



SAFE SCHOOL STREETS

SUNNYHILLS SCHOOL TRIAL EVALUATION

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OPTIMISING HUMAN SYSTEMS

EXECUTIVE SUMMARY

Introduction

- **Sunnyhills Primary School** has been involved in **Auckland Transport's (AT) Safe School Streets (SSS)** programme trial since 2017. Infrastructure changes on streets around the school's entrances have been trialled, with the aim of improving road safety and encouraging active school travel.
- Baseline and post-intervention ('follow-up') data was collected to assess efficacy and guide decisions about next steps.
- This brief report presents key top-line findings from the follow-up data collection, with results compared to baseline as appropriate.
- Note that COVID and other factors may have contributed to differences between baseline and follow-up results. Traffic volumes around the school reduced at follow-up and COVID is likely to have contributed to this. Travel patterns to and from school are also likely to have been impacted. Also note the school roll in 2022 was 492, a reduction of 12 students since baseline.

Road user behaviour and interactions

- There was a large reduction at follow-up in the total number of risky **road user behaviour and interaction** events observed and coded through video analysis. The reduced traffic volume may have contributed to this. Incident rates (i.e., percentage of events by number of vehicles) cannot be provided.
- Follow-up video analysis shows that dangerous vehicle manoeuvres on both streets, particularly u-turning at the entrance of streets and driving over the footpath, are low. These were highlighted as key issues at baseline.
- Follow-up video analysis shows that crossing the road not using a crossing remains an issue; however, there was little evidence this was risky or dangerous behaviour. This behaviour may also indicate that the perceived safety of the roads has increased.

Vehicle speed

- For all **vehicle speed** measures, locations, and direction, speed was lower at follow-up from baseline. In cases, the reduction was significant, particularly during the morning and afternoon school peaks. Considering traffic volume was lower at follow-up, these results are encouraging as it might be hypothesised that reduced traffic volume could encourage higher speeds.

Mode

- At follow-up, slightly **fewer** respondents reported driving as the mode used most often by their children for the greatest part of their school journey. There was also an increase in those cycling and scooting. At follow-up, 35% of respondents selected walking as the primary mode used by their children to get to and from school.

Perceived safety

- At follow-up, 84% of respondents reported it was **safe or very safe** for students to **walk near the school entrances** during school pick-up/drop-off times. There was an increase at follow-up in the proportion reporting very safe (27% vs 14%). The perceived safety of **cycling** at follow-up was similar to baseline, however, there was a decrease in the proportion reporting it as unsafe or very unsafe (19% vs 39%).
- At follow-up, there were **reductions** in the proportion of respondents reporting they had seen **unsafe parking or drop-off/pick-up** practices outside the school always or often. Around a half of respondents reported sometimes seeing this behaviour at both follow-up and baseline. Under a third of follow-up respondents reported never seeing this.
- At follow-up, there was an **increase** in the proportion of respondents agreeing or strongly agreeing that **traffic at school drop off/pick-up times is well managed** (70% vs 58%). There were corresponding **decreases** in the proportion agreeing or strongly agreeing that **drop-off/pick-up times were stressful**. Figures were similar for if it was **difficult to get to other places** because of the school traffic between baseline and follow-up, although follow-up respondents were more likely to strongly disagree

Effectiveness of the interventions

- About three quarters of respondents aware of the street changes rated the **speed cushions on both streets** as either **effective or very effective** at achieving the **intended safety outcome**.
- About 60% or more of school community and resident respondents aware of the changes rated the **kerb build-outs on both streets** and **planter boxes on The Crest** as either **effective or very effective** at achieving the **intended safety outcome**.
- Just under half of respondents aware of the changes rated the **planter boxes on Fordyce Ave** as **effective or very effective** at achieving the **intended safety outcome**.
- More common areas of concern raised were with the planter boxes taking up parking spaces, potentially blocking sight lines to children crossing, and aesthetic concerns. There were also concerns with the look of the bollards.
- For most of the drop-off/pick-up behavioural issues examined at follow-up for **The Crest**, over half or more of the school community and resident respondents aware of the changes rated the issue as either much better or a bit better than before. Congestion, drivers not obeying parking time restrictions, and the use of driveways for pick-up and drop-off had higher perceptions of being no different now than other issues. Parking on the grass berm and blocking driveways were highlighted as continuing issues by some respondents.
- Results were similar for **Fordyce Ave** with around 40% of school community and resident respondents aware of the changes rating most issues as either much better or a bit better. Fifty nine percent of respondents reported vehicles travelling at excessive speed as either much better or a bit better after the changes. Illegal or unsafe parking behaviour was again an area of on-going concern.
- The majority of school and resident survey respondents aware of the changes agreed the temporary changes had made the school drop-off/pick-up times **more safe for children**. Almost two thirds (62%) agreed for The Crest and 50% agreed for Fordyce Ave.
- The majority of these respondents for **both streets** reported either **never or only sometimes seeing** most of the behavioural/illegal issue examined at school pick-up and

drop-off times. For both streets, respondents were more likely to select often, always, or not sure in regard to congestion and drivers not obeying parking time restriction. For Fordyce Ave, drivers were also slightly more likely to see illegal parking.

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1. INTRODUCTION

Auckland Transport's (AT) Safe School Streets (SSS) programme trials physical infrastructure changes on streets around primary school entrances to improve safety and to promote walking and cycling. The programme uses a tactical urbanism approach and phases of engagement, testing, and delivery - usually a demonstration event followed by 'interim' treatments and potentially permanent treatments, contingent upon evidence of success. Throughout the programme, physical infrastructure developments are complimented by social infrastructure initiatives.

Sunnyhills Primary School participated in SSS to improve road safety outside and around the school's entrances and encourage active transport to and from school. Following consultation and engagement with the school and local residents between 2017-2019, temporary street changes began in April 2021, and refinements were completed in February 2022.

Baseline and post intervention ('follow-up') data was collected for the Sunnyhills trial. The results will help AT to determine whether further adjustments are needed and if the temporary changes should be upgraded and made permanent. The trial is focused on four areas of impact from the interim treatments:

- perceptions of safety and attractiveness regarding the school gate area, and how acceptable the treatments are to students, school community, and residents
- parking compliance, driver behaviour and the behaviour of other road users (i.e. pedestrians, cyclists, buses) near the school entrance
- frequency of incidents or near-misses in the vicinity of the school gate
- impact on the wider network and unintended consequences.

This report presents the evaluation findings from the follow-up data collection. The data is compared to baseline as appropriate. The data includes speed monitoring, video observations of road user behaviours and interactions, surveys of the Sunnyhills community and local residents, and follow-up interviews with Sunnyhills School staff and students.

2. SCHOOL BACKGROUND

2.1 School information

The Sunnyhills Primary School roll has reduced by 2% since baseline data was collected in 2018.

Table 1: School Information

Sunnyhills Primary School		
Location	17 The Crest, Sunnyhills, Auckland	
	2018	2021
School Roll	504	492
Decile	9	9
Ethnic Composition	European/Pākehā – 46% Māori – 4% Pasifika – 2% Asian – 45% Middle Eastern, Latin American and African – 2% Other – 1%	European/Pākehā – 36% Māori – 10% Pasifika – 1% Asian – 51% Middle Eastern, Latin American, African, and/or Other – 1%

Source: Education Counts May 2018 (pre) and July 2021 (post). MELAA was included with Other in 2021

2.2 School motivations for participating in the trial

The Sunnyhills Primary School SSS trial baseline report shows the following reasons for the school's participation in the trial:

- To reduce the number of cars near the school
- To encourage children walking, scooting, and biking to school.

2.3 School environment

The school has two main entrances located on Fordyce Avenue, The Crest, and a walkway entrance on Tercel Place.

Table 2: School street information

	Fordyce Ave	The Crest
Road type (ONRC)	Secondary Collection	Access Road
Posted Speed Limit	50km/h with 40km/h Variable Speed Limit – School Zone	50km/h
Cycling routes, walkways	Walking from Imatra Place to The Crest	

Figure 1: Map of school streets



3. ROAD USER BEHAVIOUR AND INTERACTIONS

- Follow-up data of road user behaviour and interactions was collected over two consecutive days (Wednesday 2 March and Thursday 3 March 2022).
- Camera 1 was located in Fordyce Ave and Camera 2 in The Crest (see following).
- The follow-up data coded was 7:45 to 9:15am and 14:30 to 16:00pm.
- The follow-up data was compared to 2018 baseline, however, note that comparisons should be treated with caution due to the four year period between data collection and likely impacts from COVID. The volume of traffic around the school reduced at follow-up (see later) and this is likely to be due to COVID. The pandemic is also likely to have impacted travel patterns (e.g., due to staggered school start-times). Such factors may explain or contribute to any observed differences in coded events between baseline and follow-up (e.g., as the frequency of events may correlate to traffic volume).
- There was a large reduction in the number of events coded at follow-up compared to baseline. This could be due to a reduction in traffic volume at follow-up compared to baseline.

Figure 2: Camera 1 - Fordyce Ave



Key findings

- A low number of dangerous vehicle manoeuvres were observed at follow-up. Car movements over a footpath was an issue highlighted at baseline, and there were no instances of this behaviour observed at follow-up.

- A high number of U-turns, were highlighted at baseline, particularly in Zone 4 (entrance to Suzetta Place). This behaviour was much less prevalent at follow-up with only two instances of the behaviour recorded in Zone 4.

Key findings by zone

- Zone 1: Four vehicles u-turning or three-point turning.
- Zone 2: Seven vehicles parked in front of driveway or an entrance.
- Zone 3: Two vehicles parking or stopping on broken yellow lines.
- Zone 4: Two instances of pedestrians running across the road at the entrance to Suzetta Place. However, no evidence that this was done in an unsafe manner.

Figure 3: Camera 2 – The Crest



Key findings

- A low number of dangerous vehicle manoeuvres, with only four instances of three-point turning on the road observed at follow-up. This behaviour was highlighted as problematic at baseline, particularly in Zone 2.
- A low number of parking infringements, particularly double parking which was highlighted as an issue at baseline.
- Pedestrians were observed crossing the road off the provided facility. This was primarily observed in Zone 3.

Key findings by zone

- Zone 1: Two instances of pedestrians crossing road off provided facility, and two instances of three point turning over the footpath.
- Zone 2: Seven instances of vehicles three point turning over the footpath at the entrance to the school.
- Zone 3: Ten instances of pedestrians crossing the road off the provided facility.
- Zone 4: Five instances of pedestrians crossing the road off the provided facility, and one of these cases was in the presence (~10m) of an oncoming vehicle.

4. VEHICLE SPEED

Vehicle speeds and volumes were measured using speed tubes placed on the road near the school entrances on Fordyce Ave and The Crest.

Baseline data was measured between 30 April to 6 May 2018. Follow-up data was measured between 28 February to 6 March 2022.

Speed tube locations were the same at both baseline and follow-up, shown below.

Figure 4: Fordyce Ave



Figure 5: The Crest



The following tables compare baseline and follow-up vehicle counts and speeds for Fordyce Ave and The Crest respectively.

The data is presented for:

- a total seven-day period and for the morning and afternoon peak periods
- both directions and single directions respectively
- 85th percentile speed
- the percentage of vehicles exceeding 30km/h
- total vehicle counts.

Table 3: 7-Day Vehicle Speeds

Fordyce Ave		Baseline	Follow-up
Both Directions	85 th percentile speed (km/h)	50.0	37.9
	% vehicles exceeding 30km/h	86%	62%
	Vehicle count	8149	5923
The Crest		Baseline	Follow-up
Both Directions	85 th percentile speed (km/h)	32.3	20.2
	% vehicles exceeding 30km/h	33.2%	0.4%
	Vehicle count	2433	1814

Table 4: AM/PM Peak Vehicle Speeds

Fordyce Ave		AM Peak		PM Peak		Change	
		Baseline	Follow-up	Baseline	Follow-up	AM Peak	PM Peak
Direction 1: Towards Suzetta PI	85 th percentile speed (km/h)	43.0	30.4	46.1	35.0	-12.6km/h	-11.1km/h
	% vehicles exceeding 30km/h	51%	15%	76%	47%	-36%	-29%
	Vehicle count (over 5-days)	246	221	437	391		
Direction 2: Towards Stansfield PI	85 th percentile speed (km/h)	45.8	34.0	45.2	37.6	-11.8km/h	-7.6km/h
	% vehicles exceeding 30km/h	56%	30%	64%	57%	-26%	-7%

	Vehicle count (over 5-days)	616	366	329	368		
Both Directions	85 th percentile speed (km/h)	44.4	32.2	45.6	36.3	-12.2km/h	-9.3km/h
	% vehicles exceeding 30km/h	55%	25%	70%	52%	-30%	-18%
	Vehicle count (over 5-days)	862	587	766	759		
The Crest		AM Peak		PM Peak		Change	
		Baseline	Follow-up	Baseline	Follow-up	AM Peak	PM Peak
Direction 1: Towards Treeway	85 th percentile speed (km/h)	28.6	20.4	32.9	22.1	-8.2km/h	-10.8km/h
	% vehicles exceeding 30km/h	10%	0%	21%	1%	-10%	-20%
	Vehicle count (over 5-days)	145	61	119	93		
Direction 2: Towards The Boulevard	85 th percentile speed (km/h)	30.5	18.2	32.6	20.4	-12.3km/h	-12.2km/h
	% vehicles exceeding 30km/h	17%	0%	24%	0.5%	-17%	-23.5%
	Vehicle count (over 5-days)	448	285	193	206		
Both Directions	85 th percentile speed (km/h)	29.6	19.3	32.8	21.3	-10.3km/h	-11.5km/h
	% vehicles exceeding 30km/h	15%	0%	23%	1%	-15%	-22%

	Vehicle count (over 5-days)	593	346	312	299		
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5. SCHOOL COMMUNITY AND RESIDENT SURVEYS

This section presents the findings from surveys conducted with staff and parents of children at Sunnyhills Primary school ('school community survey') and the residents of streets surrounding the school ('resident survey').

The school community survey was conducted at baseline and follow-up. The follow-up survey repeated some baseline questions and results are compared. Note the follow-up survey also included some new questions only asked at follow-up.

The resident survey was only conducted at follow-up. Given the limited number of respondents to this survey, results for some questions have been combined with the school community results where appropriate.

Unless otherwise specified, 'no responses' are not included in base totals.

5.1 Survey respondents

Table 5: School community (staff and parents/caregivers) survey respondents

	Baseline (%)	Follow-up (%)
Parent/caregiver of an Sunnyhills School student	90	92
Staff member at Sunnyhills School	9	5
Both of the above	0	2
Other	1	1
No response	0	0

n=137 (Baseline); n=150 (Follow-up)

Table 6: Resident survey respondents

	Number of respondents (n)
Local resident near Sunnyhills School	4
Parent/caregiver of a Sunnyhills Schools student	0
Both local resident and parent/caregiver	1
Staff member at Sunnyhills School	0
No response	2

n=7.

5.2 Mode to/from school

Table 7: How does your child (or children) usually get to and from Sunnyhills School?

	Baseline (%)	Follow-up (%)
Dropped off/picked up in car	75	71
Walk	59	43
Bike	2	7
Scooter	3	7
Public transport	1	0
Motorbike (e.g. pillion passenger)	0	0
Other (please specify)	0	0

Question asked to Parents/caregivers, Both and Other respondents.: n=112 (Baseline) n=143 (Follow-up). Respondents could select multiple options

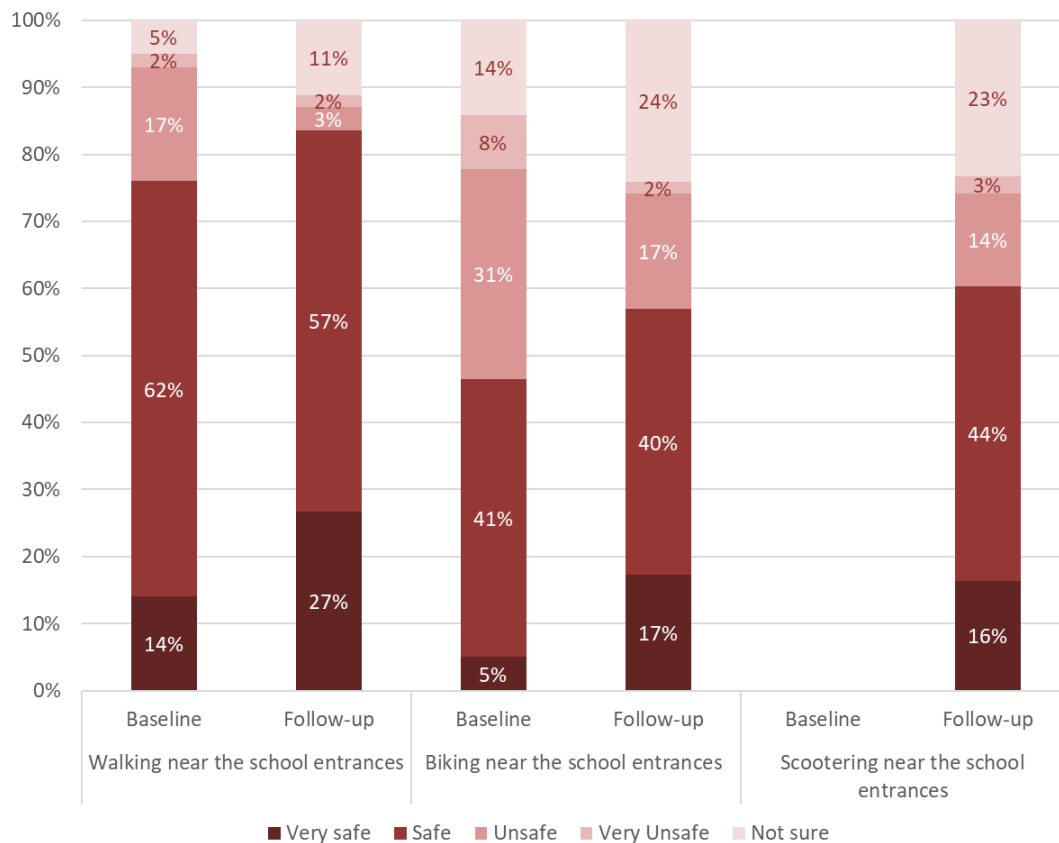
Table 8: Please select the mode of travel used most often for the greatest part of their trip (Follow-up only)

	(%)
Dropped off/picked up in car	61
Walk	35
Bike	2
Scooter	2
Public transport	0
Motorbike (e.g. pillion passenger)	0
Other (please specify)	0

Question asked to Parents/caregivers, Both and Other respondents at follow-up only. Primary mode selected for each child at school. n=181 (total number of children reported by respondents)

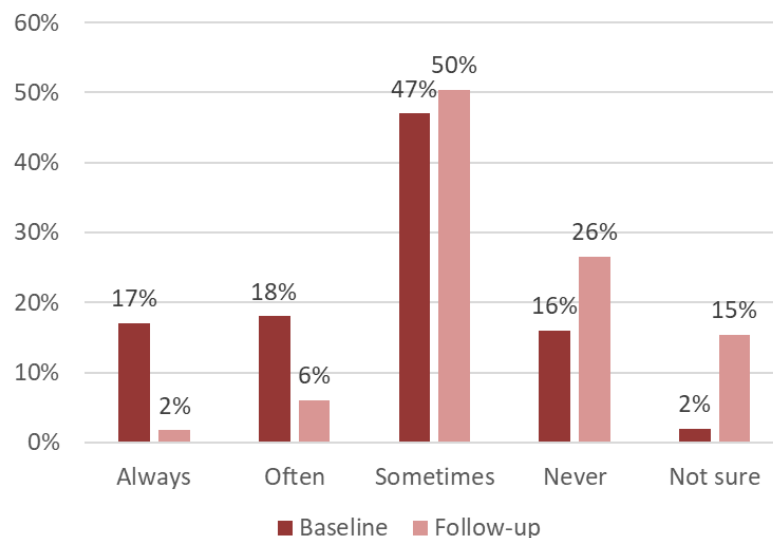
5.3 Perceived safety

Figure 6: How safe or unsafe overall is it for students to walk, bike or scooter near the school entrances during school pick-up/drop-off times?



Scooting was only asked at follow-up. n=132 (Baseline) n=116 (Follow-up)

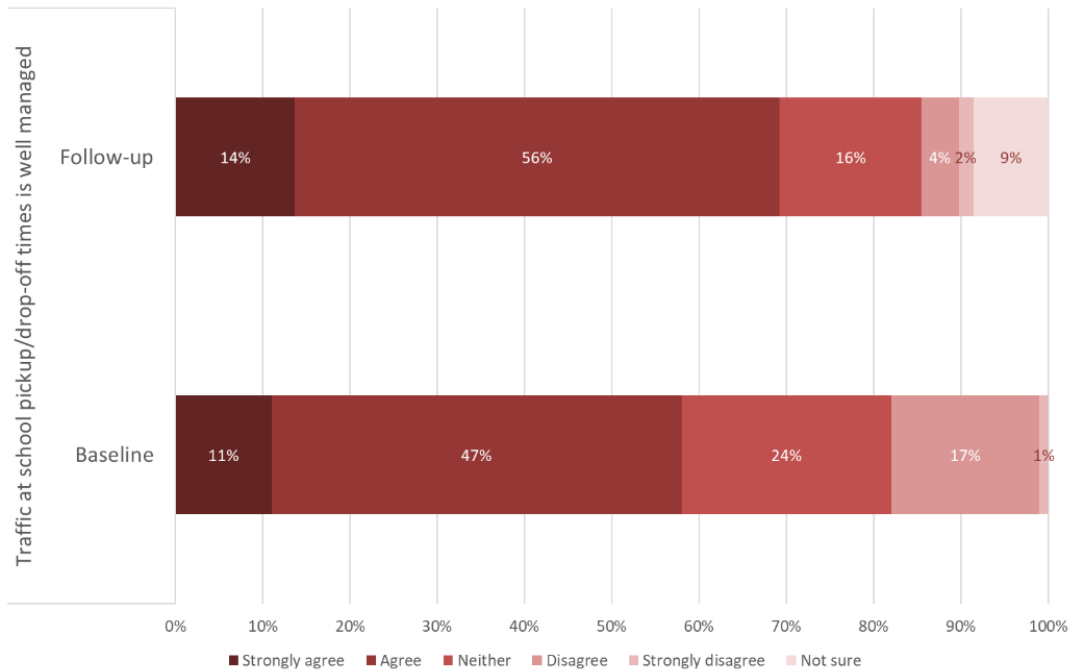
Figure 7: Thinking about the last two weeks, how often have you seen unsafe parking or drop-off/pick-up practices outside the school?



n=132 (Baseline) n=117 (Follow-up). Note: wording at baseline was "How often do you see..."

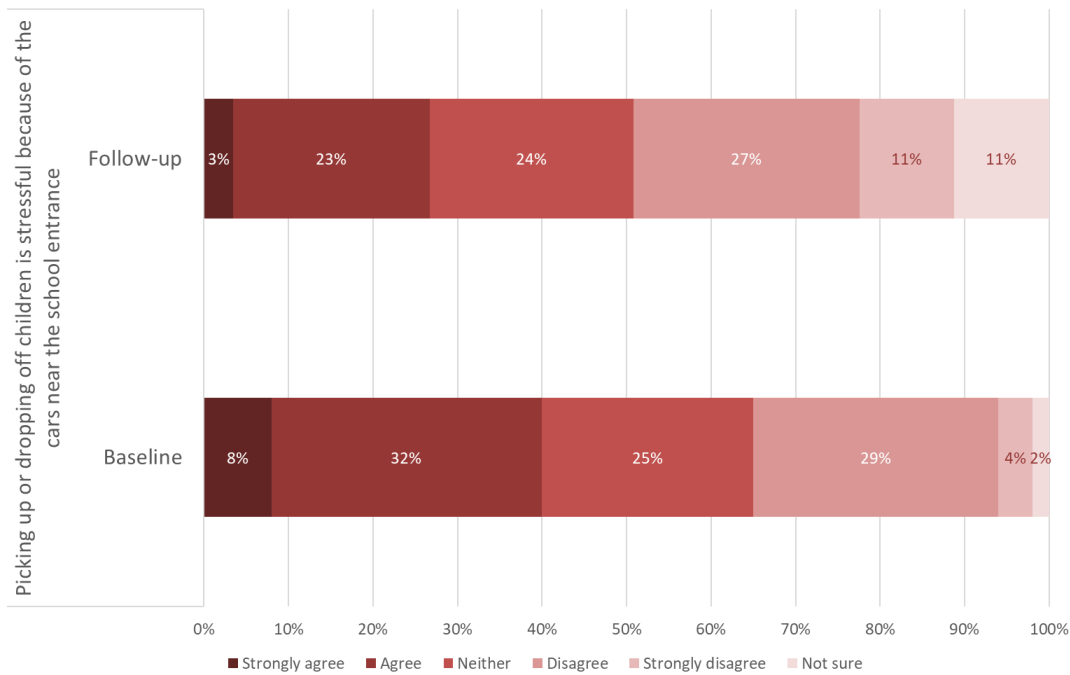
Thinking about the last two weeks, how much do you agree or disagree with the following statements?

Figure 8: Traffic at school pick-up/drop-off times is well managed



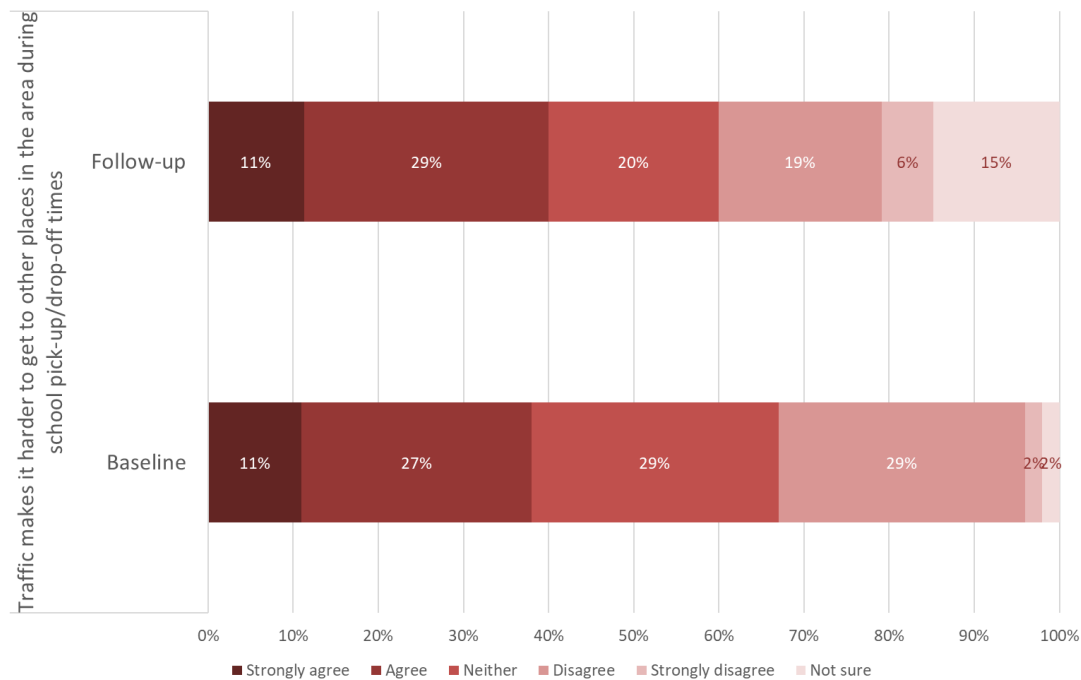
n=129 (Baseline) n=117 (Follow-up)

Figure 9: Picking up or dropping off children is stressful because of the cars near the school entrance



n=129 (Baseline) n=116 (Follow-up)

Figure 10: Traffic makes it harder to get to other places in the area during school pick-up/drop-off times



n=129 (Baseline) n=115 (Follow-up)

5.4 Effectiveness of changes

Table 9: Have you noticed any temporary changes to The Crest since April 2021?

All respondents	
	%
Yes	76
No	10
Not sure	13
No answer	1

School community and resident survey respondents are combined (n=157)

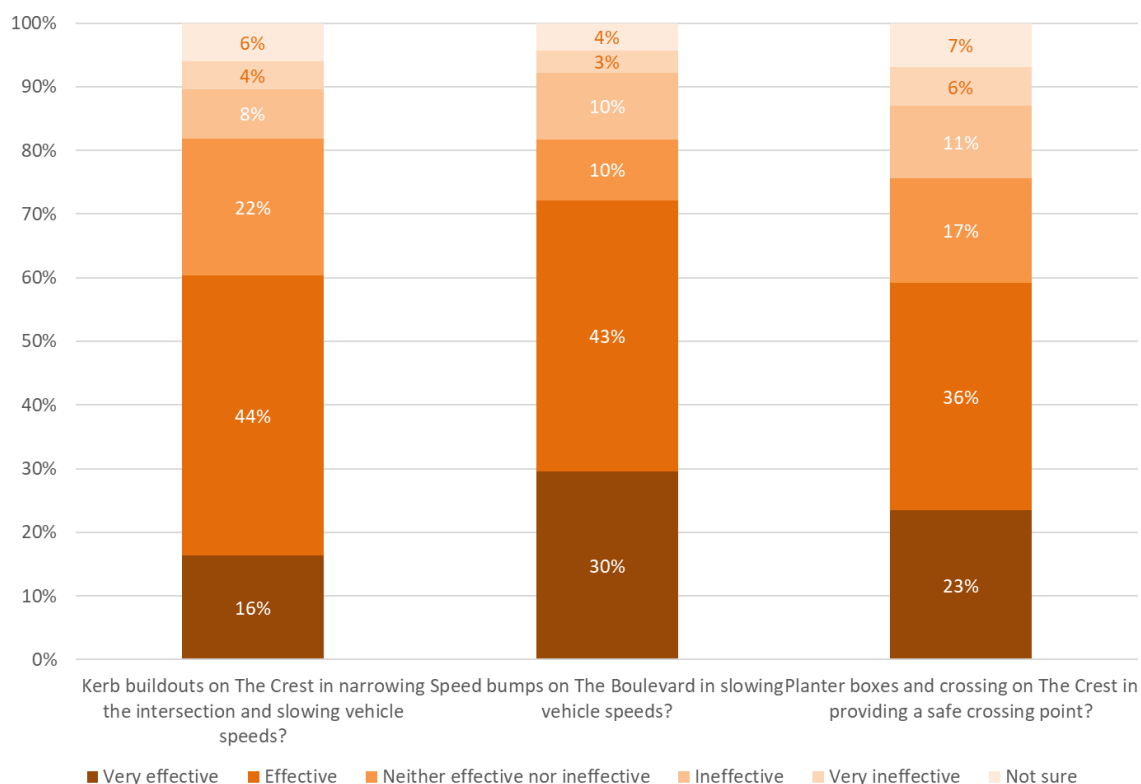
Table 10: Have you noticed any temporary changes to Fordyce Ave since April 2021?

All respondents	
	%
Yes	63
No	11
Not sure	11
No answer	15

School community and resident survey respondents combined (n=157)

Please rate the effectiveness of the following changes on:

Figure 11: The Crest

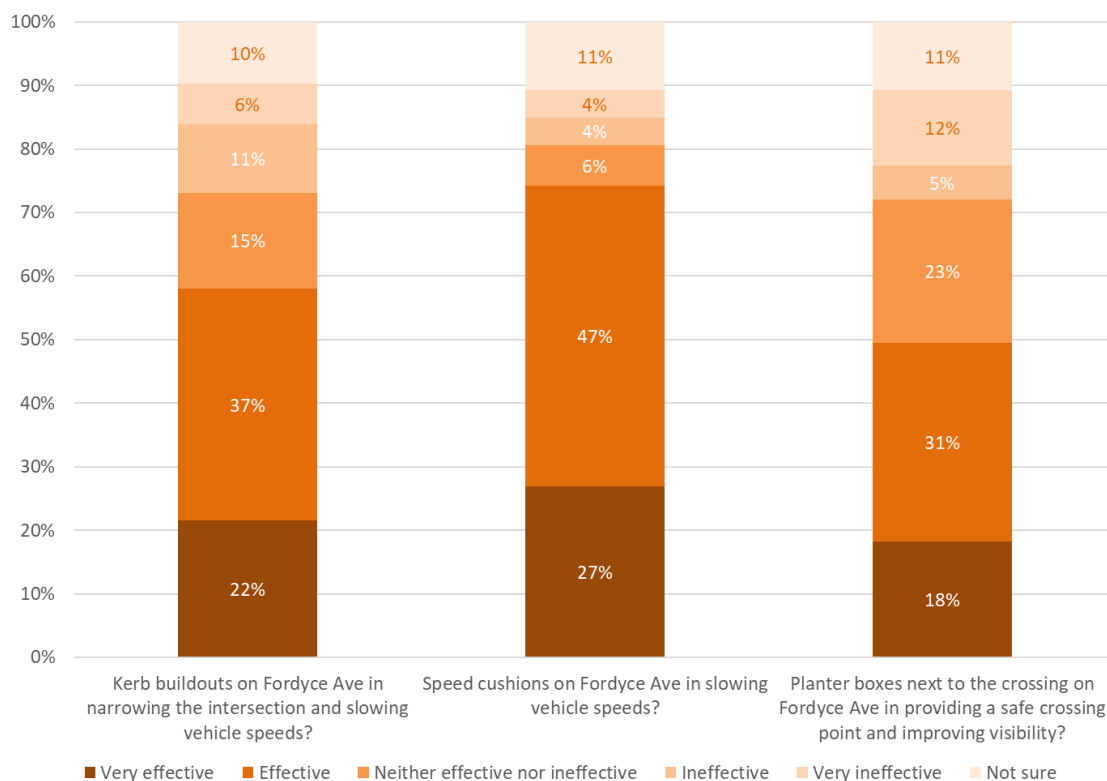


School community and resident survey respondents are combined (n=116). Question only asked to survey respondents who reported awareness of changes to The Crest

Forty-two people explained their rating of effectiveness answers further. Of these respondents:

- 43% reported that they liked some of the changes or that the changes were working well to change driver behaviour
 - 12% reported liking the speed cushion crossing
 - 10% percent said that they liked the kerb buildouts.
- 74% reported that they did not like some of the changes or that the changes had not improved driver behaviour
 - 29% percent reported that they did not like the planter boxes as they narrowed the road, blocked drivers' view of children crossing, took up parking spaces, and were painted bright colours
 - 21% percent reported that the speed bumps had no effect on driver speed and were therefore obsolete
 - 17% disliked the kerb buildouts—mostly due to the bollards narrowing the lane but also perceived as having no effect on driver speed and therefore making the corners harder to navigate.

Figure 12: Fordyce Ave



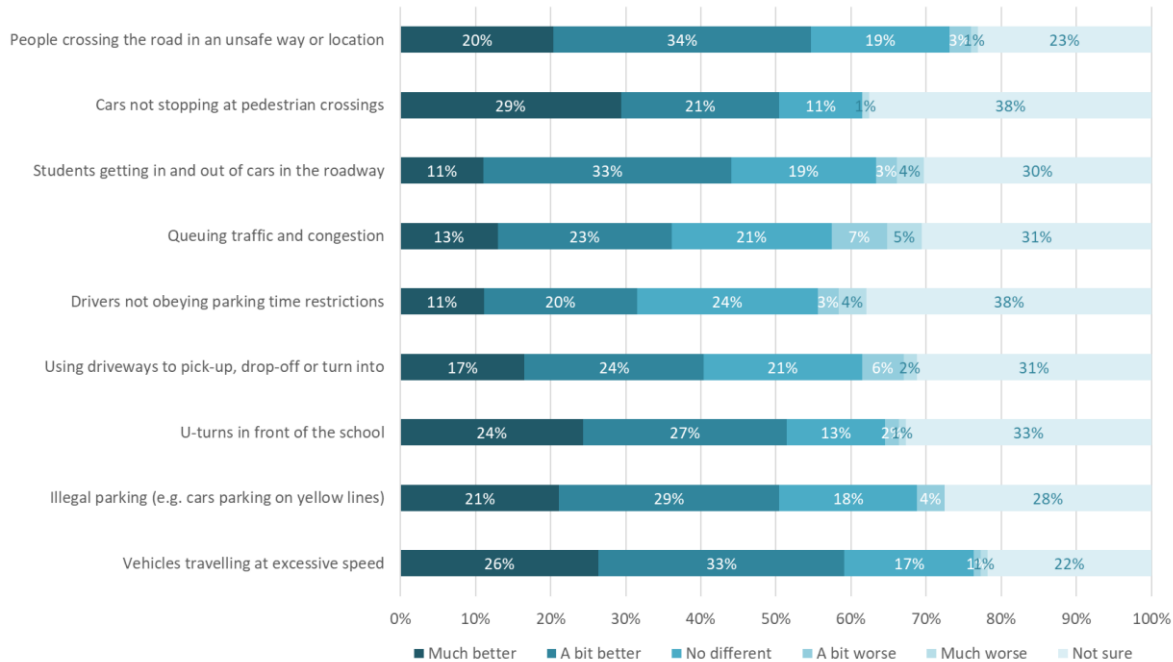
School community and resident survey respondents are combined (n=93). Question only asked to survey respondents who reported awareness of changes to Fordyce Ave

Thirty-four people explained their rating of effectiveness answers further. Of these respondents:

- 27% reported that they liked some of the changes or that the changes were working well to change driver behaviour. The changes mentioned included the speed cushions and the planter boxes.
- 68% reported that they did not like some of the changes or that the changes had not improved driver behaviour
 - 41% percent disliked the planter boxes. The main reasons given for disliking them were that they reduced the space available to drop children off, they crowded the road area and were distracting while driving, they reduced the visibility of children crossing the road, and they did little to reduce driver speed.
- 9% disliked the reduction in parking spaces that resulted from the changes.

Thinking about school drop-off and pick-up times, are the following issues now worse, better, or no different than before the changes were made?

Figure 13: The Crest:

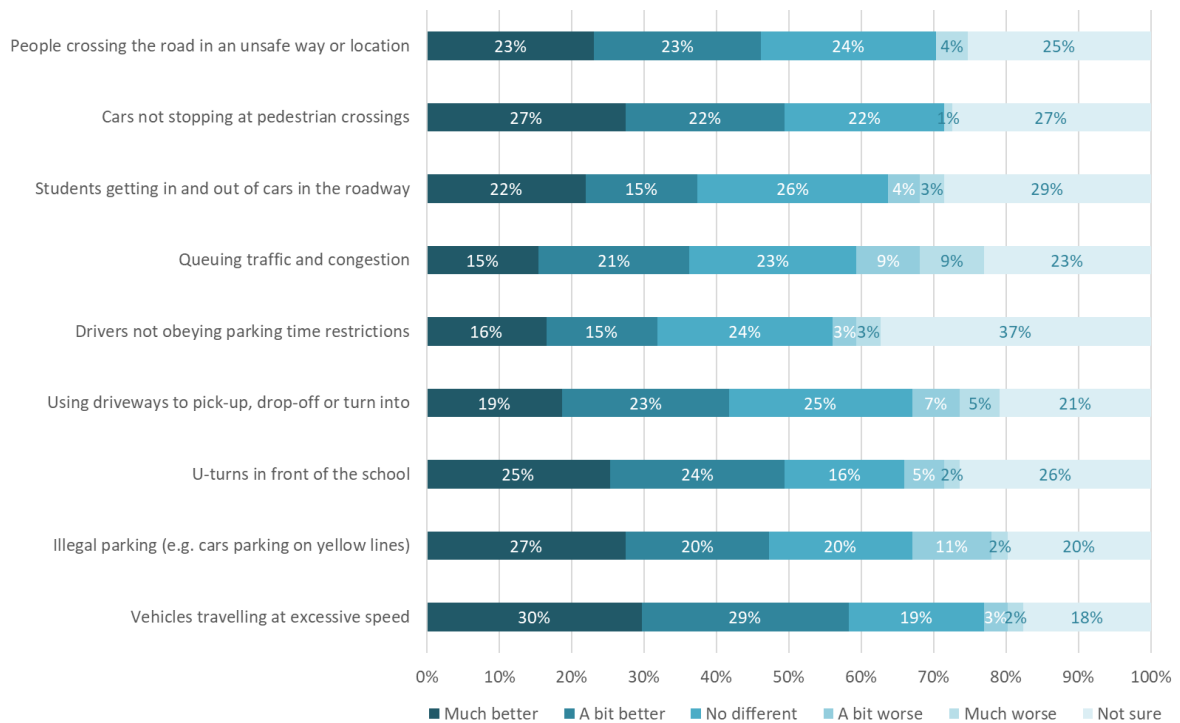


School community and resident survey respondents are combined (n=110); Question only asked to survey respondents who reported awareness of changes to The Crest

Thirty-four people explained their rating of effectiveness answers further. Of these respondents:

- 18% reported seeing unsafe or illegal parking and manoeuvring. Unsafe behaviours included parking on the grass berm, blocking driveways, making U-turns, overtaking other vehicles, and parking facing the wrong way
 - 6% percent reported that the incidence of these behaviours had decreased since the changes were made.
- 12% reported finding the reduction in parking spaces frustrating.

Figure 14: Fordyce Ave:



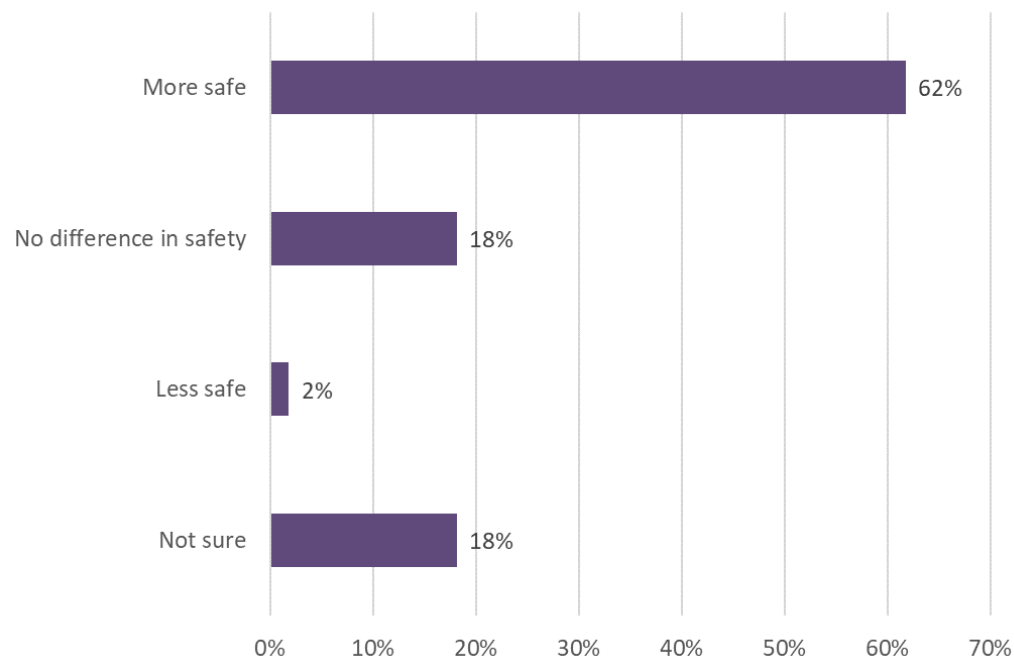
School community and resident survey respondents are combined (n=91); Question only asked to survey respondents who reported awareness of changes to Fordyce Ave

Thirty-one people explained their rating of effectiveness answers further. Of these respondents:

- 16% reported seeing unsafe manoeuvres including not stopping at the crossing, making U-turns, and double-parking. One respondent said that the bollards used to extend the kerb were distracting
- 13% said they had noticed a reduction in vehicle speed since the changes
- 13% reported being frustrated by the reduction in available parking.

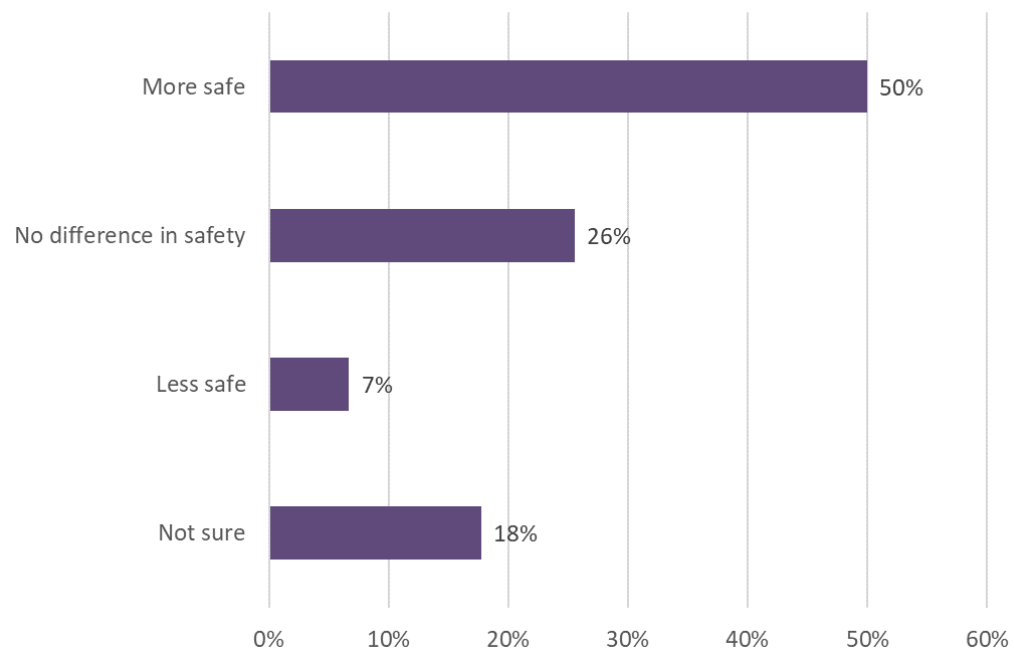
Thinking again about the school drop-off and pick-up, would you say the temporary changes have made these times more safe for children, less safe or is there no difference in safety?

Figure 15: The Crest



School community and resident survey respondents are combined (n=110); Question only asked to survey respondents who reported awareness of changes to The Crest.

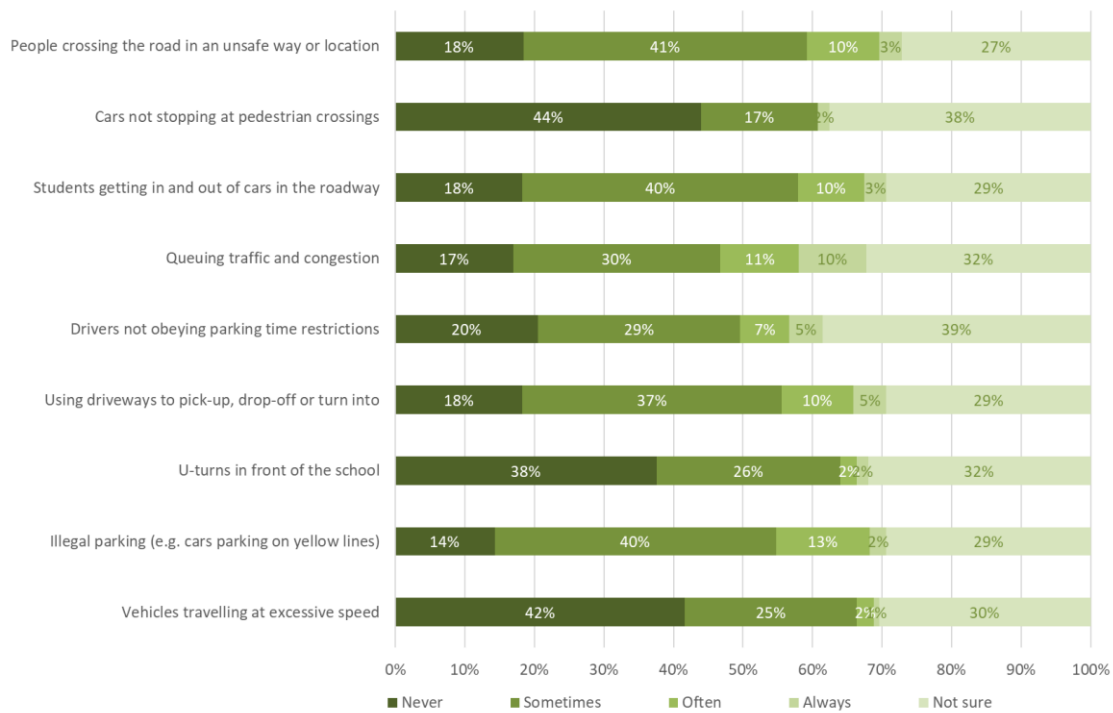
Figure 16: Fordyce Ave



School Community and resident survey respondents are combined (n=90); Question only asked to survey respondents who reported awareness of changes to Fordyce Ave.

How often do you currently see the following during school drop-off and pick-up times?

Figure 17: The Crest

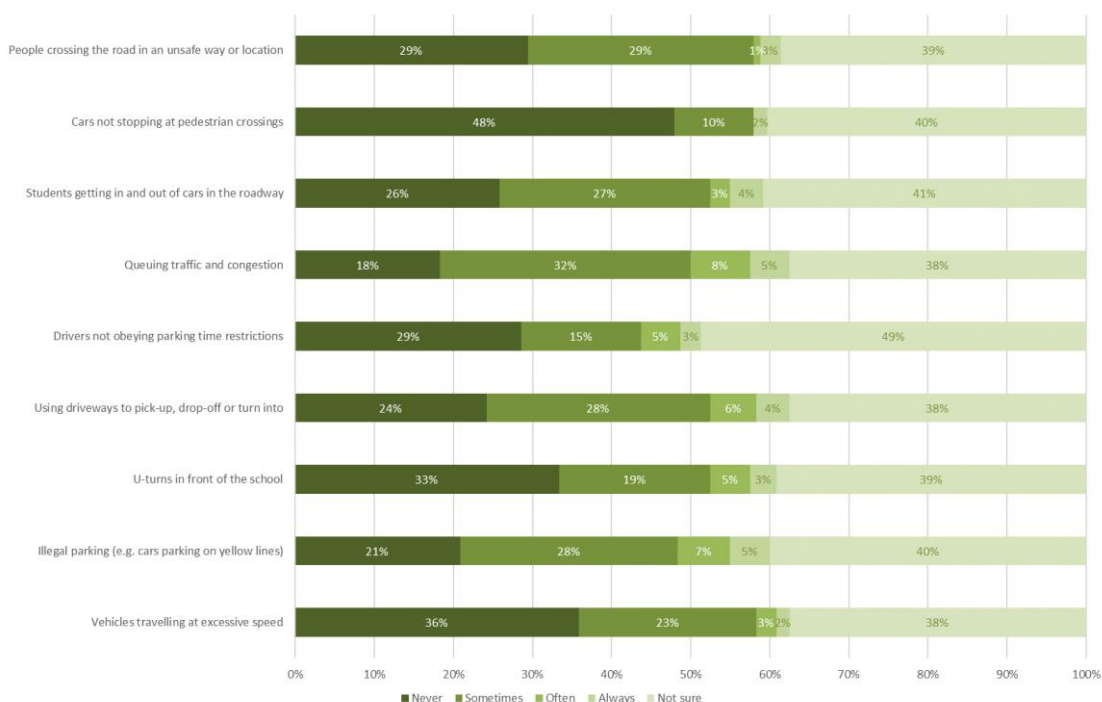


School community and resident survey respondents are combined (n=126); Question asked to all survey respondents.

Thirty-seven people explained their answers further. Of these respondents:

- 14% reported seeing unsafe manoeuvres including U-turns in driveways, and vehicles pulling into parks on the opposite side of the road at high speed
- 8% said that the changes had reduced instances of poor driver behaviour, although they reported that there were still instances of drivers who disregarded all of the measures designed to decrease speed around the school.

Figure 18: Fordyce Ave



School community and resident survey respondents are combined (n=120); Question asked to all survey respondents.

Thirty-two people explained their answers further. Of these respondents:

- 6% described what they liked about the changes, including the kerb buildouts and the speed bumps
- 9% described what they disliked about the changes, including the kerb buildouts and the planter boxes.

Nine percent of respondents mentioned the roundabout, and 6% of respondents supported its removal, stating that it was unsafe and they were glad to see it removed.

5.5 Further impacts

Forty-seven people reported experiencing further impacts of the changes. Of these respondents:

- 30% described what they liked about the changes, particularly noting the kerb buildouts and the speed bumps
- 23% described what they disliked about the changes, particularly noting the kerb buildouts, planter boxes, and the speed bumps
- 28% stated that they did not like the reduction of available parking spaces.

5.6 Future suggestions

Suggestions for future changes included developing a drop-off zone and a pedestrian crossing, installing signs indicating for drivers to slow down, and using signage or public outreach to discourage people from U-turning and blocking driveways. Many respondents also expressed a

desire for an educational campaign promoting safe pick-up and drop-off behaviours, and an incentive scheme to encourage more children to walk or bike to school.

5.7 Resident feedback forms

Residents on the streets surrounding Sunnyhills Primary School were also given the option to provide feedback on the trial via a mail feedback form. Overall, 33 residents provided feedback through these forms. This section presents the findings from these residents.

When asked if the changes have improved safety for children getting to and from school, 16 residents responded “No”, 7 responded “Yes”, and 5 were “Unsure”. Of these, 21 residents provided further suggestions to improve safety:

- Six residents highlighted the need to improve safety education, and possibly introduce some enforcement measures to improve safety behaviour
- Four residents noted the effectiveness of the speed bumps, and would be interested in seeing them made permanent
- Two residents wanted to see an improvement in the crossing options, particularly on The Boulevard and Fordyce Ave
- The remaining responses highlighted various concerns with the implementations:
 - Three residents noted a speed increase as people exit the speed bumps
 - Three residents highlighted aesthetic concerns with the scheme, particularly with the flexible bollards.

When asked if the changes have improved congestion around the school during school pick-up/drop-off times, 18 residents responded “No”, 6 residents responded “Yes”, and 8 residents were “Unsure”. When asked to provide suggestions to improve congestion, 19 residents provided further comment:

- Six residents highlighted the need for education around using active modes to travel to school
- Five residents noted that the congestion had mainly dispersed to surrounding areas, particularly The Boulevard
- Three residents believed that the increased congestion was related to the parking removal. In contrast, three residents suggested that further restricting parking on The Crest would improve congestion.

When asked if the changes had affected their journey time, 15 residents responded “No”, 13 residents responded “Yes”, and 4 were “Unsure”. Fifteen residents further explained their answers:

- Five residents noted that the trial implementation added inconvenience to their journeys during school pick-up/drop-off times.
- Four residents noted that the changes were inconvenient outside of the school pick-up/drop-off times.
- Three residents highlighted that the changes were visually distracting and added clutter to the road environment, which could impact their journeys.
- Three residents felt that there was not much impact on their journey, and one resident believed that the environment was less chaotic after the changes.

Finally, 28 residents provided overall feedback on the changes:

- Ten residents expressed aesthetic concerns with the temporary features. In particular, four residents noted that the bollards were visually unappealing.
- Five residents believed that the environment was safer and liked the changes. In addition, four residents noted that the speed bumps were effective and would like them to be made permanent.
- Five residents highlighted the need for safety education both for parents and for schoolchildren.
- Three residents believed that the speed bumps caused inconvenience, and a further two residents found the changes to cause inconvenience outside of school hours.

6. SCHOOL STAFF AND STUDENT INTERVIEWS

Feedback on the trial was gathered from school staff and students in February 2022. Two focus interviews were conducted:

- Sunnyhills School staff focus group
- Sunnyhills School Year 5 and 6 students focus group.

Staff focus group:

- Driving speeds were perceived as slower on the streets surrounding the school, particularly on The Crest. Poor parking behaviour, such as parking residents' driveways, was reported to still persist, however felt to have probably decreased since the changes were implemented.
- Specific interventions were noted to be very effective, particularly the speed cushions and kerb extension, and staff look forward to these changes being made permanent.
- While the bollards have been effective in reducing the turning corner and improving U-turn behaviour, particularly at Suzetta Place, they are unappealing aesthetically. The planter boxes have also not been well received, with staff suggesting that broken yellow lines were effective enough in discouraging parking in these locations.
- The primary dissatisfaction with this trial is related to timelines and communication, not necessarily the interventions. It was perceived to be poorly communicated to the community that this was a trial, and that the trial interventions were in temporary not permanent form. The time delays also made it difficult for the community to understand that the changes were being trialled. The school also noted the impact of Covid-19 in the extended timelines.
- Due to the delays and perceptions of poor communication, some residents raised concern about the project to the school. Staff reported that this has caused the school some stress and frustration, as residents perceived the school to be responsible.

Student focus group:

- The students in the group identified all the changes made and displayed a good understanding of their purpose. For example, they noted that the bumps and planter boxes helped to slow vehicle speed and that bollards restricted vehicle access.
- Students found that the changes made the streets "safer to cross", much safer for "drivers and school kids", and that cars were less likely to "get closer to bikes and kids".
- They found that the plants in the planter boxes were pretty, and the crossing was a good addition as they now have somewhere to cross instead of "being in danger".

7. DISCUSSION

Following the interim treatments, vehicle speed on Fordyce Ave and The Crest reduced considerably – with 85th percentile speeds reducing by around 12km/h on both streets. Considering that traffic volumes were also reduced at follow-up, this can be seen as encouraging as reduced traffic volume might typically encourage higher speeds. Speed reductions were particularly significant on The Crest, where 85th percentile speeds reduced to a Safe System speed of below 30km/h. School community and resident survey responses also indicated that the interventions have shifted perception of The Crest as now a slower speed environment. Survey respondents and the school staff focus group tended to perceive the kerb-buildout on The Crest and speed bumps in the area as particularly effective in achieving their intended safety function.

The number of risky road user behaviour events and interactions observed through video analysis reduced at follow-up. However, note that the low number of events coded may be a factor of the large reductions in traffic volume in the area. The four-year period between baseline and follow-up video data collection and COVID impacts, which have impacted travel patterns due to staggered school start-times or online learning, may also have contributed to the comparatively lower number of risky behaviour and interactions observed. Nevertheless, the video data provides a good description of current road user behaviour and indicates a comparatively safer environment than at baseline.

Key issues at baseline (such as U-turns on Fordyce Ave, notably at the entrance to Suzetta Place, or double-parking on The Crest) were not observed to be particularly problematic at follow-up. Follow-up video indicates that the kerb-buildouts at the entrance to Suzetta Place, which have reduced the turning radius for vehicles, have been effective in dealing with this risky vehicle behaviour and this has also been noted by the school staff focus group. Pedestrians were observed crossing The Crest off the provided crossing, however, mostly in a safe and controlled manner. This behaviour may also indicate that the street is now perceived to be safer, for example, because of reduced vehicle speed.

While the school community and resident respondents rated most drop-off/pick-up behavioural issues as having improved from baseline, a few issues were identified as no different. On The Crest, these issues were congestion, drivers not obeying parking time restrictions, and the use of driveways for pick-up and drop-off. On Fordyce Ave, illegal or unsafe parking was still perceived to be an issue.

Perceptions of the safety of Fordyce Ave and The Crest at school drop-off and pick-up times were examined through the school community and resident surveys. The majority of respondents to both surveys indicated that the interventions had made the environment safer for children. Speed cushions and kerb-buildouts on both streets were identified as being particularly effective in achieving their intended safety outcome. Respondents were more divided on the effectiveness of the planter boxes, with concerns about the lack of parking, potential blocked view of children crossing, and aesthetic concerns. While the kerb-buildouts were highlighted as effective, aesthetics were again a concern.

School staff reported that the changes were generally perceived to be effective and the safety improvements were appreciated in the community. It would appear that much of the feedback from the resident group stemmed from the look and feel of the temporary materials used in the trial. The extent of negative feedback may have been reduced through more effective communication about the trial to the Sunnyhills school community and resident population.

School staff reported a low level of understanding about the trial in the community, with project delays also thought to have contributed to this.