

Planning Institute of Australia Victoria Briefing Friday 13<sup>th</sup> November

# Covid-19 Long Term Travel Impacts Study Study Outline

Prof Graham Currie FTSE, Dr Taru Jain, Laura Aston Public Transport Research Group Monash Institute of Transport Studies Monash University, Australia





# The research program explores long term travel impacts of C-19 using secondary evidence and two phases of primary research focussing on self reported changes in travel

#### Research Plan – phases and tasks

#### Phase 1 – Research Context

- 1.Project Inception
- 2. Literature Review
- 3. Secondary Travel Data Impact Analysis
- 4. Future Travel Impact Forecasting Approach

#### Phase 2 – Shutdown Field Surveys

- 5. Qualitative Survey
- 6. Quantitative Online Panel Survey
- 7. Phase 2 Analysis and Reporting

#### Phase 3 – Late Shutdown/Post Pandemic Field Surveys

- 8. Qualitative Survey
- 9. Quantitative Online Panel Survey
- 10. Phase 3 Analysis and Reporting

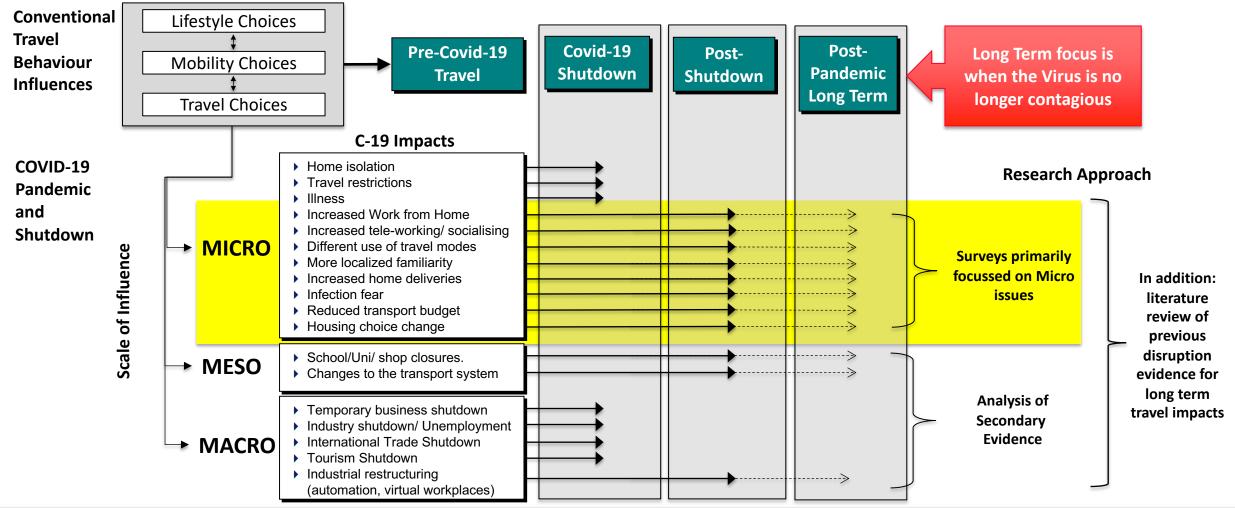
Completed





### A new Framework has been developed to understand pandemic impacts on travel using MACRO, MICRO AND MESO levels of influencers

The 'Monash' Framework - An Integrated Framework of Factors Influencing Travel Behavior Before, During and After the Covid-19 Crisis.



Note: This framework is developed by the research team from a review of previous research literature and also from a workshop with staff from the Victorian Department of Transport



### DISRUPTIONS are well documented in History. Evidence says short term travel impacts are large, but long term impact is between minor and a zero effect

Micro

Meso

Macro

Examples:

Key similarities with Covid-19:

Personal health concerns

> SARS (2003) MERS (2012)

- Fear/dread avoidance
- Social distancing

#### **Disruptions Explored in Travel Behaviour Research**

Security threats

> 9/11 Terror attacks (2001) London, Madrid bombings 2005

Fear/dread avoidance

**Planned** disruptions

> Major events (London Olympics) Infrastructure works

- Availability of options changes
- Encouragement to change travel

Unplanned disruptions

> Natural disasters Infrastructure fault **Strikes**

- Availability of options changes
- Unknown duration

**Economic crisis** 

Global financial Crisis e.g. 2007

- Long duration
- Macro/structural impacts
- Reduced latent demand

**Short Term Travel Impact** 

- **-25%,-35%** reduction in Metro system travel
- **-40%,-45%,-60%** reduction in rail travel
- ▶ -20% to -40% reduction in base travel
- >90% reduction in base travel during disasters
- ▶ -20% reduction in selected transit systems

**Long Term Travel Impact** 

- ▶ Zero Long-Term Impact
- ▶ Rebound on average 28 days
- > Zero Long-Term **Impact**
- rebounded maximum was 6 months
- ► TDM impact -6% after 2 months
- Expect this effect to reduce over time

Parkes et al. 2016, Currie & Delbosc (2011)

- ▶ No Long Term Impact
- ▶ Mean time to return to normal is 7-10 days

Kontou et al 2017

Mean time to recovery was 2 years

▶ No Long Term Impact

McKinsey & Co 2020b

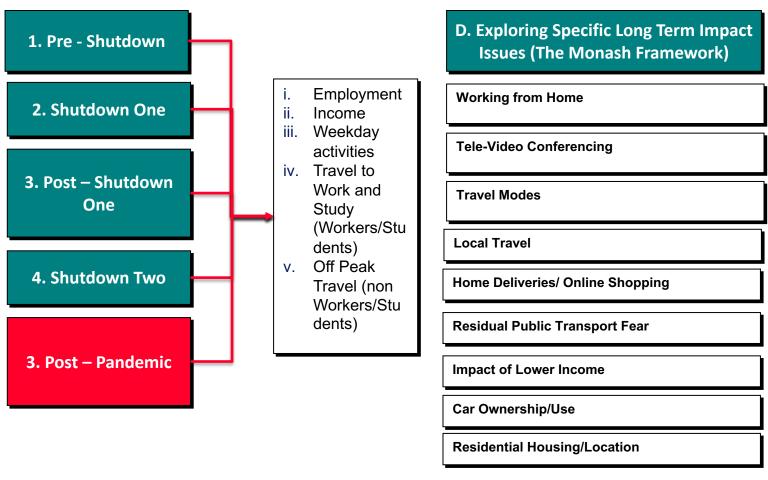
Source: Wang 2014, McKinsey & Co 2020a

McKinsey & Co 2020a



## A large survey covers self reported travel by Covid period and Specific Issues which might affect long term travel (from the Monash framework) – using a representative sample

### **Online Panel Survey Questionnaire – Areas Covered**



#### Sample Frame<sup>1</sup>

INNER MELBOURNE (n=700)					
	Annual Personal Income , Before Tax				
	Nil Income	Total			
Age Group	Target	Target	Target	Target	<b>Total Target</b>
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)						
	Annual	Total				
Age Group	Target	Target	Target	Target	<b>Total Target</b>	
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)						
	Annual Personal Income , Before Tax					
	Nil Income	Less than	Between	More than	Total	
Age Group	Target	Target	Target	Target	<b>Total Target</b>	
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						
	Annua					
	Nil Income	INCOME 1	INCOME 2	INCOME 3	Total	
Age Group	Target	Target	Target	Target	<b>Total Target</b>	
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.



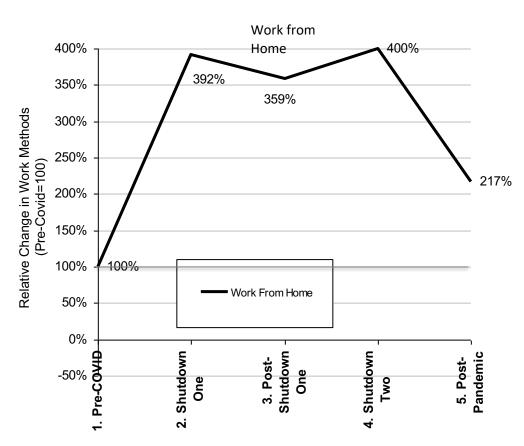
Work from Home is MUCH more common for CBD workers; Post Pandemic WFH is expected to more than double (+117%) compared to pre-covid, much higher than for Melb as a whole (+75%)

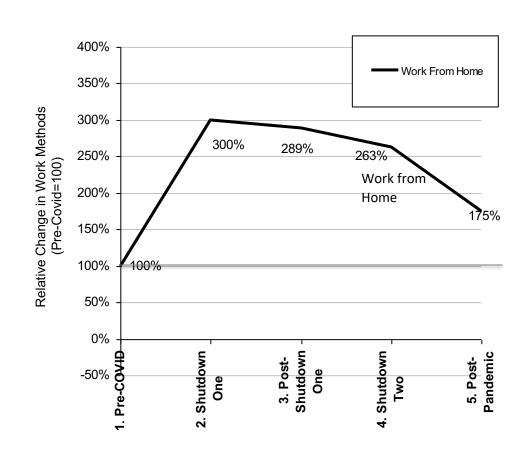
Figure F2: Changes in Work From Home - CBD; Pre-Covid=100%

**CBD Commuting** 

#### **Melbourne CBD Jobs**

Total Sample (All of Metropolitan Melbourne)





vote:

(1) Monash – July 2020 Online Panel Survey – 23-7-2020 sample - Self reported activity participation volume per week (2) Weighted sample; representative of total Melbourne travel

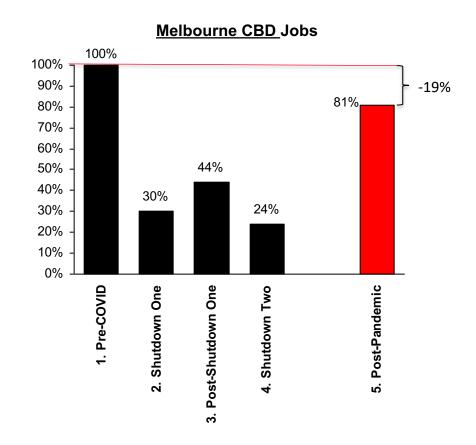




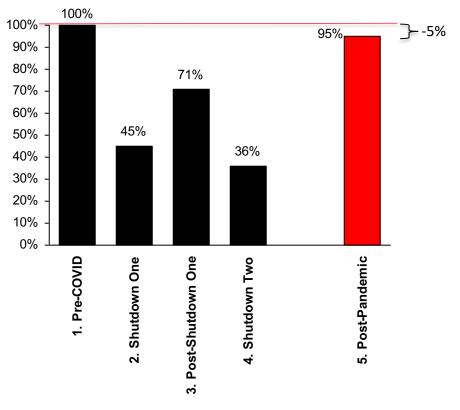
## Respondents say CBD COMMUTE will reduce more than the rest of Melbourne; Post Pandemic a 19% decline in CBD COMMUTE is self estimated - much larger than for Melbourne as a whole (5%)

Figure F4: Changes in <a href="Commute">Commute</a> Journey Volume ; Pre-Covid=100%

**CBD Commuting** 







Time Period

Note: Time Period

(1) Monash – July 2020 Online Panel Survey – 23-7-2020 sample - Self reported CBD travel to work volume per week

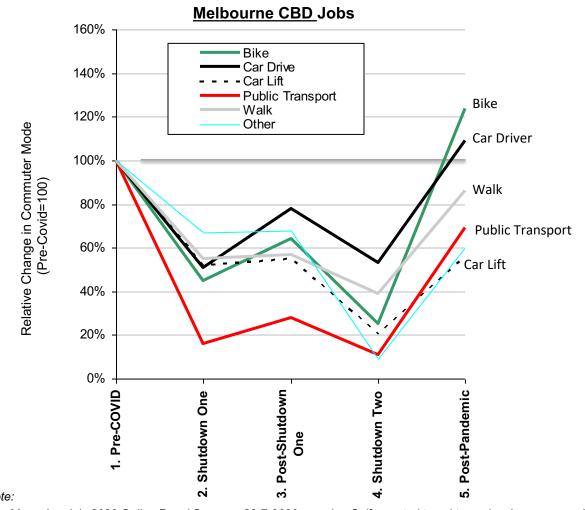
(2) Weighted sample; representative of total Melbourne travel

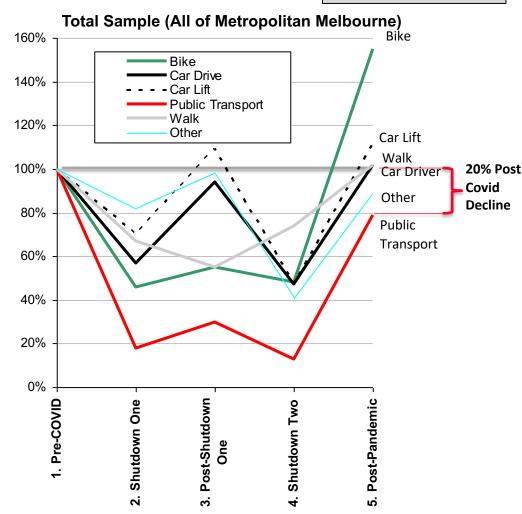


Post-Covid CBD COMMUTE grows for Bike (+24% Pre-Covid) & Car Driver (+9%). Car Lift (-44%) PT (-31%) & Walk (-14%) reduce. CBD modes decline more than Citywide; Car Driving growth is bigger

Figure F6: Changes in Commute Journey Volume by Mode; Pre-Covid=100%

**CBD Commuting** 



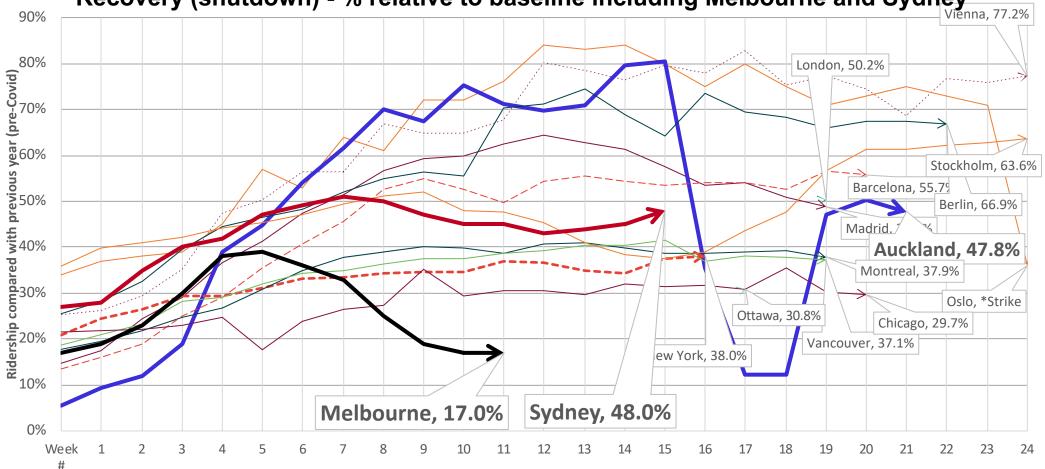


(1) Monash – July 2020 Online Panel Survey – 23-7-2020 sample - Self reported travel to work volume per week (2) Weighted sample; representative of total Melbourne travel



The general pattern of Melbourne recovery matches those of other world cities – a maximum ceiling of 80% recovery seems to hold.

Changes in International City (<u>Multi-modal</u>) Public Transport Travel by Mode by week after Recovery (shutdown) - % relative to baseline including Melbourne and Sydney



Number of weeks after the first lockdown measures have been relaxed

<sup>(2)</sup> The text tags with percentages after the city name show the change in ridership compared to baseline in 2019



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

### Please reach out for more information



