



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

Empowering a
thriving *community*

BAYSWATER 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.

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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.

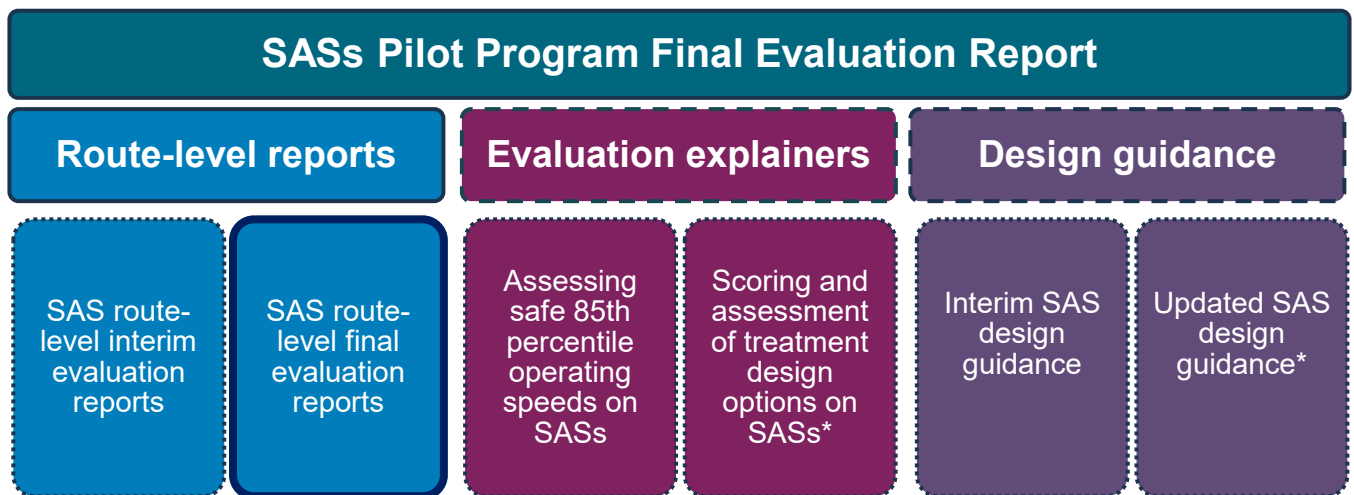
The SASs Pilot Program in Western Australia (WA) was motivated by research which showed that a fear of sharing the road with motor vehicles was a key barrier to many people riding bikes more often. Local research, including a large community-wide cycling survey undertaken in 2015 by the Royal Automobile Club of WA¹ 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 Bayswater SAS final route-level report

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 BAYSWATER SAFE ACTIVE STREET

Executive summary

The 2.54 km Leake Street SAS route provides a link between the Bayswater Riverside Foreshore Park at the Swan River and Adelphi Street. Consultation, design and delivery spanned three years between 2015 and 2017.

This SAS route generated mostly positive outcomes.

Design treatment changes that influenced speed and vehicle volume reductions on the Bayswater SAS contributed to mostly positive road safety outcomes across route, however, there may have been some influence from area-wide trends. This saw increases in rates of active transport and positive sentiment from the community.



Key project insights

Overall, the design treatments and measures applied on the Bayswater SAS led to a mix of positive and negative results for user behaviour. Design changes, particularly those leading to speed reductions on the SAS, contributed to a positive road safety experience across the route.

There were very large increases in riding activity on the route and large decreases on control streets, indicating a switch for riders to use the SAS. Walking activity increased on the SAS, but to a smaller proportion than control streets, possibly indicating the influence of area-wide trends.

The City of Bayswater SAS had some success with reduction in vehicle volumes along the route, however, there was a similar proportional decrease in vehicles observed on control streets, suggesting the influence of area-wide trends.⁴

Vehicle speeds were reduced to within an upper bound of the preferred operating range for an SAS: 32.1 km/h to 38.1 km/h, which varied across the route and could also have been influenced by area-wide trends. Reductions in fastest vehicle speeds was achieved through closely spaced traffic calming treatments and carriageway narrowing, including formalised parking, single lane slow points, intersection plateaus and speed humps.

Crash patterns enroute and off route showed positive overall SAS performance in supporting the safety of vulnerable road users, with issues at one location that could be reviewed.

This SAS received one of the largest positive sentiment values compared with other SAS routes, especially those sampled within one-year post construction. With the variety of treatments applied on this route and the duration between construction completion and survey sampling, it could indicate community sentiment improves as existing residents adjust and home ownership shifts towards people who choose to live on or near an SAS route.

⁴ Segments of the route between Whatley Crescent and the Swan River saw increases in vehicle volumes and insufficient decreases in vehicle speeds. It is possible these were affected by some diverted traffic flow during the construction period of the Bayswater Railway Station, which coincided with post-construction data collection.

Project recommendations

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

- Lowering 85th percentile speeds consistently across all segments of the route to within the preferred operating range, by considering additional monitoring or road treatments as required.

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 activation, consultation and evaluation (ACE)⁵ 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 Guidance⁶ 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.

⁵ 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.

⁶ 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 2.54 km Leake Street SAS route provides a link between the Bayswater Riverside Foreshore Park at the Swan River and Adelphi Street.

The route follows Leake Street from a connection with the Swan River's recreational shared path, through to a pelican crossing installed on Guildford Road. The route connects to the Principal Shared Path (PSP) on the Midland rail line and up May Street.

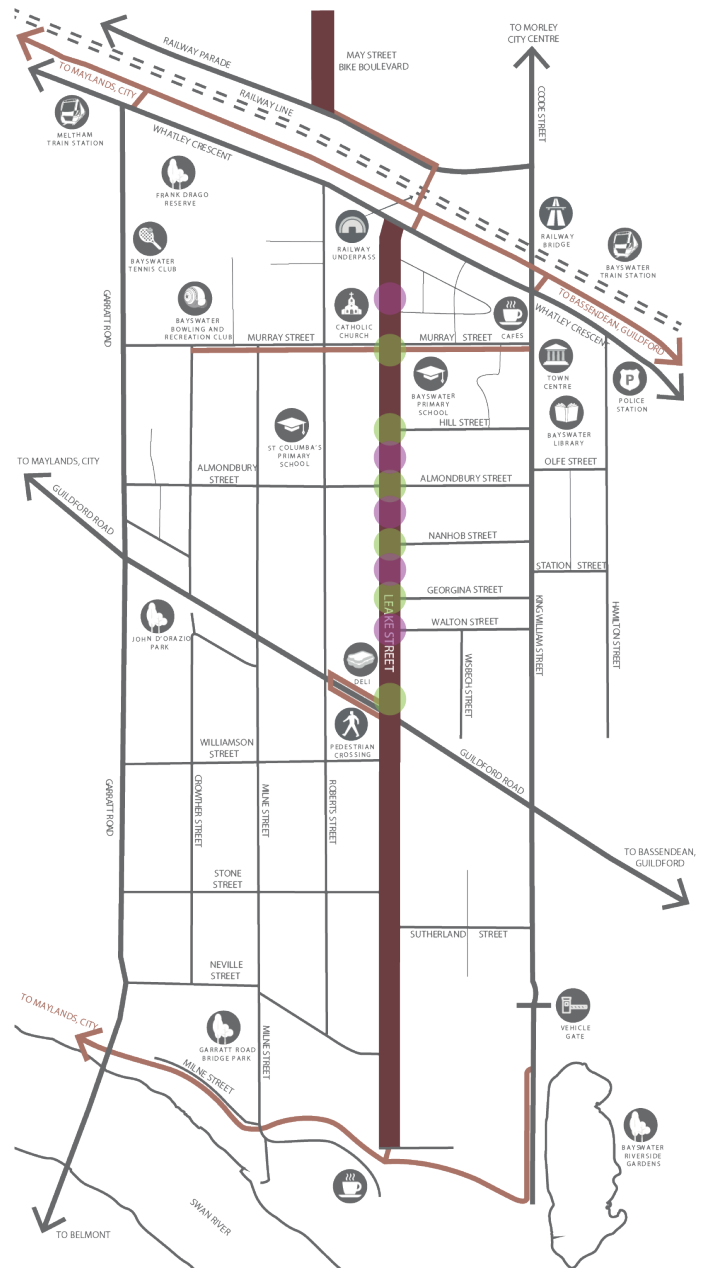
City of Bayswater SAS project map

Key route destinations

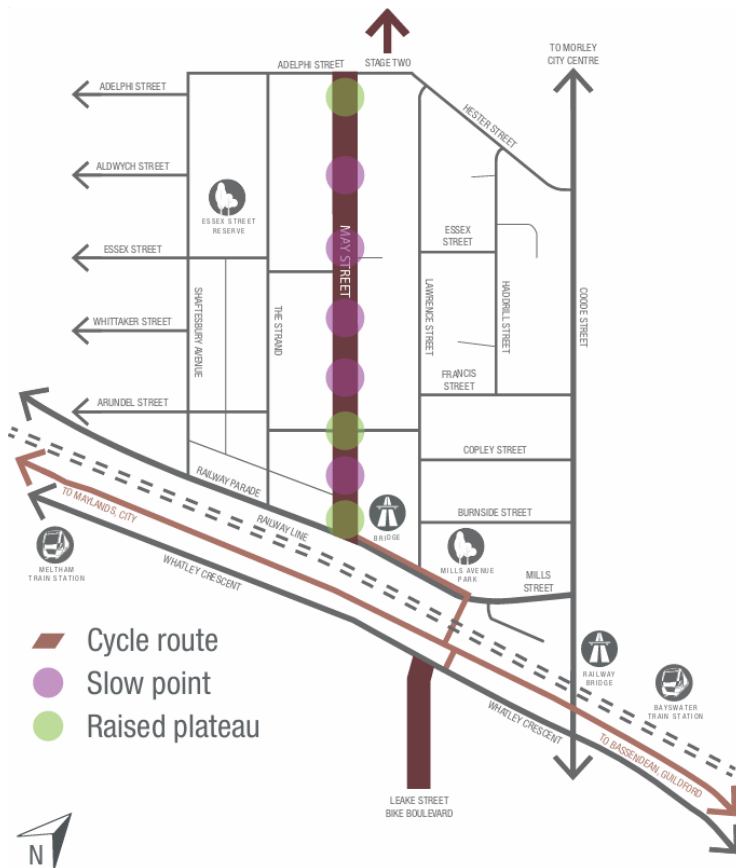
- Riverside Foreshore Park (Swan River)
- Bayswater Primary School
- St Columbus Primary School
- Bayswater Train Station
- Mills Avenue Park

Unique design features

- Rainbow school crossing
- Raised junction plateaus
- Priority changes at intersections
- Formalised parking bays
- Single lane slow points
- Enhanced landscaping to improve surveillance and safety
- Improved pavement marking for wayfinding
- Bi-directional cycle lanes connecting sections via upgraded underpass
- Wombat crossing



Bayswater SAS route map – Leake Street



Bayswater SAS route map – May Street

Timelines

Delivery

- Community consultation: 2015-16
- Construction: October 2016-June 2017
- Lines and signs completion: July 2017
- Official opening: September 2017

Evaluation:⁷

- Pre-construction data collection (user behaviour): June 2016
- Post-construction data collection (user behaviour): June 2021
- Post-construction data collection (community sentiment): October-November 2022
- Interim evaluation report: 2023
- Final evaluation report: 2026

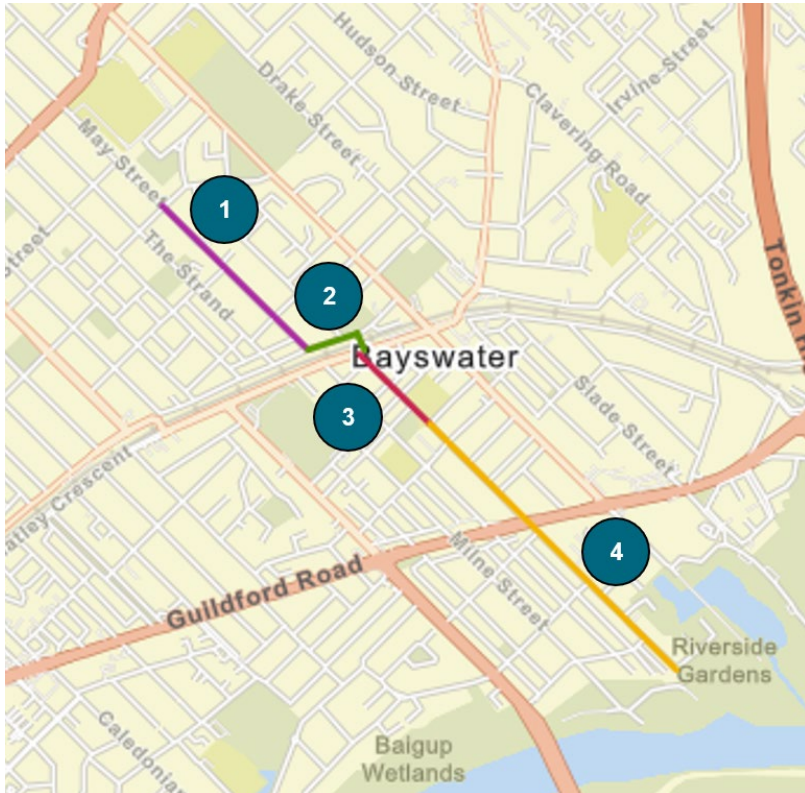
⁷ Major upgrades to the Bayswater Railway Station commenced in January 2021 and were completed in April 2024, which included upgrading the Leake Street pedestrian underpass. During this time, it is expected that disruptions to traffic movements would have occurred.

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.

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. May Street (Adelphi Street to Railway Parade)
2. Railway Parade (May Street to Whatley Crescent)
3. Leake Street (Whatley Crescent to Hill Street)
4. Leake Street (Hill Street to Bellevue Street)



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

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 thresholds⁸
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.

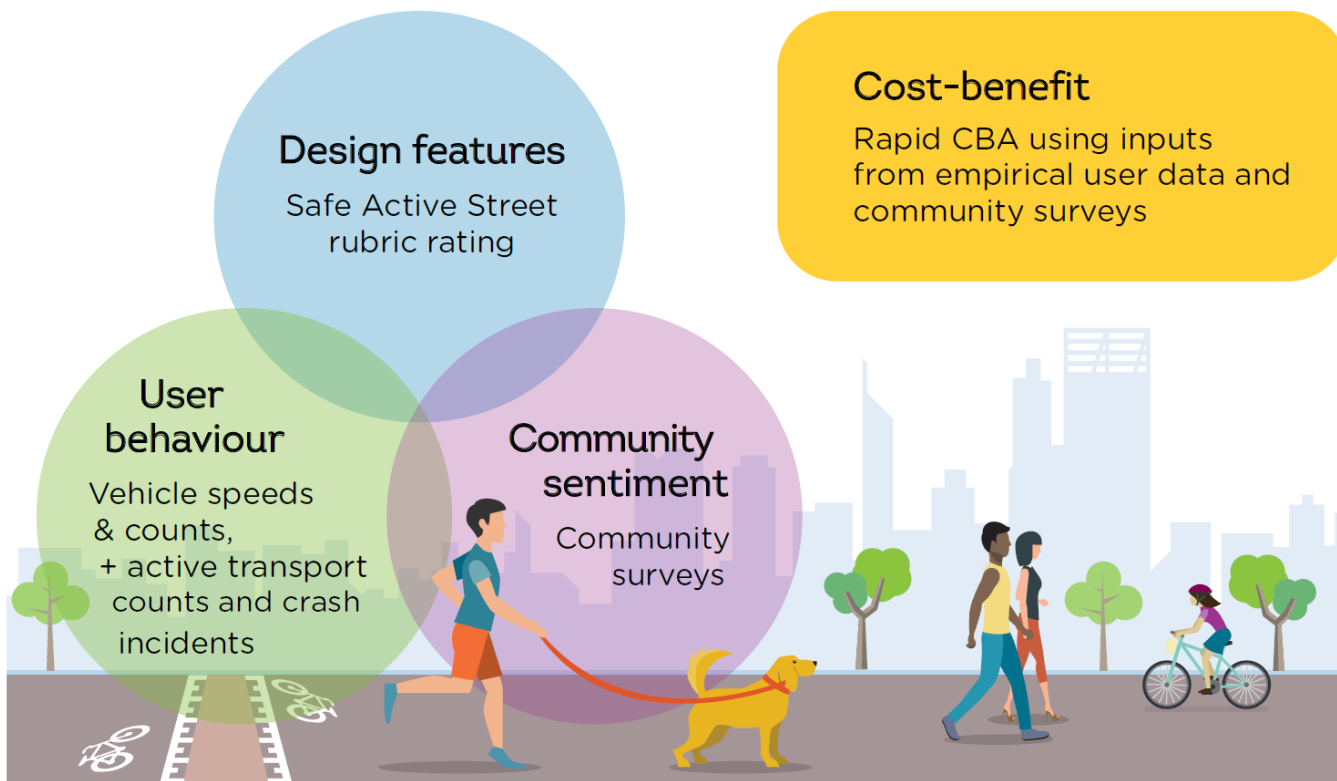
Evaluation framework

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.

⁸ 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
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Results

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

Overall, the route averaged a design score of 2.62, indicating major improvement was achieved across the whole route.

- The route score was brought up by substantial improvements to ‘traffic calming’, with a combination of treatments applied across the length of the route and most spaced between 80-100 m apart, including single lane slow points, intersection plateaus and speed humps.
- Design scores for ‘parking bay infrastructure’ were also substantial, with informal parking replaced with embayed parking on both sides of the road.
 - The SASs Pilot Program Final Evaluation Report determined that consistent 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 ‘connectivity’ were major which is an indication of suitable route selection.
 - The route linked to key local destinations including Bayswater Train Station, Swan River foreshore recreation area and local schools.
 - 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.

- Scores for 'placemaking and legibility' were also major, due to the use of red asphalt and landscaping enhancements which added to the route's attractiveness and user awareness of the SAS.
- Scores for 'active transport infrastructure' were major, with most improvements provided on segments 3 and 4, including upgraded footpaths and crossing treatments.

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

Segment	Active transport infrastructure	Connectivity	Traffic calming	Parking bay infrastructure	Place-making and legibility	Total*
Segment 1: May St (Adelphi St to Railway Pde)	1.25	1	3.29	3	2	2.24
Segment 2:^ Railway Pde (May St to Whatley Cr)	N/a	N/a	N/a	N/a	N/a	N/a
Segment 3: Leake St (Whatley Cr to Hill St)	3	3	3.14	3	2.8	3
Segment 4: Leake St (Hill St to Bellevue St)	2.5	2	3	3	2.4	2.62
Overall average route score	2.25	2	3.14	3	2.4	2.65

*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.

^Segment 2 could not be assessed for SAS design features because it consisted of on-road bike lanes before a raised crossing to the upgraded railway underpass.

Examples of applied design treatments



Artistic treatments - rainbow crossing



Formalised parking, angled slow point with tree pit, wayfinding signage

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 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 interpretation 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

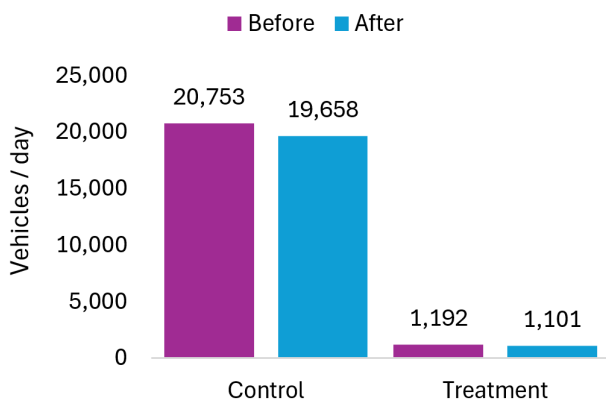
Pneumatic tube counters were used to detect vehicle traffic volumes and speeds. They were placed at strategically selected midblock locations on the SAS route (treatment) and comparable locations on adjacent streets (control). Segment 2 was not sampled for vehicle movements as it consisted of on-road bike lanes before a raised crossing to the upgraded railway underpass. Depending on segment length, between 1 - 4 counters were placed on each.

Results

Vehicle volumes - overall

- Vehicle counts reduced on both the treatment route (-8 per cent) and control streets (-5 per cent), to a slightly higher proportion on the SAS route.
- Comparing changes on the SAS and control routes, however, the odds ratio generated a neutral score of 1.03, **indicating the declines on the SAS were consistent with area-wide trends.**⁹

Figure 1: Bayswater – average daily vehicles



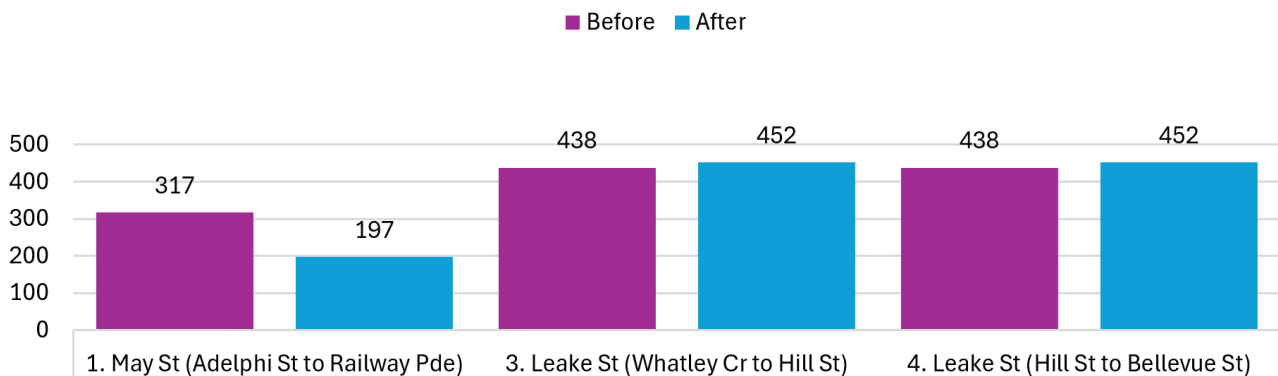
Vehicle volumes on the SAS decreased to a slightly higher proportion than control streets.

The odds ratio, however, indicated the decreases in vehicle volumes on the SAS route after construction were consistent with area-wide trends, suggesting that overall vehicle volumes decreased in the area, likely due to the SAS and other factors.

Vehicle volumes – segment comparison

- Vehicle volumes reduced on segment 1 (May Street), but experienced increases on segments 3 and 4 (Leake Street), south of the railway line. It is possible these segments were affected by some diverted traffic flow during construction of Bayswater Railway Station, which coincided with post-construction data collection.

Figure 2: Bayswater – average daily vehicles on SAS segments

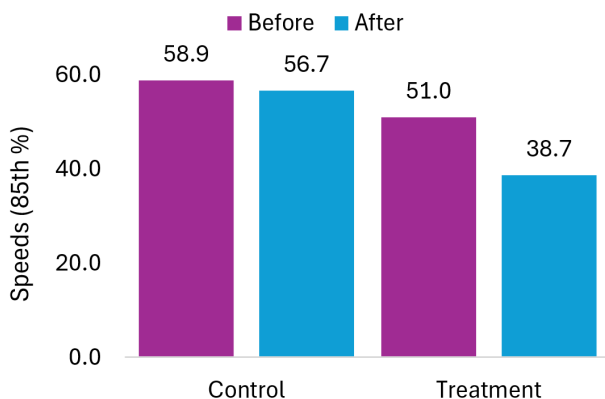


⁹ Note: Major upgrades to the Bayswater Railway Station commenced in January 2021 and were completed in April 2024, which included upgrading the Leake Street pedestrian underpass. Post-construction data collection for the SAS was undertaken in June 2021, which may have been impacted by the area-wide changes associated with traffic disruptions caused by the railway station upgrades.

Vehicle speeds - overall

- The fastest vehicle speeds (85th percentile) reduced on the treatment route (>12 km/h) to within an upper bound of the preferred operating range: 32.1 km/h to 38.1 km/h.
 - This was achieved through closely spaced traffic calming treatments and carriageway narrowing, including formalised parking, single lane slow points, intersection plateaus and speed humps.
- Fastest speeds on the SAS were not reduced below the preferred operating threshold, and it is possible that timing of post-construction data collection impacted results. Recommendations could include continued monitoring of speeds and vehicle volumes.

Figure 3: Bayswater – 85th percentile speeds

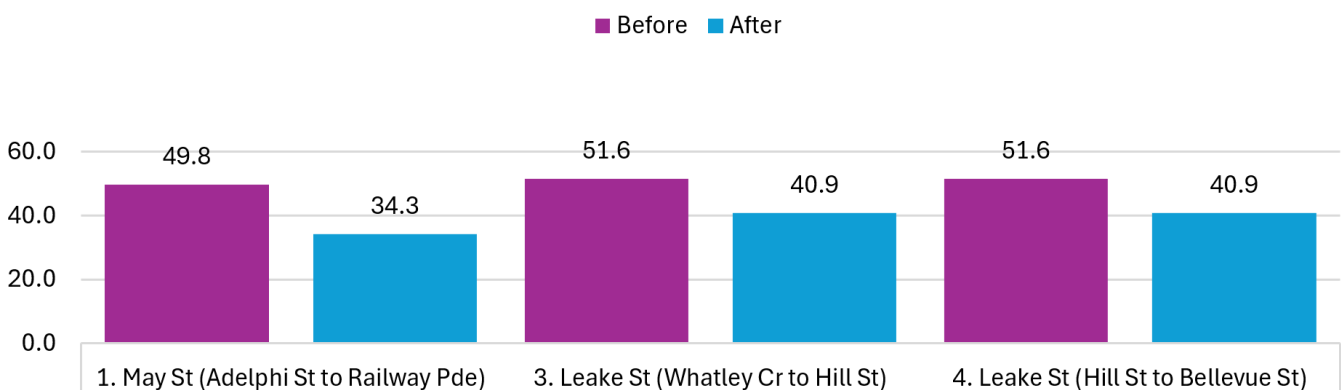


This result indicates moderate overall SAS performance in supporting the safety of vulnerable road users by sufficiently lowering the fastest vehicle speeds, with wide variability across the route.

Vehicle speeds – segment comparison

- All segments took a very similar design approach, with substantial improvements to ‘traffic calming’ and ‘parking bay infrastructure’.
 - Vehicle speeds reduced substantially on segment 1 (>15 km/h), and although speeds reduced to a large degree on segments 3 and 4 (>10 km/h), they did not reduce sufficiently on those two segments to support the safety of vulnerable road users.
 - Post construction sampling was conducted in June 2021, however, and similar to the increases in vehicle volumes observed, it is possible these segments were affected by some diverted traffic flow during construction of Bayswater Railway Station, which coincided with post-construction data collection.

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



Active transport

Method

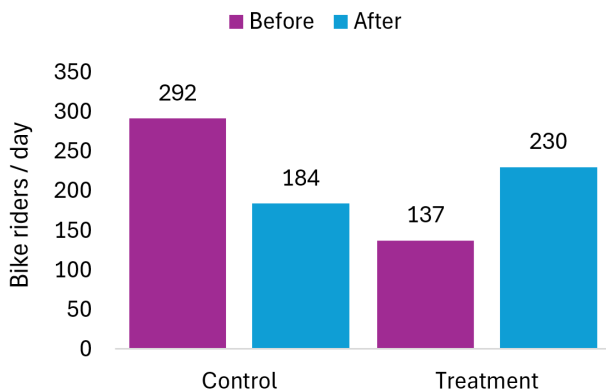
Video surveys were used to detect rates of active transport. Video cameras were placed at strategically selected intersections on the SAS route (treatment) and comparable locations on adjacent streets (control). Segment 2 was sampled for active travel, though it consisted of on-road bike lanes to the railway underpass. Depending on segment length, between 1 - 4 counters were placed on each.

Results

Bike riding - overall

- Riding activity increased on the SAS (+65 per cent) and decreased on the control streets (-33 per cent), suggesting the SAS was effective in encouraging riders to switch to using the route.
- Comparing changes on the treatment and control routes, the odds ratio generated a very high score of 2.31, indicating the SAS was very likely responsible for the increases observed enroute.

Figure 5: Bayswater – average daily bike riders



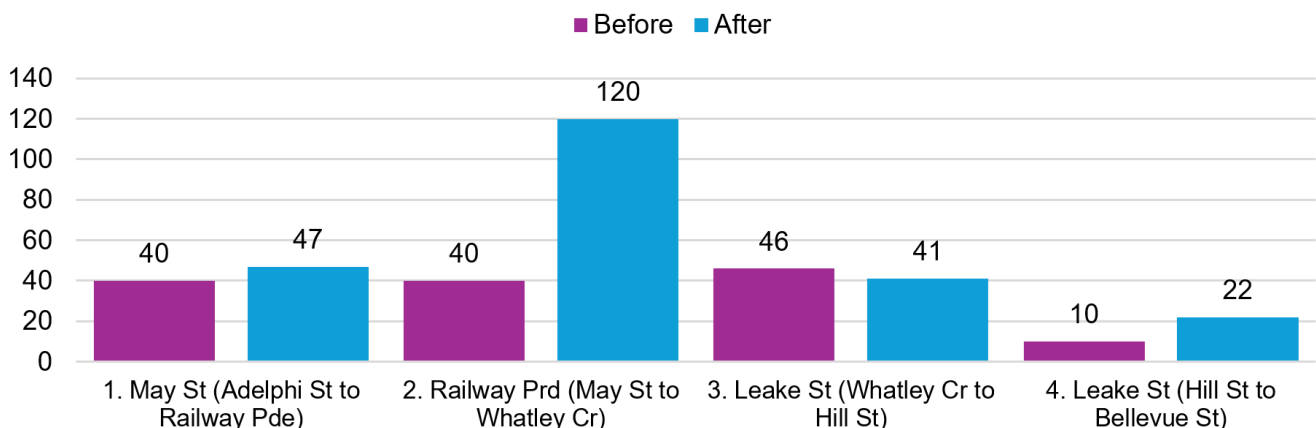
Bike riding activity increased to a large degree on the SAS and decreased on control streets, indicating it was a far more attractive route for bike riders.

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

Bike riding – segment comparison

- Daily bike riding activity increased on most route segments, and did so most dramatically on segment 2, which was built as on-road bike lanes and a raised crossing connection between the May Street SAS and Leake Street SAS, via the upgraded railway underpass.
 - This was likely more an indication of through movement on segment 2, with the smaller growth in use on segments 1 and 4 indicating increased movements on the SAS route.

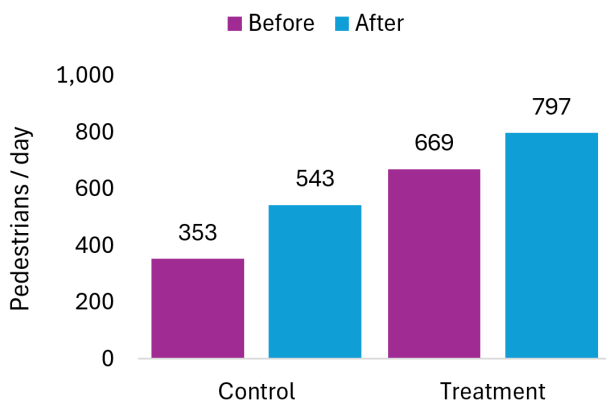
Figure 6: Bayswater – average daily bike riders on SAS segments



Walking – overall

- Walking activity increased on both the treatment route (+19 per cent) and control streets (+54 per cent), however, the level of growth was proportionally less on the treatment route than on control streets, suggesting the possible influence of external factors.
- Comparing changes on the treatment and control routes, the odds ratio generated a low score of 0.68, **indicating the SAS was likely not responsible for the increases observed enroute.**

Figure 7: Bayswater – average daily walkers



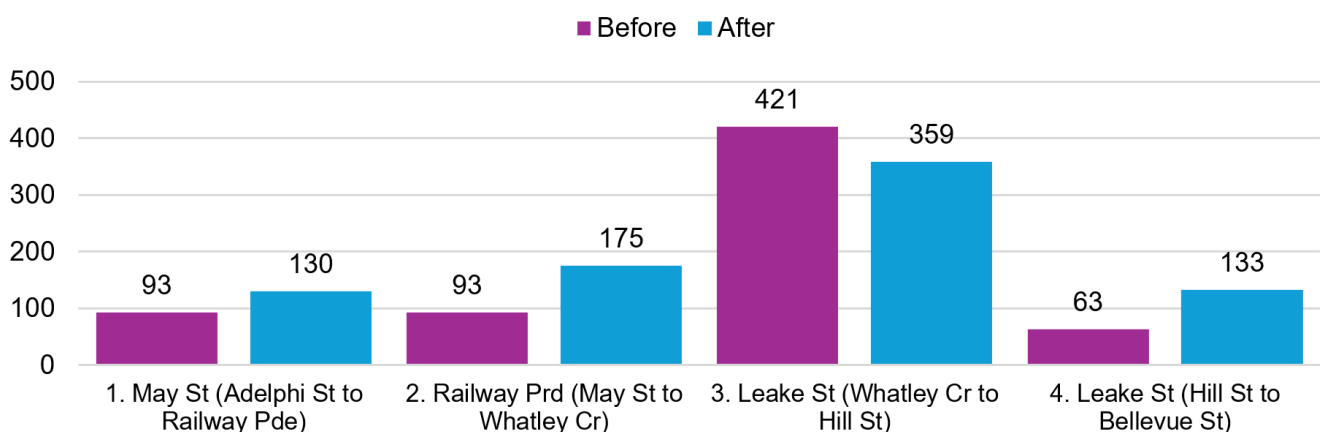
Walking activity increased on the SAS, but to a smaller proportion than control streets, indicating the influence of area-wide trends.

The odds ratio indicated that the increase in walking on the SAS route after construction was likely not attributable to the SAS when compared with trends observed on nearby control streets.

Walking – segment comparison

- Segments 1, 2 and 4 observed an increase in walking, likely because of greater connectivity to key destinations at the mid-point and riverside ends of the SAS.
- Segment 3, which passes the primary school and includes a portion of road that was permanently obstructed to vehicle traffic to prevent 'rat-running' of vehicles from Whatley Crescent, observed a loss in pedestrian movement, consistent with a loss in bike riders on that part of the SAS route.
 - These losses may suggest that other influences were impacting active travel in that area or that this location was difficult to navigate for people walking and riding.

Figure 8: Bayswater – 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 2023,¹⁰ 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.

Large increases in bike riding were observed on the SAS, along with reductions on control streets. One section of the SAS route that took the form of on-road bike lanes before a raised crossing to the railway underpass, experienced two incidents, whereas no other incidents occurred at any other location on the SAS route.

Results

Table 2 provides a summary of incidents between vehicles and bike riders or people walking, before, during or after SAS route construction, shown for each stage of the SAS route and corresponding control street locations. Notable data patterns:

- The completed Bayswater SAS route experienced two serious incidents involving a bike rider and vehicle (one was a fatality), from a base of zero in previous years.
 - Both incidents were located along the small section of Railway Parade between May Street and the underpass to Whatley Crescent.
 - The fatality occurred in September 2017, a few months after the SAS was completed. The hospitalisation occurred in January 2023, a few months after the underpass reconstruction works commenced – closing the underpass for one year and establishing detours.
- Zero incidents were recorded elsewhere along the SAS route before, during or after construction.
- Several incidents involving bike riders or pedestrians were recorded on control streets before and after SAS construction.

This pattern indicates positive overall SAS performance in supporting the safety of vulnerable road users, with issues at one location that could be reviewed.

¹⁰ Note: At the time of analysis (late 2025), data for 2024 and 2025 was not available to download.

The bike rider fatality at Railway Parade indicates initial driver awareness of the changed conditions between the May Street SAS and the Railway Parade underpass was poor. The bike rider hospitalisation that occurred during the underpass works and detours could indicate that changed conditions made interactions riskier. This location could be considered for improved crossing points to and from the railway underpass to improve overall safety for people walking and riding, with additional treatments for vehicle awareness and slowing of speeds on the approaching street.

The increase in bike riding incidents on control streets may be linked with the overall increase in riding activity in the area, and the lack of incidents on any other section of the SAS route seems to indicate that once riders or walkers reached the SAS they experienced improved safety conditions overall.

Table 2: Incidents between vehicles and bike riders or pedestrians, before, during or after SAS route construction

Years of data reviewed ¹¹	SAS construction status	Crashes on SAS route – Bike	Crashes on SAS route – Pedestrian	Crashes on control street – Bike	Crashes on control street – Pedestrian
3.5 years	Before	Nil	Nil	Nil	1 hospital 2 medical
1 year	During	Nil	Nil	Nil	Nil
6.5 years	After	1 fatal 1 hospital	Nil	3 hospital 1 medical	1 hospital 1 medical

¹¹ 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

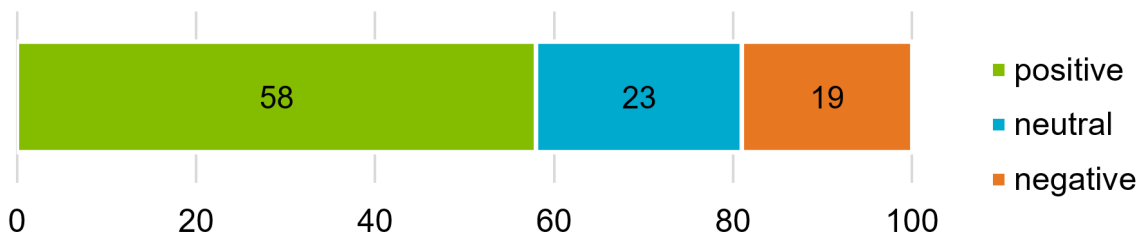
Community surveys were undertaken in 2022, five years following the opening of the SAS. Questions focused on the design treatments and effectiveness in delivering the project objectives, self-reported usage of the route (frequency, trip purpose) and demographics.

Results

Community sentiment and perceptions

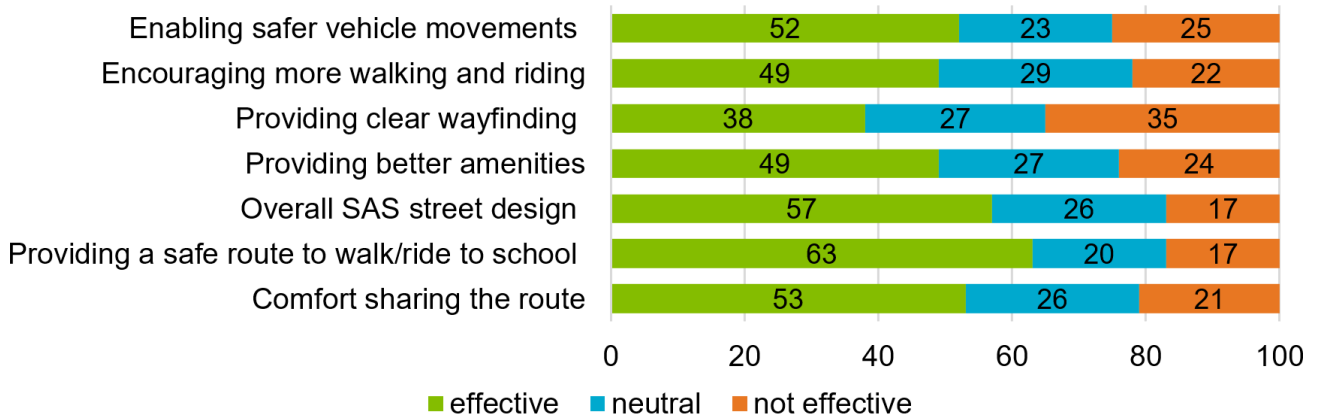
- Community responses towards the SAS were strongly positive overall:
 - **58 per cent** of all respondents reported feeling positive towards the SAS (with 23 per cent neutral).
 - This was one of the largest positive sentiment values compared with other SAS routes. With the variety of treatments applied on this route, and long duration between construction completion and survey sampling, it could indicate community sentiment improves as existing residents adjust and home ownership shifts towards people who choose to live on or near a SAS route

Figure 9: Community sentiment towards the Bayswater SAS (n=190)



- When asked to rate the SAS on effectiveness across several categories, responses were broadly positive.
 - Sentiment was largely positive towards the overall street design, comfort sharing the route and the SAS providing a safe route to walk or ride to school.
 - Verbatim responses indicated improvements could be made to wayfinding and legibility of the route, particularly for drivers unaware of the changed conditions.

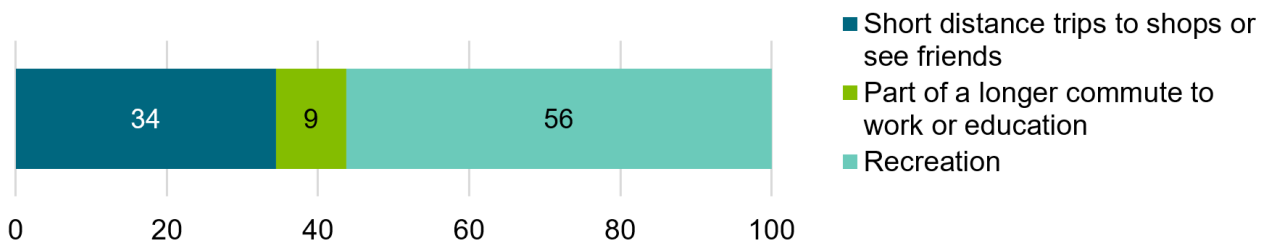
Figure 10: Community perceptions of the SAS (n=190)



Changes in behaviour and trip purpose

- Self-reported changes in behaviour from all respondents were consistent with observations.
 - **41 per cent** = NET increase in active travel
 - **-13 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 more than half for recreation.

Figure 11: Walking, riding – trip purpose (n=136)



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

Positives

"I like the way it is clearly distinguished from other streets -the bright colour. I like the chicanes to slow vehicle traffic, which seems to work well. I like the trees planted in the chicanes islands. I like the way it connects the school, the river etc."

"It gives me a fairly safe route to ride my bike halfway where I want to go at times. It should be extended to get to the Galleria somehow."

"As a cyclist I always use it as an alternative to Roberts Street, our own street. Roberts Street is extremely dangerous for cyclists due to the heavy and fast traffic. Also, Whatley Crescent can't be crossed by cyclists at Roberts Street, so I choose Leake Street to cross Whatley Crescent."

"I love the trees and the fact that they feel like the priority. The street has a really different feel to the rest of Bayswater. The street is so much cooler because of the canopy of the trees whereas much of the rest of Bayswater feels very hot with radiant heat from the road and lack of trees."

"What I love about safe active street it encourages my children to play outside more and safely and also the neighbours' children. It's lovely to see family's together either bike riding etc... even if it's just a street, it brings a lot of life to the people."

Negatives

"Confusing for motorists who aren't familiar with its use, seen several near misses with vehicles."

"People do not keep to the speed limit, cars don't. There is a problem with the stop signs on Almondbury Road, not many people stop. There's a yellow line to say not to park there but because of school pick-up, a lot of cars still park there."

"Poor signage. Drivers don't seem to know what to do. As a local, you need to be super aware of what other vehicles might be doing. If there are vehicles parked in the parking areas along the road, you sometimes need to pull into a driveway in order to allow oncoming traffic to pass."

"Drivers -me included -have no idea how to use the street. Someone has to give way when there is oncoming traffic, but nobody has any idea who gives way. People are frustrated using it and just drive forward into oncoming traffic."

SUMMARY OF FINDINGS

Achievements

- There were very large increases in riding activity on the route and large decreases on control streets, indicating a switch for riders to use the SAS.
- This SAS received one of the largest positive sentiment values compared with other SAS routes.
 - With the variety of treatments applied on this route and long duration between construction completion and survey sampling, it could indicate community sentiment improves as existing residents adjust and home ownership shifts towards people who choose to live on or near a SAS route.

Opportunities for improvement

- Reduction in vehicle volumes along the SAS route, however, there was a similar proportional decrease in vehicles observed on control streets, suggesting the influence of area-wide trends.¹²
- Vehicle speeds were reduced to within an upper bound of the preferred operating range: 32.1 km/h to 38.1 km/h, which varied across the route and could have been influenced by area-wide trends.
 - Reductions in fastest vehicle speeds was achieved through closely spaced traffic calming treatments and carriageway narrowing, including formalised parking, single lane slow points, intersection plateaus and speed humps.
- Walking activity increased on the SAS, but to a smaller proportion than control streets, indicating the influence of area-wide trends.
- Crash patterns enroute and off route showed positive overall SAS performance in supporting the safety of vulnerable road users, with issues at one location that could be reviewed.

Insights and recommendations

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

- Lowering 85th percentile speeds consistently across all segments of the route to within the preferred operating range, by considering additional monitoring or road treatments as required.

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.

¹² Segments 3 and 4 (between Whatley Crescent and the Swan River) saw increases in vehicle volumes and insufficient decreases in vehicle speeds. It is possible these were affected by some diverted traffic flow during construction of Bayswater Railway Station, which coincided with post-construction data collection.

