



PART A — IMPLEMENTATION

ORANGE ACTIVE TRAVEL PLAN

Version 4

March 2016 | Prepared by Sara Stace of Link Place
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Message from the Mayor



Time for Orange to get active!

This paper is an important first step to help get the residents of our city and region active again.

Active travel can include any participation in walking, riding, scootering or similar, and the use of public transport combined with them. There are significant benefits with even small increases in participation in Active Travel, including:

- Improved public health and reduced long term health costs
- Reducing obesity
- Improved childhood confidence and social interaction
- Reduced need for infrastructure such as car parking and reduction in traffic congestion
- Reduction in greenhouse gas emissions

With the majority of workers in Orange living within a 2 km walk or a 5 km bike ride from their place of work, the potential to grow the numbers of people choosing the healthy alternative is real, with only a little investment and encouragement.

The U.N. Climate Change Conference in Paris – COP 21 highlighted the importance of the urgency for reduction in greenhouse gases, with transport being one of the largest energy consuming sectors worldwide.

Just leaving the car at home one day a week can bring enormous gains.

In conjunction with the Orange and region community and Orange City Council, Link Place and Urban and Public / Aspect have prepared this Issues Paper as the first part of the Active Travel Plan, to highlight the importance of active travel and the range of benefits it brings to the community.



CR JOHN DAVIS OAM
MAYOR OF ORANGE



Have your say

Orange City Council seeks your views on how to make Orange a place that is easy and safe to walk and cycle around. All members of the public are encouraged to respond.

INITIAL ONLINE CONSULTATION

Orange City Council has recently hosted an initial online consultation process which closed on 17th January 2016 (<http://yoursay.orange.nsw.gov.au/walk-and-ride-orange>).

The Council sought input on walking and bike riding to ensure that the new Active Travel Plan addresses the existing and future needs of the community. Your feedback has been incorporated into this plan in order for to understand walking and bike riding behaviours and motivations. It has also provided us with information to identify opportunities for improving the walking and bicycle riding network across the City of Orange.

CLOSING DATE FOR FEEDBACK

Feedback must be received by
13th May, 2016

WRITTEN SUBMISSIONS

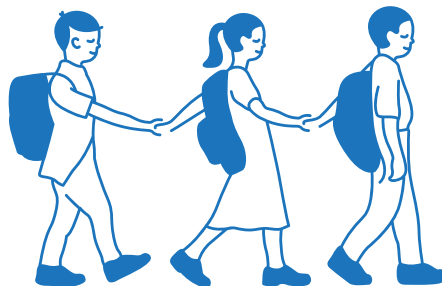
Anyone can provide written feedback, by email or post. You can choose to write about any aspect of walking, cycling, or access to locations within Orange LGA (e.g. school, shops, work) or more broadly about this proposed Active Travel Plan.

By Post:

Orange City Council,
Active Travel Feedback,
PO Box 35, 135 Byng Street,
Orange NSW 2800

By Email:

Scott Maunder
smaunder@orange.nsw.gov.au



1.

Executive Summary

OUR OBJECTIVES FOR ACTIVE TRAVEL

1. To increase number of people walking and riding short distances for travel within Orange
2. To improve the safety and convenience of walking and riding in the Orange City Council area

OUR PRINCIPLES FOR ACTIVE TRAVEL

The draft list of principles propose a framework for how we can better Plan, Build, Encourage and Coordinate efforts to achieve our objectives for Active Travel¹. Further detail is provided in Section 5 of this paper.

Walking and riding are an essential part of any town or city transport system, including in Orange. Many people enjoy walking or riding to local shops and café, or to services such as the post office and library. Others walk or cycle daily to work or school. Even those who drive to their destination need to walk the last few steps.

Walking and riding are also very popular forms of recreation: a high proportion of Orange residents walk or ride a bicycle as part of their daily fitness and social interaction.

Orange is an ideal place for walking and riding. Most people who live close to the city center can walk or ride within 20 minutes to their local shops, school or work. Orange is also fairly flat, with wide shaded streets that are very distinctive to this city.

Walking and cycling provide many benefits for individuals, families and businesses. These include:

- Improved public health and reduced long-term healthcare costs
- Improved community wellbeing and social cohesiveness
- Reduced environmental impacts
- Reduced need for car parking and reduced traffic congestion.

This report explores how Orange, as a community, can achieve outcomes across all of these areas. There is much more that we can do to make our walking and cycling networks safe, coherent and direct; and to encourage people to swap short driving trips for active travel. This report explores how the Orange City Council, and NSW state government agencies such as Roads and Maritime Services and the Department of Education, can facilitate walking and riding as part of our overall urban planning, transport, health, environment and education systems.

¹ Adapted, with amendments, from Australian Government (2013) Walking, Riding and Access to Public Transport: supporting active travel in Australian communities, Department of Infrastructure and Transport, figure 1.4

PLAN

Include walking and riding in all planning decisions

1. Design networks of continuous, convenient connections

- Enable short walking and riding trips for transport purposes.
- Improve access to and within the central Orange area and major centres such as health, education, jobs, retail and community facilities; focusing on 20-minute catchments (1-2 km walking, 2-5 km cycling).

2. Facilitate active, vibrant communities

- Develop places with a range of activities such as café, shops and playgrounds that attract people to visit, play and stay; and connect these to surrounding neighbourhoods with convenient footpaths and cycleways.

BUILD

Build appropriate infrastructure for walking and riding

3. Create safe environments for pedestrians and bicycle riders

- Separate pedestrians and bicycles from motor vehicles in high-speed, high-volume traffic (e.g. arterials roads).
- Allocate or share road space, with appropriate speeds, in lower-traffic environments (e.g. suburban streets).

4. Improve pathways, intersections and facilities

- Remove barriers, obstacles and hazards such as clutter on footpaths, lack of footpaths and kerb ramps, or vehicles consistently parked across footpaths.
- Prioritise pedestrians, prams, wheelchairs and bicycle riders at crossings and intersections.
- Address dual-lane roundabouts, which are difficult to navigate safely for children, the elderly, pedestrians and bicycle riders.
- Provide mid-trip facilities such as water, shade, seats, toilets and way-finding signage.
- Provide end-of-trip facilities such as secure bike parking, toilets, showers, and lockers.
- Where required, build footpaths where there aren't existing footpaths, or where single-side footpaths are inadequate.

5. Incorporate pedestrian and bicycle facilities when building other infrastructure

- Avoid costly retrofitting by building separated cycleways and footpaths during road projects.
- Incorporate quality pathways, mid- and end-of-trip facilities as part of project works.
- Encourage building owners and operators to provide end-of-trip facilities such as bicycle parking, change rooms and storage lockers.

FIGURE 1: PRINCIPLES TO SUPPORT WALKING AND RIDING IN ORANGE

ENCOURAGE

Facilitate participation in walking + riding for short trips

7. Implement community programs to encourage walking and cycling

- Provide programs, events and grants to help the community, schools and employers to encourage people to ride or walk instead of driving.
- Increase employer awareness of the benefits of active travel and end-of-trip facilities; provide workplace travel plans; and encourage employees to walk or cycle to work and between work locations (e.g. walk to lunch, meetings).
- Work with schools to encourage children, parents and staff to ride or walk to school.
- Improve awareness and skills in the broader population – such as driver and cycling skills.

8. Provide positive messaging

- Provide positive messaging to encourage the general community to walk and cycle instead of driving; and remove negative messaging that could discourage people.
- Make people aware of the various benefits of walking and riding (improved health, better environment, and meeting other people in the community)

MANAGE

Partner with agencies + communities; and maintain facilities

9. Maintain and improve facilities

- Improve coordination and engagement across Council and with state government to better plan, build, and maintain facilities.
- Ensure that all road and footpath projects aim to continually improve conditions for pedestrians, prams, wheelchairs and bicycle riders.

10. Partner across agencies, business and communities to achieve co-benefits

- Partner with government and community groups to improve safety; encourage behaviour change in support of increased walking, riding; and increase use of recreation facilities.

1.1 Definitions

For the purposes of this paper, the following definitions apply:

FIGURE 2: DEFINITIONS

Active travel

Active travel refers to human powered mobility – such as walking, cycling or riding (see definition below) – for all or part of a travel journey.

The focus of this paper is on the use of active travel to access jobs, education, services and social opportunities, as well as for recreational purposes.

A public transport journey (by bus or train) or even a drive into town often ends with a walk to the final destination.

Walking, riding

When the terms ‘walking’ and ‘riding’ are used in this paper, they generally refer to any form of human powered mobility: walking on two feet; using a wheelchair or other personal mobility device; pushing a pram or wheeling luggage; riding a bicycle, e-bike/pedelec, scooter, skateboard, tricycle or rollerblades. It can also refer to horse riding.

Note, however, that bicycles are defined in the Australian Road Rules as vehicles, whereas most other wheeled mobility devices are defined as pedestrians (including motorised wheelchairs powered up to 10 kilometres per hour and wheeled recreational devices).

Mobility

Ease with which people can move around, between or within locations.

Accessibility

Ability and ease with which people can access places, and social and economic opportunities, within a reasonable time and cost. Includes physical access to public transport, buildings and facilities.

Transport systems or networks

Includes physical infrastructure (such as roads, rail, footpaths, bike paths) and services (such as bus, train) that provide transport connections between different locations and activities.

Trip

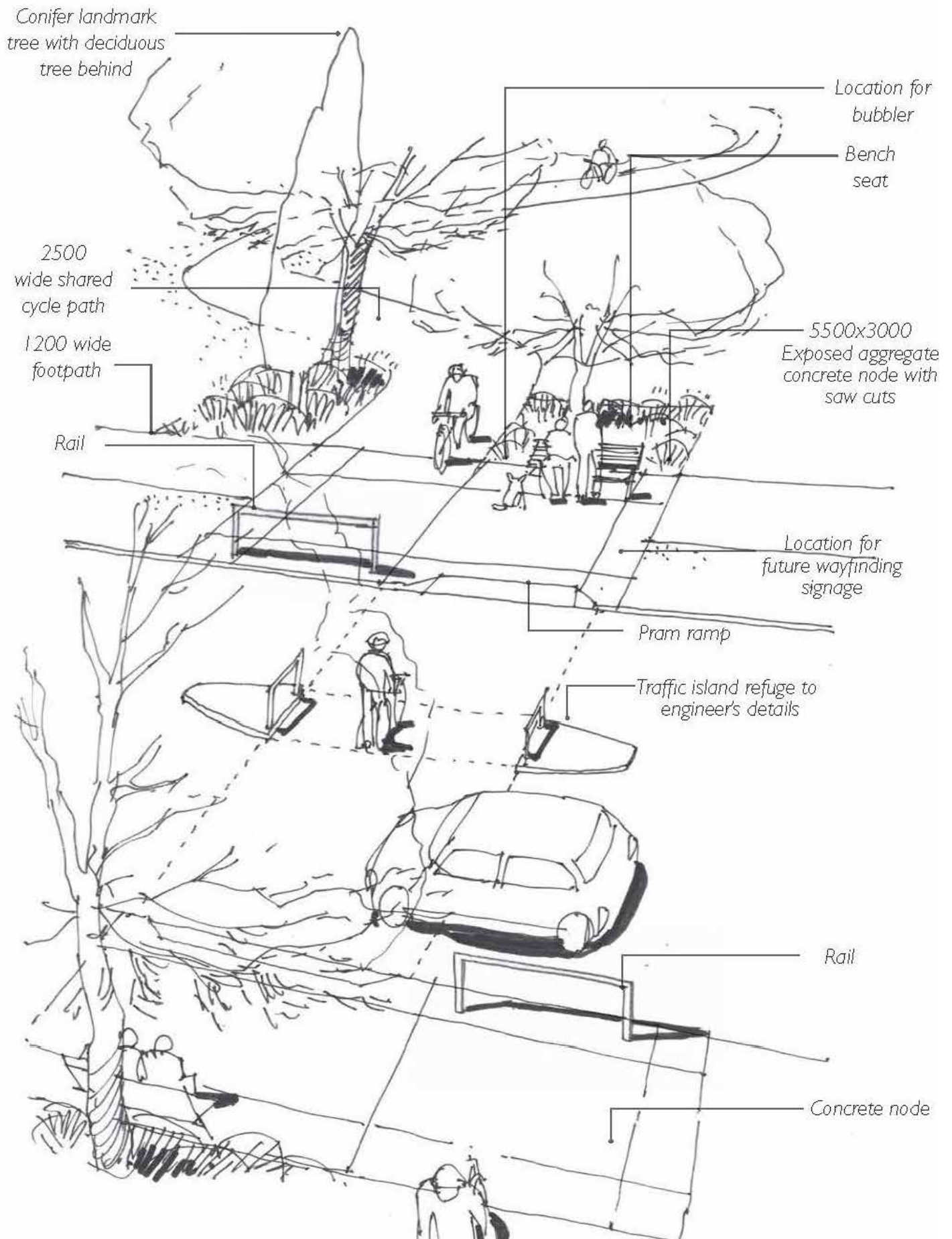
Travel between two points, from an origin to a destination, which may also be a round trip. A trip can involve multiple modes of travel and short stops along the way (for example, to post a letter, buy groceries or pick up a child).

Density and land use mix

The intensity of urban development and the range of different uses (such as residential, commercial, institutional or recreational uses) within a locality.²



² Australian Government 2011, Creating Places for People: an urban design protocol for Australian Cities, p15.



TYPICAL ROADPATH JUNCTION PAGES FROM SLC DESIGN REPORT

2.

How are we
traveling now?



PHOTO:
COURTESY
GRAHAM
MCCABE

The Orange local government area (LGA) has a population just over 40,000 people.

Nine out of 10 residents live within an area that covers just five square kilometres (shown in Figure 3, right) which includes Warrendine, Glenroi, Bowen, Bletchington and Calare. The population of this central area has a higher density (between 4.3 and 11.8 persons per hectare) compared to the rest of the Orange LGA (which averages 1.5 persons per hectare overall).³

15,000 people work within this central area (Figure 3, right).⁴ Of those, 93 percent live locally (i.e. 12,900 people both live and work within the central area of Orange), with the remainder traveling in from outer areas of Orange, Bathurst, Lachlan Valley, Dubbo and beyond.

Figure 4 shows that of the 12,900 people who both live and work in the central 5km zone of Orange, 90 percent travel by car; 5 percent walk; 2 percent cycle; and 1 percent catch a bus.⁵

Within the 5km central zone, this equates to approximately 11,610 people traveling every day for work in a motor vehicle; 645 people traveling solely on foot; 260 traveling by bike; and 130 by bus.

This data shows there is significant potential to encourage residents of Orange to change their travel mode from driving short distances, to cycling or walking instead.

Whilst people may require their vehicles for other purposes (e.g. commercial vans, parents picking up children, shopping, etc), a large majority will be in single occupant vehicles, and may be able to swap some short distance trips to walking or cycling. It is this core group that this paper is aimed at.

Walking is suitable for most able-bodied people up to 2 kilometres on a regular basis; and cycling up to 5 kilometres. A large proportion of the 11,600 residents of Orange who travel less than 5km to work by car may be able to swap some of their trips to an 'active travel' journey: with significant health, social, economic and environmental benefits for the whole community.

³ Population density for Orange City (28,435 ha) is 1.5 persons per hectare. The five central areas have a population density between 4.3 and 11.8 persons/ha based on 2011 Census data. 34,265 people lived in these locations compared to 38,065 in the whole LGA (2011 Census). Source: <http://profile.id.com.au/orange>

⁴ NSW Bureau of Transport Statistics, Journey to Work Visualizer, accessed 10/1/16, based on 2011 BTS Travel Zone (TZ) and 2011 Australian Standard Geographical Classification (ASGC) <http://visual.bts.nsw.gov.au/jtwbasic/#7070,7078,7079,7071,7072,7073,7077,7076>

⁵ 2% stated 'other mode' which is assumed to be mostly cycling

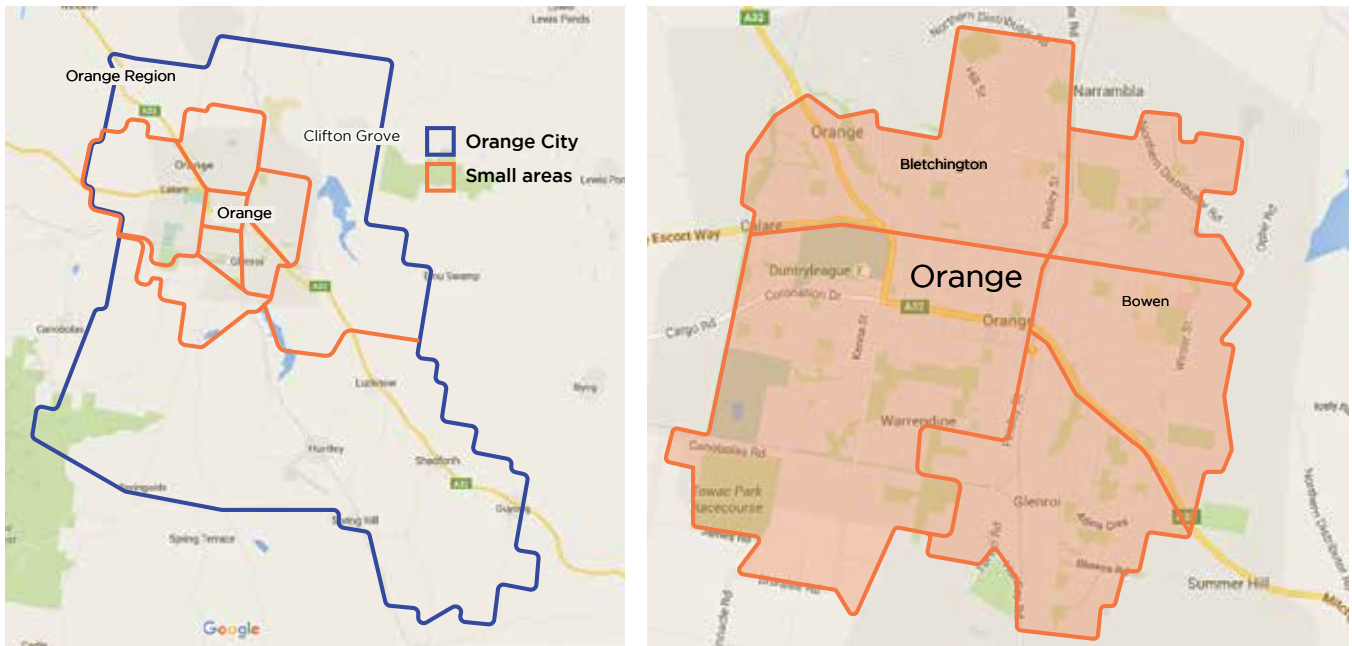
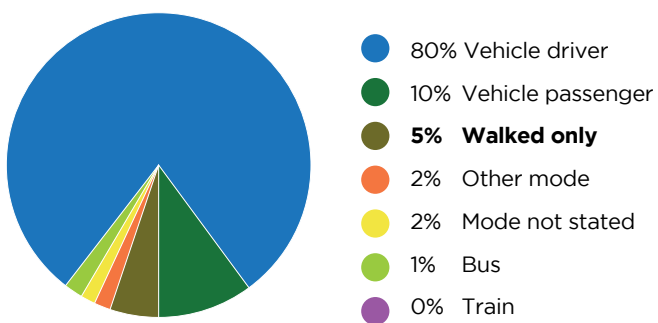


FIGURE 3: MAP OF ORANGE LOCAL GOVERNMENT AREA (LEFT) AND CENTRAL AREA (RIGHT)

Source: <http://profile.id.com.au/orange> (left); NSW BTS, Journey to Work Visualizer, using 2011 Census data, for postcodes 7070, 7071, 7072, 7078 and 7079

How do workers commute from the selected residential area?*

*Excludes those who did not go to work



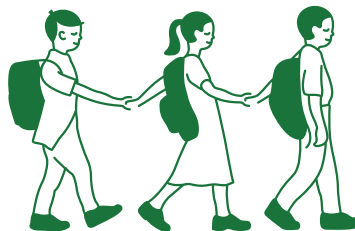
12,897

Residents in the selected area
work in **Orange**

FIGURE 4: JOURNEY TO WORK DATA FOR ORANGE

Source: (left) <http://profile.id.com.au/orange?WebID=10> ; (right) NSW BTS, Journey to Work Visualizer, using 2011 Census collection data, for postcodes 7070, 7071, 7072, 7078 and 7079. Note that this is based on Census collection zones.

2.1 Walking



WALKING FOR EXERCISE AND RECREATION

The most recent national survey of participation in sport and physical recreation showed that walking is by far the most popular form of exercise in Australia – with 3.54 million Australian adults regularly walking for exercise. Nearly a quarter of women regularly walk for exercise, and 13.6 percent of men; averaging 19.2 percent of the adult population (age 15 years and over⁶).

WALKING FOR TRANSPORT

The average Australian adult spends more time 'walking for transport' (83 minutes per week) than any other physical activity including 'walking for fitness, recreation or sport' (61 minutes), moderate physical activity (27 minutes) or vigorous physical activity (58 minutes)⁷. Figure 5 illustrates the differences between men's and women's participation in each of these activity types.

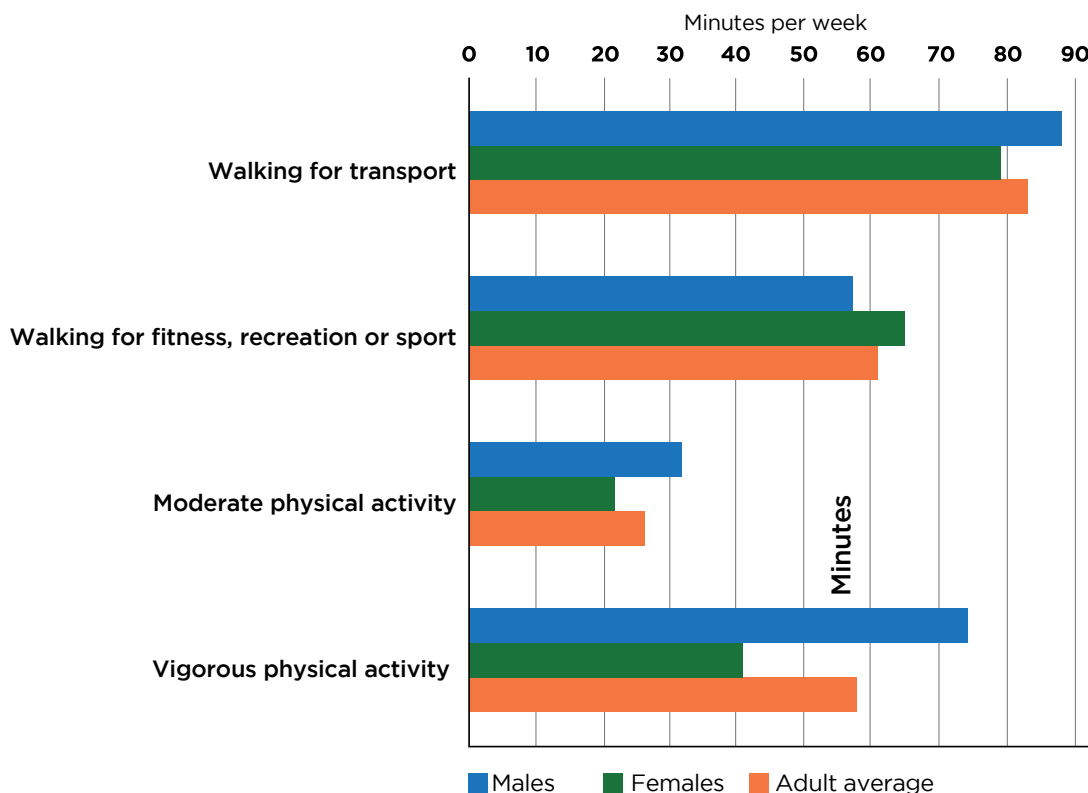


FIGURE 5: AVERAGE TIME SPENT WALKING FOR TRANSPORT VS OTHER PHYSICAL ACTIVITIES (MINUTES PER WEEK)

Source: ABS, Australian Health Survey: Physical Activity, 2012-12, table 1.1

⁶ Australian Bureau of Statistics, 2015, Participation in Sport and Physical Recreation, Australia 2013-14 (41770DO001_201314, table 2, persons aged 15 years and over)

⁷ Australian Bureau of Statistics, 2013, Australian Health Survey: Physical Activity, 2012-12 - Australia (43640DO001_2012012, table 1.1 Summary activity indicators by age then sex, persons aged 18 years and over)

2.2 Riding a bicycle

Every two years the Australian Bicycle Council undertakes a large-scale national survey to ask about people's participation in bicycle riding.

Figure 6 compares regional NSW, Sydney and Australia in the 2015 survey. It shows that, in regional NSW, 22.6 cent of all residents ride a bicycle at least once a week; 26.8 percent ride at least once a month; and 37.5 percent ride a bicycle at least once a year⁸.

Regular riding (at least once a week) in regional NSW is much higher than in Sydney and nationally.

Between 2011 and 2015, in regional NSW, weekly riding participation fluctuated between 16.4 percent and 22.6 percent of the population (although due to sampling size there was a wide margin of error).

Over the same period, the national average weekly participation remained steady at around 17.4 percent of the population; while Sydney's increased from 14.8 percent to 16.7 percent.⁹

In most parts of Australia, males are much more likely to regularly ride a bicycle than females. In regional NSW however there is more gender parity: 25 percent of males and 21 percent of females ride at least once a week.

⁸ Australian Bicycle Council 2015, National Cycling Participation Survey, Austroads. Phone survey included 4,393 households in NSW (11,376 persons)

⁹ Australian Bicycle Council 2011, 2013, 2015, National Cycling Participation Survey, Austroads

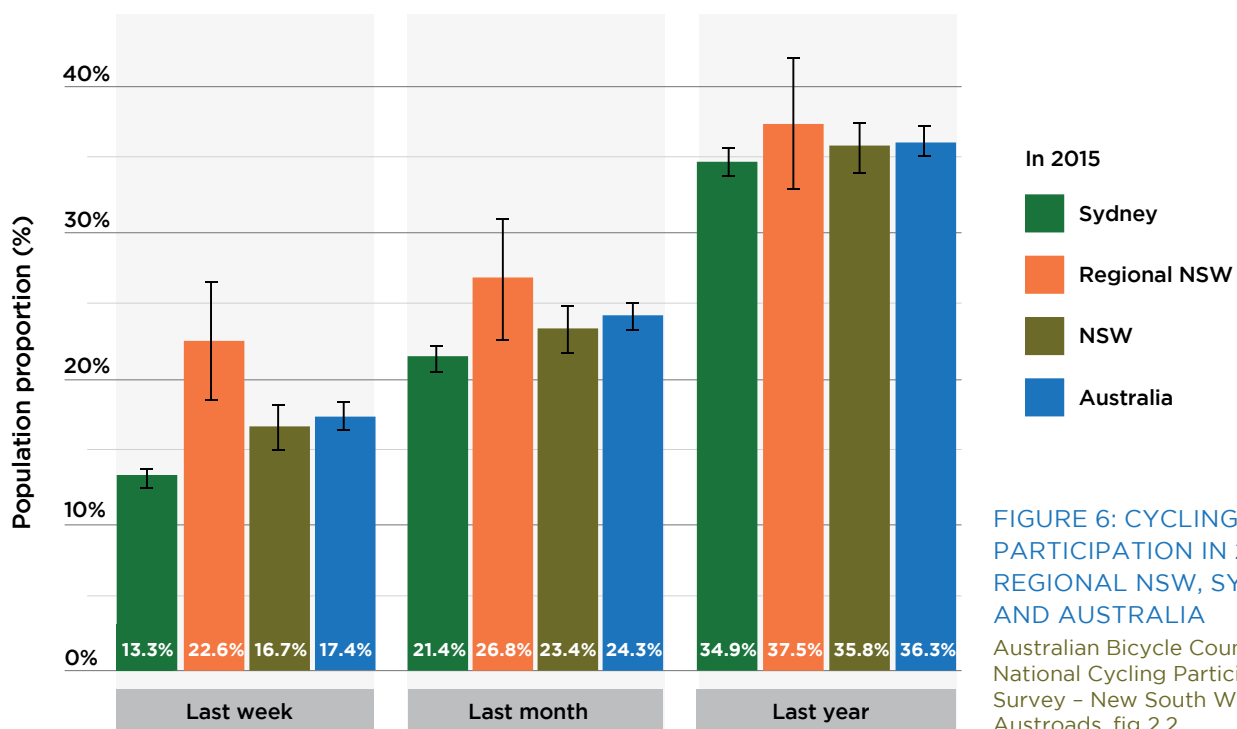


FIGURE 6: CYCLING PARTICIPATION IN 2015 FOR REGIONAL NSW, SYDNEY AND AUSTRALIA

Australian Bicycle Council 2015, National Cycling Participation Survey – New South Wales, Austroads, fig 2.2

AGE GROUPS RIDING IN REGIONAL NSW

Regional NSW has very high participation rates of children riding: 66 percent of children aged less than 9 years ride a bike at least once a week, as do 46 percent of children aged 10-17 years. This is much higher than the national average, as shown in Figure 7 below.

However, by the time they reach early adulthood (age 18-29) regular participation drops to just 10 percent. It picks up for the 30-49 age cohort (19 percent participation) and drops again in the age 50+ cohort (9 percent).¹⁰

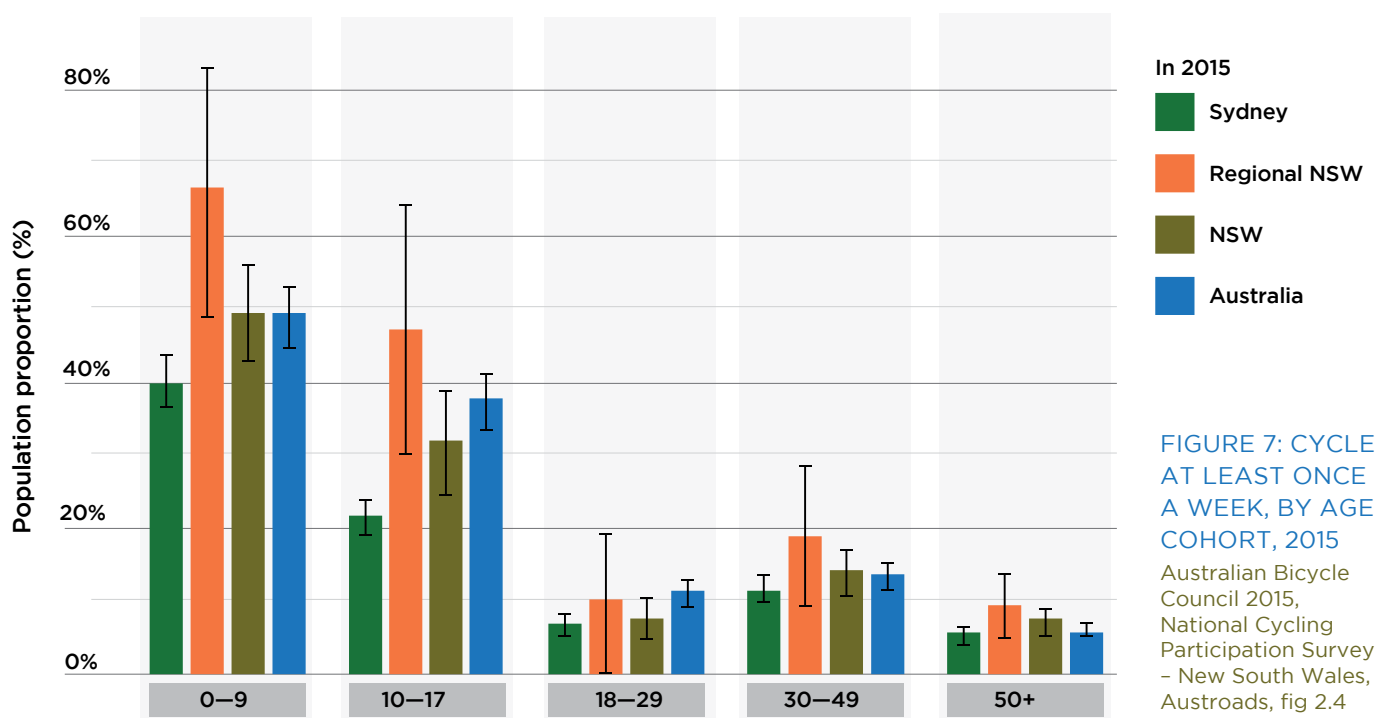
There are many reasons for the rapid decline in participation across the age groups, for example the lack of quality bicycle infrastructure and a 'culture' of driving, may make driving a more attractive option for people with licenses.

On the positive side, the fact that regional NSW retains a higher proportion of people who regularly ride shows that there is strong interest, which could be further leveraged through better planning and investment.

RECREATIONAL VS RIDING FOR TRANSPORT

Of the residents of regional NSW who rode a bike in the last month, 91 percent rode for recreation and 31 percent used a bicycle for transport. This means that around a fifth of bicycle riders will ride for both recreation and for transport purposes.

¹⁰ Australian Bicycle Council, 2015, National Cycling Participation Survey, Austroads



Your Say Survey Results

SUMMARY

During November 2015 to January 2016, Orange City Council conducted an online survey about walking and cycling in Orange¹¹. The aim was to gather feedback from the community to understand walking and bike riding behaviours; and to identify opportunities for improving the walking and bicycle riding network.

Of the 205 respondents who completed the survey, 76 percent said they usually drive to their place of work or education, 11 percent walk, 12 percent cycle, and 1 percent catch a bus.

Around 83 percent of respondents said they drive to do their shopping. Shopping on foot is also very popular (11 percent) followed by cycling to the shops (5 percent).

When it comes to visiting family and friends, 86 percent of people drive. Walking and cycling were about equal (6-to-7 percent each). Over a quarter of respondents said they walk (22 percent) or cycle (4 percent) to visit restaurants, pubs, bars or entertainment; while the rest usually drive.

When asked how far they walk in a typical week, 40 percent of respondents said they walk 7 kilometres or more (that is, more than 1 kilometre a day); 21% walk between 5-to-7 kilometres a week; 27 percent walk between 2 to 4 kilometres a week; and 12 percent said they walk less than 2 kilometres a week.

The most popular destinations for walking are the Orange CBD Centre (34 percent), North Orange (10 percent), Calare (8 percent), and Bletchington (7 percent).

When people were asked what types of cycling they participate in most often, 42 percent nominated 'recreational riding for fun, fitness or leisure'. 'Touring, cycling and training group rides' was also popular (19 percent) as was 'mountain biking, cyclocross and BMX (12 percent).

Thirteen percent of respondents said they commute to and from work by bicycle, and an equal amount said they cycle for 'everyday cycling' such as visiting friends, shopping, and so on. Very few (1 percent) said they commute to school, university, college, TAFE or other education provider.



¹¹ <http://yoursay.orange.nsw.gov.au/walk-and-ride-orange>

205 Respondents

12%
Cycle to work or
education



11%
Walk to work or
education

26%
Walk & cycle to visit
restaurants, pubs, bars
or entertainment



76%
Drive to work

40%
Walk 7 km or
more a week

3.

Policy Settings

3.1 National policy setting

Getting more people regularly walking, riding and catching public transport, achieves objectives across multiple policy areas at both national and state level. Relevant national policies include:

FIGURE 8: RELEVANT NATIONAL POLICIES RELATED TO WALKING, CYCLING AND ACTIVE TRAVEL

NATIONAL ROAD SAFETY STRATEGY

Reduce road deaths and serious injuries by 30% by 2020

The National Road Safety Strategy 2011-2020 is signed by state, territory and Australian government road and transport ministers. It adopts the Safe System approach: safe roads, safe speeds, safe vehicles and safe people.



NATIONAL CYCLING STRATEGY

Double rate of participation in cycling between 2011 and 2016

The National Cycling Strategy 2011-2016 is signed by state, territory and Australian government road and transport ministers. A survey of 10 000 households provides the data for this target.



NATIONAL DISABILITY STRATEGY 2010-2020

Inclusive and accessible communities

Signed by all three levels of government, the National Disability Strategy incorporates inclusive and accessible communities to ensure that people with disability live in accessible and well-designed communities with opportunity for full inclusion.



NATIONAL PREVENTIVE HEALTH STRATEGY

Reverse overweight and obesity trends by 2018

The National Preventative Health Strategy aims to halt and reverse the rise in overweight and obesity with 15% increase in proportion of children + adults meeting national guidelines for physical activity by 2018; and 3% increase in proportion of children + adults with a healthy weight by 2018.

3.2 NSW policy and guidance

The NSW Government recognises that there are many benefits to be gained from high levels of participation in walking and riding on a regular basis. These include transport benefits (such as reduced traffic congestion); individual health and wellbeing; neighbourhood interaction; social cohesion; and reduced environmental pollution.

At the state policy level is the State Plan for NSW, NSW Long Term Transport Master Plan and Road Safety Strategy for NSW. At the regional level is the Central West Regional Transport Plan (2013).

The NSW Premier's Council for Active Living (PCAL) provides resources for local governments on its website at www.pcal.nsw.gov.au/local_government. Resources include guidelines such as 'Designing Places for Active Living' and 'Community Development Guidelines'; case studies in local government areas; a Developer's checklist; and a 'NSW Workplace Travel Plan Resource'.

PCAL is helping local governments to incorporate active travel into their Integrated Planning and Reporting (IP&R) Frameworks through a resource at www.nswpcalipr.com.au

The Integrated Planning and Reporting (IP&R) framework was introduced in 2009 (Figure 9). It requires local councils to undertake 'whole-of-council' long, medium and short term planning. The review of the framework coincides with the council four year election cycle.

An example of how this could be adopted has been prepared by Bicycle NSW in partnership with the Premier's Council for Active Living (Figure 10).



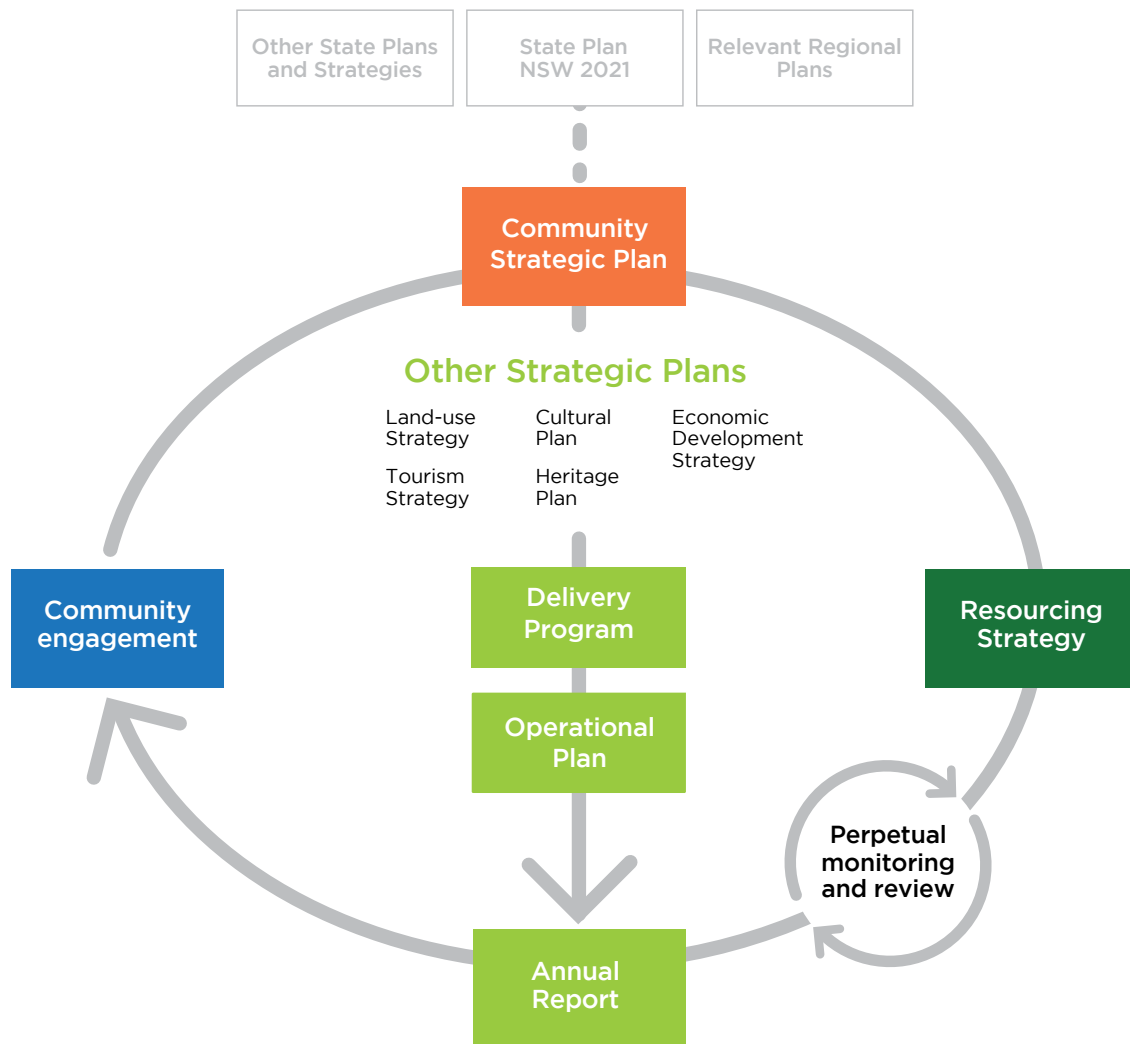


FIGURE 9 – NSW INTEGRATED PLANNING AND REPORTING (IP&R) FRAMEWORK

Source: NSW Premiers Council for Active Living (PCAL) www.nswpcalipr.com.au accessed 16/11/2015

Community Strategic Plan	Delivery Program (4 Years)	Operational Plan (1 Year)	Performance Measures
Directions	Activities	Immediate actions	Monitoring & Reporting
Ensure that localities are walkable for people of all abilities	<ul style="list-style-type: none"> • Prepare Pedestrian Access and Mobility Plan (PAMP) • Reduce speeds on local roads eg. LATMs and high pedestrian areas • Program for footpath/ shared path construction • Program to improve existing pedestrian infrastructure eg. additional kerb ramps, remove obstacles on footpaths, improve footpath surfaces, install pedestrian crossings, reduce pedestrian wait time at signalised intersections • Increase residential and mixed-use densities in development areas 	<ul style="list-style-type: none"> • Accessibility audits of key locations • Priority works on footpaths and share paths • Review State Government advice on PAMPs • Audit speeds and safety on local roads + intersections • Review footpath connections between residential areas, shopping, campuses 	<ul style="list-style-type: none"> • Increased area of 40 km/h zones • Increased funding allocation to footpath construction and maintenance • Improved provision of walking infrastructure e.g. added kerb ramps, removed obstacles on footpaths, improved footpath surfaces, installed pedestrian crossings
Ensure active travel options (walking and cycling) are readily available between home, school, shopping and work	<ul style="list-style-type: none"> • Incorporate walking + cycling paths in local structure planning • Prepare + update a Council-wide Bicycle Plan • Review Development Control Plan provisions on end-of-trip facilities • Prepare an Integrated Transport Plan • Apply for grant funding for eligible infrastructure projects • Lobby State Government for public transport improvements • Undertake program of traffic management to improve pedestrian and cycling experience • Revise car parking requirements • Introduce an education program on travel options • Establish a Workplace Travel Plan 	<ul style="list-style-type: none"> • Read NSW Government Guidelines on Bicycle Planning • Consult with local bicycle groups and users • Engage with local schools, health and tertiary campuses • Compare other councils' DCP provisions, PAMPS • Survey and model public transport needs • Prioritise traffic management actions • Improve information provided to public about travel options • Undertake a staff travel survey 	<ul style="list-style-type: none"> • Increased mode share of walking, cycling and public transport • Reduced use of cars for short trips • Increased proportion of school children walking and cycling to school • Increased number of schools actively encouraging walking and cycling • Increased cycling infrastructure: e.g. length of cycleways and shared paths, bicycle parking

FIGURE 10: EXAMPLES FOR COUNCIL DELIVERY PROGRAM, OPERATIONAL PLAN AND PERFORMANCE MEASURES

Source: Bicycle NSW prepared in partnership with NSW Premiers Council for Active Living (PCAL) <http://bicyclensw.org.au/advocacy/advocacy-essentials/make-cycling-a-priority-in-your-nsw-council/> accessed 1/2/2016

RECOMMENDATION 1:

For Orange City Council to incorporate strategies as recommended by the NSW Premier's Council for Active Living into Council's four year Delivery Program and Operational Plan.

3.3 Plans and Strategies in Orange

Orange City Council has in place a number of related strategies and plans, including the Street Tree Master Plan (2012) and Orange City Bicycle Plan 2012-2017: positioning Orange as a cycle friendly city (2012) and Pedestrian and Access Mobility Plan: PAMP (2007).

These have been considered and incorporated as part of this Active Travel Plan for Orange.

The proposed network expansions are being investigated and reviewed as part of this project.

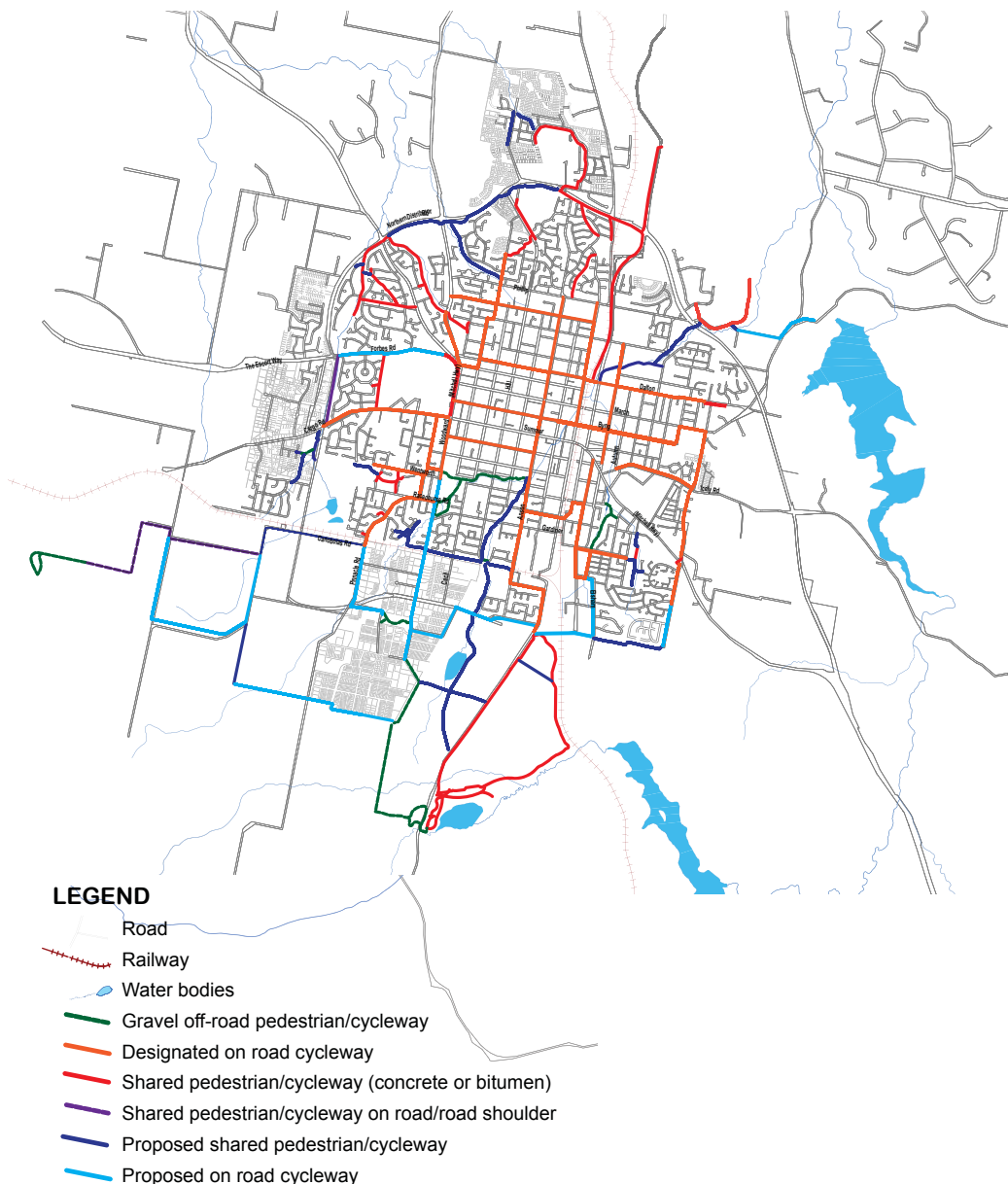


FIGURE 11:
PROPOSED
BICYCLE
NETWORK
FOR ORANGE
(2012-2017)

Source: Orange
City Council
(2012), Orange
City Bicycle
Plan 2012-2017
(chapter 6)

4.

Barriers and Opportunities

Despite Orange being relatively flat with beautiful tree-lined streets, only 5 percent of adults walk to work and 2 percent cycle. What are the barriers that discourage people from riding or walking as part of their daily to get to work?

Addressing these barriers to shift even a small proportion of these short-distance commuters to walking or cycling would increase the capacity of Orange's transport networks in the inner areas; and have significant health benefits due to incidental exercise.

The case study in Section 5.3 on 'Promoting Active Travel to Schools' identified that barriers include:

- Parents concerned about traffic, and availability of low risk routes to school
- Poorly designed bike lanes or shared paths near school
- Disconnected or incomplete bike lanes or shared paths near school.

In a survey of Orange residents¹² the three most cited reasons for not to walking more often were:

- No marked or dedicated footpaths,
- Footpaths in poor condition,
- Lack of safe pedestrian crossings on busy streets.

Other reasons included distance being too far to walk, and weather conditions.

The top two reasons for not riding a bicycle in Orange were:

- Vehicle driver attitudes (20 percent of all responses)
- Paths and streets aren't safe or comfortable to cycle on (20 percent of all responses).

The next most common reasons for not cycling were lack of showers or change facilities (9 percent) and nowhere to store or lock a bicycle (9 percent).

More than half of respondents said they were not aware, or only somewhat aware, of the existing bicycle networks in Orange.

When asked what would make them cycle more often, the most important items were:

- Availability of bicycle lanes on roads and streets (82 percent would cycle more often)
- Increased driver awareness of bicycle safety and road sharing (81 percent)
- Availability of separated bicycle paths (79 percent) and shared paths (76 percent).

Figure 12 provides a broad summary of barriers to walking, riding and accessing public transport, and identifies potential opportunities for consideration.



¹² Survey conducted by Orange City Council through the Your Say web portal [<http://yoursay.orange.nsw.gov.au/walk-and-ride-orange>] during November 2015 to January 2016, with 205 responses.

BARRIERS		OPPORTUNITIES	
Lack of continuous, convenient connections <ul style="list-style-type: none">• Short local trips suitable for walking or riding may be impeded by poor connectivity• Public transport stops may be difficult to reach		Plan comprehensive networks <ul style="list-style-type: none">• Improve connectivity to integrate walking and riding networks with public transport hubs• Concentrate within activity centre catchments• Ensure walking and cycling path-of-travel is continuous (ie door-to-door)	
Lack of physical safety <ul style="list-style-type: none">• Inappropriate infrastructure for the speed and volume of traffic• Paths may not be navigable by wheelchairs, prams, and the elderly• Poorly designed or unmaintained paths and roads include trip hazards, lack of kerb ramps, inadequate width of paths, excessive poles and street furniture, glass, dirt and other hazards		Build appropriate infrastructure <ul style="list-style-type: none">• Separate pedestrians/bicycles from fast traffic• In high-pedestrian areas reduce traffic volume and speed, and prioritise pedestrians/bicycles• Ensure pedestrian paths, cycleways, cycle lanes and shared roads/paths are appropriate for the task, safe for all users and properly maintained• Comply with standards, including disability access, for infrastructure design and maintenance	
Lack of personal safety and comfort <ul style="list-style-type: none">• Physical barriers can prevent convenient access across roads or along footpaths• People feel unsafe where there is no 'passive surveillance' from nearby buildings or activities• Lack of lighting, directional signage, seating, drink fountains, shade, or bicycle parking• Priority is often given to motor vehicles, even on major pedestrian or bicycle routes		Provide mid-trip facilities <ul style="list-style-type: none">• Lighting, signs, seating, shade, drink fountains Provide end-of-trip facilities <ul style="list-style-type: none">• Bicycle parking, change facilities Prioritise pedestrians and bicycles where appropriate <ul style="list-style-type: none">• Type and location of crossings, timing of traffic signals, width and quality of pathways	
Lack of awareness <ul style="list-style-type: none">• People may not be aware of the range of transport options; or how to easily walk, ride and use public transport• Road users may be unaware of specific road rules, or the rules may be ambiguous		Provide information <ul style="list-style-type: none">• Websites, trip planners, maps• Real-time information (eg. bus arrival times)• Social media• Behaviour change programs• Review road rules and/or awareness of rules	
Lack of skills <ul style="list-style-type: none">• Drivers may not be aware of vulnerable road users• People may lack bicycle riding or maintenance skills		Provide skills training <ul style="list-style-type: none">• Driver awareness of vulnerable road users• Bicycle training (eg. school children, adults)	
Lack of motivation <ul style="list-style-type: none">• Lack of good quality routes discourage active travel• Public transport may be hard to reach, irregular or unreliable• Easy alternatives may exist for short trips (e.g. abundant cheap car parking)		Enable greater participation <ul style="list-style-type: none">• Improve convenience of walking/riding for short trips (ie under 20 minutes)• Improve accessibility, frequency and reliability of public transport• Increase awareness of transport options	
Poor governance <ul style="list-style-type: none">• Little integration and coordination across agencies and governments• Lack of strategic land use and transport planning across regions and council areas• Failure to implement planning objectives• Failure to monitor performance and adjust plans		Improve governance <ul style="list-style-type: none">• Improve integration across agencies (planning, transport, health, environment, education) and levels of government• Coordinate land use and transport planning, and delivery of projects• Monitor and improve to achieve best practice	

FIGURE 12 : BARRIERS AND OPPORTUNITIES TO WALKING, RIDING, AND ACCESSING PUBLIC TRANSPORT

Source: ACT Government, 2015, Active Travel Framework; and Australian Government, 2013, Walking, Riding and Access to Public Transport: supporting active travel in Australian communities, Department of Infrastructure and Transport, fig 1.1

4.1 Journey speeds of walking, cycling and driving

For short-distance travel in an urban environment walking is often faster than other modes of travel. Figure 13 shows the average journey time of each travel mode in a congested urban environment.

The calculation includes the following:

- Walking at 4 km/ hour (includes waiting to cross roads)
- Unlocking a bicycle, riding to the destination, and locking it (adds 1 minute to journey time)
- Walking to a car, driving, finding an available parking bay, and walking to the destination (adds 5 minutes to journey time)
- Walking to a bus stop and waiting for the bus (adds 12 minutes to journey time).

The chart demonstrates that walking is the fastest method of travel for distances less than 400 metres (2 blocks); and riding a bicycle is faster than a car for distances less than five kilometres in a congested city context. In a regional context the dynamic may be slightly different.

Within a small town center such as Orange, it may be shorter to walk or ride short distances rather than drive and park. This is particularly the case for people shopping (i.e. it may be quicker to walk between shops rather than drive) and for workers traveling to work meetings or taking a lunch break.

Figure 14 illustrates that private motor vehicles also take up more parking space and road space than bicycles, pedestrians and buses.

So the exchange of just a few cars for wider footpaths, cycling lanes and bicycle parking, or bus stops, has benefits for everyone..

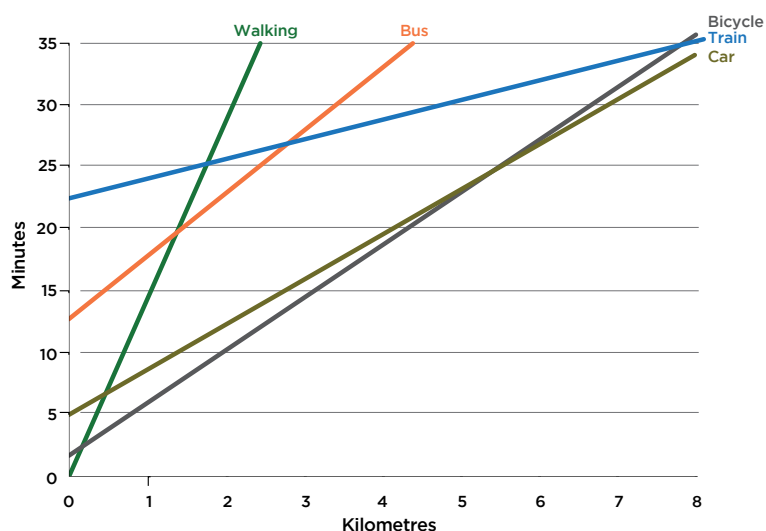


FIGURE 13: TOTAL TRAVEL TIME FOR DIFFERENT MODES OF TRAVEL

NSW Premier's Council for Active Living, 2010, Estimating the benefits of walking: a cost benefit methodology, prepared by PwC and DEECW, fig 3



FIGURE 14: PRIVATE MOTOR VEHICLES TAKE UP MORE SPACE TO DRIVE AND PARK

This photo, taken in Canberra, shows the same number of people that can fit in one bus, riding bicycles, walking or traveling by car. Courtesy Cycling Promotion Fund, 2013.

4.2 Road Safety

The road safety record of NSW is similar to overall national rates, with the road toll steadily decreasing since the 1980s. In 2013, NSW recorded 4.6 road fatalities per 100,000 population compared with 5.2 road fatalities per 100,000 nationally¹³.

Between 2008 and 2013, within the LGA of Orange, there were 29 deaths and serious injuries recorded for pedestrians and bicycle riders, about 16 percent of the total 183 for all road user types¹⁴. This is approximately comparable with other regional NSW Councils such as Dubbo, Griffith, Albury and Armidale.

Figure 15 shows the locations of crashes and casualties for all road users in the central Orange area. It shows that the majority of serious injuries and fatalities occur in the centre of town along the main roads, particularly along the length of Coronation Dr/ Summer St/ Bathurst Rd as well as Woodward Road.

Other clusters where serious injuries and fatalities have occurred include Byng Street near the railway line, Hill Street in the centre of town, and the eastern end of Gardiner Road.

The guiding vision of the National Road Safety Strategy is that no person should be killed or seriously injured on Australia's roads¹⁵. The updated National Road Safety Action Plan 2015-17 includes¹⁶ actions to:

- Expand the application of **lower speed limits in areas with high pedestrian and cyclist usage**
- Implement programmes to **build community understanding and support for effective speed management measures**
- Implement and promote a range of Safe System demonstration projects in urban settings, with a **focus on the safety of vulnerable road users**.

These measures will help to address some of the key causes and impacts of crashes involving motor vehicles in areas where there is high pedestrian and bicycling activity.

RECOMMENDATION 2:

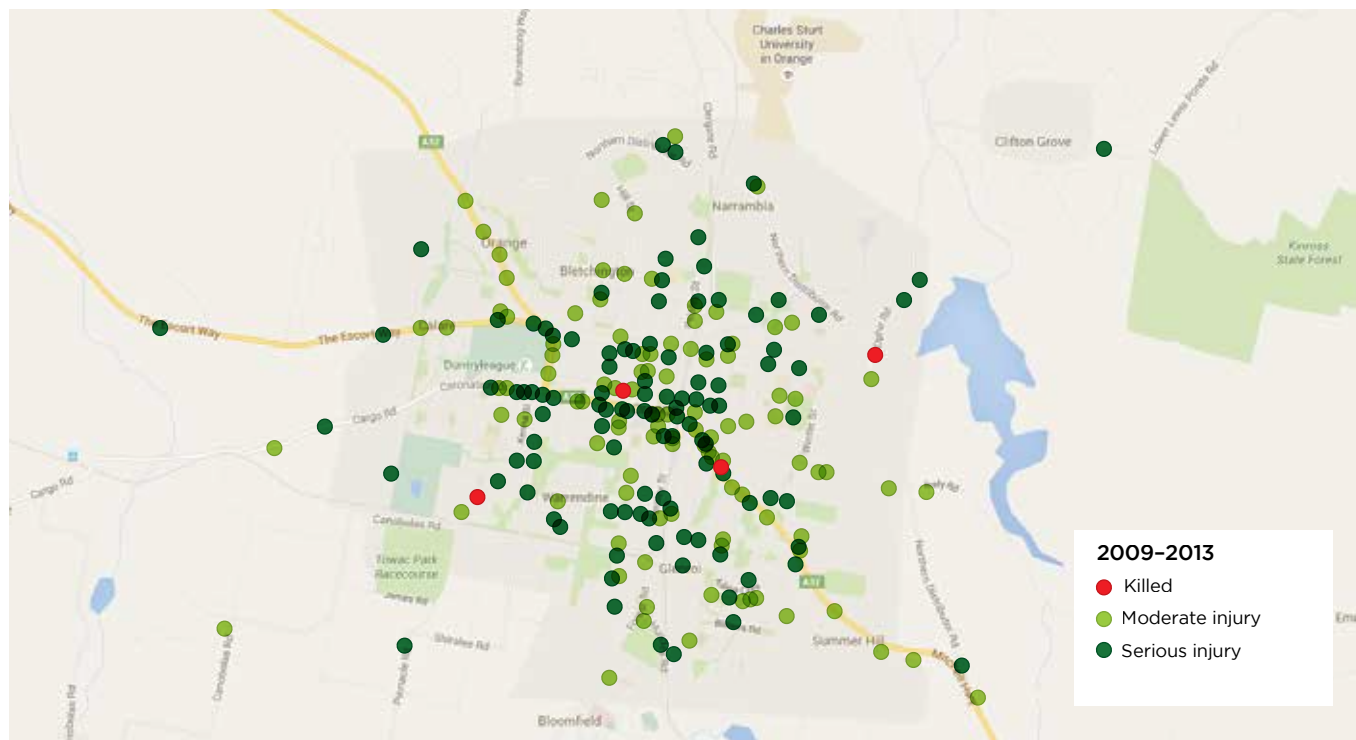
For Orange City Council to investigate and consider the relevant actions of the National Road Safety Action Plan 2015-17 that have been included in this report.

¹³ NSW Centre for Road Safety, 2015, Road Crash Fatality Rate 1908-2013

¹⁴ NSW Centre for Road Safety, interactive crash statistics, (1 death, 28 serious injuries within Orange LGA) <http://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats/nsw.html?tabnsw=8> accessed 10/11/15

¹⁵ Austroads, 2011, National Road Safety Strategy 2011-2020 (NRSS)

¹⁶ Austroads, 2014, National Road Safety Action Plan 2015-17.



ENTIRE NUMBER OF PERSONS AND CRASHES

Casualties	2009	2010	2011	2012	2013
Killed	3	2	0	2	0
Serious injury matched to police report	42	22	33	37	42
Moderate injury matched to police report	56	46	39	50	39
Crashes	2009	2010	2011	2012	2013
Fatal	3	2	0	2	0
Serious injury crashes matched to police report	32	21	31	24	37

FIGURE 15: MAP OF ROAD FATALITIES, SERIOUS INJURIES, AND MODERATE INJURIES. ORANGE LOCALITY, FOR ALL ROAD USER TYPES, 2008-13.

Source: NSW Centre for Road Safety, Interactive crash statistics 2009-2013, accessed 10/11/15

4.3 Health

OBESITY AND SEDENTARY LIFESTYLES

Obesity and sedentary lifestyles have been identified by the World Health Organisation (WHO) as a major contributor to death and morbidity.

A total of 63.6 percent of the regional NSW adult population is overweight or obese (males: 70.8 percent, females: 54.7 percent). Of these 25.5 percent are obese (males: 25.9 percent; females: 25.1 percent). This is a significant increase from 1995 when just 22.9 percent of the adult population was overweight or obese¹⁷. Around 26.3 percent of regional NSW children aged 5–17 years are overweight or obese¹⁸.

Three out of five adults in regional NSW are considered to be sufficiently physically active, having at least 30 minutes moderate exercise a day. However, only 20–23 percent of children aged 5–17 years old meet physical activity recommendations.

A growing number of people are at risk of premature cardiovascular disease, stroke, diabetes, arthritis and other conditions which can cost years of healthy life. On top of individual costs, obesity puts added pressure on the health system due to higher rates of major, preventable illness.

Encouraging people to regularly exercise is one of the cornerstones of community preventive health. Active travel is the perfect means to build regular exercise into people's daily routines.

Research has shown that around 80 percent of the economic benefits of walking and cycling are health benefits¹⁹

Providing adequate facilities at destinations, such as workplaces and tertiary education institutions, influences people's likelihood to ride, jog or walk.

AGEING

According to the OECD, 'Because of the ageing of the population public authorities must prepare for a future where a growing number of highly vulnerable people will be even more dependent on walking²⁰.

Regional NSW (including Orange) will experience significant changes in its demographic profile over the next few decades. Between 2010 and 2056 the proportion of persons aged 65 years and over is projected to increase from 11.2 percent to 21.9 percent of the population in Regional NSW.

The increasing numbers of aged people will require better access to quality footpaths, public transport options, and improved safety and convenience for seniors in public areas.

With statistics pointing toward compounding issues of health with the adult and ageing demographic, the Active Travel Plan has identified the need to mitigate future trends by having facilities in place for youth to facilitate active outcomes like riding, skateboarding, walking and exercising.

¹⁷ ACT 2014, ACT Chief Health Officers' Report, p28 – measured

¹⁸ ACT 2014, ACT Chief Health Officers' Report, p28 – Australian Health Survey

¹⁹ Australian Government, 2013, Walking, Riding and Access to Public Transport: supporting active travel in Australian communities, referring to Queensland TMR report by Skm, 2012

²⁰ OECD 2011, International Transport Forum 2011, Pedestrian Safety, Urban Space and Health: summary document, p10.

4.4 Economic benefits

Ninety-two percent of workers who live in the central Orange area drive to work – equating to 11,610 people traveling every day for work in a motor vehicle; while only 645 people walk and 260 ride a bike. This is despite central Orange being relatively flat with very wide tree-lined streets, and totaling just five kilometres in each direction. There is huge potential to shift the mode share.

The downside of a high reliance on motor vehicles is that it places demand on car parking in the central area, hospital campuses and other employment areas; creates traffic congestion at pinch points around schools and railway crossings; creates noise and air pollution within town; causes road accidents; and costs households thousands of dollars annually to own and run several cars.

In regional NSW around 15 percent of adults (age 18-49) cycle at least once a week. A third of these (ie 5 percent) cycle for transport purposes – which includes riding to the shops, or other locations²¹.

Australian statistics show that 19 percent of adults regularly walk for exercise. The average adult walks 83 minutes a week (approximately 1.7 km per day) for transport purposes²².

In economic terms, each kilometre walked for transport purposes benefits the economy by \$2.12; and each kilometre cycled benefits the economy by \$1.43²³.

If Orange were to reach these targeted increases in walking and cycling mode share, the economic benefit would equate to \$6.7 million per annum²⁴.

The health benefit component would equate to \$5.4 million per annum, even after accounting for potential injury. This is an important consideration for Orange which has an ageing population and increasing levels of diabetes and cardiovascular related diseases.

RECOMMENDATION 3:

Achieve a 20 percent mode share of commuting by bicycle and on foot, by 2020.

The combined mode share target for active travel in Orange (walking and cycling) is 15 percent by 2018, and 20 percent by 2020.

For example, if Orange increased cycle commuting from 2 percent to 5 percent of the local population – from 260 daily bicycle commuters to 650 per day – it would take 500 cars off the road system every day.

If Orange tripled the mode share of walking to work, from 5 percent to 15 percent – it would increase the number of people walking from 645 to 1935; taking 1400 cars off the road system.

It would have significant health, economic, social and environmental benefits for the community, equating to around \$6.7 million per annum

²¹ Australian Bicycle Council, 2015, National Cycling Participation Survey, Austroads

²² Australian Bureau of Statistics, 2013, Australian Health Survey: Physical Activity, 2012-12 - Australia (43640DOO01_20112012, table 1.1 Summary activity indicators by age then sex, persons aged 18 years and over)

²³ Australian Government, 2013, Walking, Riding and Access to Public Transport: supporting active travel in Australian communities, referring to Queensland TMR report by Skm, 2012

²⁴ 650 riders x \$1.43/km benefit x 10km daily x 260 working days annually = \$2.4 million annually; 1935 walkers x \$2.12/km benefit x 4km daily x 260 working days annually = \$4.3m. Combined economic benefit = \$6.7 million annually.

5.

Principles

OUR OBJECTIVES FOR ACTIVE TRAVEL

- To increase number of people walking and riding short distances for travel within Orange
- To improve the safety and convenience of walking and riding in the Orange City Council area.

OUR PRINCIPLES FOR ACTIVE TRAVEL

The draft list of principles in Figure 1 proposed a framework for how Orange City Council can better Plan, Build, Encourage and Coordinate efforts to achieve our objectives for Active Travel. The following section expands on these principles with case studies and actions.

PLAN: Include walking and riding in all planning decisions

BUILD: Build appropriate infrastructure for walking and cycling needs

ENCOURAGE: Enable greater participation in walking, riding and public transport

MANAGE: Partner with agencies + communities; and maintain facilities

RECOMMENDATION 4:

For Orange City Council to adopt the four key principles (plan, build, encourage, manage) and actions in the Active Travel Plan.



5.1 Plan

INCLUDE WALKING AND RIDING IN ALL PLANNING DECISIONS

01

Design networks of continuous, convenient connections

- Enable short walking and riding trips for transport purposes.
- Improve access to and within the central Orange area and major centres such as health, education, jobs, retail and community facilities; focusing on 20-minute catchments (1-2 km walking, 2-5 km cycling).

02

Facilitate active, vibrant communities

- Develop places with a range of activities such as café, shops and playgrounds that attract people to visit, play and stay; and connect these to surrounding neighbourhoods with convenient footpaths and cycleways.

CHANGING URBAN SETTINGS AND ACTIVE COMMUNITIES

The focus of urban planning is now much more responsive to place specific needs, to create a city where everyone can take advantage of its hierarchy of mixed use activity centres, networks of open spaces and distinct neighbourhoods to promote a sense of wellbeing and encourage participation in a vibrant civic and cultural life.

It is important that we establish better walking and cycling connections to and within these places. This connectivity and high level of amenity will make these locations more accessible, lively and enjoyable.

Similarly, walking and cycling networks need to integrate at all levels of urban planning and design and this approach will underpinned master planning for all new residential estates. New developments such as Shirallee have translated this planning to the provision of extensive cycling and pedestrian paths which encourage active transport throughout the suburbs, connecting the local shops, school, neighbourhood oval, picnic areas, and parks.






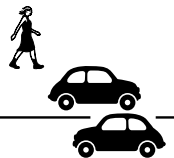

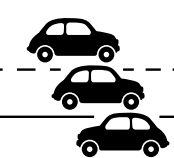

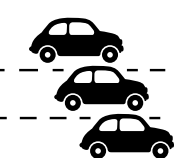
INTEGRATED TRANSPORT AND LAND USE PLANNING

Areas with high levels of pedestrian activity do not cope with high volumes of fast moving traffic. Arterial roads such as the Northern Distributor Rd, have high volumes of fast moving, heavy vehicles including freight. It is not a suitable environment for bicycles and pedestrians; and so a fully grade separated path (or alternative path) should be considered in the long-term future.

At the other end of the spectrum, where street volumes of traffic are low and slow-moving, pedestrians and bicycle riders can mix relatively safely with other traffic.

In between these two ends of the spectrum are a variety of street types: from 15-40 km/hr streets with high pedestrian activity (such as within the Orange CBD); to residential streets where streets average 40-50 km/hr; to arterial roads of 60-90 km/hr.

The diagram at Figure 16 shows an urban road hierarchy recommended by the Australian Government. It takes into consideration different road users on different road types. A similar approach has been adopted in the ACT and by the City of Fremantle (see case study).

	 	 	 	 	 
STREET OR ROAD TYPE	Shared Zone* with mixed traffic considered on a case by case basis	High pedestrian activity areas	Most urban roads	Urban Arterial roads	Motorways and national highway network
VEHICLE SPEED	< 20 km/h	15-40 km/h	40-60 km/h	60-90 km/h	90-110 km/h
				Pedestrians and bicycles fully separated from vehicles	Pedestrians and bicycles fully separated from road environment

CONSIDER FIRST  CONSIDER LAST	Pedestrians	Pedestrians	Pedestrians on footpaths		
	Bicycles	Bicycles lane on road	Wide bicycle lane on road or shared path**		
	Public transport	Public transport	Public transport	Public transport	Freight vehicles
	Service vehicles	Service vehicles	Service vehicles	Freight and Goods	Public transport
	Goods delivery	Goods delivery	Goods delivery	Service vehicles	Service vehicles
	Private vehicles	Private vehicles	Private vehicles	Private vehicles	Private vehicles

*A Shared Zone is also referred to as a Living Street, Home Zone (UK), Woonerf or residential yard (Netherlands), Walking Speed area (Sweden). It moves the traditional segregation of motor vehicles, pedestrians and other road users. Conventional road priority management systems and devices such as kerbs, lines, signs and signals are removed, so that all road users have use of the same shared space.

** Level of separation depends on traffic volume

FIGURE 16: POTENTIAL URBAN ROAD USER HIERARCHY

Source: Australian Government, 2013, Walking, Riding and Access to Public Transport: supporting active travel in Australian communities. Compiled from multiple sources including Austroads 2010, Infrastructure / Speed Limit Relationship in Relation to Road Safety Outcomes and Austroads 2009, Guide to Traffic Management: Part 4: Network Management.

Lowering speed limits

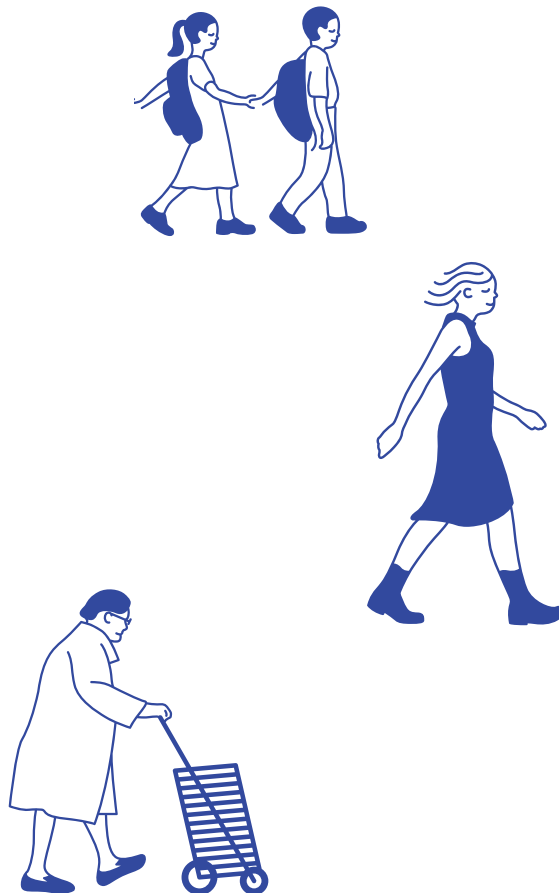
CASE STUDY

Many local governments in Australia have successfully introduced 40 km per hour speed limits in high-pedestrian activity areas – either as an LATM (local area traffic management); or along specific streets.²⁵

In addition, there are state-wide rules for 40 km limits near schools. The introduction of these limits resulted in a 24 percent reduction in all pedestrian and cycling-related crashes outside schools.

Reduced traffic speeds have proven highly effective in improving pedestrian and rider safety, while having little impact on vehicle travel times overall.

Most pedestrians will not survive being hit by a motor vehicle traveling over 50 kilometres per hour. At 30 kilometres per hour the likelihood of fatality is 5 percent; at 40 kilometres per hour it is 20 percent; at 60 kilometres per hour it is 80 percent; and at 70 kilometres per hour it is more than 90 percent likely to result in a fatality²⁶.



²⁵ Australian Transport Council 2011, National Road Safety Strategy 2011–2020, p13

²⁶ Austroads 2012, On road Cycling on Higher Speed Roads

WALKING AND CYCLING NETWORKS

Orange's streets have a number of distinctive, positive features:

- Very wide, tree-lined streets with trees growing in bitumen and cars parked between trees
- Generally arranged in a grid formation which makes it easy to select different walking routes.

However, there are also features that make it difficult to walk and cycle, such as:

- Many 2-lane roundabouts which are difficult to negotiate for pedestrians and bicycle riders
- 2-3 arterial roads which are main freight networks, with heavy goods trucks and fast through traffic
- High traffic speeds (50 km/hr) throughout urban areas
- Abundance of free car parking which encourages driving
- Signage indicating that bicycles are illegal on footpaths. Whilst this is legally correct (for anyone over 12 years) it sends a negative message to the community.

Broadly, the walking and cycling networks are categorised into off-road paths ('community paths' which are shared between bicycles and pedestrians) and on-road bicycle routes (shared between bicycles and motor vehicles).

The networks provide an important choice in facilities to meet individual user needs. The needs of people walking and cycling may depend on confidence, time and whether they are traveling to work, school or for recreation. The directness, safety or comfort of a route option may determine which route on the network people choose.

An on-road lane may provide a suitable option for a confident rider to get to work and a parallel off road path creates an opportunity for a less experienced high school student to safely ride to school or the local shops.

Figure 17 provides an indicative diagram of these categories of main, local, and access or connector levels.



FIGURE 17: INDICATIVE DIAGRAM OF CATEGORIES IN THE ORANGE WALKING AND CYCLING NETWORKS

Cycling Loop Trails in Orange

CASE STUDY

Orange has four Loop Trails within the city's urban area, ranging from 4.4km to 8km in length. The cycling trails are mostly on share-paths through park lands, as well as on-road cycling.

- North Orange Loop takes in the Botanic Gardens and Adventure Playground to the north of the CBD as well as Dalton St and Kearneys Drive.
- The Wetland Loop Trail to the northwest of the CBD takes riders through wetland reserves in Coogal Park and Somerset Park, and past the golf course.
- Brabham Loop starts at Sir Jack Brabham Park, taking riders south past the Orange Health Service and through Gosling Creek Reserve.
- Moulder Park Loop, in the centre of town, passes the Velodrome and Skate Park, Elephant Park and Kite St.

In addition to the in-town trails, there are ten bicycle loops that take riders outside of the city – such as the Banjo Patterson Loop, Orange Lucknow Loop, and Lake Canoblas.

Detailed map and route information is provided at http://www.bookeasy.com.au/website/images/orange/orangecycle_guide_part1.pdf



PHOTO: BY SARA STACE

5.2 Build

BUILD APPROPRIATE INFRASTRUCTURE FOR WALKING AND RIDING

03

Create safe environments for pedestrians and bicycle riders

- Separate pedestrians and bicycles from motor vehicles in high-speed, high-volume traffic (e.g. arterials roads).
- Allocate or share road space, with appropriate speeds, in lower-traffic environments (e.g. quiet suburban streets).

04

Improve pathways, intersections and facilities

- Remove barriers, obstacles and hazards such as clutter on footpaths, lack of footpaths and kerb ramps, or vehicles consistently parked across footpaths.
- Prioritise pedestrians, prams, wheelchairs and bicycle riders at crossings and intersections.
- Address dual-lane roundabouts, which are difficult to navigate safely for children, the elderly, pedestrians and bicycle riders.
- Provide mid-trip facilities such as water, shade, seats, toilets and way-finding signage.
- Provide end-of-trip facilities such as secure bike parking, toilets, showers, and lockers.
- Where required, build footpaths where there aren't existing footpaths, or where single-side footpaths are inadequate

05

Incorporate pedestrian and bicycle facilities when building other infrastructure

- Avoid costly retrofitting by building separated cycleways and footpaths during road projects.
- Incorporate quality pathways, mid-and end-of-trip facilities as part of project works.
- Encourage building owners and operators to provide end-of-trip facilities such as bicycle parking, change rooms and storage lockers

A number of case studies are described on the following pages.

Adelaide City and Park Lands Wayfinding signage

CASE STUDY

The aim of the Adelaide City & Park Lands Signage Strategy is to create better connected communities. By providing pedestrians and cyclists with on-street information such as times and distances to destinations, area maps which highlight defined routes and links, wayfinding signage will help to connect visitors and locals with the city's various precincts, neighbouring suburbs, public transport, retail areas and community facilities.

Active transport infrastructure like wayfinding signage has been shown to increase foot and cycle traffic and as a consequence increase retail profitability as well as improving a person's health and wellbeing.

Wayfinding has many practical outcomes and benefits including:

- Increased permeability through the street network
- Assisting in the creation and legibility of pedestrian-friendly streets that are safe, comfortable and pleasant
- Encouraging and facilitating increased levels of walking, cycling and improved community health and well-being
- Social cohesion by providing the infrastructure for a better connected community
- Increased retail profitability due to more foot traffic and the retention of visitors
- Promoting walking and cycling as alternate modes of transport



FROME STREET BIKEWAY PHOTO BY DON BRICE



STATION TO MARKET LINK PHOTO BY ASPECT STUDIOS

Improving streetscapes

FOR PEDESTRIANS AND BICYCLE RIDERS CASE STUDY

The City of Fremantle in Western Australia declared in its Integrated Transport Strategy that it will prioritise transport modes with pedestrians at the top of the hierarchy, followed by bicycles, public transport, freight vehicles and finally private motor vehicles. “The basic layout of Fremantle’s streets today was established in the 1800s... The pre-car roots of Fremantle are a unique asset, and align well with policies that seek to improve the walking and cycling environment.... Strategically, it is paramount that the central city is enhanced for walking. This in turn supports the local economy, as more people come to Fremantle to work, visit or as new residents.”²⁷

²⁷ City of Fremantle, 2015, Integrated Transport Strategy, p42 <http://fremantle.wa.gov.au/sites/default/files/sharepointdocs/Integrated%20transport%20strategy%20-C-000369.pdf>

The council established targets to increase mode share of walking from 7% to 12%, and cycling from 4% to 12% by the year 2031. It also identified high priority walking areas and a ‘low speed shared use core’.

At the centre of this core is South Terrace, referred to by locals at the ‘Cappuccino Strip’ due to its many café, bookshops and outdoor dining areas. In a typical month 345,000 people walk along the street. Over the past few decades, however, the street had increasingly been clogged with cars and buses, destroying the ambience that visitors and locals had come to seek.

The council has installed a range of street treatments to reduce the volume and speed of traffic. Vehicles have been slowed to 30 kilometres per hour; red asphalt has been laid on both sides to indicate the pedestrian priority area; street parking has been removed to allow for wider footpaths and alfresco dining; and large pot plants have been placed down the middle of the street.

The results include improved safety for pedestrians crossing anywhere along the street; better accessibility for bicycles and wheelchairs; and improved street ambience. The council is now seeking to add similar treatments in other parts of the city.



FREMANTLE'S SOUTH TERRACE KNOWN AS THE 'CAPPUCCINO STRIP'.
PHOTO BY SARA STACE



FREMANTLE'S SOUTH TERRACE KNOWN AS THE 'CAPPUCCINO STRIP'. PHOTO BY SARA STACE

5.3 Encourage

FACILITATE PARTICIPATION IN WALKING + RIDING FOR SHORT TRIPS

06

Implement community programs to encourage walking and cycling

- Provide programs, events and grants to help the community, schools and employers to encourage people to ride or walk instead of driving.
- Increase employer awareness of the benefits of active travel and end-of-trip facilities; assist the development of workplace travel plans; and encourage employees to walk or cycle to work and between work locations (e.g. walk to lunch, meetings).
- Work with schools to encourage children, parents and staff to ride or walk to school.
- Improve awareness and skills in the broader population – such as driver and cycling skills.

07

Provide positive messaging

- Provide positive messaging to encourage the general community to walk and cycle instead of driving; and remove negative messaging that could discourage people.
- Make people aware of the various benefits of walking and riding (improved health, better environment, and meeting other people in the community)



Active travel to school

CASE STUDY

Within the City of Orange there are approximately 8,100 students in 19 schools.

Orange City Council commissioned a Schools Active Travel Study (December 2015) to find out how students travel to and from school and why; and what the barriers and opportunities are.

The report found that children traveling to schools in Orange use the following transport:

- Public Transport (47%)
- Motor Vehicle (30%)
- Walking (17%)
- Cycling (3%)
- Scooting & Skating (2%)

This equates to 22% 'active travel'. However, some schools had much higher modes of active travel than others, for example Spring Hill Public School (80% active travel) and Orange East Public School (55% active travel).

The main barriers identified were:

- Parents concerned about traffic, and availability of low risk routes to school
- Poorly designed bike lanes or shared paths near school
- Disconnected or incomplete bike lanes or shared paths near school
- Student lives too far from school
- Concerns about weather (i.e. too cold, wet).

The Schools Active Travel Study recommended that Orange City Council work with schools and other stakeholders to:

- Construct footpaths and shared paths where paths are missing (86% support as high priority)
- Install/improve nearby bike lanes, such as widening (79% support as high priority)
- Better signage for bike routes (71% support as high priority)
- Improve on-road markings such as bike lane markings and crossings (71%)
- Provide programs to encourage kids and parents to participate in active travel (71%)
- Provide maps of 'quiet neighbourhood routes' to schools (57%).



PHOTO: BY SARA STACE



5.4 Manage

PARTNER WITH AGENCIES + COMMUNITIES; AND MAINTAIN FACILITIES

08 Maintain and improve facilities

- Improve coordination and engagement across Council and with state government to better plan, build, and maintain facilities.
- Ensure that all road and footpath projects aim to continually improve conditions for pedestrians, prams, wheelchairs and bicycle riders.

09 Partner across agencies, business and communities to achieve co-benefits

- Partner with government and community groups to improve safety; encourage behaviour change in support of increased walking, riding; and increase use of recreation facilities..

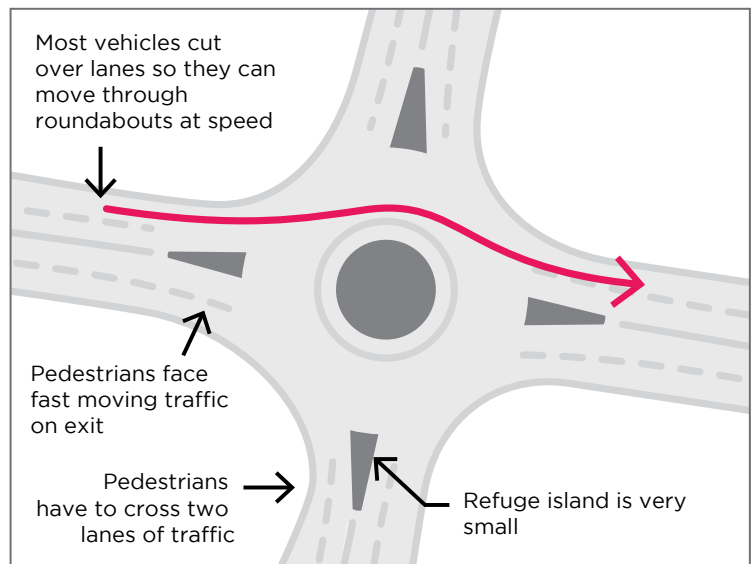
Improving Roundabouts

CASE STUDY

Orange has a significant number of roundabouts, nearly all of which are double-lane roundabouts (i.e. a total of eight lanes entering and exiting).

Double-lane roundabouts can be useful to manage relatively high volumes of traffic, however there are also significant safety problems associated with them:

- Motor vehicle drivers may ignore the double lane markings if they perceive there is little other traffic, and may not slow their speed to a suitably safe speed. This increases the risk and severity of crash incidents;
- Pedestrians find it difficult to navigate and cross at roundabouts particularly where there are up to four traffic lanes to cross, the roads are wide, no zebra crossings are provided, and/or motor vehicles are traveling at relatively high speeds;
- Children and the elderly are especially at risk as they may not be able to cross quickly, and may not be aware of how traffic flows around a roundabout;
- Bicycle riders find roundabouts difficult to navigate safely: under existing road rules they are required to either 'take the lane' or, if they are on the outer lane of a multi-lane roundabout, they must give way to any other vehicles exiting the roundabout at every possible exit point. This is both impractical and dangerous.



Orange City Council is working with NSW Roads and Maritime Services to improve safety for vulnerable road users at a number of roundabouts.

Safety improvements include narrowing roadways to a single lane in order to slow traffic to a safer speed and ensure correct use of the roundabout; providing pedestrians with safer crossings such as zebra crossings, refuge points and shorter distances to cross; and providing safer lanes and signage for bicycle riders.

6.

Recommendations

The following list summarises the key recommendations made in this Active Travel Plan:

RECOMMENDATION 1:

For Orange City Council to incorporate strategies as recommended by the NSW Premier's Council for Active Living into Council's four year Delivery Program and Operational Plan.

RECOMMENDATION 2:

For Orange City Council to investigate and consider the relevant actions of the National Road Safety Action Plan 2015-17 that have been included in this report:

- Expand the application of lower speed limits in areas with high pedestrian and bicycle usage
- Implement programmes to build community understanding and support for effective speed management measures
- Implement and promote a range of Safe System demonstration projects in urban settings, with a focus on the safety of vulnerable road users.

RECOMMENDATION 3:

Target a 20 percent increase in commuting by bicycle and on foot, by 2020

The combined mode share target for active travel (walking and cycling), in Orange, is 15 percent by 2018, and 20 percent by 2020.

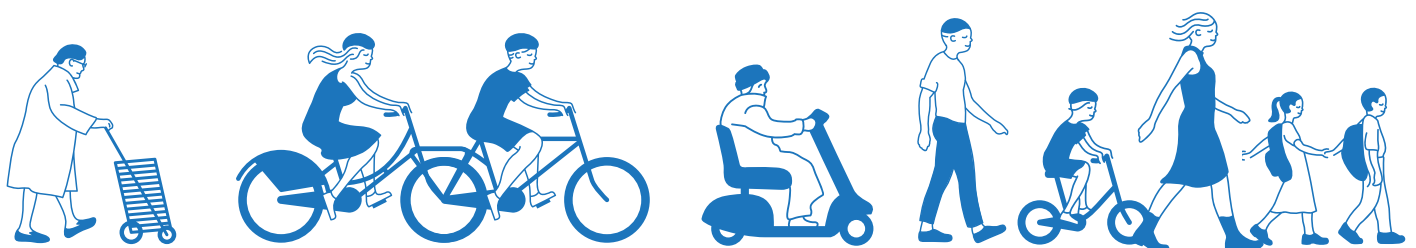
For example, if Orange increased cycle commuting from 2 percent to 5 percent of the local population – from 260 daily bicycle commuters to 650 per day – it would take 500 cars off the road system every day.

If Orange tripled the mode share of walking to work, from 5 percent to 15 percent – it would increase the number of people walking from 645 to 1935; taking 1400 cars off the road system.

It would have significant health, economic, social and environmental benefits for the community, equating to around \$6.7 million per annum.

RECOMMENDATION 4:

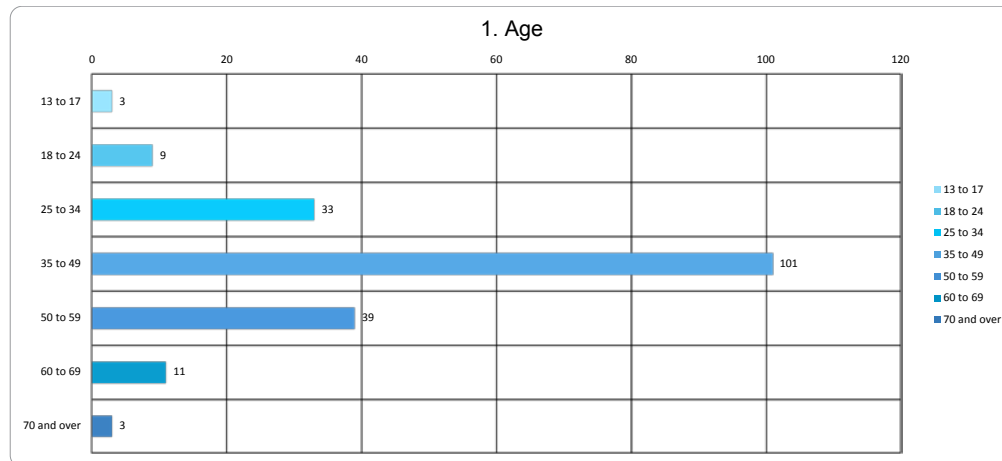
For Orange City Council to adopt the four key principles (plan, build, encourage, manage) and actions in the Active Travel Plan.



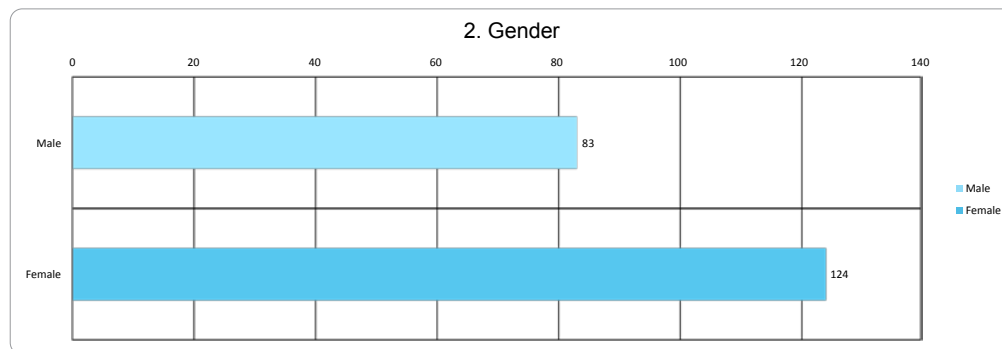
Appendix

Survey Results

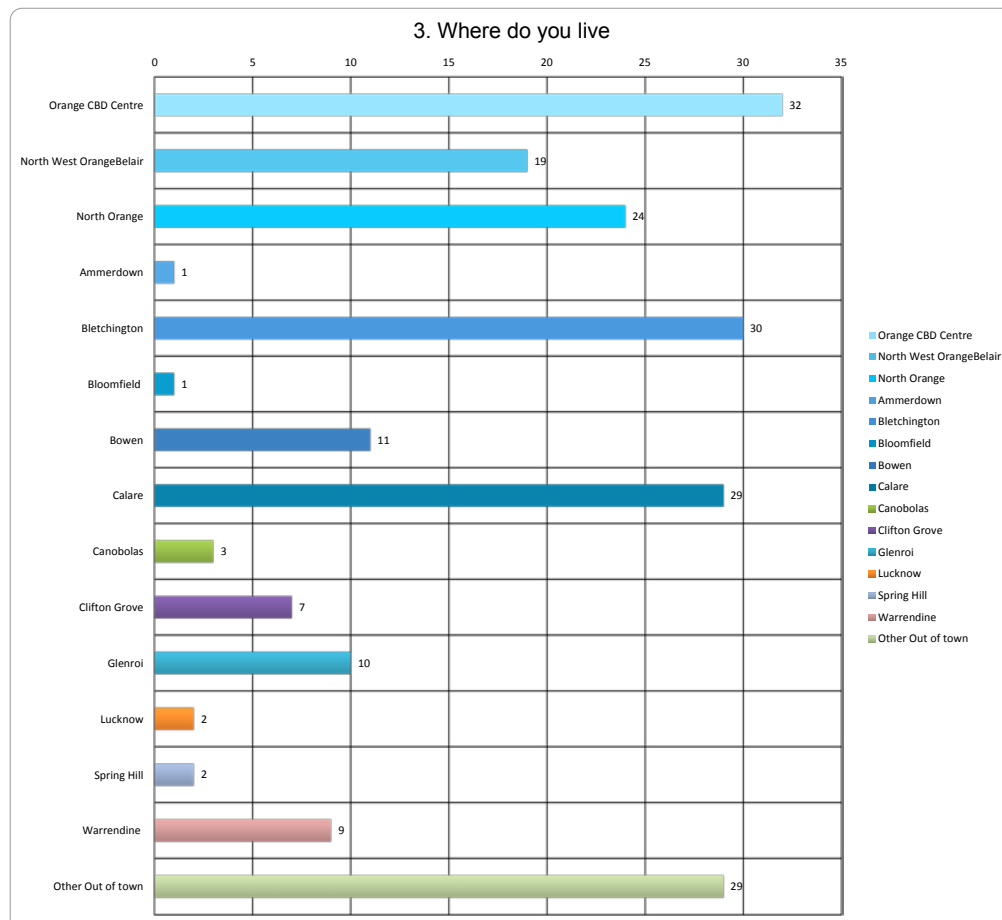
1. Age	
13 to 17	3
18 to 24	9
25 to 34	33
35 to 49	101
50 to 59	39
60 to 69	11
70 and over	3



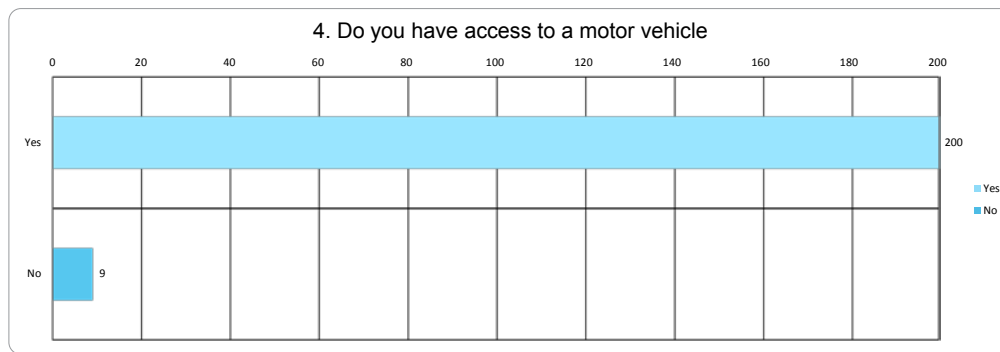
2. Gender	
Male	83
Female	124



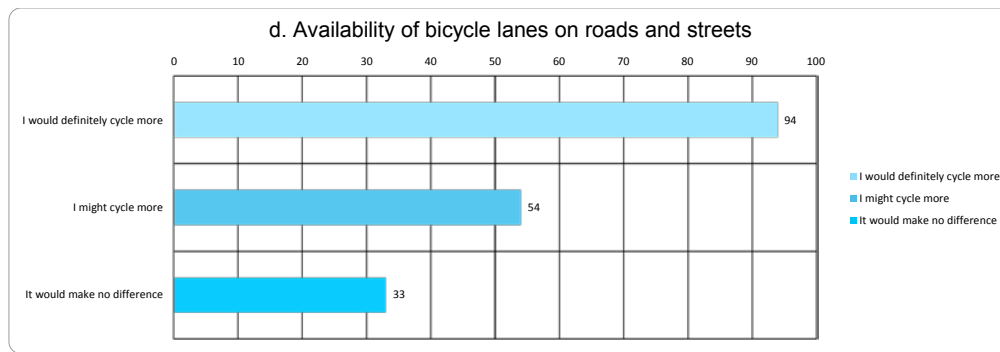
3. Where do you live?	
Orange CBD Centre	32
North West OrangeBelair	19
North Orange	24
Ammerdown	1
Bletchington	30
Bloomfield	1
Bowen	11
Calare	29
Canobolas	3
Clifton Grove	7
Glenroi	10
Lucknow	2
Spring Hill	2
Warrendine	9
Other Out of town	29



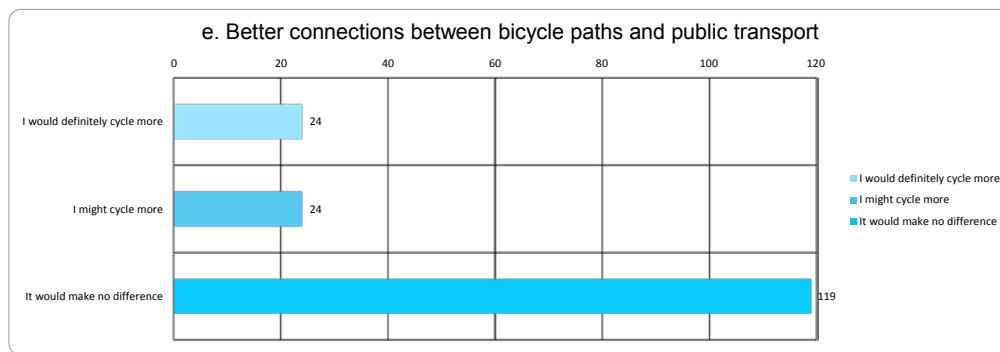
4. Do you have access to a motor vehicle?	
Yes	200
No	9



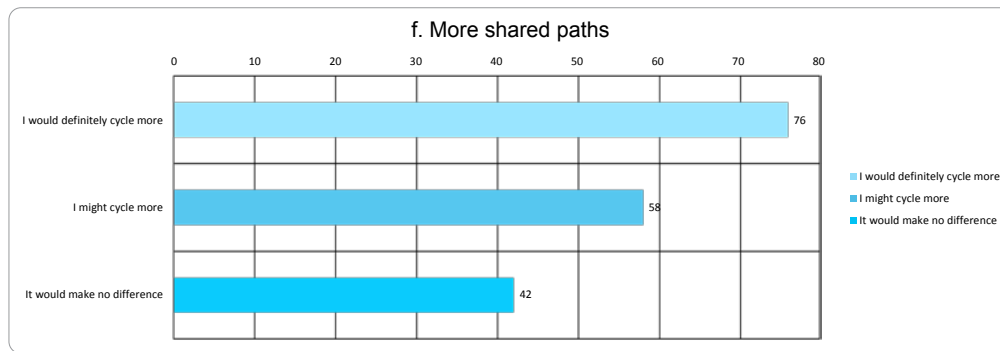
Availability of bicycle lanes on roads and streets	
I would definitely cycle more	94
I might cycle more	54
It would make no difference	33



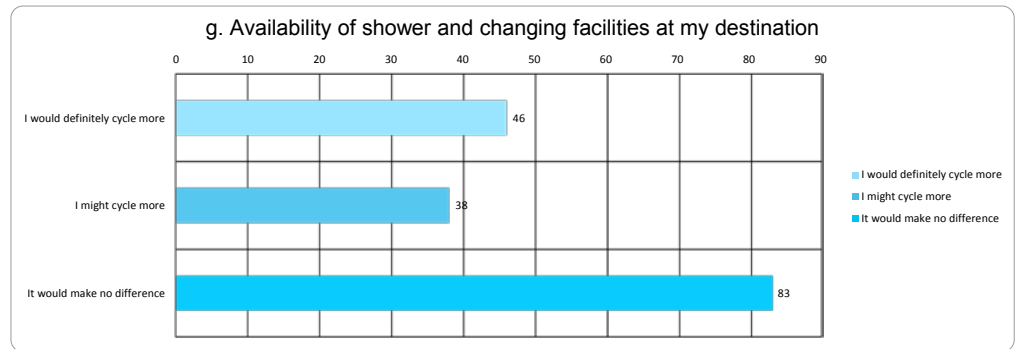
Better connections between bicycle paths and public transport	
I would definitely cycle more	24
I might cycle more	24
It would make no difference	119



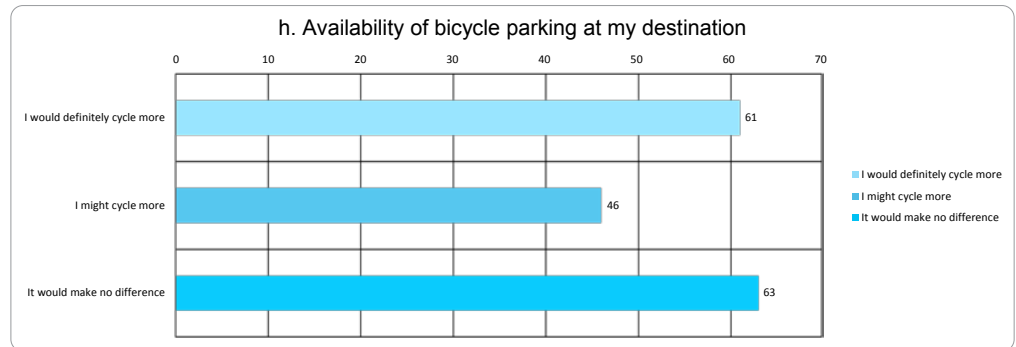
More shared paths	
I would definitely cycle more	76
I might cycle more	58
It would make no difference	42



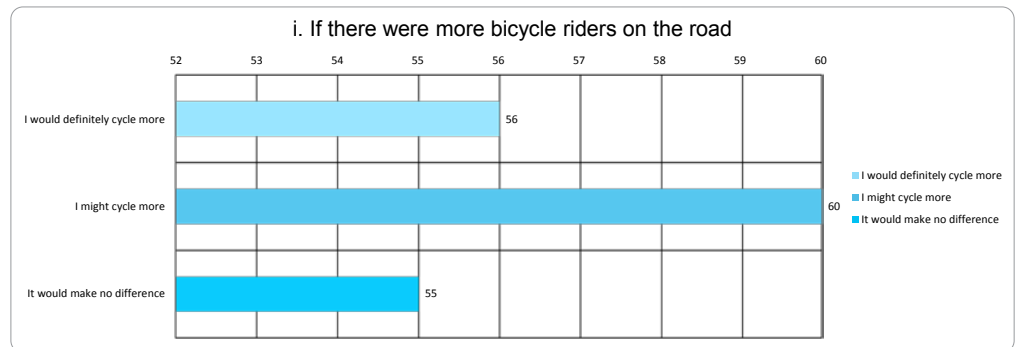
Availability of shower and changing facilities at my destination	
I would definitely cycle more	46
I might cycle more	38
It would make no difference	83



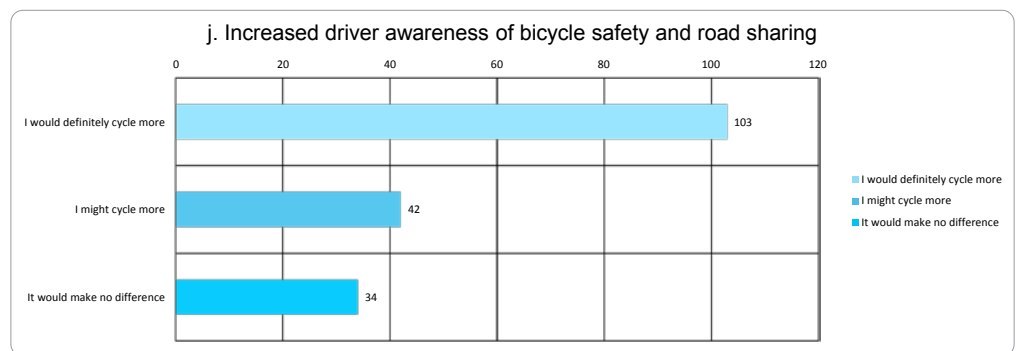
Availability of bicycle parking at my destination	
I would definitely cycle more	61
I might cycle more	46
It would make no difference	63



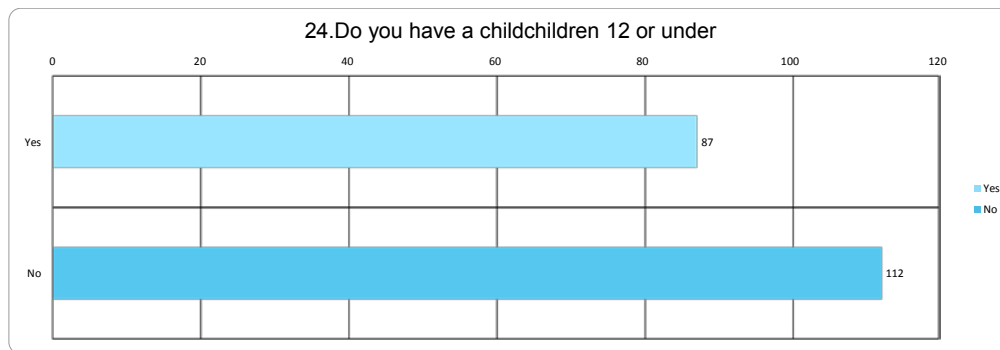
If there were more bicycle riders on the road	
I would definitely cycle more	56
I might cycle more	60
It would make no difference	55



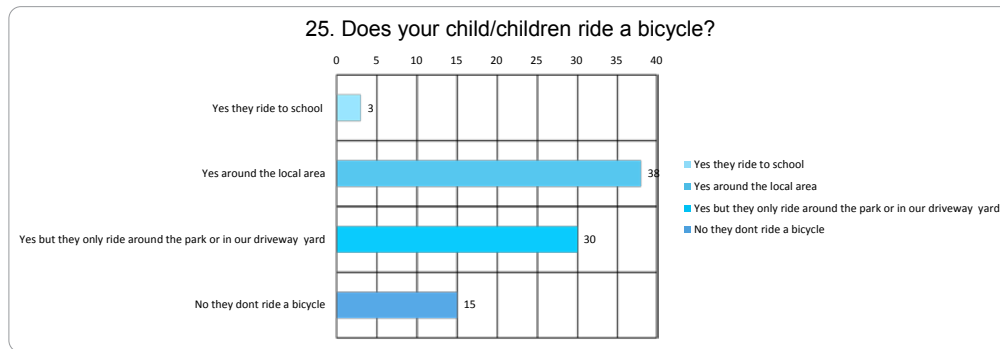
Increased driver awareness of bicycle safety and road sharing	
I would definitely cycle more	103
I might cycle more	42
It would make no difference	34



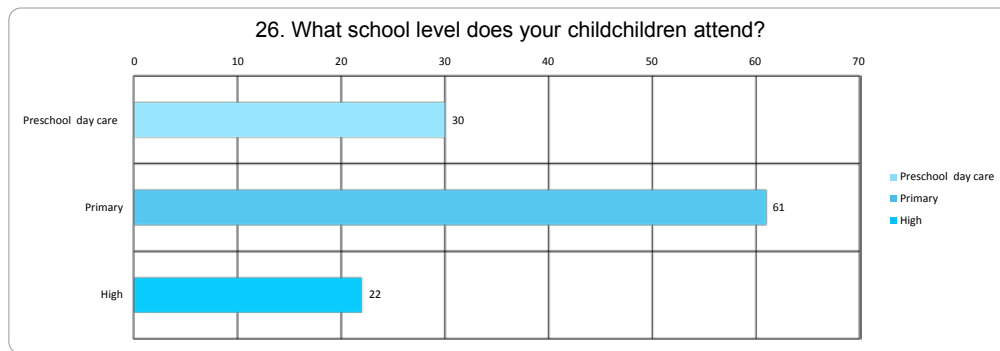
24. Do you have a child/children 12 or under?	
Yes	87
No	112



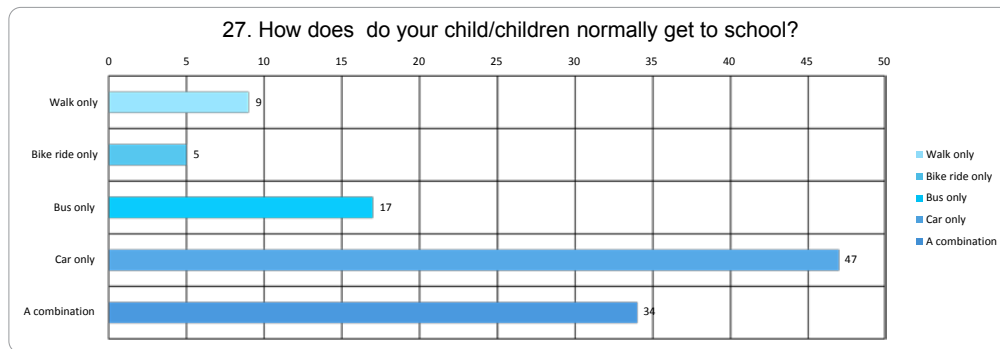
25. Does your child/children ride a bicycle?	
Yes they ride to school	3
Yes around the local area	38
Yes but they only ride around the park or in our driveway yard	30
No they dont ride a bicycle	15



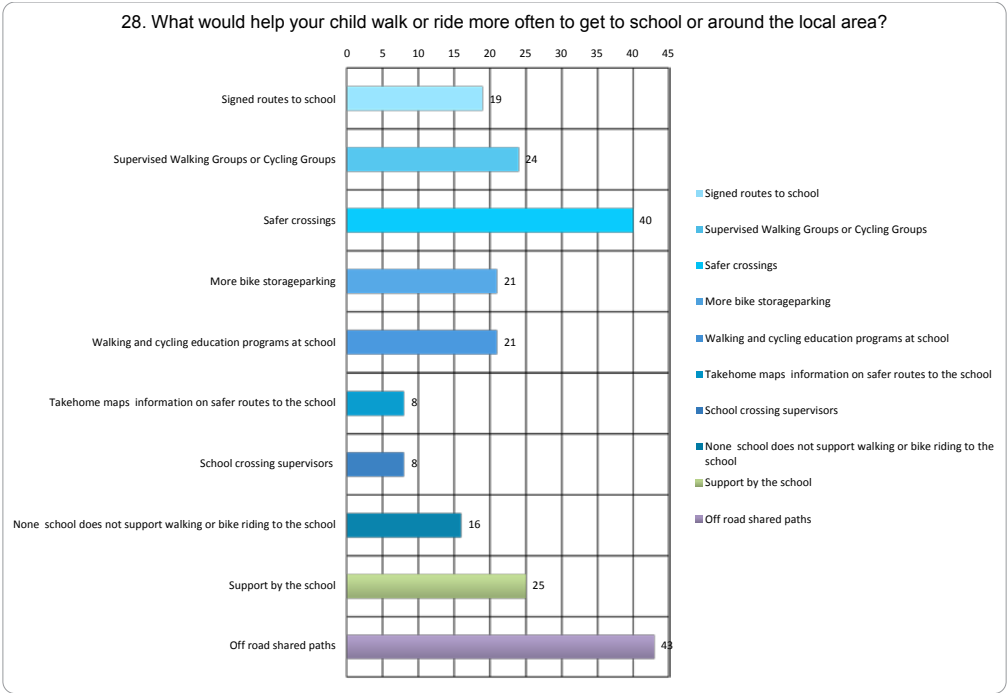
26. What school level does your child/children attend? (Please select all that apply)	
Preschool day care	30
Primary	61
High	22



27. How does / do your child / children normally get to school?	
Walk only	9
Bike ride only	5
Bus only	17
Car only	47
A combination	34

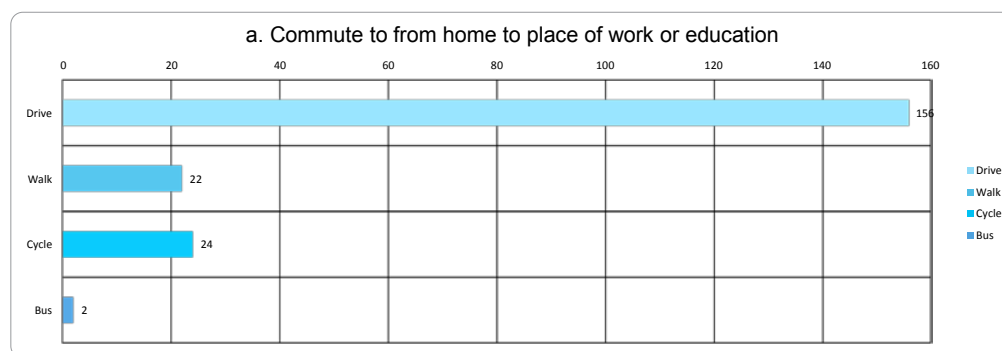


26. Is there anything that would help you to enable your child/children to walk or ride more often to get to school or around the local area?	
Signed routes to school	19
Supervised Walking Groups or Cycling	24
Safer crossings	40
More bike storage/parking	21
Walking and cycling education	21
Takehome maps information on	8
School crossing supervisors	8
None school does not support walking or bike	16
Support by the school	25
Off road shared paths	43

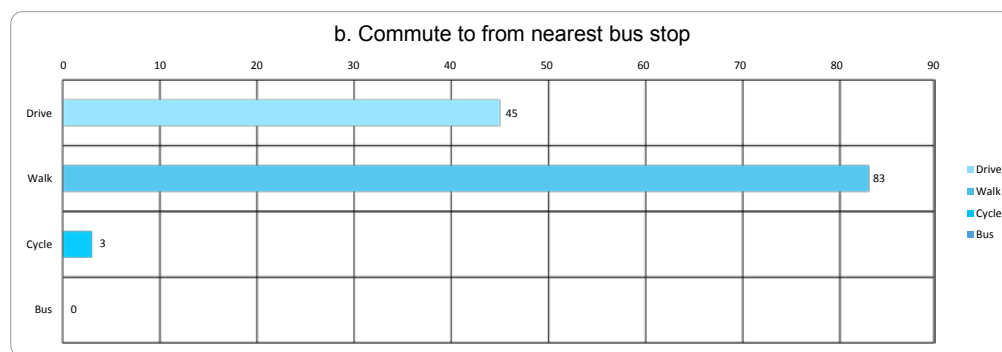


5. What type of transport do you normally use for the following activities? (Please select all that apply)

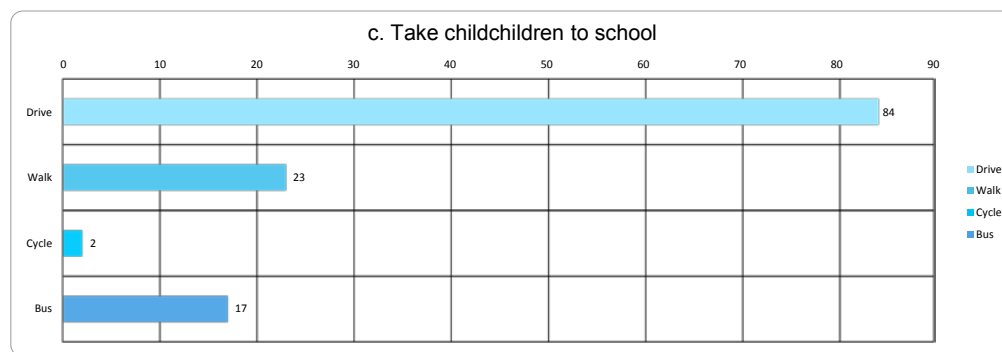
Commute (to/from home to place of work or education)	
Drive	156
Walk	22
Cycle	24
Bus	2



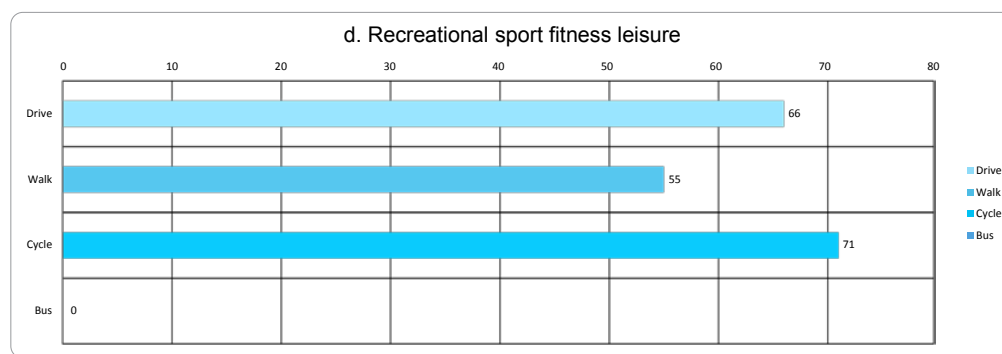
Commute (to/from nearest bus stop)	
Drive	45
Walk	83
Cycle	3
Bus	0



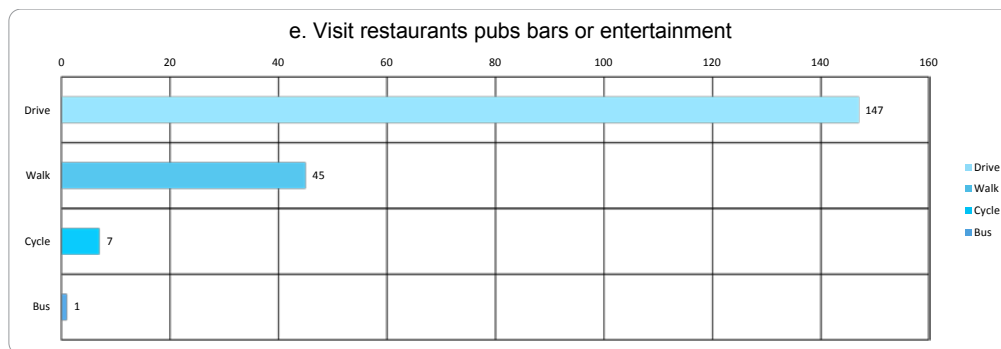
Take child/children to school	
Drive	84
Walk	23
Cycle	2
Bus	17
	126



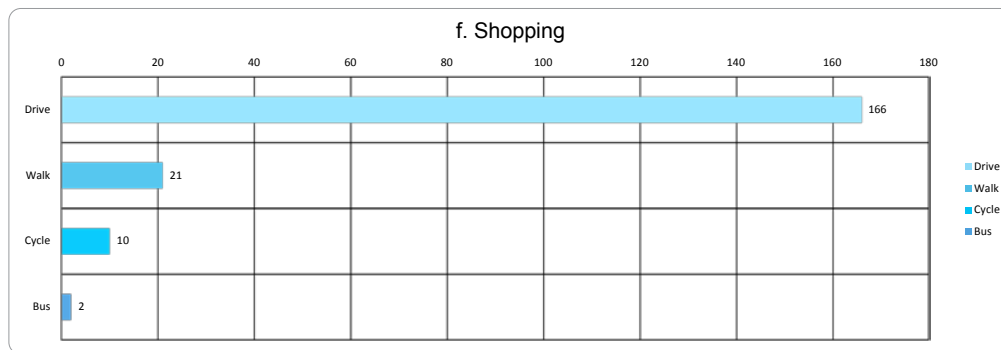
Recreational (sport, fitness, leisure,)	
Drive	66
Walk	55
Cycle	71
Bus	0



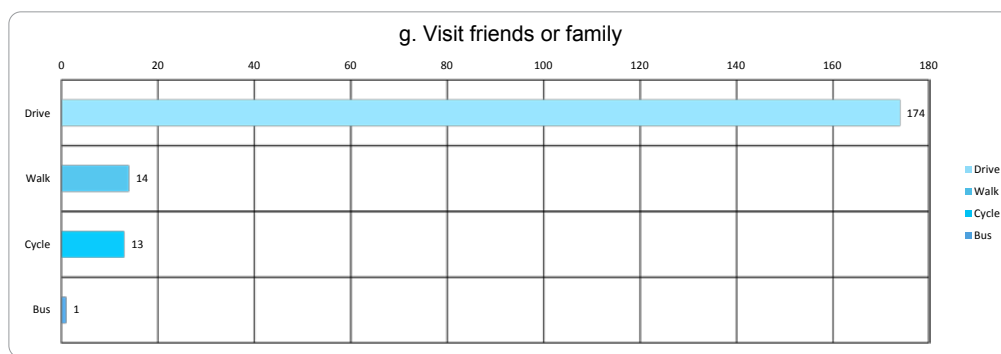
Visit restaurants, pubs, bars or entertainment	
Drive	147
Walk	45
Cycle	7
Bus	1



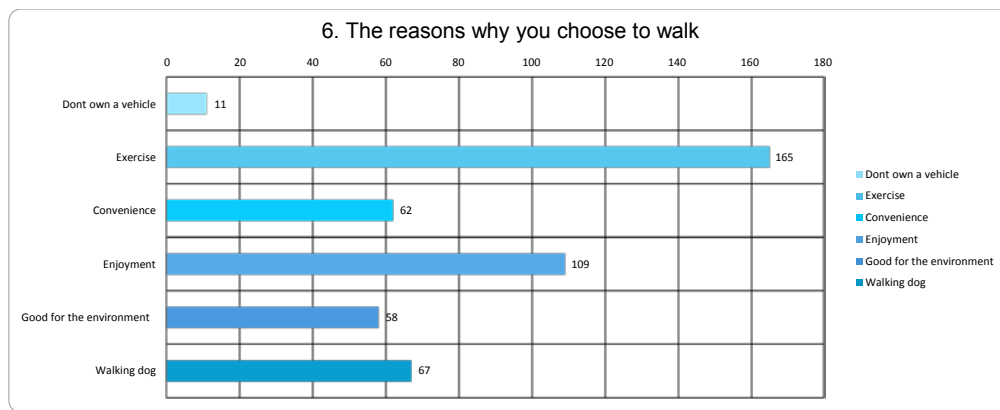
Shopping	
Drive	166
Walk	21
Cycle	10
Bus	2



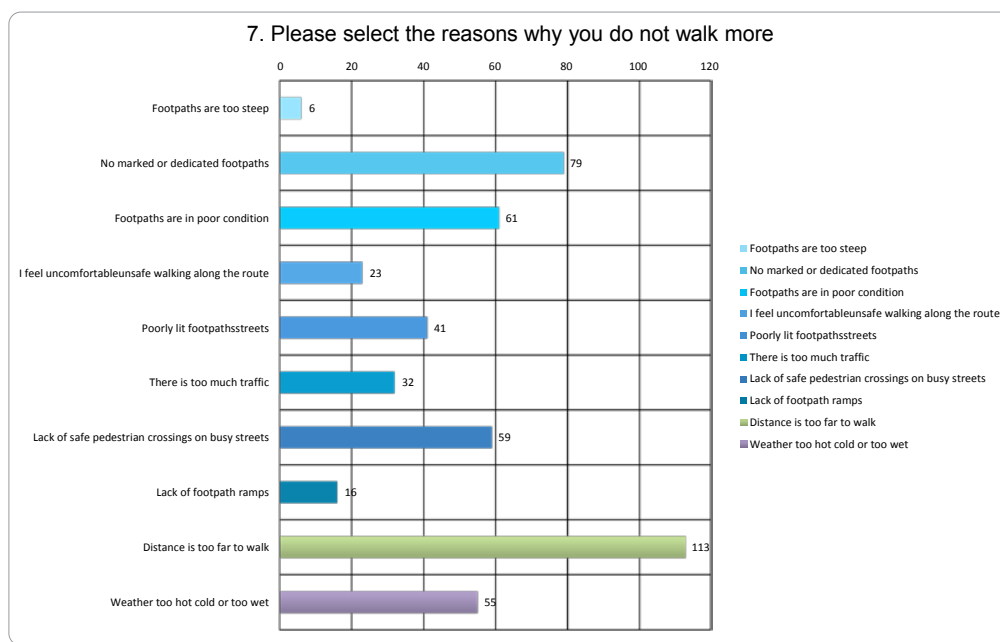
Visit friends or family	
Drive	174
Walk	14
Cycle	13
Bus	1



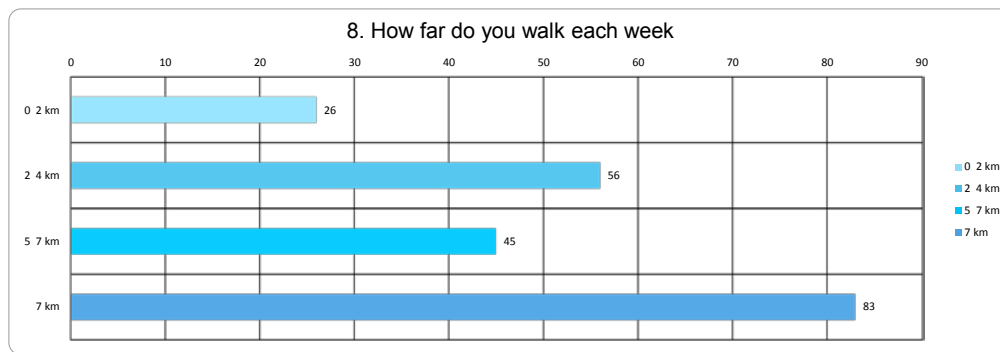
6. Please select the reasons why you choose to walk (Please select all that apply)	
Dont own a vehicle	11
Exercise	165
Convenience	62
Enjoyment	109
Good for the environment	58
Walking dog	67



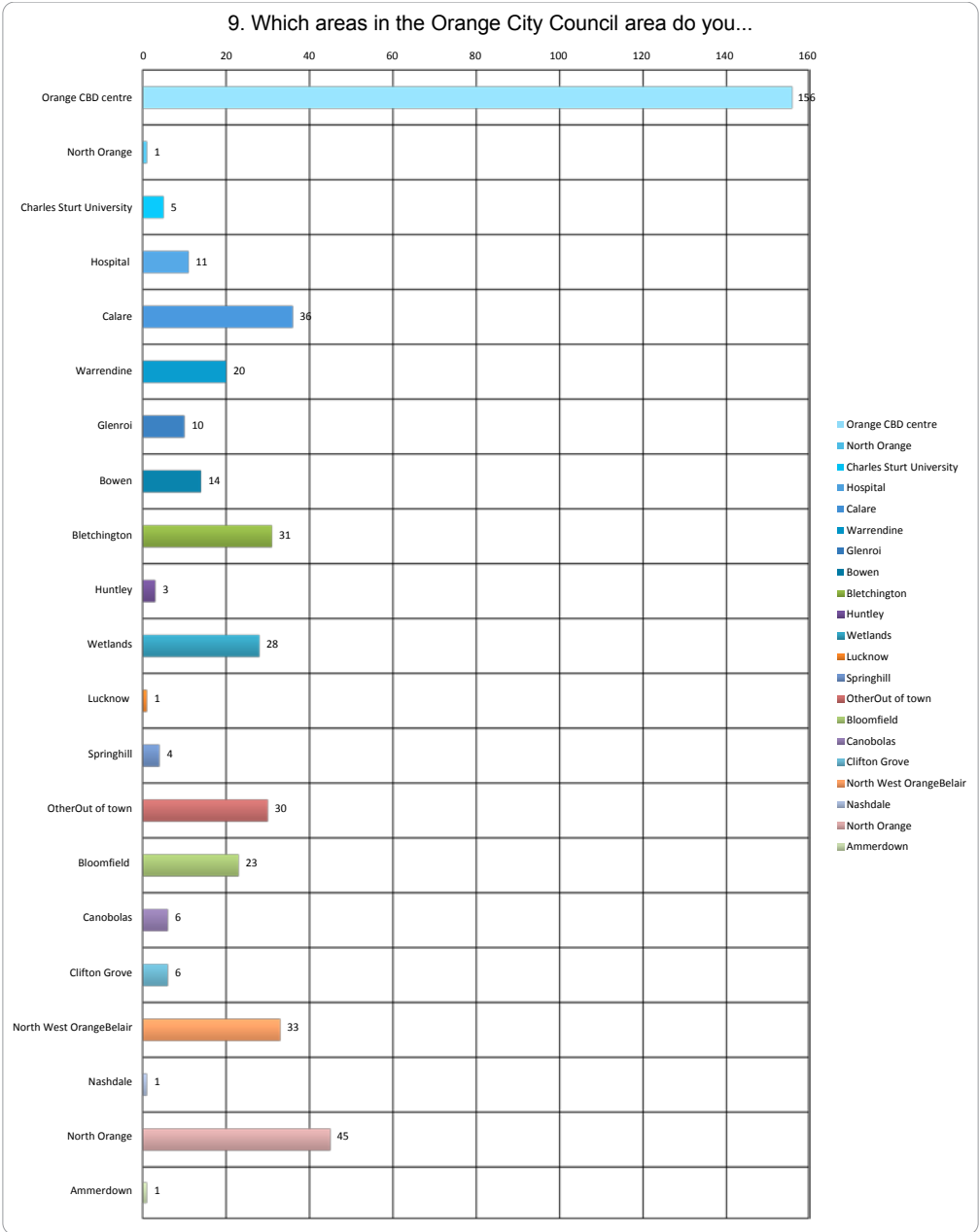
7. Please select the reasons why you do not walk more often from the list below for each journey type (Please select all that apply)	
Footpaths are too steep	6
No marked or dedicated footpaths	79
Footpaths are in poor condition	61
I feel uncomfortable safe walking	23
Poorly lit footpathsstreets	41
There is too much traffic	32
Lack of safe pedestrian crossings on	59
Lack of footpath ramps	16
Distance is too far to walk	113
Weather too hot cold or too wet	55



8. How far do you walk each week	
0 2 km	26
2 4 km	56
5 7 km	45
7 km	83

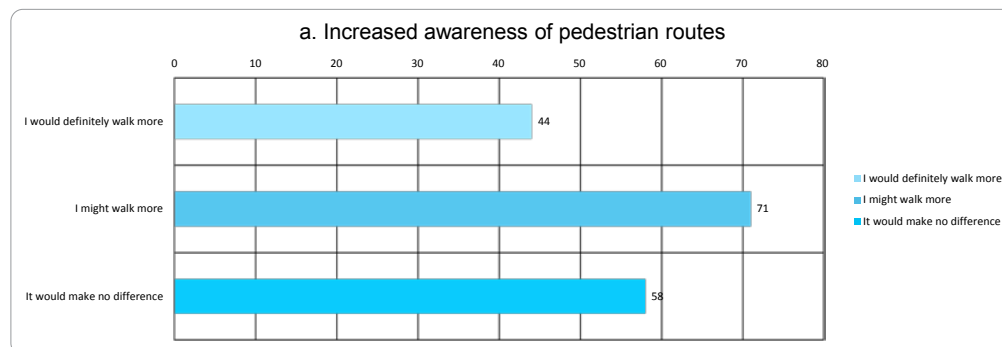


9. Which areas in the Orange City Council area do you typically walk to / from or within? (Please select all that apply)	
Orange CBD centre	156
North Orange	1
Charles Sturt University	5
Hospital	11
Calare	36
Warrendine	20
Glenroi	10
Bowen	14
Bletchington	31
Huntley	3
Wetlands	28
Lucknow	1
Springhill	4
OtherOut of town	30
Bloomfield	23
Canobolas	6
Clifton Grove	6
North West OrangeBelair	33
Nashdale	1
North Orange	45
Ammerdown	1

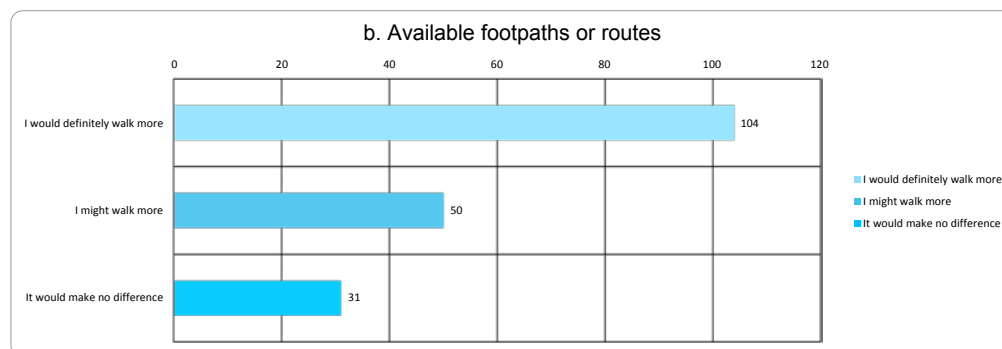


11. Please indicate whether the following changes would make you more likely to walk on a more regular basis for everyday local trips or to commute to work/study: (Please provide an answer for each option)

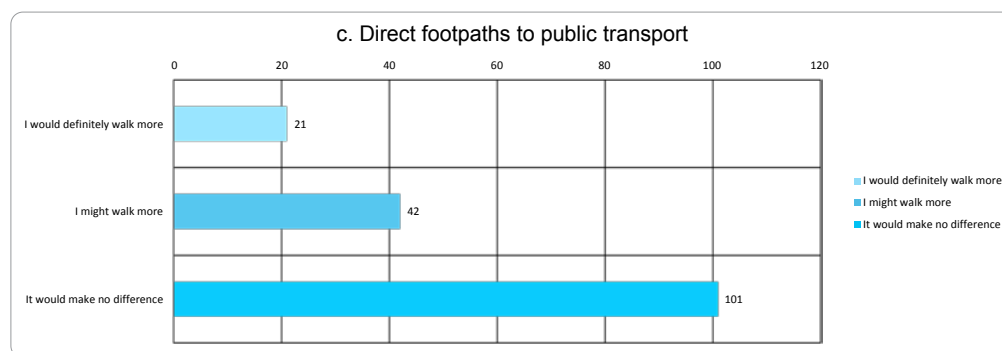
Increased awareness of pedestrian routes	
I would definitely walk more	44
I might walk more	71
It would make no difference	58



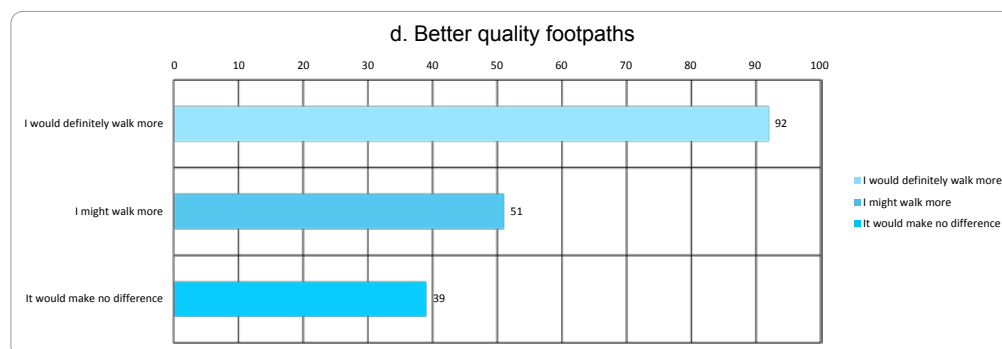
Available footpaths or routes	
I would definitely walk more	104
I might walk more	50
It would make no difference	31



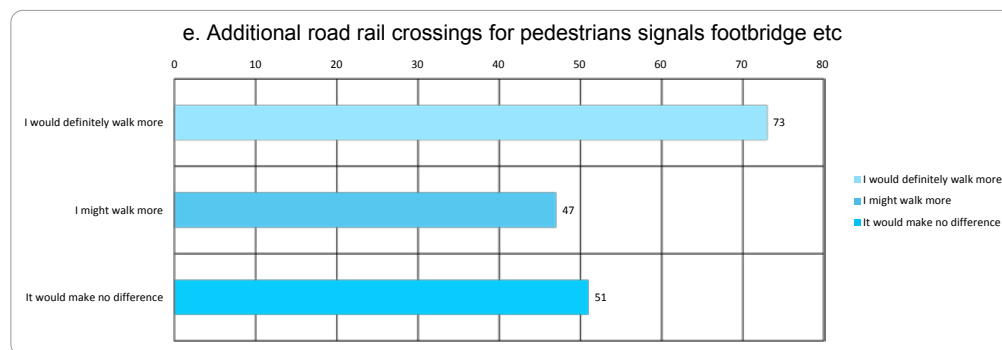
Direct footpaths to public transport	
I would definitely walk more	21
I might walk more	42
It would make no difference	101



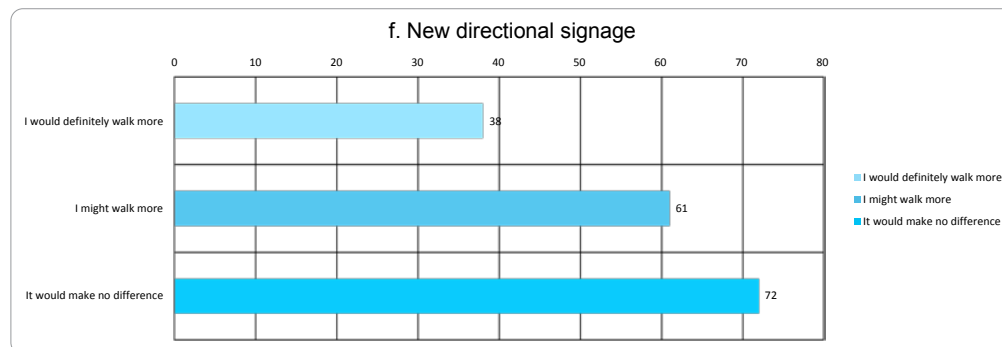
Better quality footpaths	
I would definitely walk more	92
I might walk more	51
It would make no difference	39



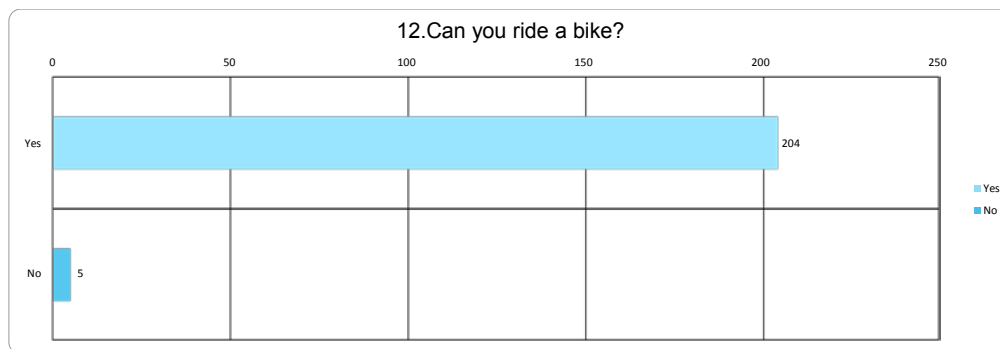
Additional road / rail crossings for pedestrians (signals, footbridge etc.)	
I would definitely walk more	73
I might walk more	47
It would make no difference	51



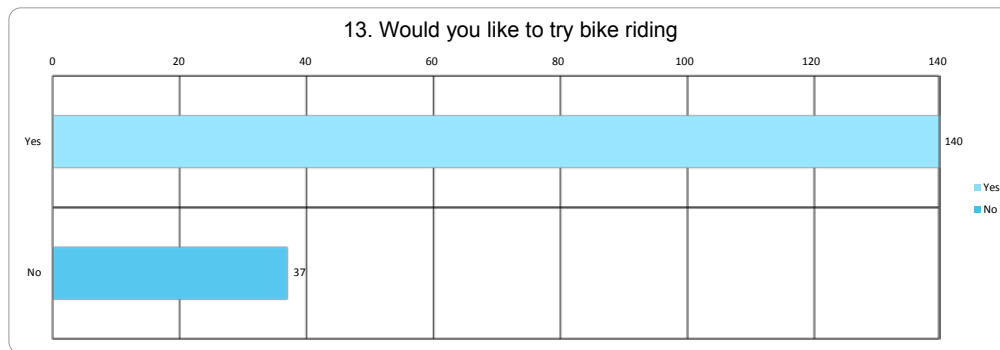
New directional signage	
I would definitely walk more	38
I might walk more	61
It would make no difference	72



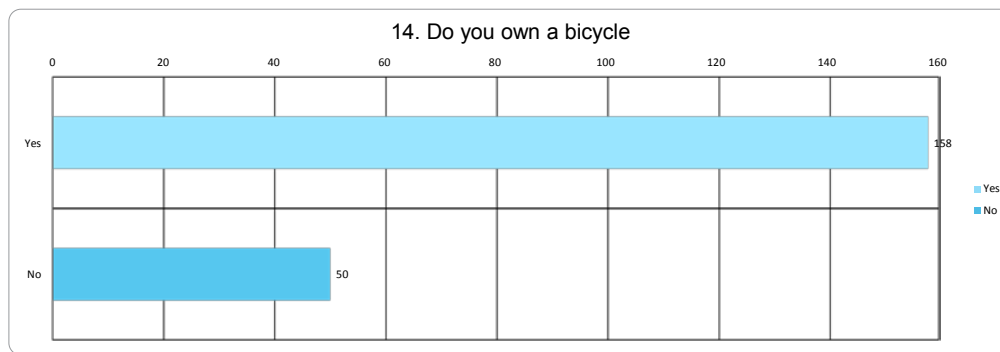
12. Can you ride a bike?	
Yes	204
No	5



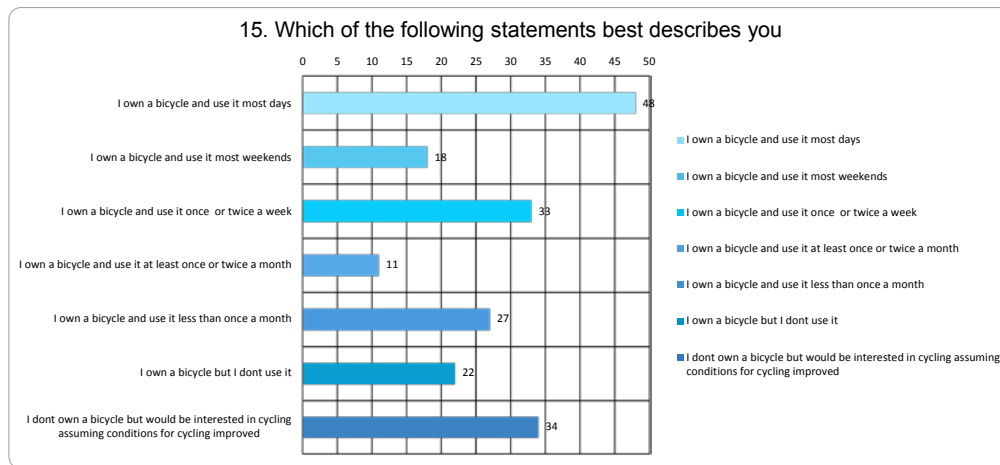
13. Would you like to try bike riding?	
Yes	140
No	37



14. Do you own a bicycle?	
Yes	158
No	50

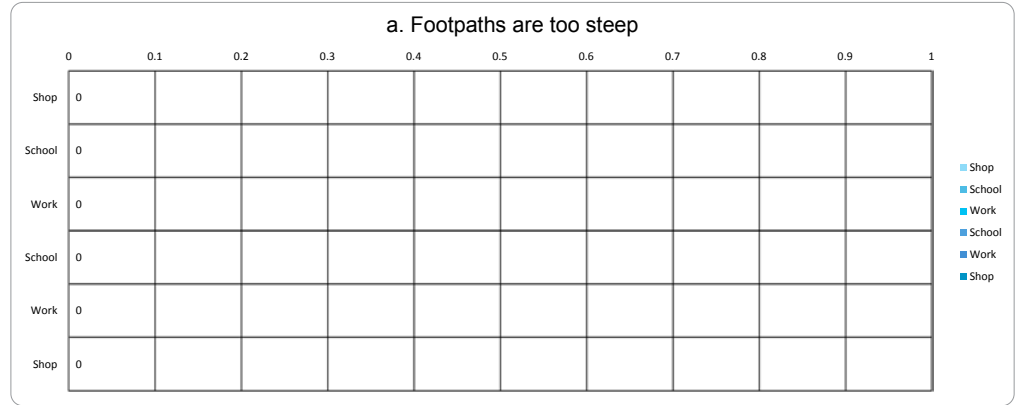


15. Which of the following statements best describes you?	
I own a bicycle and use it most days	48
I own a bicycle and use it most weekends	18
I own a bicycle and use it once or twice a week	33
I own a bicycle and use it at least once or	11
I own a bicycle and use it less than once a	27
I own a bicycle but I dont use it	22
I dont own a bicycle but would be	34

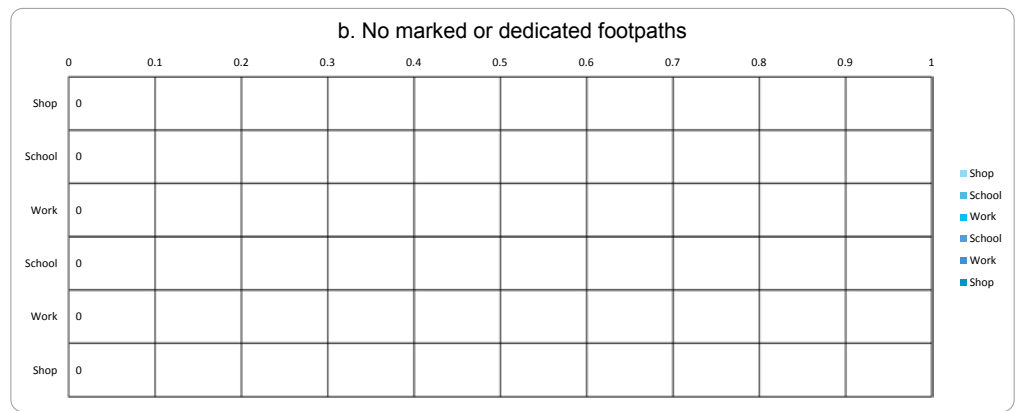


7. Please select the reasons why you do not walk more often from the list below for each journey type. (Please select all that apply)

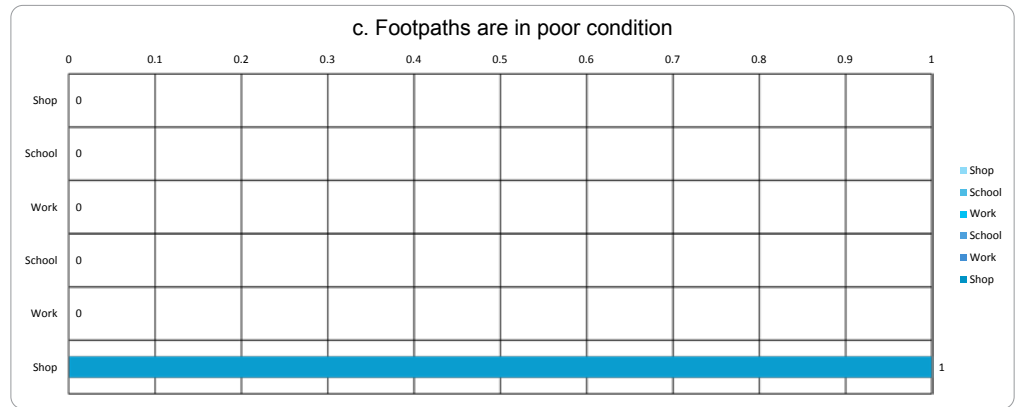
Footpaths are too steep	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



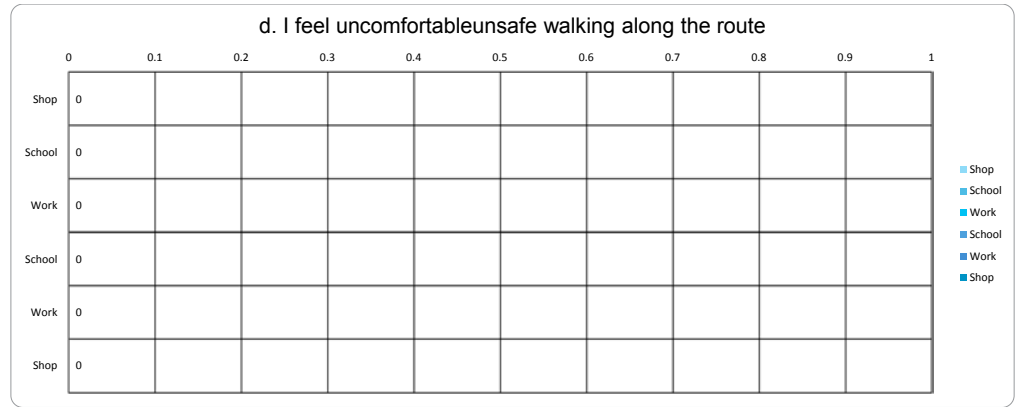
No marked or dedicated footpaths	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



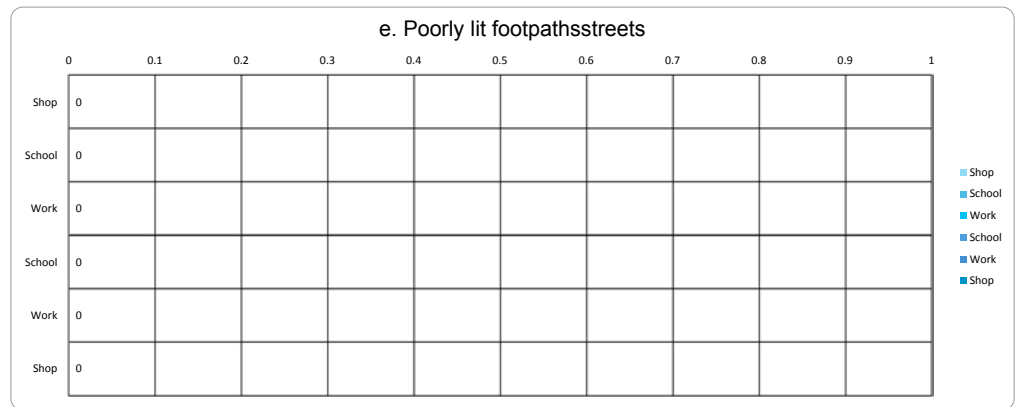
Footpaths are in poor condition.	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	1



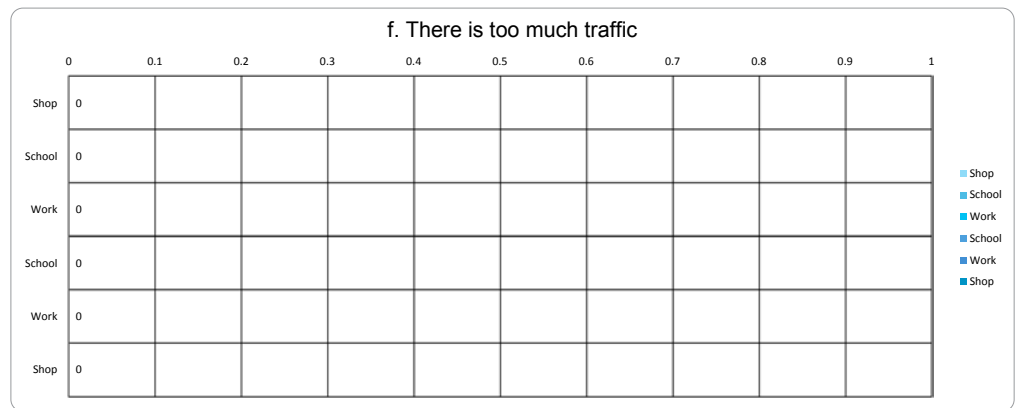
I feel uncomfortable/unsafe walking along the route	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



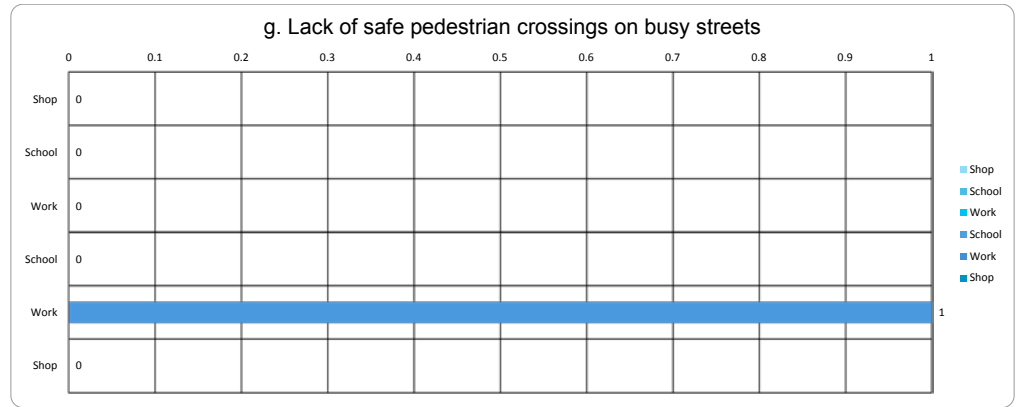
Poorly lit footpaths/streets	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



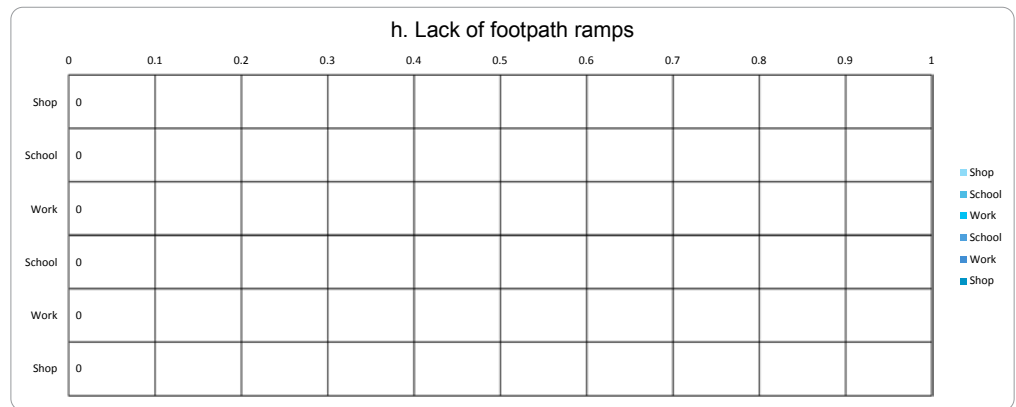
There is too much traffic	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



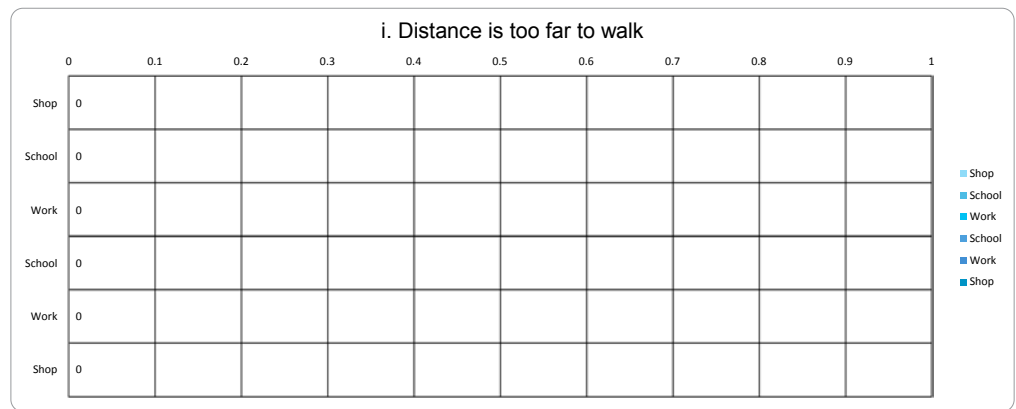
Lack of safe pedestrian crossings on busy streets	
Shop	0
School	0
Work	0
School	0
Work	1
Shop	0



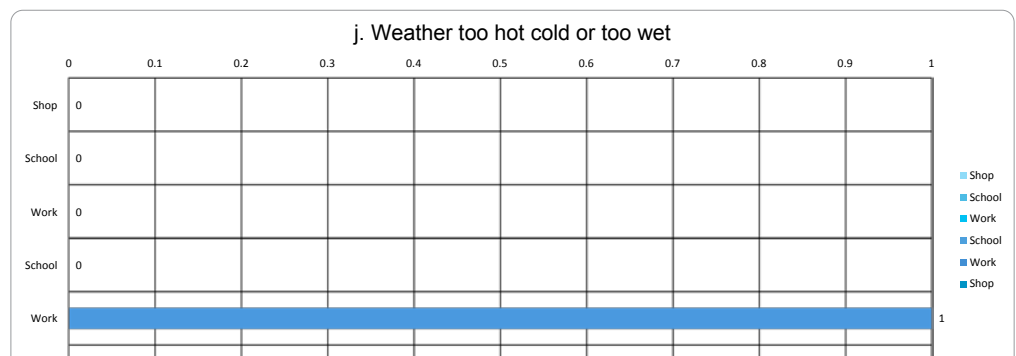
Lack of footpath ramps	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



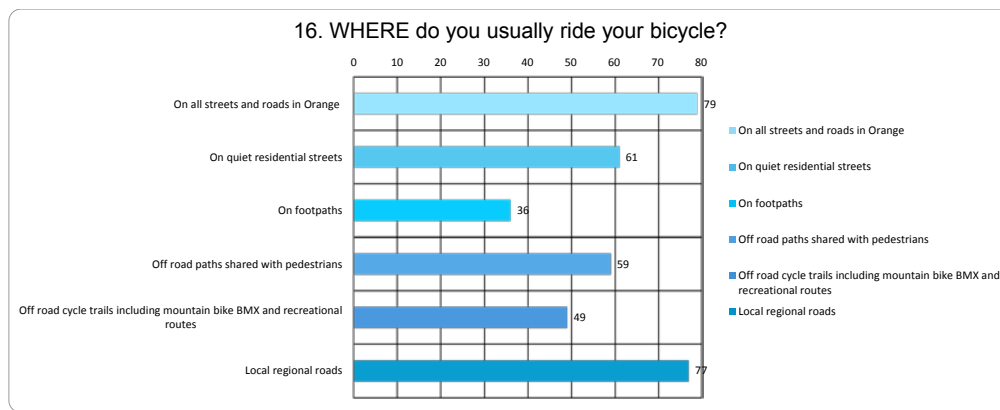
Distance is too far to walk	
Shop	0
School	0
Work	0
School	0
Work	0
Shop	0



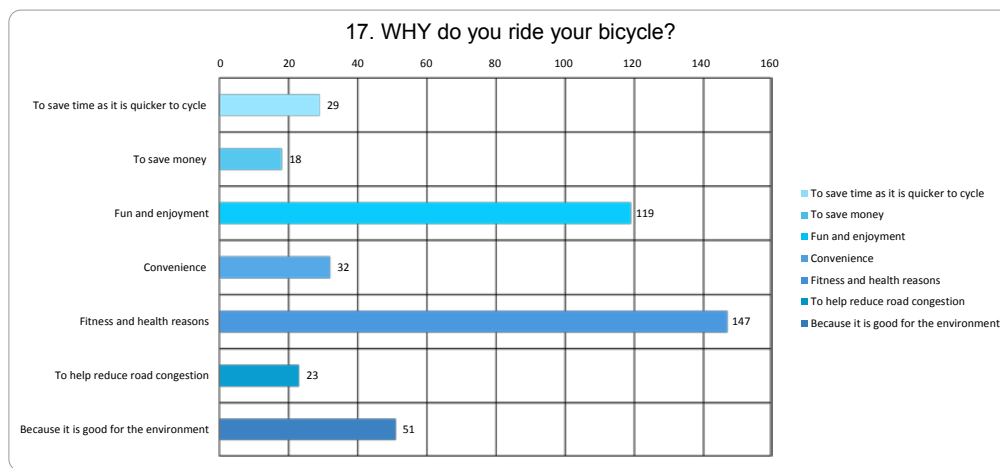
Weather (too hot, cold or too wet)	
Shop	0
School	0
Work	0
School	0
Work	1



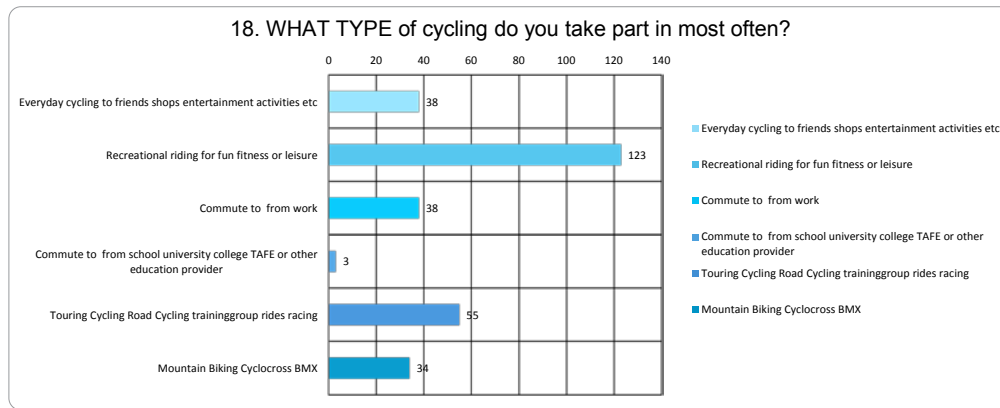
16.WHERE do you usually ride your bicycle? (Please tick all the options that apply)	
On all streets and roads in Orange	79
On quiet residential streets	61
On footpaths	36
Off road paths shared with pedestrians	59
Off road cycle trails including mountain bike	49
Local regional roads	77



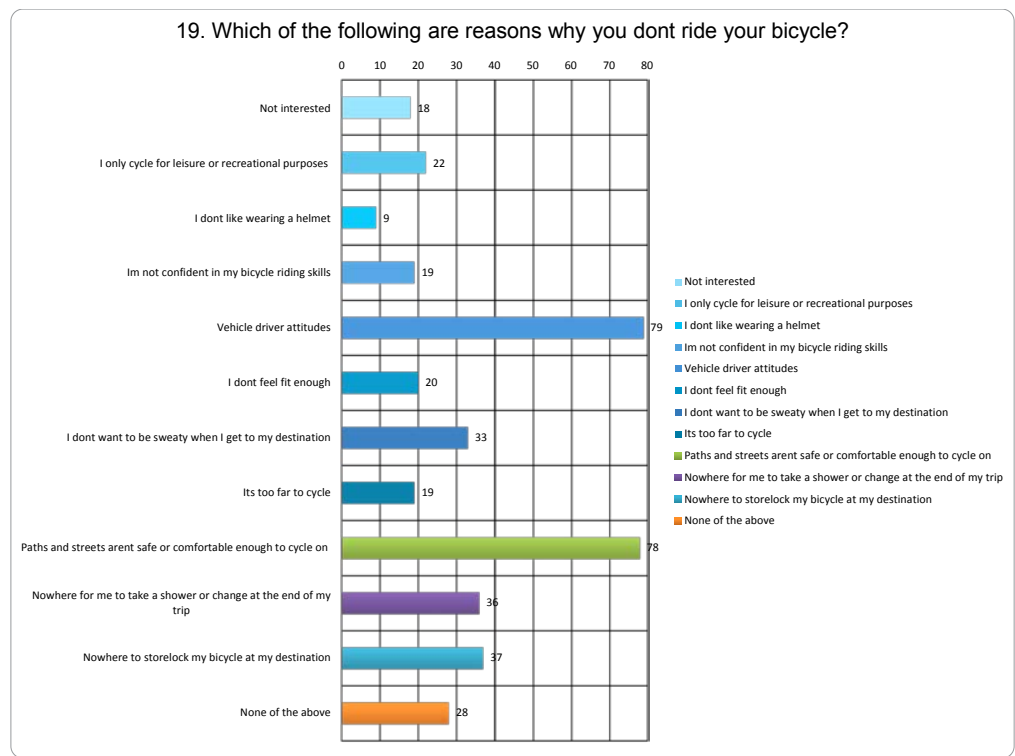
>17.WHY do you ride your bicycle? (Please select all that apply)	
To save time as it is quicker to cycle	29
To save money	18
Fun and enjoyment	119
Convenience	32
Fitness and health reasons	147
To help reduce road congestion	23
Because it is good for the environment	51



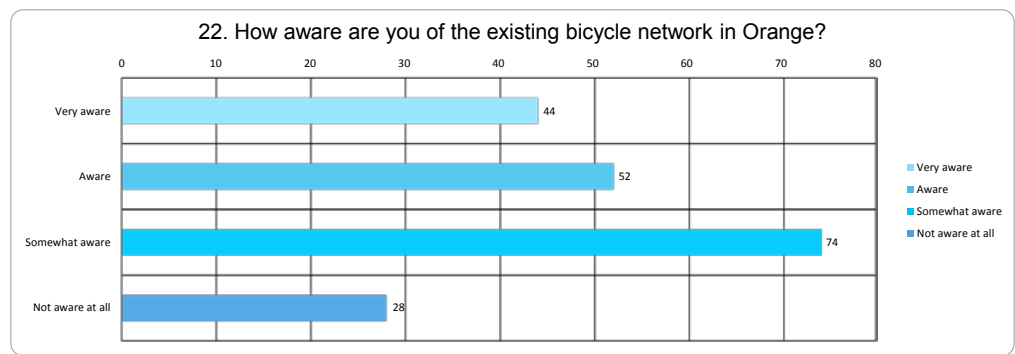
18.WHAT TYPE of cycling do you take part in most often (tick more than one if applies)?	
Everyday cycling to friends shops entertainment	38
Recreational riding for fun fitness or leisure	123
Commute to from work	38
Commute to from school university college TAFE or other education provider	3
Touring Cycling Road Cycling traininggroup	55
Mountain Biking Cyclocross BMX	34



19. Which of the following are reasons why you don't ride your bicycle? (Please select all that apply)	
Not interested	18
I only cycle for leisure or recreational purposes	22
I dont like wearing a helmet	9
Im not confident in my bicycle riding skills	19
Vehicle driver attitudes	79
I dont feel fit enough	20
I dont want to be sweaty when I get to my destination	33
Its too far to cycle	19
Paths and streets arent safe or comfortable enough to cycle on	78
Nowhere for me to take a shower or change at the end of my trip	36
Nowhere to storelock my bicycle at my destination	37
None of the above	28



22. How aware are you of the existing bicycle network in Orange?	
Very aware	44
Aware	52
Somewhat aware	74
Not aware at all	28





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