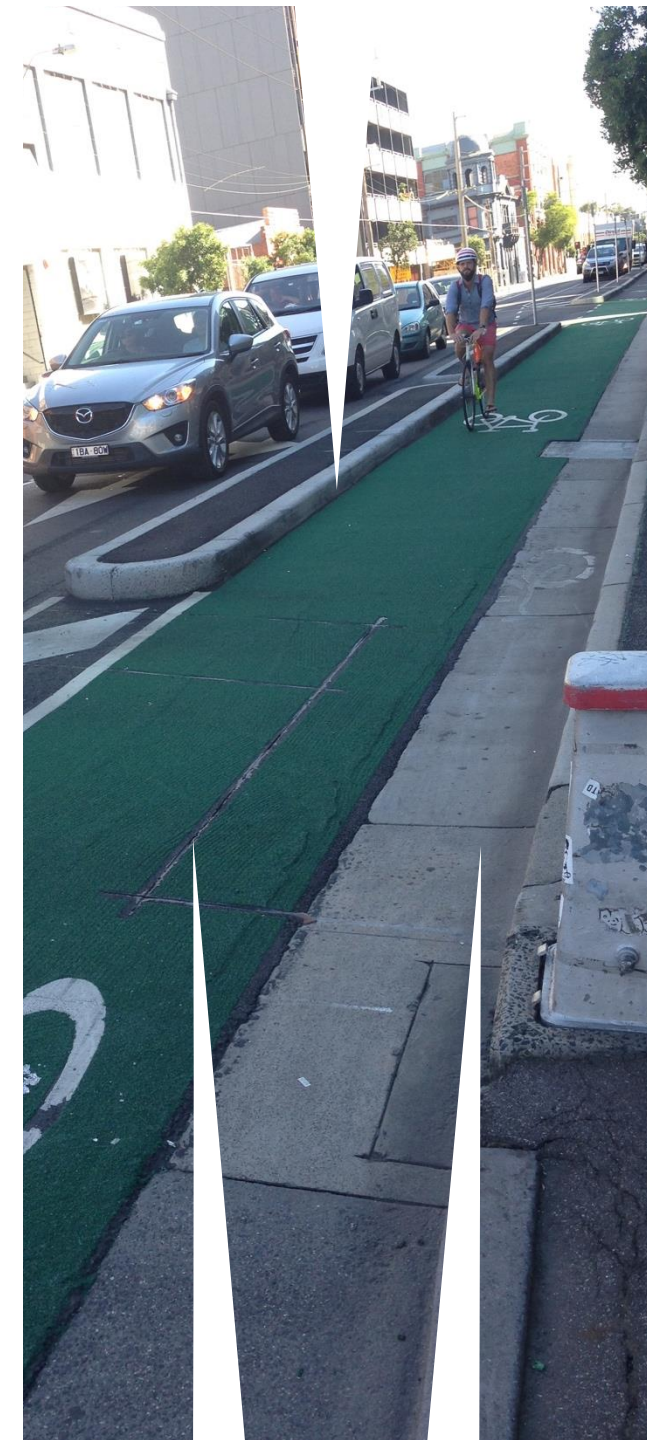


# Protected bike lanes and the changing landscape of post-COVID cycling and scooting

A/Prof Alexa Delbosc  
TransportLab Seminar  
11 October 2024



# Outline

Introduction

Cycling in Melbourne during the COVID years

Impact of protected bike lanes

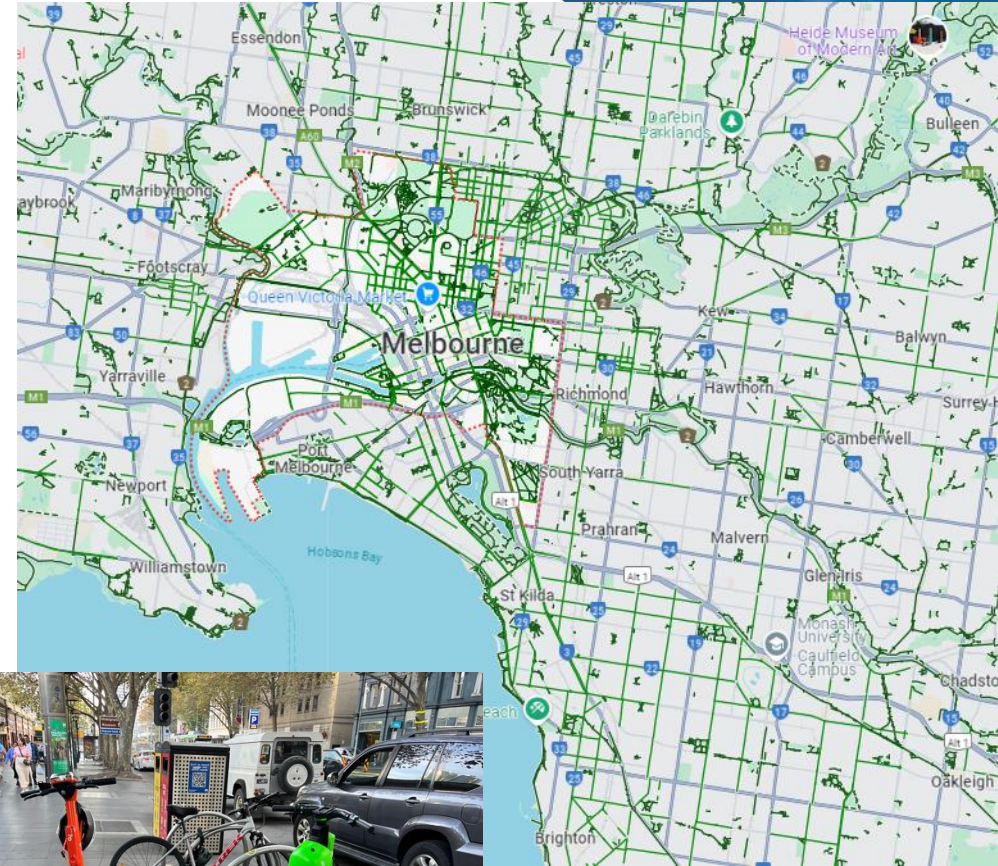
The changing landscape of riding / scooting

Conclusions



# Riding and scooting in Melbourne

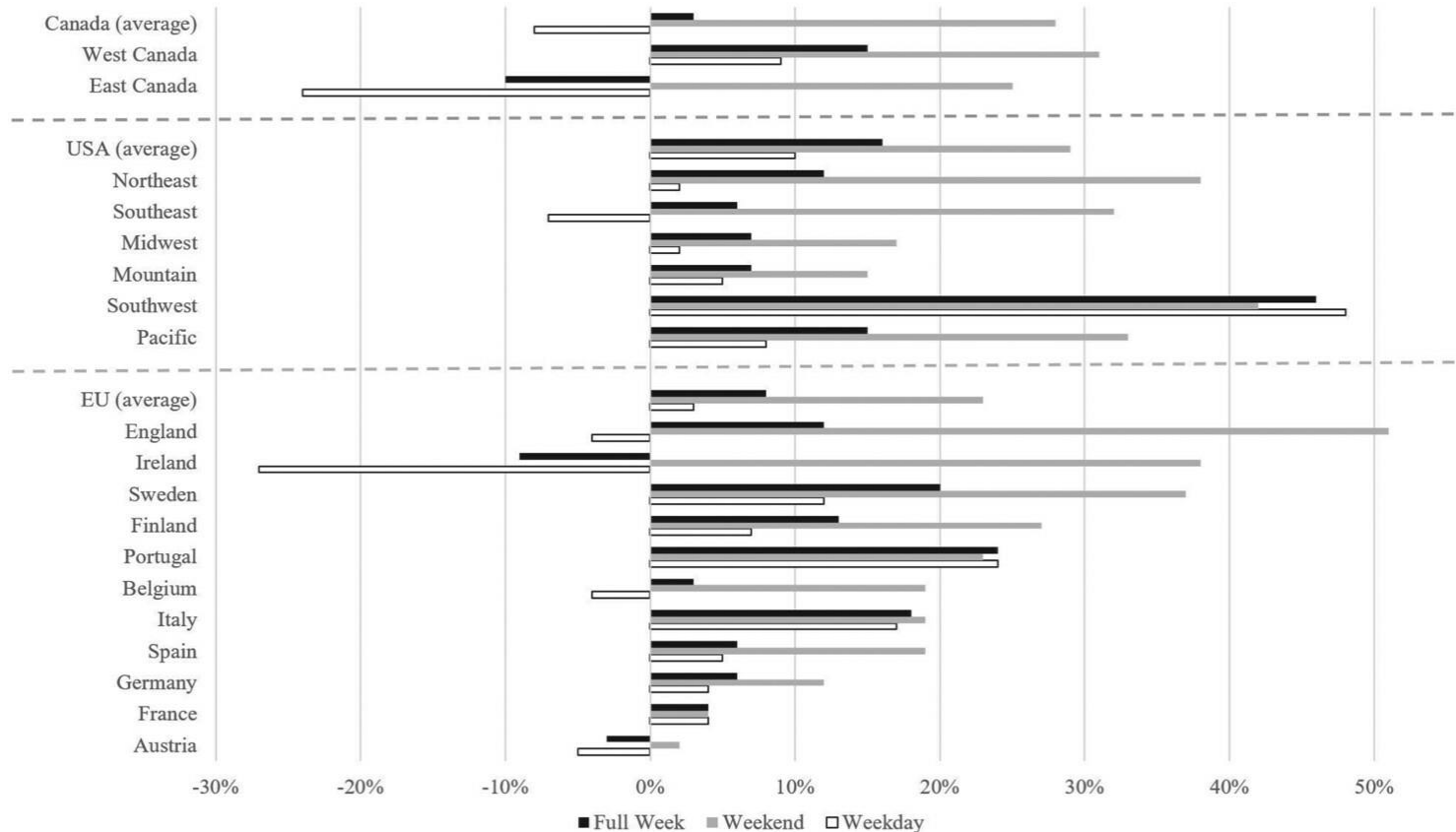
- Participation is low among adults
  - Less than 20% rode a bike in the last week<sup>1</sup>
  - Journey to work mode share is 1-3%
- Infrastructure fragmented and concentrated in inner-city or creek / rail trails
- Shared e-scooter / e-bike operating since 2019 (until cancelled last month)



<sup>1</sup>CWANZ National Walking and Cycling Participation Survey 2021

# During COVID-19, cycling changed dramatically

Percentage change in cycling levels in 2020 compared to 2019



<https://www.tandfonline.com/doi/full/10.1080/01441647.2021.1914900>

# Many cities tried to increase active travel during COVID

Sydney



<https://www.bicyclenetwork.com.au/newsroom/2021/06/03/from-pop-ups-to-permanent-in-sydney/>

Paris



<https://www.climatechangenews.com/2020/06/12/will-take-cycle-lanes-make-green-pandemic-proof-cities/>

Melbourne



<https://www.vicroads.vic.gov.au/traffic-and-road-use/cycling/pop-up-bike-lanes>

# And a lot of other things changed since then

## Newly revealed death of 29-year-old food delivery rider fuels push for gig worker rights

Worksafe Victoria wasn't notified of a worker's death in November 2022 as gig workers aren't classified as employees of food delivery services.



Injured on Victorian roads since 2016, according to police data. Source:



## Five years on, Brisbane's e-scooters and e-bikes are winning over tourists and residents as they open up the city

Published: September 11, 2023 12:26pm AEST

Authors, courtesy of Brisbane City Council

Five years after being the [first Australian city](#) to introduce rideshare e-scooters, Brisbane is leading the way after many growing pains and a lot of learning.

Our [latest research](#) explored tourists' and residents' perceptions and experiences of the city. We surveyed both users and non-users of e-scooters and e-bikes in a first-of-its-kind study. We

Authors



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## COVID shows working from home the best way to beat congestion

Published: November 16, 2020 5:52am AEDT

249 Anurak/Shutterstock

- Email
- X (Twitter) 9
- Facebook 882
- LinkedIn
- Print

As almost everyone who wastes countless hours stuck in traffic would agree, there's little more frustrating for workers than starting or ending the day with an overly long commute. But, while we might not like it, more of us are doing it. In 2019, the average daily commute time for Australian metro workers was [66 minutes](#). Then COVID happened.

Although the pandemic has forced change without choice on almost all of us, there have been some positive unintended consequences. Commuting times are one winner, particularly in

Authors



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Associate Professor in Infrastructure Management, University of Sydney

Disclosure statement

## As cities axe shared e-scooters, the many more personally owned ones are in a blind spot

Published: September 11, 2024 12:08pm AEST

Lukas Coch/AAP

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Recent decisions by the [Melbourne City](#) and [Sunshine Coast](#) councils to end contracts with operators of shared e-scooters have reignited debate around this form of transport. It ticks many sustainability boxes, yet continues to make headlines for the wrong reasons.

In addition to "reckless" rider behaviour, a more recent concern has involved allegations of a scooter scheme exceeding

Authors



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PhD Candidate in Law, Charles Darwin University



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Professor in Transport Management, University of Sydney

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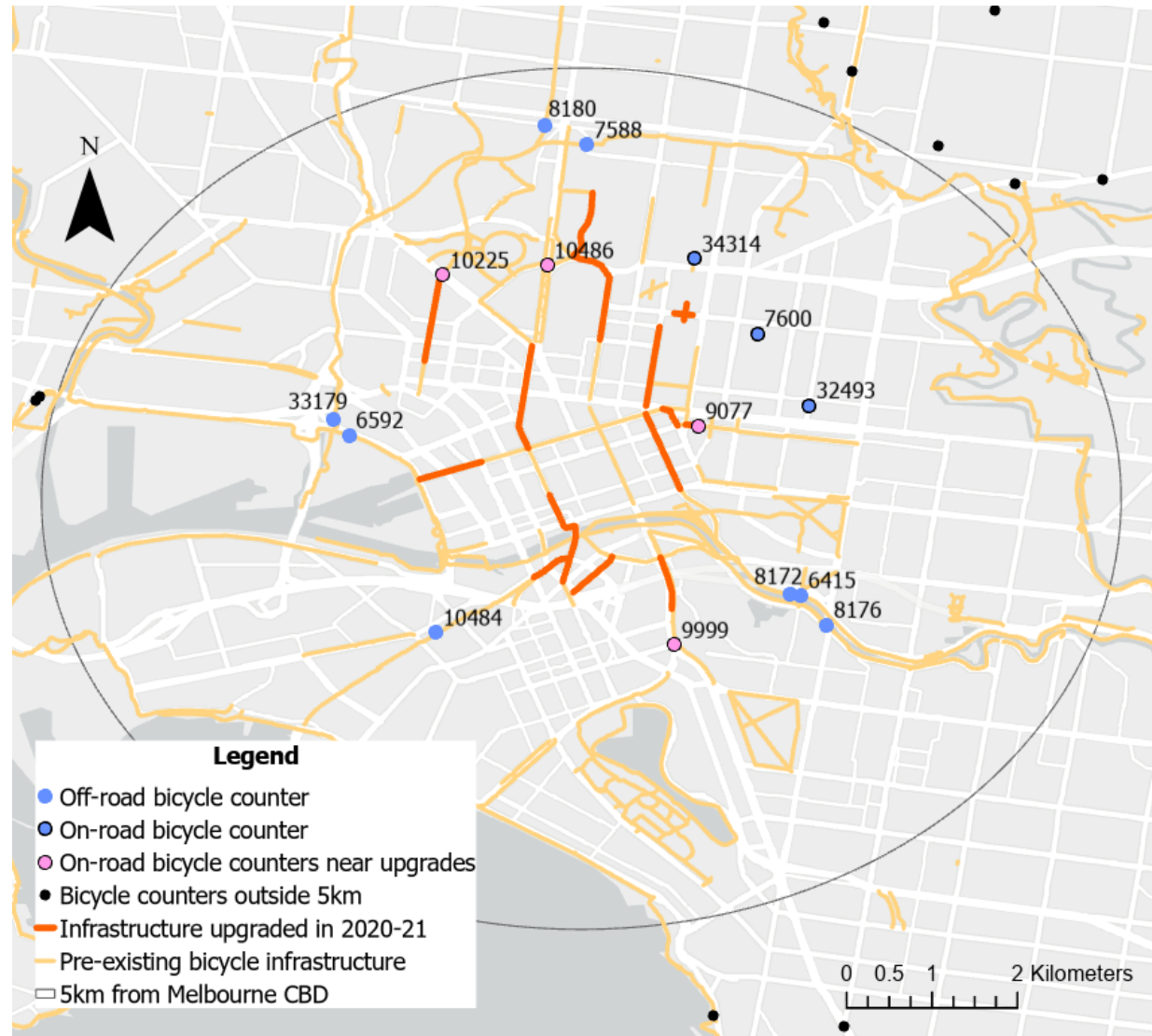


# During COVID, Melbourne council 'fast-tracked' cycling upgrades near the city centre





# Some of these upgrades are close to existing bicycle counters



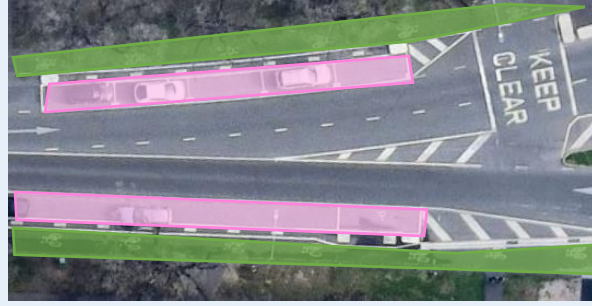
- Piezoelectric sensors
- Sense bicycles & e-scooters
- Owned by state Department of Transport & Planning (NOT City of Melbourne)
- Publicly available data

# Upgrades were mostly kerbside protected bike lanes (all are permanent)

Before  
Painted buffer



After  
Kerbside protected



Before  
Painted buffer



After  
Kerbside protected



Before  
Painted door-zone



After  
Kerbside protected



Before  
Kerbside ended before intersection



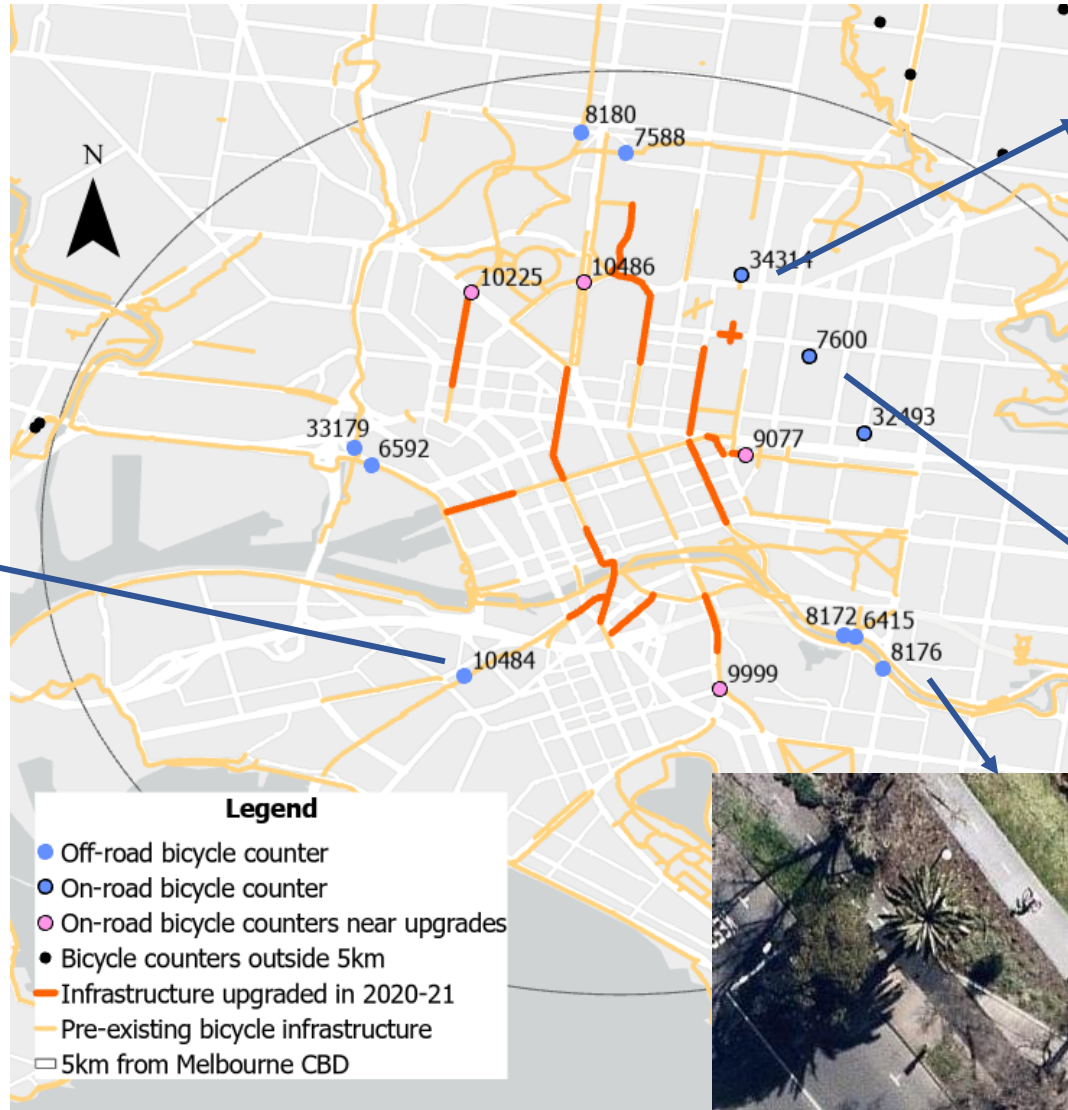
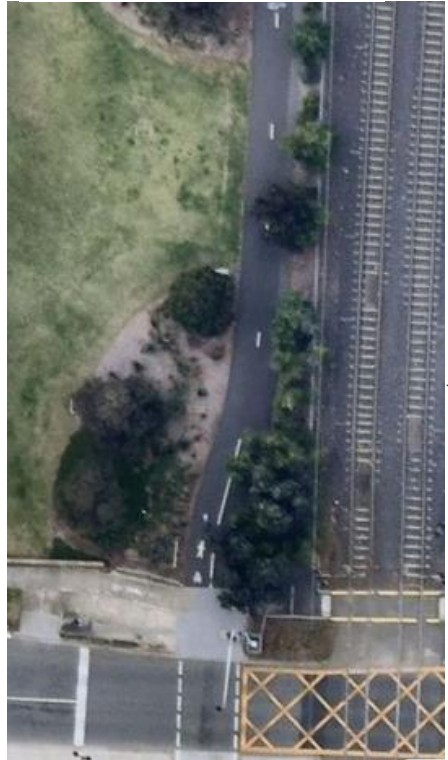
After  
Kerbside protected extended



# Other locations did not change

Door-zone bike lanes

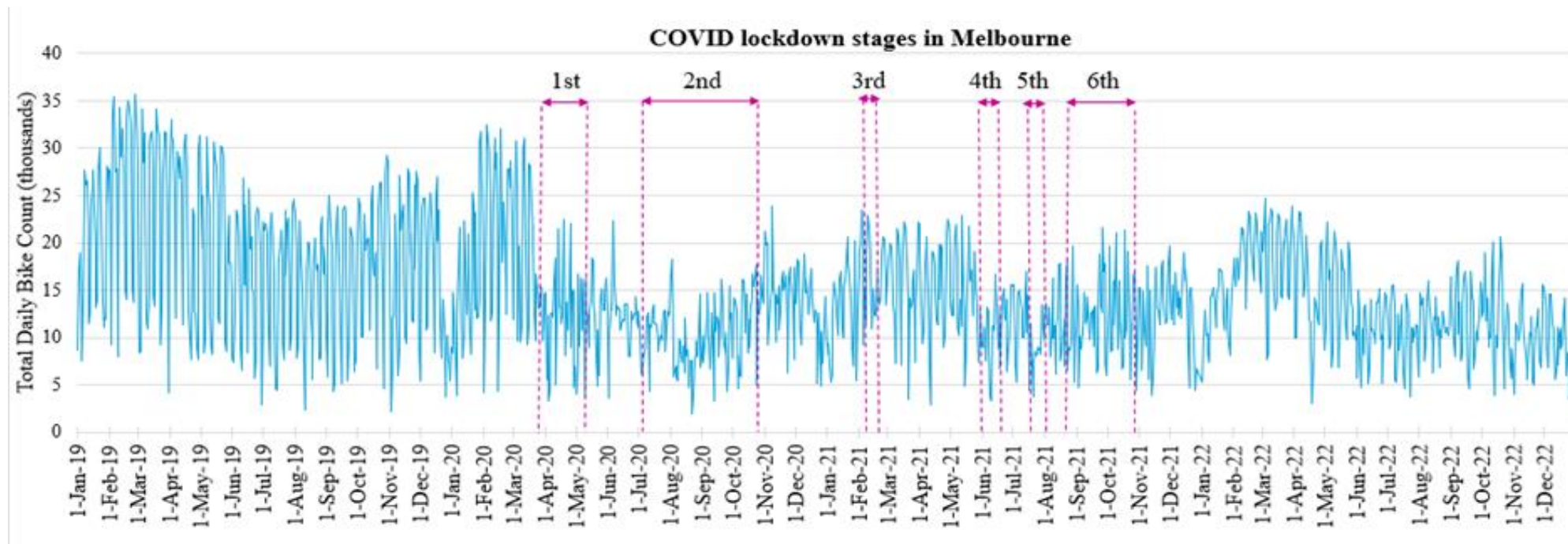
Off-road path



Off-road path

# We analysed average daily bike counts from 2019-2022

- 20,629 valid data points across 15 sites
- Four stages: pre-COVID, lockdown, post-lockdown (2020/21) and post-lockdown (2022)



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# How can you isolate the impact of upgraded infrastructure against so much change?

Generalised Linear Mixed Modelling (GLMM) with negative binomial distribution to predict counts using:

- Whether counter was adjacent to upgraded infrastructure (or not)
- COVID stage
- Weekend vs. weekday
- On-road lane vs. off-road path
- Month of the year (control variable)
- Tested possible interactions:
  - No interactions
  - COVID stage \* weekday/weekend
  - COVID stage \* weekday/weekend \* on/off road

Best-fitting model ( $R^2 = .51$ )

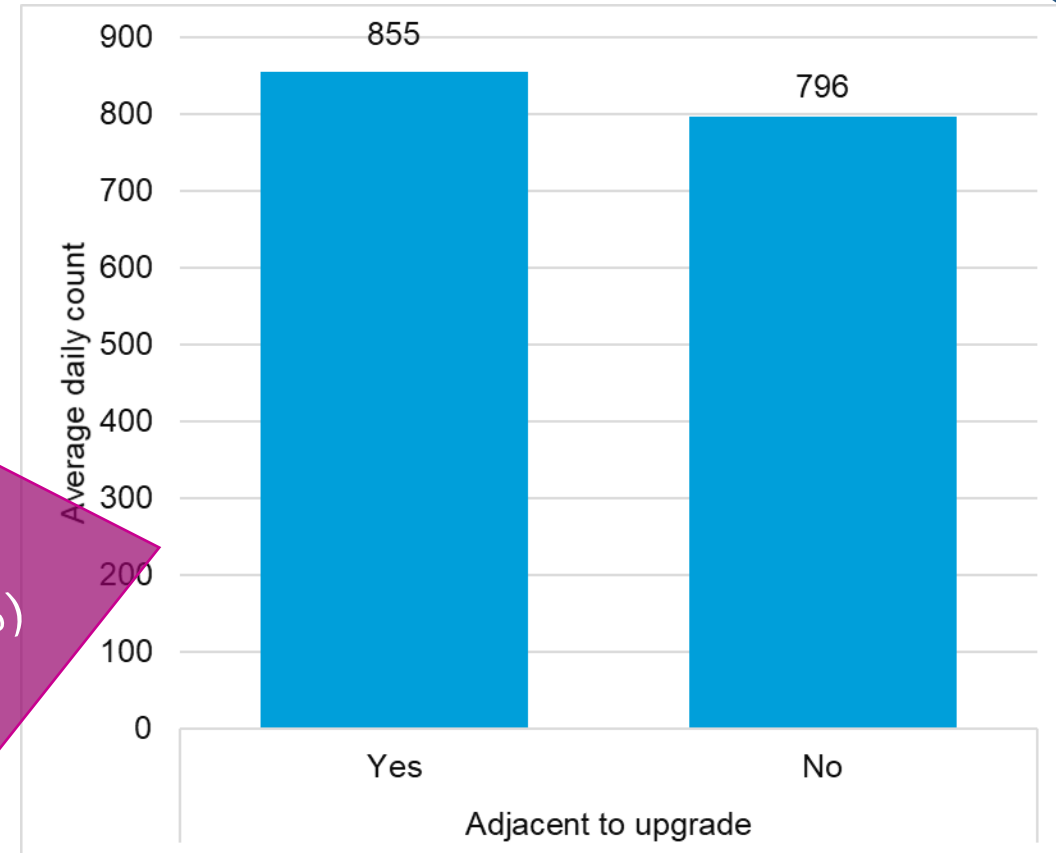
All variables and interactions were statistically significant

# Main effects were as predicted ...

- Counts were lower after COVID hit
- Counts were lower on weekends
- Counts were lower at on-road sites

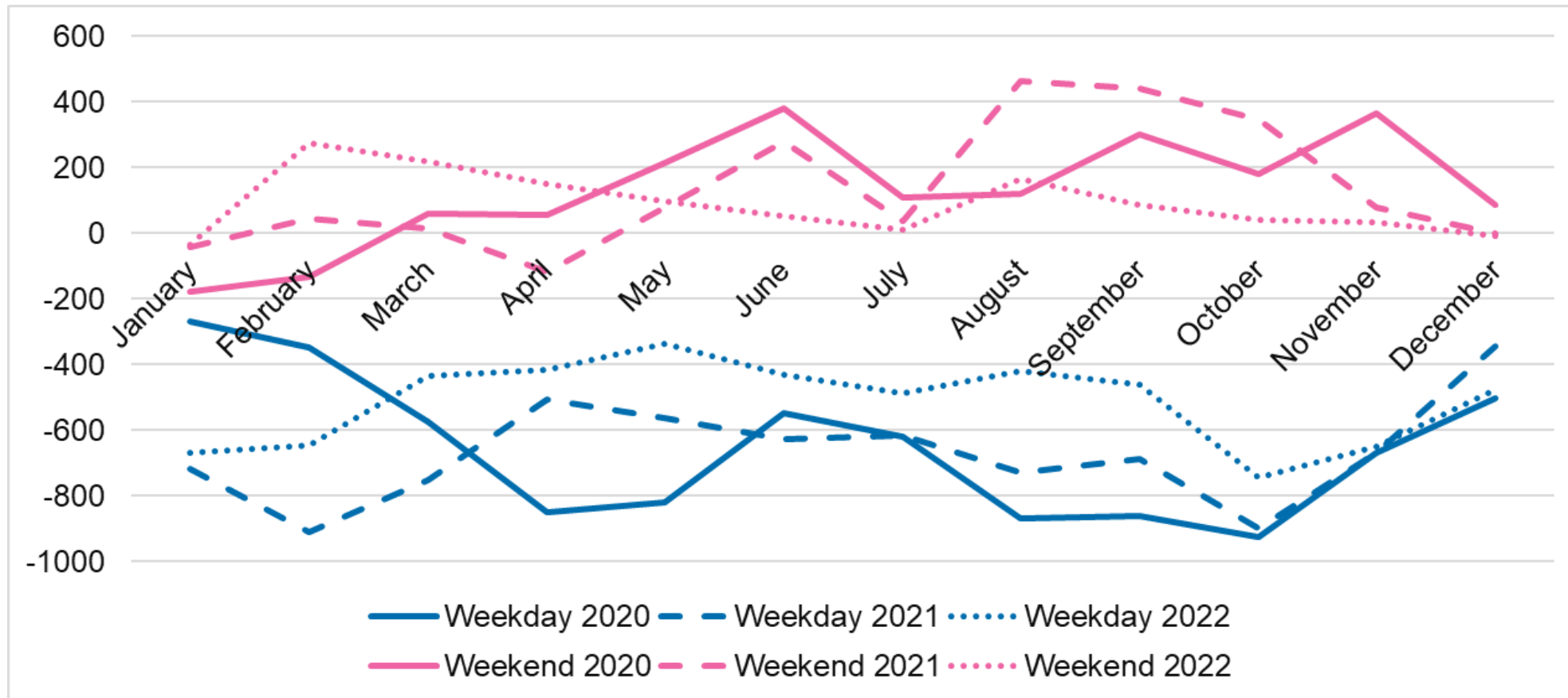
... and sites adjacent to upgraded infrastructure = higher counts (by 6%)

Estimated marginal means from GLMM



# Weekday counts much lower than 2019, but weekends recovering

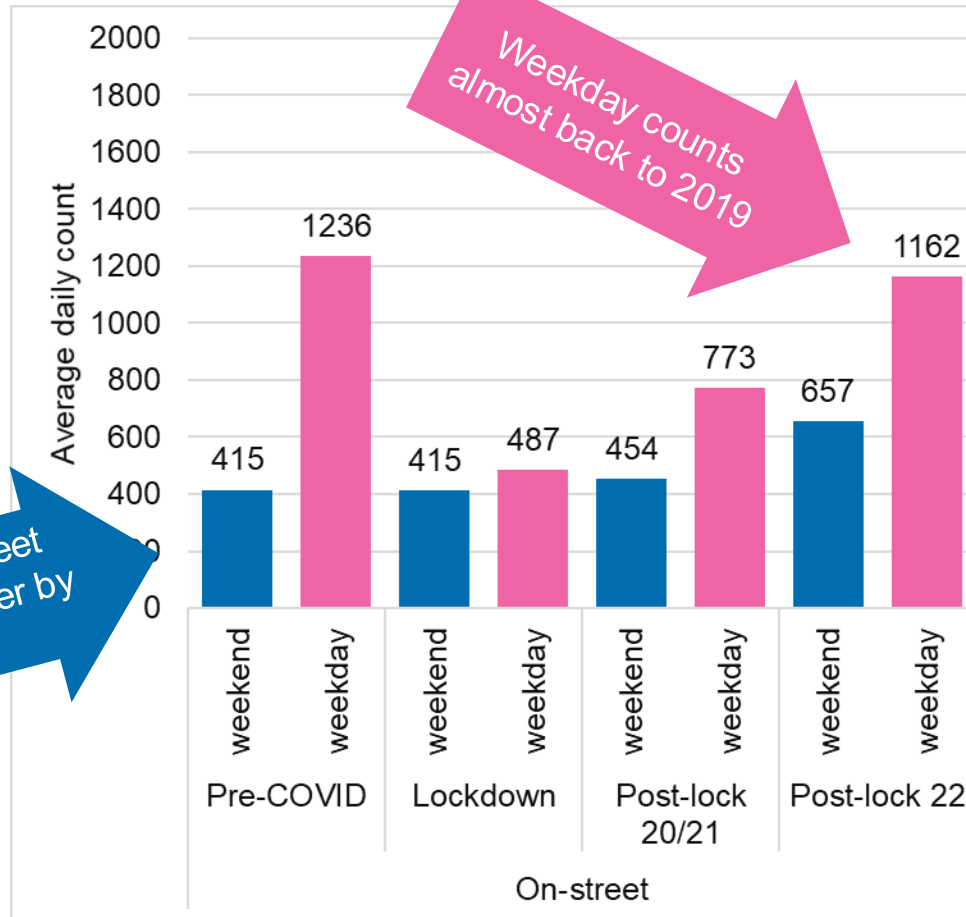
Change in monthly bicycle counts relative to same month in 2019, weekday vs. weekend





# On-street and off-road sites have different patterns

Average daily count effect sizes - estimated marginal means



Weekend on-street counts 45% higher by 2022!

Weekday counts almost back to 2019

Weekday counts still 42% lower than 2019

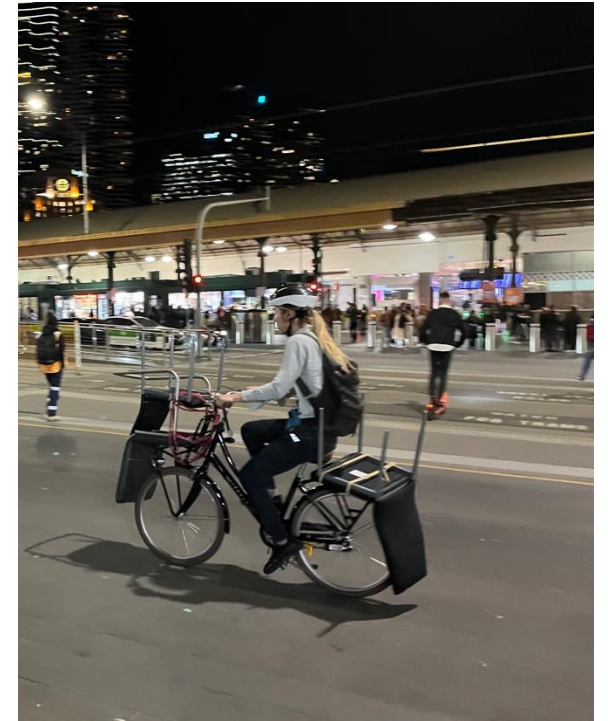
Weekend counts even with 2019

# Could ridership patterns be shifting post-COVID?

Less of this?



More of this?



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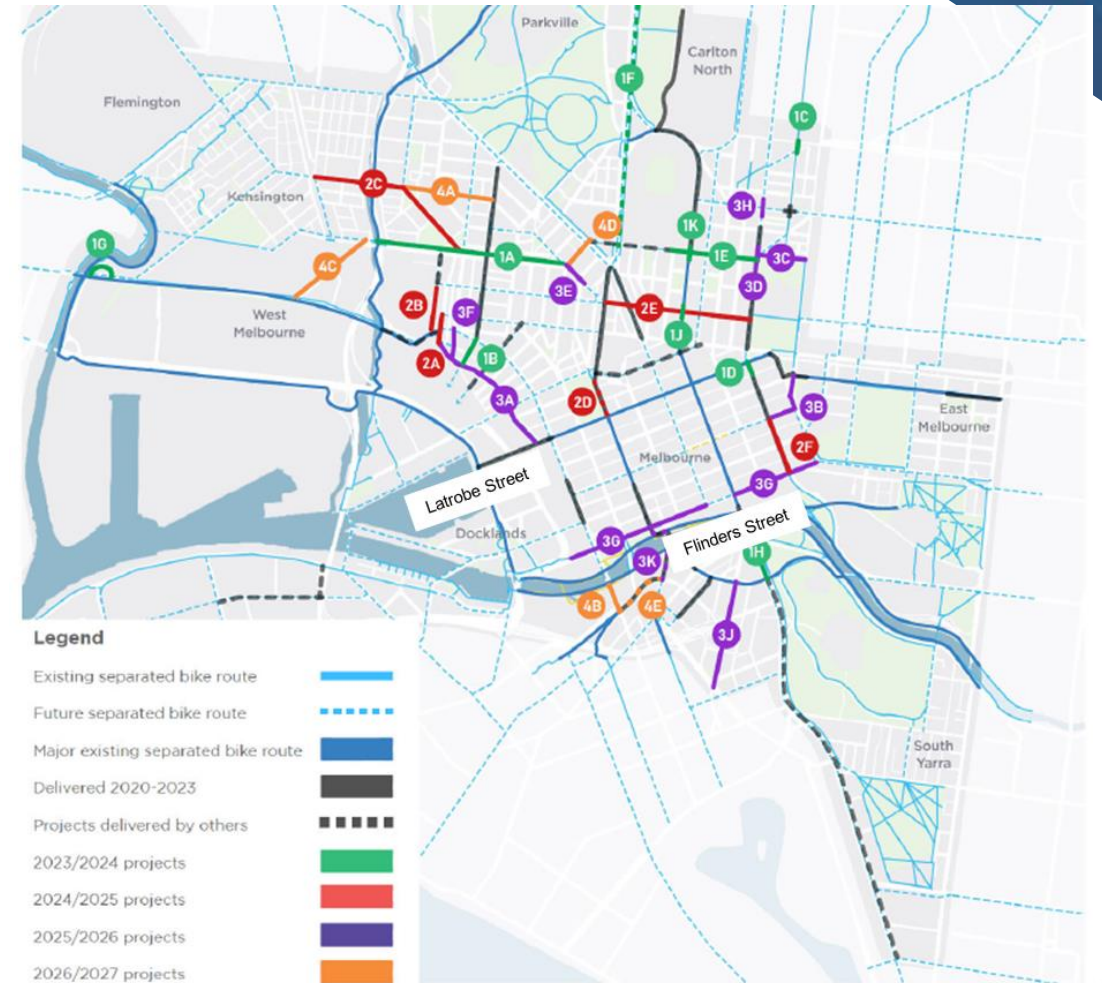
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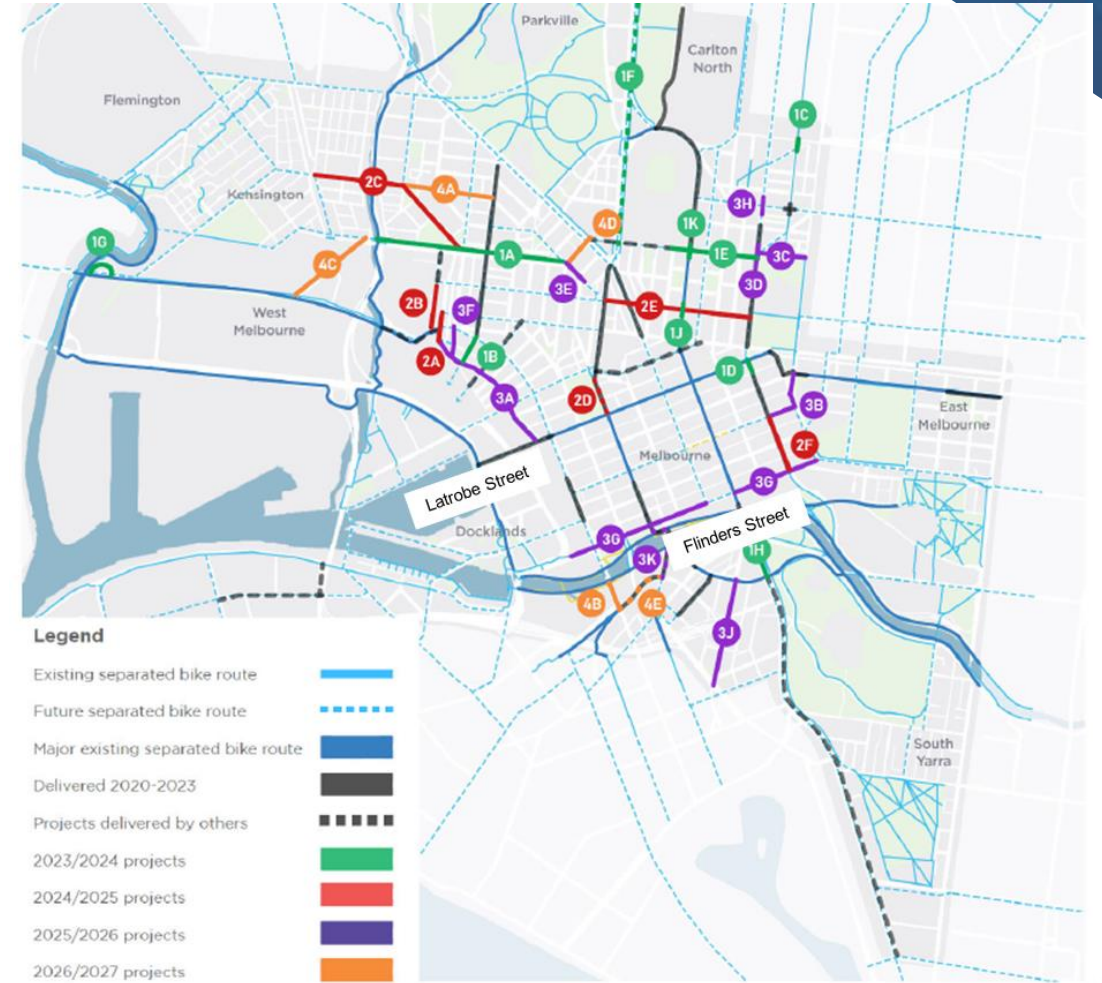
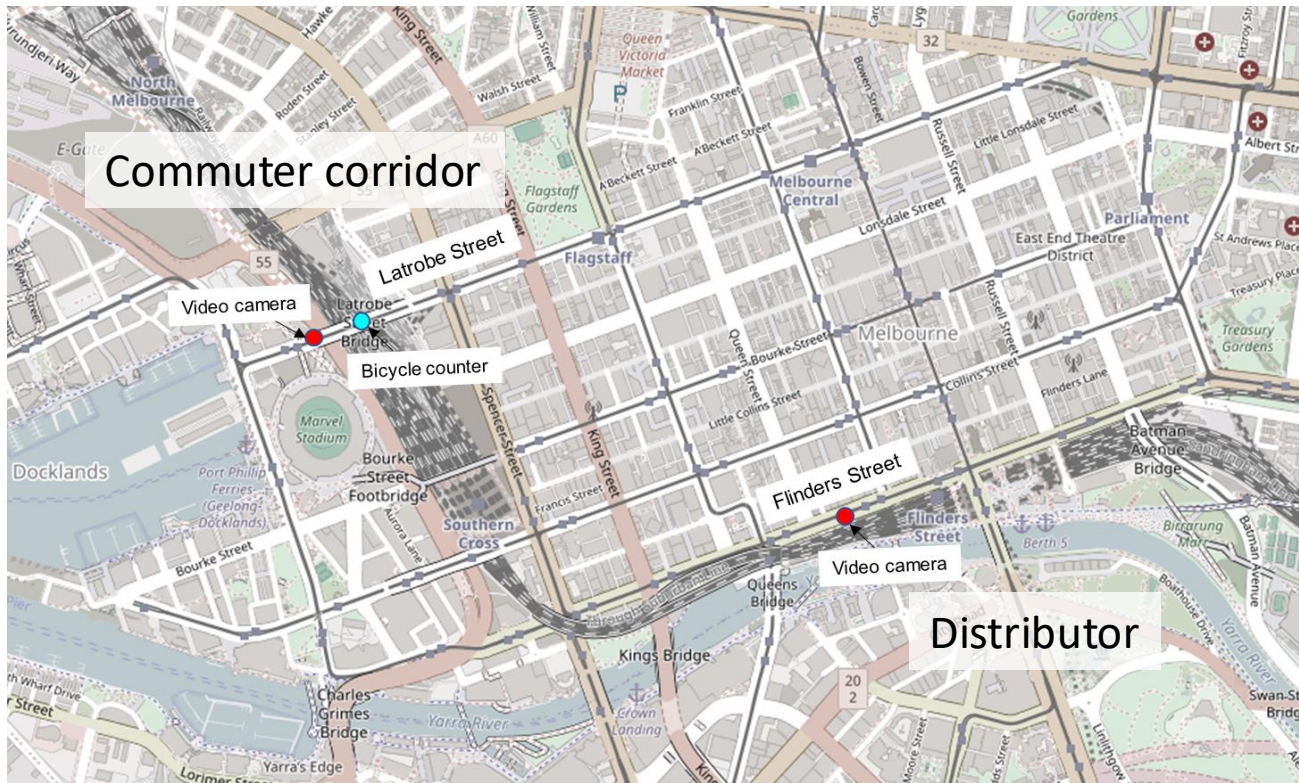


# City of Melbourne continues to plan upgrades

- Still big focus on getting commuters into CBD
- Still very little infrastructure inside the CBD
- How do people get around once they get into the city?

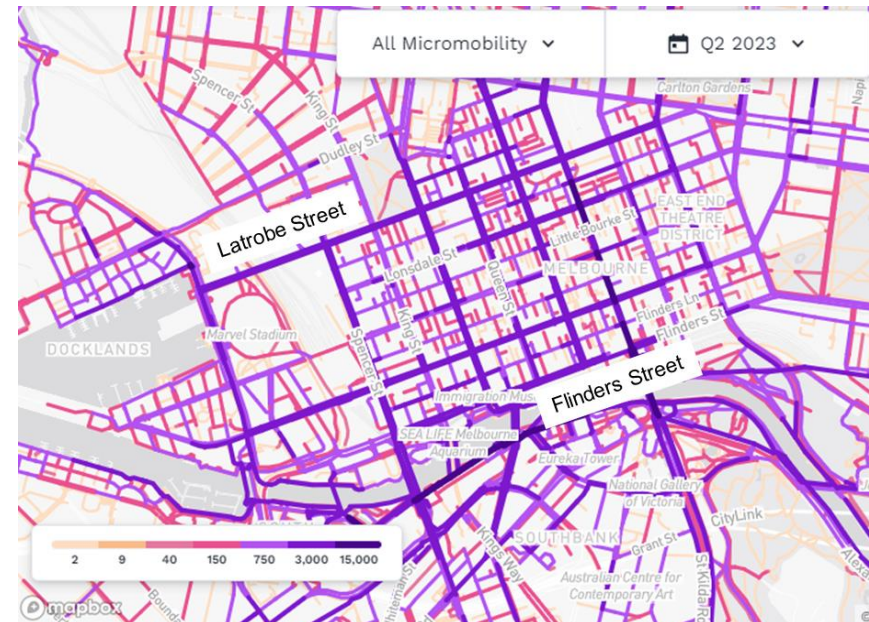
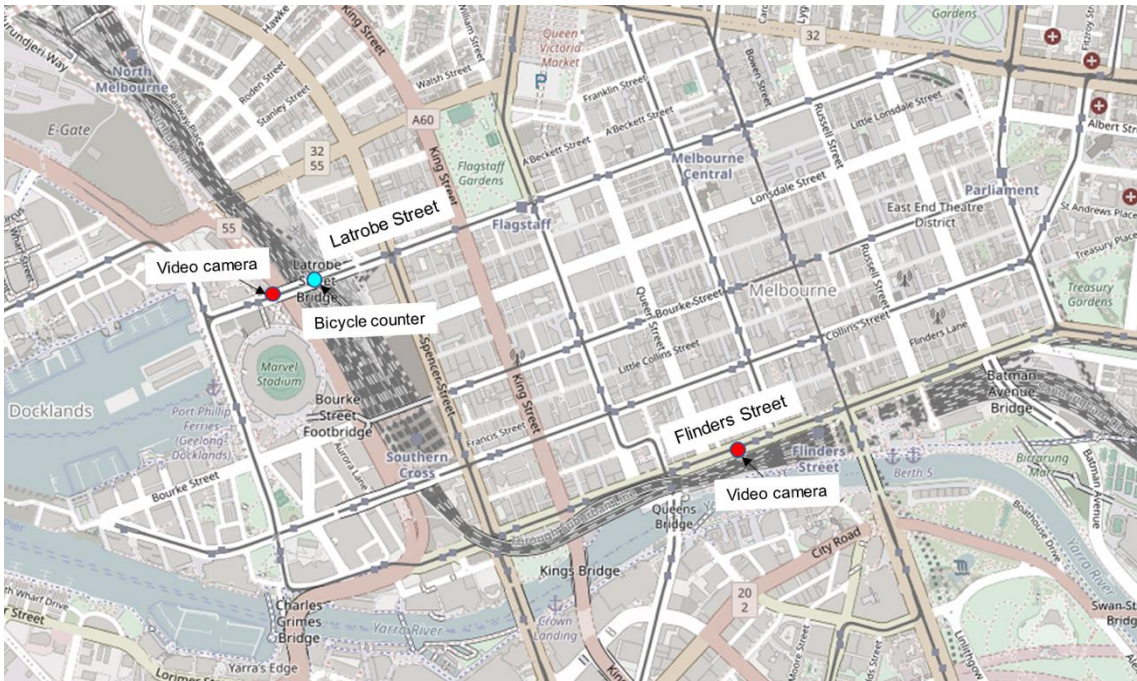


# How does a 'commuter corridor' compare to a 'distributor' location?

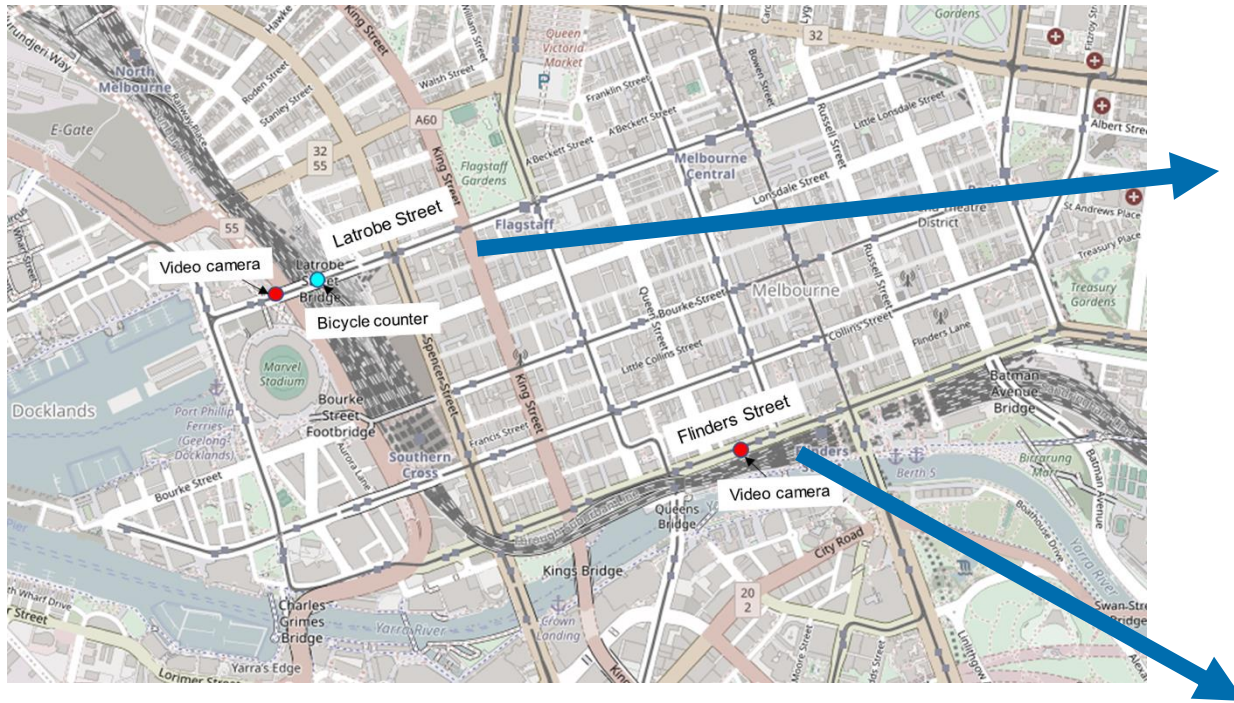


# Choosing the study sites

- Limited pneumatic tube counters within the CBD
- Paid for by City of Melbourne
- Always installed *after* an upgrade
- Not publicly available
- Supplemented by video surveys in May 2023

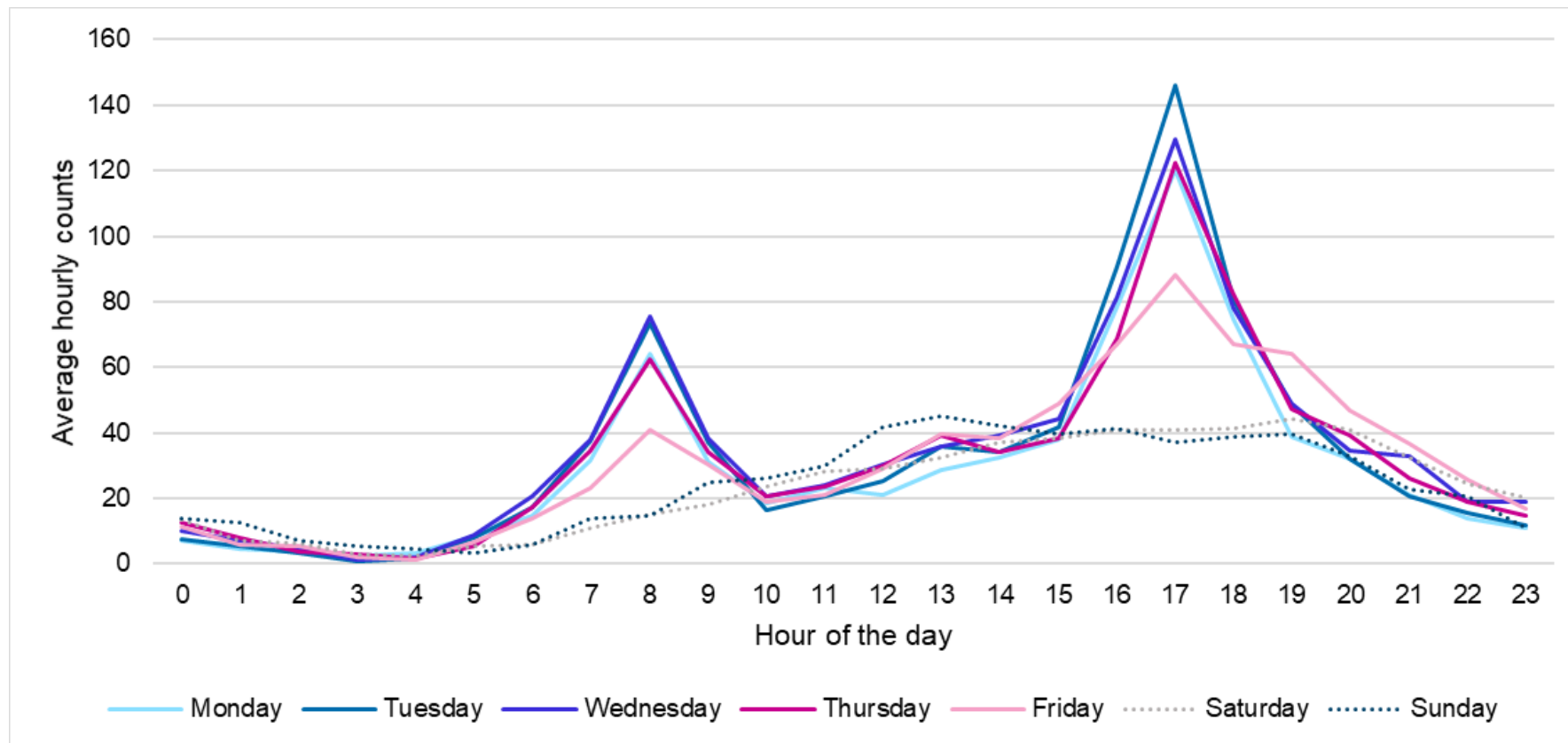


# Choosing the study sites



# Latrobe Street counter shows typical 'commuter corridor' pattern

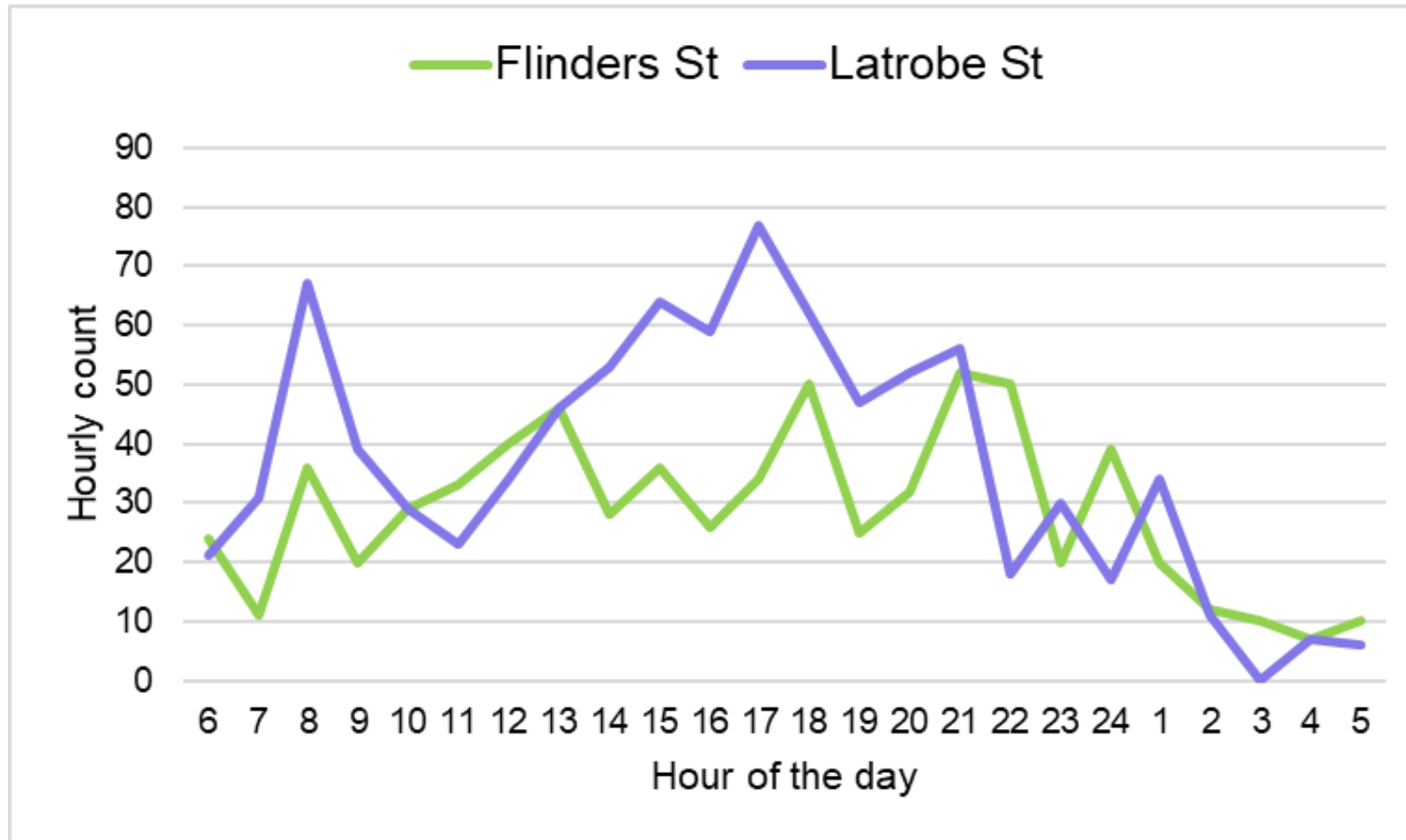
Average hourly micromobility counts for weekdays in May 2022





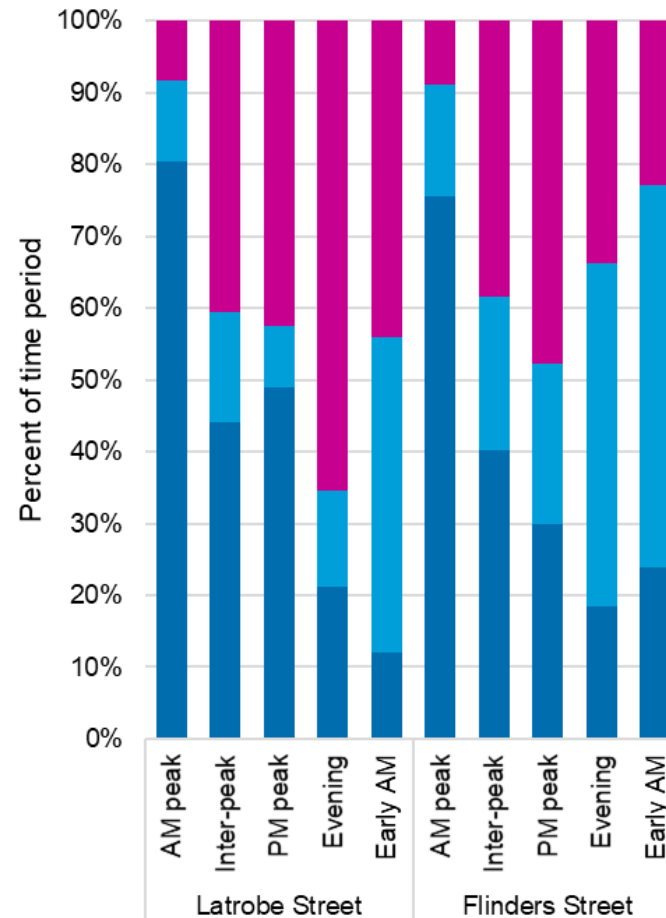
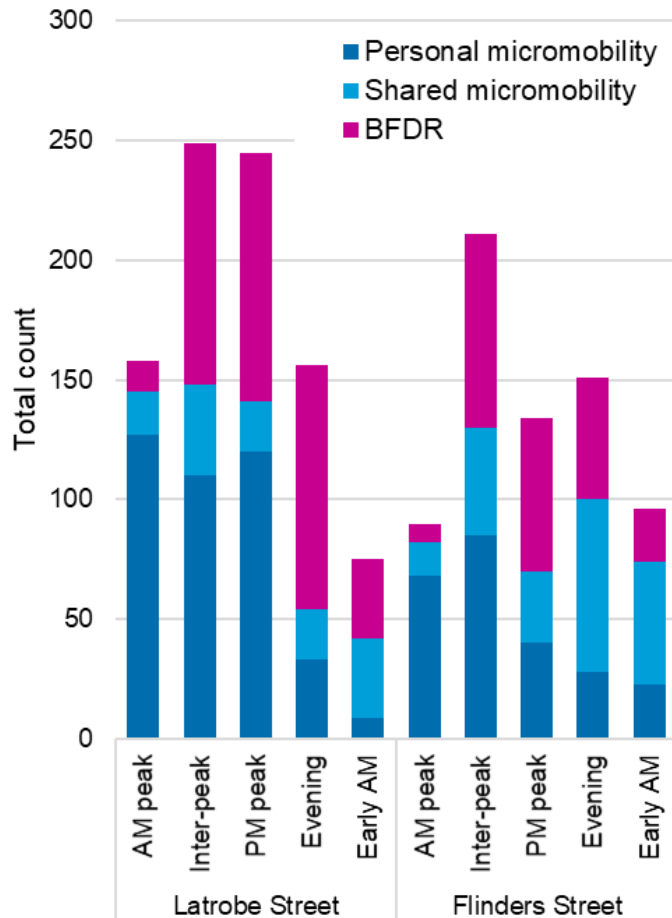
# Flinders Street counts more even across day

Hourly micromobility counts for Friday May 2023



# Food delivery riders almost outnumber other riders

Micromobility type by site and time of day



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# Conclusions

## Conclusions...

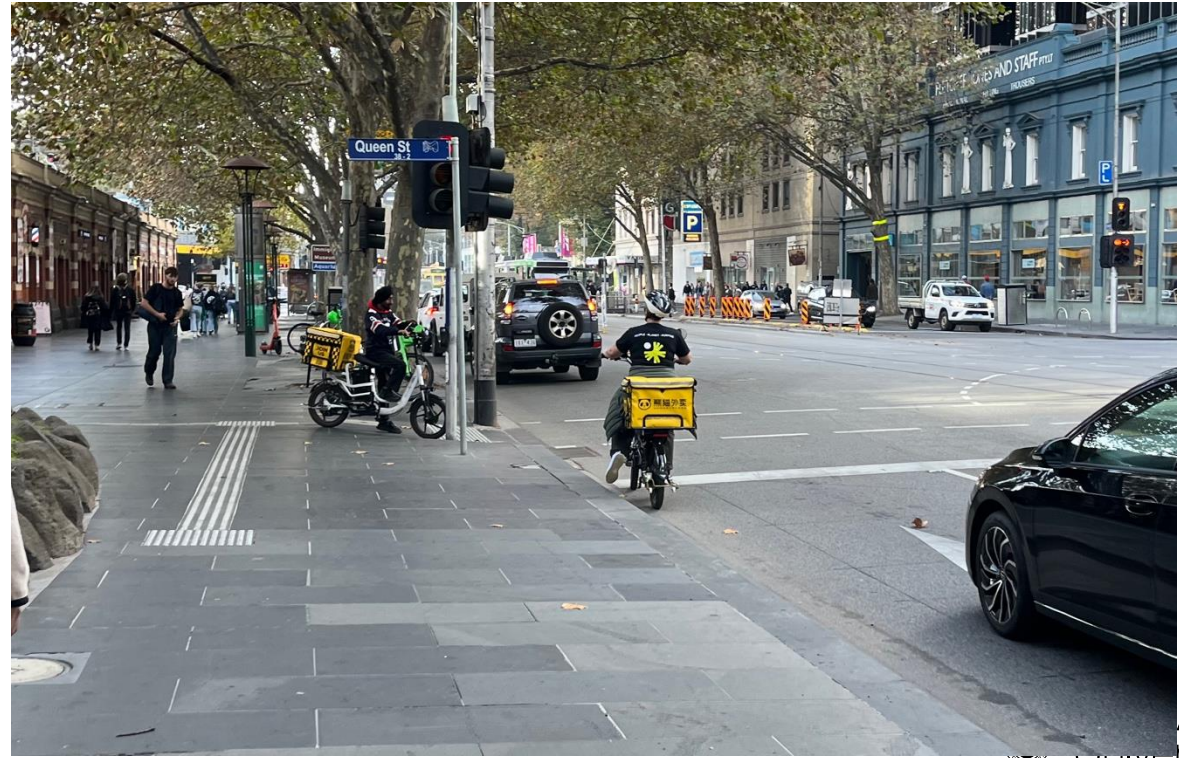
- Upgrading cycling infrastructure into Melbourne city increased cycling by 22%
- This despite continued depression in weekday cycling
- Upgrades may help encourage weekend and off-speak cycling

## ...and limitations

- Don't know if they're new riders or people moving from less-safe routes to upgraded routes
- Didn't have control over location of bicycle counters (state vs. council)
- Likely to be different if these sites were in suburbs/non-commuting areas
- Long-term future of cycling into city still unclear

# Conclusions

- Most inner-cities have moved beyond '9 to 5' thinking post-COVID
- Yet City of Melbourne transport plan makes no mention of this, let alone for people on bikes and scooters
- Need to move beyond 'commuter corridor' thinking – even after cancelling shared e-scooters



# Bicycle infrastructure still politicised and controversial

## New roadblock for Melbourne bike lanes



Patrick Hatch  
July 21, 2022 – 10.49am

Save

The City of Melbourne's bicycle lane rollout has been delayed again, after the Department of Transport expressed concerns over how bike lanes would affect other traffic on two major corridors leading into the CBD from the city's north.

Melbourne paused its bike lane blitz within the Hoddle Grid in June after a backlash from some [businesses and residents](#), who said the lanes restricted deliveries, [increased congestion](#) and made it difficult to park cars.



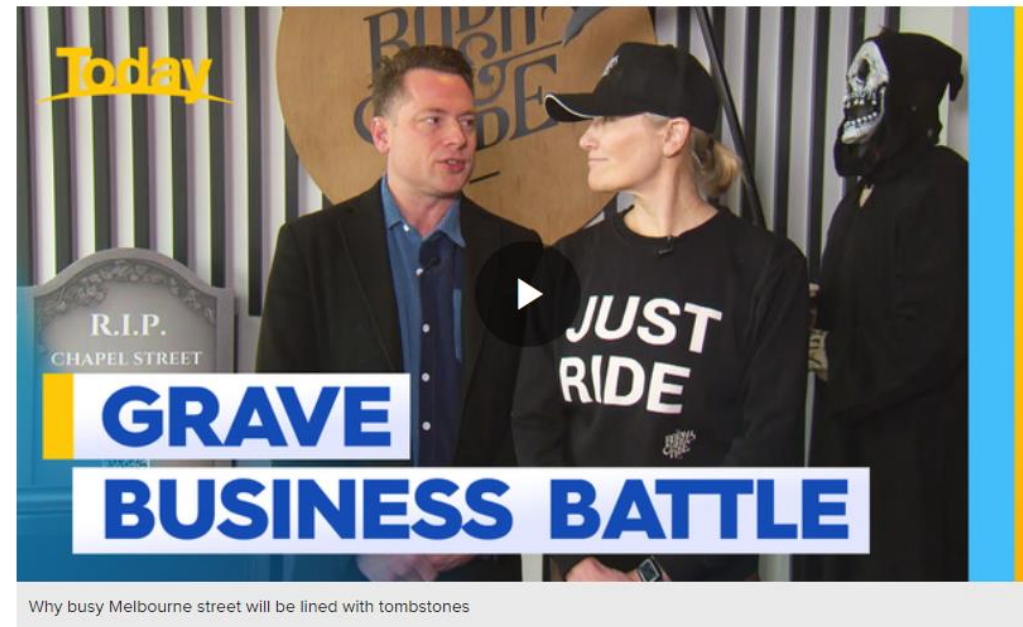
### KEY POINT:

- Melbourn 19 kilome around th and made design ba
- Bikes accr trips in th that to ris
- Private ca into the c space is a

Google  
Google  
protect  
letting  
apps t

## 'Death for small business': Melbourne street lined with tombstones in protest of parking change

By Tom Livingstone | 6 days ago



Why busy Melbourne street will be lined with tombstones

Melbourne business owners will take to the streets today, to protest council plans to remove parking spaces in favour of bike lanes and tram stops.

Traders on Chapel Street say the move will kill business in the area, so they are sending a strong message by lining the busy precinct with tombstones, which read "RIP Chapel Street - Death to Parking, Death To Business".

# Bicycle infrastructure still politicised and controversial



## Team Kouta's plan to "change the game" for Melbourne



Jon Fleetwood | 25th September, 2024



*Former Carlton premiership player Anthony Koutoufides has ditched the Sherrin for a suit and tie and is running for Lord Mayor this October.*

Mr Koutoufides said there was a place for bikes and e-scooters in Melbourne, but a better balance was urgently needed ... to achieve this balance, Mr Koutoufides has also said that **he would reduce the number of bike lanes as he believes that too many have been installed** and taken away valuable parking spaces. *Source*

<https://www.cbdnews.com.au/team-koutas-plan-to-change-the-game-for-melbourne>

# Keep bringing the evidence!



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