

Australia – Understanding mobility needs and passenger behavior – post COVID-19

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Agenda

Introduction

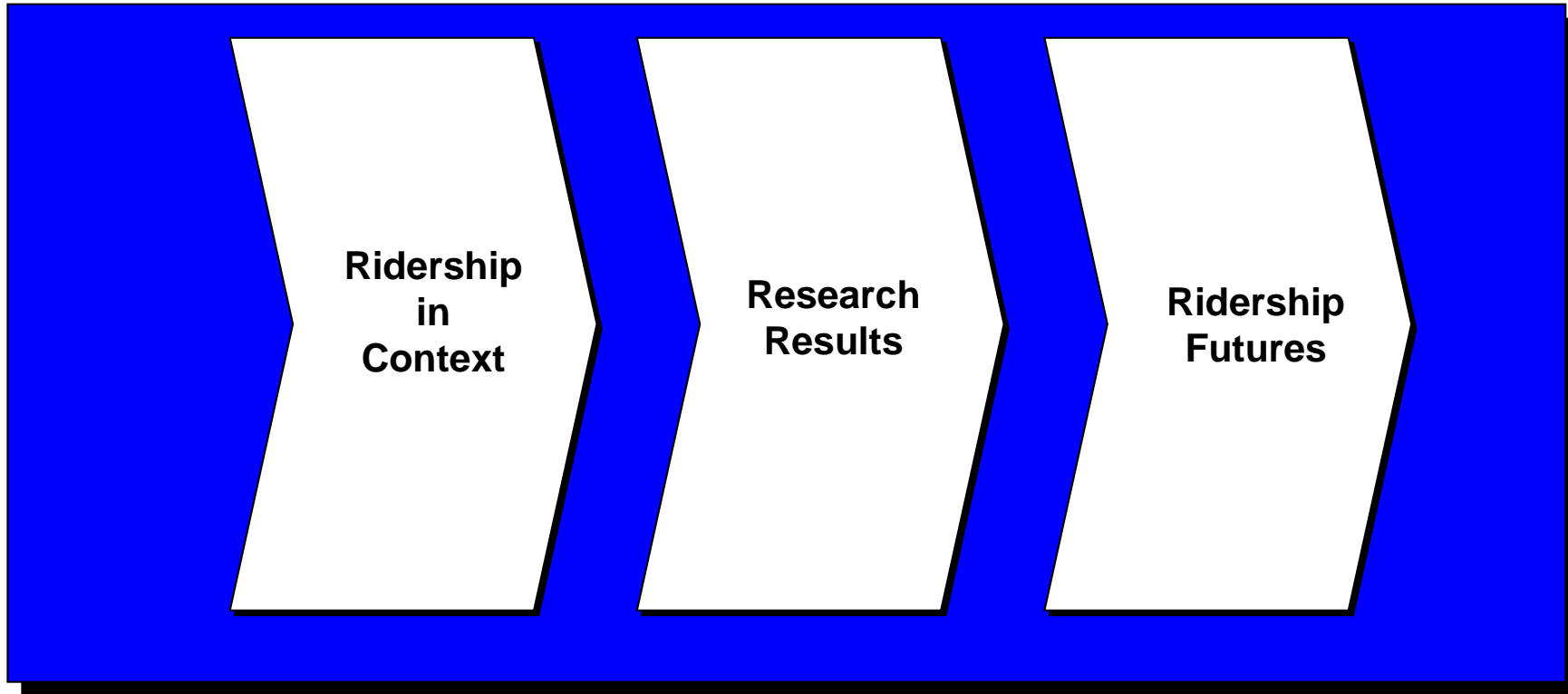
Ridership in Context

Research Results

Ridership Futures



This presentation looks at the long term prospects for PT ridership given the impacts of Covid 19 – it reports on research findings for a project focussing on Melbourne Australia



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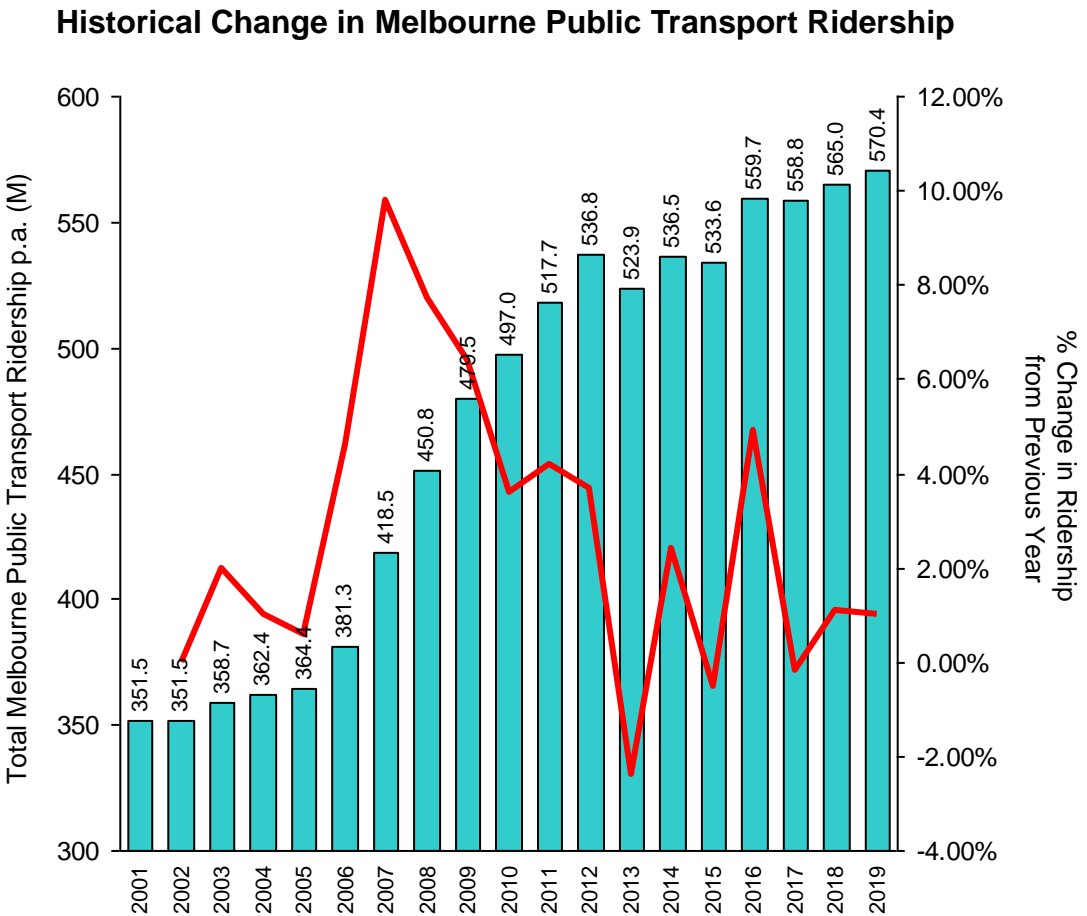
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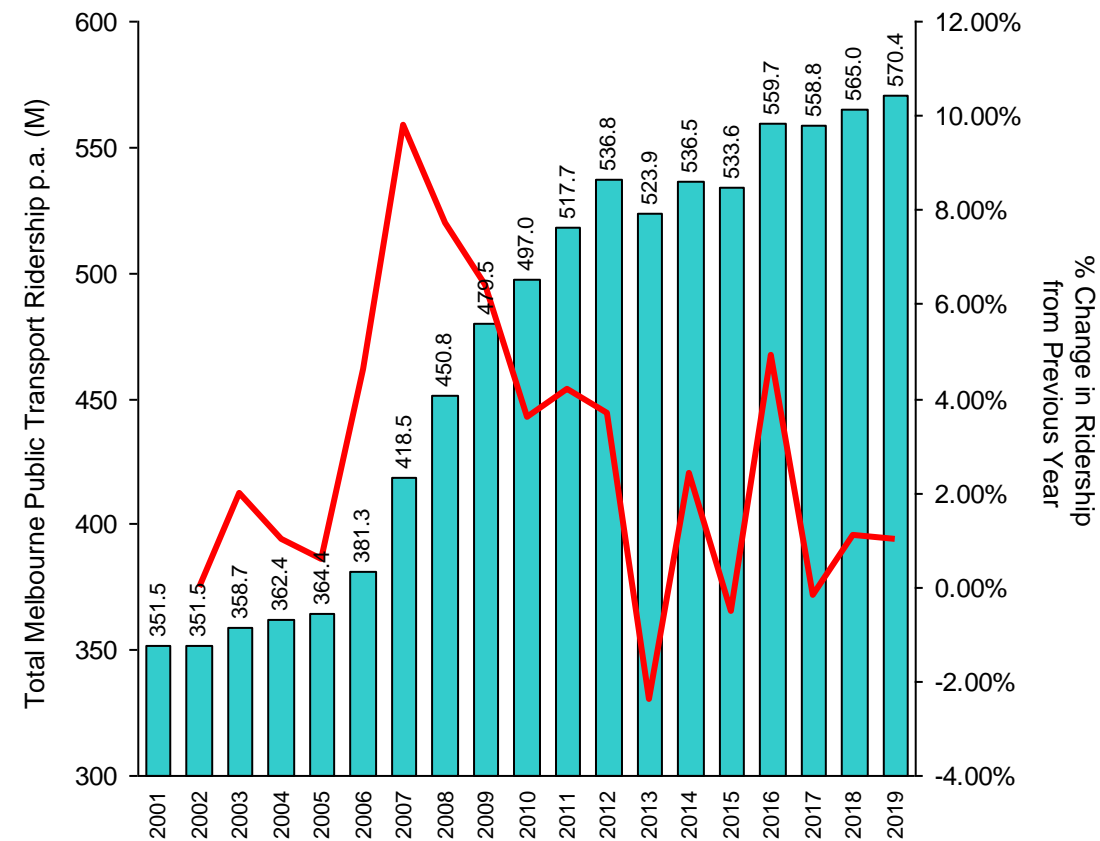
Public transport ridership in Melbourne has been BOOMING



Note:
(1) Public Transport Victoria, Victorian Department of Transport and Transport Victoria Annual Reports

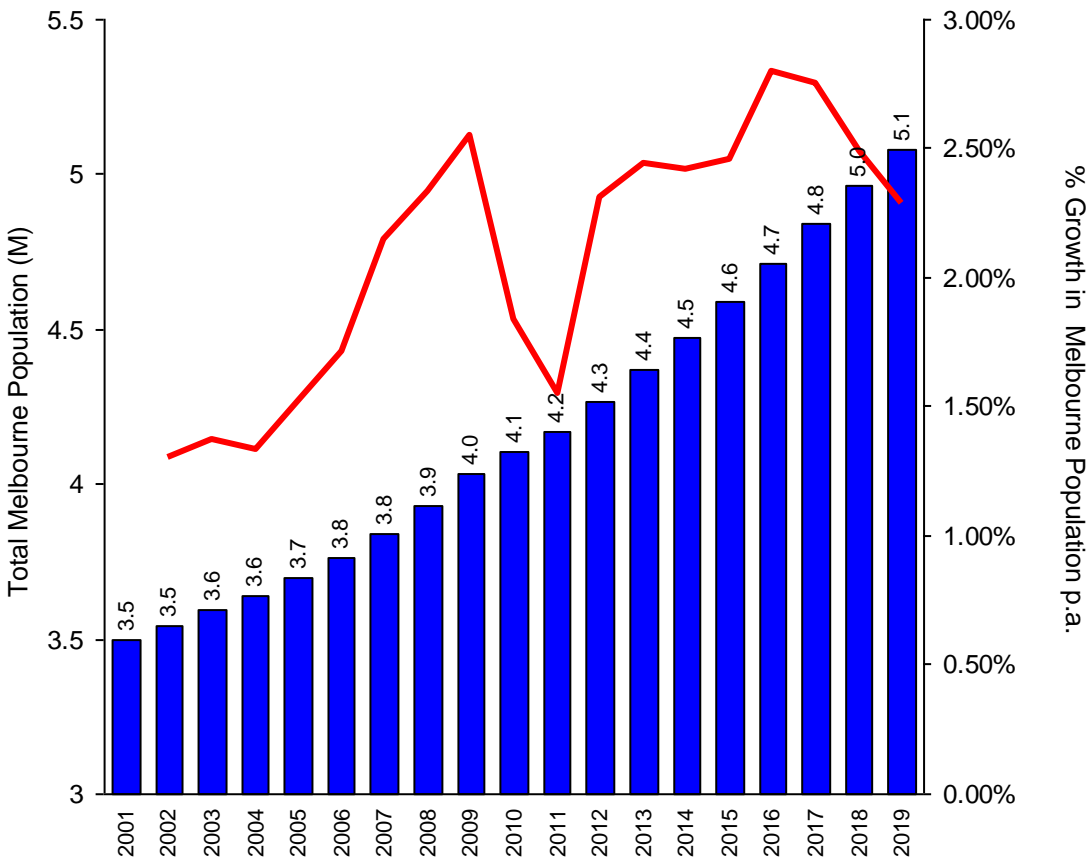
Public transport ridership in Melbourne has been BOOMING – fuelled by a booming and increasing population growth rate

Historical Change in Melbourne Public Transport Ridership



Note:
(1) Public Transport Victoria, Victorian Department of Transport and Transport Victoria Annual Reports

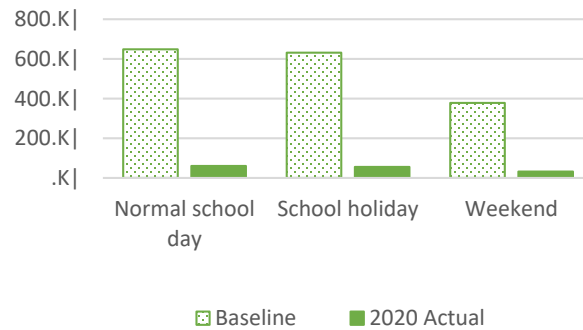
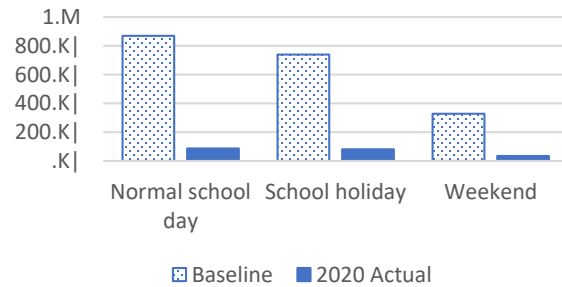
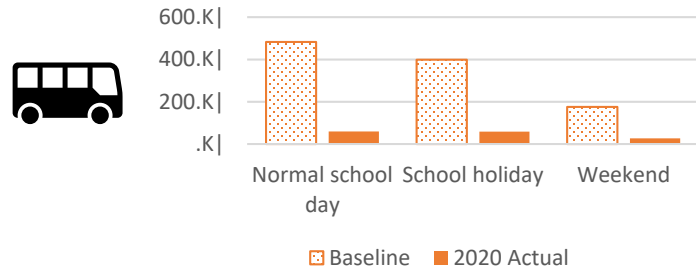
Historical Change in Melbourne Population



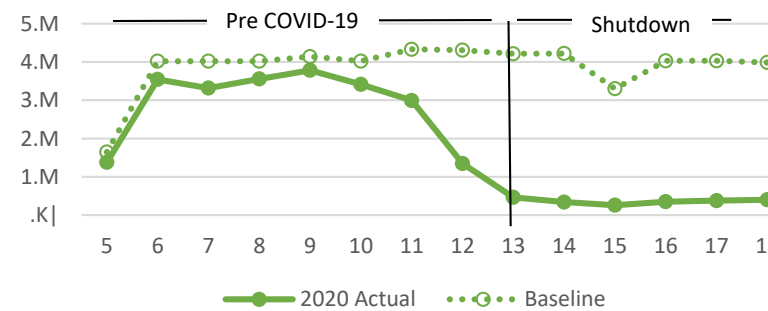
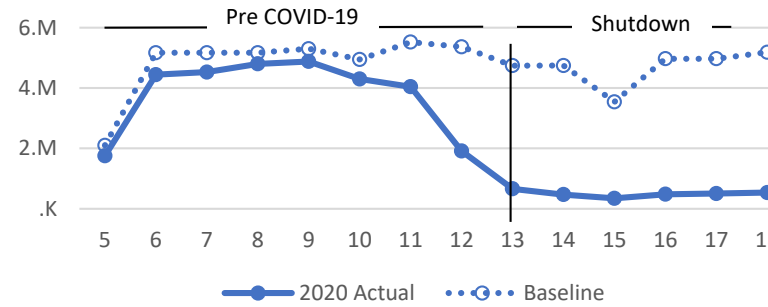
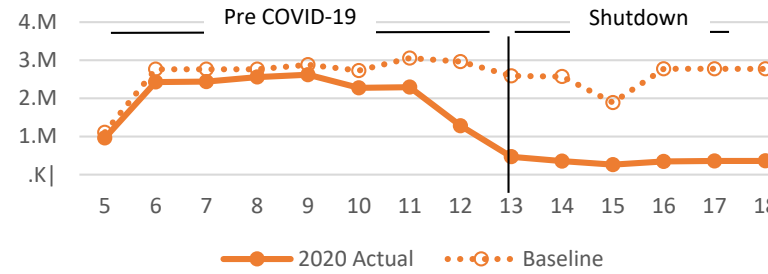
Note:
(1) Australian Bureau of Statistics – Estimated Regional Population

Then Covid-19, shutdowns and social distancing reduced ridership by over 90%

1. Average daily trips during shutdown (thousands)

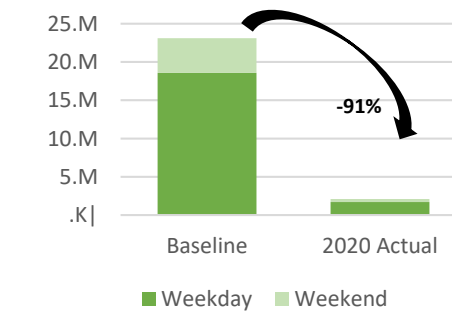
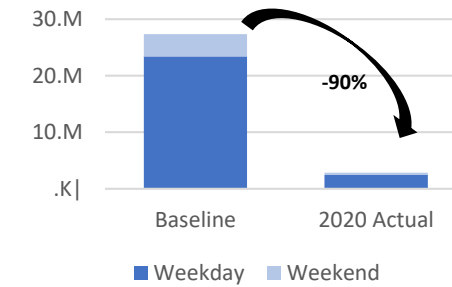
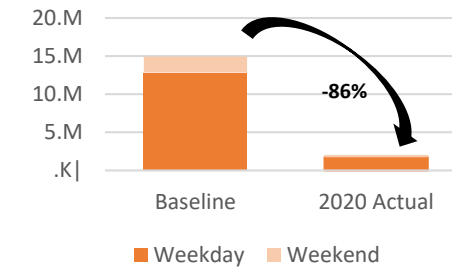


2. Average weekly trips (millions)



Weeks of the year

3. Total trips during shutdown (millions)



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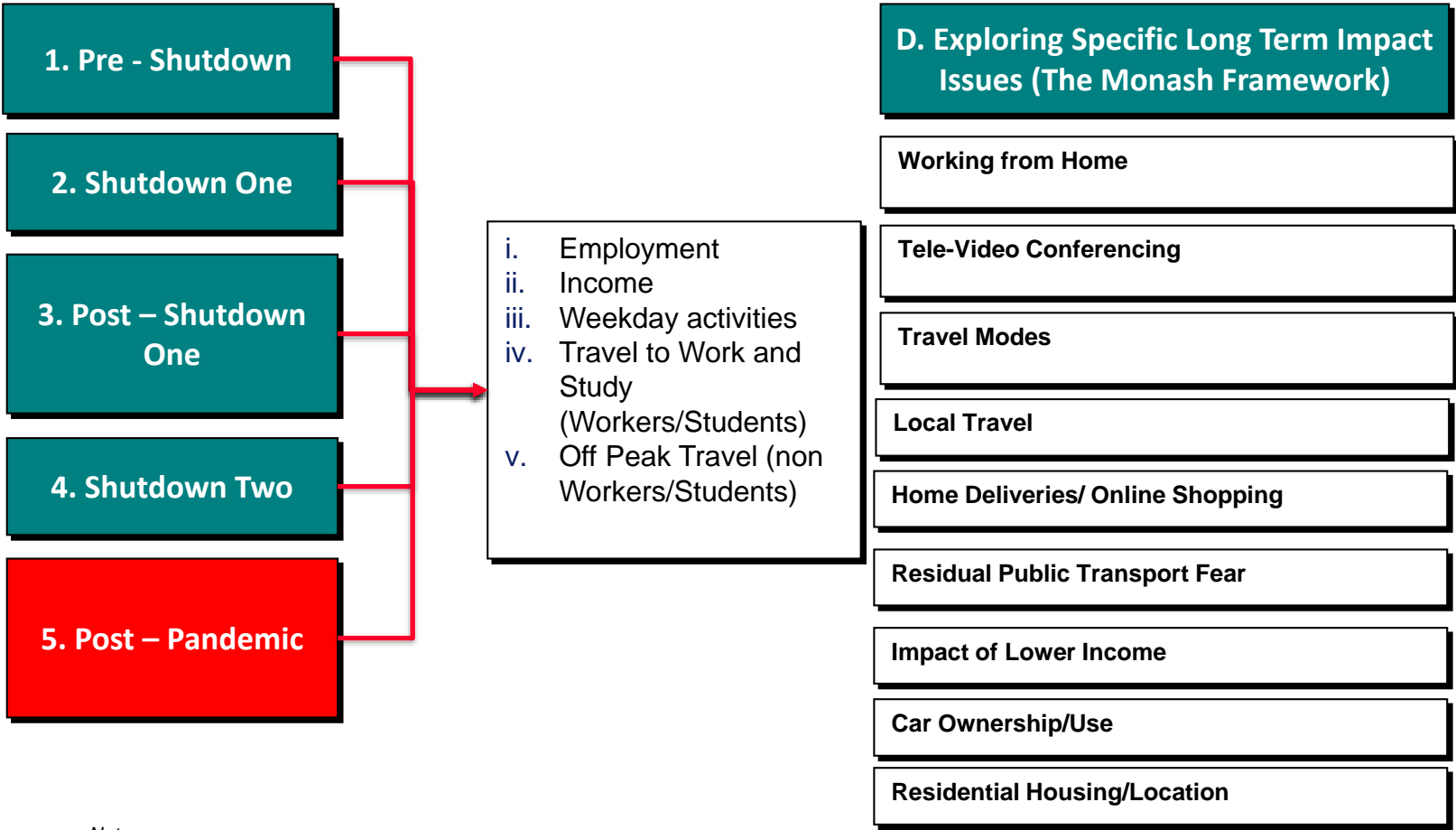
Ridership Futures



An online panel survey asks self reported travel by Covid period & Specific Issues affecting long term travel including a sample frame is so results are statistically representative

Online Panel Survey Questionnaire – Areas Covered

Sample Frame¹



INNER MELBOURNE (n=700)					
Age Group	Annual Personal Income , Before Tax				Total
	Nil Income	Less than	Between	More than	
	Target	Target	Target	Target	Total Target
18-29	53	96	83	16	248
30 - 44	12	43	86	79	220
45 and over	12	89	62	69	232
Total	77	228	231	164	700

MIDDLE MELBOURNE (n=700)					
Age Group	Annual Personal Income , Before Tax				Total
	Target	Target	Target	Target	Total Target
	Target	Target	Target	Target	Total Target
18-35	37	73	92	36	238
36-54	17	43	87	90	237
55 and over	18	107	64	37	226
Total	72	223	243	163	701

OUTER MELBOURNE (n=700)					
Age Group	Annual Personal Income , Before Tax				Total
	Nil Income	Less than	Between	More than	Total
	Target	Target	Target	Target	Total Target
18-35	26	87	97	24	234
36-53	15	64	101	56	236
54 and over	18	122	65	25	230
Total	59	273	263	105	700

GRAND TOTAL					
Age Group	Annual Person Income, Before Tax				Total
	Nil Income	INCOME 1	INCOME 2	INCOME 3	Total
	Target	Target	Target	Target	Total Target
AGE GROUP 1	116	256	272	76	720
AGE GROUP 2	44	150	274	225	693
AGE GROUP 3	48	318	191	131	688
Total	208	724	737	432	2101

Note:

(1) Quotas in a sample aim to ensure representation of the community with respect to key/influential demographic and spatial criteria

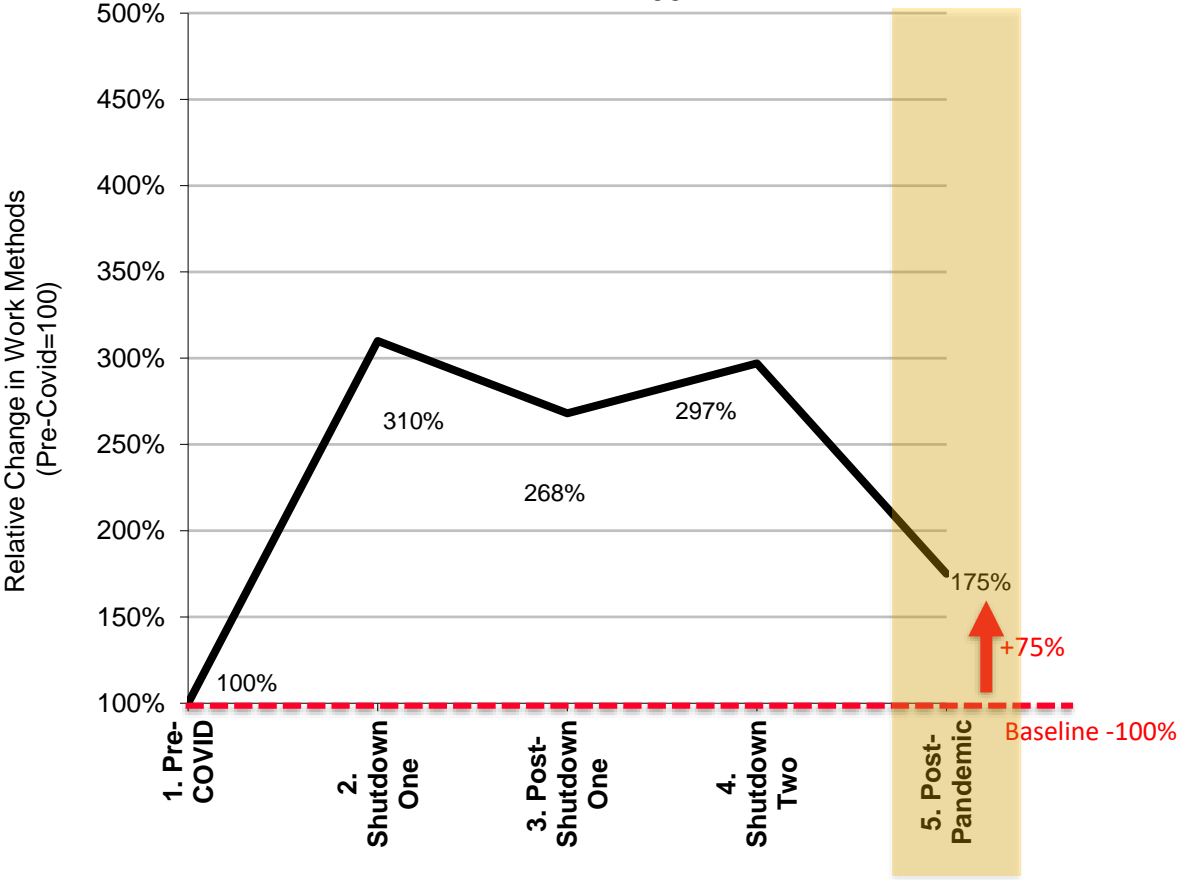
(2) Statistical accuracy minimums are a sample of 600 to achieve a 95% confidence that any result is within 4% standard error.

DISCOVERY - Work from Home will continue AFTER the pandemic – particularly for CBD workers...

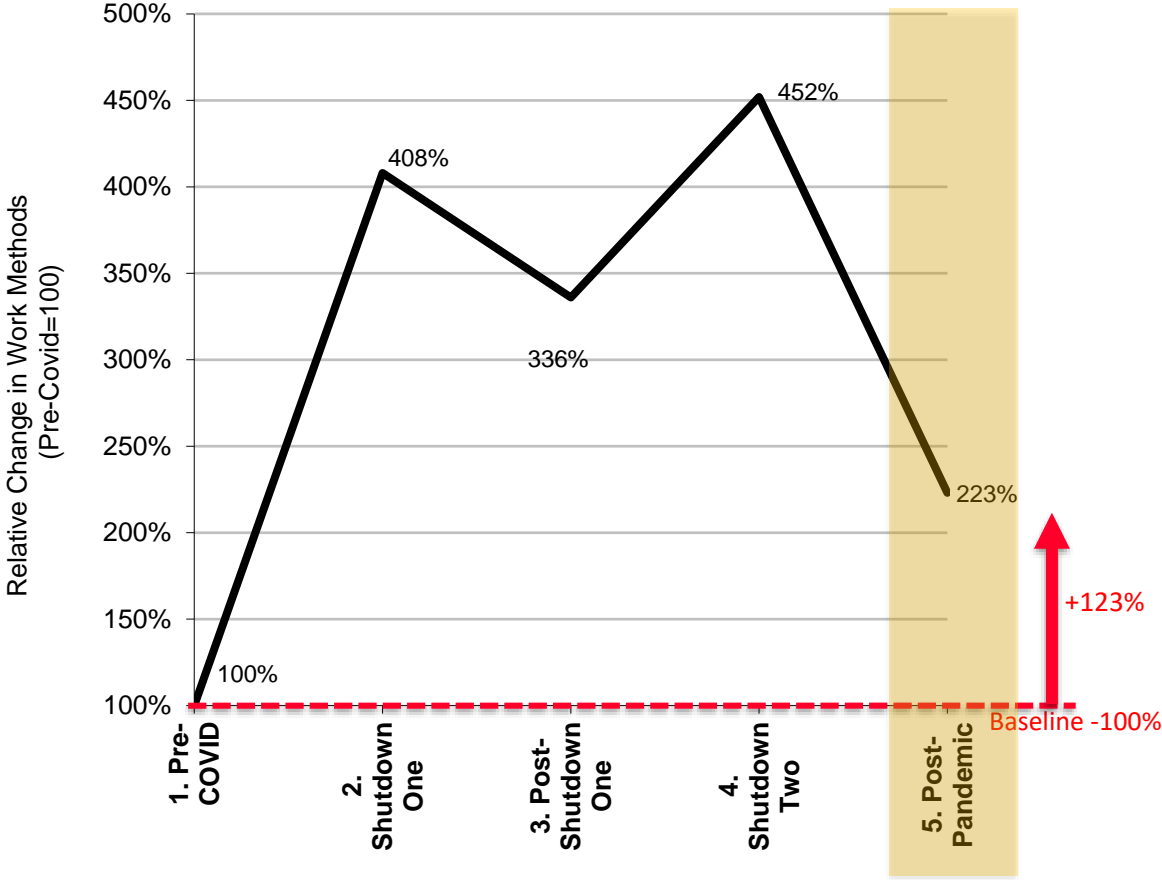
Commuting

Changes in Work from Home – Greater Melbourne and Melbourne CBD

Metropolitan Melbourne Workers
n=1400



Melbourne CBD Workers
n=527



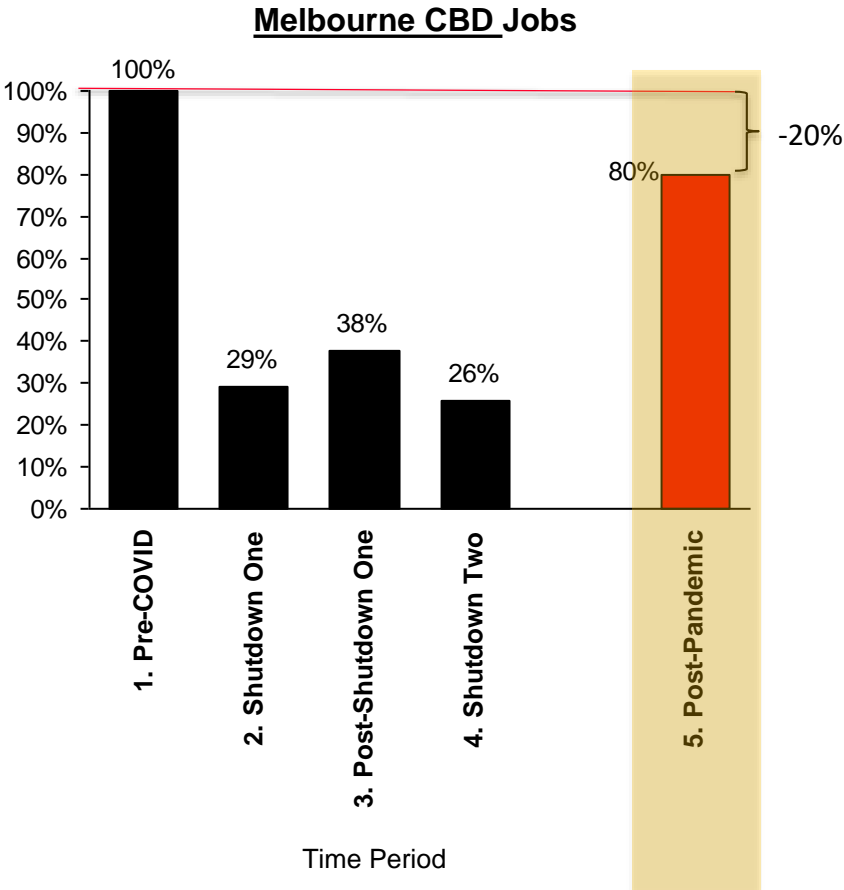
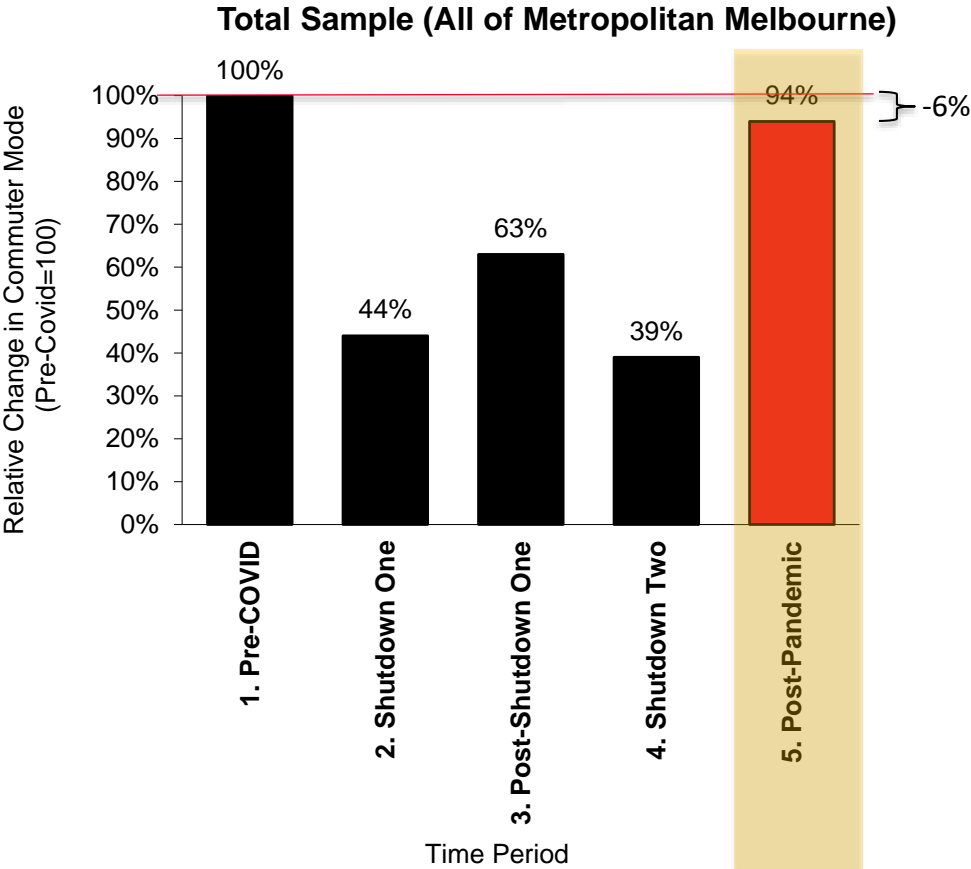
Note:

(1) Monash - August 2020 Online Panel -10-8-2020 sample - Self reported activity participation volume per week (2) Weighted sample; representative of total Melbourne travel

...this will reduce the commute; but for the CBD; 1 in 5 jobs will no longer be based there acting to reduce CBD activity

Changes in Commute Journey Volume – Greater Melbourne and Melbourne CBD

Commuting

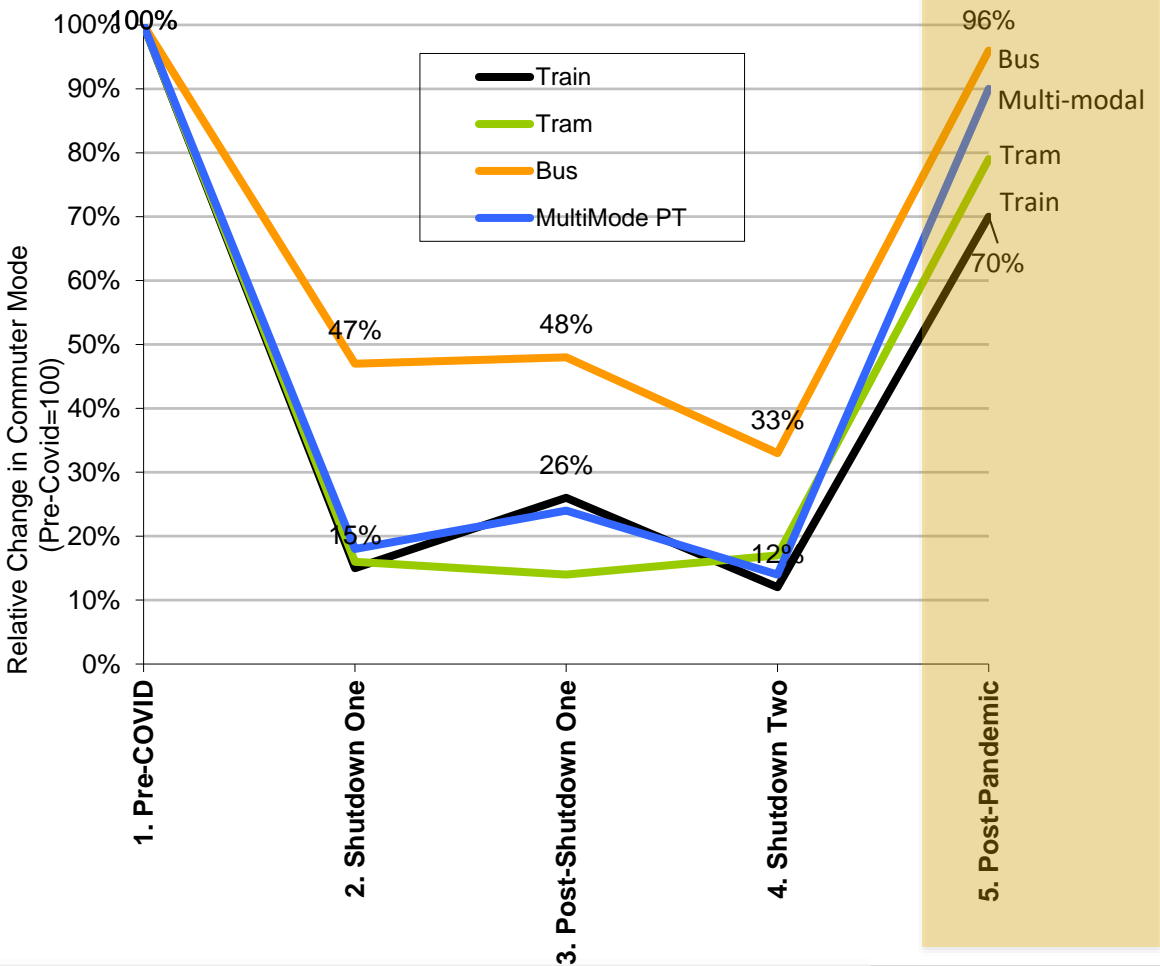
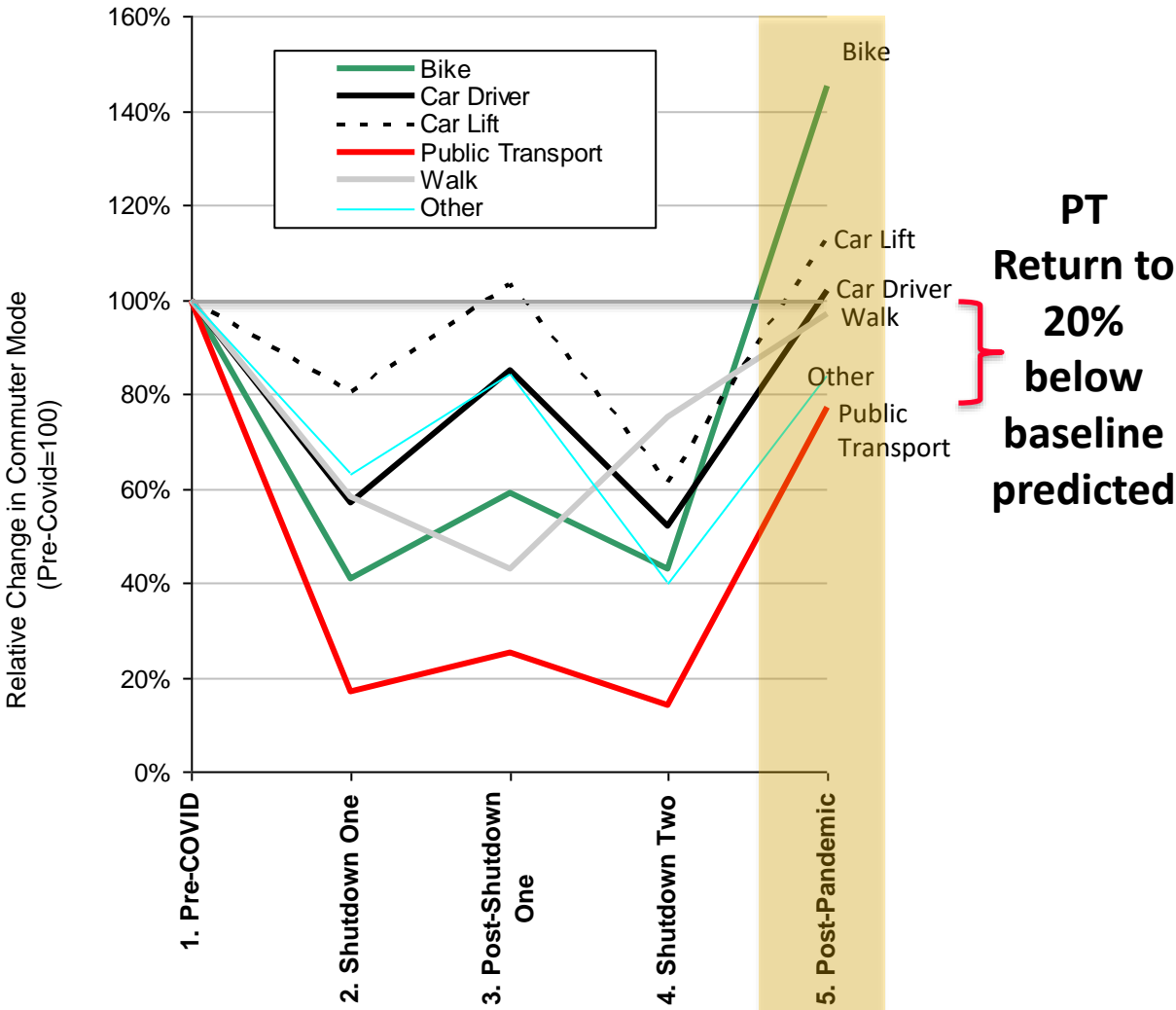


Note:
(1) Monash - August 2020 Online Panel – final sample - Self reported CBD travel to work volume per week
(2) Weighted sample; representative of total Melbourne travel

DISCOVERY – Post-pandemic PT use will recover but to 20% below pre-covid levels – rail affected more (-30%)

Changes in Commuter Journey Volume by Mode – Greater Melbourne

Commuting



DISCOVERY - Infection Fear and Overcrowding are NEW top concerns for PT Users since the pandemic; this drives post-COVID behaviour

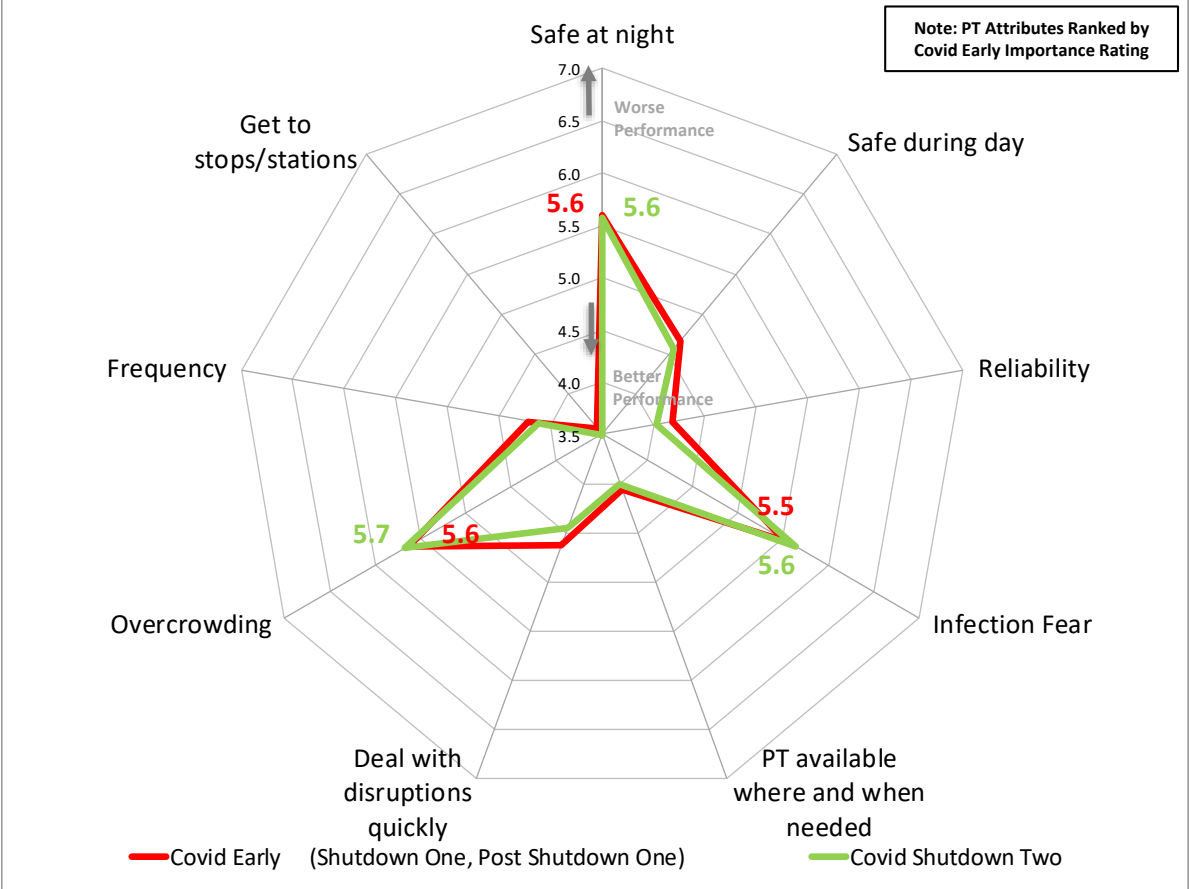
Figure C2: Pt User Attitudes to PT Issue IMPORTANCE
Early Covid (Shutdown One and Post Shutdown One) and Late Covid (Shutdown Two)

PERFORMANCE

Average Raw Stated Scores

Attribute (Ranked by Covid Early Importance)	Covid Early (Shutdown One, Post Shutdown One)	Covid Shutdown Two
Safe at night	5.6	5.6
Safe during day	4.7	4.6
Reliability	4.2	4.0
Infection Fear	5.5	5.6
PT available where and when need	4.1	4.0
Deal with disruptions quickly	4.6	4.5
Overcrowding	5.6	5.7
Frequency	4.2	4.1
Get to stops/stations	3.6	3.5

min 3.6 3.5
max 5.6 5.7



Key Points

- ▶ Covid Early - In terms of performance the biggest concerns are:
 - Overcrowding
 - Safety at Night (from assault/theft)
 - Infection fear
- ▶ Covid Late – these are still the top issues but there are small changes:
 - Overcrowding remains biggest concern but its rating is worse
 - Infection Fear becomes the second worst rated issue
 - Safety at Night is still a major concern but its performance is rated as slightly of a concern
- ▶ Other slight changes to shutdown two are:
 - Concern over the performance of safety during the day, reliability and dealing with disruptions are not as larger as they were in early shutdown
- ▶ Overall shifts between Covid early and late are minor in scale

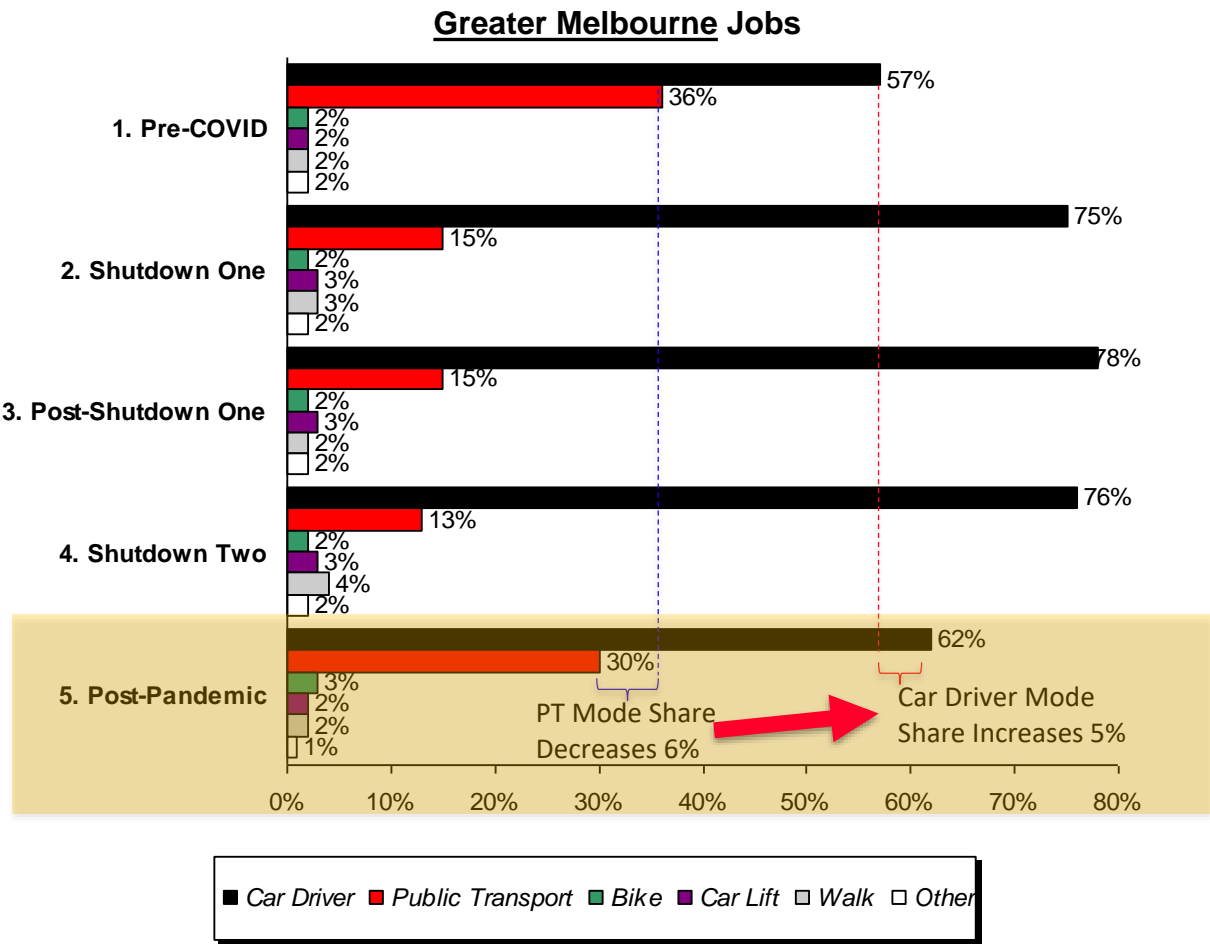
Note:

- (1) Monash - August 2020 Online Panel – final sample - Self reported IMPORTANCE rating; 1-7; 7 = extremely Important, 1=Extremely unimportant (2) Weighted sample; representative of total Melbourne travel
(3) Spiral Plot uses approach from Currie G Delbosc A (2015) Variation in Perceptions of Urban Public Transport Performance Between International Cities Using Spiral Plot Analysis' TRANSPORTATION RESEARCH RECORD No. 2538 pages 54-64.

DISCOVERY - In terms of share of all travel in Greater Melbourne – there is a Post pandemic 5-6% shift from transit to car driving...

Changes in Commute Journey Share by Mode – Greater Melbourne

Commuting



Key Points

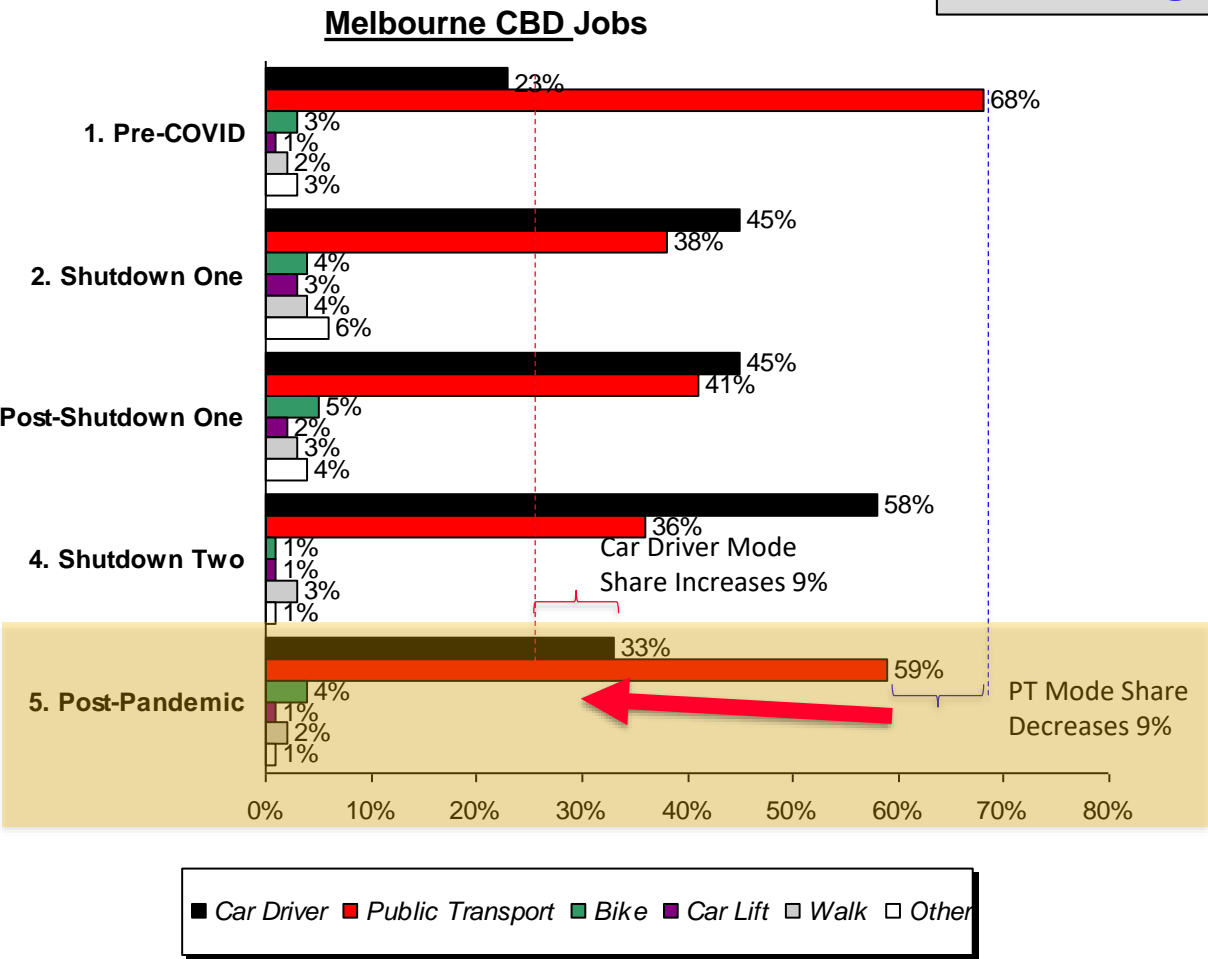
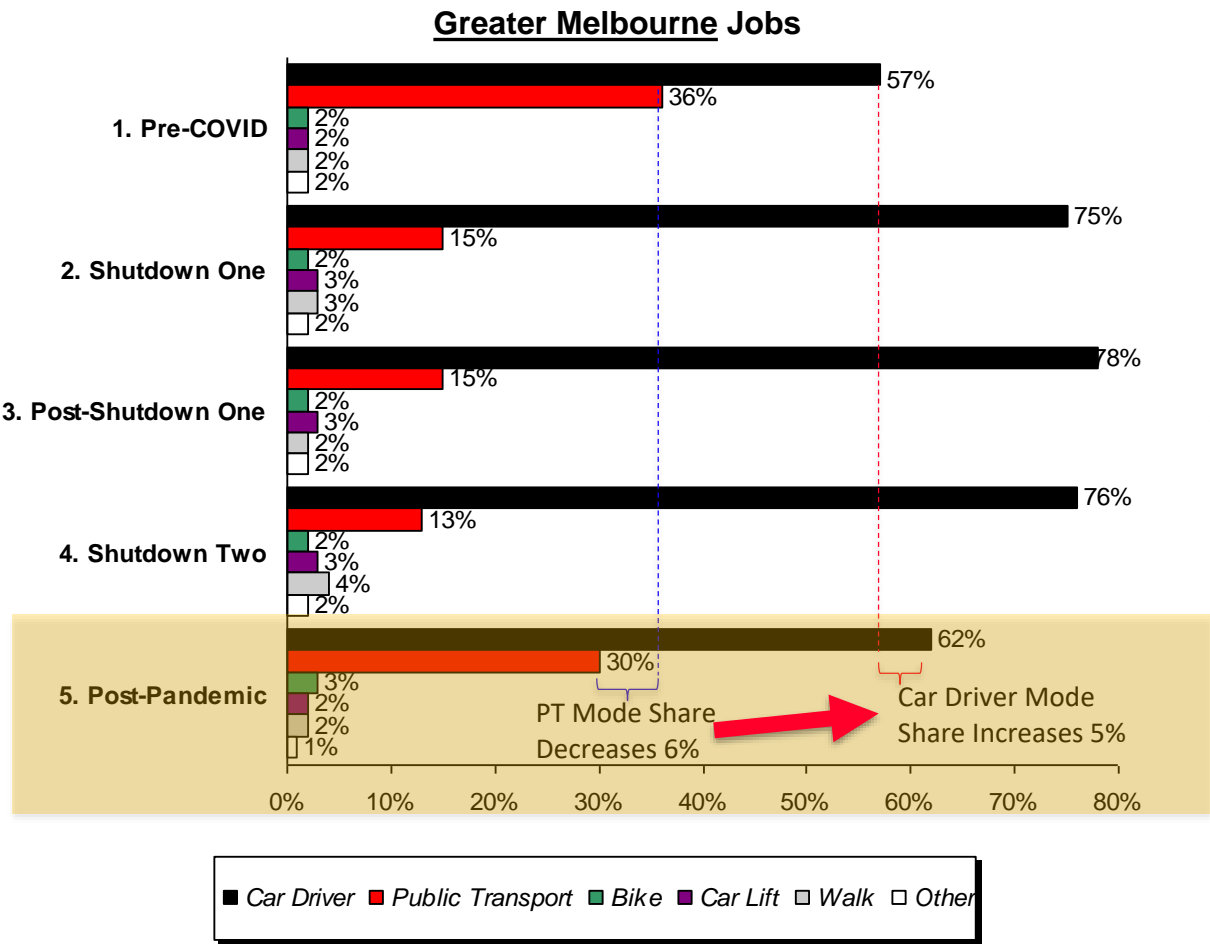
- ▶ This is the relative SHARE of travel to work by MODE. It is the weighted sample (representative of all travel in Melbourne).
- ▶ Post Pandemic; major shifts are:
 - Increased car driving; the share of car driving to work will increase from 57% to 62%.
 - Decreased public transport use; although mode share recovers from a low of 13% (Shutdown Two) it returns to a share of 30% of journey to work, 6% below pre covid levels
 - Bike share increases from 2% to 3% post pandemic
- ▶ During the Pandemic (period 3, 4 and 5) car driving share of journey to work has consistently increased to represent 75-78% of all work travel.
- ▶ Public Transport travel declines to a share of between 13-15% of travel. Interesting it still represented the second most important means of travel to work after car driving; even during the pandemic.

Note:
(1) Monash - August 2020 Online Panel – final sample - Self reported travel to work volume per week
(2) Weighted sample; representative of total Melbourne travel

...for the CBD; it's a 9% shift suggesting significant future CBD congestion

Changes in Commute Journey Share by Mode – Greater Melbourne & Melbourne CBD

Commuting



Note:
(1) Monash - August 2020 Online Panel – final sample - Self reported travel to work volume per week
(2) Weighted sample; representative of total Melbourne travel

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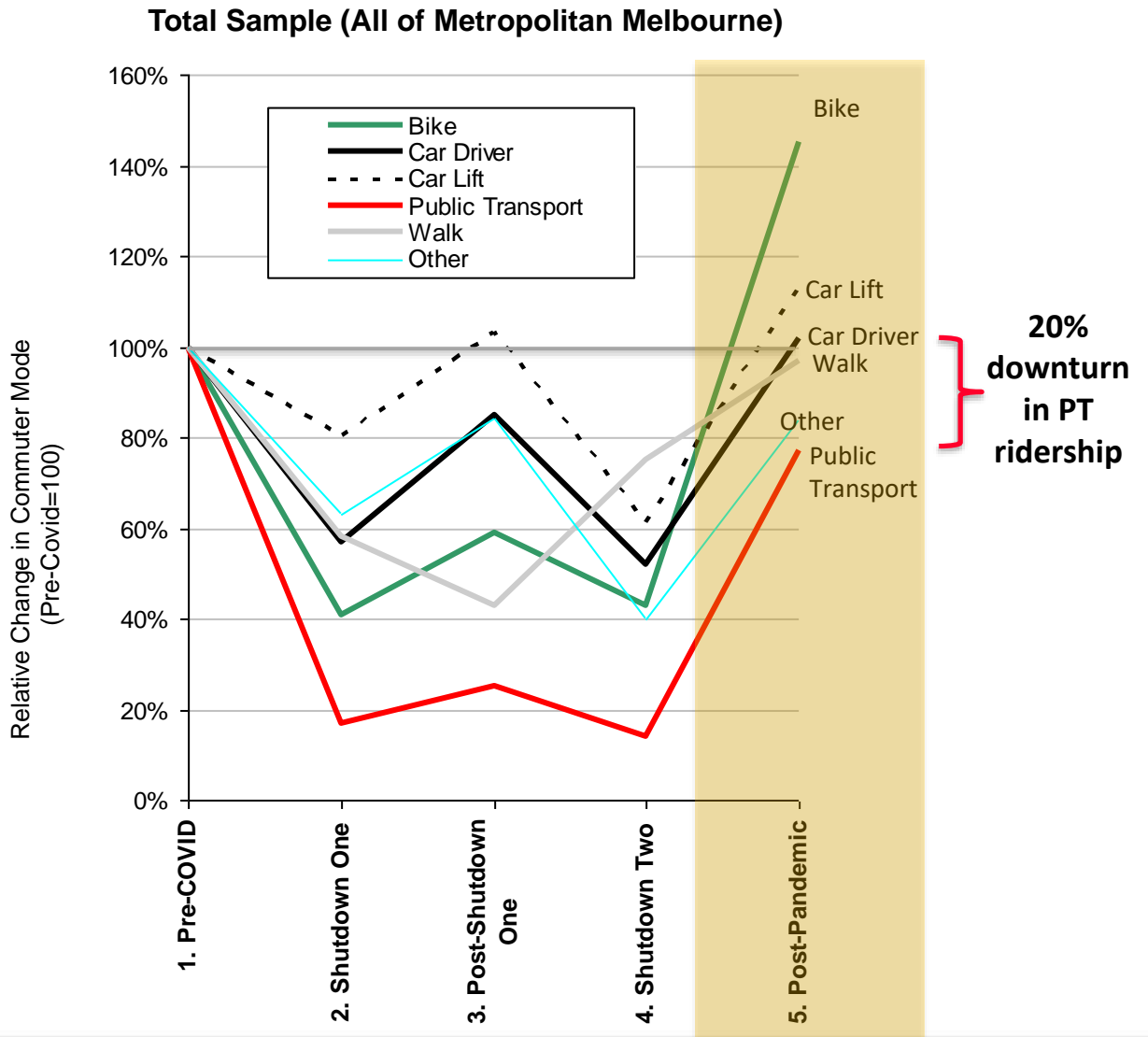
Disruptions in History

Research Results

Ridership Futures

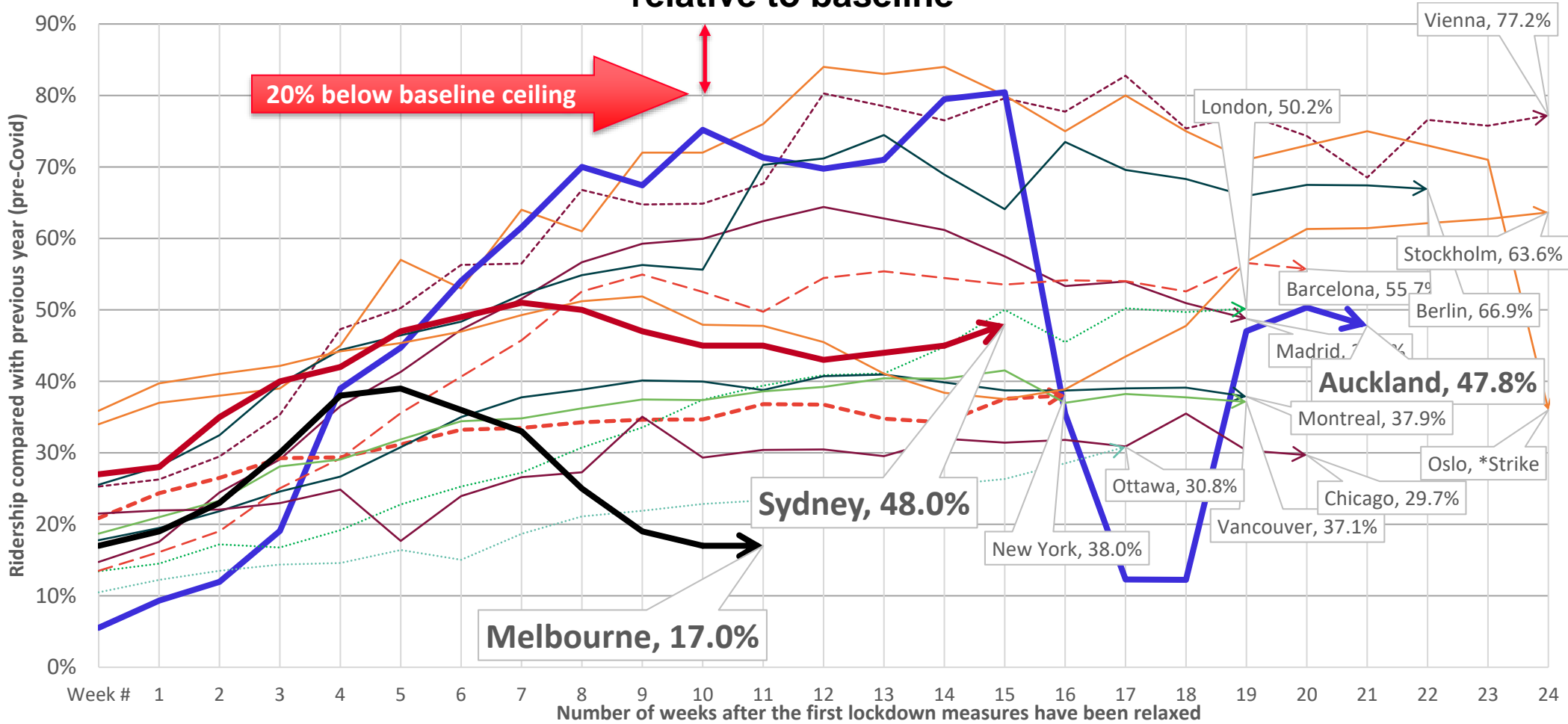


A 20% one off ridership downturn due to C-19 is forecast for a Post COVID-19 world caused by residual infection fear



Interestingly actual transit recovery trends confirm study recovery predictions including the 20% below baseline ceiling

Recovery Profile of Public Transport in International Cities by week after shutdown end - % relative to baseline

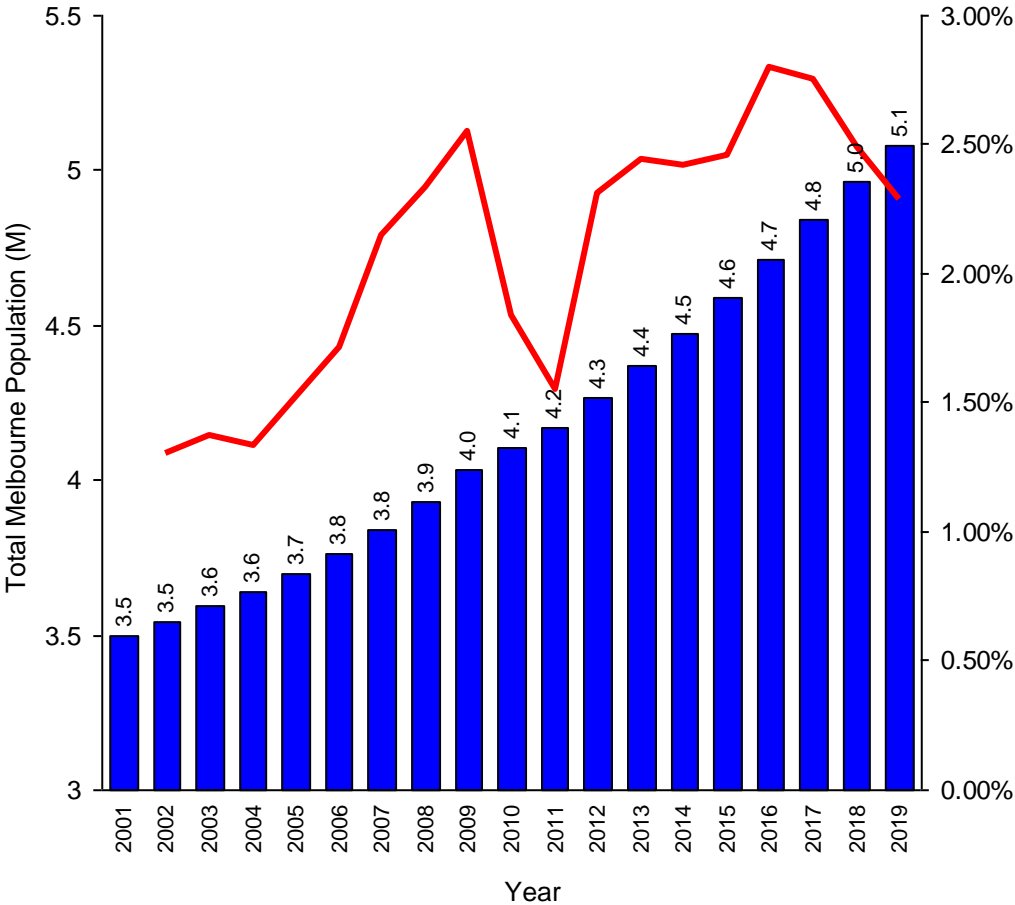


Note:

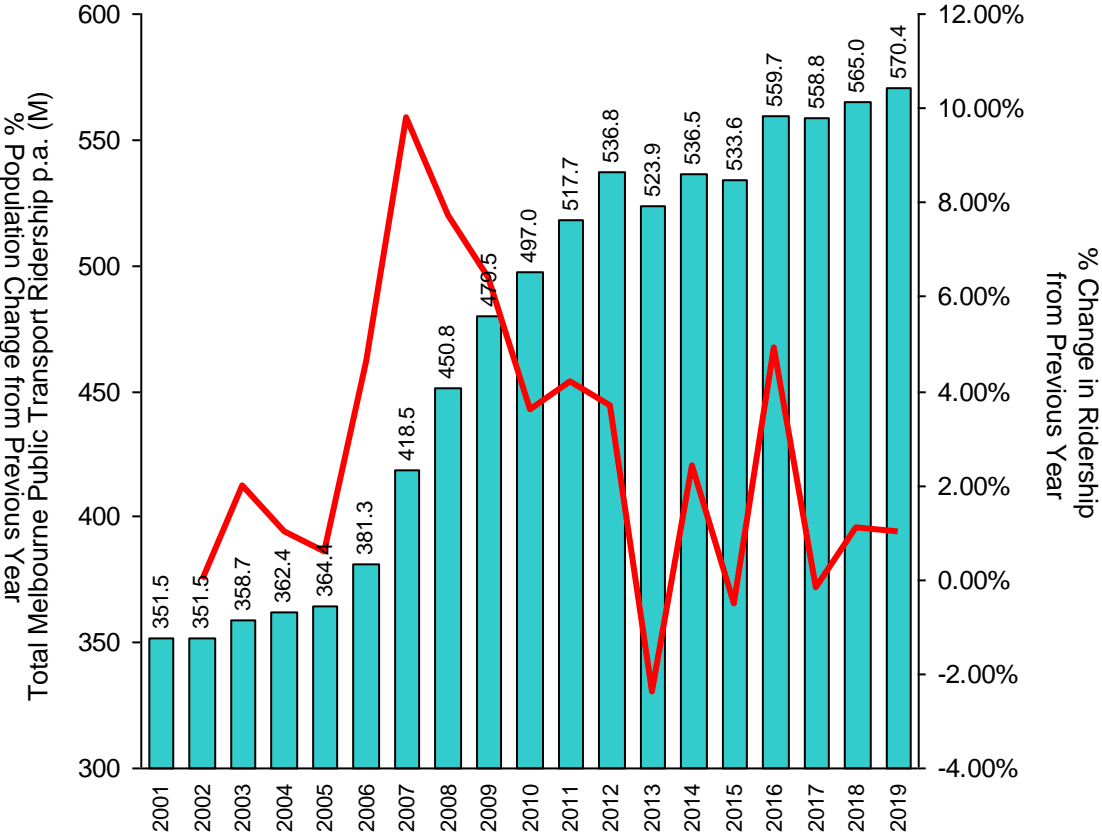
(1) Monash University analysis of raw data collated from Victorian Department of Transport, Transport for NSW, NZ Transport Agency, UITP.

Post-pandemic; if we return to prior growth , it will take 7 years to catch up a 20% Covid ridership decline impact and return to pre-covid ridership (and crowding) problems

Historical Change in Melbourne Population



Historical Change in Melbourne Public Transport Ridership



Note:

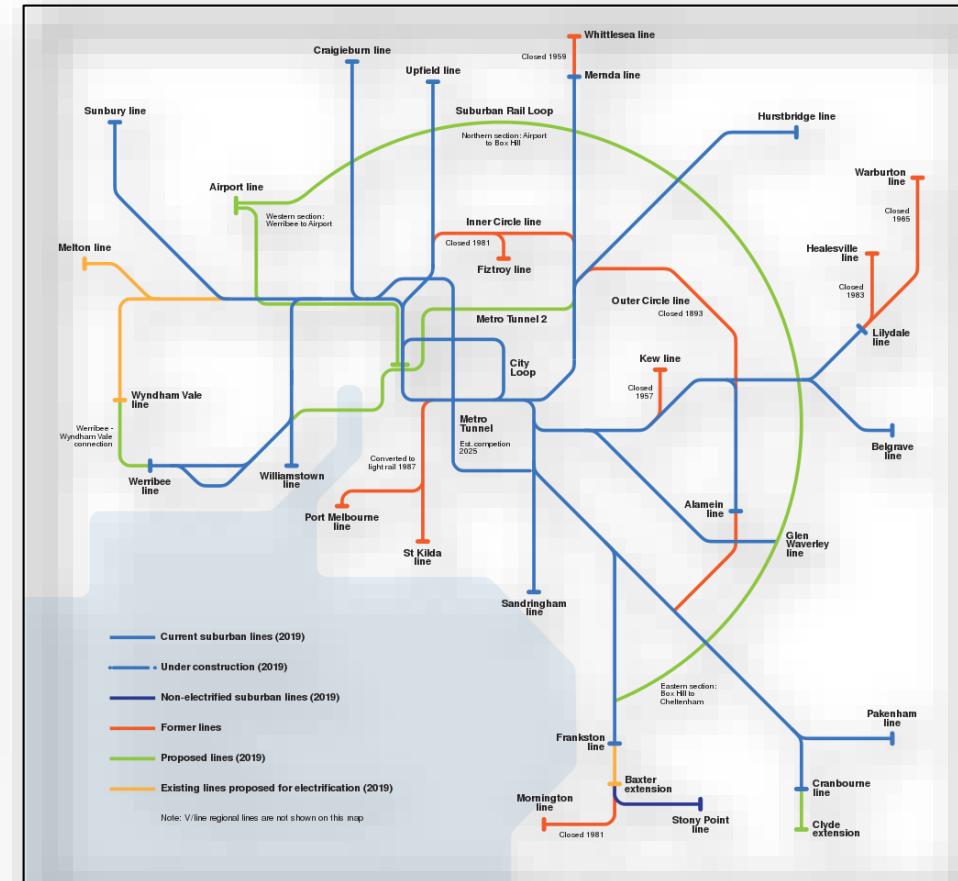
(1) Public Transport Victoria, Victorian Department of Transport and Transport Victoria Annual Reports

Our 30-50 year horizon infrastructure investments are safe; well beyond a 7 year horizon



Melbourne Metro Rail Tunnel (Completed 2026)

Suburban Rail Loop (Completed 2050)



Please reach out for more information



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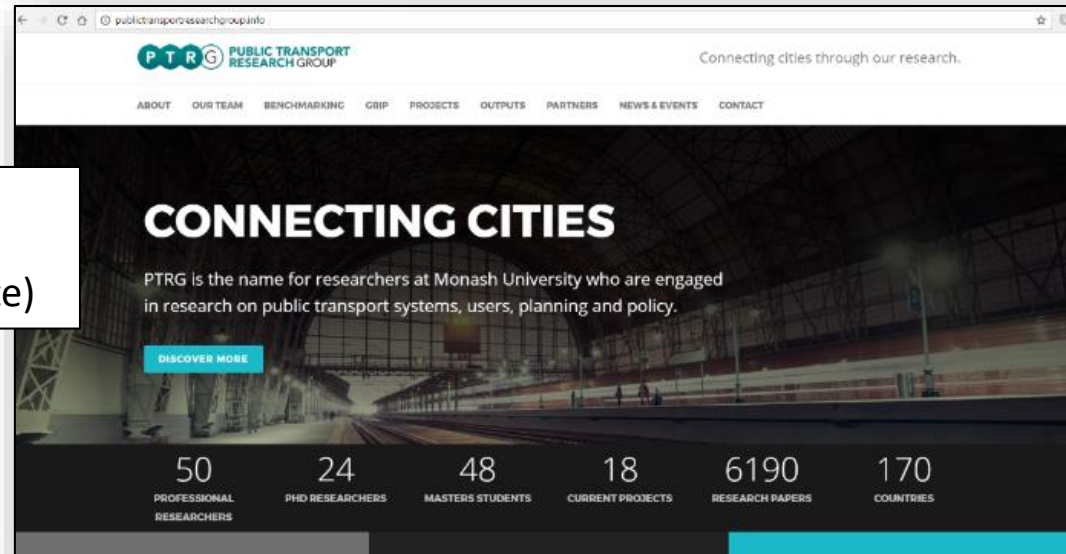


Researching Transit



W: ptrg.info

(project has a webpage on this site)



**RT5 – Long term
impact of
COVID-19 on
Travel Behaviour**

