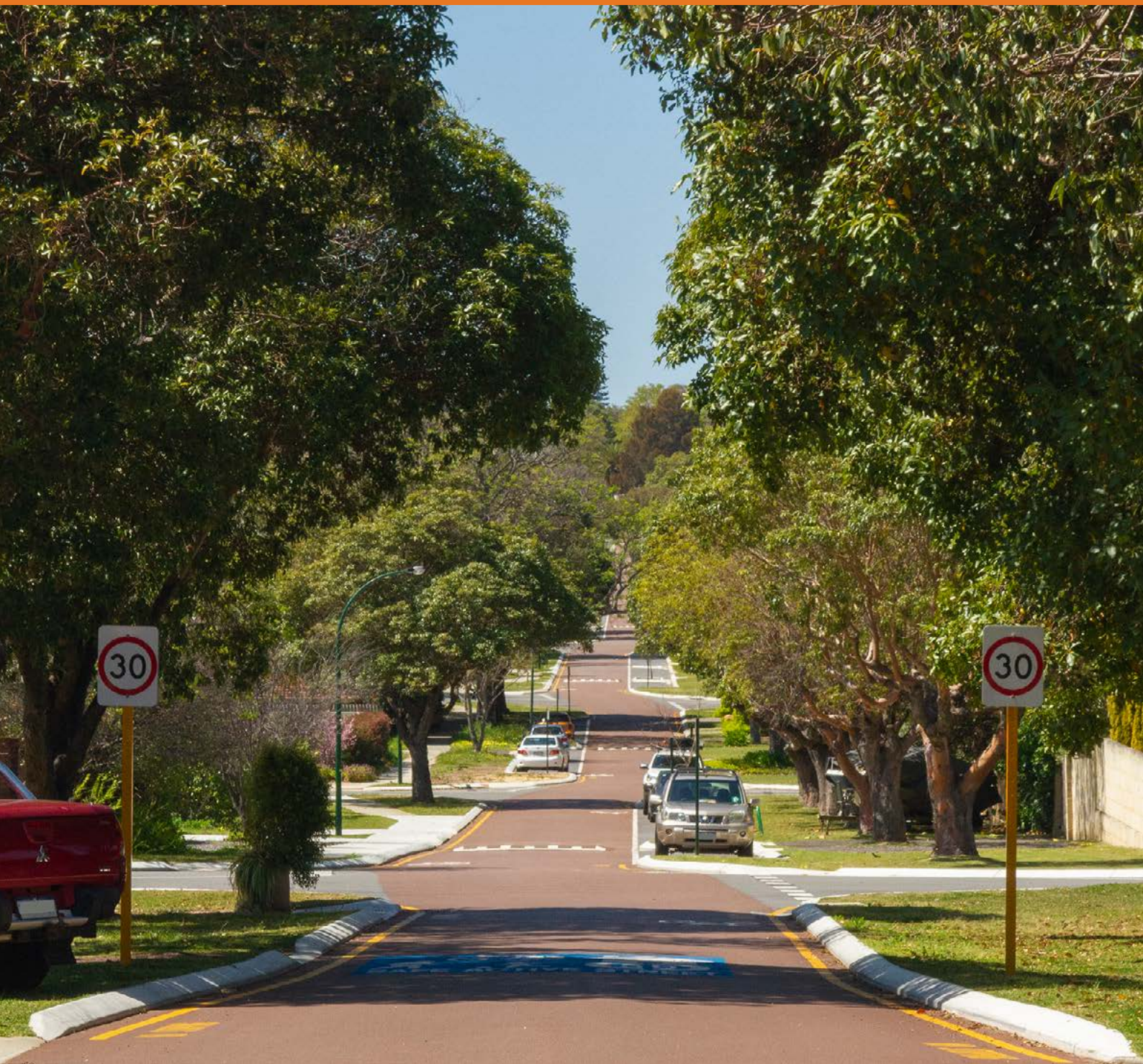
Government of **Western Australia**
Department of **Transport**

# Safe Active Streets Program:

# NEDLANDS

## Interim Evaluation Report – 2023



# INDEX



# WHAT IS THE SAFE ACTIVE STREETS PILOT PROGRAM?

**The Department of Transport's (DoT) Safe Active Streets Pilot Program commenced in 2015, and since that time has seen the construction of 12 safe active streets across Perth and regional WA, with eight completed within the program period that will form part of the evaluation of the pilot program.**

Developed in partnership with local government, safe active streets are active travel routes on quiet local streets, where speeds have been reduced to 30 km/hr to allow for a safer shared street space.

Other treatments such as narrowing road widths, slow points and intersection changes on the streets can help to create low speed residential precincts. With lower vehicle speeds, the streets aim to improve amenity for the community and are much safer for all users, such as people walking, bike riders of all ages and abilities and people driving.

Safe active street routes are also chosen as they form part of wider bicycle networks, connecting to off-road shared paths and linking community amenities such as schools, railway stations or shops.

# WHY WE COLLECT DATA

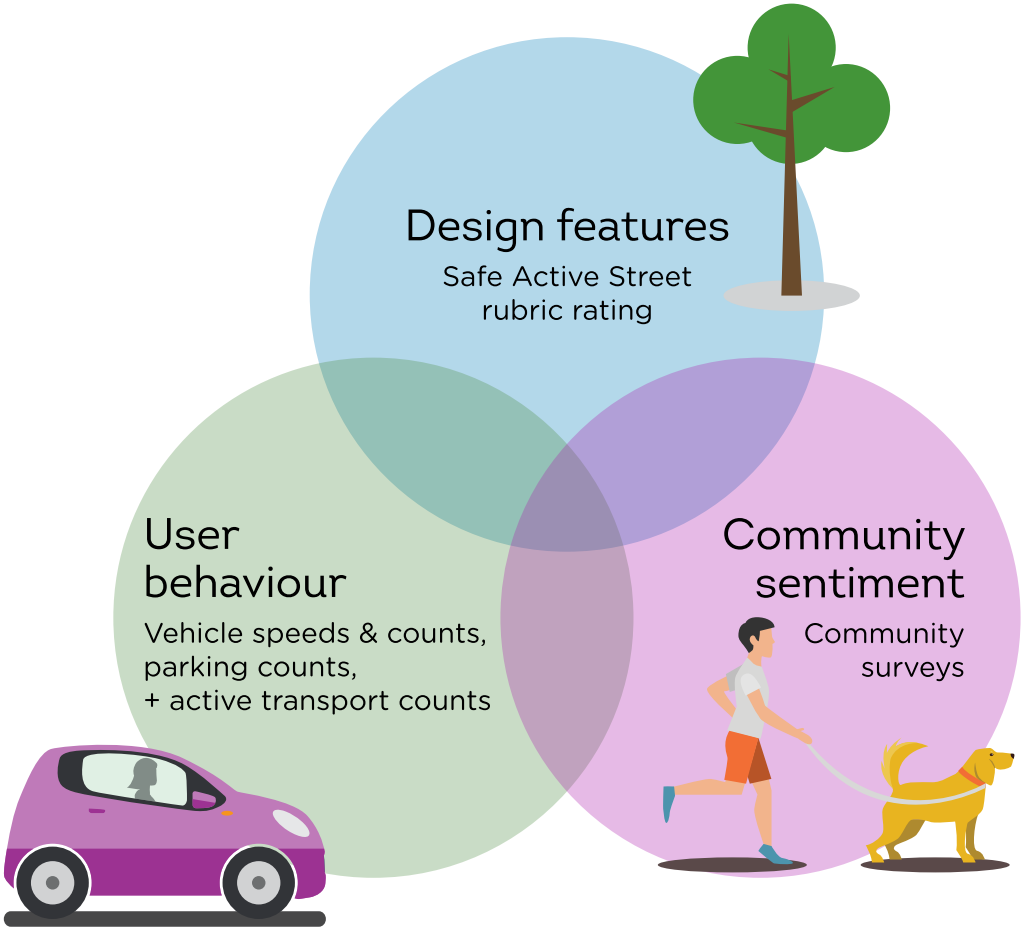
Collecting transport data helps us to better understand transport choices and behaviours. This insight assists us to guide infrastructure investment in local communities to support the growth of active transport.

Evaluation of the Safe Active Streets Pilot Program is being undertaken, including each of the eight projects involved.

Due to the complexity and differing treatments applied to each of the projects, the evaluation has been designed to collect and analyse data on three key components:

1. Design features
2. User behaviour
3. Community sentiment

The data presented in this interim evaluation report for the Nedlands Safe Active Street discusses initial insights of the available data on design features and user behaviour. Community surveys are being undertaken which will provide additional insights on community perceptions about the safe active street. Further analyses of all data will also be undertaken and incorporated into the final evaluation report due in 2024.



# CITY OF NEDLANDS, SAFE ACTIVE STREET

The Nedlands Safe Active Street is a 2.4 km route which travels along Elizabeth Street and Jenkins Avenue, providing a link across the local area from Broadway to Bay Road.

The route starts at the Broadway intersection with Elizabeth Street and travels in a westerly direction to Dalkeith Road. There is a shared path section along Dalkeith Road which then connects to Jenkins Avenue and travels west again to just before Bay Road at the Town of Claremont border.

The street forms important connections to local amenities such as the University of Western Australia and Broadway Fair Shopping Centre on the one end, Holy Rosary Catholic Church, Loreto Nedlands Primary School, Nedlands Primary School along the route and ends near Bay Road.

## Project commencement and completion dates:

- **Stage 1:** Construction started in September 2019 and was completed in March/April 2020
- **Stage 2:** Construction started in March 2020 and was completed in April 2021

# SAFE ACTIVE STREET MAP

## Unique design features

- Red asphalting
- Raised plateaus (intersection and road hump)
- Route priority
- On street parking
- Tree plantings
- Safe Active Street line marking
- New and upgraded shared path connection

## Key route destinations

- University of Western Australia
- Broadway Fair Shopping Centre
- Peace Memorial Rose Garden
- Holy Rosary Catholic Church
- Loreto Nedlands Primary School
- Nedlands Primary School
- Connection to Bay Road

## Legend

- Raised plateau
- Intersection priority change
- Shared path

# EVALUATION PROCESS

Video surveys and pneumatic tube counters were used to collect pre and post construction measures of:

- Bike rider movements
- Vehicle traffic counts
- Vehicle traffic speeds
- Vehicle parking counts

Data collection on the Nedlands Safe Active Street was undertaken:

- Pre-construction: May 2018 (video surveys) and March 2019 (tube counts)
- Post-construction: May 2021 and May 2022

This report shows the data for both post-construction periods (May 2021 and May 2022) to observe changes in usage and uptake since completion of the route.

# VIDEO SURVEYS

Video surveys were conducted on the Nedlands Safe Active Street, over different three-day periods between 6.00 am and 6.00 pm.

Video surveys involve placing video cameras at strategic locations to detect the movements of bike riders and pedestrians. Survey footage is then analysed to extract pedestrian and bike rider activity.

These surveys were conducted on the safe active street route and on adjacent intersections off-route to detect area wide trends. There are seven comparable pre and post construction sites along the route shown in this report.

# PNEUMATIC TUBE COUNTS

Pneumatic tube counters were placed at specific mid-block sections of road and at adjacent locations off-route to detect area wide trends.

Pneumatic tube counters involve rubber hoses being stretched across the road and connecting at one end to a data logger. Tube counters were used to detect vehicle traffic volumes and speeds. Vehicle volumes reflect the 85th percentile speed which is the speed at or below which 85 per cent of vehicles are travelling.

Tube counters were in place over a specified period in March 2019, May 2021 and again in May 2022 to capture the pre and post construction counts. There are nine comparable pre and post construction sites along the route shown in this report and include the vehicle volumes and speeds as an average across both weekdays and weekends.

**Both data collection methods enable DoT to observe changes in activity pre and post construction.**

**Route map with pneumatic tube counter and video survey locations**

# EXECUTIVE SUMMARY

- The Nedlands Safe Active Street has seen positive shifts since construction of the route in 2018. The positive shifts are evident in the 2022 data which indicates usage of the route continues to grow, particularly bike riding activity.
- It is encouraging to see further increases in the number of people walking and bike riding along the route, potentially for school-related trips to/from Nedlands Primary School and Loreto Nedlands Primary School in 2022.
- Loreto Nedlands Primary School and Nedlands Primary School are participating schools in the Your Move Schools Program (since 2015 and 2016 respectively). Leveraging off the walking and riding activity generated through each school's Behaviour Change Program could help to encourage use and additional walking and bike riding activity.
- The positive impacts of the current treatments are evident in the number of active transport users along the route and in the vehicle speed data, which shows large reductions in the 85th percentile vehicle speeds since completion of the safe active street.
- As vehicle speeds are still above the recommended target, additional signage may need to be considered to further reduce 85th percentile speeds, particularly as the most recent 2022 data indicates vehicle speeds have increased at several sites, which could be attributed to users becoming more familiar with the route. To counteract this behaviour, random police enforcement could be encouraged and additional 30 km/hr repeater signs should be placed in strategic locations to emphasize the speed restrictions.
- Community perception data will help to ascertain the breadth and depth of positive or negative community sentiment for the Nedlands Safe Active Street.
- The Safe Active Streets Pilot Program Evaluation Report will include statistical analyses of the full dataset and will be available in 2024.

# KEY INSIGHTS

## Walking and bike riding activity

**The number of people walking during the week increased at four sites (out of seven).**

- Increases were seen at the sites located along the middle of the route on Elizabeth Street and Jenkins Avenue, with a growth of between 21 and 96 people walking per day in 2021. The data collected at these four sites in 2022 indicates an increase in people walking along the route, with a growth of between 21 and 169 people per day in 2022.
- Increases were observed at Elizabeth Street and Bruce Street, and at Elizabeth Street and Webster Street, likely driven by the people going to and from Nedlands Primary School and Loreto Nedlands Primary School. Encouragingly, the number of people walking, possibly for school-related trips to these two primary schools, has grown in 2022.
- A decrease in the number of people walking during the week was observed at either end of the route, at Elizabeth Street and Broadway and at Jenkins Avenue and Bay Road, as well as at the 'dog-leg' on Dalkeith Road.
- The decrease in walking activity at the Broadway end could be due to the reduction of UWA student activity in 2021 as a result of COVID-19 and international travel restrictions. This 'loss' has decreased in 2022.

**Bicycle riding observed increases along the safe active street at six sites (out of seven) during the week.**

- Large increases in bike riding activity were observed at all sites along the route, except at Elizabeth Street and Broadway which, as seen in the number of people walking, could be attributed to the reduction of UWA student activity due to COVID-19 and international travel restrictions.
- The largest increases in activity were at Elizabeth Street and Bruce Street and Jenkins Avenue and Vincent Street.
- In 2022, an increase in bike riding activity continues to be seen across all six sites (out of seven). Activity along Elizabeth Street has remained consistent. Although Elizabeth Street and Bruce Street observed the largest increases in activity overall, a slight decrease is seen in 2022. Bike riding activity along Jenkins Avenue has seen a slight increase.

The tables below indicate the additional number of people walking and bike riding post construction.

## Average weekday user behaviour

This data compares changes in activity from May 2018* to May 2021.

| Comparable sites | Additional people walking | Additional bike riders |
|---|---|---|
| Elizabeth Street and Broadway | -561 | -25 |
| Elizabeth Street and Bruce Street | 96 | 83 |
| Elizabeth Street and Webster Street | 21 | 48 |
| Elizabeth Street and Dalkeith Road | -25 | 46 |
| Jenkins Avenue and Vincent Street | 21 | 53 |
| Jenkins Avenue and Taylor Road | 46 | 45 |
| Jenkins Avenue and Bay Road | -184 | 17 |

This data compares changes in activity from May 2018* to May 2022.

| Comparable sites | Additional people walking | Additional bike riders |
|---|---|---|
| Elizabeth Street and Broadway | -120 | -21 |
| Elizabeth Street and Bruce Street | 169 | 70 |
| Elizabeth Street and Webster Street | 34 | 49 |
| Elizabeth Street and Dalkeith Road | -20 | 36 |
| Jenkins Avenue and Vincent Street | 21 | 60 |
| Jenkins Avenue and Taylor Road | 61 | 50 |
| Jenkins Avenue and Bay Road | -184 | 22 |

* The pre-construction data (May 2018) has been taken from the report provided by the contractor who collected the data, not from the raw data files as per the post-construction data.

# Vehicle traffic volumes and speeds

**Vehicle volumes declined at all sites along the safe active street.**

- A large decrease in vehicle volumes has been observed at all nine sites along the route post-construction. Vehicle volumes have continued to decline in 2022 at all sites except one (Jenkins Avenue between Doonan Road and Vincent Street).
- At the counter site located outside Nedlands Primary School, vehicle volumes have been reduced by around 338 vehicles per day in 2021 and by 376 vehicles per day in 2022.
- The section of safe active street along Dalkeith Road between Jenkins Avenue and Elizabeth Street, which is the 'dog-leg' section of the safe active street, has the highest vehicle volumes overall, due to its connection to/from the main secondary distributor (i.e., Stirling Highway), however volumes decreased after completion of the route and have declined further in 2022.


**A reduction in (85th percentile) vehicle speeds was observed at all sites.**

- The 85th percentile vehicle speeds have seen a reduction across all nine sites along the route.
- In 2021, the two sites located at Elizabeth Street between Archdeacon Street and Bruce Street and at Jenkins Avenue between Bulimba Road and Taylor Road, achieved the target of 37 km/hr or below.
- The 2022 data indicates that although the 85th percentile vehicle speeds remain lower than pre-construction, the 85th percentile speeds, when compared to the 2021 data, have increased at five sites, mostly located towards each end of the safe active street.

## Daily average vehicle volumes (weekdays and weekends)

| Comparable sites | Pre-construction (2019) | Post-construction (2021) | Post-construction (2022) |
|---|---|---|---|
| Elizabeth Street: Viewway – Kingsway | 842 | 504 | 466 |
| Elizabeth Street: Archdeacon Street – Bruce Street | 1,294 | 434 | 404 |
| Elizabeth Street: Webster Street – Thomas Street | 604 | 344 | 308 |
| Elizabeth Street: Florence Road – Dalkeith Road | 625 | 444 | 368 |
| Dalkeith Road: Jenkins Avenue – Elizabeth Street | 3,132 | 2,872 | 2,683 |
| Jenkins Avenue: Mountjoy Road – Dalkeith Road | 1,505 | 1,130 | 1,068 |
| Jenkins Avenue: Doonan Road – Vincent Street | 961 | 756 | 848 |
| Jenkins Avenue: Bulimba Road – Taylor Road | 706 | 579 | 537 |
| Jenkins Avenue: Bay Road – Rockton Road | 621 | 611 | 563 |

## Daily average (85th percentile) vehicle speeds

| Comparable sites | Pre-construction (2019) | Post-construction (2021) | Post-construction (2022) |
|---|---|---|---|
| Elizabeth Street: Viewway – Kingsway | 40 km/hr | 38 km/hr | 40 km/hr |
| Elizabeth Street: Archdeacon Street – Bruce Street | 46 km/hr | 37 km/hr | 40 km/hr |
| Elizabeth Street: Webster Street – Thomas Street | 48 km/hr | 43 km/hr | 43 km/hr |
| Elizabeth Street: Florence Road – Dalkeith Road | 44 km/hr | 42 km/hr | 44 km/hr |
| Dalkeith Road: Jenkins Avenue – Elizabeth Street | 55 km/hr | 44 km/hr | 43 km/hr |
| Jenkins Avenue: Mountjoy Road – Dalkeith Road | 46 km/hr | 40 km/hr | 40 km/hr |
| Jenkins Avenue: Doonan Road – Vincent Street | 46 km/hr | 39 km/hr | 35 km/hr |
| Jenkins Avenue: Bulimba Road – Taylor Road | 42 km/hr | 36 km/hr | 38 km/hr |
| Jenkins Avenue: Bay Road – Rockton Road | 46 km/hr | 39 km/hr | 39 km/hr |

## Further information

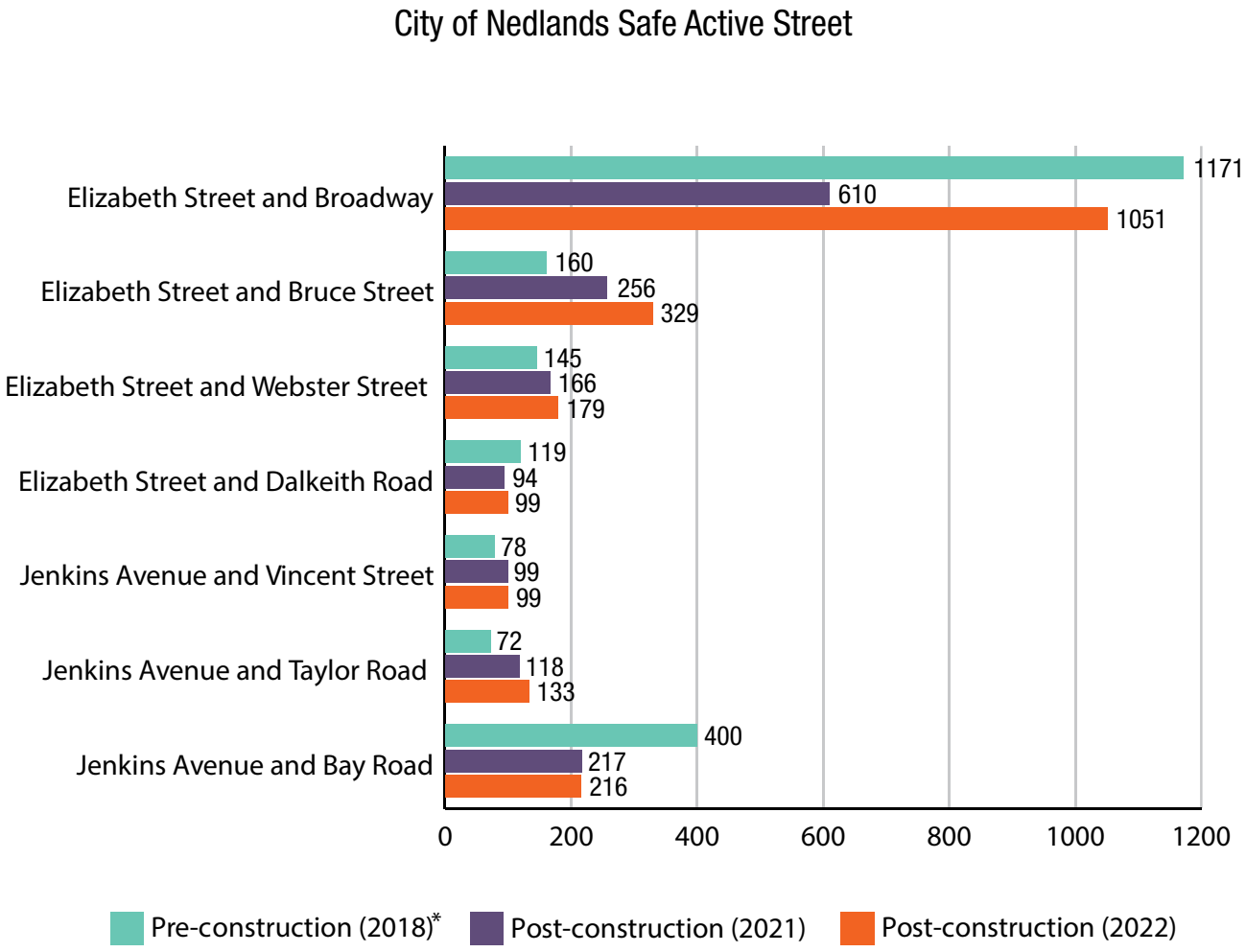
More information on the Safe Active Streets Program can be found on the DoT website: www.transport.wa.gov.au

# APPENDIX

## Chart 1

### Average weekday walking activity

Pre and post construction (raw counts)

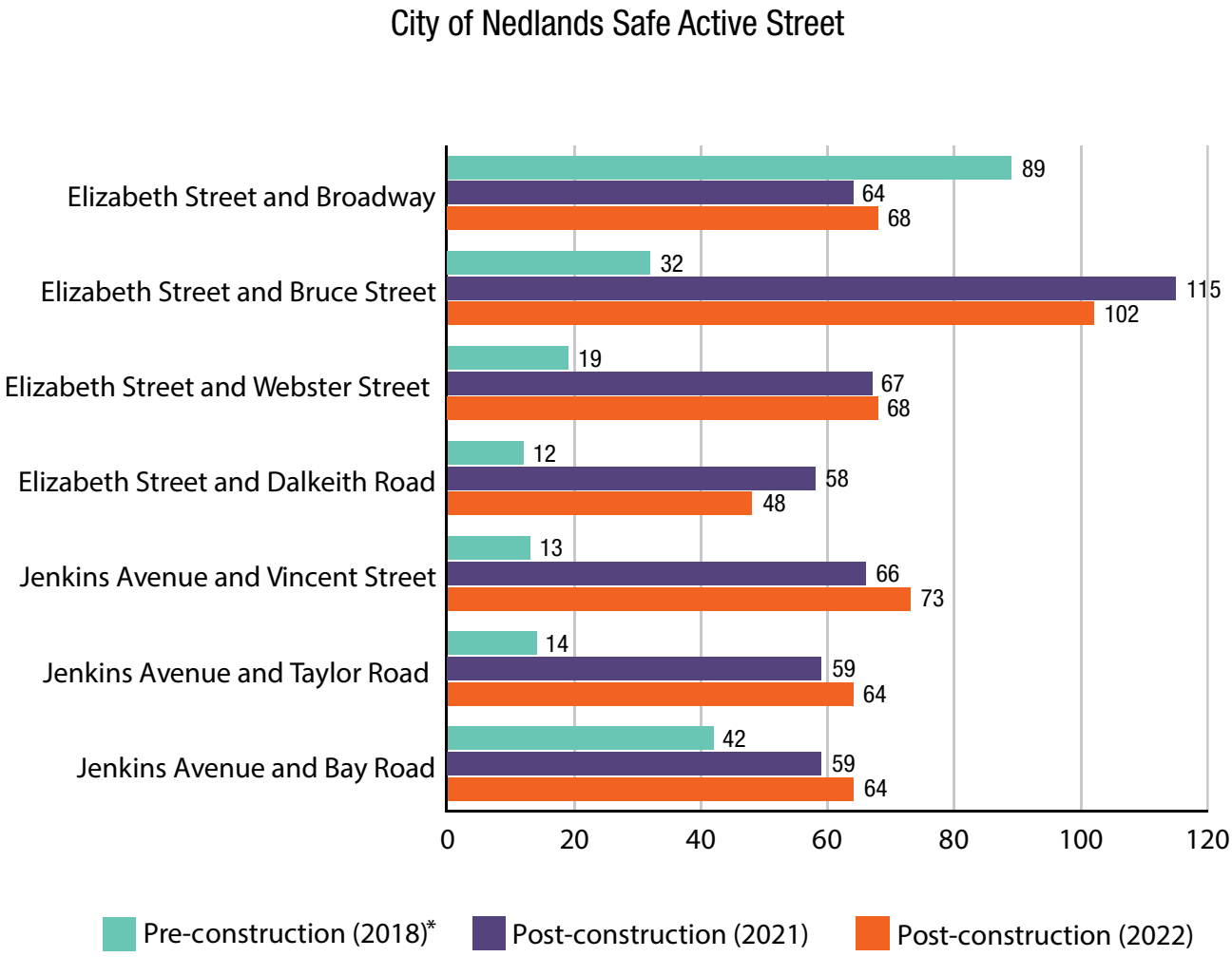



* The pre-construction data (May 2018) has been taken from the report provided by the contractor who collected the data, not from the raw data files as per the post-construction data.

## Chart 2

# Average weekday bike riding activity

## Pre and post construction (raw counts)



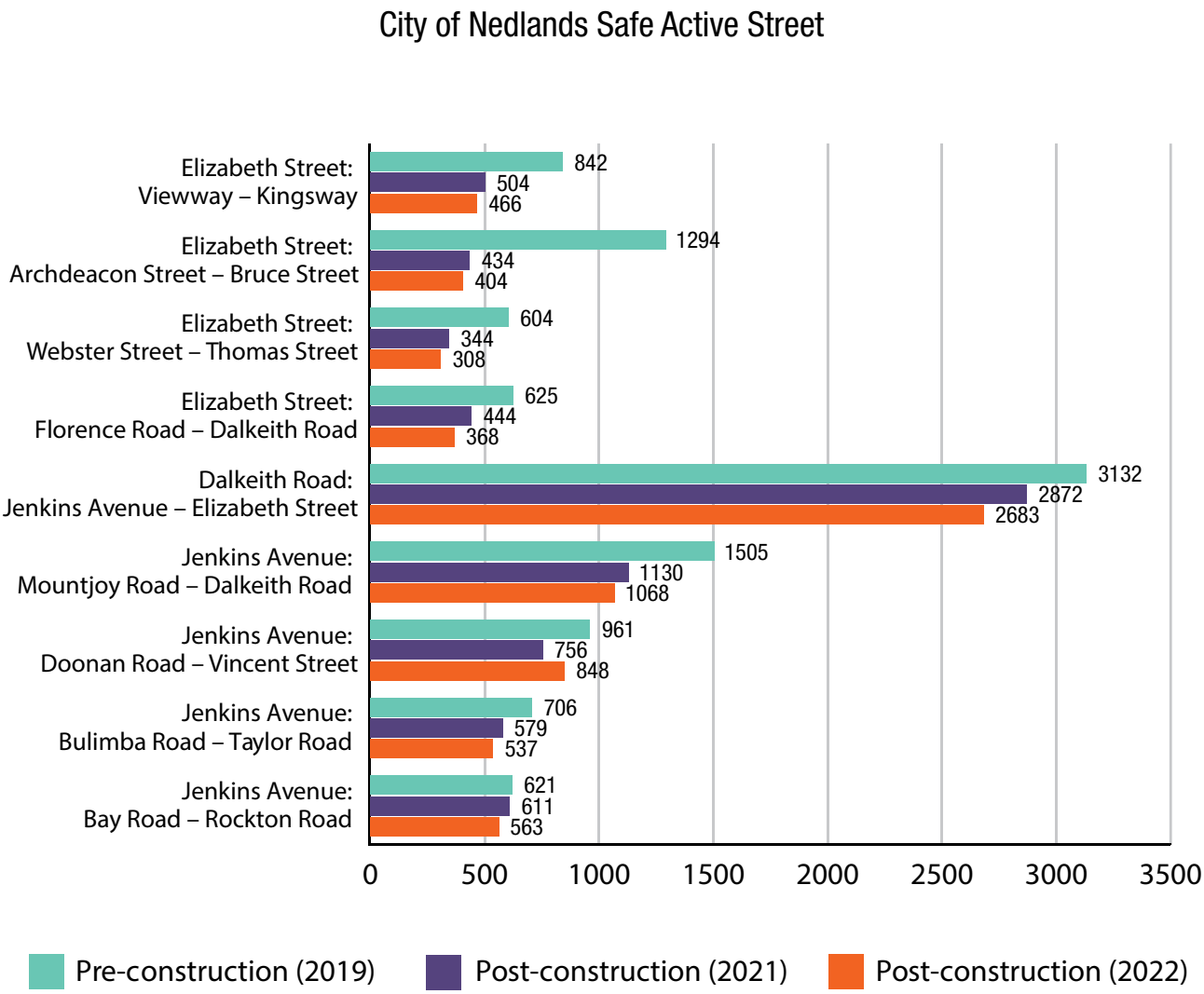

* The pre-construction data (May 2018) has been taken from the report provided by the contractor who collected the data, not from the raw data files as per the post-construction data.

## Chart 3

# Daily average vehicle volumes

## Number of vehicles pre and post construction

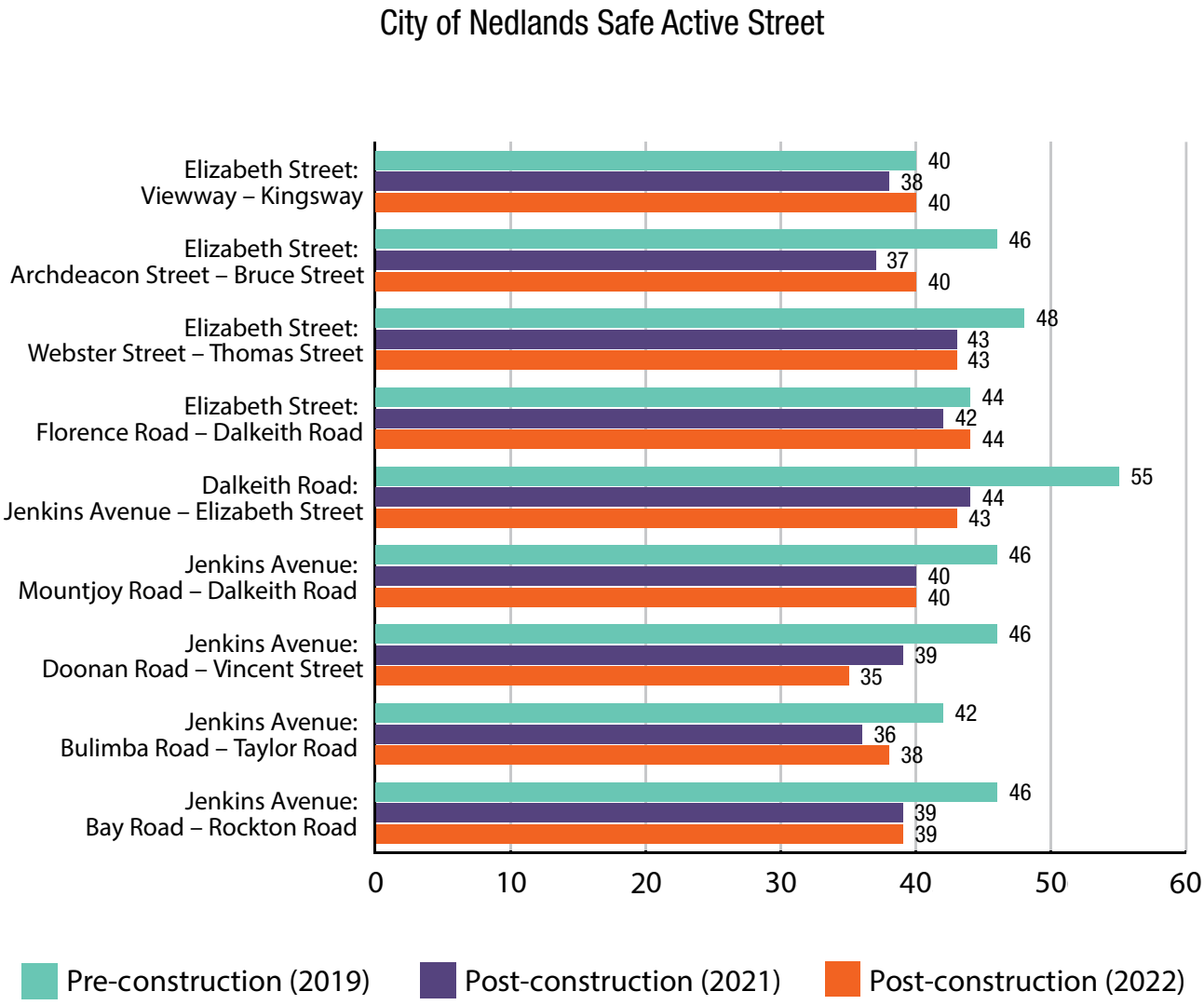
(across both weekends and weekdays)



## Chart 4

# Daily average (85th percentile) vehicle speeds

## Pre and post construction

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