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City of Yarra - 30km/h Speed Limit: Analysis of Community Surveys

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Abstract:

The City of Yarra in Victoria is contemplating the introduction of a trial of 30km/h in local streets in the ROSE and GOLD precincts of Fitzroy and Collingwood. Before commencing the trial, the City of Yarra conducted two surveys of the community to understand the level of support for the trial, and the general attitude towards reduced-speed limits. The Monash University Accident Research Centre was commissioned to analyse the results of these surveys, and this report describes the results of this analysis.

Key Words:

Speed Reduction, Safety, Accidents, Injuries,
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EXECUTIVE SUMMARY

The City of Yarra is scheduled to trial 30 km/h speed-limits for local streets in the Rose and Gold precincts in the 2017/18 financial year. As part of this trial, the Council is conducting pre-trial activities, which include establishing baseline data for the Rose and Gold precincts, and two comparable precincts in which no speed-limit changes will be made (LAPM precincts of Collingwood and Fitzroy). These are referred to as the Case and Control areas respectively (see Figure below).

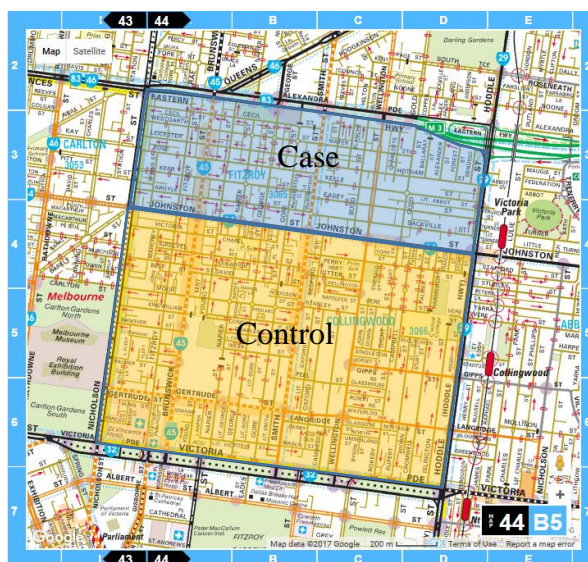


Figure: Study area

The Council sought feedback from the community on the proposal as part of the pre-trial activities, by conducting two surveys. The first was a survey of attitudes to lower speed-limits, and 4,000 properties from the Case and Control areas were invited to participate in this survey. The second was a survey hosted on 'Your Say Yarra' from 29 May 2017 through 23 June 2017. This survey was titled '30 km/h speed limit trial', and was focused on identifying the level of support for the implementation of 30 km/h speed-limits from residents, business owners, and visitors to the area. This survey was open to the broader community, yet participants with a property address in the Case or Control area were identified for analysis.

The aim of this report is to describe an analysis of the survey results that sought to; (i) identify the main factors that relate to the level of support for 30 km/h speed-limits, so to inform the trial and the potential broader implementation of speed-limit reductions beyond these two precincts; and (ii) establish a baseline for comparison at the completion of the trial.

Attitudes to Lower Speed Limits

Characteristics of the survey participants

A total of 531 people responded to the 'Attitudes to Lower Speed Limits' survey (13.3% response). A comparable proportion of survey participants were male (49.6%) and female (46.8%), and the highest proportion were 35 to 49 year olds (34.6%). English was the only language spoken in the majority of households (88.4%), and households were largely occupied by couples without children (39.7%) or a single person (26.4%). Most houses were owned (43.8%), rented privately (30.6%), or under mortgage (23.1%), and the highest

proportion of participants had lived in the City of Yarra for over 10 years (43.5%). Being employed in the City of Yarra was more common (80.8%) than any other activity (e.g. student), and the highest proportion of participants that had worked in the City of Yarra, had done so for between 1 and 5 years (42.0%).

Findings

The survey included questions about the participants demographic, their travel behaviour, attitudes to lower speed limits, and attitudes towards speed. Overall, 41.4 percent of participants were supportive of 30 km/h speed-limits in their own street. Similarly, 37.0 percent of participants were supportive of 30 km/h speed-limits in other local residential streets (55.2% were not supportive).

Several demographic factors were found to be related to the level of support for lowered speed limits in their street. These were household language, time worked in the City of Yarra, and household structure. Across the full sample, households with a language spoken other than English, and participants that had worked longer in the City of Yarra were less likely to support lowered speed-limits. Further, all factors related to travel behaviour (e.g. method of travel, distance travelled), and attitudes towards speed-limits, were found to be associated with the level of support for lowered speed-limits. In general, higher vehicle ownership, longer distances travelled per week, use of a car for short and long trips, was associated with not supporting lowered speed-limits. In contrast, shorter average distance travelled per week, cycling, and use of public transport was associated with supporting lowered speed-limits. It was also found that participants who believed lowered speed-limits would not impact on travel time, would reduce crash severity, and make areas more pleasant, were more likely to support lowered speed limits.

Your Say Yarra Survey

Characteristics of the survey participants

There were 198 survey responses in total from participants with a property address eligible for the study sample. The highest proportion of participants across the sample were male (62.4%), the distribution of responses across age was relatively even from 20 years to 59 years, and the majority of participants were residents of the suburbs of Collingwood or Fitzroy (86.4%). There were only numerical differences in the demographic characteristics of the survey participants between the Case and Control groups.

The highest proportion of the participant households in the sample were occupied by couples (n= 74, 42.5%), and a comparable proportion were occupied by a sole person (n= 40, 23.0%) or a family (n= 35, 20.1%). A similar proportion of the properties were rented privately (n= 51, 29.0%), owned under mortgage (n= 50, 28.4%), or owned outright (n= 70, 39.8%). A small proportion were rented through a housing association or similar. The majority of dwellings were a flat, unit, or apartment in the sample (n= 94, 51.4%), and almost half of participants had lived in the City of Yarra for at least 10 years (n= 87, 49.4%).

Findings

Overall, the level of support for a trial of lower speed limits was 40% combining the Case and Control group, with 60% opposed. Not surprisingly, the level of support in the Rose and Gold areas, where the lower speed limits will be introduced, was lower (35%) than in the control or non-treated areas (45%). This is not unexpected as there has been little discussion

of the benefits of the trial among these residents. Previous experience from a similar trial showed similar pre-trial trends but importantly, post-trial responses showed much higher support for the lower speed limits in these local streets.

Across the sample and in the Control group, there were significant variations in the level of support across age group, household structure, a household with a member with a disability, dwelling type, and the time lived in the City of Yarra. Those aged 20-34 years, participants living in a flat, unit, or apartment, and those who have lived in Yarra for under 5 years were more likely to disagree with the proposal. By contrast, participants over 60 years of age, family households, households with a member with a disability, participants living in a semi-detached, row, or terrace house, and those who have lived in Yarra for at least 10 years were more likely to agree with the proposal.

Finally, a higher proportion of participants with a property address in the LAPM Fitzroy precinct were supportive of 30 km/h speed-limits than the Rose, Gold, and Collingwood precincts. Moreover, whilst across the sample the level of support was found to be associated with a variety of demographic and situational factors, it was most strongly associated with the type of dwelling.

Conclusion

A summary of the factors found to be associated with different levels of support for lowered speed limits ('Attitudes to Lower Speed Limits' survey), and levels of support for the 30 km/h trial ('Your Say Yarra survey'), is shown in the table below. These are factors found to be associated with a greater strength of statistical significance ($p=0.05$) for participants in the full sample.

Factor	IN support	NOT in support
Attitudes to Lower Speed Limits		
Language	N/A	Language other than English in household
Time worked in Yarra	Worked up to 5 years	Worked over 10 years
Vehicle ownership	Households with no vehicles	Households with 2 vehicles
Average distance travelled	Up to 50 kilometres per week	Over 50 kilometres per week
Method of travel for short trips	Cycling	Driving
Method of travel for long trips	Cycling and public transport	Driving
Impact on travel time	Believe that it would not impact travel time	Belief that it would impact travel time
Impact on crash severity	Believe that it would reduce crash severity	Believe that it would not reduce crash severity
Impact of amenity	Believe that it would improve	Believe that it would not improved
Your Say Yarra		

Age group	60+ year olds	20-34 year olds
Household structure	Family household	Couples only
Member with disability	Households with a member with a disability	Without member with a disability
Dwelling type	Participants living in semi-detached, row or terrace houses	Participants living in flat, unit or apartment
Time lived in Yarra	Over 10 years	Under 5 years
Location of residence	Property address in the LAPM Fitzroy precinct	Property address in Rose, Gold, and LAPM Collingwood precincts

1. INTRODUCTION

1.1. AIM AND SCOPE

This report presents the findings of an analysis of two surveys of community attitudes towards the implementation of a 30 km/h speed-limit trial in the Rose and Gold precincts of the City of Yarra. The aim of this report is to describe the main factors that relate to the level of support for 30 km/h speed-limits, so to inform the trial and establish a baseline for comparison at the completion of the trial. The scope of the analysis was therefore to describe the characteristics of the survey participants, test for differences in these characteristics, test for differences in the level of support for 30 km/h speed-limits between study groups (see Figure 1 for case and control areas), and identify key associations between the level of support and demographic and situational factors.

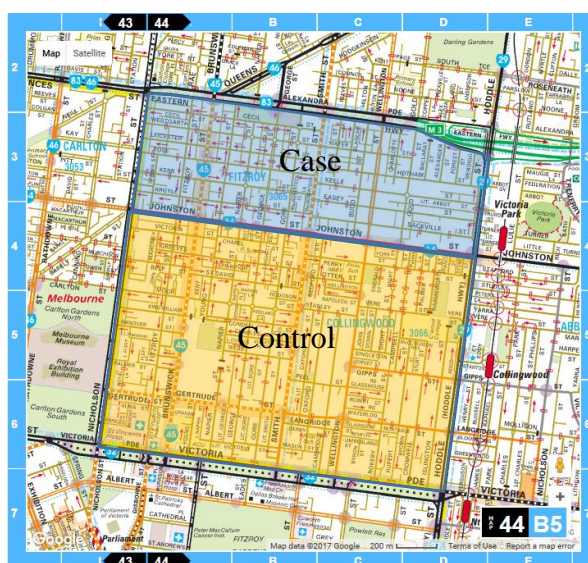


Figure 1: Study area

2. THE SURVEYS

2.1. SCOPE

The first survey was titled 'Attitudes to lower speed limits', and this consisted of several questions related to demographic, travel behaviour, and attitudes towards speed and speed-limit factors. A total of 4,000 property addresses in the LAPM precincts of Rose, Gold, Fitzroy, and Collingwood were invited to complete the survey.

The second survey was posted on 'Your Say Yarra' from 29 May 2017 through 23 June 2017, and participants of this survey were invited to provide feedback on the proposed 30 km/h speed limit trial in (parts of) the suburbs of Fitzroy and Collingwood. The survey was titled '30 km/h speed limit trial', and subtitled 'have your say on a proposed 30 km/h speed limit trial in parts of Fitzroy and Collingwood'. The invitation indicated that the City of Yarra sought feedback from local residents, business owners, and visitors on their traffic experiences in the suburbs of Fitzroy and Collingwood, and noted the 30 km/h speed limit trial was subject to the outcomes of this consultation alongside research.

2.2. SURVEY QUESTIONS

2.2.1. Attitudes to Lower Speed Limits

This survey consisted of 21 primary questions with varying response conditions relevant to this analysis. These are listed in Table 1 (adapted from actual survey).

Table 1 Attitudes to lower speed limits survey questions (adapted)

Demographic and household questions...
What is your gender?
What is your age?
Is a language other than English spoken in your household?
How long have you lived in the City of Yarra
How long have you worked in the City of Yarra
Is there a member of your household with a disability?
What is your main activity in the City of Yarra (e.g. employed, student)?
What is your housing situation (e.g. renting)?
What is your housing structure (e.g. couple without children)?
How many children are in your household?
Travel behaviour questions...
How many vehicles are there in your household?
How far do you drive in a week on average?
What is your main method of travel for short trips (up to 2 km)?
What is your main method of travel for long trips (over 2 km)?
Attitudes towards speed limit questions...
Do you believe lowering the current speed limit would not increase travel time?
Do you believe lowering the current speed limit would reduce crash severity?
Do you believe lowering the current speed limit would make areas more pleasant and healthier?
Support for 30 km/h speed limit questions...
Do you support the introduction of 30 km/h speed-limits in your street?
Would you like to see 30 km/h speed-limits in other residential street?
Would you like to see 30 km/h speed-limits in shopping strips?
Would you like to see 30 km/h speed-limits in other areas across Melbourne?

2.2.2. Your Say Yarra

The on-line survey consisted of 20 questions. The primary question of interest to the 30 km/h speed limit trial was that which asked to what extent the participant supported *‘the introduction of a 30 km/h speed limit in my local street’*; and *‘the introduction of a 30 km/h speed limit in other local residential streets’*. Their level of support was to be identified on a 5-point scale from ‘strongly agree’ to ‘strongly disagree’.

The survey participant was required to indicate their property address, and this was used to attribute the participant to a City of Yarra Local Area Place Making (LAPM) precinct. This analysis was concerned with participants from either the Case site (Case = LAPM Rose or Gold), or the Control site (Control = LAPM Collingwood or Fitzroy). It was not necessary; however, for participants to have an address in either a Case or Control precinct to complete the survey. An adapted version of the survey questions are provided in Table 2.

Table 2 Your Say Yarra survey questions (adapted)

Please provide the following details:	
Q1	Your connection to Fitzroy or Collingwood
Q2	Your property number and street name
Q3	Your suburb
Q4	Your name
Q5	Your contact details
To what extent do you agree with the following statements (5 point scale):	
Q6a	I am concerned about traffic speed and volume in my street
Q6b	Lower speed limits would reduce the likelihood and severity of crashes
Q6c	Lower speed limits would encourage more walking, cycling, and social activity on the street
Q6d	Lower speed limits would reduce short-cutting traffic
Q6e	A speed limit reduction of 10 km/h on local residential streets would significantly increase travel times
To what extent do you agree with the following statements (5 point scale):	
Q6f	I support the introduction of a 30 km/h speed limit in my local street (the location in Fitzroy or Collingwood you live, work, or visit)
Q6g	I support the introduction of a 30 km/h speed limit in other local residential streets of Fitzroy and Collingwood (excluding main roads and shopping strips such as Brunswick Street)
Other	
Q7	Further comments
Q8	Gender
Q9	Age
Q10	What is the structure of your household?
Q11	Do any members of your household have a permanent or long-term disability?
Q12	What is your housing situation?
Q13	What is your dwelling type?
Q14	How long have you lived in Yarra?

2.2.3. Definitions

For the purpose of this analysis, the following terms have been adopted to describe the study groups:

- *LAPM*: Local Area Place Making precinct
- *Case*: Responses relevant to a property address in either the Rose or Gold LAPM precinct
- *Control*: Responses relevant to a property address in either the Collingwood or Fitzroy precinct, but not Rose or Gold LAPM precincts
- *Suburb of Fitzroy*: The suburb of Fitzroy, and not the Fitzroy LAPM precinct
- *Suburb of Collingwood*: The suburb of Collingwood, and not the Collingwood LAPM precinct
- *Numerical difference*: A difference between the Case and Control group in the distribution or value of a response that is numerically different but not statistically significant.
- *Pool*: A set of conditions or values grouped together for analysis.

3. SURVEY RESULTS

3.1. ATTITUDES TO LOWER SPEED LIMITS

3.1.1. Participant characteristics

There were 531 survey responses in total, and 304 of these were from a Case precinct (57.3%) and 227 from a Control precinct (42.7%). There was a similar proportion of participants in the sample that were male (n= 263, 49.6%) and female (n= 248, 46.8%); and a smaller number that preferred not to say (n= 18, 3.4%) (0.2% were 'other') (Table 3). The greatest proportion of participants were in the age group 35 to 49 (n= 183, 34.6%), and a similar proportion were in the age groups on either side (25 to 34 years, n= 111, 21.0%; 50 to 59 years, n= 110, 20.8%) (Table 4).

The high majority of the participants in the sample resided in a household that spoke only English (n= 419, 88.4%), and this was true for those with a property address in the Case or Control area; although just over 10 percent of participants did not complete this question (10.7%) (Table 5).

Table 3 Gender

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Female	138 (45.4%)	110 (48.7%)	248 (46.8%)
Male	153 (50.3%)	110 (48.7%)	263 (49.6%)
Other	1 (0.3%)	0 (0.0%)	1 (0.2%)
Prefer not to say	12 (3.9%)	6 (2.7%)	18 (3.4%)
<i>Sub-total</i>	<i>307 (100.0%)</i>	<i>226 (100.0%)</i>	<i>530 (100.0%)</i>
Missing (% of total)	0 (0.0%)	1 (0.4%)	1 (0.2%)

Table 4 Age Group

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
16-24 years	7 (2.3%)	5 (2.2%)	12 (2.3%)
25-34 years	71 (23.4%)	40 (17.8%)	111 (21.0%)
35-49 years	109 (35.9%)	74 (32.9%)	183 (34.6%)
50-59 years	56 (18.4%)	54 (24.0%)	110 (20.8%)
60-69 years	41 (13.5%)	36 (16.0%)	77 (14.6%)
70-79 years	16 (5.3%)	14 (6.2%)	30 (5.7%)
80 years and over	4 (1.3%)	2 (0.9%)	6 (1.1%)
<i>Sub-total</i>	<i>304 (100.0%)</i>	<i>225 (100.0%)</i>	<i>529 (100.0%)</i>
Missing (% of total)	0 (0.0%)	2 (0.9%)	2 (0.4%)

Table 5 Language

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
English only	250 (90.3%)	169 (85.8%)	419 (88.4%)
Language other than English	27 (9.7%)	28 (14.2%)	55 (11.6%)
<i>Sub-total</i>	<i>277 (100.0%)</i>	<i>197 (100.0%)</i>	<i>474 (100.0%)</i>
Missing (% of total)	27 (8.9%)	30 (13.2%)	57 (10.7%)

The characteristics of the participant's household is described in Tables 6 through 9. The highest proportion of the households were occupied by couples without children across the sample (n= 188, 39.7%), and in both the Case group (n= 113, 40.6%) and Control group (n= 75, 38.5%). Otherwise, single-person households were most commonly reported (n= 125, 26.4%), even if all family conditions were combined (i.e. all children ages) (Table 6).

The highest proportion of participants owned their home (n= 205, 43.8%), with most of the remaining participants privately renting (n= 143, 30.6%), or owning a home under mortgage (n= 108, 23.1%). A smaller proportion were renting from the Office of Housing or a housing association (n= 12, 2.3%) (Table 7).

Table 6 Household structure

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Single-person household	74 (26.6%)	51 (26.2%)	125 (26.4%)
Couple without children	113 (40.6%)	75 (38.5%)	188 (39.7%)
Family (youngest 0-4 years)	30 (10.8%)	13 (6.7%)	43 (9.1%)
Family (youngest 5-18 years)	15 (5.4%)	19 (9.7%)	34 (7.2%)
Extended or multiple families	1 (0.4%)	2 (1.0%)	3 (0.6%)
Family (adult children only)	11 (4.0%)	19 (9.7%)	30 (6.3%)
Group	34 (12.2%)	16 (8.2%)	50 (10.6%)
<i>Sub-total</i>	<i>278 (100.0%)</i>	<i>195 (100.0%)</i>	<i>473 (100.0%)</i>
Missing (% of total)	26 (8.5%)	32 (14.1%)	58 (10.9%)

Table 7 Housing situation

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Renting from Office of Housing or Housing Association	1 (0.4%)	11 (5.7%)	12 (2.3%)
Private rental	89 (32.4%)	54 (28.0%)	143 (30.6%)
Mortgage	65 (23.6%)	43 (22.3%)	108 (23.1%)
Own the home	120 (43.6%)	85 (44.0%)	205 (43.8%)
<i>Sub-total</i>	<i>275 (100.0%)</i>	<i>193 (100.0%)</i>	<i>468 (100.0%)</i>
Missing (% of total)	29 (9.5%)	34 (15.0%)	63 (11.9%)

Where there were children in the household, a similar proportion of households in the full sample had 1 or 2 children aged 18 or under (43.8% and 46.3% respectively) (Table 8). There was, however, a difference in the proportion of households with one or two children between the Case and Control group, and this difference was statistically significant (at p=0.10). Specifically, the majority of households with children in the Case group had one child (n= 25, 54.3%), and in the Control group, two children (n= 19, 55.9%).

The high majority of participants reported to not have a member of the household living with a disability (n= 438, 92.8%), and this was true for the Case and Control group (Table 9).

Table 8 How many children in household (aged 18 or under)

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
------------------	--------------------	-----------------------	----------------------

1	25 (54.3%)	10 (29.4%)	35 (43.8%)
2	18 (39.1%)	19 (55.9%)	37 (46.3%)
3	2 (4.3%)	3 (8.8%)	5 (6.3%)
4	0 (0.0%)	2 (5.9%)	2 (2.5%)
5+	1 (2.2%)	0 (0.0%)	1 (1.3%)
<i>Sub-total</i>	<i>46 (100.0%)</i>	<i>34 (100.0%)</i>	<i>80 (100.0%)</i>
Missing or no children (% of total)	258 (84.9%)	193 (85.0%)	451 (84.9%)

Table 9 Member of household with disability

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
No	256 (93.1%)	182 (92.4%)	438 (92.8%)
Yes	14 (5.1%)	12 (6.1%)	26 (5.5%)
Prefer not to say	5 (1.8%)	3 (1.5%)	8 (1.7%)
<i>Sub-total</i>	<i>275 (100.0%)</i>	<i>197 (100.0%)</i>	<i>472 (100.0%)</i>
Missing (% of total)	29 (9.5%)	30 (13.2%)	59 (11.1%)

The main activity of the participants was ‘employed’ (n= 384, 80.8%), and similar proportions were observed in the Case and Control group. Otherwise, participants tended to be retired or living on a pension (n= 59, 12.4%), and only a small proportion were described as unemployed, seeking work, a student, or attending to home duties (Table 10).

Table 11 shows the time lived in the City of Yarra. The highest proportion of participants had lived in the City of Yarra for at least 10 years, and this was true for the Case group (n= 118, 42.3%) and Control group (n= 89, 45.2%). A small proportion of participants in the full sample had lived in the City of Yarra for less than one year (n= 33, 6.9%). In contrast, the highest proportion of participants had worked in the City of Yarra for between 1 and 5 years (n= 71, 42.0%), although this only includes those who identified as working in the City of Yarra (Table 12).

Table 10 Main activity

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Employed	225 (80.9%)	159 (80.7%)	384 (80.8%)
Unemployed or seeking work	5 (1.8%)	6 (3.0%)	11 (2.3%)
Retired or pension	34 (12.2%)	25 (12.7%)	59 (12.4%)
Student	8 (2.9%)	4 (2.0%)	12 (2.5%)
Home duties	4 (1.4%)	1 (0.5%)	5 (1.1%)
Other	2 (0.7%)	2 (1.0%)	4 (0.8%)
<i>Sub-total</i>	<i>278 (100.0%)</i>	<i>197 (100.0%)</i>	<i>475 (100.0%)</i>
Missing (% of total)	26 (8.6%)	30 (13.2%)	56 (10.5%)

Table 11 Time lived in Yarra

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Under 1 year	15 (5.4%)	18 (9.1%)	33 (6.9%)
1 to 5 years	90 (32.3%)	60 (30.5%)	150 (31.5%)
5 to 10 years	56 (20.1%)	30 (15.2%)	86 (18.1%)

10 years or longer	118 (42.3%)	89 (45.2%)	207 (43.5%)
<i>Sub-total</i>	<i>279 (100.0%)</i>	<i>197 (100.0%)</i>	<i>476 (100.0%)</i>
Missing (% of total)	25 (8.2%)	30 (13.2%)	55 (10.4%)

Table 12 Time worked in Yarra

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Under 1 year	7 (7.0%)	2 (2.9%)	9 (5.3%)
1 to 5 years	44 (44.0%)	27 (39.1%)	71 (42.0%)
5 to 10 years	15 (15.0%)	17 (24.6%)	32 (18.9%)
10 years or longer	34 (34.0%)	23 (33.3%)	57 (33.7%)
<i>Sub-total</i>	<i>100 (100.0%)</i>	<i>69 (100.0)</i>	<i>169 (100.0%)</i>
Missing or does not work in Yarra (% of total)	204 (67.1%)	158 (69.6%)	362 (68.2%)

The majority of participants resided in a household with one vehicle (n= 261, 54.8%), and this was true for the Case and Control group (Table 13). A higher proportion of households had two or more vehicles (n= 147, 30.9%), than no vehicles (n= 68, 14.3%). Around half of the participants who travelled by car or motorbike, travelled up to 50 kilometres in a week (n= 231, 50.3%), then between 51 and 100 kilometres (n= 110, 24.0%) (Table 14).

Table 13 Vehicle ownership

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
0	42 (15.0%)	26 (13.3%)	68 (14.3%)
1	154 (55.0%)	107 (54.6%)	261 (54.8%)
2	70 (25.0%)	52 (26.5%)	122 (25.6%)
3+	14 (5.0%)	11 (5.6%)	25 (5.3%)
<i>Sub-total</i>	<i>280 (100.0%)</i>	<i>196 (100.0%)</i>	<i>476 (100.0%)</i>
Missing (% of total)	24 (7.9%)	31 (13.7%)	55 (10.4%)

Table 14 Average driving distance (car or motorbike)

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Up to 50 km	130 (50.2%)	101 (50.5%)	231 (50.3%)
51 to 100 km	64 (24.7%)	46 (23.0%)	110 (24.0%)
101 to 200 km	36 (13.9%)	23 (11.5%)	59 (12.9%)
200+ km	29 (11.2%)	30 (15.0%)	59 (12.9%)
<i>Sub-total</i>	<i>259 (100.0%)</i>	<i>200 (100.0%)</i>	<i>459 (100.0%)</i>
Not applicable	45 (14.8%)	26 (11.4%)	71 (13.4%)
Missing (% of total)	0 (0.0%)	1 (0.4%)	1 (0.2%)

The main method of travel for short trips and long trips were different. Specifically, the majority of participants walked for trips under 2 kilometres (n= 376, 71.1%), yet the majority either drove a car or were a passenger in a car for trips over 2 kilometres (n= 268, 50.5%). Otherwise, long trips were also commonly made using public transport (n= 148, 27.9%) (Table 16).

Table 15 Method of travel for short trips

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Walking	211 (69.6%)	165 (73.0%)	376 (71.1%)
Cycling	33 (10.9%)	15 (6.6%)	48 (9.1%)
Car (driver or passenger)	42 (13.9%)	22 (9.7%)	64 (12.1%)
Public transport	13 (4.3%)	22 (9.7%)	35 (6.6%)
Other	2 (0.7%)	1 (0.4%)	3 (0.6%)
Uber or other ride sharing	2 (0.7%)	1 (0.4%)	3 (0.6%)
<i>Sub-total</i>	<i>303 (100.0%)</i>	<i>226 (100.0%)</i>	<i>529 (100.0%)</i>
Missing (% of total)	1 (0.3%)	1 (0.4%)	2 (0.4%)

Table 16 Method of travel for long trips

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Walking	9 (3.0%)	8 (3.5%)	17 (3.2%)
Cycling	48 (15.8%)	21 (9.3%)	69 (13.0%)
Car (driver or passenger)	157 (51.6%)	111 (48.9%)	268 (50.5%)
Taxi	0 (0.0%)	1 (0.4%)	1 (0.2%)
Motorbike, moped, or scooter	3 (1.0%)	4 (1.8%)	7 (1.3%)
Public transport	73 (24.0%)	75 (33.0%)	148 (27.9%)
Other	8 (2.6%)	2 (0.9%)	10 (1.9%)
Uber or other ride sharing	6 (2.0%)	5 (2.2%)	11 (2.1%)
<i>Sub-total</i>	<i>304 (100.0%)</i>	<i>227 (100.0%)</i>	<i>531 (100.0%)</i>
Missing (% of total)	0 (0.0%)	0 (0.0%)	0 (0.0%)

The attitude of participants towards speed limits and reduced speed limits is shown in Table 17 through 20. The majority of participants believe that current speed limits in the local area are appropriate (n= 319, 60.9%), yet around one in five believe the speed limits are either a bit too fast, or much too fast (n= 109, 20.8%). There was mixed responses regarding the impact of reducing the speed limit (by 10 km/h) on travel time, yet a higher proportion of participants believed it would not impact on travel times (n= 231, 44.0%), than impact on travel times (n= 206, 39.4%).

Over half of participants believed that lowering speed limits would likely result in reduced crash severity (given a crash) (n= 324, 61.6%), and this attitude was consistent between the Case and Control groups. A higher proportion of participants believed lowering the speed limits would make the local area more pleasant, yet participants responses to this question was relatively mixed.

Table 17 Current speed limits in local area are appropriate

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Much too fast	13 (4.3%)	12 (5.4%)	25 (4.8%)
A bit fast	57 (19.0%)	27 (12.1%)	84 (16.0%)
About right	184 (61.3%)	135 (60.3%)	319 (60.9%)
A bit slow	36 (12.0%)	34 (15.2%)	70 (13.4%)

Far too slow	10 (3.3%)	15 (6.7%)	25 (4.8%)
Do not know	0 (0.0%)	1 (0.4%)	1 (0.2%)
<i>Sub-total</i>	<i>300 (100.0%)</i>	<i>224 (100.0%)</i>	<i>524 (100.0%)</i>
Missing (% of total)	4 (1.3%)	3 (1.3%)	7 (1.3%)

Table 18 Reduction in speed limits by 10 km/h will not impact travel time

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Strongly disagree	43 (14.3%)	38 (16.9%)	81 (15.4%)
Disagree	70 (23.3%)	55 (24.4%)	125 (23.8%)
Neither agree or disagree	37 (12.3%)	37 (16.4%)	74 (14.4%)
Agree	90 (30.0%)	59 (26.2%)	149 (28.4%)
Strongly agree	51 (17.0%)	31 (13.8%)	82 (15.6%)
Do not know	9 (3.0%)	5 (2.2%)	14 (12.7%)
<i>Sub-total</i>	<i>300 (100.0%)</i>	<i>225 (100.0%)</i>	<i>525 (100.0%)</i>
Missing (% of total)	4 (1.3%)	2 (0.9%)	6 (1.1%)

Table 19 Lowering speed limits would reduce crash severity

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Strongly disagree	26 (8.7%)	19 (8.4%)	45 (8.6%)
Disagree	40 (13.3%)	36 (15.9%)	76 (14.4%)
Neither agree or disagree	33 (11.0%)	36 (15.9%)	69 (13.1%)
Agree	117 (39.0%)	83 (36.7%)	200 (38.0%)
Strongly agree	80 (26.7%)	44 (19.5%)	124 (23.6%)
Do not know	4 (1.3%)	8 (3.5%)	12 (2.3%)
<i>Sub-total</i>	<i>300 (100.0%)</i>	<i>226 (100.0%)</i>	<i>526 (100.0%)</i>
Missing (% of total)	4 (1.3%)	1 (0.4%)	5 (0.9%)

Table 20 Lowering speed limits would make areas more pleasant

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Strongly disagree	37 (12.4%)	35 (15.6%)	72 (13.8%)
Disagree	70 (23.5%)	51 (22.7%)	121 (23.1%)
Neither agree or disagree	40 (13.4%)	50 (22.2%)	90 (17.2%)
Agree	76 (25.5%)	44 (19.6%)	120 (22.9%)
Strongly agree	71 (23.8%)	40 (17.8%)	111 (21.2%)
Do not know	4 (1.3%)	5 (2.2%)	9 (1.7%)
<i>Sub-total</i>	<i>298 (100.0%)</i>	<i>225 (100.0%)</i>	<i>523 (100.0%)</i>
Missing (% of total)	6 (2.0%)	2 (0.9%)	8 (1.5%)

3.1.2. Level of support

By group

Participants were asked if they supported 30 km/h speed-limits in their street on a 4-point scale, which included 'Yes', 'No', 'No opinion', and 'Do not know'. Table 21 shows the level of support for the sample and the Case and Control groups. It shows that just over half of the participants do not support 30 km/h speed-limits in their own street (n= 273, 51.8%), with a smaller proportion supporting the speed limit (n= 218, 41.4%). There were, however, differences in the level of support between participants in the Case and Control group, and these differences were statistically significant (at p=0.05). The main differences were, that a higher proportion of participants in the Case group were supportive than in the Control group, and a lower proportion of participants in the Control group 'did not know' than in the Case group.

Table 21 Level of support for 30 km/h limits in participants' street

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Yes	138 (45.8%)	80 (35.4%)	218 (41.4%)
No	150 (49.8%)	123 (54.4%)	273 (51.8%)
No opinion	4 (1.3%)	6 (2.7%)	10 (1.9%)
Do not know	9 (3.0%)	17 (7.5%)	26 (4.9%)
<i>Sub-total</i>	<i>301 (100.0%)</i>	<i>226 (100.0%)</i>	<i>527 (100.0%)</i>
Missing (% of total)	3 (1.0%)	1 (0.4%)	4 (0.8%)

By location

Participants were also asked to identify their level of support for 30 km/h speed-limits in other local residential streets, shopping strips, and more broadly across Melbourne. The level of support for these other locations against their support for 30 km/h speed-limits in their own street, is shown in Table 22 through 24 (missing responses not shown). The correlation between a participant supporting 30 km/h speed-limits in their own street, and other residential streets was also tested. This indicated that there was a strong correlation between these two attitudes.

Table 22 Level of support, along local residential streets

In my street	Along local residential streets, n (%)				
	Yes	No	No opinion	Do not know	<i>Sub-total</i>
Yes	182 (83.9%)	23 (10.6%)	2 (0.9%)	10 (4.6%)	<i>217 (100.0%)</i>
No	5 (1.8%)	262 (96.3%)	0 (0.0%)	5 (1.8%)	<i>272 (100.0%)</i>
No opinion	2 (20.0%)	2 (20.0%)	6 (60.0%)	0 (0.0%)	<i>10 (100.0%)</i>
Do not know	5 (20.0%)	2 (8.0%)	2 (8.0%)	16 (64.0%)	<i>25 (100.0%)</i>
<i>Sub-total</i>	<i>194 (37.0%)</i>	<i>289 (55.2%)</i>	<i>10 (1.9%)</i>	<i>31 (5.9%)</i>	<i>524 (100.0%)</i>

Table 23 Level of support, shopping strips

In my street	Shopping strips, n (%)				
	Yes	No	No opinion	Do not know	<i>Sub-total</i>
Yes	117 (53.9%)	73 (33.6%)	5 (2.3%)	22 (10.1%)	<i>217 (100.0%)</i>
No	12 (4.4%)	259 (94.9%)	0 (0.0%)	2 (0.7%)	<i>273 (100.0%)</i>

No opinion	2 (20.0%)	2 (20.0%)	6 (60.0%)	0 (0.0%)	10 (100.0%)
Do not know	5 (19.2%)	8 (30.8%)	2 (7.7%)	11 (42.3%)	26 (100.0%)
<i>Sub-total</i>	<i>136 (25.9%)</i>	<i>342 (65.0%)</i>	<i>13 (2.5%)</i>	<i>35 (6.7%)</i>	<i>526 (100.0%)</i>

Table 24 Level of support, other parts of Melbourne

In my street	Other parts of Melbourne, n (%)				
	Yes	No	No opinion	Do not know	<i>Sub-total</i>
Yes	111 (50.9%)	28 (12.8%)	24 (11.0%)	55 (25.2%)	218 (100.0%)
No	8 (2.9%)	254 (93.0%)	2 (0.7%)	9 (3.3%)	273 (100.0%)
No opinion	0 (0.0%)	1 (10.0%)	8 (80.0%)	1 (10.0%)	10 (100.0%)
Do not know	2 (7.7%)	5 (19.2%)	4 (15.4%)	15 (57.7%)	26 (100.0%)
<i>Sub-total</i>	<i>121 (23.0%)</i>	<i>288 (54.6%)</i>	<i>38 (7.2%)</i>	<i>80 (15.2%)</i>	<i>527 (100.0%)</i>

By factor

The association between the level of support for 30 km/h speed-limits in the participants' street, and different participant characteristics, travel behaviour, attitudes towards reduced speed-limits, and attitudes towards speed, were tested using bi-variate test methods. To overcome small sample sizes, in many cases it was necessary to combine or exclude the level of support conditions 'No opinion' and 'do not know', or combine some of the options available in the questionnaire. The results of this analysis for participant characteristics are shown in Table 25, travel behaviour in Table 26, and attitudes towards reduced speed-limits in Table 27. Where conditions were combined, this is indicated at the bottom of the table.

There were three participant characteristics found to be associated with the level of support for 30 km/h speed-limits in their own street. First, the participant residing in a household with a language spoken other than English were more likely to not support 30 km/h speed-limits. This was statistically significant (at $p=0.05$). Specifically, around half of households with only English supported 30 km/h-speed limits, compared to only 30 percent of households with a language spoken other than English. This association was, however, only found in the full sample and the Control group. Second, the longer participants had worked in the City of Yarra, the less likely they were to support 30 km/h speed-limits. In contrast, participants who had worked for fewer than 5 years were more likely to support lowered speed limits. Specifically, only 22.2 percent of participants that had worked for over 10 years were supportive of 30 km/h speed-limits, compared to 44.4 percent of participants that had worked up to 5 years. Third, across the full sample, family households with children no older than 4 years of age were more likely to support 30 km/h speed limits. This was only statistically significant for the full sample (at $p=0.10$), but not for the Case and Control group separately.

Table 25 Associations with level of support, participant characteristics

Factor	Case	Control	Sample
Gender***	0	0	0
Age group**	0	0	0
Language**	0	2	2
Household structure***	0	0	1
Household situation**	0	0	0

Number of children***	0	0	0
Disability in household**	0	0	0
Main activity	-	-	-
Time lived in Yarra**	1	0	0
Time worked in Yarra***	2	0	2
0 = not a statistically significant difference 1 = statistically significant difference in distribution between groups (at p=0.10) 2 = statistically significant difference in distribution between groups (at p=0.05) - = Not assessed given small expected value(s) * = Conditions of factor pooled for analysis ** = Levels of support 'no opinion' and 'do not know' excluded *** = Conditions of factor and levels of support pooled			

There was an association identified between the number of vehicles in the household, and level of support for 30 km/h speed-limits. This association was statistically significant (at p=0.05), but only for the full sample and the Control group. In both cases, households with no vehicles were more likely to support the reduced speed-limits, and households with 2 vehicles were more likely to not support 30 km/h speed-limits. Participants who estimated they drove no more than 50 kilometres in an average week, were more likely to support 30 km/h speed-limits, than those who drove more than 50 kilometres per week. This difference was observed in the Case and Control group, and in the full sample, and was statistically significant (at p=0.05).

Similarly, there was a difference in the level of support across different methods of travel for short trips. Specifically, across the full sample and the Case and Control groups, participants who drove short trips were more likely to not support the lowered speed-limits. In the full sample and Case group, participants who cycled short trips were more likely to support 30 km/h speed-limits; although this was not found for the Control group. These differences were statistically significant (at p=0.05). There were also statistically significant differences (at p=0.05) observed in the level of support across method of travel for long trips. In general, participants who cycle or use public transport were likely to support lower speed-limits, and people who drove were more likely to not support lowered speed-limits.

Table 26 Associations with level of support, travel behaviour

Factor	Case	Control	Sample
Vehicle ownership**	0	2	2
Average distance travelled**	2	2	2
Method of travel short trips***	2	2	2
Method of travel long trips***	2	2	2
0 = not a statistically significant difference 1 = statistically significant difference in distribution between groups (at p=0.10) 2 = statistically significant difference in distribution between groups (at p=0.05) - = Not assessed given small expected value(s) * = Conditions of factor pooled for analysis (refer below) ** = Levels of support 'no opinion' and 'do not know' excluded *** = Conditions of factor and levels of support pooled			

Participants were more likely to support lowered speed-limits if they believed it would not impact on travel time, it would reduce crash severity, and make the local areas more pleasant. In contrast, participants were more likely to not support lowered speed-limits if they believed

this to not be the case. These differences were all statistically significant for the full sample, and the Case and Control group (at $p=0.05$).

Table 27 Associations with level of support, attitudes towards reduced speed-limits

Factor	Case	Control	Sample
<i>Lowering speed-limits...</i>			
Will not impact travel time**	2	2	2
Reduces injury severity**	2	2	2
Makes areas more pleasant**	2	2	2
0 = not a statistically significant difference 1 = statistically significant difference in distribution between groups (at $p=0.10$) 2 = statistically significant difference in distribution between groups (at $p=0.05$) - = Not assessed given small expected value(s) * = Conditions of factor pooled for analysis (refer below) ** = Levels of support 'no opinion' and 'do not know' excluded *** = Conditions of factor and levels of support pooled			

Participants were also asked to indicate if they would be willing to work with Police to monitor speeds in the local area. The majority of participants in the full sample indicated that they would not be willing ($n= 368$, 69.7%), and a similar proportion indicated they would be willing ($n= 77$, 14.6%) as did not know or had no opinion about the initiative ($n= 83$, 15.8%). There was a numerically higher proportion of the Case group that were willing ($n= 48$, 15.9%) than in the Control group ($n= 29$, 12.8%), however, this difference was not statistically significant.

Participants that were more supportive of 30 km/h speed limits in their own street (and other local streets), were more likely to be willing to work with Police to monitor speed (statistically significant at $p=0.001$). A relationship was also found between the attitude towards reduced speed-limits and willingness to work with Police. Specifically, participants that believed reduced speed-limits would not impact on travel time, would reduce injury severity, and make areas more pleasant, were more willing to get involved in such an initiative. Moreover, participants that cycled for short trips were more likely to work with Police, and in contrast, participants that travelled by car for short trips were less likely to work with Police on monitoring speed. It is noted, however, that many of the travel conditions were pooled or omitted for this analysis given the small sample sizes (i.e. taxi, motorbike, Uber, and other).

3.2. YOUR SAY YARRA

3.2.1. Participant characteristics

There were 247 survey responses in total, and 198 (80.2%) from either a Case or Control precinct. Of the 198 responses (the sample), there were 74 participants from a Case precinct (37.4%), and 124 from a Control precinct (62.6%). The highest proportion of participants in the sample were male ($n= 116$, 62.4%), and this was also true for the Case group ($n= 49$, 70.0%) and Control group ($n= 67$, 57.8%) (Table 28). The distribution of responses across age group categories was relatively even from 20 years to 59 years, with the highest proportion of participants (adjusted for category interval size) in the Case group aged between 20 and 34 years, and aged 35 to 44 years in the Control group (Table 29). The majority of participants in the sample and across the Case and Control groups were residents of the suburbs of Fitzroy or Collingwood (see Table 30). There were only numerical

differences in the gender, age, relationship to the suburbs of Fitzroy or Collingwood between the Case and Control groups.

Table 28 Gender

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Female	18 (25.7%)	43 (37.1%)	61 (32.8%)
Male	49 (70.0%)	67 (57.8%)	116 (62.4%)
Other	0 (0.0%)	1 (0.9%)	1 (0.5%)
Prefer not to say	3 (4.3%)	5 (4.3%)	8 (4.3%)
<i>Sub-total</i>	<i>70 (100.0%)</i>	<i>116 (100.0%)</i>	<i>186 (100.0%)</i>
Missing (% of total)	4 (5.4%)	8 (6.5%)	12 (6.1%)

Table 29 Age Group

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
20-34 years	25 (36.2%)	29 (26.1%)	54 (30.0%)
35-44 years	16 (23.2%)	36 (30.6%)	50 (27.8%)
45-59 years	19 (27.5%)	25 (22.5%)	44 (24.4%)
60-74 years	8 (11.6%)	17 (15.3%)	25 (13.9%)
75 years or over	1 (1.4%)	6 (5.4%)	7 (3.9%)
<i>Sub-total</i>	<i>69 (100.0%)</i>	<i>111 (100.0%)</i>	<i>180 (100.0%)</i>
Missing (% of total)	5 (6.8%)	13 (10.5%)	18 (9.1%)

Table 30 Participant relationship to Fitzroy or Collingwood

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Resident only	64 (86.5%)	105 (84.7%)	169 (85.4%)
Business only	4 (5.4%)	4 (3.2%)	8 (4.0%)
Resident and business	1 (1.4%)	6 (4.8%)	7 (3.5%)
Neither resident or business	5 (6.8%)	9 (7.3%)	14 (7.1%)
<i>Sub-total</i>	<i>74 (100.0%)</i>	<i>124 (100.0%)</i>	<i>198 (100.0%)</i>

The characteristics of the participant's household is described in Tables 31 through 34. The highest proportion of the households were occupied by 'couples only' across the sample (n= 74, 42.5%), and in both the Case group (n= 28, 44.4%) and Control group (n= 46, 41.4%). Otherwise, a comparable proportion of households were occupied by a sole person, or a family (Table 31). While less than 7 percent of households had at least one member with a permanent or long-term disability, it is noted that a higher proportion of participants did not answer this question (Table 32).

A comparable proportion of properties were rented privately, owned under mortgage, or owned outright across the sample. Only a small proportion of the sample were rented from the Office of Housing or a housing association (n= 5, 2.8%), and none were in the Case group (Table 33).

Over 50 percent of dwellings were a flat, unit, or apartment across the sample and in the Case and Control group. A higher proportion of dwellings in the Control group were a semi-detached, row, or terrace houses (n= 42, 36.2%), than in the Case group (n= 16, 23.9%) yet

this difference and others observed in the participant's household were numerical only (Table 34).

Table 31 Household structure

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Sole person	11 (17.5%)	29 (26.1%)	40 (23.0%)
One parent	1 (1.6%)	2 (1.8%)	3 (1.7%)
Couples only	28 (44.4%)	46 (41.4%)	74 (42.5%)
Family	13 (20.6%)	22 (19.8%)	35 (20.1%)
Group	10 (15.9%)	12 (10.8%)	22 (12.6%)
<i>Sub-total</i>	<i>63 (100.0%)</i>	<i>111 (100.0%)</i>	<i>174 (100.0%)</i>
Missing (% of total)	11 (14.9%)	13 (10.5%)	24 (12.1%)

Table 32 Member of household with disability

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
No	61 (95.3%)	101 (91.8%)	162 (93.1%)
Yes	3 (4.1%)	9 (8.2%)	12 (6.9%)
<i>Sub-total</i>	<i>64 (100.0%)</i>	<i>110 (100.0%)</i>	<i>174 (100.0%)</i>
Missing (% of total)	10 (13.5%)	14 (11.3%)	24 (12.1%)

Table 33 Housing situation

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Renting from Office of Housing or Housing Association	0 (0.0%)	5 (4.4%)	5 (2.8%)
Private rental	16 (25.4%)	35 (31.0%)	51 (29.0%)
Mortgage	23 (36.5%)	27 (23.9%)	50 (28.4%)
Own the home	24 (38.1%)	46 (40.7%)	70 (39.8%)
<i>Sub-total</i>	<i>63 (100.0%)</i>	<i>113 (100.0%)</i>	<i>176 (100.0%)</i>
Missing (% of total)	11 (14.9%)	11 (8.9%)	22 (11.1%)

Table 34 Dwelling type

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Flat, unit, or apartment	36 (53.7%)	58 (50.0%)	94 (51.4%)
Semi, row, or terrace	16 (23.9%)	42 (36.2%)	58 (31.7%)
Separate house	12 (17.9%)	13 (11.2%)	25 (13.7%)
Other	3 (4.5%)	3 (2.6%)	6 (3.3%)
<i>Sub-total</i>	<i>67 (100.0%)</i>	<i>116 (100.0%)</i>	<i>183 (100.0%)</i>
Missing (% of total)	7 (9.5%)	8 (6.5%)	15 (7.6%)

Table 35 shows the time lived in the City of Yarra. The highest proportion of participants had lived in the City of Yarra for at least 10 years, and this was true for the Case group (n= 30, 46.2%) and Control group (n= 57, 51.4%). A small proportion of participants had lived in the City of Yarra for less than one year (n= 7, 4.0%). There were only numerical differences between the Case and Control group.

Table 35 Time lived in Yarra

Condition	Case, n (%)	Control, n (%)	Sample, n (%)
Under 1 year	2 (3.1%)	5 (4.5%)	7 (4.0%)
1 to 5 years	19 (29.2%)	29 (26.1%)	48 (27.3%)
5 to 10 years	14 (21.5%)	20 (18.0%)	34 (19.3%)
10 years or longer	30 (46.2%)	57 (51.4%)	87 (49.4%)
<i>Sub-total</i>	<i>65 (100.0%)</i>	<i>111 (100.0%)</i>	<i>176 (100.0%)</i>
Missing (% of total)	9 (12.2%)	13 (10.5%)	22 (11.1%)

3.2.2. Level of support

By group

The level of support for 30 km/h speed limits in the participant's street was rated on a 5-point scale from strongly agree to strongly disagree. These scores were collapsed to form 3-point and 2-point scales for analysis purposes (pools). Pool A represents the original scale, Pool B aggregates positive and negative responses independent of strength, Pool C represents non neutral responses and their direction, and Pool D aggregates negative and neutral responses (Table 36).

Table 36 Transformation of level of support

Pool	Point scale	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
A	5	✓	✓	✓	✓	✓
B	3		✓	✓		✓
C	2		✓	X		✓
D	2		✓		✓	

The overall level of support for 30 km/h speed limits in the participant's own street (5-point scale) by precinct and study group, is summarised in Tables 37 through 39. Across the sample, over half of participants (n= 102, 51.5%) indicated a strong disagreement with the proposed speed limit reduction. Similarly, a higher proportion of participants either disagreed or strongly disagreed (n= 115, 58.1%) than agreed or strongly agreed (n= 77, 38.9%). The direction of this trend was observed in the Case and Control groups, yet was more pronounced in the Case group (n= 48, 64.9%).

The distribution of the level of support was comparable between the precincts in the Case groups, with up to two-thirds indicating a disagreement or strong disagreement with the proposal (66.6% & 62.1%) (Table 38). In contrast, the majority of participants from the Control precinct Fitzroy, agreed or strongly agreed with the proposal (n= 38, 54.3%), whereas the majority of participants from the Control precinct Collingwood, disagreed or strongly disagreed with the proposal (n= 38, 70.4%).

Table 37 Level of support for 30 km/h in own street (case and control)

Condition	Case precincts, n (%)	Control precincts, n (%)	Total, n (%)
Strongly agree	25 (33.8%)	46 (37.1%)	71 (35.9%)
Agree	1 (1.4%)	5 (4.0%)	6 (3.0%)

Neutral	0 (0.0%)	6 (4.8%)	6 (3.0%)
Disagree	3 (4.1%)	10 (8.1%)	13 (6.6%)
Strongly disagree	45 (60.8%)	57 (46.0%)	102 (51.5%)
<i>Total</i>	<i>74 (100.0%)</i>	<i>124 (100.0%)</i>	<i>198 (100.0%)</i>

Table 38 Level of support for 30 km/h in own street (case precincts)

Condition	Rose, n (%)	Gold, n (%)
Strongly agree	14 (31.1%)	11 (37.9%)
Agree	1 (2.2%)	0 (0.0%)
Neutral	0 (0.0%)	0 (0.0%)
Disagree	1 (2.2%)	2 (6.9%)
Strongly disagree	29 (64.4%)	16 (55.2%)
<i>Total</i>	<i>45 (100.0%)</i>	<i>29 (100.0%)</i>

Table 39 Level of support for 30 km/h in own street (control precincts)

Condition	Fitzroy, n (%)	Collingwood, n (%)
Strongly agree	34 (48.6%)	12 (22.2%)
Agree	4 (5.7%)	1 (1.9%)
Neutral	3 (4.3%)	3 (5.6%)
Disagree	6 (8.6%)	4 (7.4%)
Strongly disagree	23 (32.9%)	34 (63.0%)
<i>Total</i>	<i>70 (100.0%)</i>	<i>54 (100.0%)</i>

Differences in the distribution of the level of support between precincts and study groups were tested (Table 40). Differences across the original 5-point scale (Pool A) were not readily tested given there were a number of conditions with small numbers of responses (e.g. neutral). There were, however, some statistically significant differences found for the level of support between the Control precincts of Fitzroy and Collingwood, and the two precincts in the suburb of Fitzroy (Rose and Fitzroy). Specifically, when positive and negative responses were pooled (and neutral omitted) (Pool C), a significantly higher proportion of participants from LAMP Collingwood precinct disagreed or strongly disagreed with the proposal than the average across the Control group. Similarly, using Pool C conditions, a significantly higher proportion of participants from LAMP Collingwood precinct did not support the proposal. Both were strong differences of statistical significance ($p=0.001$).

Table 40 Group differences in level of support by precinct

Comparison (LAPM)	Pool A	Pool B	Pool C	Pool D
Case to Control	-	-	0	0
Rose to Gold	-	0	0	0
Fitzroy to Collingwood	-	-	2	2
Rose to Fitzroy	-	-	2	2
Gold to Collingwood	-	-	0	0
0 = not a statistically significant difference 1 = statistically significant difference in distribution between groups (at $p=0.10$) 2 = statistically significant difference in distribution between groups (at $p=0.05$) - = Not assessed given small expected value(s)				

By factor

The effects of various participant and situational characteristics on the level of support were examined. Differences across the original 5-point scale (Pool A) were not readily tested given there were a number of conditions with small numbers of responses (e.g. neutral responses by age category). A summary of the differences for the sample, Case group, and Control group are provided in Table 41 through 43.

For the full sample, there were a number of characteristics and situations that were significantly associated with the level of support for the 30 km/h speed limit. These included: age group; household structure; households with a member with a disability; dwelling type; and time lived in the City of Yarra. The statistical significance of these associations varied depending on the grouping of the level of support. The most marked associations were observed when neutral responses were pooled with negative responses (Pool D) (Table 41).

Table 41 Group differences in level of support across factors (SAMPLE)

Factor	Pool A	Pool B	Pool C	Pool D
<i>Participant details</i>				
Gender*	-	-	0	0
Age*	-	-	1	1
Relationship to Fitzroy or Collingwood*	-	0	0	0
Household structure	-	-	1	2
Household member with disability	-	-	2	2
Housing situation*	-	-	0	0
Dwelling type*	-	-	2	2
Time lived in Yarra*	-	-	2	2
0 = not a statistically significant difference 1 = statistically significant difference in distribution between groups (at p=0.10) 2 = statistically significant difference in distribution between groups (at p=0.05) - = Not assessed given small expected value(s) * = Factors pooled for analysis (refer below)				

Similar associations were observed in the Control group, with the exception of the housing situation which was also subject to statistically significant variation across level of support (Table 42). In contrast, for the Case group, a statistically significant association was only found between age group and level of support (Table 43).

Table 42 Group differences in level of support across factors (CASE)

Factor	Pool A	Pool B	Pool C	Pool D
<i>Participant details</i>				
Gender*	-	-	-	-
Age*	-	2	2	2
Relationship to Fitzroy or Collingwood*	-	-	0	-
Household structure	-	-	-	-
Household member with disability	-	-	0	0
Housing situation*	-	0	0	0
Dwelling type*	-	0	0	0
Time lived in Yarra*	-	0	0	0

0 = not a statistically significant difference
1 = statistically significant difference in distribution between groups (at p=0.10)
2 = statistically significant difference in distribution between groups (at p=0.05)
- = Not assessed given small expected value(s)
* = Factors pooled for analysis (refer below)

Table 43 Group differences in level of support across factors (CONTROL)

Factor	Pool A	Pool B	Pool C	Pool D
<i>Participant details</i>				
Gender*	-	-	-	-
Age*	-	-	2	2
Relationship to Fitzroy or Collingwood*	-	0	0	0
Household structure	-	-	2	-
Household member with disability	-	-	1	2
Housing situation*	-	-	2	2
Dwelling type*	-	-	2	2
Time lived in Yarra*	-	-	2	2
0 = not a statistically significant difference 1 = statistically significant difference in distribution between groups (at p=0.10) 2 = statistically significant difference in distribution between groups (at p=0.05) - = Not assessed given small expected value(s) * = Factors pooled for analysis (see Appendix A)				

Contribution of factors

For the full sample (Case and Control) there were six factors (including precinct) found to be associated with level of support when tested separately. The independent contribution of each factor when controlling for the contribution of the remaining factors, was tested using binary logistic regression techniques. Specifically, the association between the six factors and the following outcomes were tested:

1. Disagreeing or strongly disagreeing with the proposal, over agreeing or strongly agreeing with the proposal (Pool C)
2. A lack of support for the proposal, over agreeing with a support for the proposal (Pool D)

This analysis indicated that of the six key factors, the type of dwelling was the factor that had the strongest association with the two outcomes when controlling for the contribution of the other key factors. Specifically, participants living in a flat, unit, or apartment were 6.2 times more likely to disagree or strongly disagree with 30 km/h speed-limits compared with participants living in a semi-detached, row, or terrace house (OR 6.2, 95% CI: 2.8 – 13.6, $p < 0.001$). Moreover, this group were 5.8 times more likely to not support 30 km/h speed-limits, over participants in a semi-detached, row, or terrace house (OR 5.8, 95% CI: 2.7 – 12.5, $p < 0.001$).

There were also a strong associations between the level of support for a 30 km/h speed-limit in the participant's street, and the participant's attitudes towards traffic speed and volume, and the effect of speed-limits on crash risk, traffic short-cutting, and participation in walking, cycling, and social activity. There was moderate-strong correlation between the level of support for a 30 km/h speed-limit in the participant's street, and the participant's attitudes

towards the effect of speed-limits on travel time. Similarly, there was strong correlation between the level of support for a 30 km/h speed-limit in the participant's own street, and other streets in Fitzroy or Collingwood.

4. CONCLUSION

The City of Yarra conducted two surveys to identify the level of support for 30 km/h speed limits, and the factors that were associated with different levels of support. A total of 531 people participated in the 'Attitudes to Lower Speed-Limits' survey, and 41.4 percent were supportive of 30 km/h speed-limits in their own street, yet a higher proportion (51.8%) were not supportive. Analysis of this survey identified several demographic factors related to the level of support (household language, time worked in the City of Yarra, and household structure). Further, all factors related to travel behaviour and attitudes towards speed-limits, were found to be associated with the level of support.

A total of 198 people participated in the 'Your Say Yarra' survey. Whilst over half of the full sample disagreed or strongly disagreed with 30 km/h speed-limits, there were differences in this level of support observed between precincts. Specifically, a higher proportion of participants with a property address in the LAPM Fitzroy precinct were supportive of 30 km/h speed-limits than the Rose, Gold, and Collingwood precincts. Moreover, across the sample, the level of support was found to be associated with a variety of demographic and situational factors, and most strongly associated with the type of dwelling.

A summary of the factors found to be associated with different levels of support for lowered speed limits ('Attitudes to Lower Speed Limits' survey), and levels of support for the 30 km/h trial ('Your Say Yarra' survey), is shown in Table 44. These are factors found to be associated with a greater strength of statistical significance ($p=0.05$) for participants in the full sample.

Table 44 Factors related to level of support (across full sample)

Factor	IN support	NOT in support
Attitudes to Lower Speed Limits		
Language	N/A	Language other than English in household
Time worked in Yarra	Worked up to 5 years	Worked over 10 years
Vehicle ownership	Households with no vehicles	Households with 2 vehicles
Average distance travelled	Up to 50 kilometres per week	Over 50 kilometres per week
Method of travel for short trips	Cycling	Driving
Method of travel for long trips	Cycling and public transport	Driving
Impact on travel time	Believe that it would not impact travel time	Belief that it would impact travel time
Impact on crash severity	Believe that it would reduce crash severity	Believe that it would not reduce crash severity

Impact of amenity	Believe that it would improve	Believe that it would not improved
You Say Yarra		
Age group	60+ year olds	20-34 year olds
Household structure	Family household	Couples only
Member with disability	Households with a member with a disability	Without member with a disability
Dwelling type	Participants living in semi-detached, row or terrace houses	Participants living in flat, unit or apartment
Time lived in Yarra	Over 10 years	Under 5 years
Location of residence	Property address in the LAPM Fitzroy precinct	Property address in Rose, Gold, and LAPM Collingwood precincts

APPENDIX A: Pooled conditions

Pooled groups (Attitudes to lower speed limits survey)

1. Gender – pooled genders that were not female or male
2. Household structure – pooled group with multiple family households
3. Number of children – pooled 2 or more
4. Time worked in Yarra – pooled between 0 and 5 years
5. Method of travel for short trips – excluded ‘other’ and ‘Uber’
6. Method of travel for long trips – excluded motorbike, other, and Uber.

Pooled groups (Your Say Yarra survey):

1. Gender – pooled genders that were not female or male
2. Age Group – pooled all participants aged 60 years and over
3. Relationship to Fitzroy or Collingwood – pooled into resident (including business) or non-resident
4. Housing situation – pooled private rental and rental from housing association
5. Dwelling type – omitted ‘other’ from analysis
6. Time in Yarra – pooled under 5 years