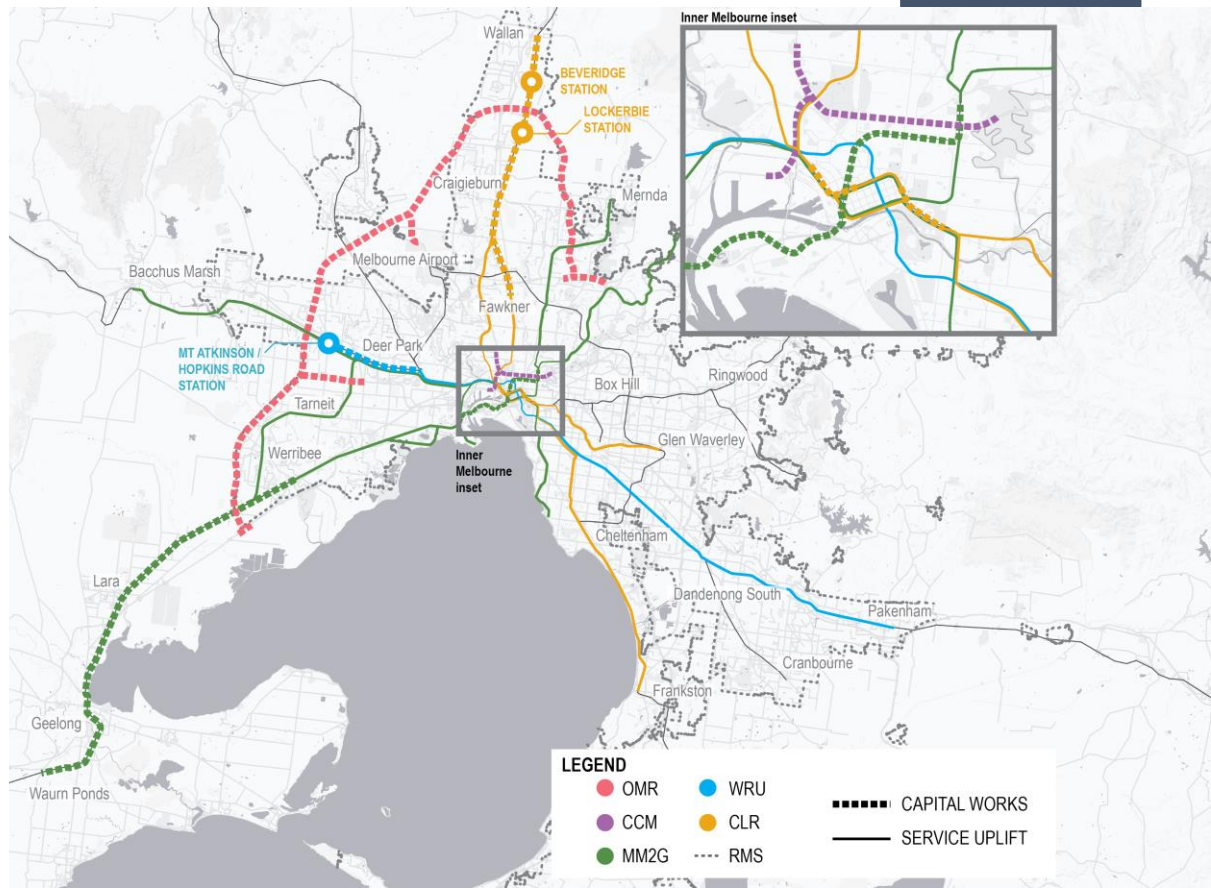
- **Invest in a stronger, inter-connected bus network**
- **Build further train capacity and reliability in the City Loop and growth areas**
- **Construct an outer metropolitan road and rail freight corridor**
- **Secure Victoria's future ports, freight terminals and freight transport infrastructure**
- Co-design Aboriginal community-controlled infrastructure
- Plan for new health, mental health, social housing and justice infrastructure
- Have independent monitoring and advice for growth area infrastructure delivery
- Invest in new social infrastructure, especially in growth areas
- Target more tree canopy in outer suburbs and growth areas

PROJECT OVERVIEW

Strategic assessment of 6 major transport projects to inform recommendations in the final strategy.

The projects were:

- City Loop Reconfiguration and Northern Rail Corridor Upgrade (CLR)
- Cross City Motorway (CCM)
- Melbourne Metro Two and Direct Geelong Rail Services (MM2G)
- Outer Metropolitan Ring Road (OMR)
- Road Management Systems (RMS)
- Western Rail Corridor Upgrade (WRU)





→ DEVELOP REGIONAL VICTORIA

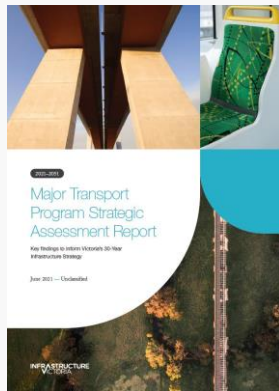
- **Secure long-term funding for road and rail maintenance**
- Enhance digital connectivity and resilience
- Foster regional tourism, including nature-based and Aboriginal tourism opportunities
- **Focus public transport to respond to local needs**
- Use telehealth-services to boost service access
- Refresh local community infrastructure, with renewal and multi-purpose facilities
- Upgrade infrastructure to be climate resilient
- Build social infrastructure to reduce disadvantage and meet community needs.

TECHNICAL REPORTS

- **Four** technical reports
- **Nine** updated regional profiles
- **Three** technical reports by Arup and AECOM with further transport modelling, costing and economic assessment results.



Driving down emissions



Major transport program assessment



Major transport program costing



VLUTI model architecture



Regional profiles

Next steps

- ✓ Victoria's infrastructure strategy 2021-2051 released
- ✓ Presented to Victorian Parliament on **19 August 2021**
- ❑ Victorian Government responds to the strategy recommendations within **12 months**
- ❑ Victorian Government also publishes its own **infrastructure plan** within that timeframe
- ❑ Infrastructure Victoria conducts **yearly progress monitoring** on how the state's infrastructure needs are being met



Keep in touch



enquiries@infrastructurevictoria.com.au



03 9936 1737



[@infravic](https://twitter.com/infravic)



facebook.com/infrastructurevictoria

LinkedIn Infrastructure Victoria



thank
you