



Department of
Transport

Perth Bike Riding: 2020 data insights

*Bike counts, surveys
and a focus on the new
Mitchell Fwy PSP*

January 2021

Prepared by:

Dr Zarín Salter
Senior Evaluation Program Officer
Department of Transport

Acknowledgements to:

Stefan Caramia and Sarah Court



Perth bike riding

Data insights: 2020 calendar year

Executive Summary

By October 2020, 1 in 4 Perth & Peel residents were riding their bikes weekly, which equates to approximately 486,000* people riding on the Perth metropolitan bike network every week

From a base of 17% at the beginning of surveys in early April 2020, the growth in rider participation over the tracking period of between 4% and 8% represents an additional 78,000 to 155,000 Perth & Peel based West Aussies riding their bikes weekly over the winter months when bike counts traditionally drop off.

Data revealed 14% average growth across the entire Perth Bike Counter network in 2020 compared to 2019

853,260 MORE bike counts were recorded across the Perth bike counter network in 2020 compared to 2019. This large increase in bike counts corroborates with the increased participation revealed from surveys. Note: estimates of increased bike trips per person cannot be derived from these two data sources and more complex modelling would be required.

Suburban Perth bike counters (n = 23) averaged 21% annual growth in 2020, most of which was driven by large increases in recreational riding between April and June during the strictest COVID lockdown and restrictions, and which remained relatively high thereafter.

By comparison, CBD Cordon bike counts (n = 9) averaged 7% annual growth in 2020. Data indicated this was mostly driven by increases in weekend recreational riding during the periods of strictest COVID lockdown and restrictions, which was followed by a relative decline later in the year indicating that typical CBD commuter habits were still recovering.

Data suggests that elevated 'recreational' bike riding during and after the COVID lockdown period has influenced a diversified trip purpose over the remainder of the year

Most of the bike count growth across 2020 was due to additional weekend bike riding, especially in April, May and June. This suggests a greater interest in recreational bike riding among Perth residents and supports survey data indicating that by the end of 2020, a broader demographic spread of riders were using the bike path network.

Count and survey data also indicate that greater recreational bike riding between April – June may have influenced a diversified trip purpose later in the year. By October, surveys revealed that bike riding trip purpose had diversified with more people indicating they were riding their bikes to visit family or friends, go shopping, commute to work and to attend appointments.

**Growth extrapolated to the 2016 census population figures for Perth: 1,943,858*



Bike Network Counter Data

In the calendar years 2020 and 2019, DoT had 41 piezoelectric counters operational* across Perth and regional WA

- 9 are located at bike riding access points to the Perth CBD and represent a cordon,
- 1 is in the middle of the Perth CBD,
- 23 are located at strategic locations across the Perth metropolitan area, and
- 8 are located across regional WA

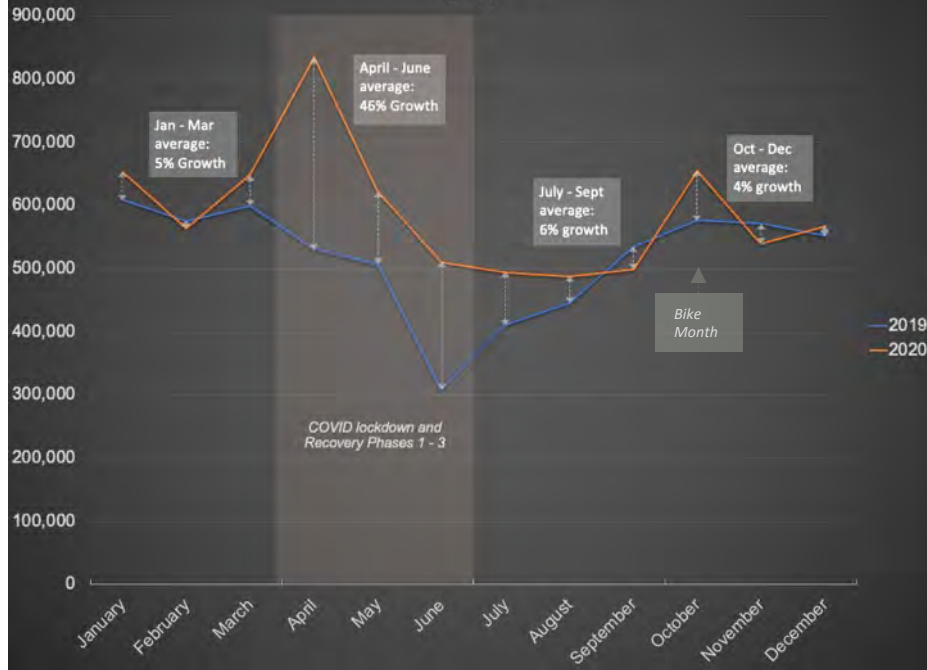
The counters are placed at strategic locations on the bike path network to capture speed, direction and counts 24 hrs/day

**This number only includes counters that were operational at both time periods and were therefore comparable sites. New counters installed since January 2019 or those under maintenance are additional to this number.*



Perth Metro Bike Counts – All sites grouped

Perth Metro Bike Counts
Total monthly growth profile
2020 vs 2019
n = 33



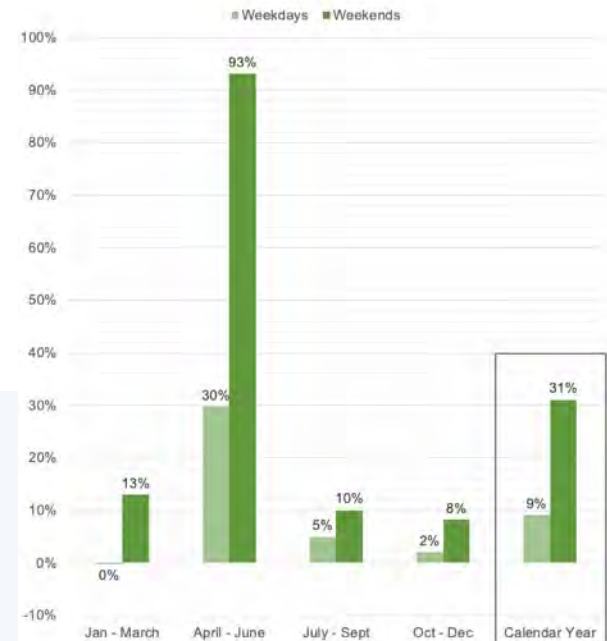
14% annual average growth across the entire Perth Metro Bike Counter network

Counts were trending upwards before the COVID lockdowns greatly influenced increases in bike riding behaviour between April – June.

Counts between July and December returned closer to pre-COVID conditions with the exception of a spike in growth over October most likely associated with Bike Month.

DoT data analysts suspect that the spike in counts observed during the 2020 Bike Month was influenced by the sustained increase in bike riding participation noted in the People's Voice Surveys (April, May, June and October), such that more people were riding generally, and decided to do so more frequently in Bike Month.

Perth Metro Bike Counts
Weekday and weekend growth rates
2020 vs 2019
n = 33



Perth Metro Bike Counts
n = 33



853,260 MORE
bike counts overall

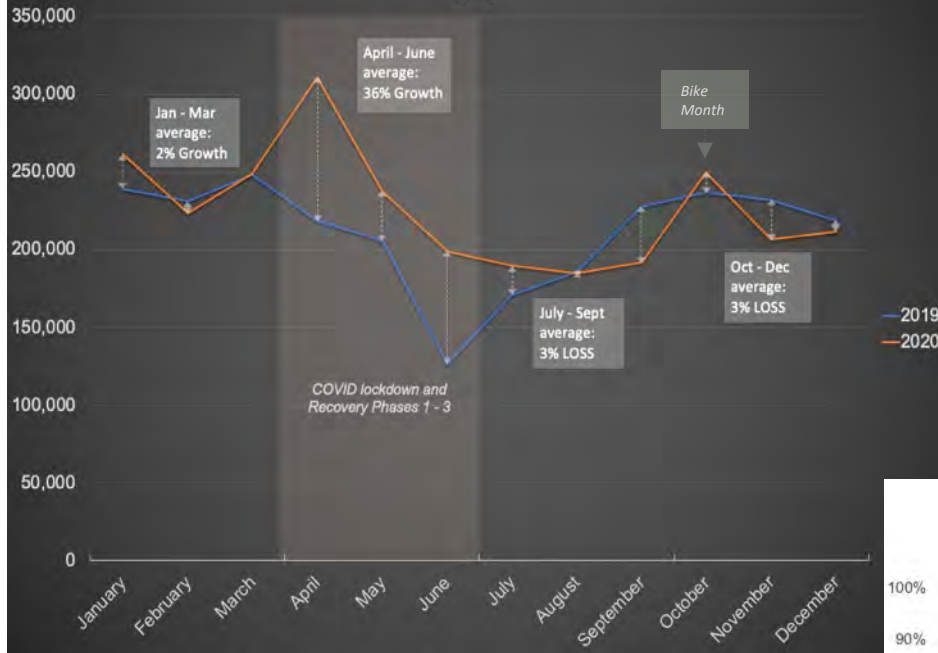
14% Total average
growth

Most of the bike count growth across 2020 was due to additional weekend bike riding, especially in April – June.

This suggests a greater interest in recreational bike riding among Perth residents and supports survey data indicating that by the end of 2020, a larger proportion and broader demographic spread of riders were using the bike path network.

Perth CBD Cordon Bike Counts

CBD Cordon Bike Counts
Total monthly growth profile
2020 vs 2019
n = 9



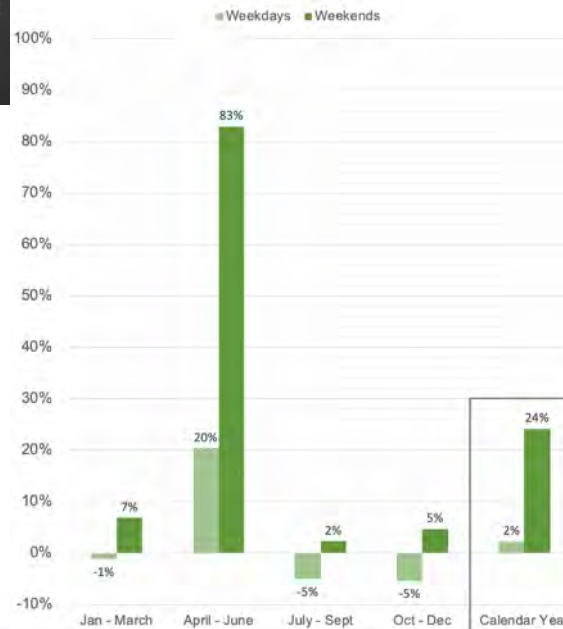
CBD Cordon overall growth was mostly driven by increases in weekend recreational riding during the periods of strictest COVID lockdown and restrictions.

Over the first 6 months of 2020, the CBD Cordon tracks in a similar pattern to the entire Perth Metro.

The last 6 months of 2020, however, recorded a small but distinct overall loss in bike counts for the CBD cordon, which may reflect that typical CBD commuter habits were still recovering*.

Note: The losses displayed in this graph appear to explain the low bike counts in September and November in the previous graph for all 33 Perth Metro counter sites combined.

CBD Cordon Bike Counts
Weekday and weekend growth rates
2020 vs 2019
n = 9



Growth rates split by weekends and weekdays indicate that recreational weekend (and weekday during the lockdown period) bike riding activity was primarily responsible for the elevated growth in counts across the CBD cordon over January to June 2020, and a loss in weekday commuter bike riding activity drove the overall loss in counts over July – December 2020.

CBD Cordon Bike Counts
n = 9



173, 424 MORE bike counts overall

7% Total average growth

*People's Voice survey data from April, May, June and October 2020, revealed that at least 1 in 4 people were working from more often than the previous year. Even if some of these people only worked from home 1 day/week this would impact the total numbers of people commuting to the Perth CBD.

Perth Suburban Bike Counts *(excludes all CBD counts)*

Suburban Perth bike counters reached 21% annual average growth in 2020

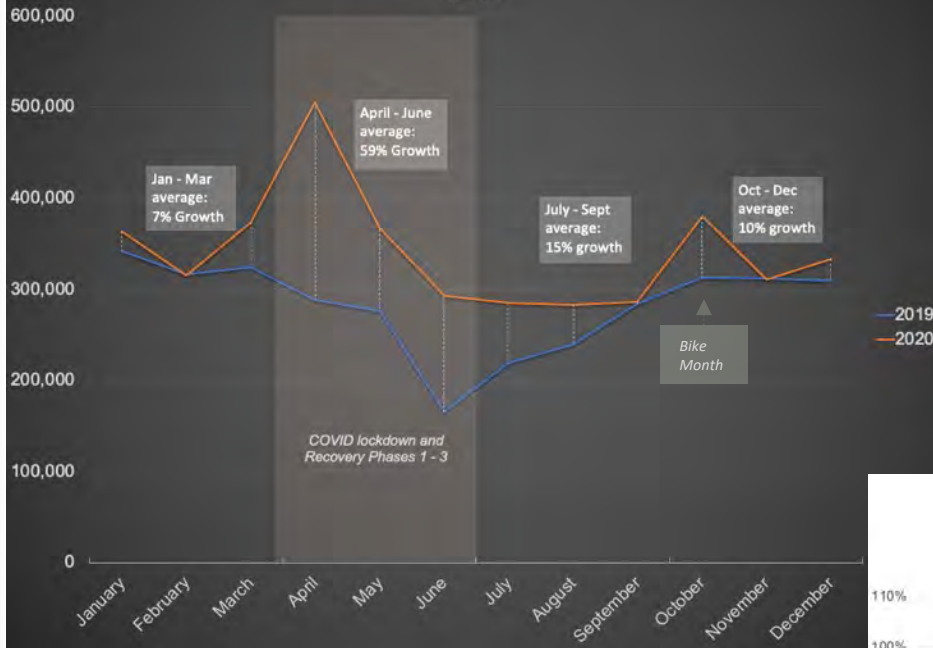
Most of this growth was driven by large increases in recreational riding between April and June during the strictest COVID lockdown and restrictions. However, growth remained high over the remainder of 2020 with a noticeably large spike in growth over October most likely associated with Bike Month.

Growth in weekend bike riding activity, which reached a doubling between April and June 2020, remained relatively high over the year in the Perth suburbs.

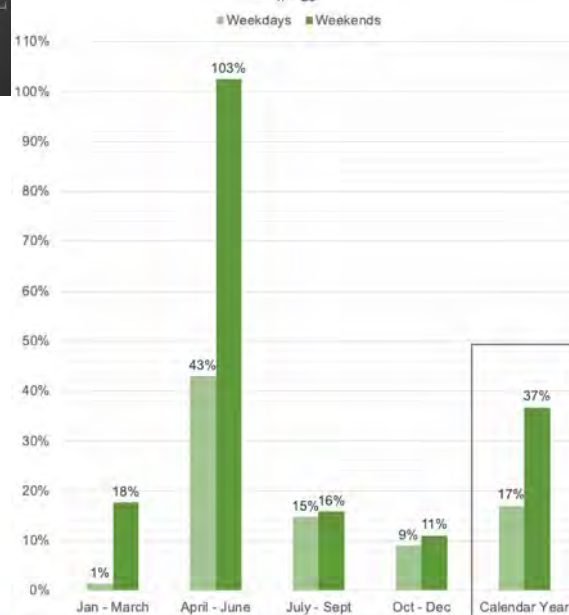
Noteworthy, though, are the large relative increases in weekday bike riding activity in the Perth suburbs over the latter half of 2020.

This shift in weekday activity in the suburbs was not evident before COVID lockdowns and may provide evidence towards a shifting demographic of riders diversifying their trip purposes across the Perth suburbs.

Perth Suburbs Bike Counts
(excludes all CBD counters)
Total monthly growth profile
2020 vs 2019
n = 23



Perth Suburbs Bike Counts
(excludes all CBD counts)
Weekday and weekend growth rates
2020 vs 2019
n = 23



Perth Suburbs Bike Counts
n = 23



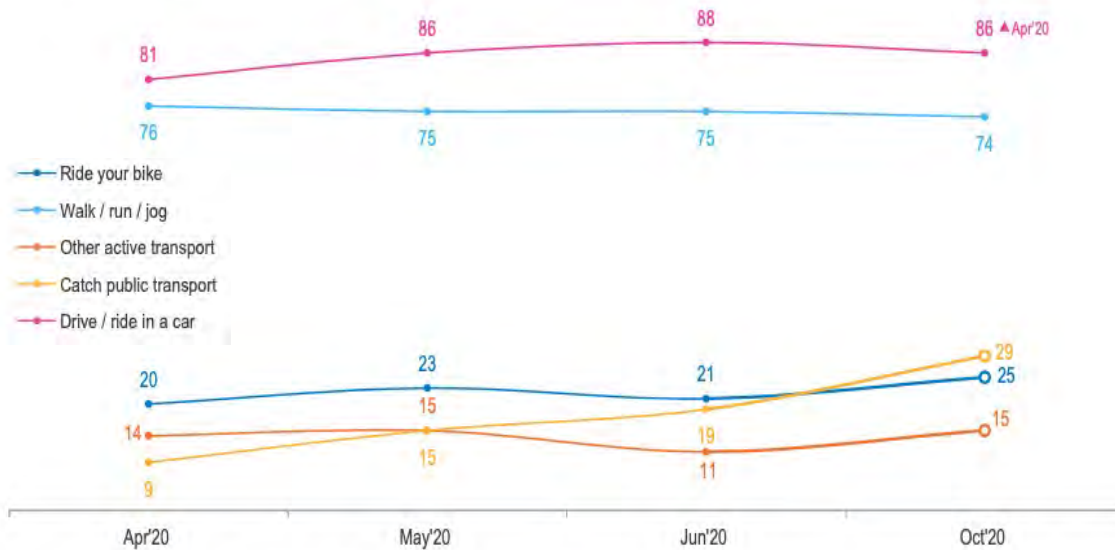
704, 403 MORE
bike counts overall

21% Total average
growth

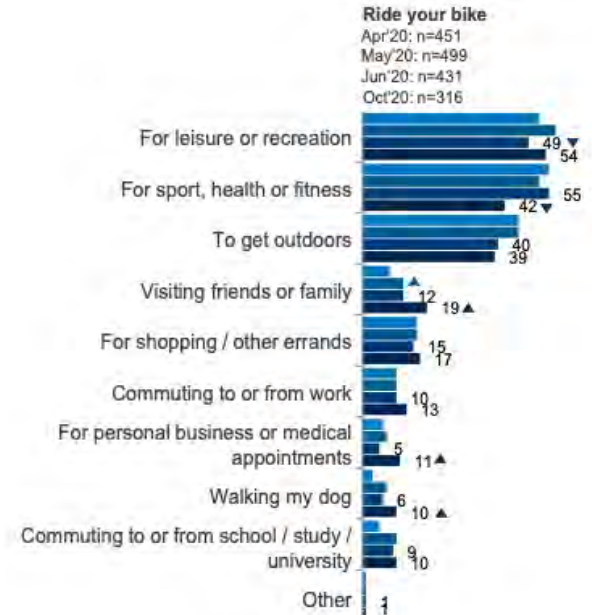
People's Voice Survey insights

Online Polls conducted during April, May and June, and again in October 2020.
Total n = 7,475

% weekly or more often



Q3. In the past month, how often have you been outside to... Base: All participants



Q4. For what reasons have you been... [MODE] Base: All who did an activity in the past fortnight

By October 2020, 1 in 4 Perth & Peel residents were riding their bikes weekly, which equates to approximately 486,000* total riders on the Perth metropolitan bike network every week

From a base of 17% at the beginning of surveys in early April 2020, the growth in rider participation over the tracking period of between 4% and 8% represents an additional 78,000 to 155,000 Perth & Peel based West Aussies riding their bikes weekly over the winter months when bike counts traditionally drop off.

By October, trip purpose had also diversified with more people indicating they were riding their bikes to visit family or friends, go shopping, commute to work and to attend appointments

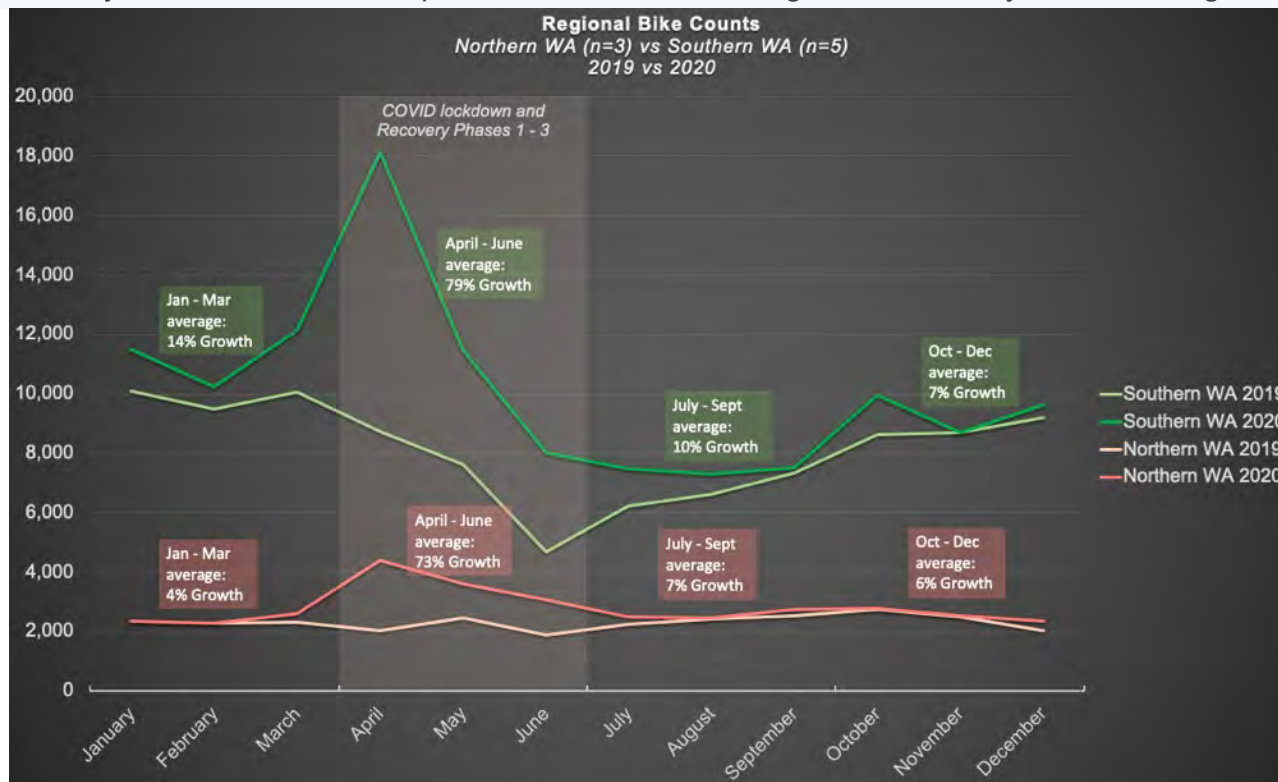
*Growth extrapolated to the 2016 census population figures for Perth: 1,943,858

Regional WA Bike Counts

COVID lockdowns influenced increased bike riding activity across all measured WA regions between April and June 2020, much of which would have been driven by local increases in bike riding because regional travel was restricted during that time.

The increased receptiveness to bike riding remained stronger in the Southern regions of WA over the latter half of 2020, possibly related to the encouragement of regional travel across WA, hotter weather in the North and State borders remaining closed or difficult to cross.

Newly constructed path infrastructure, specifically in the southern regions, would likely have also contributed to the growth in activity over 2020. More data, and a strategic approach to collecting and evaluating it, is required to verify the influence of new path infrastructure on the growth in activity in the WA regions.



For this analysis the regional counters (n=8) were grouped by their location in the northern or southern regions of WA. Although a coarse approach to regional analysis, these groupings nevertheless give an indication of seasonal influences on these counter sites and of the difference in bike riding activity patterns. Three sites make up the northern group (2 in Geraldton and 1 in Karratha), and five sites make up the southern group (3 in Bunbury and 2 in Busselton).

Mitchell Fwy PSP

Key Investment Projects

Two projects

1. Glendalough Station to Hutton Street – *opened July 27, 2020*
2. Civic Place to Erindale Road – *construction upcoming*

Program Objectives

The completion of high priority missing links that will:

- A. increase the number of people riding to and from the Perth CBD
- B. provide more efficient and safer routes for bike riders and pedestrians



Data insights:

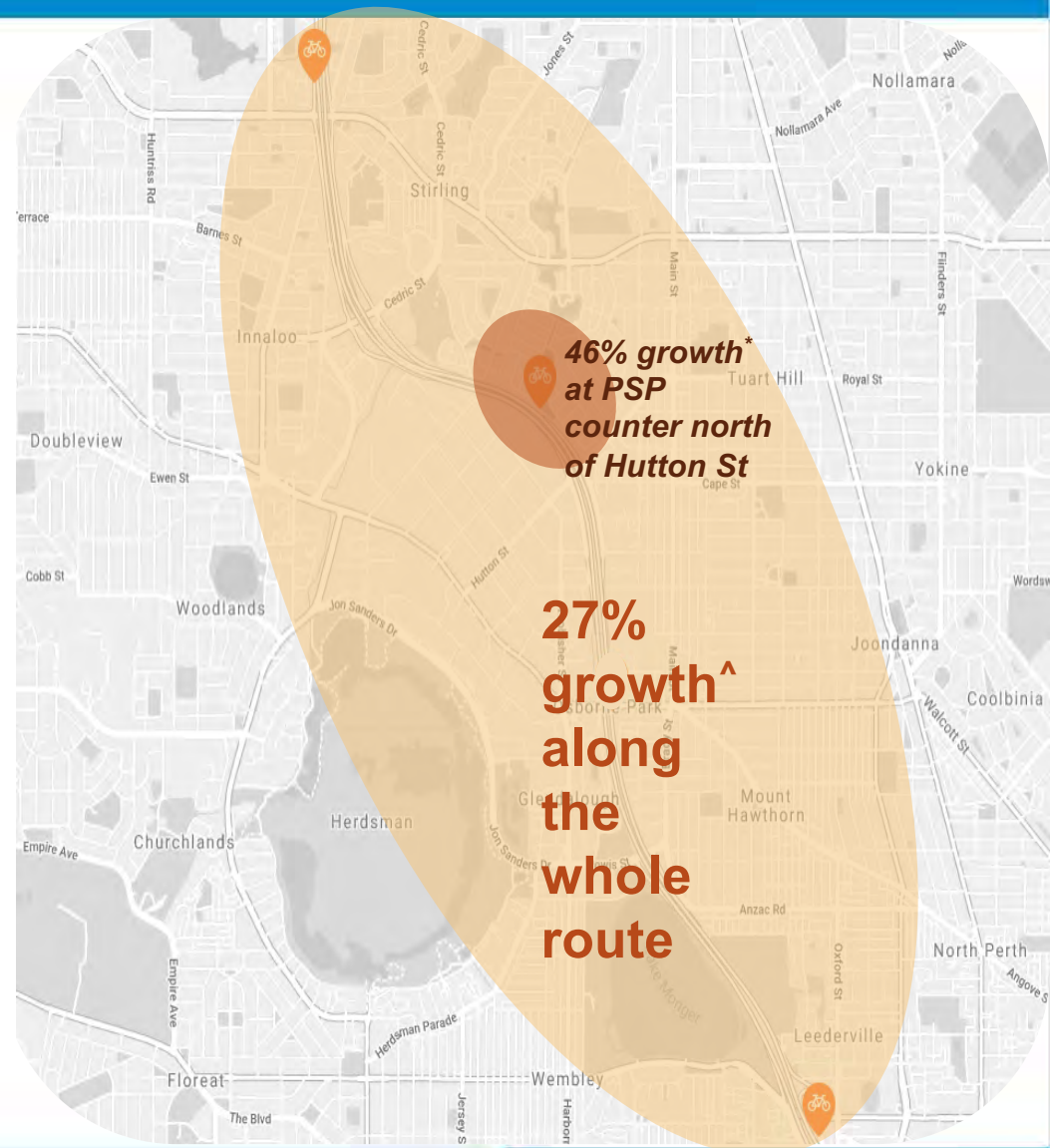
Objective A - increase the number of people riding to and from the Perth CBD

Analysis of bike counts along the completed Mitchell Fwy PSP route indicated

- Nearly 50% growth* at the northern extent of the new path (PSP, north of Hutton St)
- Nearly 30% growth^ averaged across the broader route (data from three counter sites on the PSP)

* Nearly 7,000 additional bike counts / month were observed at the PSP counter site located north of Hutton St when comparing the monthly averages over August to November in 2018 (baseline) and 2020 (post)

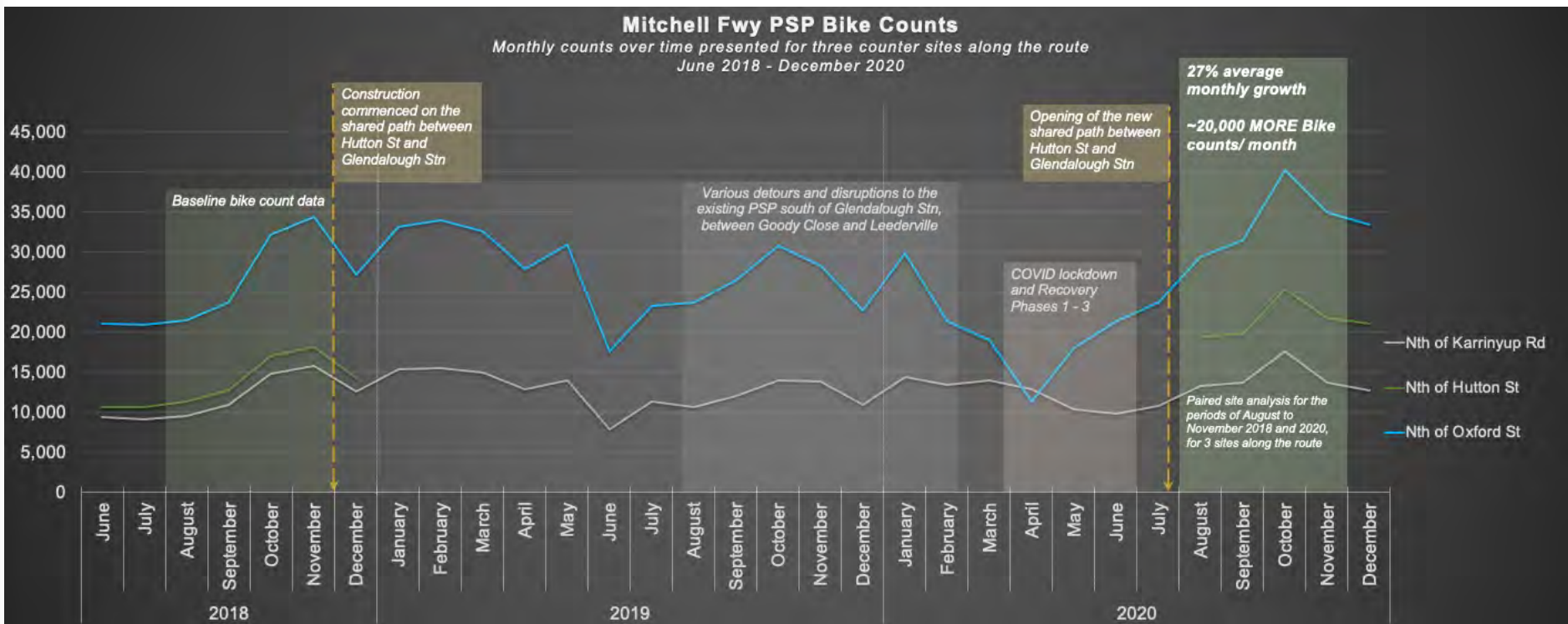
^ Nearly 20,000 additional bike counts / month were observed across three PSP counter sites located along and either side of the completed path when comparing the monthly averages over August to November in 2018 (baseline) and 2020 (post)



Data insights in more detail...

27% average growth in bike counts (19,681 additional bike counts per month) along the principal shared path route between Karrinyup Road and the Perth CBD* over the comparable four months of pre and post construction bike count data, n=3.

This growth is expected to continue into 2021 and additional growth along this route is expected following the construction of Stage 2 of the new PSP between Civic Place and Erindale Rd, which is due for completion in mid-2022



*The counter site north of Oxford St, Leederville, was selected as the proxy CBD counter as there are two routes into the CBD further south of this site, only one of which currently has a counter located along it because the other route is within the CBD cordon site already on that path and to the west.

Note: Further analysis is required to determine the distribution of these increased bike counts, as they may align with the observations already discussed in previous slides that CBD weekday 'commuter' activity appeared to drop and remain relatively low over the last 6 months of 2020, whereas weekend bike riding activity across CBD Cordon counter sites remained relatively high over the same period.

Data insights:

Objective B - provide more efficient and safer routes for bike riders and pedestrians

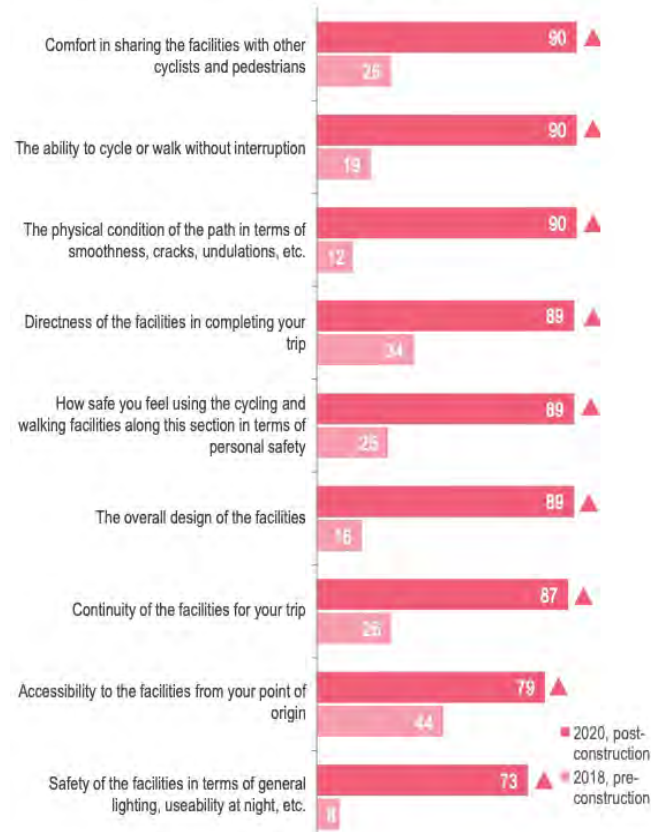
9 out of 10 respondents think the new section of PSP is excellent across all measures!

That's a 63% increase compared to baseline surveys in the very high and excellent scores across all key evaluation features!

Questions included measures of:

- safety
- connectivity
- amenity
- accessibility
- comfort
- path quality

Percentage of respondents who rated each of the following features as very high to excellent (8 or more on a scale of 1-10)



Q26. Thinking of the cycling and walking facilities between Glendalough Station and Hutton Street, how would you rate the quality of the cycling and walking facilities overall in terms of...?; 2018 Study. Base: All intercept respondents 2020 (n=1,178); 2018 (n=789).



Self-reported Activity

Intercept Respondents*

4 out of 5 people intercepted while using the new PSP ride their bikes along it at least weekly

AND

40% of them are doing so more often than before the path was opened

Resident Respondents^

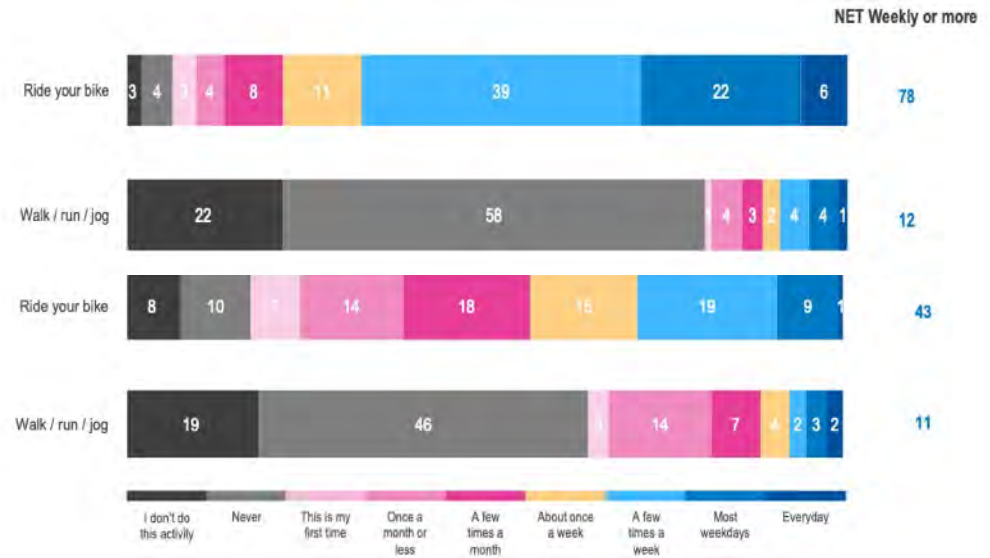
2 in 5 residents ride their bikes along the new PSP at least weekly

AND

35% of them are doing so more often than before the path was opened

Intercept Respondents
(n=1,178)

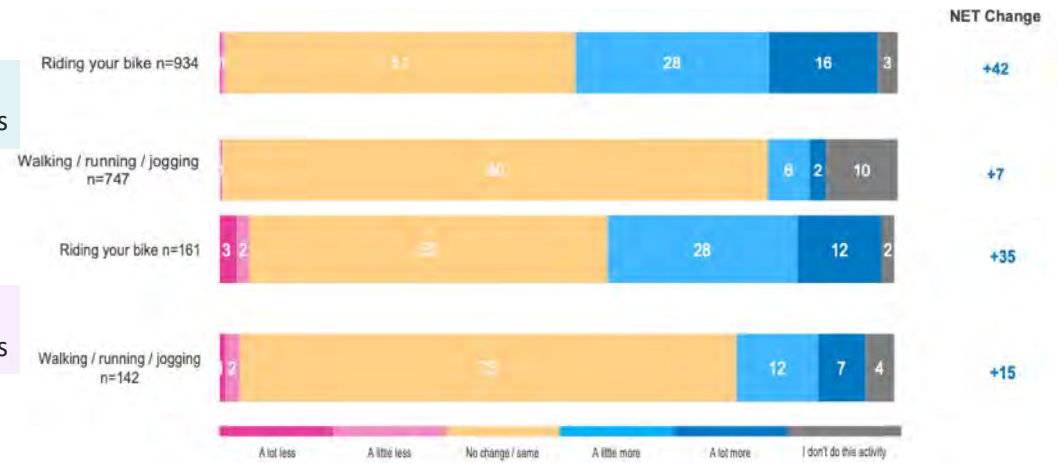
Resident Respondents
(n=298)



Q27. Since the new section of Principal Shared Path (PSP) between Glendalough Station and Hutton Street was opened, how often have you used any part of that path to... Base: All intercept respondents (n=1,178).

Intercept Respondents

Resident Respondents



Q28. Since the new section of Principal Shared Path (PSP) between Glendalough Station to Hutton Street was opened, has your overall physical activity changed compared to before? Base: All resident respondents who have engaged in the activities on the new section of PSP.

*Intercept Respondents refer to people who the survey interviewers intercepted while riding or walking along the new PSP.

^Resident respondents refer to people living within a 2.5km distance from the new PSP who were invited to participate in the survey via flyers in letterboxes.

Glendalough Station to Hutton Street – *opened July 27, 2020*

The newest section of path along the Mitchell Fwy PSP, which fills a missing link between Hutton St and Glendalough Station, achieved several of the short-term key evaluation targets in the first four months of being open*

- A. The number of people riding to and from the Perth CBD increased by ~30% in the four months pre and post construction
 - 4 out of 5 people intercepted on the path ride along it weekly, and nearly half of those people are riding a bike more than ever before

- B. 9 out of 10 respondents think the new section of PSP is excellent across all measures of
 - safety
 - connectivity
 - amenity
 - accessibility
 - comfort
 - path quality

Civic Place to Erindale Road – *construction upcoming*

- A. *Baseline data collected*

- B. *Baseline data collected*

**During 2021 further interrogation of the full data set will be undertaken as a requirement of the PSP Key Investment Projects Evaluation Plan, which details specific short, medium and long-term objectives for both the Mitchell Fwy PSP projects and the Fremantle Railway PSP projects. The PSP Evaluation Program will be ongoing until late 2024 and over time, will more accurately determine the impact of investment on bike riding activity.*



Perth bike riding

Data insights: 2020 calendar year

Take away points

By October 2020, 1 in 4 Perth & Peel residents were riding their bikes weekly, which equates to approximately 486,000* total riders on the Perth metropolitan bike network every week

Data revealed 14% average growth across the entire Perth Bike Counter network, which was highest in the suburbs and driven by weekend recreational bike riding

Data suggests that elevated 'recreational' bike riding during and after the COVID lockdown period has influenced a diversified trip purpose over the remainder of the year

The newest section of path along the Mitchell Fwy PSP, which fills a missing link between Hutton St and Glendalough Station, achieved several of the short-term key evaluation targets in the first four months of being open, including nearly 50% growth at Hutton Street and almost 30% growth along the broader route

