Government of **Western Australia**
Department of **Transport**
and Major Infrastructure

Empowering a
thriving community

GERALDTON SAFE ACTIVE STREET

Final Route-Level Evaluation Report

Acknowledgement of Country

The Department of Transport and Major Infrastructure acknowledges the Traditional Custodians of the land throughout Western Australia and pay our respects to Elders past and present.

We acknowledge the members of all Aboriginal communities, their cultures and continuing connection to Country throughout the State.

About this report

Alternative formats

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SAFE ACTIVE STREETS PILOT PROGRAM

The Department of Transport and Major Infrastructure (DTMI) worked with local governments between 2015 and 2023 to develop, trial and evaluate safe active streets (SASs).

SASs use local area traffic management treatments to reduce car speeds to 30 km/h and create environments that encourage more people to walk, wheel and ride in their communities.

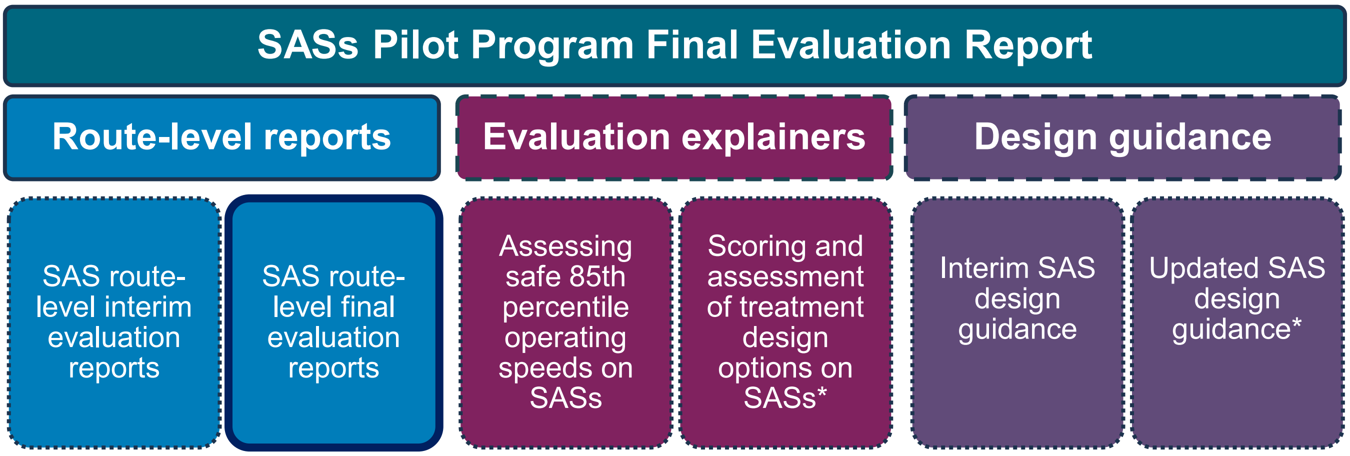
The SASs Pilot Program in Western Australia (WA) was motivated by research which showed that a fear of sharing the road with motor vehicles was a key barrier to many people riding bikes more often. Local research, including a large community-wide cycling survey undertaken in 2015 by the Royal Automobile Club of WA[1] and the 2015 Auditor General's Report into Safe and Viable Cycling,[2] highlighted the need for quieter and more comfortable local bicycle routes to remove barriers to active transport and the perceived lack of safety on local roads.

An evaluation plan and framework were established to test whether redesigning a street using traffic management treatments could reduce vehicle volumes and speeds, leading to increased active travel, and positive community sentiment towards the SAS.

Evaluation document suite

This document forms part of the SASs Pilot Program Evaluation. It provides a summary of results across three key change indicators for one of the nine evaluated projects, and a discussion of how the route performed overall.

The results outlined in this final route-level report should be read in conjunction with the SASs Pilot Program Final Evaluation Report,[3] and other supporting material including methodology explainers and SASs design guidelines.



Suite of interrelated documents to be read in conjunction with the Geraldton SAS final route-level report

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[1] RAC – WA, 2015. RAC Cycling Survey: 2015. Royal Automobile Club of WA, Perth, WA.
[2] OAG – WA, 2015. Western Australian Auditor General's Report: Safe and Viable Cycling in the Perth Metropolitan Area. Office of the Auditor General, Perth, WA.
[3] DTMI, 2026. Safe Active Streets Pilot Program – Final Evaluation Report. Prepared by the Department of Transport and Major Infrastructure. Perth, WA.
* Document to come.

CITY OF GERALDTON SAFE ACTIVE STREET

Executive summary

The 1.92 km Railway Street SAS route in Geraldton links people from Spalding Park Reserve in the north to St Lawrence's Primary School in the south. Consultation, design and delivery spanned three years between 2020 and 2022.

This SAS route generated broadly positive outcomes.

Design treatment changes that influenced speed and vehicle volume reductions on the Geraldton SAS contributed to positive road safety outcomes across the route. This saw increased rates of active travel along the SAS.

Despite these positive user behaviour outcomes, the route generated negative sentiment from the community.

Key project insights

Overall, the design treatments and measures applied on the Geraldton SAS led to positive results for user behaviour. Walking and bike riding increased on both the SAS and control streets, to a significantly higher proportion on the SAS. After construction, vehicle movements along the SAS route dropped considerably.

The fastest vehicle speeds (85th percentile) reduced overall on the SAS route. Speeds on part of the SAS closest to the primary school did not reduce effectively, however, showing that speed reducing measures were insufficient and there was potential for further speed reducing treatment improvements at some locations. Though a review of crash data was inconclusive, the road safety experience of users may be limited without further reductions in 85th percentile speeds on all route segments.

Results for community sentiment were strongly negative, indicating a missed opportunity to continue community consultation and engagement after construction. Low community sentiment post construction, combined with positive route outcomes, indicates dissonance between community understanding of the design intentions and community use of the route.

Project recommendations

Recommendations to improve outcomes on this SAS project, informed by insights summarised in the SASs Pilot Program Final Evaluation Report, include:

- Incorporating activation, consultation and evaluation (ACE) principles[4] throughout all phases of project planning, design, delivery and post construction review.
- Lowering 85th percentile speeds consistently across all segments of the route to within the preferred operating range, by considering additional road treatments as required.
- Applying vertical or horizontal deflection treatments 80-100 m apart for maximum benefit realisation and consistent reduction of unsafe speeds.

[4] DTMI, 2023. WA Bicycle Network Grants Program: WABN Grants Program Resources - Activation, Consultation and Evaluation (ACE) Guidance. Department of Transport and Major Infrastructure. Perth, WA.

Program insights

The SASs Pilot Program was successful in trialling a new approach to road safety and active transport on suburban streets. The program has attracted national and international interest, and the SAS concept is being taken up by local authorities in WA and across Australia.

The SASs Pilot Program Final Evaluation Report detailed the rich array of insights generated through the pilot program, which provide context and relevance to the following individual project key insights and recommendations.

Theory of change supported

- Combining comprehensive physical interventions with a posted speed limit of 30 km/h: increases active travel (walking and bike riding).
- Reduces vehicle volumes and speeds, making streets safer for all users.

Effective design features identified

- Road width narrowing and traffic calming treatments spaced every 80–100 m: these measures physically slow vehicles and change vehicle direction, leading to:
  - lower traffic volumes and speeds
  - increased bike riding and walking.

Critical drivers of benefit realisation determined

- Route selection: must form a direct or indirect connection to key attractors (activity centres, shops, schools, stations, recreation areas) and form part of the long-term cycle network (LTCN).
- Design features: narrowed road widths and treatments 80–100 m apart.
- Cost efficiency: projects costing $600,000 – $1.2 million per km likely achieve a benefit cost ratio (BCR) >1, if the above conditions are met.

Application of ACE principles is essential

- Activation: built infrastructure reflects social needs and the desires of people who will use it.
- Consultation: engagement integrated throughout the project lifecycle is a form of activation and enables community consultation.
- Evaluation: impact measured against anticipated outcomes.

Application of results into future program delivery

The SAS Design Guidance[5] summarises the range of measures that can be applied and the key factors that have been found through this pilot program to influence user behaviour positively. These principles and guidelines will help local governments and practitioners plan and activate routes, consult with impacted communities and evaluate outcomes, whilst considering the application of design treatments and measures appropriate to their local context.

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[5] DTMI, 2025. Planning and Designing for Active Transport: Safe active street design guidance. Prepared by the Department of Transport and Major Infrastructure. Perth, WA.

PROJECT OVERVIEW

The 1.92 km Railway Street SAS route in Geraldton links people from Spalding Park Reserve in the north to St Lawrence's Primary School in the south.

The route starts along a 500 m shared path from Spalding Park Reserve, which crosses the Chapman River and then connects to Railway Street, which heads south to St Lawrence's Primary School and connects further south to the Geraldton commercial centre. This route also includes connections to Bluff Point Primary School to the west and the Spalding residential precinct to the east.

This SAS is the only regional site included in the pilot program.

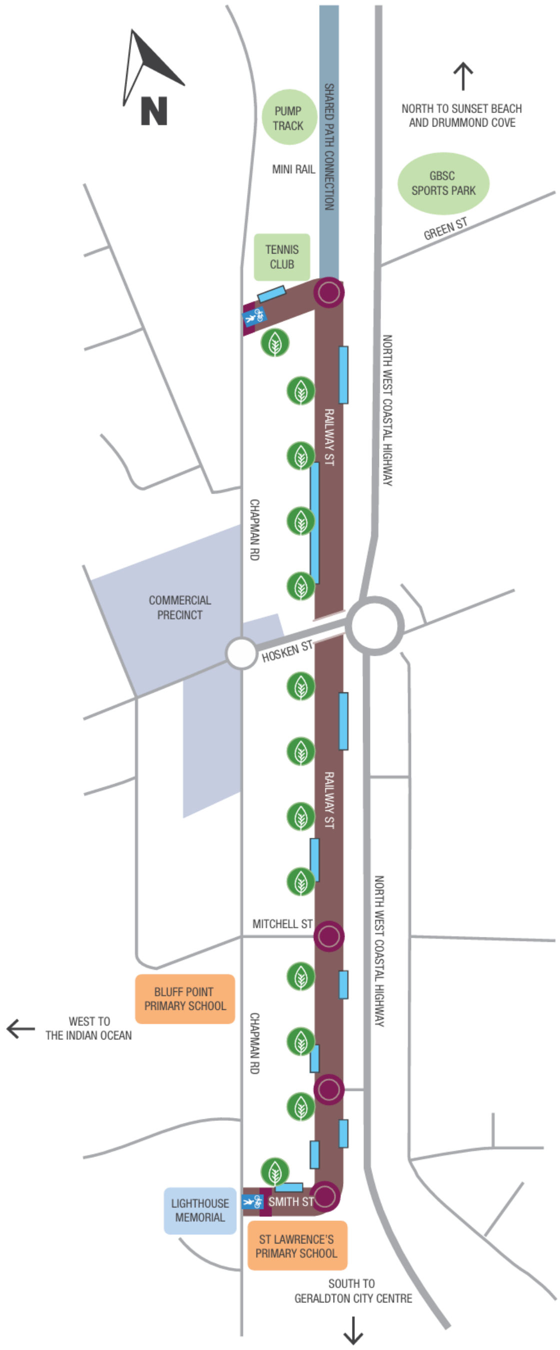
City of Geraldton SAS project map

Key route destinations

- St Lawrence Primary School
- Spalding Park Reserve path (via northern spur)
- Chapman River Regional Park (via northern spur)
- Bluff Point Shops (via western spur)
- Bluff Point Primary School (via western spur)
- Spalding Residential Precinct (via eastern spur)

Unique design features

- Reduced 5 m carriageway width
- Raised plateaus
- Formalised on-street parking bays (alternating sides)
- Buffer zones near schools to prevent door obstruction
- Tree nibs and additional plantings for shade
- New 500 m shared path through Spalding Park



Legend

- Raised plateau
- Slow point and parking bays
- Tree planting

Geraldton SAS route map

Timelines

Delivery

- Community consultation: 2020
- Construction: September 2021-June 2022
- Lines and signs completion: July 2022
- Official opening: August 2022

Evaluation:[6]

- Pre-construction data collection (user behaviour): November-December 2020
- Post-construction data collection (user behaviour): November-December 2022
- Post-construction data collection (community sentiment): October-November 2022
- Interim evaluation report: 2023
- Final evaluation report: 2026

Segments

For monitoring and analysis, the SAS was split into 'segments' based on differences in form of the existing route and treatments applied during delivery of the SAS. This route was separated into segments as follows:

1. Railway Street (Green Street to Smith Street)

During analysis of user behaviour, segment 1 was further split due to different patterns in usage observed at either end of that long segment, making sub-segments:

a) South of Hosken Street
b) North of Hosken Street

Map of the Geraldton SAS route showing 'segments' used for data analysis

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[6] Note: Between data collection periods, city-wide travel patterns were disrupted by COVID-19 lockdowns. The post-construction SAS data collection periods, however, were chosen because DTMI's network monitoring indicated they were much less affected by these disruptions. Any remaining impacts are expected to have influenced both the treatment (SAS) and control streets equally.

WHY WE COLLECT DATA

Evaluating a project by collecting data on people's behaviour and sentiment helps us to determine:

- whether the aims of a project have been achieved
- what combinations of interventions were most effective
- whether further improvements could still be made to improve outcomes.

These insights help to guide infrastructure investment in local communities that support the growth of active transport.

SASs Pilot Program

The SASs Pilot Program trialled unique combinations of design features that reflected local community needs and contexts, while also complementing each local government's approach to building an integrated active transport network.

Nine SAS projects, including this one, were included in the evaluation study. For more information on the evaluation methodology, theory of change, and overall program insights see the SASs Pilot Program Final Evaluation Report.

Project aims

The following aims were investigated for each project included in the evaluation study, and results were compared across projects to derive program level insights that could lead to improvements in design guidelines and future SAS delivery.

1. Reduce motor vehicle numbers
2. Reduce 85th percentile speeds to within acceptable operating thresholds[7]
3. Increase the number of riding and walking trips made throughout the week
4. Increase the number of people of all ages and abilities making local trips by riding and walking
5. Influence user, resident and wider community perceptions of SAS routes as safe and comfortable places to walk, wheel and ride.

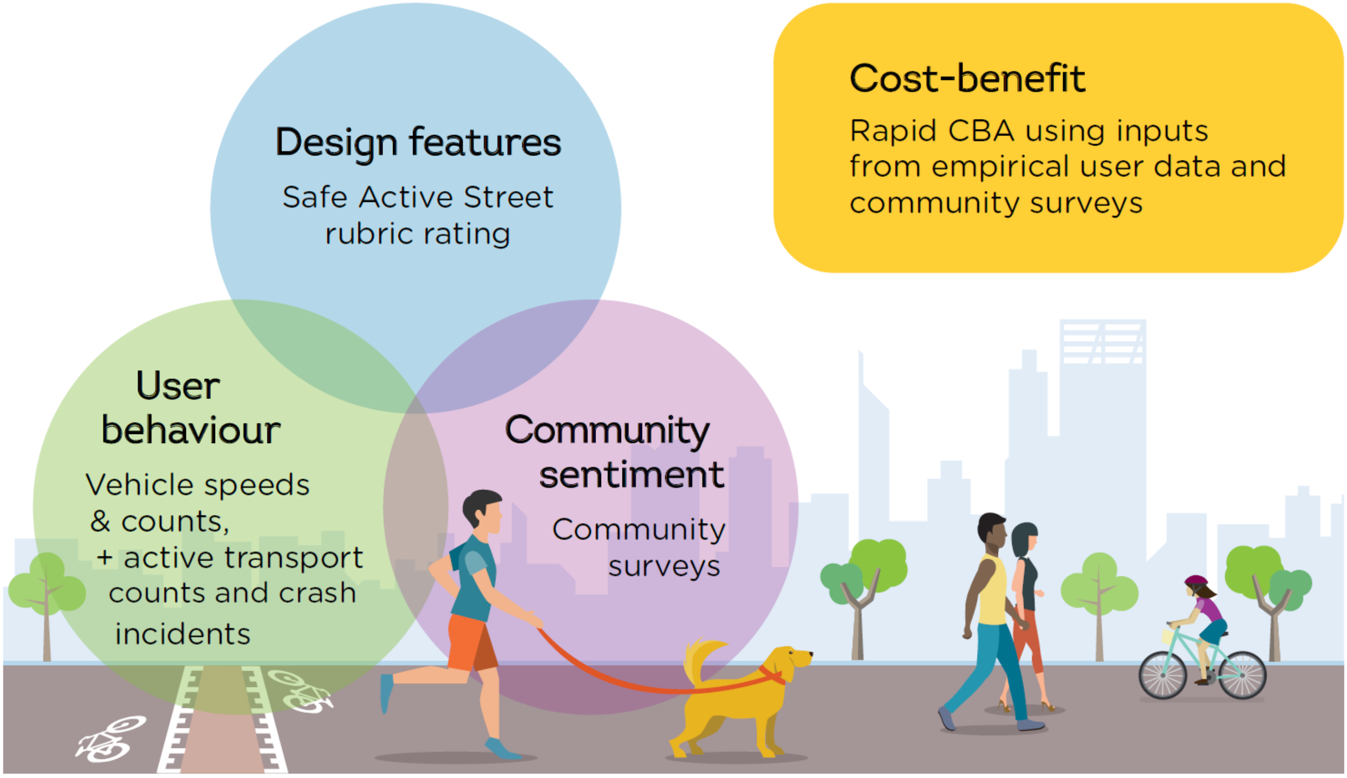
Evaluation framework

A comparative impact evaluation methodology was developed to collect and analyse data on three key change indicators for each SAS:

- **Design features** – scores to quantitatively differentiate between the types and scale of features, treatments and supporting measures applied to the route.
- **User behaviour** – vehicle counts and speeds (using pneumatic tube surveys), and active travel counts (using video surveys), collected pre- and post-construction. Small samples of available crash data were reviewed and discussed at the project level only, to aid interpretations of other data.
- **Community sentiment** – qualitative data on sentiment and perceptions, collected via community, resident and user surveys post-construction.

[7] DTMI, 2026. Planning and Designing for Active Transport: Explainers - Assessing 85th percentile speeds on safe active streets. Prepared by the Department of Transport and Major Infrastructure. Perth, WA.

At the program level, the evaluation framework included a fourth key indicator: cost benefit. The SASs Pilot Program Final Evaluation Report includes discussion of outputs from a cost benefit analysis conducted on data from each of the nine evaluated projects and provides a summary of the factors that influenced whether a project received a BCR >1, indicating a positive return on investment.



Data sources for each safe active street key indicator, illustrated to show theoretical interactions

OUTCOMES

Design features

Evaluation of the design features applied on each SAS route was a complex task due to the wide range of measures and treatments available, which could be chosen to influence different unique, yet complementary effects on user behaviour and community sentiment.

Assessment rubric

To assess the types and scale of treatments and supporting measures applied in each pilot project, a consistent scoring rubric and guidelines were developed for the SASs Pilot Program, which required a group of invited transport engineers and planners to agree on scores during focus group sessions.

Twenty-one criteria were identified across five design categories:

1. Active transport infrastructure
2. Connectivity
3. Traffic calming
4. Parking bay infrastructure
5. Placemaking and legibility.

Through facilitated consultation, design scores (0-4) were determined, where scores reflected the degree of improvement applied for each criterion per route segment assessed. Total average scores per route segment and category (grouping of criterion) could then be interpreted as:

<1 = minimal improvements	1-2 = moderate improvements	2-3 = major improvements	>3 = substantial improvements

Results

Table 1 provides a breakdown of scores per route segment and design category.

Overall, the route averaged a design score of 2.38, indicating major improvement was achieved across the whole route.

- The route score was brought up by substantial improvements to 'parking bay infrastructure', with on-street parking formalised on alternating sides, and substantial improvements to 'active transport infrastructure', including new and upgraded (widened) sections of footpaths.
  - Use of formalised 'parking bay infrastructure' had a traffic calming effect by narrowing the road carriageway and should be considered as a supportive design feature for the goal of reducing traffic volumes and speeds.
- Scores for 'traffic calming' were moderate with some narrowed slow points installed along the route to align with formalised parking provision, however, these remained too wide to sufficiently constrain vehicle movements. Nevertheless, carriageway narrowing provided by formalised parking would have contributed to reduced vehicle speeds and volumes.
- Scores for 'connectivity' were moderate, which for Perth SASs was an indication of poor route selection, however, in the regional context this should be considered more cautiously.
  - The route linked directly to a local primary school and indirectly to a cluster of local shops and a district level recreational area (Spalding Park) with sports club, miniature railway, pump, jump and technical mountain biking tracks, and playground.

– A route would score higher for ‘connectivity’ if additional key destinations were included along and at either end of the route, such as a shopping centre, council offices and community halls, and if connections to other transport options such as shared paths or bus interchanges were incorporated.
– The SASs Pilot Program Final Evaluation Report determined that route selection is a critical driver of benefit realisation, with direct influences on current and latent demand.

Table 1: Design scores per category, segment and overall for the Geraldton SAS route*

Segment	Active transport infrastructure	Connectivity	Traffic calming	Parking bay infrastructure	Place-making and legibility	Total*
Segment 1: Railway St (Green St to Smith St)	3.25	1.67	1.57	3.5	2.8	**2.38**
Overall average route score	**3.25**	**1.67**	**1.57**	**3.5**	**2.8**	**2.38**

*Total average scores per segment and category can be interpreted as: <1 = minimal improvements, 1-2 = moderate improvements, 2-3 = major improvements, >3 = substantial improvements.

Examples of applied design treatments

Bus and car parking adjacent to school

Planted build outs, formalised parking, footpath upgrade

Raised intersection plateau and 30 km/h signage

Road hump and blue patch at entry point

User behaviour

Evaluation of user behaviour followed a comparative impact approach, with before-after, control-intervention (BACI) data collection design.

Data collection design

A BACI data collection design was applied to differentiate between the effects of interventions applied on the treatment route and changes that may have occurred 'naturally' in the surrounding area.

Data was collected before construction at carefully selected sites on the SAS (treatment) and at comparative sites on similar nearby streets (control) and repeated at the same sites after construction at consistent times of the year to minimise influence of seasonal variation.

With a BACI design, traffic and movement flow on control streets did not need to match with treatment streets, and an appropriate an analysis of change (odds ratio) was determined.

Odds ratio analysis

To assess changes in counts of vehicles, walkers and bike riders on the treatment compared to control routes, a statistical measure of probability was applied known as an 'odds ratio', which compares the odds of an outcome occurring in one group to the odds of it occurring in another group (regardless of differences in raw counts across groups).

Odds ratios were used to estimate whether the outcomes observed on the SAS route were likely attributable to the SAS, unlikely attributable, or consistent with trends observed on the control streets.

Scores range from 0-2 and sometimes higher, with scores >1 indicating higher odds of the treatment influencing the outcome and scores <1 indicating decreased odds. It is common, however, that during interpreation of results, a middle range is determined that indicates a neutral or indeterminate result. During analysis of the SAS user behaviour data, a middle range of 0.93 and 1.08 was determined as neutral change or change on the SAS that was consistent with trends observed on the control routes.

Assessing 85th percentile speeds

It was not suitable to apply odds ratios for 85th percentile speeds because the posted speeds were intentionally reduced on the SAS route. Instead, a method was developed specifically to assess the effectiveness of the lowered speed limits and changed street conditions of SAS routes on driving behaviour, through which DTMI identified an acceptable operating range and upper bound for 85th percentile speeds. For more information, see the supporting document: Assessing Safe Operating Speeds on 30 km/h Streets.

Calculating average daily results

Vehicle counts and speeds were detected across 14 consecutive days, including weekdays and weekends, at consistent seasonal and temporal periods before and after SAS construction. Active transport counts were detected across three weekdays and one weekend day, at consistent seasonal and temporal periods before and after SAS construction.

Data collection periods were carefully selected to avoid local area events, public holidays and school holiday periods. If collection technology failed, samples were repeated immediately.

Calculations of average daily results were undertaken by:

i. averaging the available weekday and weekend data per collection period
ii. applying weightings for the number of weekday and weekend days per week
iii. adding the result to determine average weekly activity
iv. dividing by seven to achieve an average daily estimate.

This method was applied to achieve consistency across the available dataset, and smooth out any day-of-the-week fluctuations that may have occurred. In this way, data between control and treatment sites, and across SAS locations could be compared consistently.

Vehicles

Method

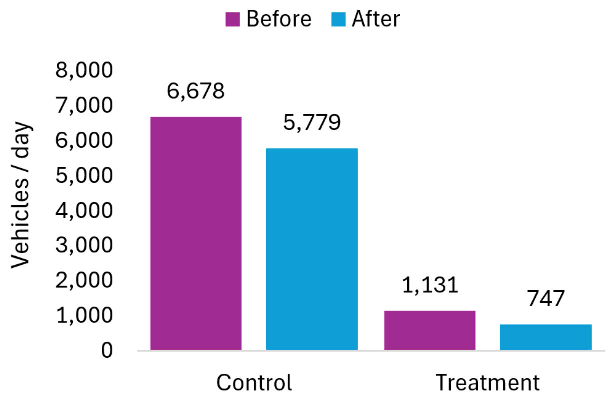
Pneumatic tube counters were used to detect vehicle traffic volumes and speeds. They were placed at strategically selected midblock locations on the SAS route (treatment) and comparable locations on adjacent streets (control). Depending on segment length, between 1 - 4 counters were placed on each.

Results

Vehicle volumes - overall

- The treatment route (-34 per cent) and control streets (-13 per cent) both experienced a reduction in vehicle traffic, with counts on the treatment route dropping by a larger proportion, suggesting that drivers were discouraged from using the route.
- Comparing changes on the treatment and control routes, the odds ratio generated a high score of 1.24, **indicating the SAS was likely responsible for the decreases observed enroute**.

Figure 1: Geraldton – average daily vehicles

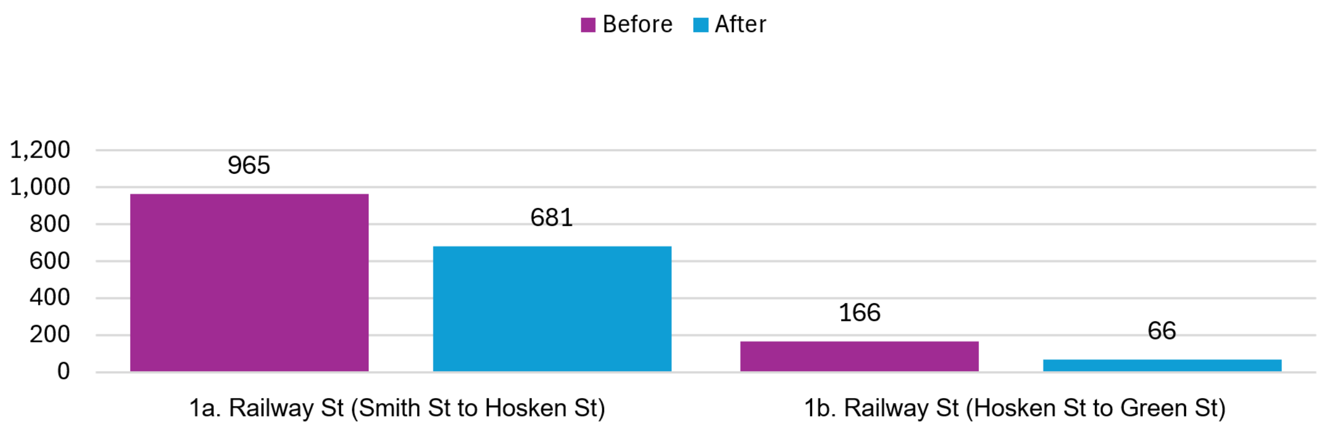


Vehicle volumes on the SAS decreased to a relatively larger proportion than control streets. The odds ratio indicated the decrease in vehicle volumes on the SAS route after construction was likely attributable to the SAS when compared with trends on control streets.

Vehicle volumes – segment comparison

- Vehicle counts reduced on all segments.
  - The most dramatic reduction was observed on segment 1a, between Smith Street and Hosken Street, which includes access to the primary school and suggests probable reductions in vehicle use for student pick-ups and drop-offs.
    - This segment also includes access from North West Coastal Highway, and these changes may indicate reduced though-connection from that entry point.

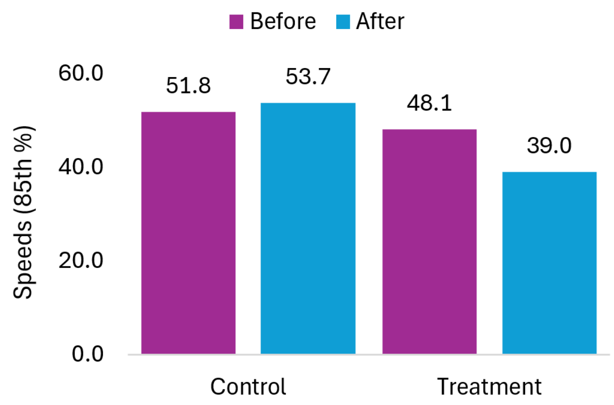
Figure 2: Geraldton – average daily vehicles on SAS segments



Vehicle speeds - overall

- Through use of speed humps, raised plateaus and formalised parking to narrow the carriageway, 85th percentile vehicle speeds on the treatment route reduced by 9 km/h, to within an upper bound of the preferred operating range: 32.1 km/h to 38.1 km/h.
- To reduce 85th speeds further, recommendations could include continued monitoring of speeds, minor or localised interventions where context warrants, or targeted speed reductions at specific locations.

Figure 3: Geraldton – 85th percentile speeds

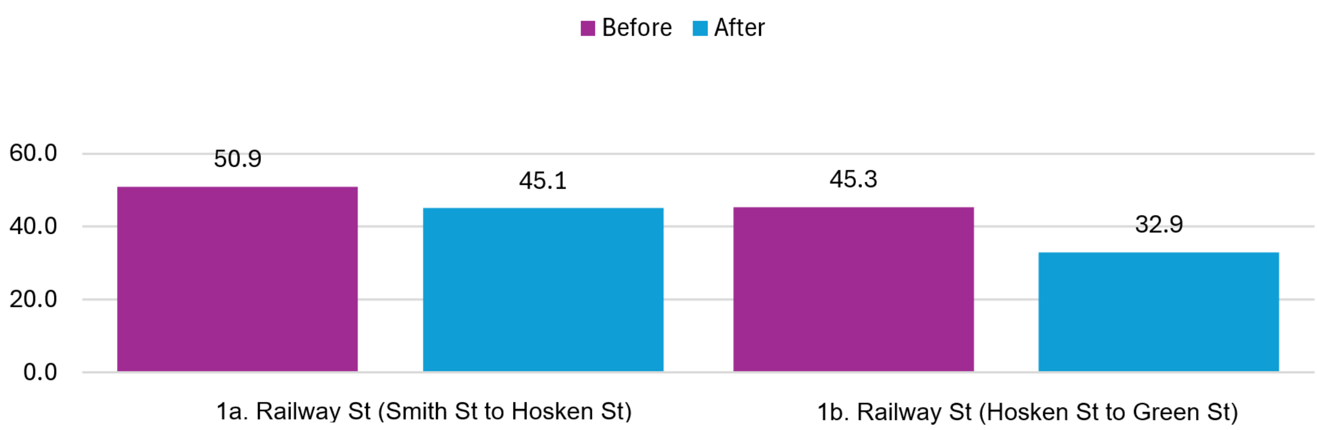


This result indicates moderate overall SAS performance in supporting the safety of vulnerable road users by sufficiently lowering the fastest vehicle speeds, with large variability across the route.

Vehicle speeds – segment comparison

- All segments took a very similar design approach, with no slow points installed and some use of speed humps and raised plateaus. The route scored low for 'traffic calming', with traffic calming treatment distances greater than 100 m apart.
- Segment 1b was a cul-de-sac, indicating that the few traffic calming treatments applied were sufficient to bring the 85th speeds down at that location.
- Segment 1a was also a cul-de-sac, however it included two entry points mid-way along the route segment, at Mitchell Street and the connection to North West Coastal Highway. On this segment, the few and far spaced out traffic calming treatments were not sufficient to reduce 85th percentile speeds close to the preferred operating range.
  - Recommendations for this segment could include additional traffic calming through slow points or road humps.

Figure 4: Geraldton – 85th percentile (fastest) speeds on SAS segments



Active transport

Method

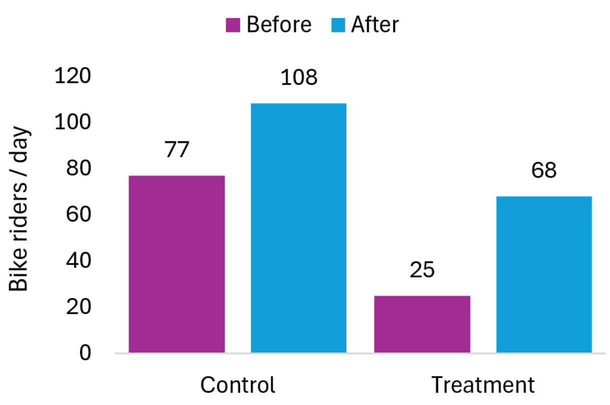
Video surveys were used to detect rates of active transport. Video cameras were placed at strategically selected intersections on the SAS route (treatment) and comparable locations on adjacent streets (control). Depending on segment length, between 1 - 4 counters were placed on each.

Results

Bike riding - overall

- Riding activity increased both on the treatment route (+173 per cent) and control streets (+41 per cent), with a significantly higher proportional increase observed on the treatment route. This indicates that while there was an overall increase in riding activity across the area, riders were more attracted to choose the SAS route over parallel streets.
- Comparing changes on the treatment and control routes, the odds ratio generated a very high score of 2.19, **indicating the SAS was likely responsible for the increases observed enroute**.

Figure 5: Geraldton – average daily bike riders



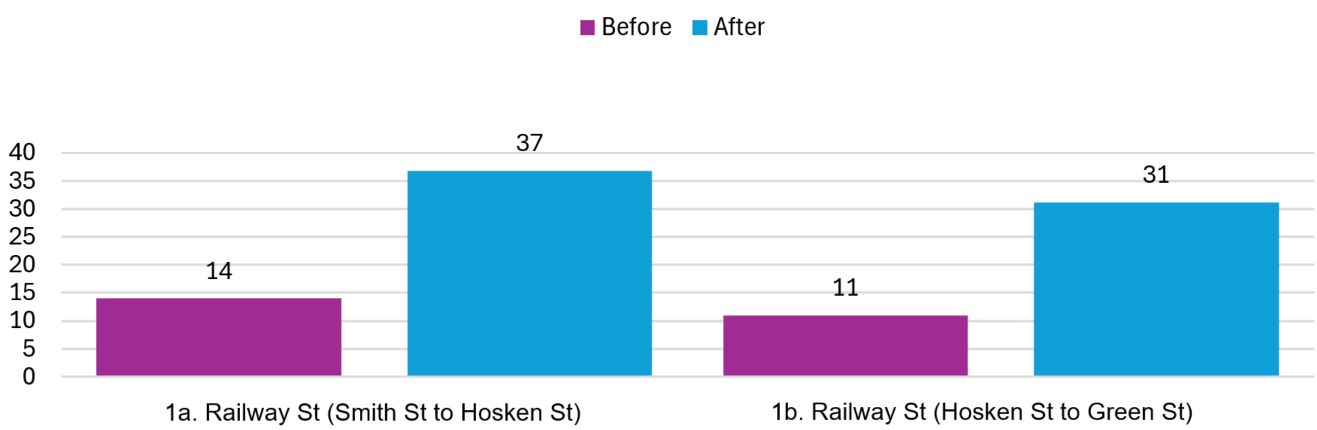
Bike riding activity increased on the SAS to a much higher proportion than control streets, indicating it was a more attractive route for bike riders.

The odds ratio indicated the increase in bike riding on the SAS route after construction was likely attributable to the SAS when compared with trends observed on nearby control streets.

Bike riding – segment comparison

- Daily bike riding activity increased on both route segments consistently, indicating a daily increase in overall demand along the entire SAS route, possibly related to the primary school enroute.

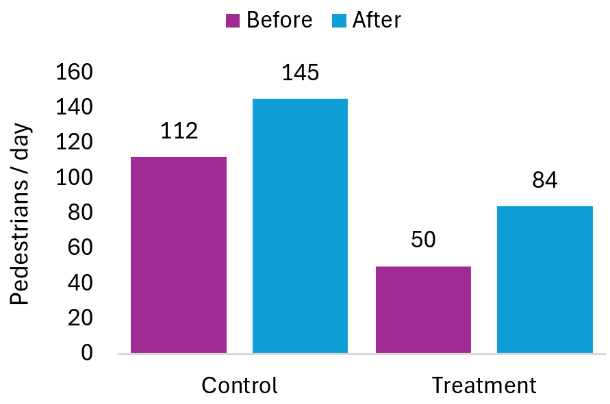
Figure 6: Geraldton – average daily bike riders on SAS segments



Walking – overall

- Walking activity increased both on the treatment route (+69 per cent) and control streets (+29 per cent), with a higher proportional increase observed on the treatment route, as footpath sections were upgraded and some new sections were installed, attracting pedestrians to choose the SAS route over other streets.
- Comparing changes on the treatment and control routes, the odds ratio generated high score of 1.48, **indicating the SAS was likely responsible for the increases observed enroute**.

Figure 7: Geraldton – average daily walkers



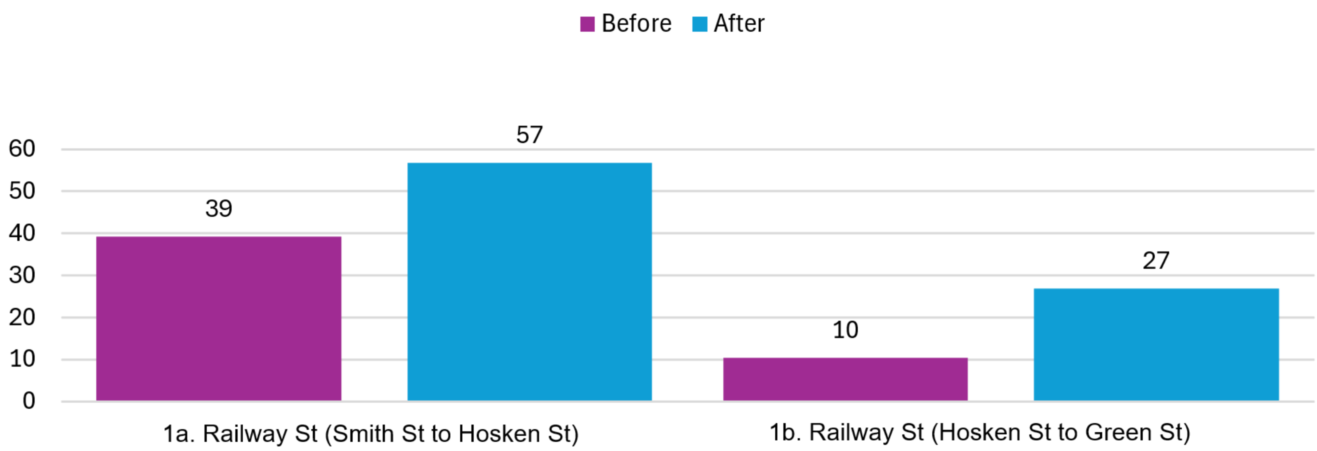
Walking activity increased on the SAS to a much higher proportion than control streets, indicating it was a more attractive route for walkers.

The odds ratio indicated the increase in walking on the SAS route after construction was likely attributable to the SAS when compared with trends observed on nearby control streets.

Walking – segment comparison

- Daily walking activity increased on both route segments consistently, indicating a daily increase in overall demand along the entire SAS route, possibly related to the primary school enroute.
- These results, together with the increase in bike riders and reduction in vehicle volumes across the route, highlight the success of this SAS route in achieving its intended design objectives.

Figure 8: Geraldton – average daily walkers on SAS segments



Crash incidents

Additional to the count data collected to assess user behaviour, a review of available crash data provided an indication of safety performance of the road environment before and after implementation of the SAS.

Objective evidence on the number, type and severity of crashes occurring in the area, in light of the changed user behaviour along the route, helps identify whether the SAS treatments have influenced road safety outcomes.

Method

Crash incidents were downloaded from the Main Roads WA data warehouse via Data WA. Eleven years of reported incidents across the State, from 1 January 2013 to 31 December 2023,[8] were available which included midblock and intersections.

Data was filtered to anything involving bike or pedestrian, and geospatially mapped to visualise their location, type and injury severity against the SAS routes.

Sample sizes were low, which limited analysis to a simple visual count. Nevertheless, patterns were assessed alongside the design features of the route and user behaviour count results for vehicles, people walking and bike riders.

Sample sizes in active transport related crash data were typically low due to:

- frequency of incidents being generally low in the specific areas of interest
- the incident dataset only containing medical, hospital, fatal or property damage reports.

Results

- The completed Geraldton SAS route experienced no incidents before, during or after construction of the route, and none on the control streets.
- The years of available data[9] were 8.5 years before construction, 1 year during construction and 1.5 years after construction.

No observable links between the SAS route and recorded crashes suggests that there are either too few chances of these interactions occurring on and around the route due to low overall numbers of users, or that the area was already safe for vulnerable road users.

Considering the regional location of this route and the lower daily walking, riding and vehicle trips compared with the eight other metropolitan Perth SAS locations, it is probable in this instance that incident rates are not a useful metric to infer road safety outcomes.

Patterns of crash incidents in this location were inconclusive.

[8] Note: At the time of analysis (late 2025), data for 2024 and 2025 was not available to download.
[9] Years of data reviewed reflects the combined total of all available incident data analysed relative to the SAS's construction status. Due to the limited sample size and targeted location, averaging incidents per year was not suitable for this analysis.

Community sentiment

Community sentiment was collected to understand how residents and road users perceived the SAS and how they reported using the street before and after implementation. These insights provide valuable context on perceived safety, comfort and self-reported travel behaviours that cannot be captured through traffic counts alone. Incorporating community perspectives enables a more complete assessment of SAS user experience and helps to inform decisions about future refinement or expansion of the program.

Method

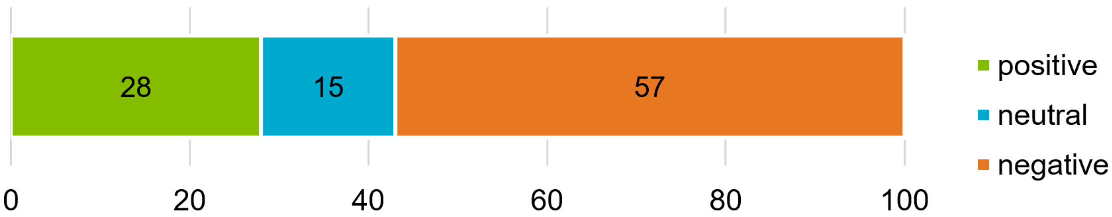
Community surveys were undertaken in 2022, approximately three months after the opening of the SAS.[10] Questions focused on the design treatments and effectiveness in delivering the project objectives, self-reported usage of the route (frequency, trip purpose) and demographics.

Results

Community sentiment and perceptions

- Community responses towards the SAS were negative overall:
  - **Only 28 per cent** of all respondents reported feeling positive towards the SAS.
  - This may be due to the short turnaround between construction completion and the community surveys, with three months not long enough for the community to become accustomed to the route.

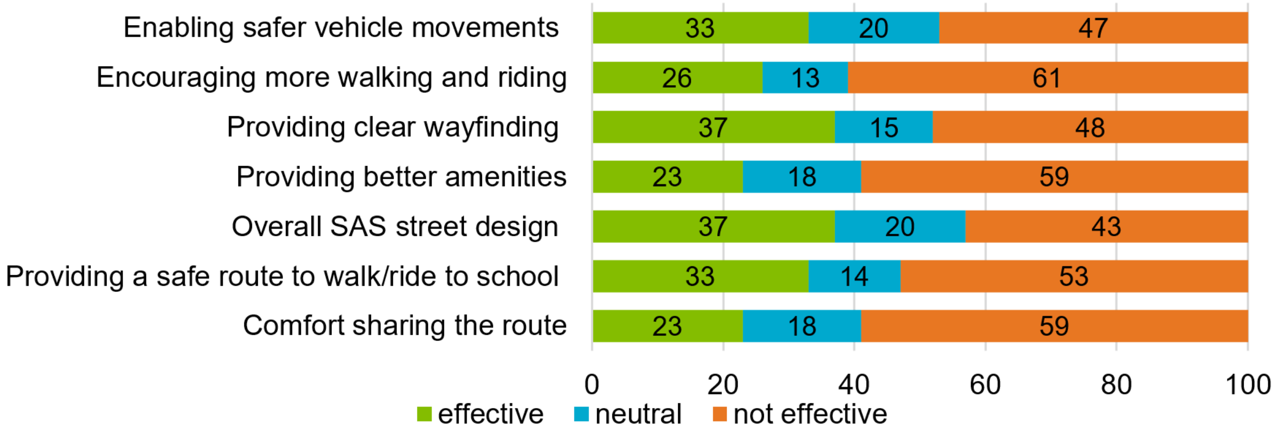
Figure 9: Community sentiment towards the Geraldton SAS (n=107)



- When asked to rate the SAS on effectiveness across several categories, responses were mostly negative, possibly because the route was very different to local streets they were already familiar with.
  - This could be linked to the regional location of this project and no similarly altered routes nearby.
  - Verbatim responses indicate concerns of unsafe vehicle movements occurring during school pick up times, and the lack of continuous footpath along the route, which could impact continuity of active travel and perceptions of user comfort and safety.

[10] Post-construction community surveys would ideally be undertaken one year or longer after construction, to allow time for community and user sentiment to settle.

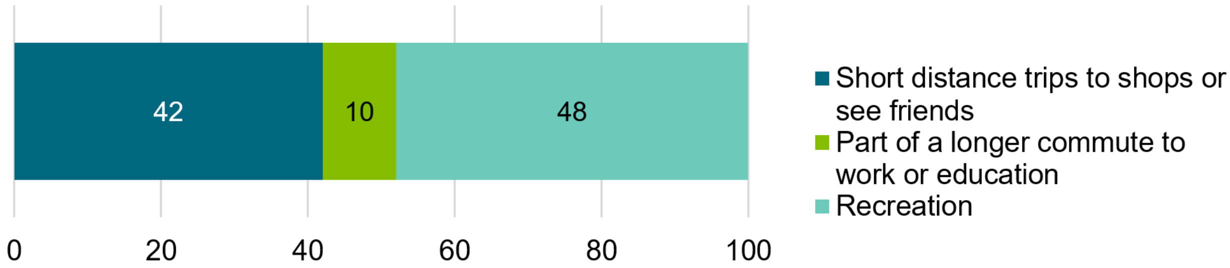
Figure 10: Community perceptions of the SAS (n=107)



Changes in behaviour and trip purpose

- Self-reported changes in behaviour from all respondents were consistent with observations.
  - **8 per cent** = NET increase in active travel
  - **-5 per cent** = NET decrease in vehicle use.
- People who walked or rode a bike along the SAS did so for a mix of reasons, with close to half for recreation and half for transport purposes.

Figure 11: Walking, riding – trip purpose (n=50)



Verbatim responses on what people liked or didn't like about the SAS

Positives

"Plants are nice, parking is good, road smoother, road is better than better than before, better parking near school."

"It's well signed. Hopefully that slows people down."

"Pedestrian safety, reduction in speed limits, safer for kids."

"Like being able to cross the street with the children, traffic slower."

"Quieter, helps reduce traffic. To start with hard to slow down to 30 km/hr."

"I like the street parking and the reduced speed limit."

"Safer to travel on."

Negatives

"No pavement on the northern part of Railway St between Mitchell St and Hosken St. Too narrow on Railway St, as it joins Mitchell St. Motorists getting confused when it comes to giving way."

"Road is too narrow for two cars going in opposite directions, not enough room for buses, parallel parking creates congestion and not a good use of space."

"To [sic] much congestion at school pickup and drop off times. Dangerous for kids to cross the road. Once trees grown visibility will be low. Tree planted in front of stop sign. Very dangerous with buses."

"This road should never have been changed. It is not adding to the lifestyles of the Geraldton general public at all! This was never and will never be a road used for walking and cycling. All it has done is increase congestion of cars around a school zone which is completely dangerous."

"I actively avoid it because it allows two-way traffic but really should be one way."

"It is dangerous and inconvenient! It has not reduced the amount of traffic entering or using the road but has increased the risk of accidents. The road is narrow and confusing to people who access it."

SUMMARY OF FINDINGS

Achievements

- Reduction in vehicle volumes along the SAS route.
- Increases in bike riding and walking activity that were greater on the route than on neighbouring streets, indicating a preference for active travel on the SAS.

Opportunities for improvement

- Vehicle speeds overall were reduced to within an upper bound of the preferred operating range.
  - Speeds on part of the SAS closest to the primary school, however, did not reduce effectively, showing that speed reducing measures applied along that route were insufficient to compel drivers to adhere to the changed posted speeds. This indicated potential for further speed reducing treatment improvements at some locations.
- A review of crash data was inconclusive, but the road safety experience of users may be limited without further reductions in 85th percentile speeds on all route segments.
- Despite achieving positive user behaviour outcomes, the SAS received predominantly negative feedback from the community.
  - This may be due to the short turnaround between construction completion and the community surveys, with three months not long enough for community to become accustomed to the route.
  - It could also be due to a missed opportunity for continued activation and community consultation after construction and highlights the importance of this element of project delivery.
  - Low community sentiment post construction combined with positive route outcomes indicates dissonance between community understanding of the design intentions and community use of the route.

Insights and recommendations

Recommendations to improve outcomes on this SAS project, informed by insights summarised in the SASs Pilot Program Final Evaluation Report:

- Incorporating ACE principles throughout all phases of project planning, design, delivery and post construction review.
- Lowering 85th percentile speeds consistently across all segments of the route to within the preferred operating range, by considering additional road treatments as required.
- Applying vertical or horizontal deflection treatments 80-100 m apart for maximum benefit realisation and consistent reduction of unsafe speeds.

Alignment with program insights

By trialling the use of different design features, and collecting data on user behaviour and community sentiment, the nine evaluated projects in the pilot program generated a rich array of insights that will guide future design and development of SASs.

The SAS Design Guidance developed through this trial provides insights for retrofitting brownfield sites but perhaps most importantly, guidance on how to establish an SAS on greenfield sites at inception.

With this guidance and support from DTMI, local governments can design and implement more SASs, creating effective 30 km/h shared street spaces for people to walk, wheel and ride comfortably and safely in their communities.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