Transport for NSW Cycling
Customer Value Proposition (CVP) Research

FINAL Draft Report

June 2013

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Source: Transport for NSW, Cycling CVP Research, June 2013

Executive summary

Key insights to take away from the cycling CVP research

- There are four needs sets that should be met in order to persuade customers in NSW to ride a bicycle more often and/or further
    1. Safe connectivity and flow of street space and cycle paths
    2. Safe behaviour of other road users
    3. Supporting facilities during and at the end of the trip
    4. Health, well being and knowledge of road rules
- Of the NSW population, TfNSW should focus on the 45% - the contestable market – who are less confident riding a bicycle but would consider riding a bicycle more and/or further
    - These individuals value feeling safe and confident, safe separation from cars, direct, connected routes to get to their destination and better information that is relevant to them
- Of the user groups, potential and infrequent bicycle riders tend to have lower satisfaction than regular bicycle riders with their overall experience of bicycle riding
    - Satisfaction significantly increases with riding experience/frequency with overall satisfaction with their bicycle riding experience being higher for frequent bicycle riders than for other modes of transport
    - Risk and confidence are key barriers to riding a bicycle more and/or further for potential and less frequent bicycle riders
- There is an opportunity to bring together stakeholders from across NSW to accelerate delivery of initiatives based on priority and ownership to drive increases to mode share for bicycle riding

Source: Transport for NSW, Cycling CVP Research, June 2013

The Cycling CVP research sets out to inform the cycling mode strategy and the initiatives to be rolled out from it

Cycling mode share target

To achieve the mode share target of: More than doubling mode share in the Sydney metro region for local (5km) and district (10km) trips by 2016 (average weekday) (*NSW 2021*) with further increases in regional NSW by 2031 (LTTMP)

Research inputs

- **Quantitative research through an online survey** with potential, infrequent and frequent bicycle riders (n=1,001)
- **Qualitative research through focus groups** with potential, infrequent and frequent bicycle riders within Sydney and Parramatta
- **Review of existing literature:** Analysis of existing cycling research undertaken both domestically and internationally
- **Journey mapping of key experience attributes** across the end to end bicycle riding journey

Research outputs

Journey Maps	To identify and communicate important attributes across the bicycle riding journey experience
Importance & Satisfaction	To analyse the importance and satisfaction of attributes
Moments of Truth	To analyse those attributes that have the biggest impact of customer experience
Initiatives	To identify those initiatives that would have the biggest and least impact on customer experience
Customer Value Propositions	To define the product features that resonate the most with customers' core needs sets
Segmentation	To group customers based on the best predictors of customer needs sets
Mode Usage	To identify how needs change based on frequency and duration

Research outcomes

Better decision-making on investment priorities

+

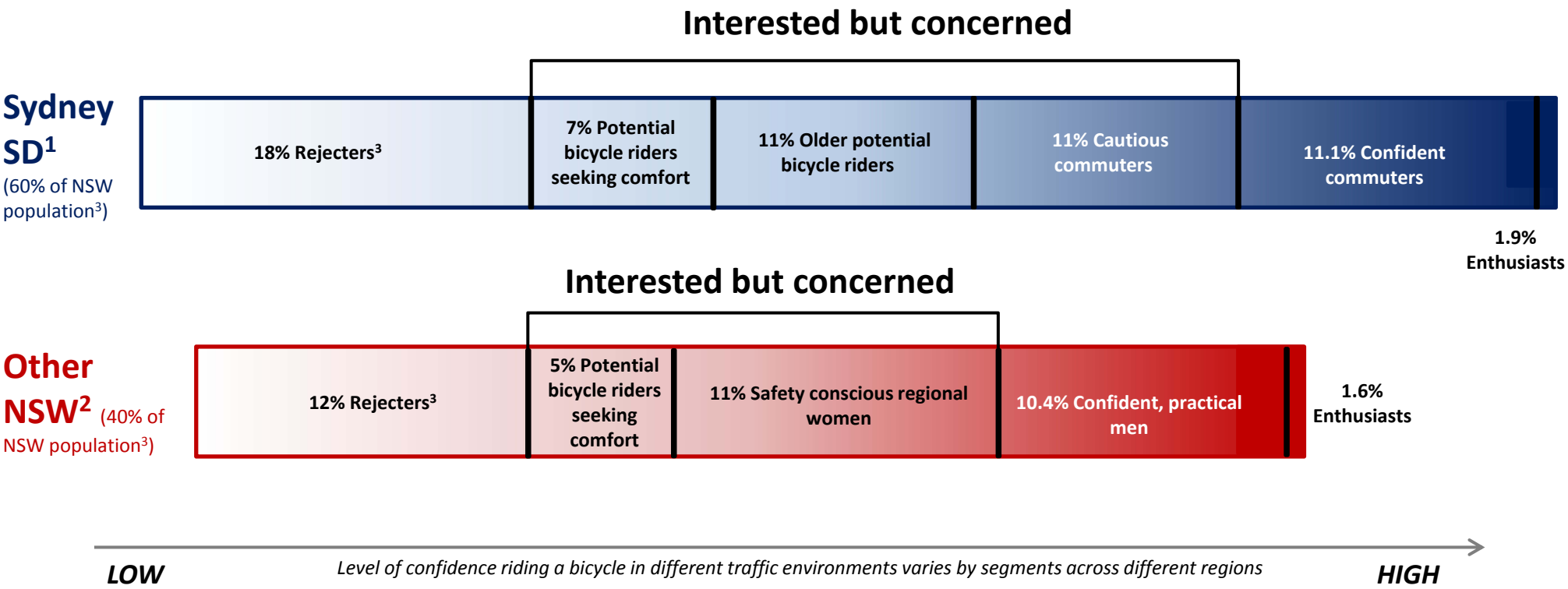
More effective programs and projects that will increase bicycle riding in NSW

+

Provide guidance on information requirements, effective messaging and channels of promotion for travel behaviour change

Source: Transport for NSW, Cycling CVP Research, June 2013

To achieve our mode share target, TfNSW needs to focus on the 45% of the population who are less confident on a bicycle – the 'contestable market'



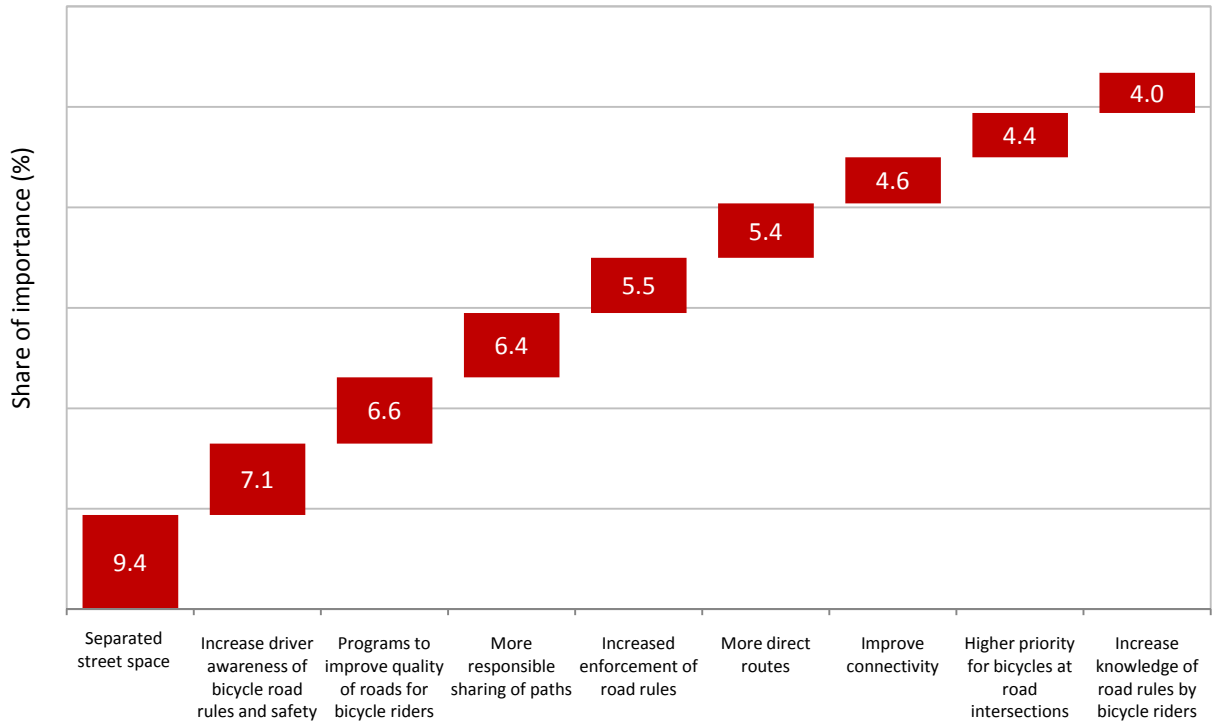
[1]Sydney SD includes Inner Sydney, Parramatta, Penrith, Other Sydney
[2]Other NSW includes: Illawarra, Central Coast, Newcastle, Central West and Far West, Lower Illawarra, Southern, Murray-Murrumbidgee, Mid North Coast, New England and Northern Rivers regions

[3]Note: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA 2010 data

Source: Transport for NSW, Cycling CVP Research, June 2013

Targeting the contestable market means focusing on the aspects customers value the most such as safety, confidence, separation from cars, direct routes and having better information

Top nine initiatives that would increase bicycle riding for the contestable market



Note: n=695

The research tells us that customers value:

1. Feeling safer and more confident
2. Separation from cars
3. Direct, connected routes to get to their destination
4. Better information that is relevant to them

Source: Transport for NSW, Cycling CVP Research, June 2013

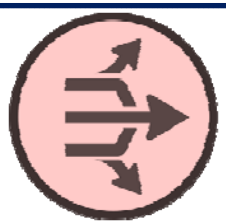
There are four needs sets that should be met in order for customers to ride a bicycle more often and/or further

Customer needs

Supporting facilities

"I value initiatives that provide for my comfort while riding a bicycle, especially through support facilities"

15% of respondents



Safe connectivity and flow

"I value a direct route that is separated from other road users and is of high quality"

51% of respondents

Safe behaviour

"I value the safe behaviour and attitudes of other road users"

24% of respondents

Health, well being and knowledge

"I value spending time outdoors, personal space and physical health benefits I get from riding a bicycle"

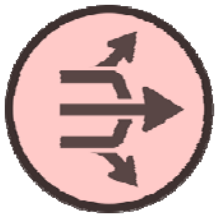
10% of respondents

Source: Transport for NSW, Cycling CVP Research, June 2013

Different initiatives that deliver across the four sets of needs are important for persuading more customers to ride a bicycle more/further

15% *of respondents*

Supporting facilities



51% *of respondents*

Safe connectivity and flow

24% *of respondents*

Safe behaviour

10% *of respondents*

Health, well being and knowledge

Initiatives that are most important for persuading more customers to ride a bicycle more often/further

- Better street lighting
- More facilities during trip
- Better connected bicycle routes to PT
- More facilities at interchanges

- Separated street space
- More direct routes
- Programs to improve quality of roads for bicycle riders
- More responsible sharing of paths

- Increase driver awareness of bicycle road rules and safety
- Higher priority for bicycles at road intersections
- Increased enforcement of road rules
- Reduce speed limits in busy areas

- Promotion of physical health benefits
- Encourage social bicycle riding
- Increase knowledge of road rules by bicycle riders
- More education/ confidence courses

Best predictors of customer needs

- Age (more likely to be 16-24)
- Frequency of riding for getting to public transport (more likely once a month or more)

- Education (more likely university)
- Bicycle ownership status (more likely do not have access)

- Car ownership (more likely to be car drivers seeking comfort)

- Education (more likely TAFE/Tertiary college qualification)
- Employment status (more likely retired, less likely working full or part time)
- Age (more likely 50+)

Source: Transport for NSW, Cycling CVP Research, June 2013

Six distinct customer segments have been identified

A meaningful and actionable segmentation framework has been identified based on those variables that best explain differences between customer needs. The figure below outlines these six segments based on occupation, gender, region, road type and other factors which are good predictors of needs.

Where do you live? Are you male or female? Are you currently working?

How confident are you riding on different road types*?

	Sydney SD[1]			Other NSW[2]	
	Working Males	Working Females	Non working	Males	Females
All traffic environments	**Confident commuters** 19% (n=142)	**Cautious commuters** 15% (n=158)	**Older potential bicycle riders** 16% (n=146)	**Confident, practical men** 17% (n=164)	**Safety conscious regional women** 16% (n=199)
Quiet streets					
Separated paths only	**Potential bicycle riders seeking comfort** 17% (n=192)				
Uncomfortable riding on all road types					

Rejecters
(not included as part of segmentation)

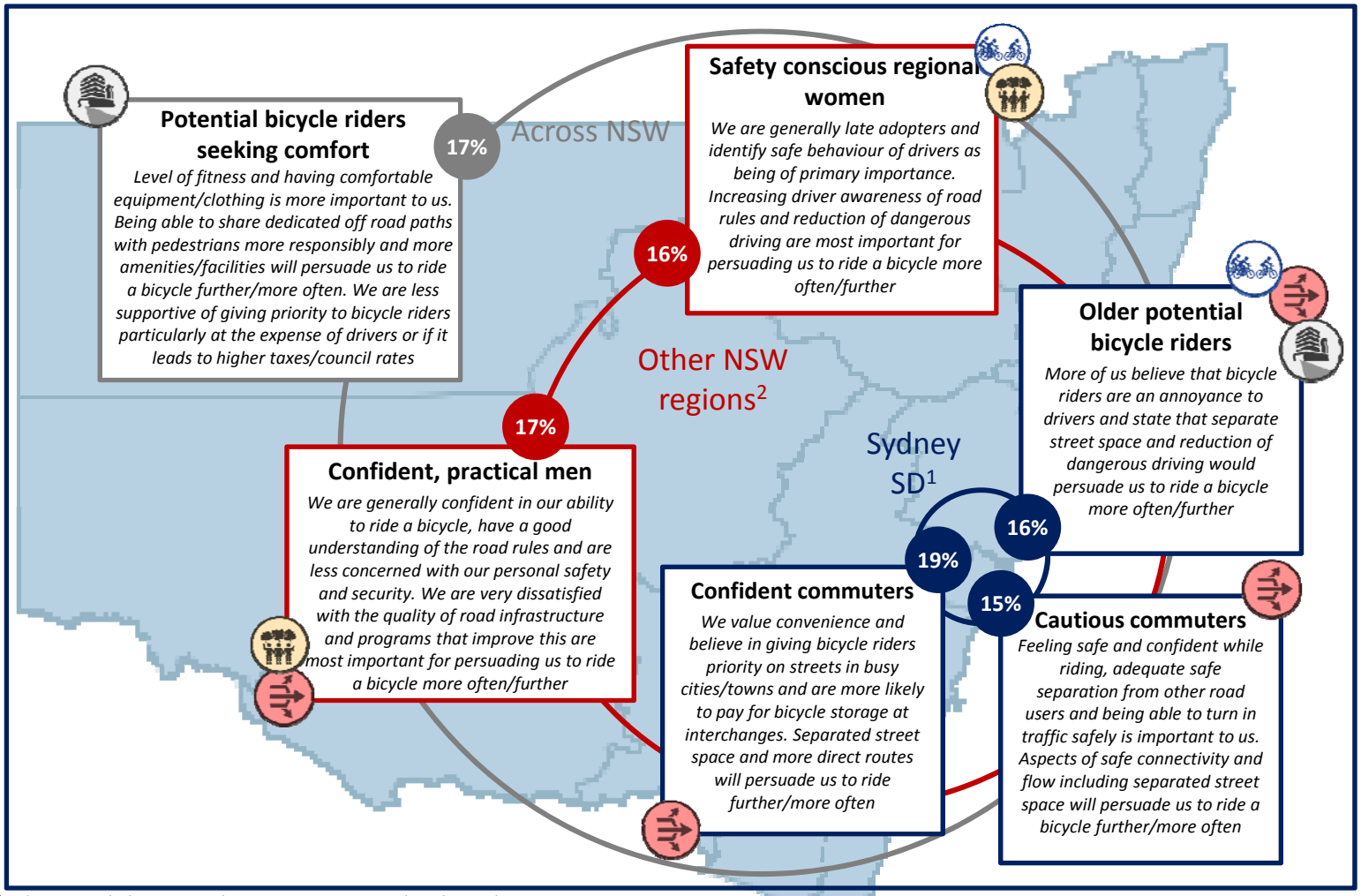
Note: Separated paths only includes visually separated off road bicycle path and shared path (off road shared with pedestrians)
Quiet streets includes bicycle shoulder beside a parked car, physically separated on road, shared bicycle route on quiet local street
All traffic environments includes shared bicycle route on busy street, shared bicycle route in bus lane and highway shoulders
Note:*QC8 "Please rate how comfortable and safe you would feel riding a bicycle in each of the following environments." Rate >=4 on one of these

[1]Sydney SD includes Inner Sydney, Parramatta, Penrith, Other Sydney
[2]Other NSW includes: Illawarra, Central Coast, Newcastle, Central West and Far West, Lower Illawarra, Southern, Murray-Murrumbidgee, Mid North Coast, New England and Northern Rivers Regions

Source: Transport for NSW, Cycling CVP Research, June 2013

Six unique segments have been identified in the NSW population, each finding different needs sets more appealing than others

The six segments vary between Sydney GMA and other NSW regions



Rejecters

(n=276)

We would not consider riding a bicycle under any circumstances because:

1. We do not feel safe when sharing the roads with drivers
2. We are not confident riding a bicycle
3. We are not motivated to ride a bicycle

[1]Sydney SD includes Inner Sydney, Parramatta, Penrith, Other Sydney

[2]Other NSW includes: Illawarra, Central Coast, Newcastle, Central West and Far West, Lower Illawarra, Southern, Murray-Murrumbidgee, Mid North Coast, New England and Northern Rivers Regions

Source: Transport for NSW, Cycling CVP Research, June 2013

Perceived confidence and safety riding on different road types varies across different segments of the NSW population

Variation in comfort on road types for respondents within each segment *(in order from largest % who identify they feel quite/very safe and comfortable)*

	Confident commuters	Cautious commuters	Older potential bicycle riders	Confident, practical males	Safety conscious regional females	Potential bicycle riders seeking comfort
 Visually separated off road bicycle path	91%	92%	88%	93%	92%	46%
 Shared path (off road shared with pedestrians)	92%	91%	85%	91%	89%	42%
 Physically separated on road	93%	96%	92%	96%	89%	68%
 Shared bicycle route on quiet local street	42%	35% 35%	35% 35%	53%	38%	72%
 Highway shoulder	40%	52%	60%	38% 38%	59%	84%
 Bicycle shoulder beside a parked car	39%	46%	54%	39%	53%	80%
 Shared bicycle route in bus lane	60%	84%	73%	53%	76%	89%
 Shared bicycle route on busy street	68%	85%	75%	59%	76%	89%

>75% feel quite or very safe and comfortable

More feel safe and comfortable than feel unsafe and uncomfortable

Majority feel neither safe/comfortable nor unsafe/uncomfortable

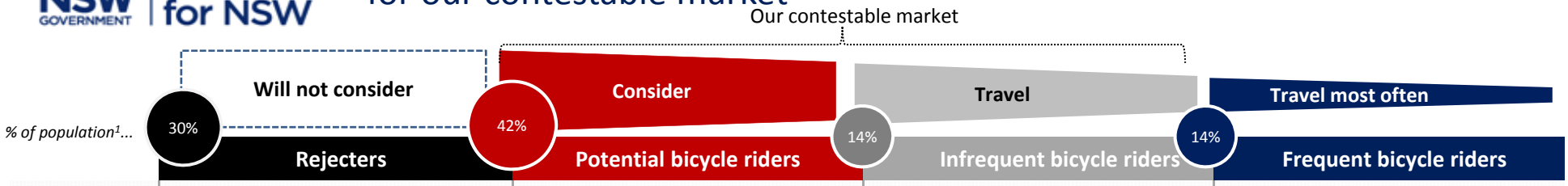
Equal number feel safe/comfortable as unsafe/uncomfortable

More feel unsafe and uncomfortable than feel safe and comfortable

>75% feel quite or very unsafe and uncomfortable

Source: Transport for NSW, Cycling CVP Research, June 2013

Risk and confidence are the most important barriers to bicycle riding for our contestable market



	Rejecters	Potential bicycle riders	Infrequent bicycle riders	Frequent bicycle riders
% of survey respondents	**18.7%** ride a bicycle **< once per year** and would not consider riding a bicycle under any circumstances. Within this segment, 32% are aged 40-59, 56% are females and 44% are males	**42.4%** ride a bicycle < once a year but are **considering riding a bicycle** now or in the future	**23.3%** ride a bicycle **less than once a month** for a transport purpose	**15.6%** ride a bicycle **monthly or more often** for a transport purpose
Drivers / barriers	**Most important reasons** for **choosing not to ride**: • I am not confident riding a bicycle (17.9%) • I do not feel safe sharing the road with drivers (17.8%) • I am not motivated to ride a bicycle (i.e. too much effort) (14.2%)	**Most important reasons** for **choosing not to ride**: • I do not feel safe sharing the road with drivers (16.8%) • I need to carry too many things (13.7%) • I am not physically fit enough to ride a bicycle (9.3%) • I am not confident riding a bicycle (8.4%)	**Most important reasons** for **choosing another mode of transport over riding a bicycle:** • I need to carry too many things (26.3%) • It is a long distance (10.5%) • I have to do things on the way that I couldn't do if I was on my bicycle (9.3%) • I do not feel safe sharing the road with drivers (8.9%)	Top **three most important reasons** for **choosing to ride**: • I gain physical health benefits (42.2%) • Bicycle riding offers me more flexibility and independence than any other transport mode (9.8%) • To enjoy the environment and surroundings (6.6%) • To reduce my contribution to green house gas emissions and pollution (6.1%)
Bicycle riding behaviour and confidence levels	• 61.8% last rode a bicycle more than 10 years ago and 67.3% feel they are physically able to ride a bicycle now if they wanted to • 61.6% rate their confidence riding a bicycle as 7 out of 10 or higher however 18.5% state they are not at all confident	• 70.5% of respondents could ride a bicycle for running errands, 57.3% for shopping and 28.2% to get to or from work if they wanted to • 75.6% of respondents drive, 22.1% catch a bus/coach and 16.9% catch a train for a variety of trip purposes	• 62.2% of respondents could ride a bicycle for running errands, 58.9% for shopping and 20.1% to get to or from work if they wanted to	• 38.8% currently ride a bicycle to get to their usual place of work, 57.8% for running errands, 51.8% for shopping and 72.1% for physical activity with no transport purpose
	n=276	n=625	n=198	n=178

Source: Transport for NSW, Cycling CVP Research, June 2013

Note[1]: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA 2010 data

Moments of Truth can be used to prioritise attributes of greatest importance and impact on overall satisfaction

Attribute categories as defined by the NSW population

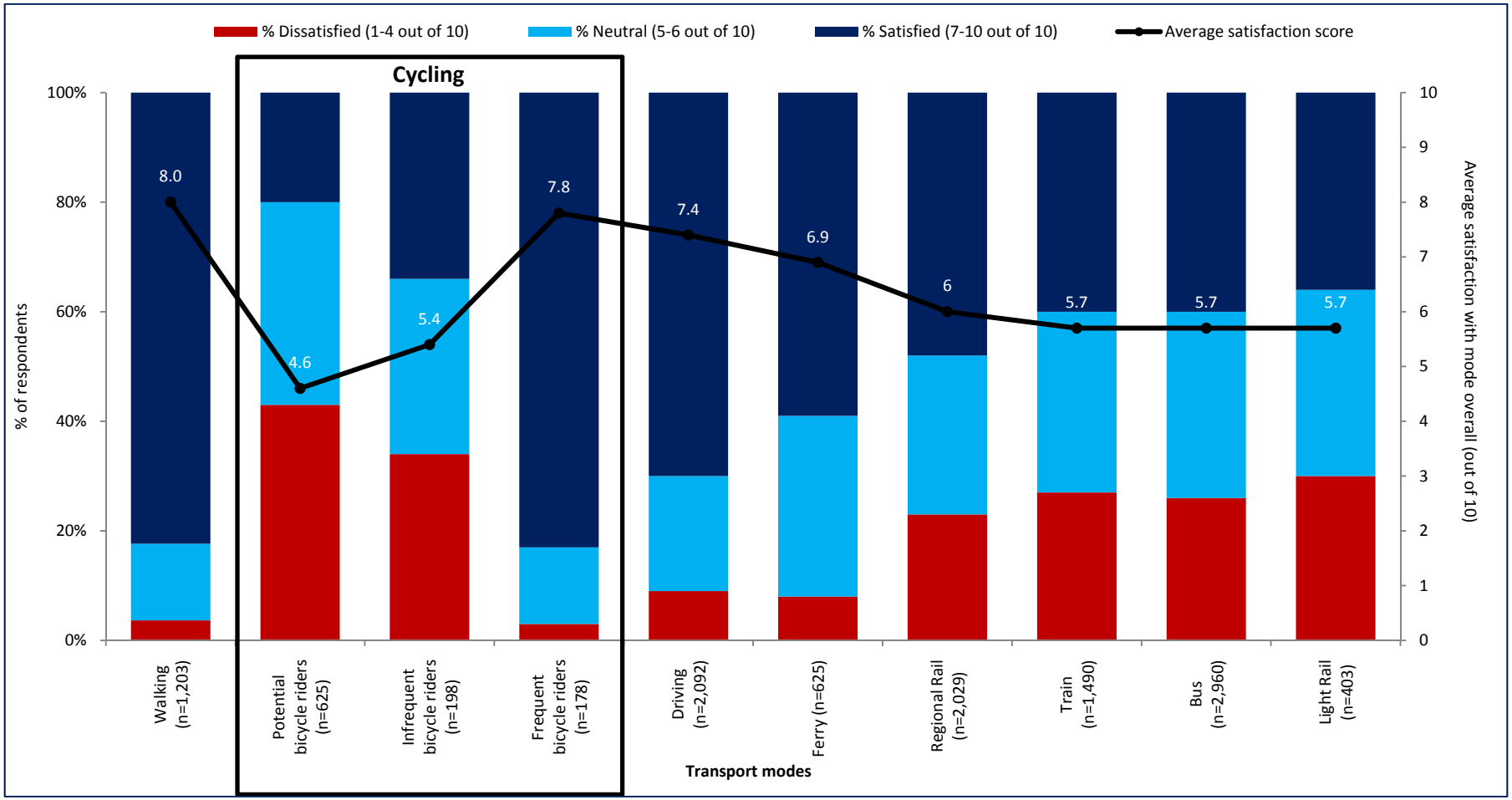
Trip Information	Safety (attitudes and behaviours)		Safety (infrastructure)	Personal security	Convenience due to time	Convenience due to ease of access and connectivity	Physical , social and emotional wellbeing	Journey ambience and environment	Comfort through equipment and support facilities	Financial considerations
Adequate trip planning information	Feeling safe and confident	Road users behaving safely	Safe separation from cars	Convenient bicycle storage/ parking	Trip distance	Connectivity	Bicycle's carrying capacity	Appropriate weather conditions	Feeling comfortable	Bicycle and maintenance cost
Appropriate signage for wayfinding	Ability to cross/turn in traffic safely	Behaviour of others on shared paths	Separate paths	Clear line of sight	Trip time	Convenience of connecting to PT	Personal level of fitness	Enjoyment of outdoors	End of trip facilities	
	Understanding of road rules	Attitudes and perceptions from public	Quality of roads and bicycle routes	Adequate lighting	Consistent mode journey time	Access to PT connections	Environmental benefits	Cleanliness of infrastructure	Comfortable equipment/ clothing	
	Others attitudes towards bicycle riding	Education on safe bicycle riding	Infrastructure improvements		Preparation time	Bicycles for hire / loan	Social and community experience		Adequate amenities during trip	
							Bicycle riding groups			

Legend: Moment of Truth (high importance and correlation to satisfaction)

Source: Transport for NSW, Cycling CVP Research, June 2013

Overall satisfaction for frequent bicycle riders is significantly higher than other transport modes

Overall satisfaction of bicycle riding compared to other modes of transport



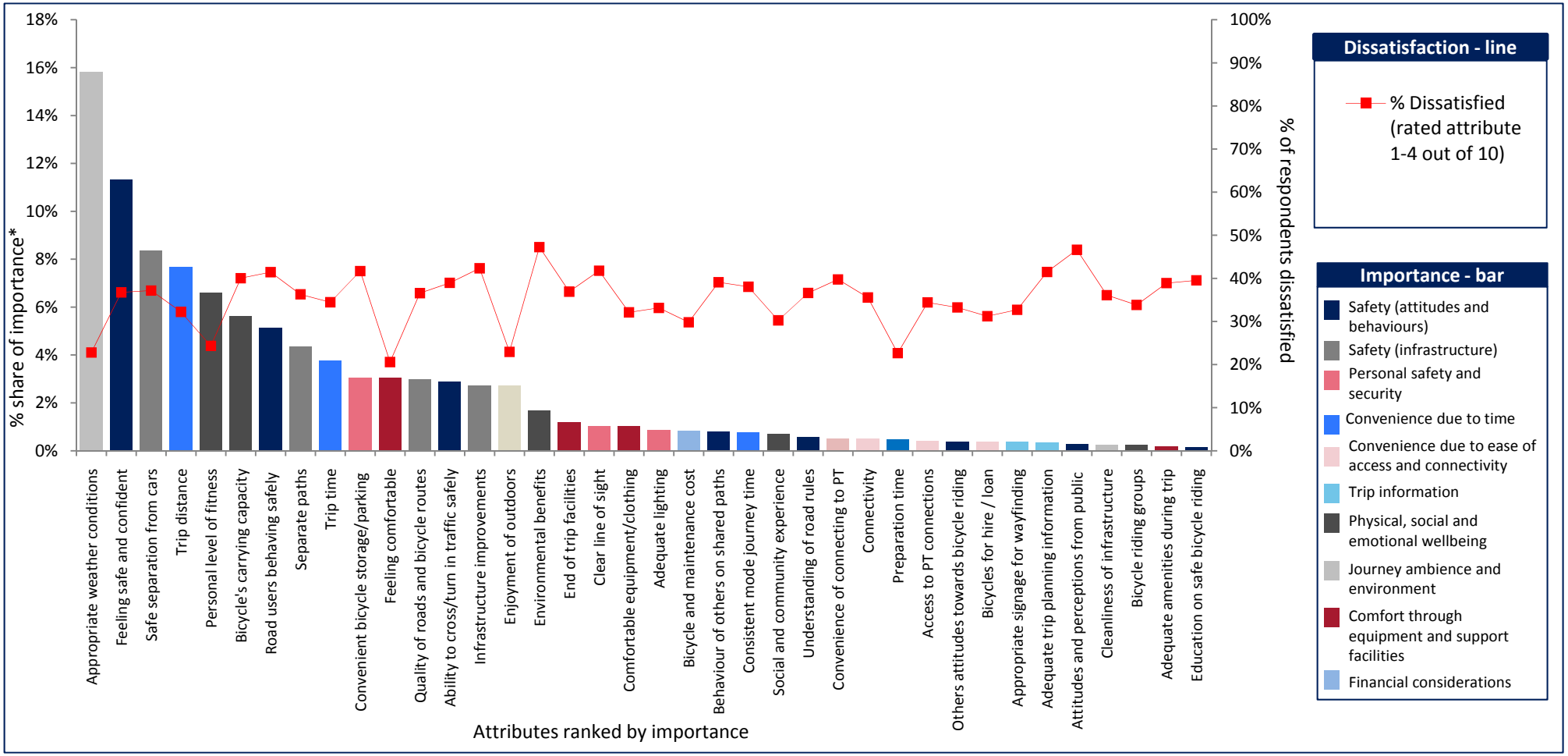
Note: Satisfaction scores for non active transport modes include scores for non-users and users

Source: Transport for NSW, Cycling CVP Research, June 2013

TfNSW can improve customer satisfaction by examining the attributes that frequent and infrequent bicycle riders identify as important

Frequent & infrequent bicycle riders

Dissatisfaction with attributes ranked by share of importance for frequent and infrequent bicycle riders



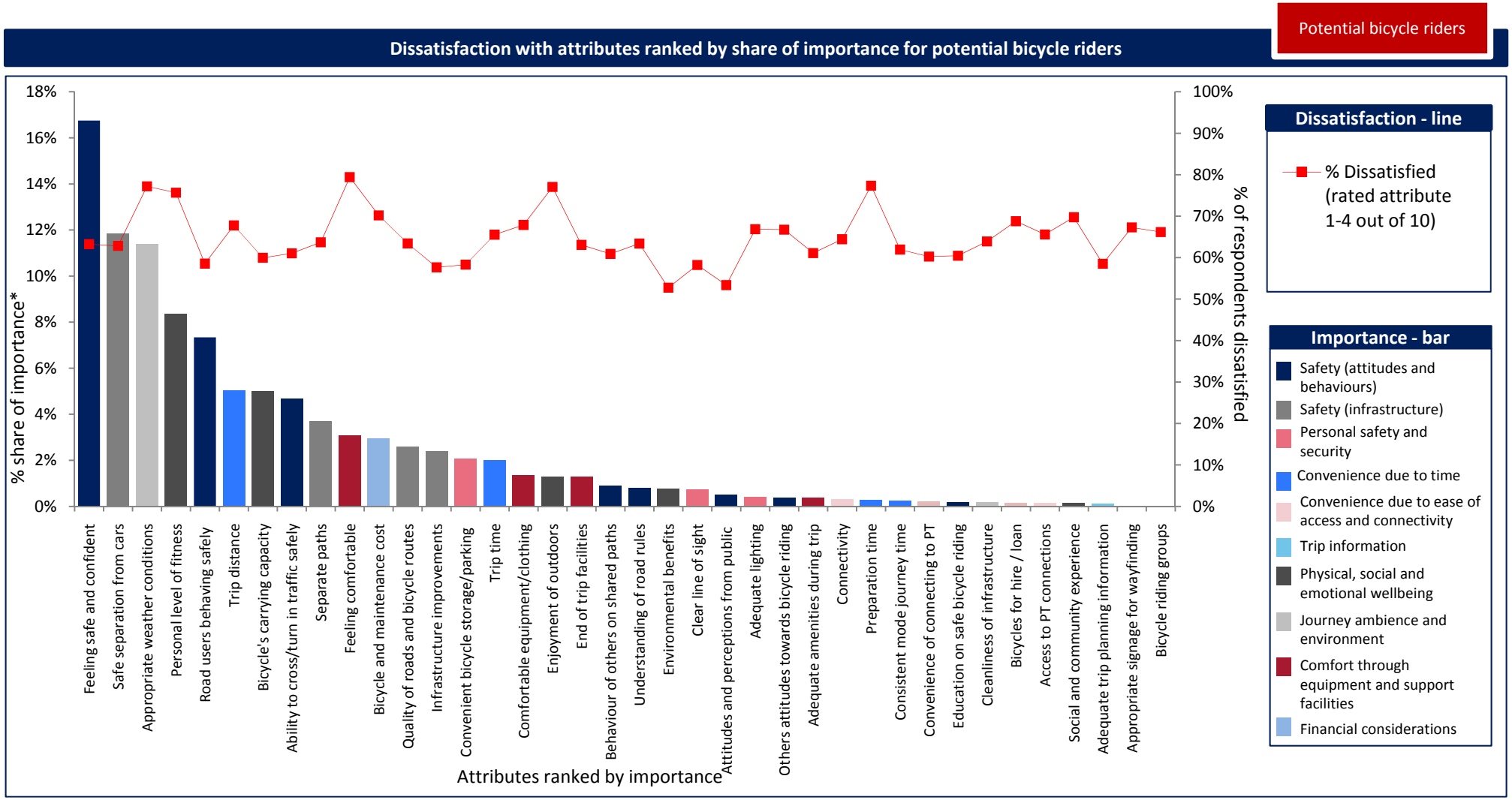
Note: Analysis includes regular and infrequent bicycle riders (n=376)

* % share of importance represents weighted percentage of total share of importance based on top 3 attributes selected as most important in deciding whether to ride a bicycle rather than use some other mode of transport

Source: Transport for NSW, Cycling CVP Research, June 2013

TfNSW can improve mode share by examining the attributes that potential bicycle riders identify as important and sources of dissatisfaction

Potential bicycle riders



Note: Analysis includes potential bicycle riders (n=625)

*% share of importance represents weighted percentage of total share of importance based on top 3 attributes selected as most important in deciding whether to ride a bicycle rather than use some other mode of transport

Source: Transport for NSW, Cycling CVP Research, June 2013

There is a significant opportunity to bring together stakeholders from across NSW to accelerate the delivery of initiatives based on priority and ownership

ILLUSTRATIVE ONLY

	Customer lens		Effort to deliver			Initiative type			Funding	Stakeholders responsible (R), accountable (A), consulted (C) and informed (I)				
Rank	Ranked initiatives in order of share of importance	% Share of importance	Quick wins	Moderate	More challenging	Infrastructure & technology	Information & promotion	Policy & partnerships	Currently funded (Y) or not (N)	TfNSW	RMS	Local councils	Other State Government Departments	Other stakeholders
1	Separated street space	9.2%				✓				A	R	R	C	I
2	Increase driver awareness of bicycle road rules and safety	6.8%					✓	✓						
3	Programs to improve quality of roads for bicycle riders	6.7%				✓								
4	More responsible sharing of paths	6.3%					✓	✓						
5	More direct routes	6.0%				✓								
6	Increased enforcement of road rules	5.6%					✓	✓						
7	Improve connectivity	4.7%				✓								
8	Higher priority for bicycles at road intersections	4.6%					✓	✓						
9	Increase knowledge of road rules by bicycle riders	3.6%					✓	✓						
10	Better street lighting	3.3%				✓								
11	Better connected bicycle routes to PT	3.3%				✓								
12	More and better located bicycle storage	2.9%				✓								
13	Clearer and more standardised signage	2.6%				✓	✓							
14	More facilities during trip	2.6%				✓								
15	Financial incentives for bicycle riding	2.5%						✓						

Example of initiative 'separated street space' provided for illustrative purposes only

Responsible (who is responsible for actually doing it?); Accountable (who has authority to approve or disapprove it?); Consulted (who has needed input about the task?); Informed (who needs to be kept informed?)

Source: Transport for NSW, Cycling CVP Research, June 2013

There is a significant opportunity to bring together stakeholders from across NSW to accelerate the delivery of initiatives based on priority and ownership (cont.)

ILLUSTRATIVE ONLY

	Customer lens		Effort to deliver			Initiative type			Funding	Stakeholders responsible (R), accountable (A), consulted (C) and informed (I)				
Rank	Ranked initiatives in order of share of importance	% Share of importance	Quick wins	Moderate	More challenging	Infrastructure & technology	Information & promotion	Policy & partnerships	Currently funded (Y) or not (N)	TfNSW	RMS	Local councils	Other State Govern-ment Departments	Other stakehold-ers
16	Easier to take bicycle on PT	2.5%				✓	✓	✓						
17	Reduce speed limits in busy areas	2.4%					✓	✓						
18	More end of trip facilities	2.3%				✓								
19	More facilities at interchanges	2.3%				✓								
20	Promotion of physical health benefits	2.3%					✓	✓						
21	More education/confidence courses	2.0%					✓	✓						
22	Separate fast and slow bicycle lanes	2.0%				✓								
23	Better online trip planning info	2.0%				✓	✓							
24	Encourage social bicycle riding	1.9%					✓	✓						
25	Bicycle riding apps/web pages	1.8%				✓	✓							
26	More shade available on bicycle routes	1.8%				✓								
27	Congestion charges	1.8%						✓						
28	Increase bicycle maintenance knowledge	1.5%					✓	✓						
29	Bicycle rental schemes	1.4%				✓		✓						
30	More bicycle riders on the road to ride with	1.3%					✓	✓						

Responsible (who is responsible for actually doing it?); Accountable (who has authority to approve or disapprove it?); Consulted (who has needed input about the task?); Informed (who needs to be kept informed?)

Source: Transport for NSW, Cycling CVP Research, June 2013

Why was the research conducted?

1. Overview of research

The Cycling CVP research will provide input into the NSW cycling mode strategy and the initiatives to be rolled out from it

Research Objective: To identify important attributes and influential initiatives to persuade people to ride a bicycle, more often and/or further in urban and regional NSW centres

Understand what influences current and perceived bicycle riding behaviour	Understand drivers of and barriers to bicycle riding in NSW	Understand satisfaction and importance of attributes of the bicycle riding journey	Understand the initiatives that would persuade customers to ride a bicycle more and/or further	Understand how the market is segmented and the best predictors of initiatives that will persuade customers to ride a bicycle more/further
• Frequency and purpose of travel • Usual distance travelled and maximum distance • Whether connect to another mode of transport or not • Confidence in ability to ride a bicycle • Knowledge of road rules	• Benefits of bicycle riding • Attitudes towards bicycle riding • Drivers of bicycle riding / more often / for more short trips / for longer distances, for: • Potential, infrequent and frequent bicycle riders	• Areas of greatest satisfaction / dissatisfaction for journey attributes • Aspects of most importance for usual trip that could / or do ride a bicycle for • Preferred bicycle storage facilities	• Most / least important initiatives to increase mode share • Common sets of needs • Preferred channels to receive information / promotion • Awareness of organisations responsible for cycling initiatives in NSW	• Identify the predictors of sets of needs • Develop a meaningful and actionable segmentation framework based sets of needs

The research will inform initiatives to achieve the mode share target of: More than doubling mode share in the Sydney metro region for local (5km) and district (10km) trips by 2016 (average weekday) (NSW 2021 – the State Plan) with further increases in regional NSW by 2031 (LTTMP)

Source: Transport for NSW, Cycling CVP Research, June 2013

The report is structured around insights from each of these four components

Cycling CVP research components

4 Quantitative Research — Quantitative research through an online survey with potential, infrequent and frequent bicycle riders (n=1,001)

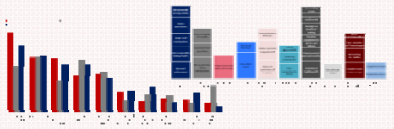
3 Qualitative Research — Qualitative research through focus groups and in depth interviews with potential, infrequent and frequent bicycle riders

2 Review of Existing Literature — Analysis of existing cycling research undertaken both domestically and internationally

1 Journey Map — Journey mapping of key attributes and Moments of Truth across the end to end bicycle riding journey

Sample output

Quantitative insights



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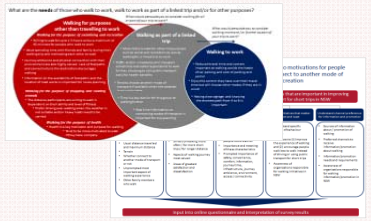
Qualitative report



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Summary of literature review

Appendix Page 1-6

Journey maps

Section 4-6 Page 45

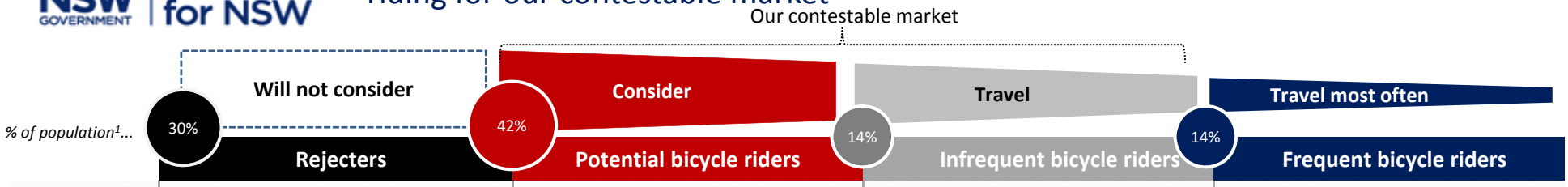
Source: Transport for NSW, Cycling CVP Research, June 2013

What influences cycling travel behaviour?

2. Drivers and barriers

Understanding the characteristics that influence travel behaviour identifying drivers and barriers towards Cycling in NSW across different user groups

CONCLUSION: Risk and confidence are the most important barriers to bicycle riding for our contestable market



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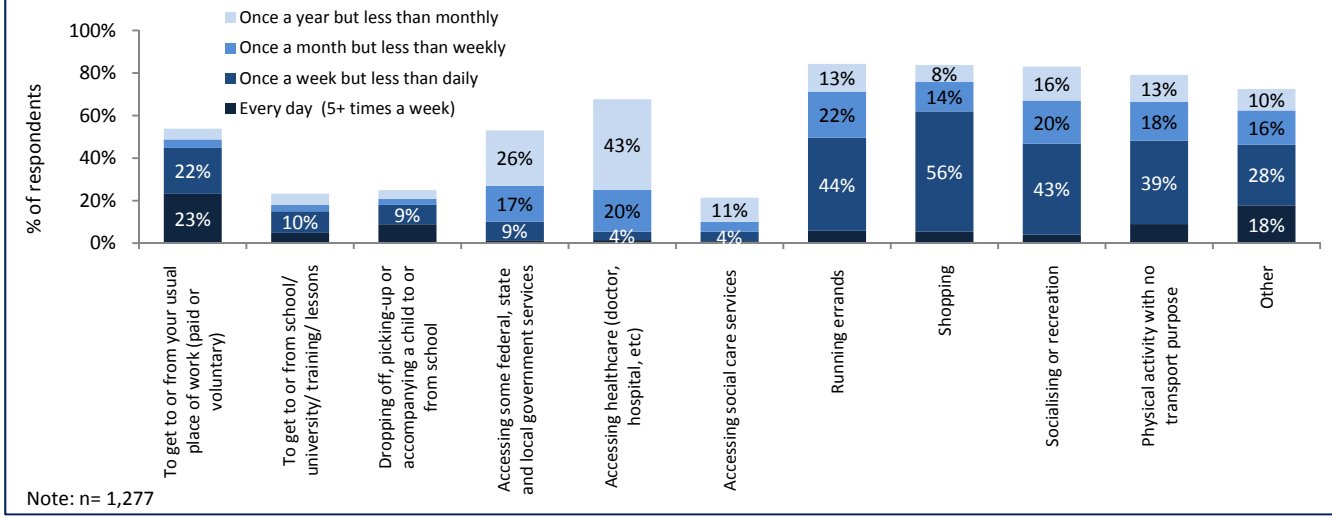
Source: Transport for NSW, Cycling CVP Research, June 2013

Note[1]: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA 2010 data

INSIGHT: The majority of respondents travel for the purposes of running errands and shopping monthly or more often and a high percentage identify they could ride a bicycle for this type of trip

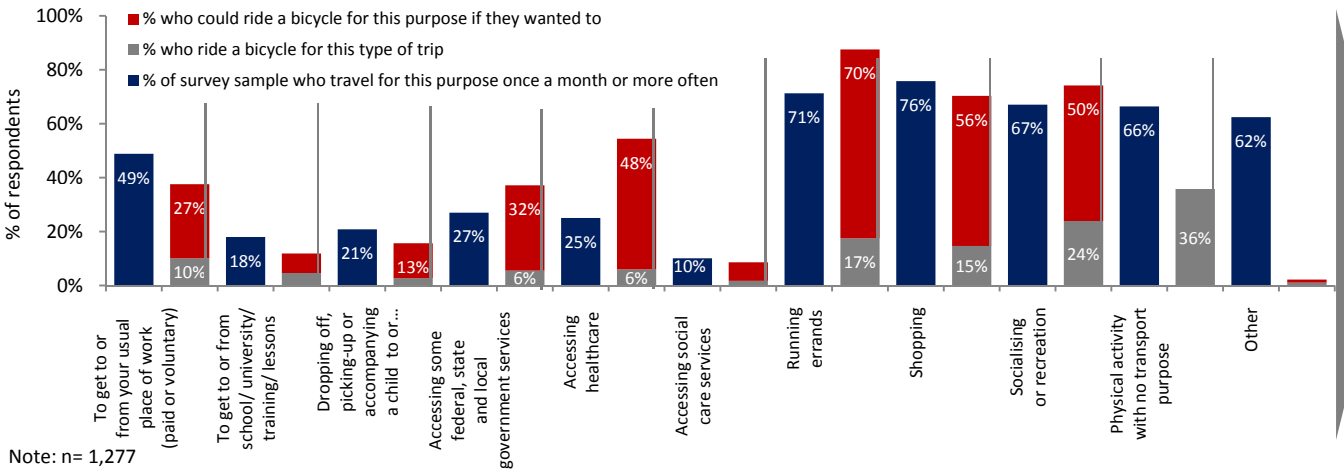
Frequency of travel across trip purposes



Note: n= 1,277

- Those who travel to get to or from their usual place of work travel most frequently - 23% of respondents travel for this purpose every day
- The majority of survey respondents travel for the purposes of running errands, shopping and socialising / recreation which they most commonly do weekly
- Respondents generally travel to access health care and federal services once a year but less than monthly

Proportion of respondents who travel vs. current and potential bicycle riders for trip purposes



Note: n= 1,277

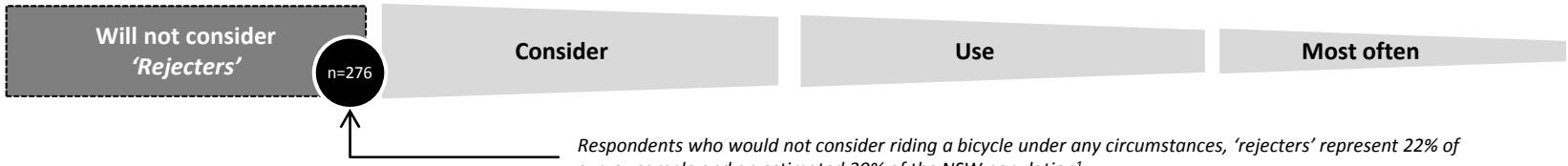
- 10% of respondents currently ride and 27% could ride a bicycle for the purpose of getting to/from work - 49% travel for this purpose monthly or more often
- Respondents regularly travel for the purposes of running errands and shopping and majority do not ride a bicycle for this purpose but could
- A high proportion of respondents could ride a bicycle to access government services or healthcare but generally do not make these trips often

Source: Transport for NSW, Cycling CVP Research, June 2013

Will not consider | Consider | Use | Most often

INSIGHT: Lack of confidence in their ability, lack of access to a bicycle and physical constrains are barriers to riding a bicycle for rejecters even though the majority rode a bicycle within the last 5 years

Rejecters - would not consider riding a bicycle under any circumstances



Respondents who would not consider riding a bicycle under any circumstances, 'rejecters' represent 22% of survey sample and an estimated 30% of the NSW population[1]

Demographic profile

A higher proportion of 'rejecters' are:

- **Age:** Higher proportion are 60+ years of age (31%) with average age of 48 years
- **Gender:** Approximately equal split of females (56%) to males (44%)
- **Family status:** Single/divorced/widowed (39%) or married with no dependent children (39%)
- **Employment status:** A significantly higher proportion are retired (26%) compared to other usage groups
- **Occupation:** Professional (29%), Clerical and administrative worker (22%)
- **Education:** Significantly lower levels of education compared to other usage groups (16% have achieved some secondary school education, 23% completed secondary school and 29% have a TAFE degree)
- **Household income:** Significantly higher number have total household income less than $50k per year (46%)
- **Dwelling:** Live in a separated or detached house (71%)
- **Language at home:** Speak English at home (86%)

Travel behaviour of rejecters

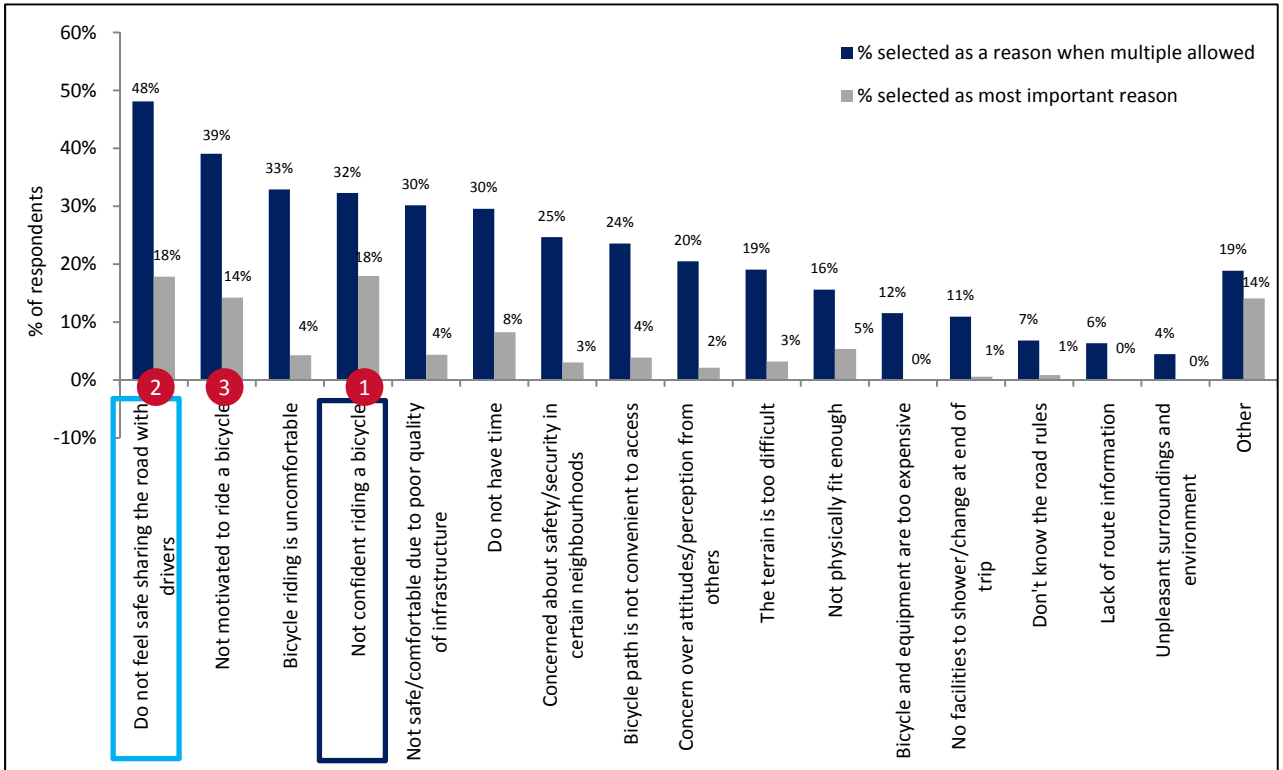
Level of ability:	• Majority (76%) last rode a bicycle **5 or more years ago** and 12% have never ridden a bicycle • 18% of 'rejecters' state they are **not confident** in their ability to ride a bicycle at all (0 out of 10) - higher than all other group • 33% are **not physically able** to ride a bicycle
Access:	• 74% **do not have access to a bicycle**, which is higher than other usage group, and 10% own a bicycle • Majority **have access to car** (72%)
Regular transport mode:	• A large proportion of rejecters **regularly travel by car as the driver** (75%) or passenger (36%) • **Cycling** is one of their **regular transport modes** for 32% • 23% also **regularly travel by bus** and 24% by **train**

Note[1]: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA2010 data

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Lack of confidence and safety concerns over sharing the road with drivers are primary reasons rejecters do not consider riding a bicycle

Reasons for why rejecters do not consider riding a bicycle



48% of respondents selected a reason they would not consider riding a bicycle is because they do not feel safe sharing the road with drivers and 18% selected this as being most important (2nd highest overall)

Not feeling confident in their ability is a key reason for not considering to ride a bicycle (32%)and lack of confidence was the most important reason for 18% (highest overall)

Note: n= 179

Top three reasons selected as most important reasons respondents would not consider riding a bicycle under any circumstance

Key trends

14% of respondents selected 'other' reasons as being most important in choosing not to ride a bicycle including:

- Mobility issues (e.g. age, arthritis, pregnancy)
- Not knowing how to ride a bicycle (i.e. not taught how to ride)
- Fear of having an accident
- Distance is too far
- Attitude that bicycle riders do not belong on the road

- For 59% of respondents who are not at all confident in their ability to ride a bicycle, this is the most important reason for not considering riding a bicycle
- For confident respondents (rated 7-10 out of 10), not feeling safe sharing the road with drivers (21%) and lack of motivation to ride a bicycle (19%) are the most important reasons for not considering riding a bicycle
- Those who agree that bicycle riders slow down traffic are more likely to not ride a bicycle due to concern over the attitudes/perceptions of other road users

Existing literature identifies fear of traffic to be the main barrier to riding a bicycle. It is suggested that this relates to lack of space on roads, fear of riding in bus lanes and a perceived lack of respect and cooperation between road users

Source: Transport for NSW, Cycling CVP Research, June 2013

Will not consider | Consider | Use | Most often

INSIGHT: Potential bicycle riders feel that they could ride a bicycle for some shopping trips, running errands, social/recreational trips and for getting to/from work if they wanted to

Profile of those potential would ride a bicycle

Will not consider | Consider (n=625) | Use | Most often

Potential bicycle riders represents 51% of the survey sample and an estimated 30% of the NSW population[1]

Demographic profile

A higher proportion of potential bicycle riders are:

- **Age:** Between the ages of 30 and 69 (77%) with average age of 46
- **Gender:** Significantly higher proportion are female (55%)
- **Family status:** Single/divorced/widowed (38%) or married with no dependent children (35%)
- **Employment status:** Employed full time (31%), employed part time (16%) or retired (14%)
- **Occupation:** Professional (28%) or clerical and administrative workers (18%)
- **Education:** 32% have achieved a TAFE degree as their highest level of education and 33% a University degree or higher
- **Household income:** Total household income is less than $70k per year (55%)
- **Dwelling:** Live in a separated or detached house (71%)
- **Language at home:** Only speak English at home (87%)
- **Level of confidence:** 19% identify that they have low confidence riding a bicycle (rated 1-4 out of 10) which is significantly higher than other usage groups

Travel behaviour of potential bicycle riders

Access:	• 18% own a bicycle, 22% do not own but have access to a bicycle and the majority **do no have access to a bicycle** (60%) • A larger percentage of potential bicycle riders **do not have car parking at work** (34%) compared to regular or infrequent bicycle riders
Trip purpose:	• The majority of potential bicycle riders **do not ride a bicycle for transport purposes** and 7.2% ride for physical activity • 51% currently travel to/from work, 87% travel for shopping and 80% run errands monthly or more often of a distance they could reasonably ride for • 28% **could ride to get to/from work**, 49% for social/recreation, 57% for shopping and 70% for running errands if they wanted to

Profile of a specific trip purpose that they could potentially ride a bicycle for….

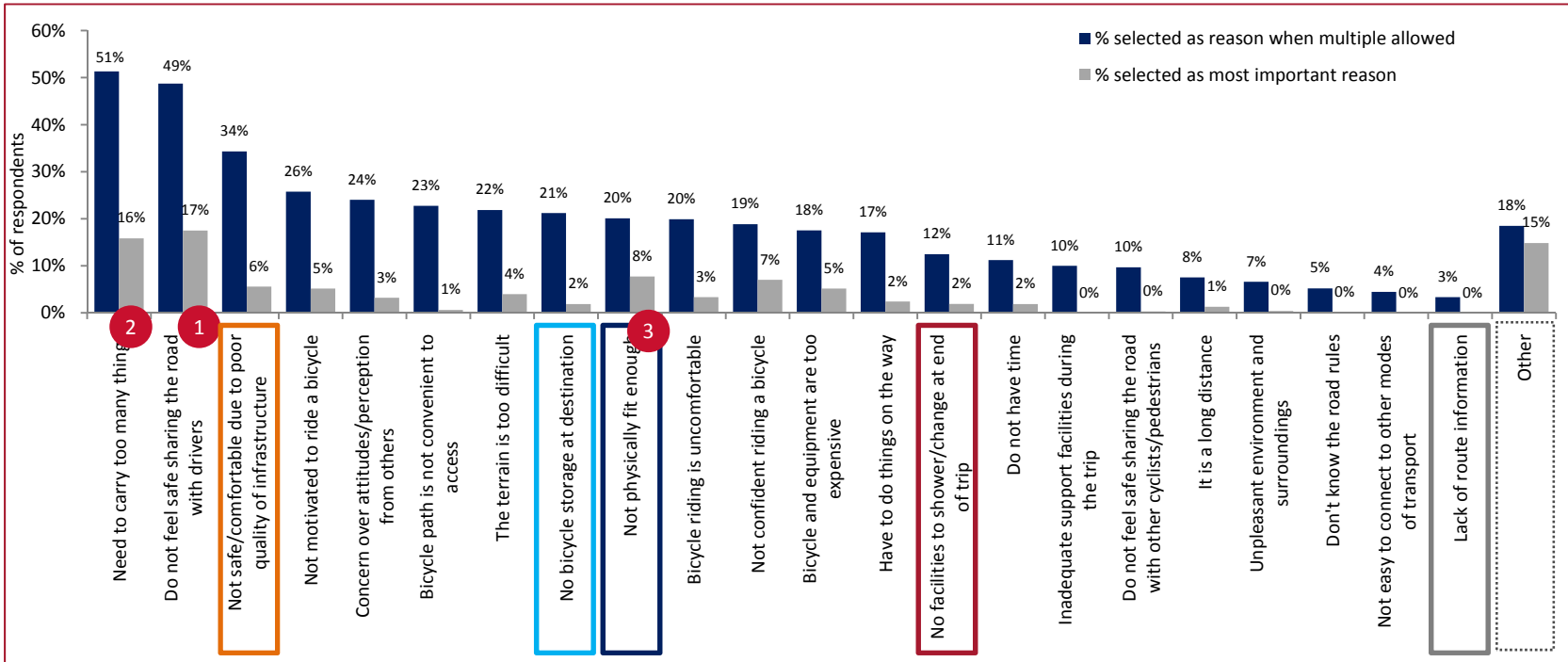
Start:	• Majority start their journey from home (95%) in the morning between 8:00 a.m.- 12:00 p.m. (59%)
Mode:	• 77% currently **travel for their trip purpose by car where they are the driver** and 40% by car where they are the passenger • Cycling is one of their regular transport modes for 56%
Distance and time:	• Median travel **distance** of 2km-5km; median **travel time** between 10-15 mins, (less than frequent and infrequent bicycle riders) • If the trip distance is shortened, 48% would consider riding a bicycle sometimes • A smaller proportion travel on weekends (12%), 46% for weekdays and 42% for both weekdays and weekends

Note[1]: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA2010 data

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Safety due to drivers' behaviour is the most important reason potential bicycle riders do not ride a bicycle

Reasons potential bicycle riders choose not to ride a bicycle for their most frequent trip purpose



Fear of traffic and concern over their safety were identified as common barriers to considering riding a bicycle as a means of transport within existing research

More common reason for choosing not to ride a bicycle for **social/recreation** purposes (48% selected as reason)

More common reason for choosing not to ride a bicycle for the purpose of **shopping or running errands** (25% selected as reason)

20% of potential bicycle riders do not ride due to physical fitness and this reason is likely to be the **most important barrier for them**

More common reason for choosing not to ride a bicycle **to/from work** or education (20% selected as a reason)

More common reason for choosing not to ride a bicycle for **social/recreation** purposes (11% selected as reason)

Other reasons included not owning a bicycle, health concerns that would not allow them to cycle for that distance and in some cases a preference for Cycling

Top three reasons selected as most important reason respondents would choose not to ride a bicycle for a specific transport trip

Note: n= 723

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Majority of infrequent bicycle riders own a bicycle and are more likely to ride for physical activity and/or socialising and recreation

Profile of those who ride a bicycle regularly for transport purposes

Infrequent transport bicycle riders represent 23% of the survey sample an estimated 14% of the NSW population[1]

Demographic profile

A higher proportion of infrequent bicycle riders are:

- **Age:** Significantly higher proportion are under 25 years of age (15%) compared to other usage groups
- **Gender:** Even split of men and women (51% to 49%)
- **Family status:** Do not have dependent children (73%; 33% Single/divorced, 40% married or living with a partner)
- **Employment status:** Employed full time (39%), part time (16%) and 9% are full time students (higher than any other usage group)
- **Occupation:** Professionals (36%), Managers (15%), clerical or administrative workers (14%) and teachers (6%)
- **Education:** Significantly higher proportion have achieved a University degree or higher (45%)
- **Household income:** Relatively even spread across income brackets with 15% earning less that $30k per year and 13% earning $150k or more
- **Dwelling:** Live in a separate or detached house (71%)
- **Language at home:** Speak English at home (83%)
- **Level of confidence:** 88% identify that they have high confidence in their ability to ride a bicycle (rated 7-10 out of 10)

Travel behaviour of infrequent bicycle riders

Access:	• The majority **own** (76%) or **have access to a bicycle** (16%). 81% own a car and the majority have car parking available at home (87% off street, 12% on street) and at the office (69%; 41% have parking on surface paid for by employers, higher than other usage groups)
Trip purpose:	• 64% have ridden a bicycle **for physical activity**, 40% for **socialising or recreation**, 18% for running errands and 10% to get to/from work, however 20% identify that they could ride to get to/from work if they wanted to

Profile of a specific trip purpose that they ride a bicycle for >50% of the time...

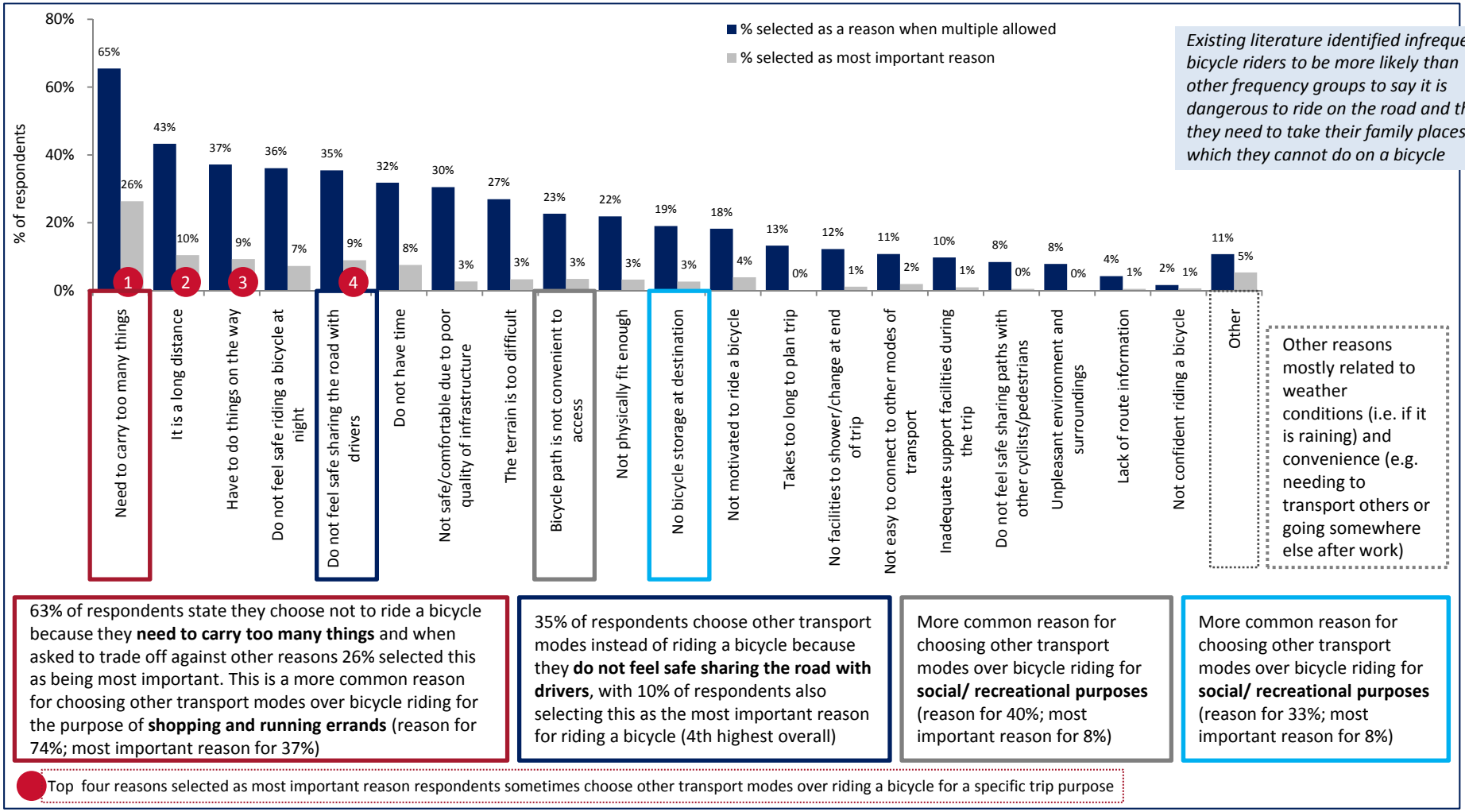
Start:	• Start their journey at home (90%) between 9-11 a.m. (60%)
Distance and time:	• Median travel distance of **2-5km**; median travel time between **15-20 mins** • Median distance for which respondents state they could ride a bicycle for their allocated purpose is 5-10km with median time 30-45 mins • Majority travel on weekdays (32%) or both weekdays and weekends (51%)
Connect-ions	• 30% have travelled to get to another mode of public transport in the past of which 88% have connected to a train, 44% to a bus and 16% to a ferry
Finish:	• Majority **ride on the way there and the way back** (88%), suggesting that the majority finish their journey at home • 35% ride for their return trip between2-5p.m. and 19% between 5-7p.m.

Note[1]: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA2010 data

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Needing to carry too many things is a primary reason infrequent bicycle riders choose to ride a bicycle more frequently

Reasons why bicycle riders who sometimes choose to use other transport modes (instead of riding a bicycle) or those that ride a bicycle for less than 50% of trips



Existing literature identified infrequent bicycle riders to be more likely than other frequency groups to say it is dangerous to ride on the road and that they need to take their family places which they cannot do on a bicycle

Other reasons mostly related to weather conditions (i.e. if it is raining) and convenience (e.g. needing to transport others or going somewhere else after work)

63% of respondents state they choose not to ride a bicycle because they **need to carry too many things** and when asked to trade off against other reasons 26% selected this as being most important. This is a more common reason for choosing other transport modes over bicycle riding for the purpose of **shopping and running errands** (reason for 74%; most important reason for 37%)

35% of respondents choose other transport modes instead of riding a bicycle because they **do not feel safe sharing the road with drivers**, with 10% of respondents also selecting this as the most important reason for riding a bicycle (4th highest overall)

More common reason for choosing other transport modes over bicycle riding for **social/ recreational purposes** (reason for 40%; most important reason for 8%)

More common reason for choosing other transport modes over bicycle riding for **social/ recreational purposes** (reason for 33%; most important reason for 8%)

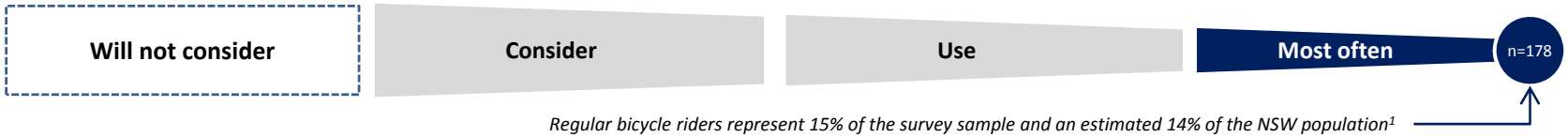
Top four reasons selected as most important reason respondents sometimes choose other transport modes over riding a bicycle for a specific trip purpose

Note: n= 157

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Regular transport bicycle riders are more likely to be males with median travel time between 15-20mins

Profile of those who ride a bicycle regularly for transport purposes



Regular bicycle riders represent 15% of the survey sample and an estimated 14% of the NSW population[1]

Demographic profile

A higher proportion of regular bicycle riders are:

- **Age:** Significantly higher proportion are between the ages of 25 and 60 (75%)
- **Gender:** Significantly larger proportion are male (65%)
- **Family status:** Do not have dependent children (35% single, 35% married and living with partner with no dependent children)
- **Employment status:** Employed full time (44%)
- **Occupation:** Professional (34%), Technician and trade worker (11%)
- **Education:** Wide range of education with 25% achieving a TAFE degree and 44% a University degree or higher
- **Household income:** Span a wide range of income levels with 20% earning less than $30k per year and 27% earn more than $110k per year
- **Dwelling:** Significantly higher proportion live in semi-detached/terraces (17%) and high rise units (11%)
- **Language at home:** 79% speak English at home however this is less than other usage groups (6% speak mandarin)
- **Level of confidence:** 94% identify that they have high confidence in their ability to ride a bicycle (rated 7-10 out of 10) which is highest across usage groups

Travel behaviour of regular bicycle riders

Access:	• The majority **own a bicycle** (94%) and a higher proportion do not own but have access to a car (15%) compared to other usage groups. Majority have car parking available at home (99%) and car parking at the office (67%)
Trip purpose:	• All respondents within this group **ride for a transport purpose**; a high proportion ride for the purpose of commuting to/from work (49.5%), running errands (57.8%), shopping (51.8%), socialising or recreation (56.8%) and physical activity with no transport purpose (72.1%)

Profile of a specific trip purpose that they ride a bicycle for >50% of the time...

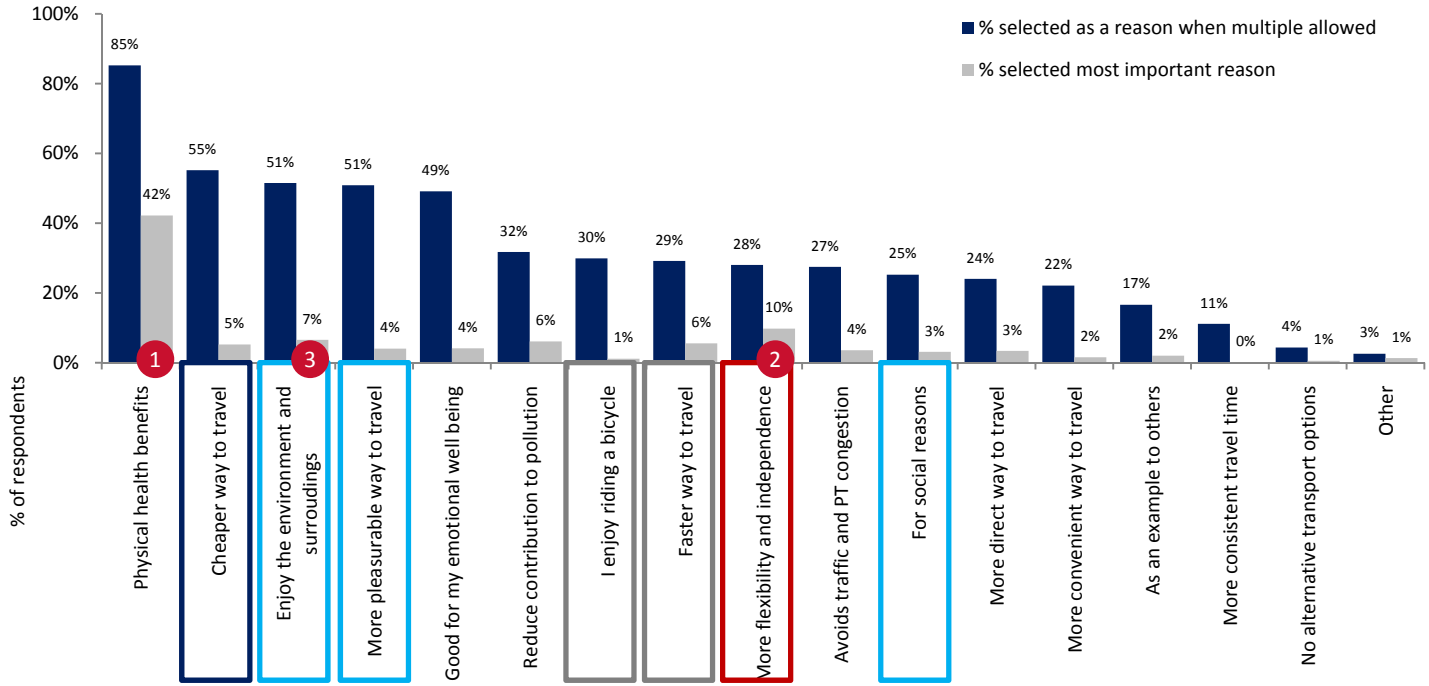
Start:	• Start their journey from home (89%) before 10 a.m. (51%)
Distance and time:	• Median travel distance of **2km-5km**; median travel time between **15-20 mins** • Median distance for which respondents state they could ride a bicycle for their allocated purpose is **5-10km** with median time **30-45 mins** • Majority travel on weekdays (34%) or both weekdays and weekends (42%)
Inter-change:	• 48% have travelled to get to another mode of public transport of which 91% have connected to a train and 32% to a bus for the majority this occurred when travelling to/from their usual place of work
Finish:	• Majority **ride on the way there and the way back** (95%) suggesting that the majority finish their journey at home • 35% ride for their return trip between 5p.m and 7 p.m.

Note[1]: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA2010 data

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Physical health benefits is the most commonly selected reason for choosing to ride a bicycle for a majority of trips made by frequent bicycle riders

For respondents who cycle more than 50% of trips for selected purpose, reasons for choosing to ride a bicycle for their trip purpose include: (QC5 & QC5A)



Existing literature identified common drivers of increased bicycle riding include health benefits, close proximity/time savings, lower costs and environmental savings

- While 42% of respondents state they choose to ride a bicycle for this reason, when asked to trade off against other reasons only 5% selected that it a cheaper way to travel as being most important
- This is also a more commonly selected reason for choosing to ride a bicycle for the purpose of **travelling to/from work** or school/ university (reason for 72%; most important reason for 12%)

More commonly selected reasons for choosing to ride a bicycle for the majority of trips taken for **social / recreational purposes**

- Strongly valued by those who select this as a reason with 10% of respondents also selecting this as the most important reason for riding a bicycle (2nd highest overall)
- This is also a more commonly selected reason for choosing to ride a bicycle for the purpose of **travelling to/from work** or school/ university (reason for 32%; most important reason for 13%)

More commonly selected reasons for choosing to ride a bicycle for the majority of trips for **commuting** to/from work or school/university

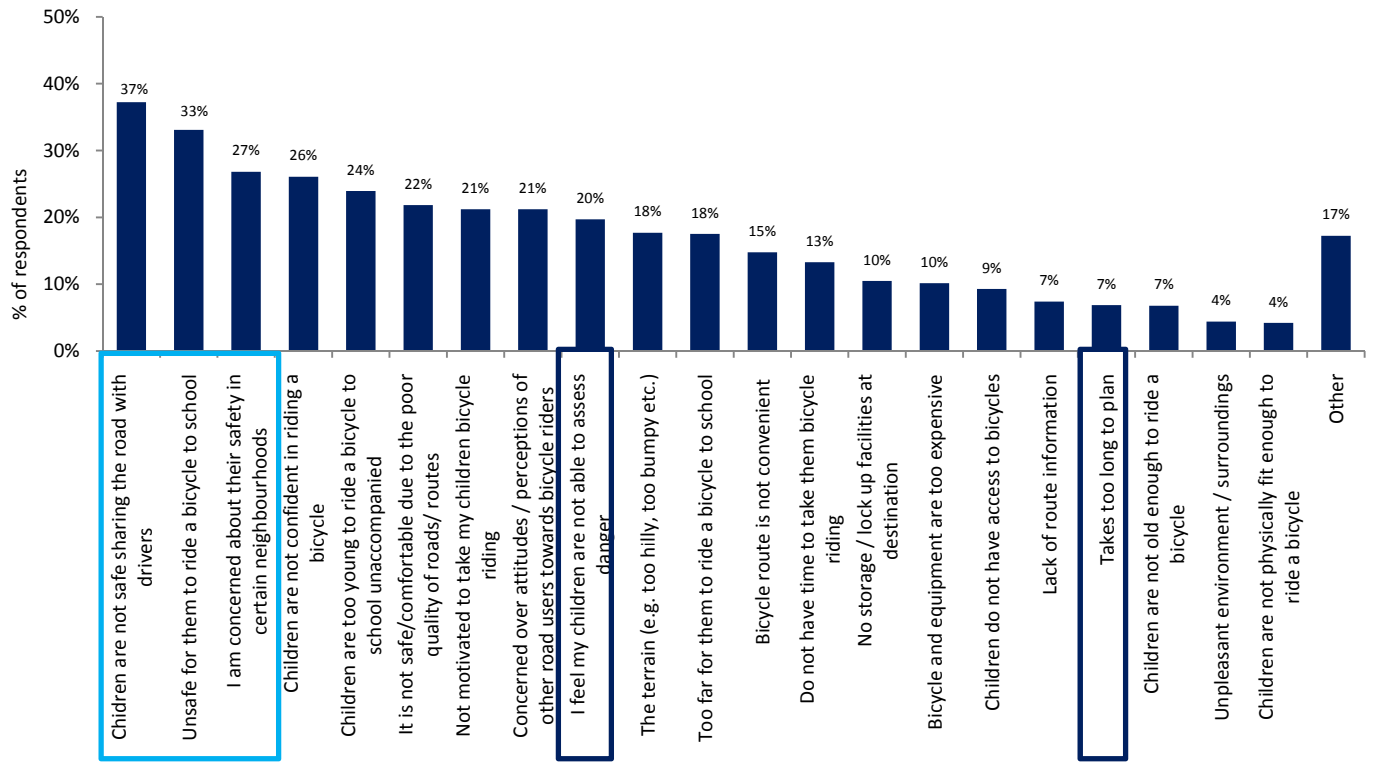
Top three reasons selected as most important reason respondents choose riding a bicycle for the majority of trips taken for a specific purpose

Note: n= 121

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Safety and security related issues are the most commonly selected reasons by parents as to why their children do not ride a bicycle to school more often

For parents with school aged children, reasons their children do not ride a bicycle to school



Safety and security related issues are the most commonly selected reasons by parents as to why their children do not ride to school more often. These include feeling that their children are not safe sharing roads with drivers and concern over their safety when riding in certain neighbourhoods

Feeling that their children are too young and are not able to assess danger are more common reasons for not riding a bicycle more often among parents of children between **5 and 11 years of age**

Note: n= 106

Key trends

- 26% of respondents have dependent children of which 64% have children of school age (5-16)
- Of those with children of school age, 44% ride a bicycle to school weekly or more often of which 80% live less than 5km from the school
- 47% of those who have school aged children who currently ride to school less than once per month are potential bicycle riders and 24% are rejecters
- 57% of those who have school aged children who currently ride to school less than once per month are female and 43% are male

Of those with school aged children who ride a bicycle to school less than monthly:

- 17% identified 'other' reasons such as children having no interest, they are too lazy, they refuse to learn to ride and that they have a medical condition which prevents them from riding (e.g. diabetes or disabilities)

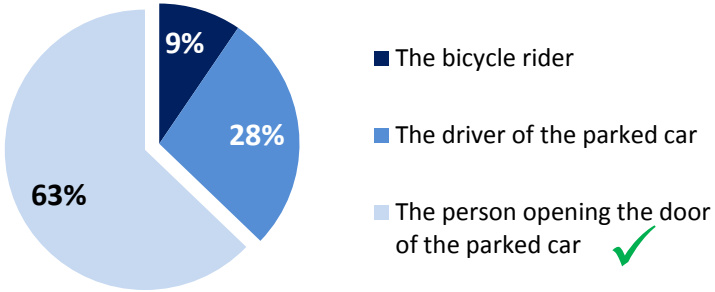
Source: Transport for NSW, Cycling CVP Research, June 2013

3. Knowledge and attitudes

Snapshot profile into customers knowledge of road rules, channel preferences for communications and whether they agree/strongly agree and disagree/strongly disagree with attitudinal statements

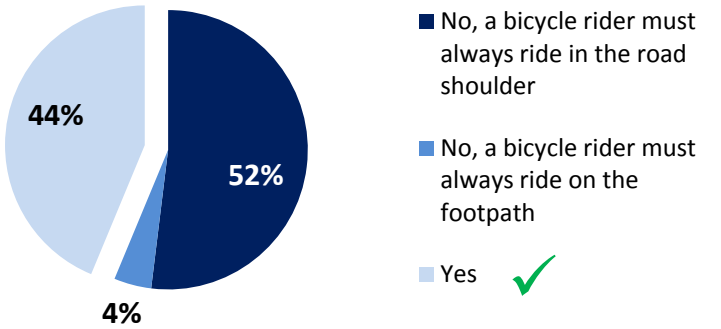
INSIGHT: More than half of survey respondents do not know that a bicycle rider is allowed to ride in the centre of the lane of an urban street

QF7: Who is at fault if an opening door from a parked car collides with a bicycle rider on the street?



- While 63% of respondents correctly identified the person opening the vehicle door as the person at fault, a large proportion of respondents (28%) consider the driver of the parked car to be at fault or the bicycle rider (9%)
- There is no significant difference in correct response rate across three usage groups (60% - 64%)
- The correct response rate is consistent across genders (male:60%, female:66%), regions (61-68%), and confidence levels (58-65%)
- There is no significant difference between responses from respondents who usually travel by car as drivers or passengers and those who do not own a car

QF8: Is a bicycle rider allowed to ride in the centre of the lane of an urban street?

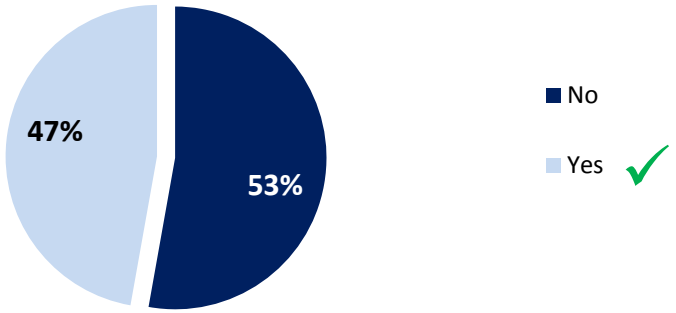


- Respondents' knowledge of this road rule appear to be inconsistent. More than half of the survey sample believe bicycle riders must ride in the road shoulder while 44% believe bicycle riders are allowed to ride in the centre
- 47% of bicycle riders (frequent and infrequent) show correct responses while 40% of potential bicycle riders responded to this question correctly
- The correct response rate is consistently below 50% across regions (39-45%) and confidence levels (39-45%)
- More males (50%) than females (37%) provided the correct response. A larger percentage of potential female bicycle riders (63%) believe that bicycle riders must always ride in the road shoulder compared to potential male bicycle riders (49%)
- Among different age groups, there are fewer potential bicycle riders aged below 30 who provided the correct response (27%) compared to those aged between 30-59 (45%) and 60+ (39%)
- 15% of infrequent bicycle riders who do not own but have access to a car believe a bicycle rider must always ride on the footpaths, which is significantly higher than car owners (2%)
- Rejecters have weaker knowledge about this road rule compared to current and potential bicycle riders with only 31% providing the correct response and 61% believing that a bicycle rider must always ride in the road shoulder

Source: Transport for NSW, Cycling CVP Research, June 2013

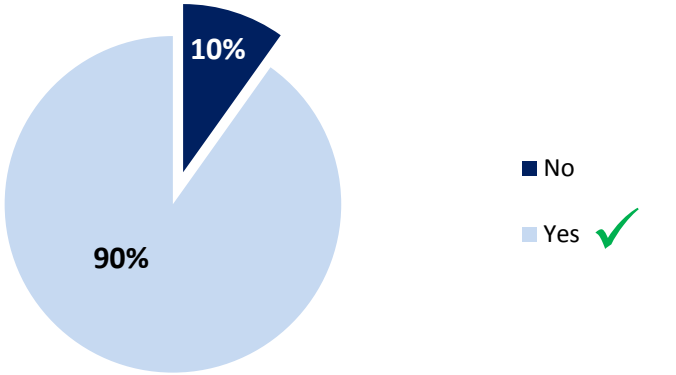
INSIGHT: The road rule of giving way to pedestrians on off-road shared paths is well understood by respondents with a correct response rate of 90%

QF9: Are bicycle riders allowed to overtake on the left of a vehicle?



- The correct response rate for this road rule is below 50%. 53% of respondents believe that bicycle riders are not allowed to overtake on the left of a vehicle
- Frequent bicycle riders do not show better knowledge of this road rule than other usage group. 57% of frequent, 52% of potential bicycle riders and 51% of infrequent did not provide correct response
- The level of correct response is consistent across gender (male:49%, female:46%) and regions (46-51%)
- Those with higher levels of confidence in their ability to ride a bicycle do not have better knowledge of this road rule compared to those with lower levels of confidence

AF10: Do bicycle riders have to give way to pedestrians on off-road shared paths?



- Majority of respondents (90%) acknowledged that bicycle riders need to give way to pedestrians on shared paths
- The percentage of respondents across different usage groups who do not think bicycle riders have to give way to pedestrians is consistently below 10%
- 83% of bicycle riders (frequent and infrequent) in Illawara and Hunter region (83%) know this road rule correctly, which is lower than those living in Sydney SD (91%) and regional (95%)
- The correct response rate gradually increases across age groups from 86-87% for respondents below the age of 29 to 100% for respondents over the age of 80
- The proportion of respondents who knew this road rule is higher than in the Cycling CVP research. 80% of respondents who walk provide correct response

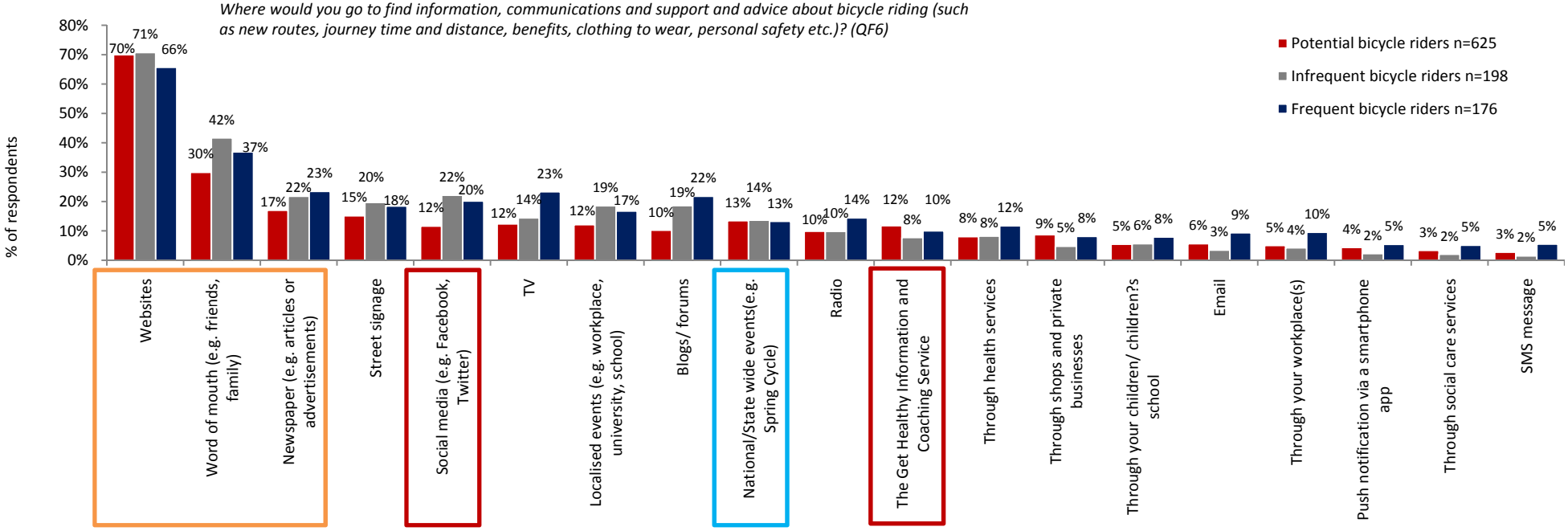
Overall, respondents appear to be more aware of pedestrian related road rules than vehicle related road rules. Car owners do not seem to have better knowledge of bicycle riding road rules than others

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Websites appear to be the most popular channel for information, communication and support and advice about bicycle riding

Preferred channels to find information, communications, support and advice about bicycle by usage groups (QF6)

Where would you go to find information, communications and support and advice about bicycle riding (such as new routes, journey time and distance, benefits, clothing to wear, personal safety etc.)? (QF6)



The majority of respondents look for information, communications and support and advice about bicycle riding on **websites** (69%), by **word of mouth** (35%) and in **newspapers** (20%)

Females (17%) prefer **national/state wide events** (e.g. Spring Cycle) more so than males (10%)

- A higher proportion of respondents **below 30** years of age (27%) would use social media to find information, communications support and advice about bicycle riding compared to those aged 30 – 59 (16%) and aged 60+ (7%)
- A higher percentage of respondents **aged 60+** would find information about bicycle riding through 'Get Health' information and Coaching Services (16%), compared to those aged 30 – 59 (10%) and aged below 30 (6%)

There is no significant difference in preferred communication channels across regions

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: Attitudes vary by age, gender and usage group and two key attitudinal themes emerge, differentiated by safety concerns and pioneering beliefs

Variation in respondents' attitudes by age, gender, car ownership and usage group

Potential and **infrequent** bicycle riders have greater **concern over safety** when riding a bicycle while frequent bicycle riders are thought to be transport opinion leaders and are more supportive of prioritising bicycle riding even at the expense of drivers or higher taxes / council rates

Among potential bicycle riders, **females** tend to value environmental benefits from bicycle riding more than males and have greater **concerns about their personal safety and security**

Those **aged 60+** show less support for prioritising bicycle riding and **greater concern for their own safety** while riding which is primarily driven by lack of confidence

Potential bicycle rider who **own a car** support providing more road space for bicycle riders, however **not if it comes at the expense of traffic lanes**, congestion charges or higher taxes/council rates

Two key attitudinal themes emerge in the data

Safety conscious

(67% of respondents)

- More likely to be **car owners** (81%; 55% own 1 car and 27% own 2 or more) and a higher proportion are **potential** bicycle riders (60%)
- Often **feel anxious about their personal safety and security** when riding a bicycle, are concerned that bicycle riders share the street space with so many cars, buses and trucks and believe there are insufficient bicycle routes for them to ride on for their journeys
- Increased enforcement of road rules that endangers cyclists, reduction in speed limit around schools, busy city/town centres etc and increase knowledge of road rules by bicycle riders is most important for persuading them to ride a bicycle more often/further

Support for prioritising bicycle riding

(33% of respondents)

- More likely to be **male** (55%), have achieved a **university degree** or higher qualification (48%) and be a **regular** transport bicycle riders (33%)
- Strong beliefs in **contributing to bettering bicycle riding**
- Wouldn't mind **paying higher taxes / council rates** if the money went to building new bicycle routes or upgrading existing ones or if the money went to persuading more people to ride a bicycle
- Strongly believe that **bicycle riders should have priority** on the streets and they strongly support initiatives to reduce the number of cars on the road (e.g. through a congestion charge or reducing the amount of road space for cars)

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Safety appears to be a greater concern for potential and infrequent users, and female potential users compared to other respondent groups

Attitude Theme	Key Findings
Usage: Attitudes towards bicycle riding differ among **potential, infrequent and frequent bicycle riders**. Potential and infrequent bicycle riders have greater concern over safety when riding a bicycle	• **Potential** (79%) and **infrequent** bicycle riders (74%) perceive bicycle riding to be less safe and secure than when using other modes of transport, compared to frequent bicycle riders (45%) and hence a larger percentage of potential (80%) and infrequent (81%) bicycle riders prefer to ride a bicycle away from the road compared to frequent bicycle riders (65%) • **Frequent** bicycle riders are more supportive of bicycle riding in general. A larger percentage of frequent bicycle riders support bicycle riders having priority on streets in busy city/town centres (33%) and are willing to pay higher taxes and/or council rates to build and upgrade bicycle routes sooner (39%) compared to other usage groups. Introducing a congestion charge for driving into busy areas is supported by frequent bicycle riders (42%) but less supported by infrequent (27%) and potential (19%) bicycle riders • Frequent bicycle riders are more likely to be seen as opinion leaders with their family and friends often asking their opinion about transport (31%). They also believe that it is fine to take a few risks on roads and paths if it speeds up their journey (13%) • In addition, survey results support findings from previous bicycle riding literature that frequent bicycle riders tend to be early adopters with 28% stating that they are always the first to try new, more active ways of travelling compared to other groups (<10%)
Gender: Although there are few differences between frequent and infrequent bicycle riders attitudes across gender groups, **female potential bicycle riders** tend to value environmental benefits from bicycle riding more than males and have greater concerns about their personal safety and security	• Frequent and infrequent bicycle riders across gender groups appear to have similar attitudes however there are key differences for potential bicycle riders • **Female potential bicycle** riders have greater concern about their personal safety and security while riding bicycles than males. This finding is consistent with the Cycling CVP survey results which shows that female walkers tend to have greater concern with safety and security aspects of their journey • The proportion of female potential bicycle riders who support promoting environmental benefits from bicycle riding to encourage increased usage (73%) is higher than that of males (62%) • A larger percentage of female potential bicycle riders perceive that there are not enough bicycle routes for them to ride on (59%) and that sharing the street space with vehicles is a big safety concern to them (84%) compared to males (51%, 74% respectively). Majority of females potential bicycle riders (85%) prefer to ride a bicycle away from roads, which is 15% higher than the proportion of males • In comparison to male potential bicycle riders, females tend to support reducing speed limits around school (50%) and busy city/town centres (44%)

Note: % provided represents those respondents that 'Strongly Agree' / 'Agree' with attitudinal statements in the survey. Only those insights that are statistically significant have been reported

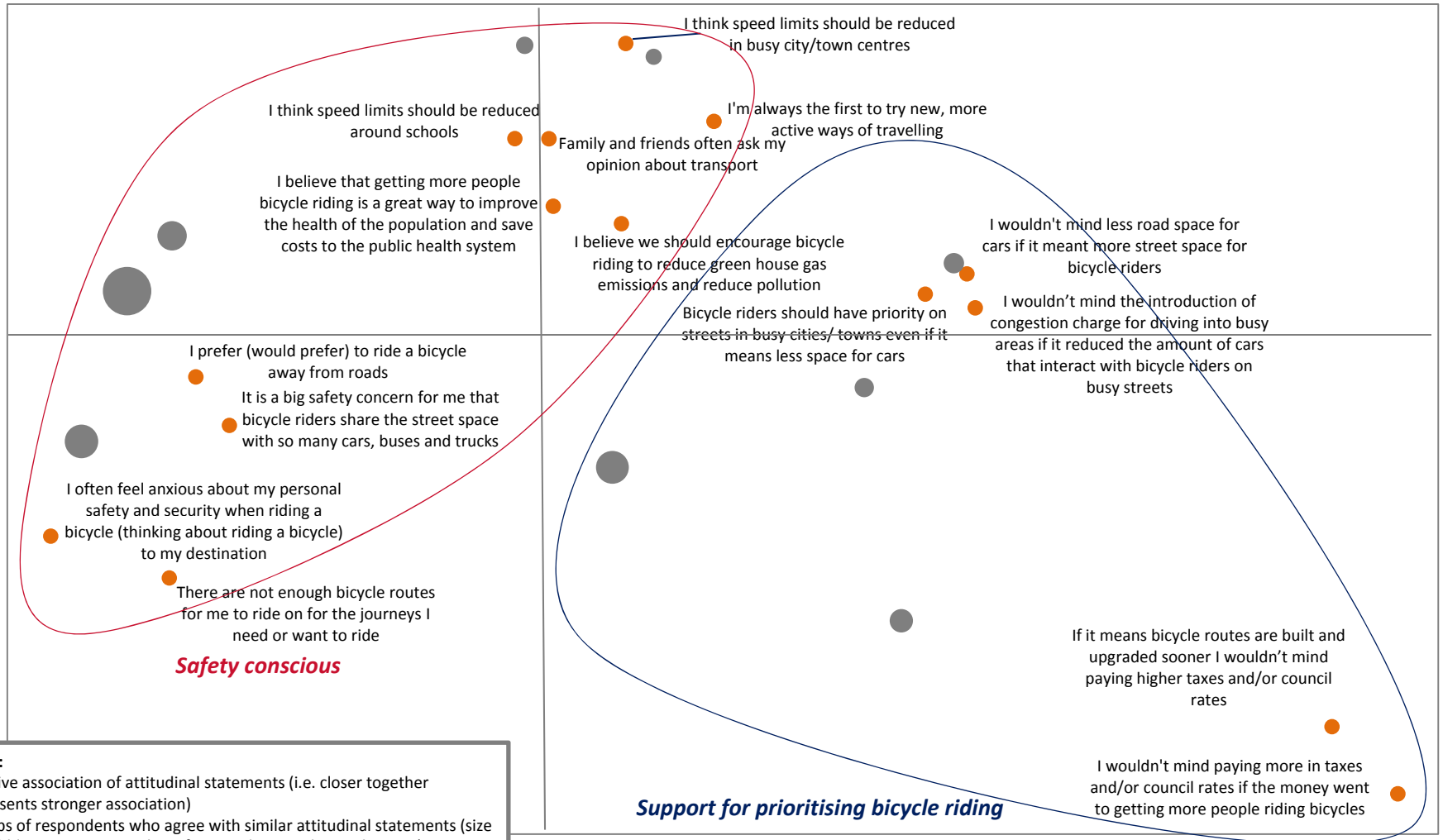
INSIGHT: Attitudes towards bicycle riding and support for increasing road space for cyclists, at the expense of road space for cars, differs across age groups, region and car ownership

Attitude Theme	Key Findings
Age: Attitudes towards bicycle riding, safety and risk taking vary by **age with those aged 60+** showing less support for prioritising bicycle riding and greater concern for their own safety while riding which is primarily driven by lack of confidence	• A higher proportion of those aged 60+, in particular those aged 60-69, do not support giving bicycle riders priority on streets in busy cities / towns (60%) • Those aged 60+ are also more likely to be potential bicycle riders (60%) and express concern over their safety when riding a bicycle, with 81% identifying that they do not feel safer and more secure when riding a bicycle than when using other modes of transport. In line with this, a significantly higher proportion (18.5%) of those aged 60+ rate their confidence when riding a bicycle as low (1-4 out of 10), 35% of those aged 60+ rate their confidence as low, and it is not significantly higher than other age groups • Negative attitudes towards risk taking are also likely to increase with age, with a higher proportion of those under 30 (12% compared to 4% average across other age groups) feeling that it is fine to take a few risks on roads and paths if it speeds up their journey and a higher proportion (88%) of those aged 60+ disagreeing with this
Region: There were few differences in attitudes by **region** however those living in Sydney are more supportive of having more road space for bicycle riders	• While having more road space for bicycle riders at the expense of cars is not supported by the majority of respondents, significantly more respondents who live in Sydney (27%) support having less road space for cars to give more space to bicycle riders • This increases to 47% within Inner Sydney compared to only 18% in outer Sydney and 13% in regional NSW
Car ownership: **Potential bicycle riders who own a car** do not support that bicycle riders should be prioritised over driving whereas potential bicycle riders without a car do not mind having more street space for bicycle riding at the cost of space for cars	• Results indicate that car ownership is not a factor influencing frequent and infrequent bicycle riders' attitudes towards bicycle riding. Potential bicycle riders who own a car tend to have divergent attitudes towards driving • Among potential bicycle riders, a larger percentage of car owners do not believe that bicycle riders should have priority on streets (53%) or that a congestion charge should be charged for drivers (54%) in busy city/town centres at the cost of reducing spaces for cars compared to those who do not own a car (35%) • 29% of potential bicycle riders who own a car believing that speed limits should not be reduced around schools versus 13% of those who do not own a car • Potential bicycle riders without a car are more likely to take risks on roads or paths in order to speed up their bicycle riding journey (12%) in comparison to car owners (4%)

Note: % provided represents those respondents that 'Strongly Agree' / 'Agree' with attitudinal statements in the survey. Only those insights that are statistically significant have been reported

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: Analysis of agreement with attitudinal statements reveals two groups of customers with similar attitudes towards bicycle riding, captured as attitudinal themes



Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Societal consciousness attitudes appear to be shared by all customers

Analysis of the attitudinal statements shows the following…

Two key attitudinal themes emerge in the data (1) safety conscious (2) supporters of prioritising bicycle riding	• There is a strong attitudinal dimension that runs through the cycling study. At one end, there are those who are more cautious and safety concerned and at the other end of the spectrum, there are those who are pioneering in their attitude to investing and regulating for the benefits of bicycle riding • The who are strong **supporters of prioritising bicycle riding** wouldn't mind **paying higher taxes / council rates** if the money went to building new bicycle routes or upgrading existing ones or if the money went to persuading more people to ride a bicycle. They also strongly believe that **bicycle riders should have priority** on the streets and they strongly support initiatives to reduce the number of cars on the road (e.g. through a congestion charge or reducing the amount of road space for cars). These statements are where the greatest differentiation happens across the respondents. Respondents in this segment have strong beliefs in **contributing to bettering bicycle riding** • On the other end of the continuum, the **safety conscious** worry about their safety and security when riding a bicycle, and that there are insufficient bicycle routes for them to ride on for their journeys. These respondents also support reducing speed limits around busy town centres and schools although these views are not particularly polarised as there are some Pioneering Bicycle Riders that shares these views • Potential bicycle riders tend to be more cautious / safety concerned and regular bicycle riders are least concerned with safety. Sub groups within all three user groups (regular, infrequent and potential bicycle riders) are supporters of prioritising bicycle riding
Societal consciousness attitudes appear to be largely shared by all customers	• Broader societal concerns are largely shared by all respondents such as: 'Improve the health of the population and save costs' and 'Reduce green house gas emissions and reduce pollution', suggesting that these community concerns and **societal benefits of bicycle riding** is important to all community members (regardless of their attitudinal bias) • There is less discrimination across the respondent group around opinion leadership (e.g. 'family and friends often ask my opinion', 'I am always first to try new, more active ways of travelling') where we see some safety conscious and some supporters of prioritising bicycle riding sharing similar views about this
A two pronged approach to the attitudinal analysis needs to be considered	• In analysing the data, two lenses need to be adopted , the first relating to a general profile of attitudes and how they differ across the respondent base and the second seeks to identify underlying attitudinal segments in the data: (1) Profiling of respondents across their agreement / disagreement with the attitudinal statements to identify key trends (2) Latent Class Segmentation analysis to identify attitudinal themes

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Attitudes differ based on gender, education, car ownership, usage group and level of confidence in ability to ride a bicycle

Safety conscious	Support for prioritising bicycle riding
(67% of respondents) "I often feel anxious about my personal safety and security when riding a bicycle and it really concerns me that bicycle riders share the street space with so many cars, buses and trucks"	(33% of respondents) "I wouldn't mind less road space for cars or the introduction of a congestion charge if it meant more street space for bicycle riders or reduced the amount of cars that interact with bicycle riders on busy streets"
How am I different to other segments? (Statistically significant differences between attitudinal groups)	
• **Gender:** Higher proportion are **female** (52%) compared to male (48%) • **Education:** Higher proportion list TAFE/Tertiary college education as their highest level of education (33%) • **Dwelling:** A higher proportion live in a separate or detached house (72%) • **Car ownership:** A significantly higher proportion **own a car** (81%; 55% own 1 car and 27% own 2 or more) • **Usage**: Higher proportion are **potential** bicycle riders (60%) • **Confidence:** A significantly higher proportion (13%) state they are **not confident** in their bicycle riding ability (1-4 out of 10) with 74% identifying that they are confident (7-10 out of 10)	• **Gender:** Higher proportion are **male** (55%) compared to female (45%) • **Education:** Higher proportion have achieved a university degree or higher qualification (48%) • **Dwelling:** A significantly lower proportion live in a separate or detached house (72%) and a higher proportion live in a semi-detached house (15%) or apartment (18%) • **Car ownership:** A significantly lower proportion own a car (73%) while a higher proportion do not own but have access to a car (17%) • **Usage**: Higher proportion are **regular** transport bicycle riders (33%) and ride significantly more for the majority of trip purposes • **Confidence:** A significantly higher proportion (85%) state they are **confident** in their bicycle riding ability (7-10 out of 10)
Who am I? (Profile of attitudinal groups by demographics where differences are not significant)	
• **Age:** Span a wide range of age groups • **Children**: 71% do not have dependent children • **Region:** 59% live in Inner Sydney regions, 19% in outer Sydney and 22% in Regional NSW • **Employment:** 37% are employed full time, 14% part time and 14% are retired • **Industry:** 64% work in the private sector and 20% in the public sector • Median **time** could reasonably ride a bicycle for: 30-45mins • Median **distance** could reasonably ride a bicycle for: 5-10km	• **Age:** Span a wide range of age groups • **Children**: 75% do not have dependent children • **Region:** 62% live in Inner Sydney regions, 18% in outer Sydney and 20% in Regional NSW • **Employment:** 34% are employed full time, 15% part time and 12% are retired • **Industry:** 68% work in the private sector and 23% in the public sector • Median **time** could reasonably ride a bicycle for: 30-45mins • Median **distance** could reasonably ride a bicycle for: 5-10km

Source: Transport for NSW, Cycling CVP Research, June 2013

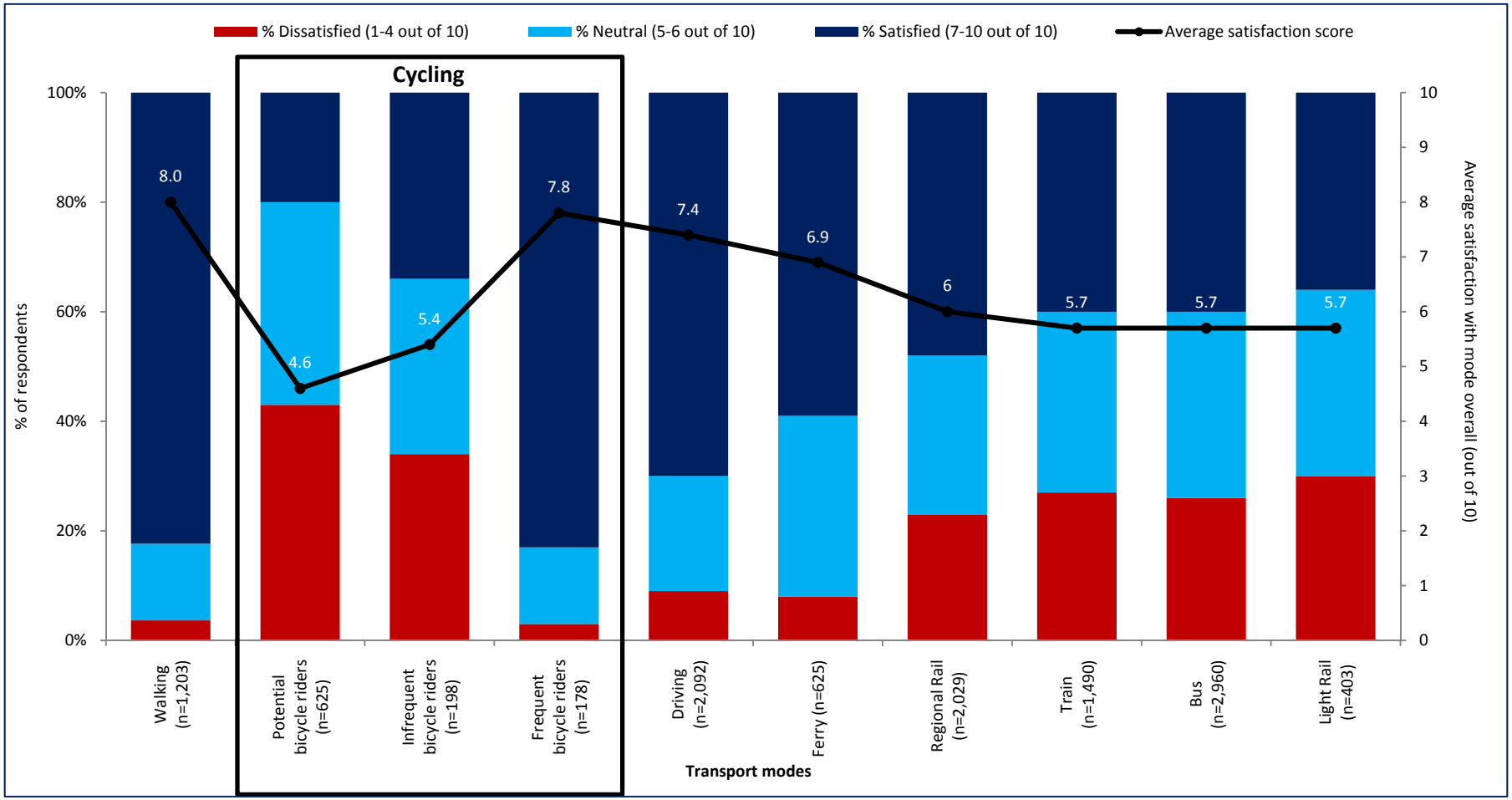
What is satisfactory, unsatisfactory and important to the NSW population?

4. Satisfaction

Satisfaction levels provide insight into possible improvements across the cycling journey experience

INSIGHT: Overall satisfaction for frequent bicycle riders is significantly higher than other transport modes

Overall satisfaction of bicycle riding compared to other modes of transport

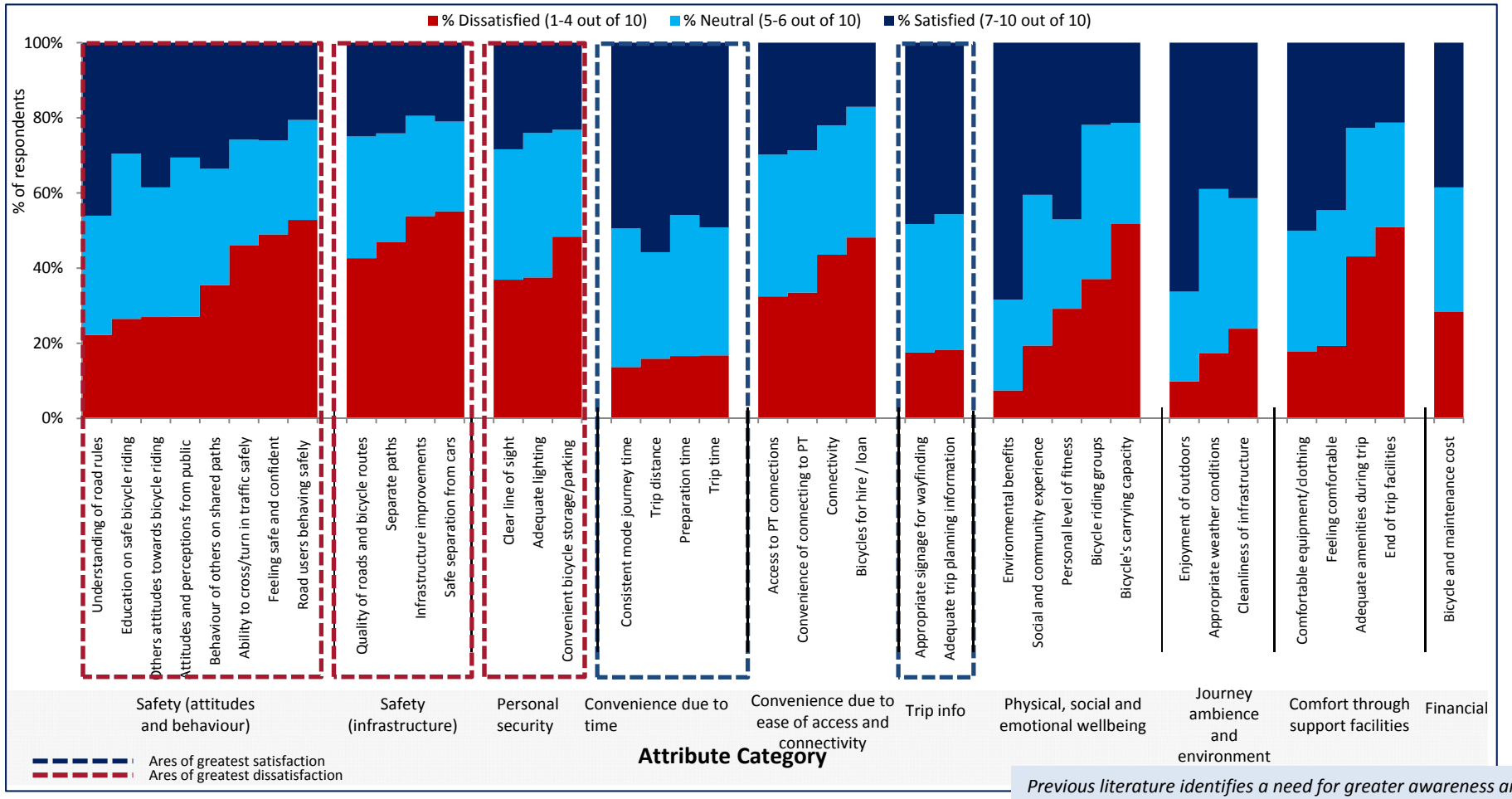


Note: Satisfaction scores for non active transport modes include scores for non-users and users

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Satisfaction for convenience due to time and trip information is relatively higher than other bicycle riding attribute categories however, satisfaction is the lowest for safety and security aspects

% of respondents satisfied and dissatisfied with attributes of their bicycle riding journey experience



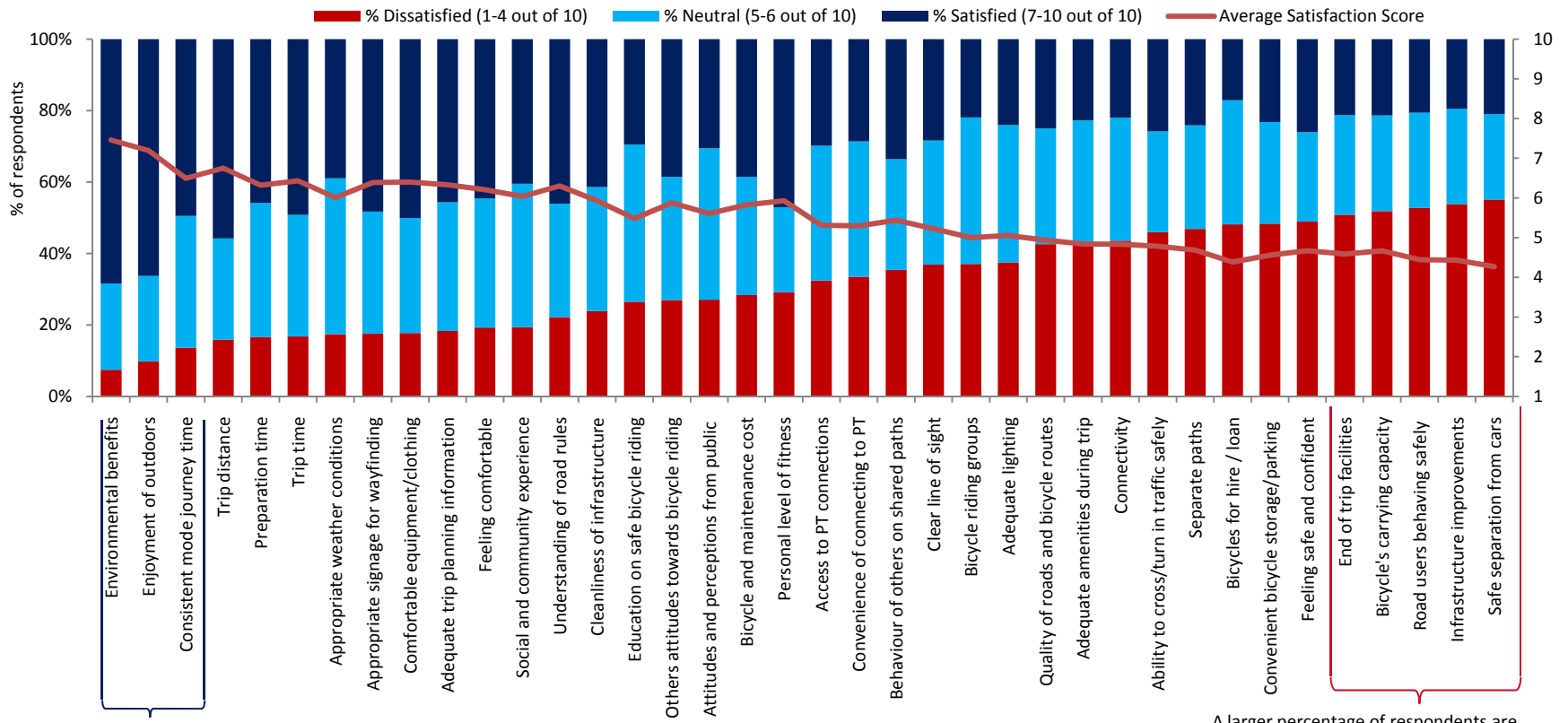
Note: n = from 385 to 643

Source: Transport for NSW, Cycling CVP Research, June 2013

*Previous literature identifies a need for greater awareness and improved **behaviour** of drivers and bicycle riders on roads. The survey results validate these findings. We see safety (attitude and behaviour) are the drivers of dissatisfaction*

INSIGHT: Safety concerns about the behaviour from other road users and infrastructure is consistently identified as a key barrier for bicycle

% of respondents that are satisfied and dissatisfied with attributes (QD4)



A larger percentage of respondents are satisfied with attributes relating to **environmental benefits and enjoyment of outdoors**

Respondents have **lowest satisfaction** with the attribute categories of (1) safety (infrastructure and behaviour) and (2) personal security. **Satisfaction is highest** for the attribute category convenience due to time and trip information.

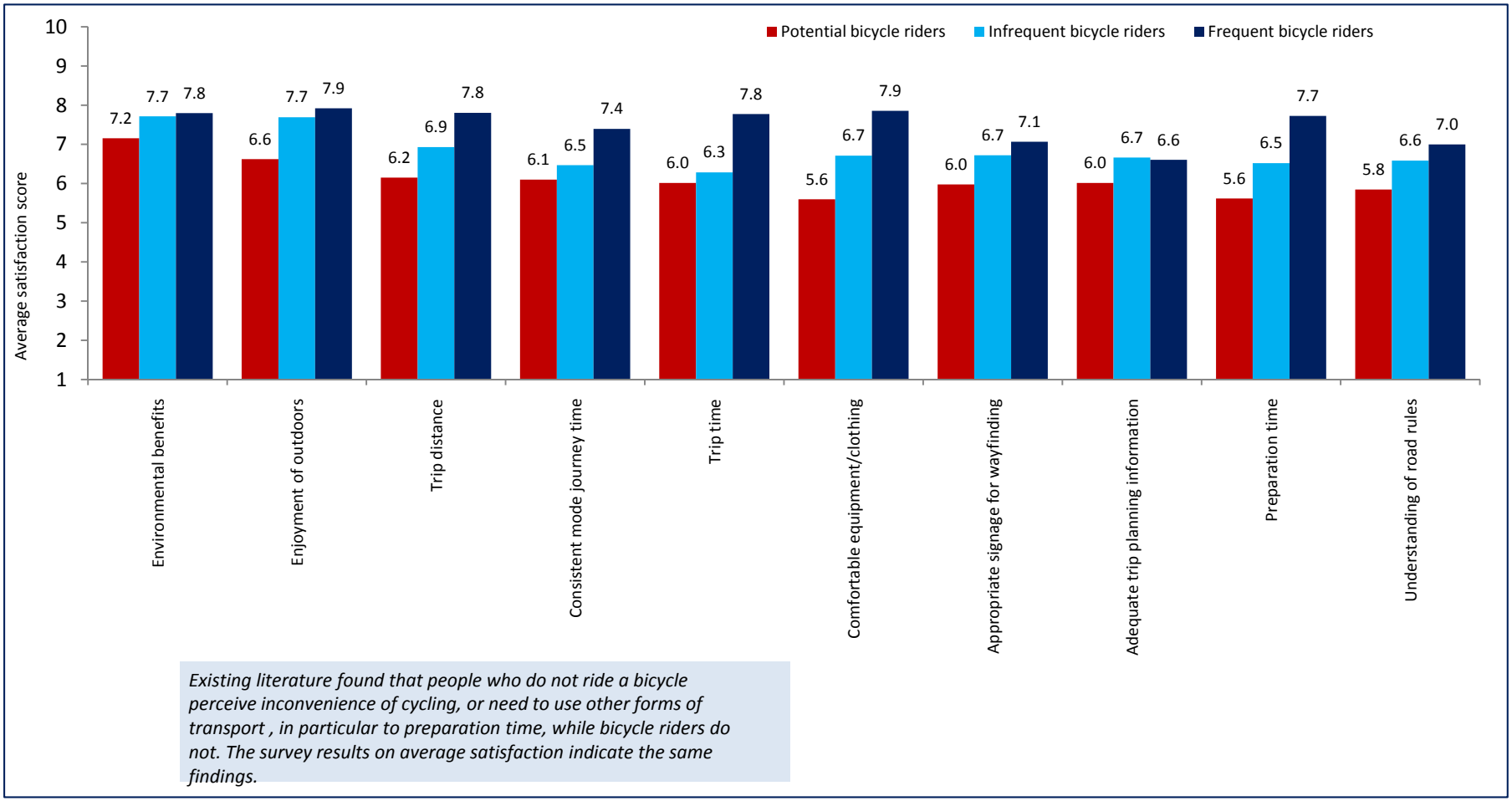
A larger percentage of respondents are dissatisfied with attributes relating to **safety** (feeling safe and confident and safe behaviour from drivers) , carrying capacity and **end of trip facilities**

Note: n = from 372 to 484

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Satisfaction with journey attributes increases with increased usage - potential bicycle riders are consistently less satisfied

Average satisfaction score for top ten bicycle riding journey experience attributes with greatest satisfaction (QD4)

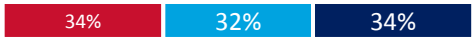


Existing literature found that people who do not ride a bicycle perceive inconvenience of cycling, or need to use other forms of transport , in particular to preparation time, while bicycle riders do not. The survey results on average satisfaction indicate the same findings.

Note: n = from 237 to 300 for potential bicycle riders n=65 to 105 for infrequent bicycle riders n=56 to 97 for frequent bicycle riders

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: All three user groups are satisfied with environmental benefits, the enjoyment of being outdoors - frequent bicycle riders are more satisfied with time, distance and comfort

n=625 Potential bicycle riders	n=198 Infrequent bicycle riders	n=178 Frequent bicycle riders
Overall satisfaction by usage groups (QD1)		
Mean score = 4.6	Mean score = 5.4	Mean score = 7.8
		
% Dissatisfied (1-4 out of 10) % Neutral (5-6 out of 10)	% Satisfied (7-10 out of 10)	
Top eight attributes of greatest satisfaction (% rated 7-10 out of 10)[1]		
1. Benefits to the environment through riding 63%	1. Enjoyment of outdoors 82%	1. Having comfortable equipment/clothing 82%
2. Enjoyment of outdoors 53%	2. Benefits to the environment through riding 74%	2. Time required to ride for the trip 79%
3. Distance of the trip 43%	3. Distance of the trip 59%	3. Distance of the trip 78%
4. Appropriate signage to easily find your way 41%	4. Having comfortable equipment/clothing 59%	4. Enjoyment of outdoors 78%
5. Consistency or predictability of travel time 40%	5. Feeling comfortable while riding 55%	5. Time required to organize gear / prepare for journey 77%
6. Time required to ride for the trip 40%	6. Appropriate signage to easily find your way 51%	6. Benefits to the environment through riding 74%
7. Adequate information available to plan trip 40%	7. Level of understanding of road rules about bicycle riding 51%	7. Your personal level of fitness to ride a bicycle 73%
8. Level of understanding of road rules about bicycle riding 37%	8. Cost of equipment and maintaining a bicycle 50%	8. Feeling comfortable while riding 71%

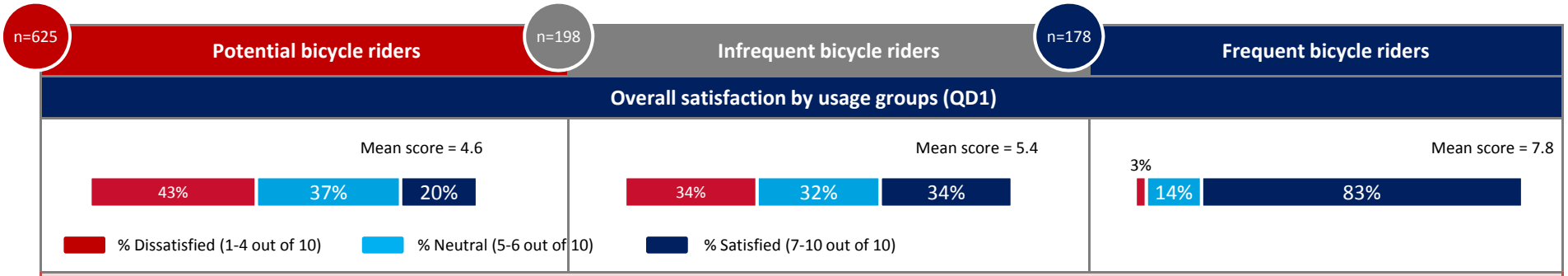
Themes identified

- The overall satisfied percentage of bicycle riders in Illawarra and Hunter (41%) is the highest, followed by regional NSW (39%) and Sydney SD (34%)
- A larger percentage of Sydney respondents (35%) are satisfied with accessibility of public transport connections while only 15% of regional bicycle riders feel the same
- Regional frequent bicycle riders are more satisfied with social and community experience while bicycle riding (83%) compared to Sydney (0%) and Illawarra and Hunter respondents (17%)
- Both frequent and infrequent bicycle riders are satisfied with comfort while riding. However, non users perceive cycling to be less comfortable

[1]Note: The top eight attributes of greatest satisfaction have been colour coded to show variation across usage groups

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: The top eight attributes of greatest dissatisfaction for potential and frequent bicycle riders differ



Top eight attributes of greatest dissatisfaction (% rated 1-4 out of 10)[1]

Potential bicycle riders		Infrequent bicycle riders		Frequent bicycle riders	
1. Adequate safe separation from cars	67%	1. Infrastructure improvements on roads	56%	1. Infrastructure improvements on roads	34%
2. Safe behaviour of drivers when bicycle riders are on the road or street	62%	2. Bicycle's capacity for carrying	55%	2. Adequate amenities and facilities during the trip	33%
3. Feeling safe and confident riding in traffic	61%	3. Adequate safe separation from cars	54%	3. Bicycle's capacity for carrying	31%
4. Infrastructure improvements on roads	60%	4. Safe behaviour of drivers when bicycle riders are on the road or street	53%	4. Facilities available at the end of the trip	30%
5. Availability of bicycles for hire / loan	60%	5. Facilities available at the end of the trip	49%	5. Being able to cross / turn in traffic safely	30%
6. Conveniently located bike secure storage facilities where you leave your bicycle	59%	6. Feeling safe and confident riding in traffic	47%	6. Safe behaviour of drivers when bicycle riders are on the road or street	28%
7. Bicycle's capacity for carrying	59%	7. Conveniently located bike secure storage facilities where you leave your bicycle	46%	7. Behaviour of pedestrians and bicycle riders when using off road, dedicated paths for shared use	27%
8. Separate paths for bicycle riders and walkers	59%	8. Availability of bicycles for hire / loan	45%	8. Clear lines of sight along bicycle route	27%

Themes identified

- Potential bicycle riders are least satisfied with journey attributes relating to safety on the road. Safe separation from cars, safe behaviour of drivers and feeling safe and confident are important to potential bicycle riders to ensure their safety and to build confidence in their bicycle riding ability
- While infrequent riders are dissatisfied with infrastructure improvements and carrying capacity which is similar to frequent bicycle riders, they are also dissatisfied with safe separation from cars and behaviours of others
- The percentage of respondents who are dissatisfied with infrastructure improvements on roads are consistently high across the three different respondent groups. For infrequent and frequent bicycle riders, these are the attributes with greatest dissatisfaction
- A significantly larger proportion of bicycle riders (frequent and infrequent) in regional areas state that lighting on bicycle routes and roads is not adequate (45%) compared to bicycle riders living in Illawarra and Hunter (37%) and Sydney SD (15%)

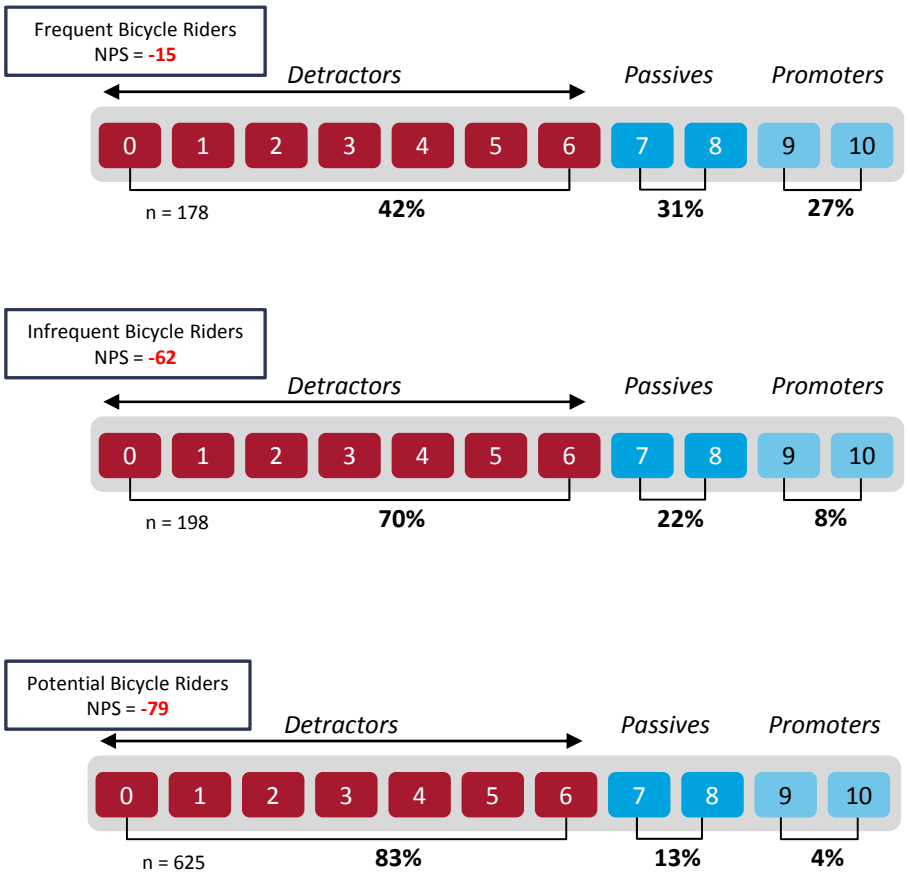
[1]Note: The top eight attributes of greatest dissatisfaction have been colour coded to show variation across usage groups

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Net promotion scores (NPS) indicate that the likelihood of recommending cycling to others is lowest for potential and infrequent riders

NPS scores across the population (QC1)

*QC1: On a scale of 0 to 10, how likely is it that you would recommend cycling instead of using another mode of transport to a friend, family member or colleague **for this type of trip**?*



What do these NPS scores mean…?

NPS has been calculated as :

% Promoters - % Detractors	
(9-10)	(0-6)

- NPS scores for respondents who do not ride a bicycle frequently is lower than those that do at least monthly:
  - For respondents who ride a bicycle monthly or more often: NPS = **-15**
  - For respondents who ride a bicycle once a year or more often but are not a regular transport bicycle rider: NPS = **-62**
  - For respondents who do not ride a bicycle but are open to: NPS = **-79**
- The NPS for potential and infrequent bicycle riders are similar, although results show infrequent bicycle riders have higher satisfaction overall compared to potential bicycle riders
- The overall NPS scores stated by respondents in three regions are Sydney SD(**-60**), Illawara and Hunter (**-71**) and regional NSW (**-58**)
- Among frequent bicycle riders, the likelihood of promoting cycling by respondents in different geographic locations varies. Regional respondents have a higher NPS score of **+13**, followed by those living in Sydney SD (NPS=**+7**). Respondents in Illawara and Hunter region are unlikely to recommend cycling to others with a NPS score of **-27**
- Overall, it appears that there is no significant difference in NPS scores for cycling across gender groups.
- Male: NPS= **-59** ; Female: NPS= **-64**
- NPS scores are generally lower for bicycle riders / potentials than Cycling

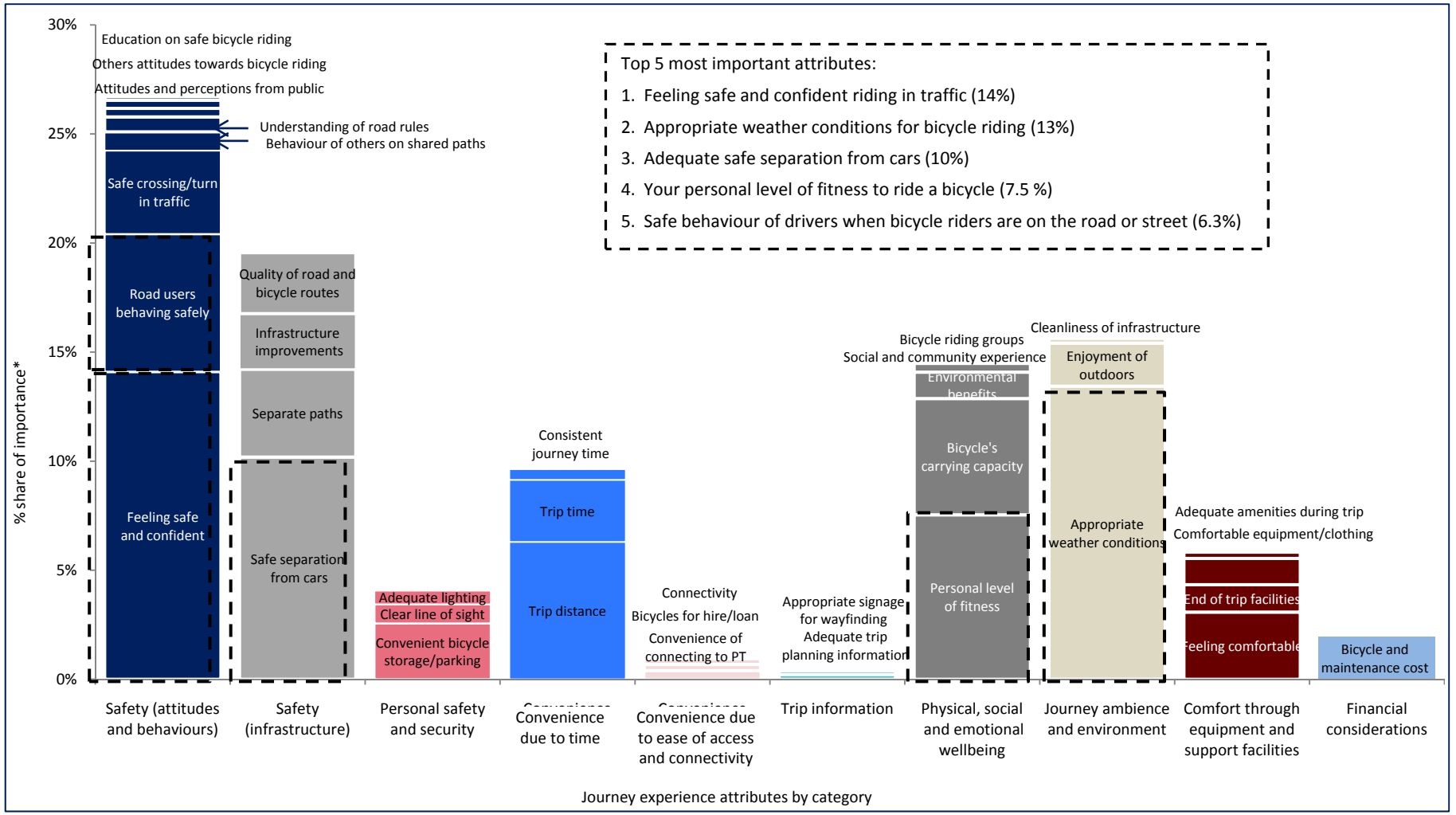
Source: Transport for NSW, Cycling CVP Research, June 2013

5. Importance

Analysis of importance provides insight into what customers value the most about their bicycle riding journey experience as evidenced by share of importance of selected attributes in deciding whether to ride a bicycle rather than use some other mode of transport

INSIGHT: Feeling safe and confident riding in traffic is of highest importance to the bicycle riding journey experience

Importance of bicycle riding journey experience attributes for potential and current bicycle riders

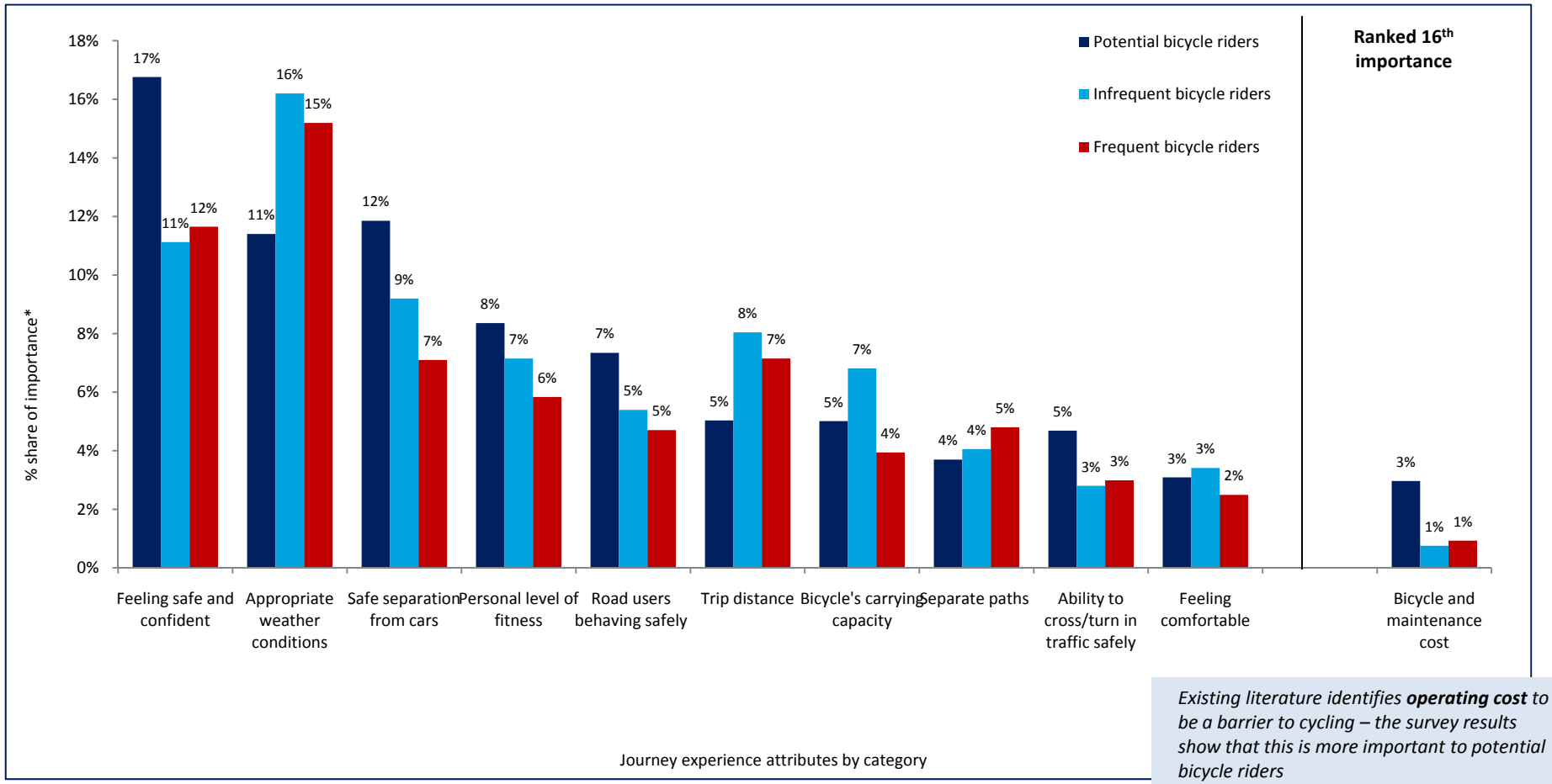


Note: n=1,001 * % share of importance represents weighted percentage of total share of importance based on top 3 attributes selected as most important in deciding whether to ride a bicycle rather than use some other mode of transport

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Potential bicycle riders value feeling safe and confident riding in traffic and have greater concern over cost of equipment and maintaining a bicycle

Top 10 most important attributes



*Existing literature identifies **operating cost** to be a barrier to cycling – the survey results show that this is more important to potential bicycle riders*

Note: n=1,001 * % share of importance represents weighted percentage of total share of importance based on top 3 attributes selected as most important in deciding whether to ride a bicycle rather than use some other mode of transport

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Attributes relating to safety, confidence and fitness are more important for potential bicycle riders in deciding to ride a bicycle while weather conditions and distance are more important considerations for infrequent and frequent bicycle riders

n=625 Potential bicycle riders		n=198 Infrequent bicycle riders		n=178 Frequent bicycle riders	
Top eight most important journey experience attributes by usage groups[1]					
1. Feeling safe and confident riding in traffic	17%	1. Appropriate weather conditions for bicycle riding	16%	1. Appropriate weather conditions for bicycle riding	15.2%
2. Adequate safe separation from cars	12%	2. Feeling safe and confident riding in traffic	11%	2. Feeling safe and confident riding in traffic	11.6%
3. Appropriate weather conditions for bicycle riding	11%	3. Adequate safe separation from cars	9.2%	3. Distance of the trip	7.2%
4. Your personal level of fitness to ride a bicycle	8.4%	4. Distance of the trip	8.0%	4. Adequate safe separation from cars	7.1%
5. Safe behaviour of drivers when bicycle riders are on the road or street	7.3%	5. Your personal level of fitness to ride a bicycle	7.1%	5. Your personal level of fitness to ride a bicycle	5.8%
6. Distance of the trip	5.0%	6. Bicycle's capacity for carrying	6.8%	6. Separate paths for bicycle riders and walkers	4.8%
7. Bicycle's capacity for carrying	5.0%	7. Safe behaviour of drivers when bicycle riders are on the road or street	5.4%	7. Safe behaviour of drivers when bicycle riders are on the road or street	4.7%
8. Being able to cross / turn in traffic safely	5.0%	8. Separate paths for bicycle riders and walkers	4.1%	8. Time required to ride for the trip	4.0%

Themes identified

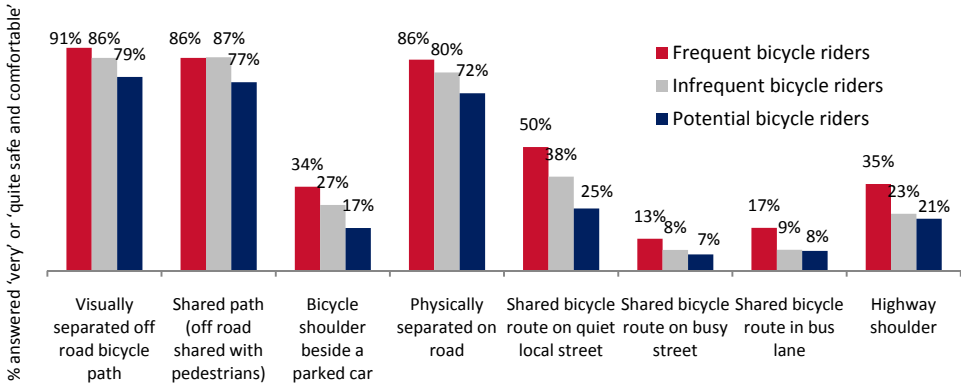
- Potential bicycle riders value feeling safe and confident riding in traffic, more so than infrequent and frequent bicycle riders – this group also value drivers behaving safely on the road or street. Sydney SD respondents value feeling safe and confident in traffic and bike storage more compared to those living in other regions
- Trip distance has greater influence on infrequent and frequent bicycle riders when choosing to cycling as a mode of transport
- When compared with trip distance, adequate safe separation from cars is less important for frequent bicycle riders than infrequent bicycle riders as they are likely have more experience and confidence riding on the road. Separation from cars is valued less by Illawarra and Hunter respondents (7.3%) compared to regional NSW (10%) and Sydney SD respondents (11%)
- Having separate paths for bicycle riders and people who walk is important to bicycle riders and perceived to be of lower importance to potential bicycle riders
- The weather condition for respondents in Sydney SD (12%) is not as important as it is to Illawarra and Hunter respondents (19%)

[1]Note: The top eight attributes of highest importance have been colour coded to show variation across usage groups; % share of importance represents weighted percentage of total share of importance based on top 3 attributes selected as most important in deciding whether to ride a bicycle rather than use some other mode of transport

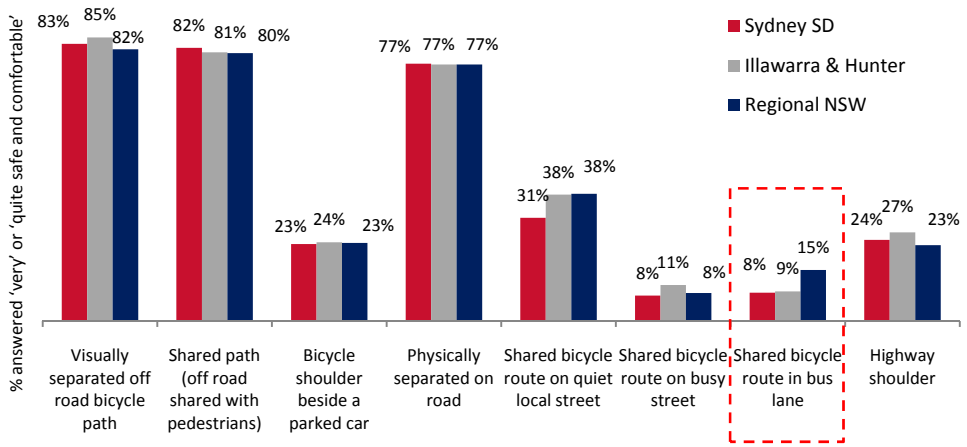
Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Level of perceived safety and comfort is highest for separated off road paths and shared paths - potential bicycle riders perceive lower safety regardless of path/road types

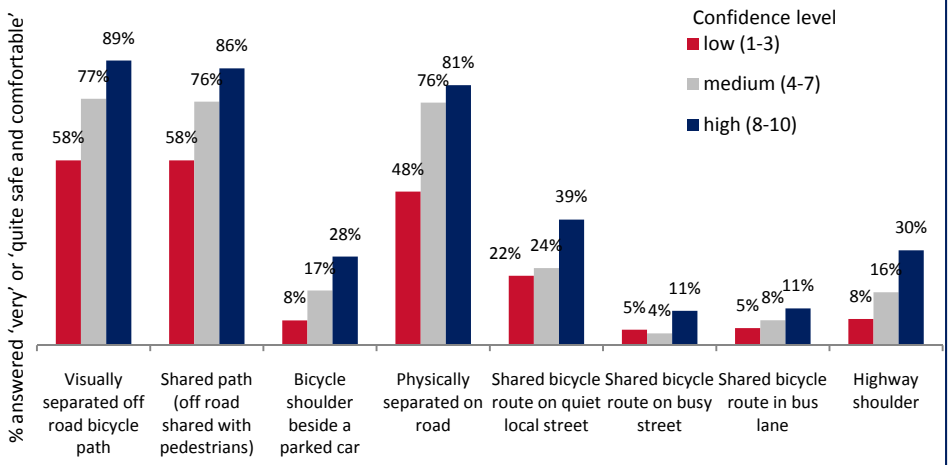
1 Regardless of road type, frequent bicycle riders show higher levels of perceived safety and comfort than potential bicycle riders. Safety and comfort is highest for separated off road paths (both visually and physically), in addition to shared path



2 Respondents across regions reported similar levels of safety and comfort for all road types except shared bicycle routes in bus lanes



3 For all road types, respondents with high levels of confidence feel more safe and comfortable than those with medium and/or low confidence. The reverse is also true, 70% of respondents who feel safe and comfortable express high levels of confidence about cycling (medium:25%, low: 5%)



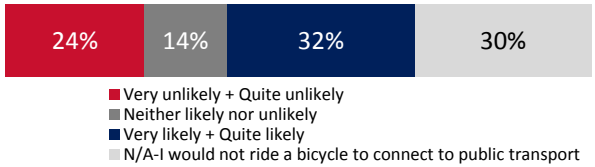
Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Customers are more likely to use a secure bicycle cage over other storage types however this differs by user group

Likelihood of using a facility if provided at a transport interchange (QB14)

Secure bicycle cages near interchange entrances – shared with other riders

More likely to use a secure bicycle cage over other storage types (32%)

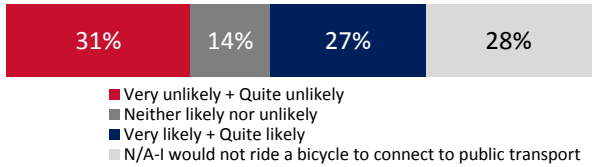


Who is more likely to use a secure bicycle cage?[1]

- More likely to be **regular** bicycle rider than not and less likely to be a potential bicycle rider
- More likely to be **male** than female (35% vs. 29%)
- More likely to be **Inner Sydney** bicycle riders (48%)
- More likely to **own a bicycle**
- More likely to live in a **low rise flat / unit / apartment**
- More **willing to pay** for a locker or a cage
- More likely to believe that speed limits should be reduced around schools or in busy areas, support promotion of physical health benefits of cycling, community conscious, and likely to be opinion leaders

Rented individual bicycle lockers available

Less likely to use a rented bicycle locker over other storage types (27%)

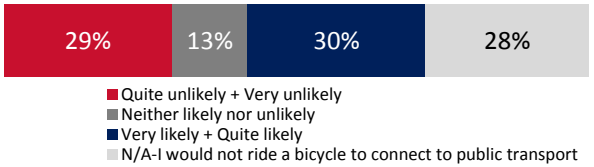


Who is more likely to use a rented bicycle locker? [1]

- More likely to be **regular** bicycle rider than not and less likely to be a potential bicycle rider or infrequent or recreational bicycle rider
- Equally likely to be **male** or **female** (28% vs. 26%)
- More likely to be between **25-39 years** of age
- More **willing to pay** for a locker or a cage
- More likely to feel safer and secure when riding a bicycle than any other modes of transport, to be an opinion leader, always first to try new things, believe that bicycle riders should have priority on streets, wouldn't mind paying more in taxes to encourage more cycling

Bicycle racks near the entrance of an interchange

Likely to use a bicycle rack over other storage types (30%)



Who is more likely to use a bicycle rack? [1]

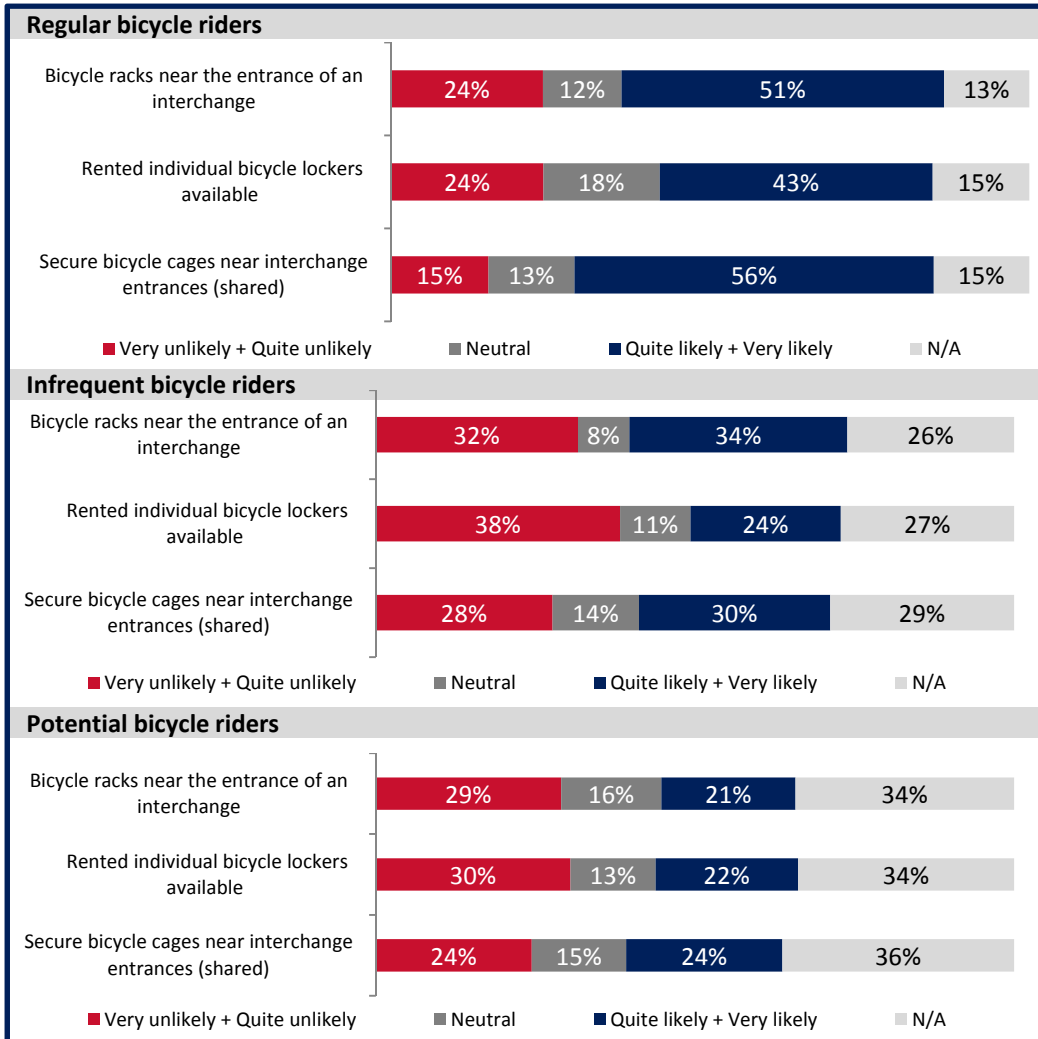
- More likely to be **regular** bicycle rider than not
- Equally likely to be **male** or **female** (32% vs. 29%)
- More likely to be **Inner Sydney** bicycle riders (45%)
- More likely to **own a bicycle**
- More likely to live in a **low rise flat / unit / apartment** and less likely to use if live in separate or detached house
- More **willing to pay** for a locker or a cage
- More likely to be an opinion leader, first to try new things, believe that bicycle riders should have priority on busy streets, wouldn't mind paying more taxes in order to get more people riding, supportive of the congestion charge, risk takers

Source: Transport for NSW, Cycling CVP Research, June 2013

Note[1]: Differences are not statistically significant

INSIGHT: Regular bicycle riders are more likely to use all facility options provided to them at transport interchanges

Likelihood of using a facility if provided at a transport interchange (QB14)



Differences among user segments:

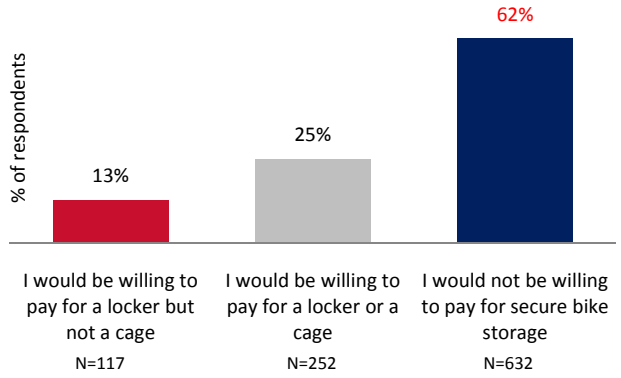
- Rented individual bicycle lockers is the least preferred storage facility across all 3 user groups however majority of respondents would be less willing to pay for secure bike storage
- **Regular bicycle riders** prefer **secure bicycle cages** near interchange entrances, followed by bicycle racks near the entrance of an interchange rather than rented individual bicycle lockers, however more regular bicycle riders would be willing to pay for a locker (but not a secure bike storage) than infrequent and potential bicycle riders
- **Infrequent bicycle riders** prefer **bicycle racks** near the entrance of interchanges more than secure cages and/or rented lockers. They are also unlikely to be willing to pay for secure bike cages
- **Potential bicycle riders** do not show a clear preference for storage type however these respondents would be less willing to pay for secure bicycle storage than regular and infrequent bicycle riders
- Key predictors of willingness to pay for storage facility type are (1) user segments and (2) region
- More and better located bicycle racks, lockers and cages are of slightly lower importance to potential bicycle riders for persuading them to ride a bicycle more often/further (2.8% share of importance) compared to infrequent and frequent bicycle riders (3.1% share of importance)

Note: A small number of respondents (n~15) show inconsistency in selecting 'N/A-I would not ride to connect to public transport' and other responses when asked about different storage facilities

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: 38% of respondents are willing to pay for bicycle storage facilities of which majority are more likely to use a secure bicycle cage and/or rented bicycle locker

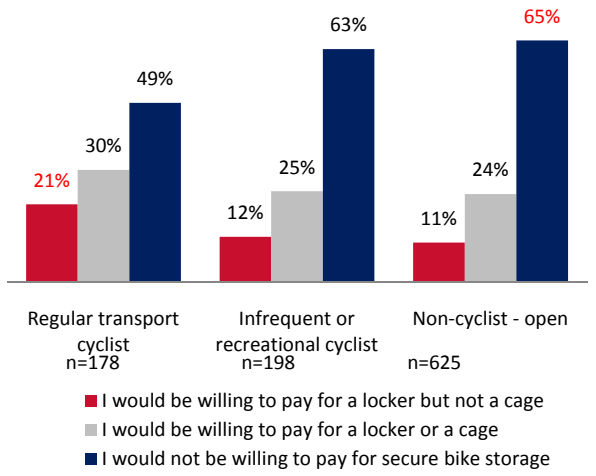
Willingness to pay for bicycle storage facilities



- Majority (62%) of respondents are not willing to pay for secure bike storage. Respondents who are willing to pay would prefer to pay for a locker or a cage (25%)
- A significantly lower number of respondents within Sydney SD are willing to pay for secure bike storage than other regions but a significantly higher number of respondents are willing to pay for a locker or cage in Inner Sydney than other Sydney SD areas

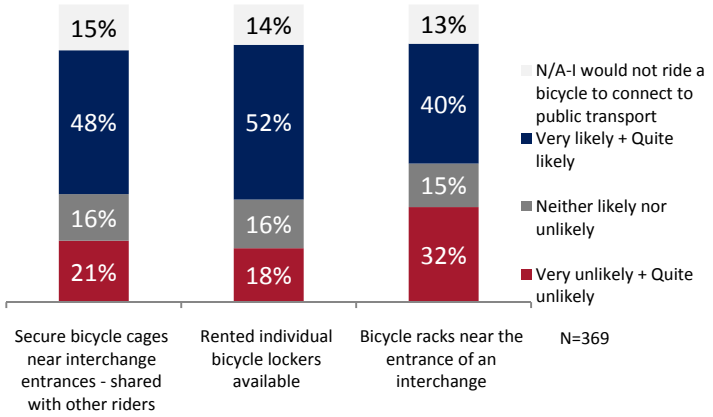
% represents statistically significant difference between respondent groups

Willingness to pay by user segments



- Significantly more regular bicycle riders (21%) are willing to pay for a locker but not a cage compared to other user groups
- A significantly higher number of potential bicycle riders (65%) would not be willing to pay for secure bicycle storage compared to other user groups

Willingness to pay by likelihood to use



- Of those respondents who are willing to pay for secure storage (i.e. either a locker or a cage), the majority are more likely to use a secure bicycle cage and/or rented bicycle locker than a rack near the entrance of an interchange

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Those who have lower confidence in their ability to ride and those who ride a bicycle less often have greater needs for safety related infrastructure

End of trip facilities (e.g. showers, change rooms, storage)

Importance of end of trip facilities in deciding whether to ride a bicycle rather than use some other mode of transport

Overall share of importance 1%

storage is consistently low (1-3%) across user groups, regions, age groups and gender

Satisfaction with end of trip facilities

Overall satisfaction score 5.7 (18% satisfied)

- Satisfaction with end of trip facilities appears to be slightly ***higher*** *(not statistically significant)* for:
  - Sydney SD respondents (21%) than respondents from other regions (10-16%)
  - Respondents aged between 25-29 and 40-49 (20-24%) than other age groups (11-18%)
  - Males (20%) than females (15%)

Importance of more end of trip facilities in persuading respondents to ride a bicycle more often/further

Overall share of importance 2%

- Share of importance of the initiative 'More facilities at the end of the trip (e.g. showers, change rooms, storage)' is reasonably consistent across demographics and user segments
- The initiative is more important to respondents within the age groups of 16-24 and 30-39 (both 3%) than other age groups (2%)

Variation in infrastructure needs based on level of confidence and frequency of cycling

Importance and satisfaction with infrastructure related attributes

- There are significant differences in importance and satisfaction with infrastructure related attributes based on **level of confidence**. Those who rate their confidence lower (1-4 out of 10):
  - Place significantly higher importance on the attribute 'adequate safe separation from cars' (13%) compared to those who are more confident in their ability to ride a bicycle (7-10 out of 10) (9%)
  - Express significantly higher dissatisfaction with 'adequate safe separation from cars' (85% dissatisfied) and 'infrastructure improvements on roads' (73% dissatisfied)
- There are significant differences in importance and satisfaction with infrastructure related attributes based on **frequency of cycling**
  - Potential bicycle riders express significantly higher dissatisfaction with all infrastructure related attributes (i.e. safe separation from cars, separate paths, quality of roads and bicycle routes and infrastructure improvements) compared to regular bicycle riders
  - Safe separation from cars is significantly more important to those who currently do not ride a bicycle (12%) compared to those who currently ride a bicycle (7%)
- There are no clear differences in satisfaction and importance of infrastructure related attributes based on distance travelled

Importance of infrastructure related initiatives

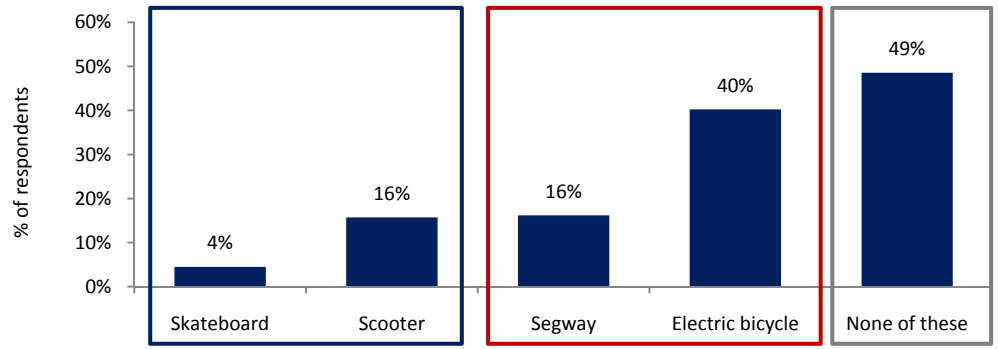
- More direct routes is significantly less important to those who have lower confidence in their bicycle riding ability (1-4 out of 10) while separated street space was identified as significantly less important to those who have higher confidence in their ability to ride a bicycle (rate 7-10 out of 10) of whom the majority are current bicycle riders

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Those who would consider riding a skateboard or scooter are younger, more likely to be confident in their ability to ride a bicycle and are risk takers

Variation in importance of attributes in deciding whether to ride a bicycle rather than use some other mode of transport, importance of initiatives for persuading customers to ride a bicycle more often/further and attitudes by consideration of various wheeled devices

Which of the following wheeled devices would you consider using? (QF1B)



- 34% are under 30 years of age (significantly higher compared to other groups) and 47% are aged between 30 and 59
- 64% live in Sydney SD
- Significantly higher proportion (87%) are confident (rated 7-10 out of 10) in their ability to ride a bicycle
- Place slightly higher importance on safe behaviour of drivers when bicycle riders are on the road or street and on the initiative increase knowledge of road rules by bicycle riders
- Slightly more likely to agree that it is fine to take a few risks on roads and paths if it speeds up your journey

- A higher proportion of those who would consider riding a segway or electrical bicycle are male (58%) between the ages of 25 and 59 (69%)
- Place slightly higher importance on the attribute adequate safe separation from cars and on the initiative separated street space
- Are generally more conscious of the environment and are supportive of the introduction of congestion charging or taxation to improve bicycle riding

- Majority are over 25 years of age (91%) and are female (56%) and are more likely to be potential bicycle riders
- Place slightly higher importance on/ have higher dissatisfaction with the attributes feeling comfortable while riding, being able to cross / turn in traffic safely and feeling safe and confident riding in traffic
- Place significantly higher importance on the initiative 'increase driver awareness of road rules, bicycle safety and sharing the road' and slightly higher importance on the initiative 'enable pedestrians and cyclists to share dedicated off road paths more responsibly'
- Generally less supportive of congestion charging or paying higher taxes to support improvements to bicycle riding infrastructure

n=1,001

Further analysis

- Fewer respondents would consider riding a skateboard (4%) compared to a scooter (16%), segway (16%) or electrical bicycle (40%)
- Those who would consider riding a skateboard are also more likely to consider riding all other wheeled devices
- Those who would consider riding a segway are also more likely to consider riding an electrical bicycle (74%) but no other wheeled devices
- Those who would not consider riding any of the devices place higher importance on and are more dissatisfied with attributes relating to feelings of safety and confidence while riding
- Those who would not consider riding any of the devices show lower levels of comfort on all road types and significantly lower levels of comfort in riding a bicycle on visually separated off road paths, shared bicycle route in a bus lane and highway shoulder compared to those who would consider any of the wheeled devices

Source: Transport for NSW, Cycling CVP Research, June 2013

6. Moments of Truth

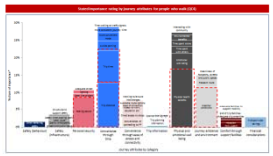
The combination of the satisfaction and importance findings provides insight into how TfNSW can improve the bicycle riding experience in NSW

What is a Moment of Truth (MOT)?

Identify attributes which have the greatest impact on overall satisfaction with the bicycle riding journey experience

An attribute that is highly correlated with overall satisfaction has greater impact on the bicycle riding journey experience

Identify journey experience attributes which are of highest importance to people who ride a bicycle

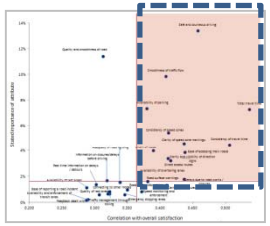


Attributes which have high importance to customers in the decision to ride a bicycle rather than use some other mode of transport may have greater impact on the bicycle riding experience

A **Moment of Truth** ('MOT'), in this context, is a bicycle riding journey attribute that has significant impact on the bicycle riding journey experience. It is of high importance to customers who ride a bicycle and is a strong determinant of their overall satisfaction

To calculate a Moment of Truth....

Understand the relationship between importance of attributes in the decision to ride a bicycle rather than use some other mode of transport and impact on overall satisfaction



Plot the correlation with overall satisfaction of each attribute against its corresponding share of importance

Identify attributes which score high in both importance and impact on overall satisfaction. These are the Moments of Truth (MOT)

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: All attributes aligned to the category of Safety (infrastructure) are Moments of Truth for customers

Attribute categories as defined by the NSW population

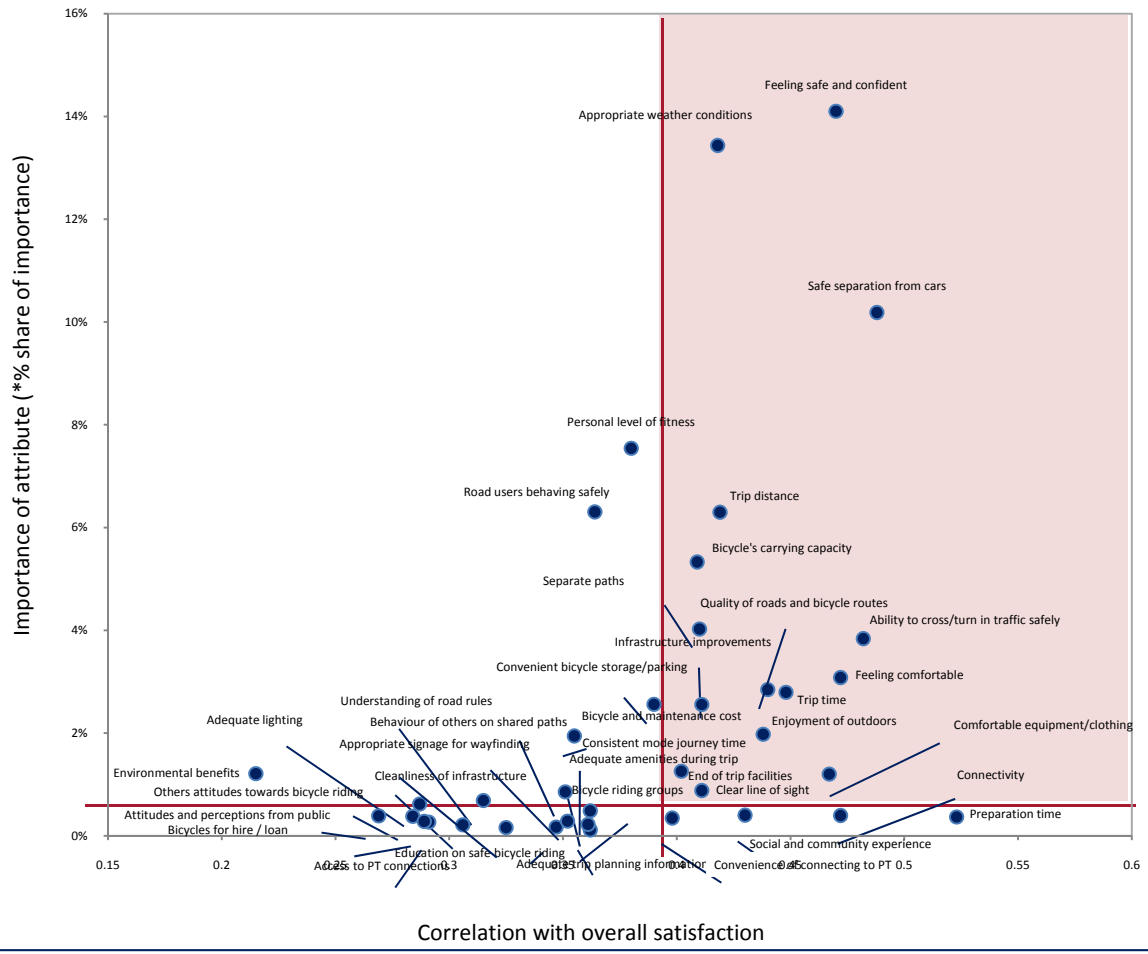
Trip Information	Safety (attitudes and behaviours)		Safety (infrastructure)	Personal security	Convenience due to time	Convenience due to ease of access and connectivity	Physical , social and emotional wellbeing	Journey ambience and environment	Comfort through equipment and support facilities	Financial considerations
Adequate trip planning information	Feeling safe and confident ♥	Road users behaving safely	Safe separation from cars ♥	Convenient bicycle storage/ parking	Trip distance ♥	Connectivity	Bicycle's carrying capacity ♥	Appropriate weather conditions ♥	Feeling comfortable ♥	Bicycle and maintenance cost
Appropriate signage for wayfinding	Ability to cross/turn in traffic safely ♥	Behaviour of others on shared paths	Separate paths ♥	Clear line of sight	Trip time ♥	Convenience of connecting to PT	Personal level of fitness	Enjoyment of outdoors ♥	End of trip facilities ♥	
	Understanding of road rules	Attitudes and perceptions from public	Quality of roads and bicycle routes ♥	Adequate lighting	Consistent mode journey time	Access to PT connections	Environmental benefits	Cleanliness of infrastructure	Comfortable equipment/ clothing ♥	
	Others attitudes towards bicycle riding	Education on safe bicycle riding	Infrastructure improvements ♥		Preparation time	Bicycles for hire / loan	Social and community experience		Adequate amenities during trip	
							Bicycle riding groups			

Legend: ♥ Moment of Truth (high importance and correlation to satisfaction)

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Moments of Truth can be used to prioritise attributes of greatest value and impact on satisfaction with bicycle riding

Moments of Truth (MOTs)



- MOTs for all respondents span the areas of:
  - Safety (attitudes and behaviours)
  - Journey ambience and environment
  - Safety (infrastructure)
  - Convenience due to time
  - Physical, social and emotional wellbeing
  - Comfort through equipment and support facilities

- Based on this analysis, the following attributes are identified as MOTs:
  - Feeling safe and confident riding in traffic
  - Appropriate weather conditions for bicycle riding
  - Adequate safe separation from cars
  - Distance of the trip
  - Bicycle's capacity for carrying
  - Separate paths for bicycle riders and walkers
  - Being able to cross / turn in traffic safely
  - Feeling comfortable while riding
  - Time required to ride for the trip
  - Quality and maintenance of roads and bicycle routes
  - Infrastructure improvements on roads
  - Enjoyment of outdoors
  - Facilities available at the end of the trip (e.g. showers, change rooms, storage)
  - Having comfortable equipment/clothing (e.g. helmet, breathable clothing)

Note: n = 1,001

* % share of importance represents weighted percentage of total share of importance based on top 3 attributes selected as most important in deciding whether to ride a bicycle rather than use some other mode of transport

Source: Transport for NSW, Cycling CVP Research, June 2013

Note: Note: Median importance of 1.33% and median correlation to satisfaction of 0.343 used as determinants Outlines the Moments of Truth

INSIGHT: Attributes which are Moments of Truth also appear to be attributes of higher satisfaction

	Avg. Satisfaction	% Satisfied	% Dissatisfied	Importance	Correlation to satisfaction	Moment of Truth *	Priority
Feeling safe and confident	4.67	26%	49%	14%	0.470	Moment of Truth *	●
Appropriate weather conditions	6.01	39%	17%	13%	0.418	Moment of Truth *	●
Safe separation from cars	4.27	21%	55%	10%	0.488	Moment of Truth *	●
Trip distance	6.75	56%	16%	6%	0.419	Moment of Truth *	●
Bicycle's carrying capacity	4.67	21%	52%	5%	0.409	Moment of Truth *	●
Separate paths	4.69	24%	47%	4%	0.410	Moment of Truth *	●
Ability to cross/turn in traffic safely	4.78	26%	46%	4%	0.482	Moment of Truth *	●
Feeling comfortable	6.21	45%	19%	3%	0.472	Moment of Truth *	●
Trip time	6.43	49%	17%	3%	0.440	Moment of Truth *	●
Quality of roads and bicycle routes	4.94	25%	43%	3%	0.448	Moment of Truth *	●
Infrastructure improvements	4.43	19%	54%	3%	0.411	Moment of Truth *	●
Enjoyment of outdoors	7.19	66%	10%	2%	0.438	Moment of Truth *	●
End of trip facilities	4.59	21%	51%	1%	0.402	Moment of Truth *	●
Comfortable equipment/clothing	6.40	50%	18%	1%	0.467	Moment of Truth *	●
Personal level of fitness	5.93	47%	29%	8%	0.380	More important	●
Road users behaving safely	4.44	21%	53%	6%	0.364	More important	●
Convenient bicycle storage/parking at	4.56	23%	48%	3%	0.390	More important	●
Bicycle and maintenance cost	5.83	39%	28%	2%	0.355	More important	●
Environmental benefits	7.46	68%	7%	1%	0.215	More important	●
Clear line of sight	5.22	28%	37%	1%	0.411	More important	●
Social and community experience	6.04	40%	19%	0%	0.430	More important	●
Connectivity	4.83	22%	44%	0%	0.472	More important	●
Preparation time	6.32	46%	17%	0%	0.523	More important	●
Convenience of connecting to PT	5.30	29%	33%	0%	0.398	More important	●
Behaviour of others on shared paths	5.44	34%	35%	1%	0.351	Less important	
Understanding of road rules	6.30	46%	22%	1%	0.315	Less important	
Adequate lighting	5.05	24%	38%	1%	0.287	Less important	
Consistent mode journey time	6.49	49%	14%	0%	0.362	Less important	
Attitudes and perceptions from public	5.61	31%	27%	0%	0.269	Less important	
Others attitudes towards bicycle riding	5.88	39%	27%	0%	0.284	Less important	
Adequate amenities during trip	4.84	23%	43%	0%	0.352	Less important	
Access to PT connections	5.31	30%	32%	0%	0.289	Less important	
Bicycles for hire / loan	4.38	17%	48%	0%	0.291	Less important	
Adequate trip planning information	6.33	46%	18%	0%	0.361	Less important	
Cleanliness of infrastructure	5.93	41%	24%	0%	0.306	Less important	
Appropriate signage for wayfinding	6.39	48%	18%	0%	0.347	Less important	
Education on safe bicycle riding	5.48	30%	27%	0%	0.325	Less important	
Bicycle riding groups	5.00	22%	37%	0%	0.362	Less important	

Moments of Truth

Provide insights into stated and revealed importance of attributes

Note: % satisfied includes responses 7-10 and % dissatisfied includes responses 1-4 on a 10 point scale

Green text denotes top 10 satisfied
Red text denotes top 10 dissatisfied

*MOT calculated based on correlation to satisfaction and importance scores. The median scores on each axis have been used as the determinants for the analysis: Median importance of 1.04% Median correlation to satisfaction of 0.394 used as determinants

Note: n = 1,001

● Moments of Truth
● Important (above median for either importance or correlation with overall satisfaction)

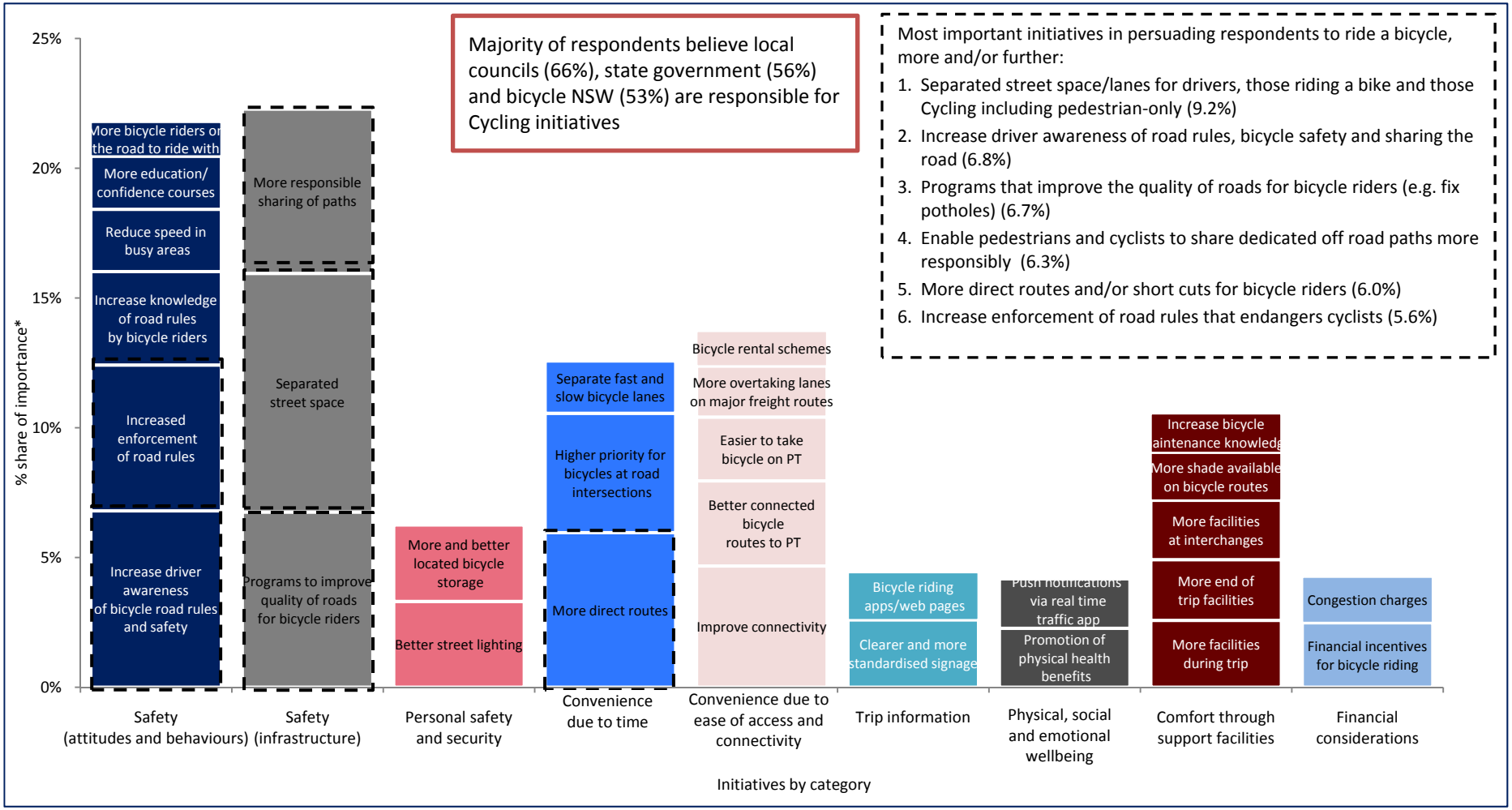
Source: Transport for NSW, Cycling CVP Research, June 2013

7. Initiatives

Provides insight into initiatives that could improve the bicycle riding experience in NSW for customers. We ask customers to trade-off initiatives to identify those that are most / least important in persuading them to ride a bicycle, more and/or further

INSIGHT: Separated street space/lanes for drivers, bicycle riders and customers who walk are most important for increasing bicycle riding in NSW

Initiatives for persuading current and potential bicycle riders to ride more, more often and/or further



Note: n = 1,001

Note*:% share of importance represents weighted percentage of total share of importance based on trade-offs of initiatives that are most/least important for persuading respondents to ride a bicycle more often/further

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Initiatives related to infrastructure and safety were consistently identified by potential, infrequent and frequent bicycle riders as being of highest importance for persuading them to ride a bicycle more often

Top five initiatives of highest importance for persuading respondents to ride a bicycle more often/further

n=625 Potential bicycle riders		n=198 Infrequent bicycle riders		n=178 Frequent bicycle riders	
1. Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only	9.8%	1. Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only	9.7%	1. Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only	7.3%
2. Increase driver awareness of road rules, bicycle safety and sharing the road	7.5%	2. Enable pedestrians and cyclists to share dedicated off road paths more responsibly	7.1%	2. Programs that improve the quality of roads for bicycle riders (e.g. fix potholes)	6.8%
3.Programs that improve the quality of roads for bicycle riders (e.g. fix potholes)	6.6%	3. Programs that improve the quality of roads for bicycle riders (e.g. fix potholes)	6.8%	3. Increase driver awareness of road rules, bicycle safety and sharing the road	6.8%
4. Enable pedestrians and cyclists to share dedicated off road paths more responsibly	6.2%	4. More direct routes and/or short cuts for bicycle riders	6.4%	4. Enable pedestrians and cyclists to share dedicated off road paths more responsibly (5.6%)	5.6%
5. Increase enforcement of road rules that endangers cyclists	6.1%	5. Increase driver awareness of road rules, bicycle safety and sharing the road	5.8%	5. Increase enforcement of road rules that endangers cyclists	5.4%

Demographic analysis

Infrastructure related initiatives:

- Increase driver awareness of road rules, bicycle safety and sharing the road is more important to females (7.9%) than males (5.9%)
- Increase enforcement of road rules that endangers cyclists is more important to those who live in Regional NSW (7.2%)

Non infrastructure related initiatives:

- Separated street space/lanes is of greater importance to those who live in the Sydney region (10.0%), in particular those who live in Inner Sydney (12.6%)
- Programs that improve the quality of roads for bicycle riders (e.g. fix potholes) is of higher importance to those aged 60+ (9.0%) and those who live in Regional NSW (10.0%)
- More direct routes and/or short cuts for bicycle riders is of higher importance to males (6.6%) and those under 25 years of age (7.1%)

Note:% share of importance represents weighted percentage of total share of importance based on trade-offs of initiatives that are most/least important for persuading respondents to ride a bicycle more often/further

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Customers who are more safety conscious are less satisfied with their overall bicycle riding experience and in particular, express greatest dissatisfaction with attributes relating to comfort, journey ambience and their physical ability

Safety conscious (67% of respondents) "I often feel anxious about my personal safety and security when riding a bicycle and it really concerns me that bicycle riders share the street space with so many cars, buses and trucks"	**Support for prioritising bicycle riding** (33% of respondents) "I wouldn't mind less road space for cars or the introduction of a congestion charge if it meant more street space for bicycle riders or reduced the amount of cars that interact with bicycle riders on busy streets"
How satisfied am I overall? How likely is it that I would recommend riding a bicycle instead of using another mode of transport?	
• **Average satisfaction** with cycling overall: **5.1** • **NPS**:**-60.7** • **Higher dissatisfaction with** attributes relating to comfort through support facilities, journey ambience and environment and physical ability	• **Average satisfaction** with cycling overall: **6.2** • **NPS**:**-32.1** • **Higher dissatisfaction with** attributes relating safety (infrastructure) and safety (behavior and attitudes)
Which initiatives are most important for persuading me to ride a bicycle more often/further?	
• Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only • Increase driver awareness of road rules, bicycle safety and sharing the road • Programs that improve the quality of roads for bicycle riders (e.g. fix potholes)	• Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only • Increase driver awareness of road rules, bicycle safety and sharing the road • Programs that improve the quality of roads for bicycle riders (e.g. fix potholes)
Which initiatives are significantly more important for persuading me to ride a bicycle more often/further compared to other attitudinal groups?	
• Increase **knowledge of road rules** by bicycle riders • Reduce **speed limit** around schools, busy city/town centres, hospitals etc. • Increase **enforcement of road rules** that endangers cyclists	• **Congestion charges for car** drivers coming into busy cities/ towns in peak hours • **Easier access to bicycle trip planning** in an online trip planner integrated with other transport modes • Having **more bicycle riders on the road to ride with**

Source: Transport for NSW, Cycling CVP Research, June 2013

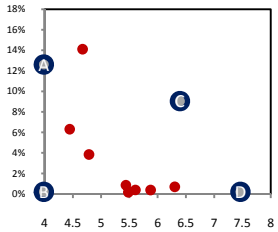
So what does this all mean?

The relationship between attributes and initiatives, importance, satisfaction and choice trade offs...

CONCLUSION: Understanding importance and satisfaction of bicycle riding journey experiences and initiatives that would likely increase bicycle riding is vital

Current bicycle riding journey experience

What do customers value about their current bicycle riding experience?



Understanding satisfaction and importance together provides greater insight into aspects of the bicycle riding experience to improve, build on and maintain, driven by the customer research

Satisfaction with bicycle riding journey experience attributes

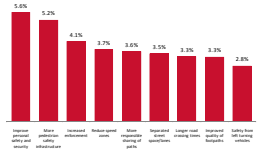
Moments of Truth

Importance of bicycle riding journey experience attributes in deciding whether to ride a bicycle rather than use some other mode of transport

Initiatives that are perceived to increase bicycle riding

What is most important in persuading customers to ride a bicycle more/further?

Initiatives important for persuading customers to ride a bicycle more often and/or further

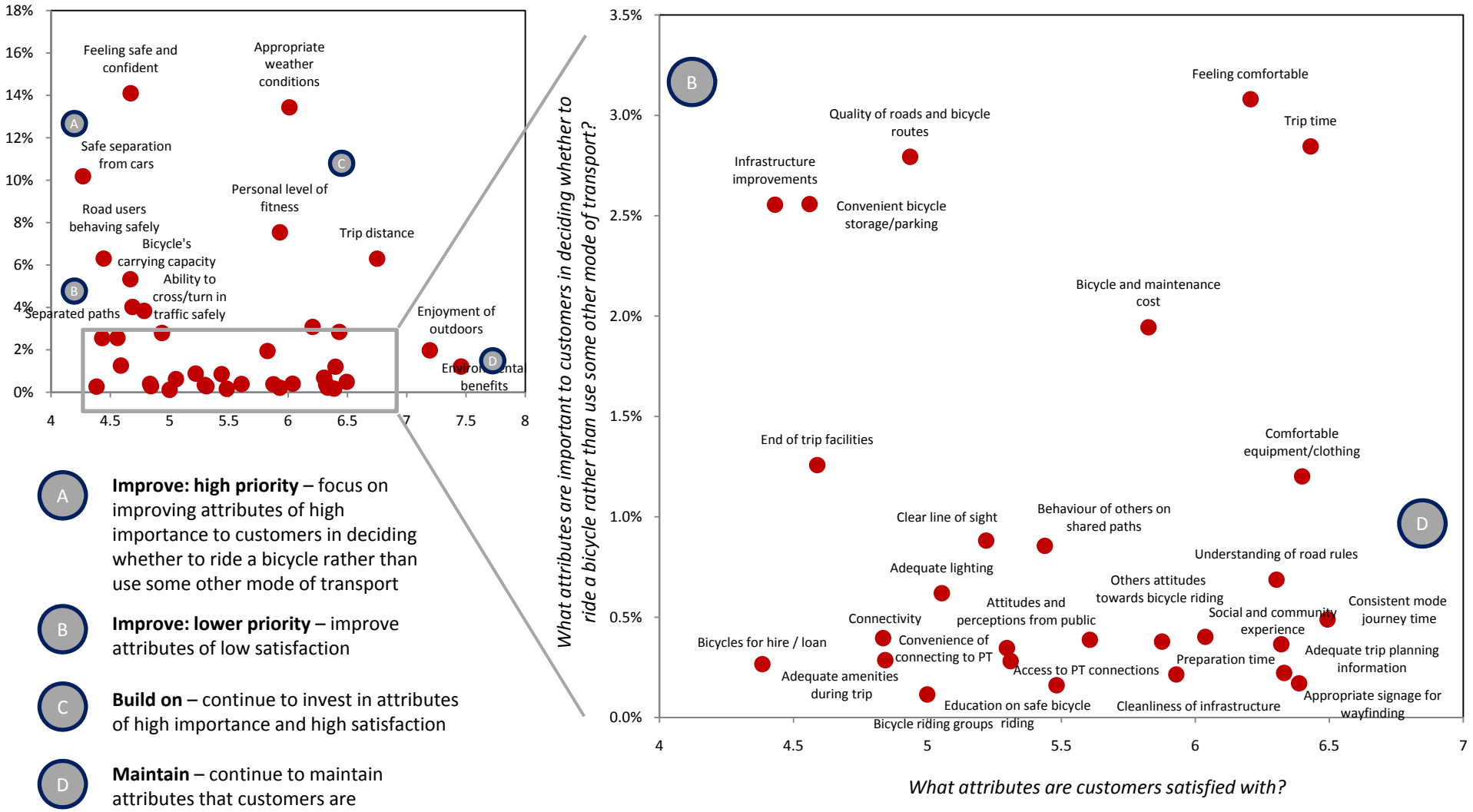


Understanding what is most / least important in persuading customers to ride a bicycle, more often and/or further based on choices they make when asked to trade off initiatives helps to prioritise future investment to increase mode share

So what does it all mean?

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: TfNSW should focus on improving safety related aspects of the cycling experience



A **Improve: high priority** – focus on improving attributes of high importance to customers in deciding whether to ride a bicycle rather than use some other mode of transport

B **Improve: lower priority** – improve attributes of low satisfaction

C **Build on** – continue to invest in attributes of high importance and high satisfaction

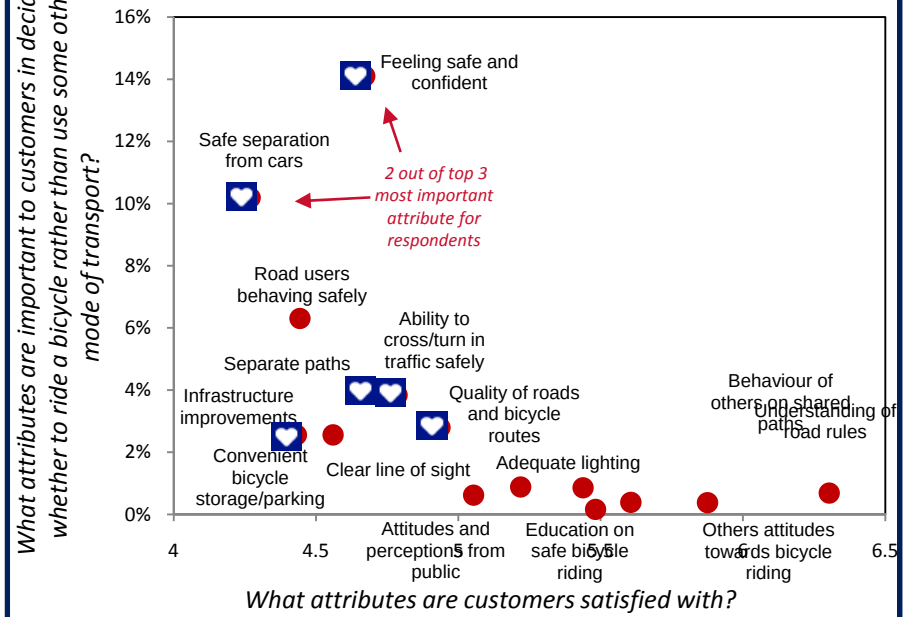
D **Maintain** – continue to maintain attributes that customers are satisfied with

Source: Transport for NSW, Cycling CVP Research, June 2013

So what does it all mean?

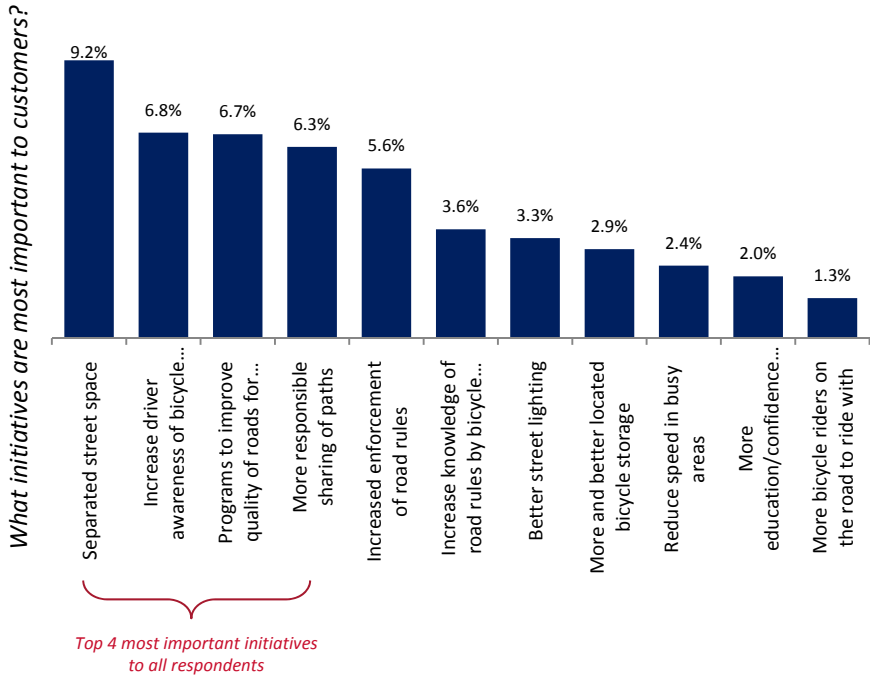
CONCLUSION: Safety, safe behaviour and security are important aspects of the bicycle riding journey experience and are of primary importance for persuading customers to ride a bicycle more often and/or further

What do customers value about their current bicycle riding journey experience?



- Feeling safe and confident and safe separation from cars are 2 out of the top 3 most important attributes for bicycle riding, however respondents are currently dissatisfied with these two attributes with average satisfaction scores below overall average of 5.6
- To improve current satisfaction with bicycle riding in NSW, TfNSW should focus on improving these aspects as a high priority, while focusing on longer term infrastructure investment planning improvements such as separated paths, ability to cross/turn in traffic safely and quality of road and bicycle routes

What is most important in persuading customers to ride a bicycle more and/or further?



- Top 4 most important initiatives for all respondents are related to safety and security aspects of bicycle riding
- Providing separated street space will most likely persuade more potential and infrequent bicycle riders in NSW to ride a bicycle more often/further as it increases respondents' perceptions of safety while bicycle riding
- These safety and security related initiatives are equally important to frequent bicycle riders

Note: Allocation of attributes to the safety category identified based on unprompted allocation by participants in the qualitative research

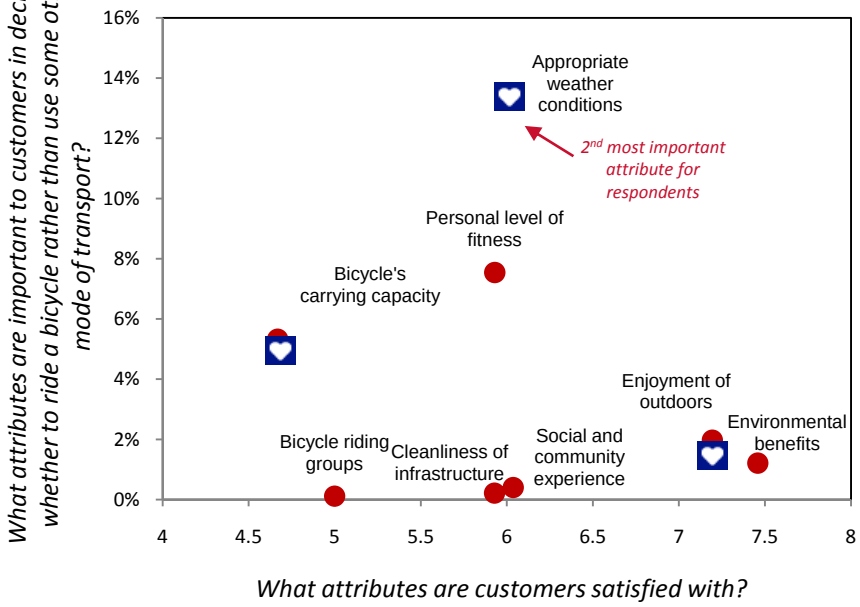
Moment of Truth

Source: Transport for NSW, Cycling CVP Research, June 2013

So what does it all mean?

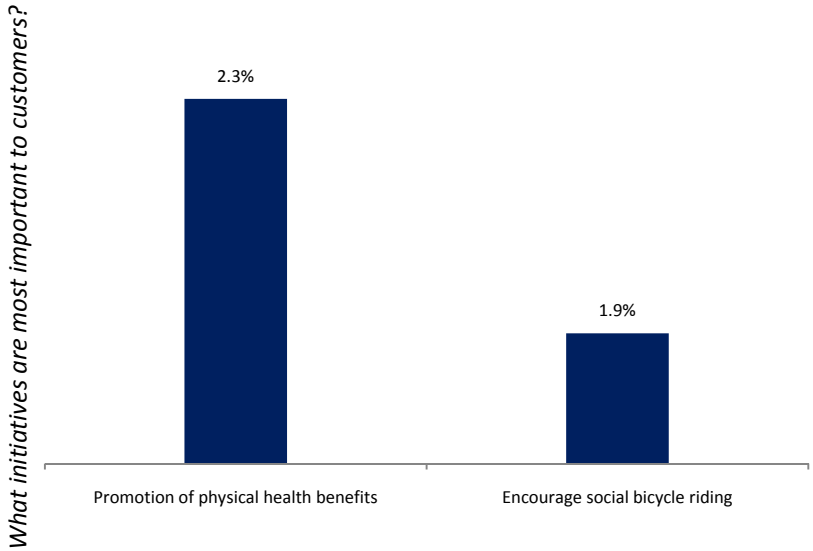
CONCLUSION: While physical health and enjoyment of outdoors are important in the customers decision to ride a bicycle, promotion of these aspects is less likely than other initiatives to persuade customers to ride a bicycle more often/further

What do customers value about their current bicycle riding journey experience?



- Appropriate weather conditions and personal level of fitness are of high importance to respondents however, of limited control by TfNSW
- Majority of respondents are satisfied with enjoyment of outdoors from bicycle riding but are of lower importance and therefore lower priority for TfNSW

What is most important in persuading customers to ride a bicycle more and/or further?



- The benefits of physical health and enjoyment of outdoors from bicycle riding experiences are recognised by majority of respondents. However, promoting bicycle riding through these benefits are not likely to persuade the population to ride a bicycle more often and/or further as these initiatives are not as important as those related to safety and security

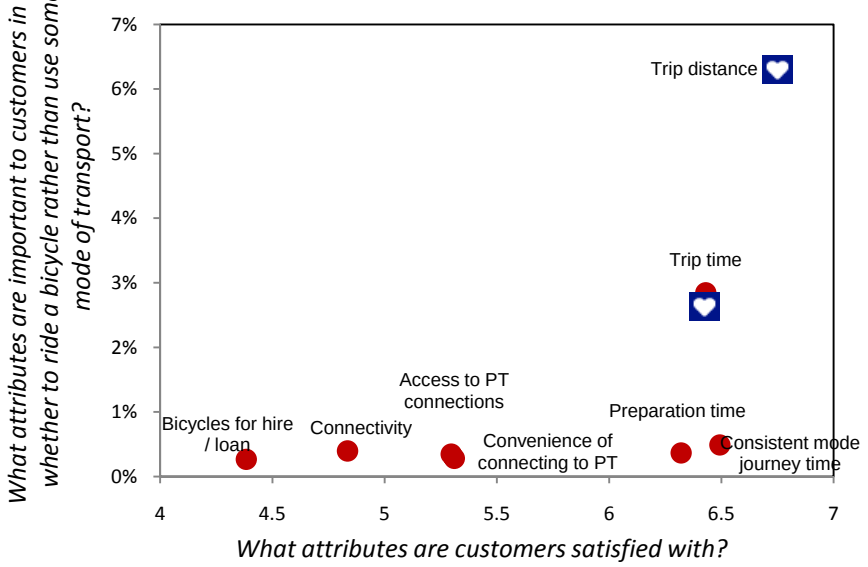
Note: Allocation of attributes to the ambience and wellbeing category identified based on unprompted allocation by participants in the qualitative research

Moment of Truth

Source: Transport for NSW, Cycling CVP Research, June 2013

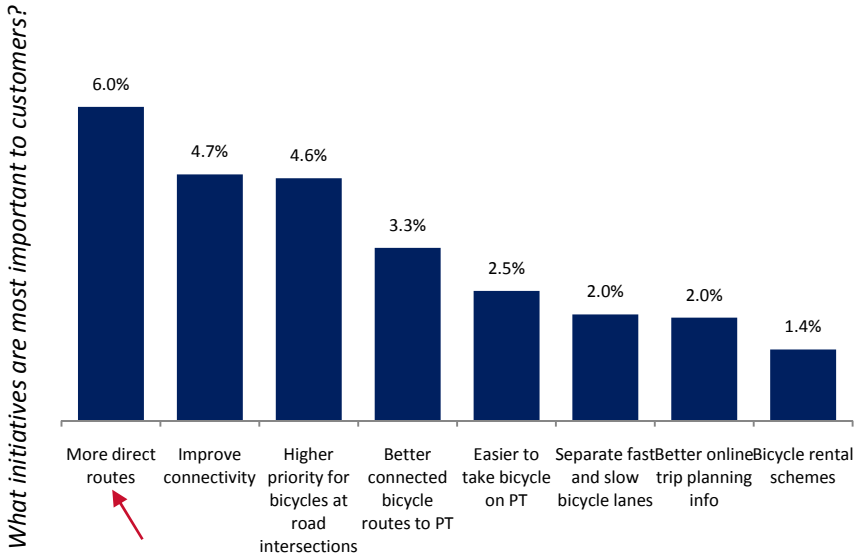
CONCLUSION: Trip time and distance are of high importance when deciding whether to ride a bicycle and initiatives to provide more direct routes and improve connectivity are important for persuading customers to ride a bicycle more/further

What do customers value about their current bicycle riding journey experience?



- Both satisfaction and importance for trip distance and trip time are high in this attribute category
- Respondents are least satisfied with bicycle hire/loan facilities and connectivity however, the low importance of these two journey experience attributes indicates that respondents across different usage groups view them as lower priority

What is most important in persuading customers to ride a bicycle more and/or further?



Ranking 5th most important initiative in persuading respondents to ride a bicycle, more often and/or further

- Consistent with high importance of trip distance, customers believe having more direct routes will persuade them to ride a bicycle more often/further
- The initiatives of more direct routes which potentially reduce trip distance and time are also important for persuading more customers to ride a bicycle more often/further
- Respondents perceive improving connectivity and prioritising bicycle riders at road intersections as being more likely to persuade them to ride a bicycle, more often and/or further

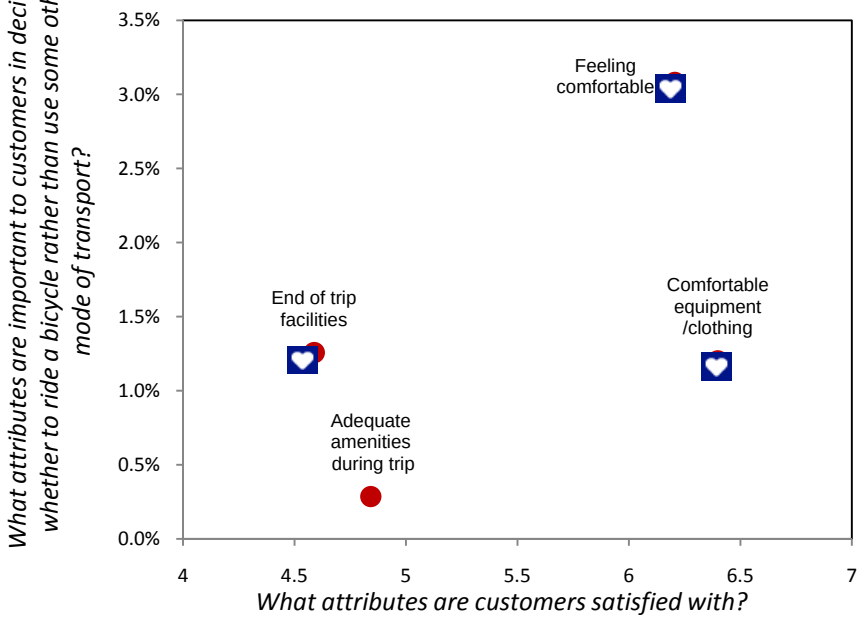
Note: Allocation attributes to the convenience category identified based on unprompted allocation by participants in the qualitative research

Moment of Truth

Source: Transport for NSW, Cycling CVP Research, June 2013

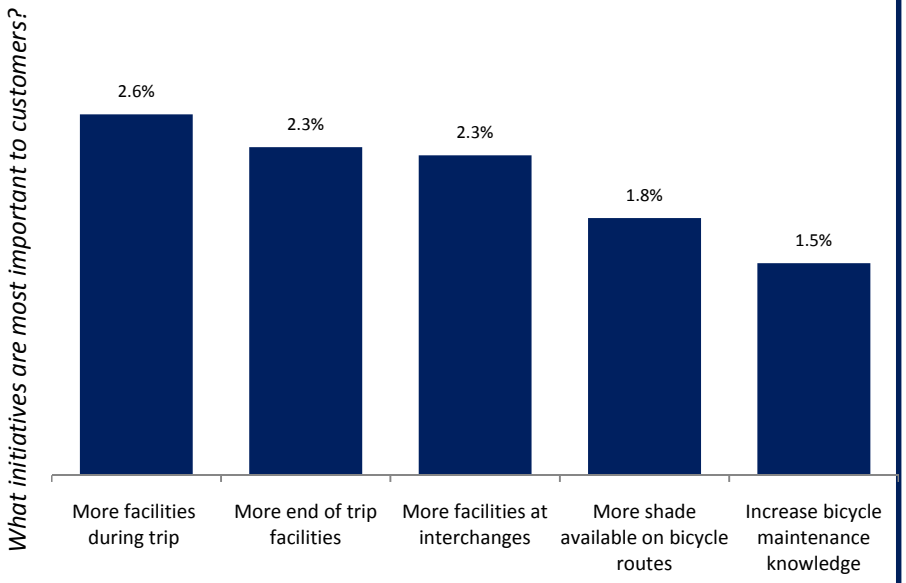
CONCLUSION: While customers are dissatisfied with the availability and adequacy of facilities during and at the end of their trip, these aspects are of lower importance in the decision to ride a bicycle and for persuading customers to ride a bicycle more

What do customers value about their current bicycle riding journey experience?



- Three out of four journey experience attributes in this category are identified as Moment of Truth, which indicates that comfort is important for respondents when choosing bicycle riding as a mode of transport
- Results indicate that improvement of end of trip facilities is of higher priority to respondents than amenities during trip. This is because it has higher importance but lower satisfaction compared to amenities during trip

What is most important in persuading customers to ride a bicycle more and/or further?



- Although the attributes of comfort are important to respondents' bicycle riding experience, initiatives relating to this category are less likely to change respondents' future bicycle riding behaviour when traded off against other initiatives
- The initiatives of more facilities during and at end of trip have similar influence on changing future bicycle riding behaviour, despite that end of trip facilities are suggested to be of higher importance and satisfaction for current riding experiences

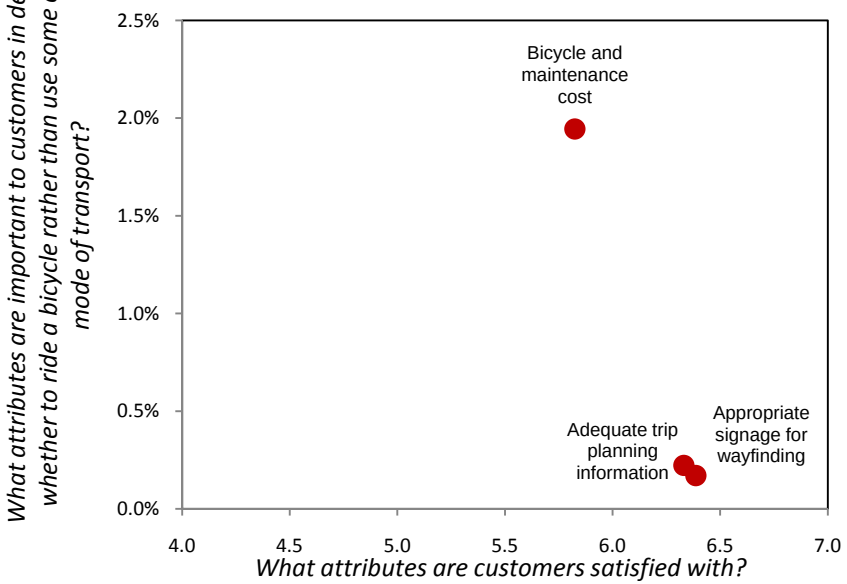
Note: Allocation attributes to the comfort category identified based on unprompted allocation by participants in the qualitative research

Moment of Truth

Source: Transport for NSW, Cycling CVP Research, June 2013

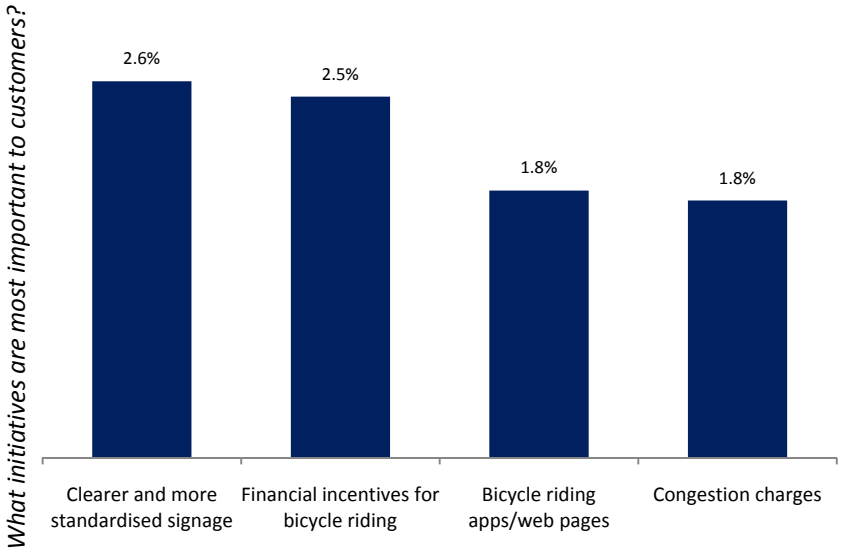
CONCLUSION: Information for trip planning and signage are of lower importance in the decision to ride a bicycle and clearer more standardised signage is less important than other initiatives for persuading customers to ride a bicycle more/further

What do customers value about their current bicycle riding journey experience?



- All the attributes in this category have satisfaction scores above overall average. The attribute of trip planning information and signage for wayfinding are valued less by respondents when compared to other journey experience attributes
- The importance of bicycle and maintenance costs for potential bicycle riders (3.0%) is significantly higher while satisfaction is lower (4.9) when compared to infrequent and frequent bicycle riders

What is most important in persuading customers to ride a bicycle more and/or further?



- Although appropriate signage for wayfinding is of high satisfaction but lower importance to respondents, having cleaner and more standardised signage is important for persuading more customers to ride a bicycle more often/further
- While potential bicycle riders place higher importance on bicycle and maintenance costs, financial incentives for bicycle riding are not more important for persuading potential bicycle riders to ride a bicycle more often/further compared to infrequent and regular bicycle riders

Note: Allocation attributes to the planning category identified based on unprompted allocation by participants in the qualitative research

Source: Transport for NSW, Cycling CVP Research, June 2013

How do needs differ across the NSW population?

8. Needs and segmentation

Identifying needs and what will persuade customers to ride a bicycle more often/further provides insight into understanding unique groups of customers

Overview of approach to identifying needs sets based on customer research

1 Trade-off of initiatives using MaxDiff scaling (form of conjoint analysis)

Purpose: To identify areas that are most / least important in persuading individuals to ride a bicycle more and/or further

Overview of approach:

- Respondents were shown 15 tasks, each with 6 sets of initiatives
- They were asked to identify which is most / least important for each task
- Analysis was then undertaken to identify prioritised list of initiatives

Example choice task shown to respondents:

Most important		Least important
	More facilities at the end of the trip	
	Projects that promote the health benefits of bicycle riding	
O	More and better located bicycle racks, lockers and cages	
	Better street lighting on popular routes	
	Increase knowledge of bicycle maintenance	O
	Comprehensive website pages and apps featuring information about bicycle riding	

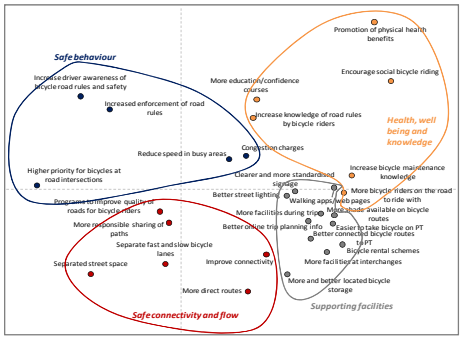
2 Latent class analysis using MaxDiff scaling data

Purpose: To identify and display similarities between initiatives (i.e. which initiatives are similarly found important by similar respondents)

Overview of approach:

- Undertake latent class analysis to identify groups of customer with similar underlying needs based on initiatives
- Display the common needs sets using correspondence analysis to produce a map of the initiatives with spatial distance between initiatives representing similarity

Example correspondence map displaying needs sets:



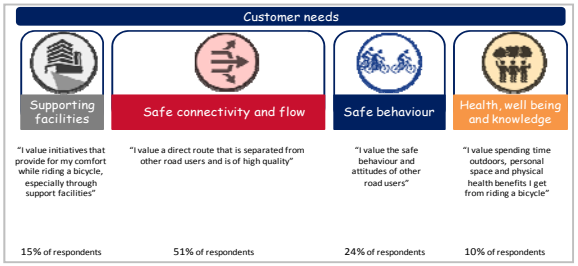
3 Allocate respondents to needs set

Purpose: Uses individual respondent estimates for importance weights and is derived from the latent class analysis

Overview of approach:

- Allocate each respondent to one needs set based on the sum of importances of the initiatives within that needs set being greater than for any of the other needs set

Example needs sets identify showing % of respondents allocated to each needs set:



Source: Transport for NSW, Cycling CVP Research, June 2013

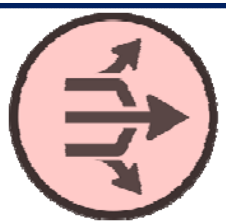
CONCLUSION: There are four needs sets that should be met in order for customers to ride a bicycle more often and/or further

Customer needs

Supporting facilities

"I value initiatives that provide for my comfort while riding a bicycle, especially through support facilities"

15% of respondents



Safe connectivity and flow

"I value a direct route that is separated from other road users and is of high quality"

51% of respondents

Safe behaviour

"I value the safe behaviour and attitudes of other road users"

24% of respondents

Health, well being and knowledge

"I value spending time outdoors, personal space and physical health benefits I get from riding a bicycle"

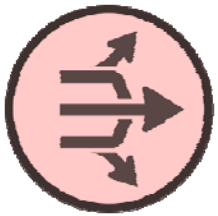
10% of respondents

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: Different initiatives that deliver across the four sets of needs are important for persuading more customers to ride a bicycle more/further

15% *of respondents*

Supporting facilities



51% *of respondents*

Safe connectivity and flow

24% *of respondents*

Safe behaviour

10% *of respondents*

Health, well being and knowledge

Initiatives that are most important for persuading more customers to ride a bicycle more often/further

- Better street lighting
- More facilities during trip
- Better connected bicycle routes to PT
- More facilities at interchanges

- Separated street space
- More direct routes
- Programs to improve quality of roads for bicycle riders
- More responsible sharing of paths

- Increase driver awareness of bicycle road rules and safety
- Higher priority for bicycles at road intersections
- Increased enforcement of road rules
- Reduce speed limits in busy areas

- Promotion of physical health benefits
- Encourage social bicycle riding
- Increase knowledge of road rules by bicycle riders
- More education/ confidence courses

Best predictors of customer needs

- Age (more likely to be 16-24)
- Frequency of riding for getting to public transport (more likely once a month or more)

- Education (more likely university)
- Bicycle ownership status (more likely do not have access)

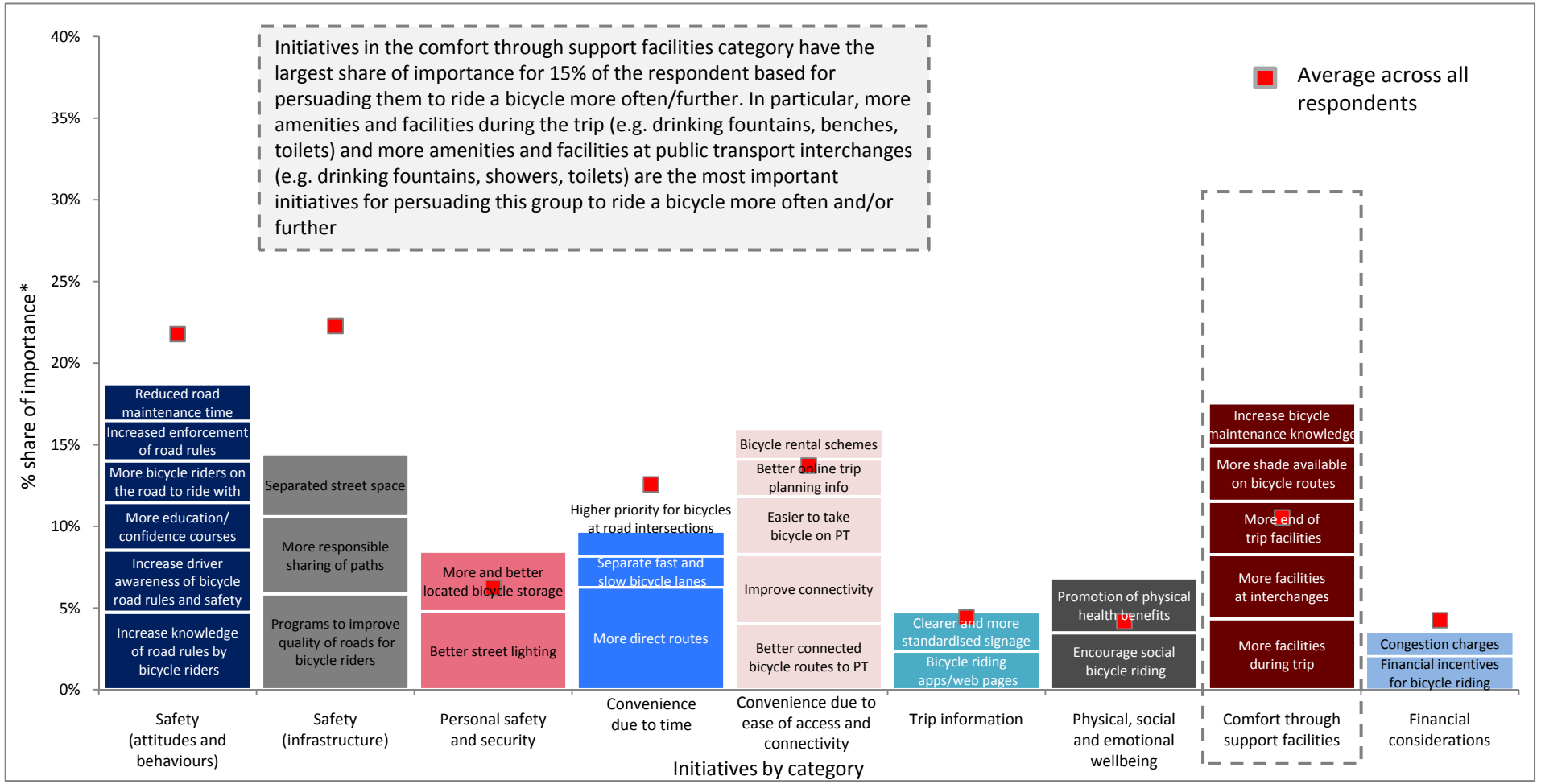
- Car ownership (more likely to be car drivers seeking comfort)

- Education (more likely TAFE/Tertiary college qualification)
- Employment status (more likely retired, less likely working full or part time)
- Age (more likely 50+)

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: For 15% of customers, improvements to **supporting facilities** in particular, more amenities and facilities during the trip and at public transport interchanges are most important for persuading them to ride a bicycle more/further

Supporting facilities needs set



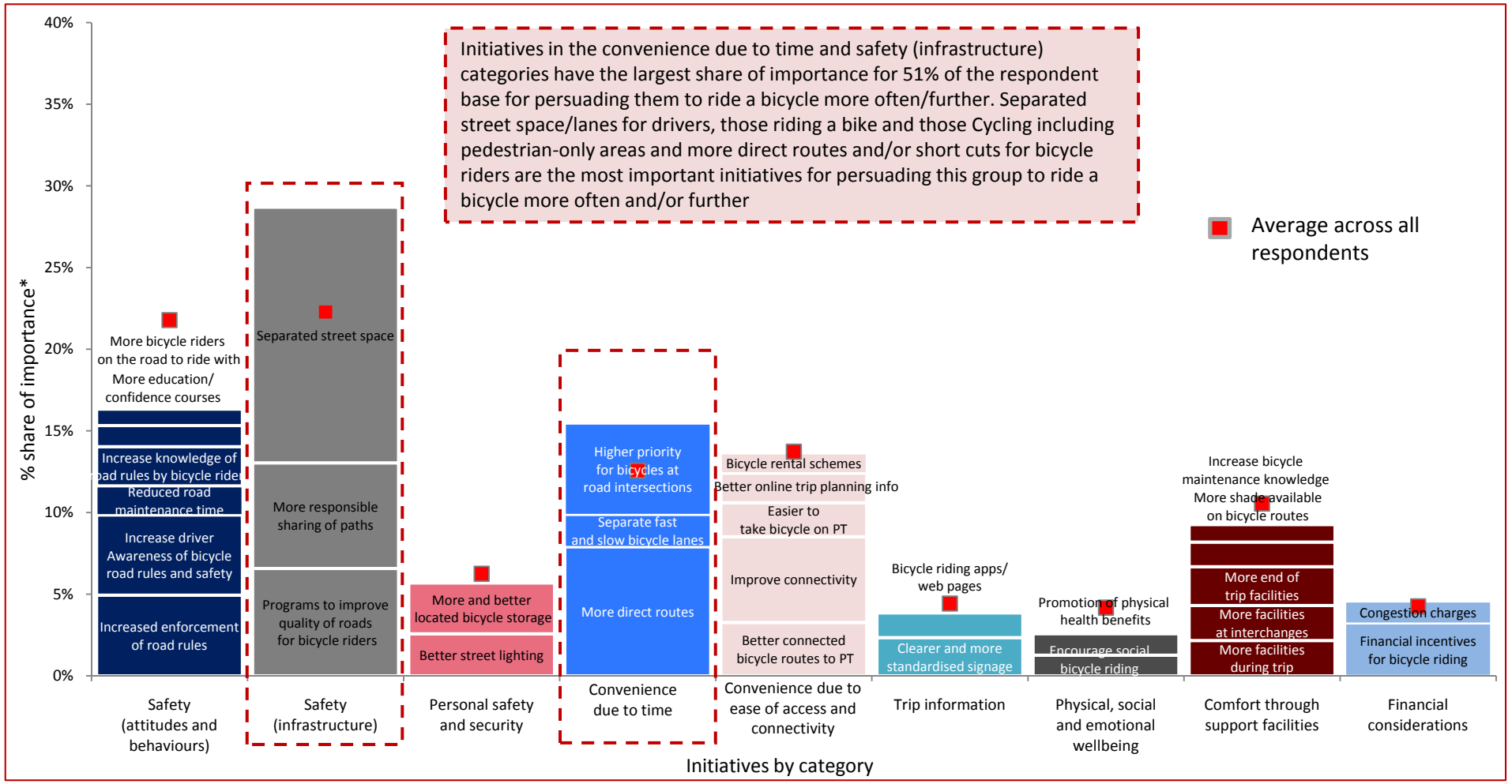
Note: n=151

Note*:% share of importance represents weighted percentage of total share of importance based on trade-offs of initiatives that are most/least important for persuading respondents to ride a bicycle more often/further

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: For 51% of customers, initiatives relation to **safe connectivity and flow** in particular, separated street space and more direct routes, are most important for persuading them to ride a bicycle more/further

Safe connectivity and flow needs set

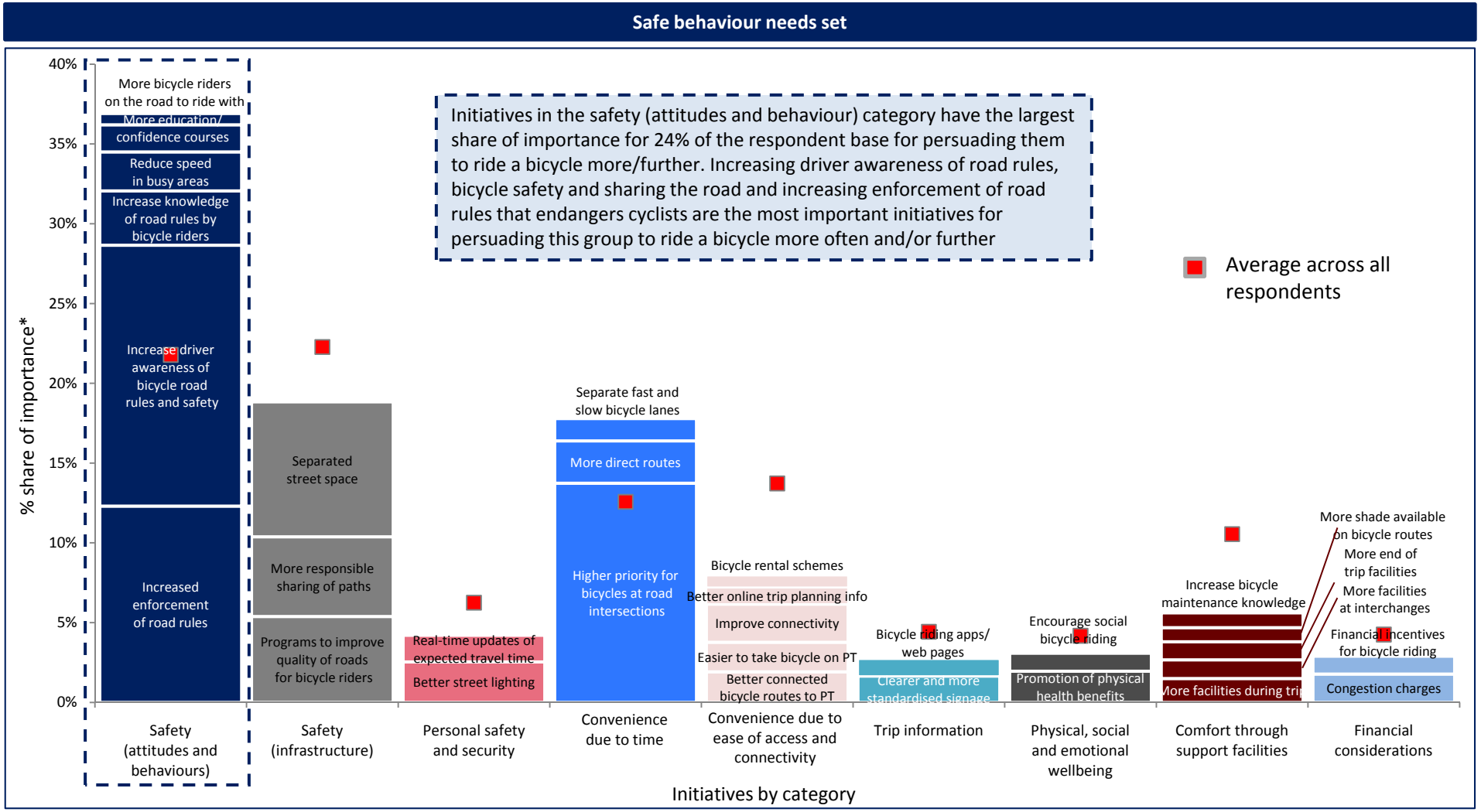


Note: n=492

Note*:% share of importance represents weighted percentage of total share of importance based on trade-offs of initiatives that are most/least important for persuading respondents to ride a bicycle more often/further

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: For 24% of customers, initiatives relating to **safe behaviour** in particular, increased enforcement of road rules and driver awareness, are most important for persuading them to ride a bicycle more/further



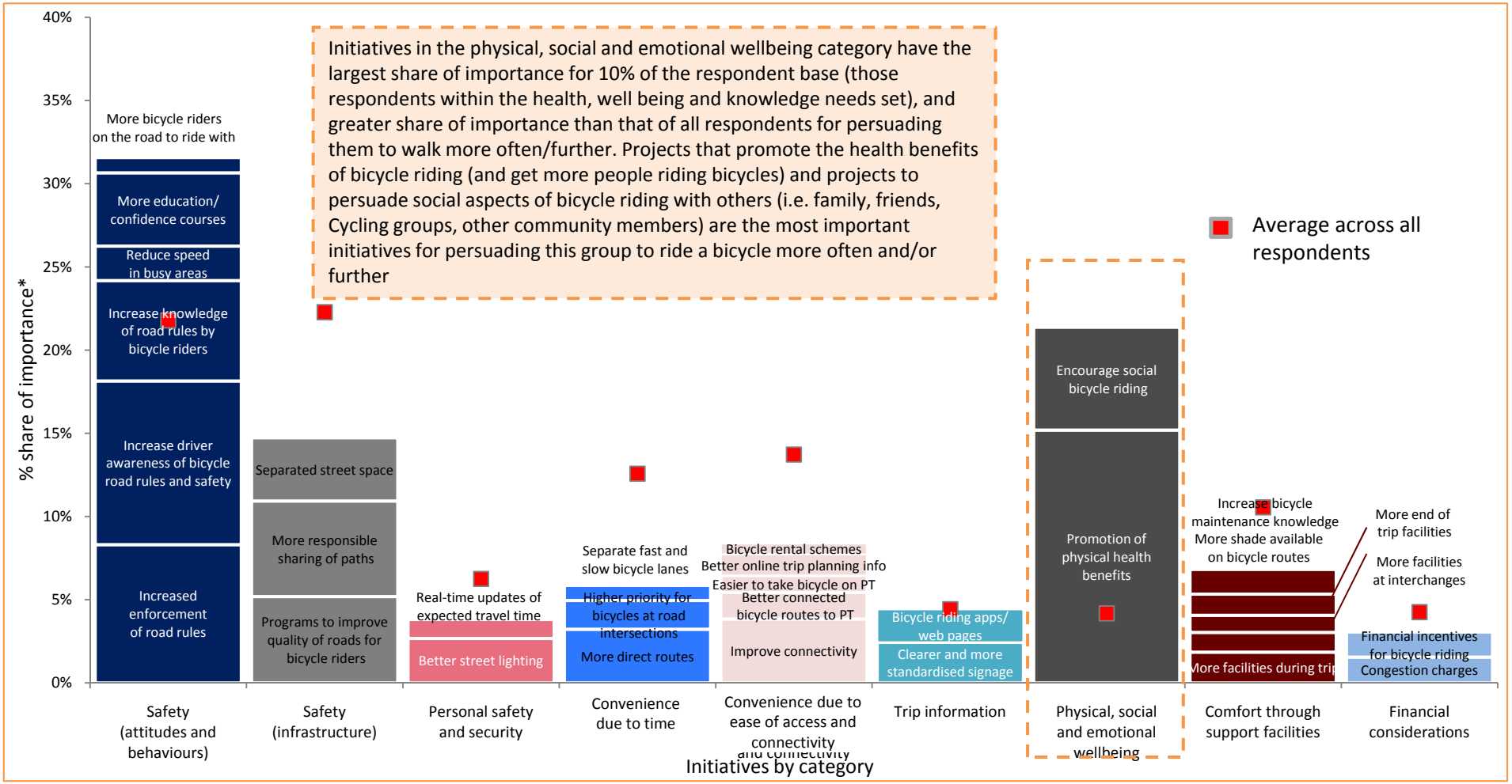
Note: n=257

Note*:% share of importance represents weighted percentage of total share of importance based on trade-offs of initiatives that are most/least important for persuading respondents to ride a bicycle more often/further

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: For 10% of customers, initiatives relating to **health, well being and knowledge** in particular, promotion of the physical health and social benefits of bicycle riding, are most important for persuading them to ride a bicycle more

Health, well being and knowledge needs set



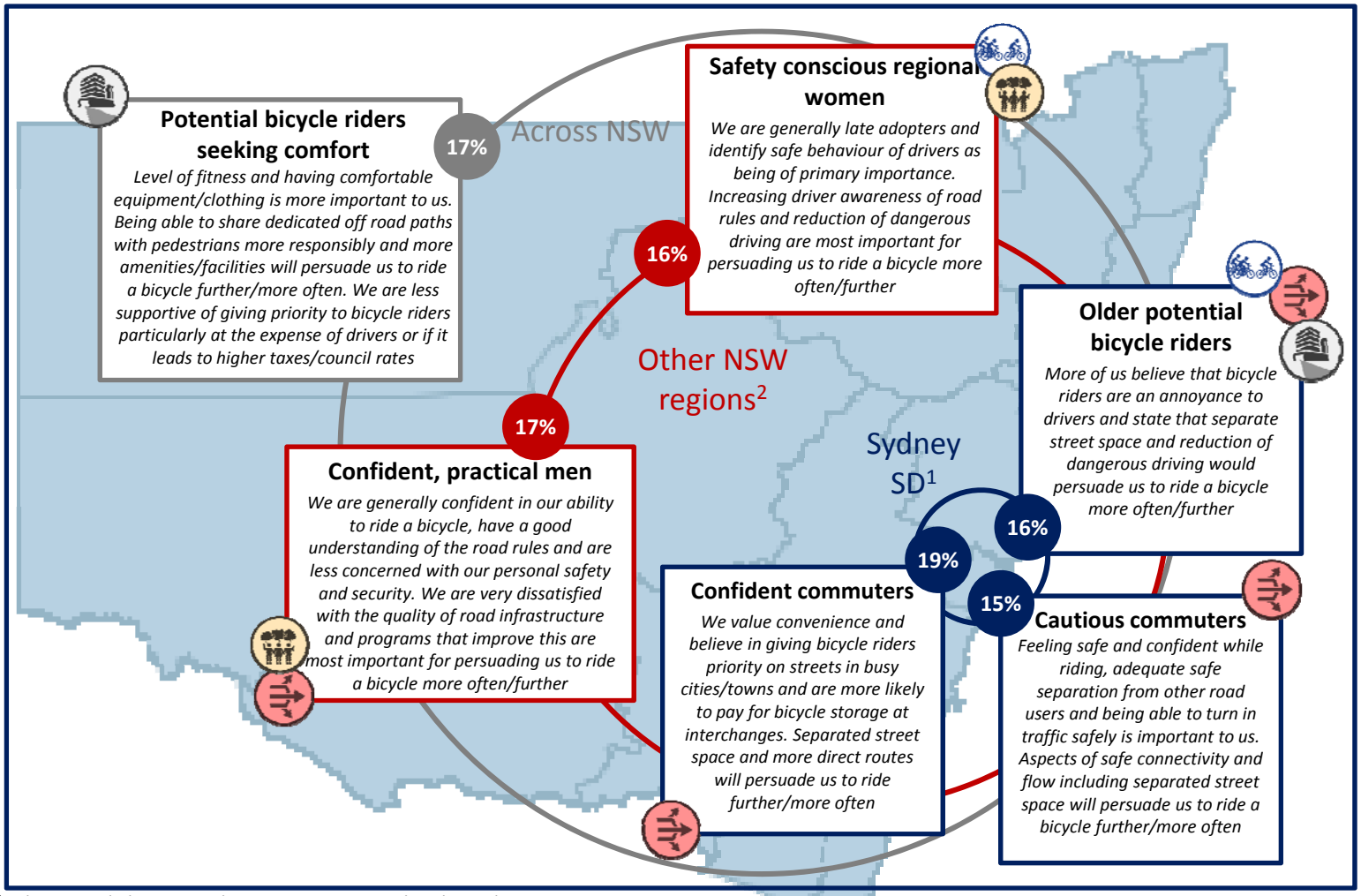
Note: n=101

Note*:% share of importance represents weighted percentage of total share of importance based on trade-offs of initiatives that are most/least important for persuading respondents to ride a bicycle more often/further

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: Six unique segments have been identified in the NSW population, each finding different needs sets more appealing than others

The six segments vary between Sydney GMA and other NSW regions



Rejecters

(n=276)

We would not consider riding a bicycle under any circumstances because:

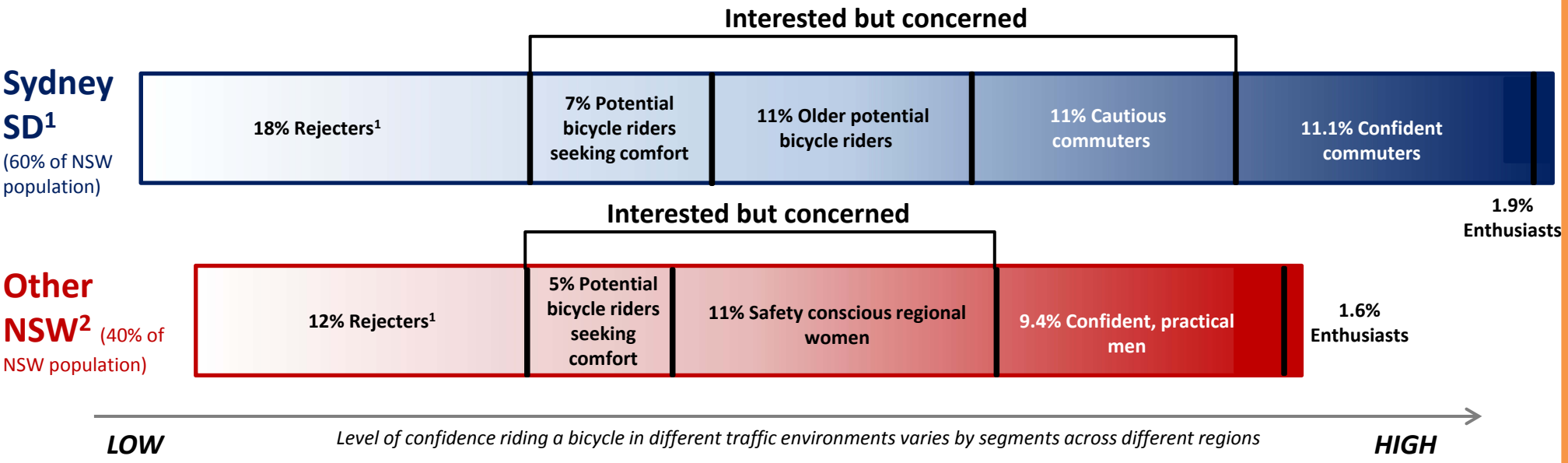
1. We do not feel safe when sharing the roads with drivers
2. We are not confident riding a bicycle
3. We are not motivated to ride a bicycle

[1]Sydney SD includes Inner Sydney, Parramatta, Penrith, Other Sydney

[2]Other NSW includes: Illawarra, Central Coast, Newcastle, Central West and Far West, Lower Illawarra, Southern, Murray-Murrumbidgee, Mid North Coast, New England and Northern Rivers Regions

Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: To achieve our mode share target, TfNSW needs to focus on the 45% of the population who are less confident on a bicycle – the 'contestable market'



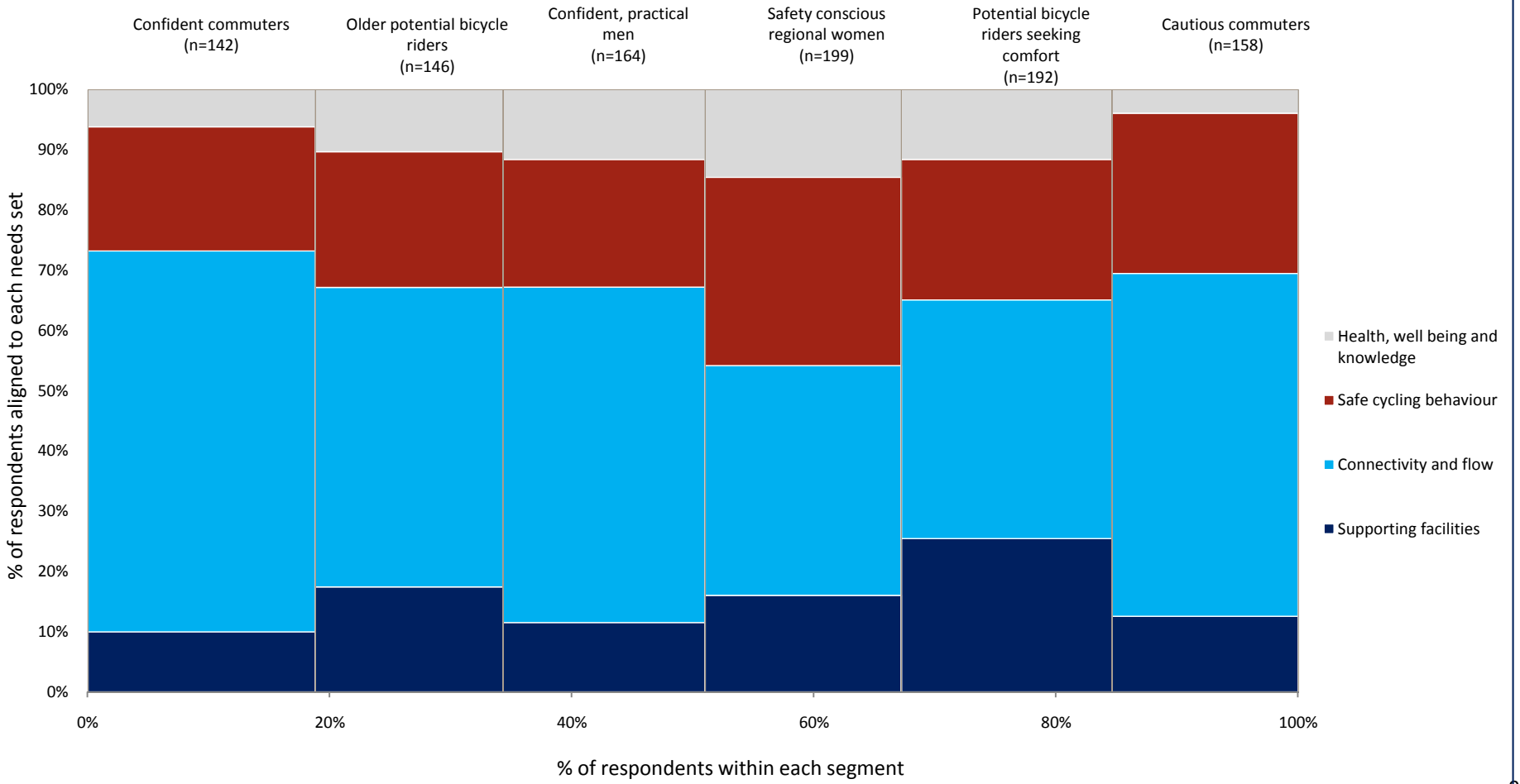
Profile of bicycle riding "Enthusiasts"

- **1.9%** of those living in Sydney GMA and **1.6%** of those living in Other NSW are "cycling enthusiasts" who own a bicycle and rate their confidence riding a bicycle in all traffic environments very highly (9-10 out of 10)
- The majority of "enthusiasts" are
  - Male (64%)
  - Regular (38%) or infrequent (48%) bicycle riders
  - Would consider riding 5km or further (60%) and for 30 minutes or longer (42%) for their most frequent trip purpose
  - Ride a bicycle more frequently (59% once a month or more often for recreation and 36% once a month or more often as a form of transport)
  - Satisfied with bicycle riding for their most frequent trip purpose (55% rate their satisfaction 7-10 out of 10)
  - Very confident in their ability to ride a bicycle and less likely to feel anxious about their personal safety and security when riding a bicycle compared to those who are not enthusiasts
  - More likely to believe that their riding behaviour does not cause conflict with other users on streets and roads
  - Adequate safe separation from cars and feeling safe and confident riding in traffic is less important to them

[1]Sydney SD includes Inner Sydney, Parramatta, Penrith, Other Sydney
[2]Other NSW includes: Illawarra, Central Coast, Newcastle, Central West and Far West, Lower Illawarra, Southern, Murray-Murrumbidgee, Mid North Coast, New England and Northern Rivers Regions
Note: % of population based on NSW's Bicycle Future 2012, BTS 2012 and RTA 2010 data
Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: The four needs sets are represented across the six customer segments but the proportions within each segment vary

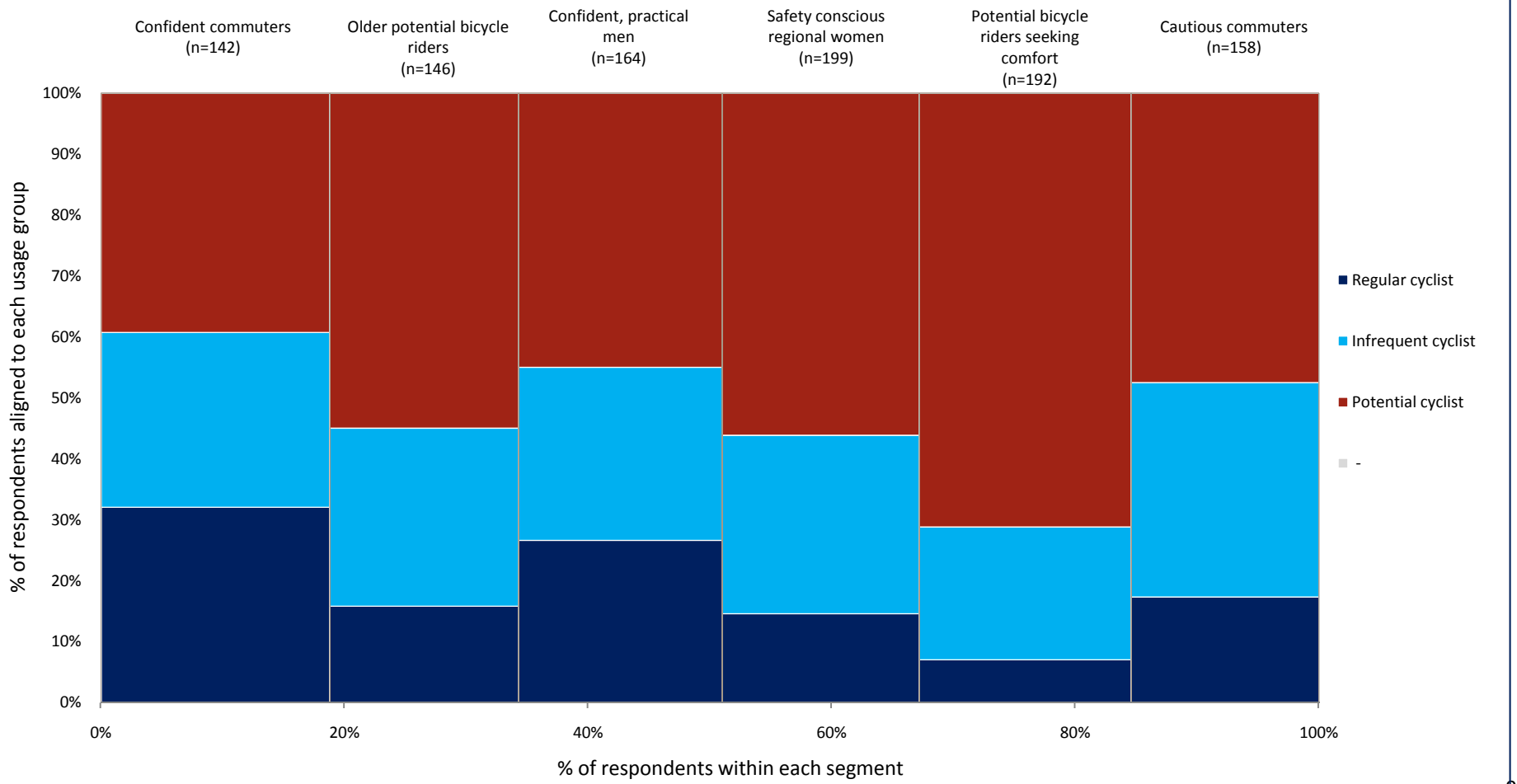
Needs sets identified by segments



Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: The three usage groups are represented across the six customer segments but the proportions within each segment vary

Needs sets identified by usage groups



Source: Transport for NSW, Cycling CVP Research, June 2013

CONCLUSION: Perceived confidence and safety riding on different road types varies across the six segments of the NSW population

Variation in comfort on road types for respondents within each segment *(in order from largest % who identify they feel quite/very safe and comfortable)*

	Confident commuters	Cautious commuters	Older potential bicycle riders	Confident, practical males	Safety conscious regional females	Potential bicycle riders seeking comfort
 Visually separated off road bicycle path	91%	92%	88%	93%	92%	46%
 Shared path (off road shared with pedestrians)	92%	91%	85%	91%	89%	42%
 Physically separated on road	93%	96%	92%	96%	89%	68%
 Shared bicycle route on quiet local street	42%	35% 35%	35% 35%	53%	38%	72%
 Highway shoulder	40%	52%	60%	38% 38%	59%	84%
 Bicycle shoulder beside a parked car	39%	46%	54%	39%	53%	80%
 Shared bicycle route in bus lane	60%	84%	73%	53%	76%	89%
 Shared bicycle route on busy street	68%	85%	75%	59%	76%	89%

>75% feel quite or very safe and comfortable

More feel safe and comfortable than feel unsafe and uncomfortable

Majority feel neither safe/comfortable nor unsafe/uncomfortable

Equal number feel safe/comfortable as unsafe/uncomfortable

More feel unsafe and uncomfortable than feel safe and comfortable

>75% feel quite or very unsafe and uncomfortable

Source: Transport for NSW, Cycling CVP Research, June 2013

Confident commuters

We represent 19% of the survey population

19% (n=142)

Who are we?

- All of us are **male,** living in **Sydney** (27% Inner Sydney, 22% Parramatta) in flats/units (31%, higher than any other segment) and the majority are between the ages of **25-49** (64%) and do not have dependent children (71%)
- 90% are confident in our ability to ride a bicycle overall
- 32% of us are **regular transport bicycle riders** (higher than any other segment), 29% infrequent and 39% are potential bicycle riders. 14% of us are **cycling enthusiasts** and feel **very comfortable** in all on road environments
- More than other segments, we are **supportive of the introduction of congestion charges** for driving into busy areas (35%) and **for giving bicycle riders priority** on streets in busy cities/towns (32%)
- 44% have achieved a **university/postgraduate** qualification or higher and 25% a **TAFE/tertiary** qualification
- Majority are **professionals** (40%) or **managers** (21%), **employed full time** (69%) or are s**elf-employed** (12%), earn **over $110k per year** (40%, higher than any other segment) and work in the private sector (80%)
- Significantly fewer (50%) knew that the person opening the door is at fault if an opening car door collides with a bicycle rider compared to other segments

How do we travel?

- Compared to other segments, we **ride more often and for more purposes**; 23% have ridden a bicycle to get **to/from work** (significantly higher than other segments), 27% as a way of **connecting to another mode of transport** and 47% for physical activity with no transport purpose
- **24% ride a bicycle once a week or more often** as a form of transport which is higher than any other segment
- Majority of us **own a bicycle** (63%), a **car** (75%) and 47% would consider an **electrical bicycle**
- 35% ride on **weekdays and weekends** and 39% just on weekdays
- 67% start their journey **before 10am** (22% before 8am) and **return between 5-7 pm** (40%)
- Majority (64%) **travel between 1-5km** for their most frequent trip purpose for <20 mins (65%)
- 78% **currently do not use bicycle storage facilities** however, compared to other segments, we are most likely to use all storage options suggested and 49% would be willing to pay for lockers and/or cages (strongest support for secure bicycle cages near interchange entrances)

What journey experience attributes are more important to us?

Safety (infrastructure)

- Separate paths for bicycle riders and walkers
- Infrastructure improvements on roads (e.g. more bicycle lanes and bicycle symbols painted on the road)

Personal security

- Conveniently located bike secure storage facilities where you leave your bicycle

What are we more/less satisfied with than other segments?

Avg. satisfaction: 5.7/10

- Adequate amenities and facilities during the trip (49% dissatisfied)
- Adequate lighting on bicycle routes and roads(42% satisfied)
- Conveniently located bike secure storage facilities where you leave your bicycle (47% satisfied)
- Having comfortable equipment/clothing (e.g. helmet, breathable clothing) (66% satisfied)

What would persuade more of us to ride a bicycle more and/or further?

Safe connectivity and flow

1. Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only
2. More direct routes and/or short cuts for bicycle riders
3. Higher priority for bicycles at road intersections
4. Enable pedestrians and cyclists to share dedicated off road paths more responsibly
5. Improve the connection of bicycle routes to each other and places of interest

*More likely to go to **websites** (75%), friends, family etc via **word of mouth** (43%), **social media** (23%) and **blogs/forums** (20%) to find information and advice about bicycle riding*

Source: Transport for NSW, Cycling CVP Research, June 2013

Cautious commuters

We represent 16% of the survey population

15% (n=158)

Who are we?

- All of us are **female** (100%) and **live in Sydney** (38% in Inner Sydney, 10% in Penrith and 44% in Other Sydney regions), do not have dependent children (73%) and compared to other segments, significantly more of us are **under 40** years of age (59%)
- 17% are **regular transport bicycle riders**, 35% **infrequent** and 47% **potential bicycle riders**
- The majority of us are **confident** in our ability to ride a bicycle (76%)
- Majority have higher levels of education with 60% achieving a **University / Postgraduate** degree, are employed full time (50%), part time (28%) or are **full time students** (14%, higher than any other segment) and have yearly household incomes **>$70k** (74%)
- Of the who are working, the majority are professionals (35%) or clerical and administrative workers (30%, higher than other segments)
- More of us live in a flat/unit (31%) and speak a language other than English at home (28%) compared to other segments
- Compared to other segments, a higher proportion of us **often feel anxious about our personal safety and security** when riding a bicycle (71%) and feel that there are **not enough bicycle routes** for them to ride on (69%)
- We are not differentiated in our knowledge of road rules

How do we travel?

- Majority **own a car** (71%) but are evenly split in ownership of bicycles (51% own a bicycle and 49% do not)
- Majority ride a bicycle less than once a year/never (75%) as a form of **transport** and 38% have ridden a bicycle for the purpose of **physical activity**
- Majority (81%) ride a bicycle/travel on a trip of a distance they could ride for **5km** or less taking 20 minutes or less (67%)
- A higher proportion of us travel for the purpose of getting to/from work (22%) or School/University (9%) compared to other segments and the majority start their journey in the morning between **10am-12pm** (56%) and return throughout all times of the day depending on travel purpose
- 84% of us do **not currently use bicycle storage facilities** and the majority would not be willing to pay for it (53%). Compared to other segments, significantly more of us would be **likely to use secure storage facilities** if provided in particular, 45% are likely to use **secure bicycle cages** near interchanges if provided

What journey experience attributes are more important to us?

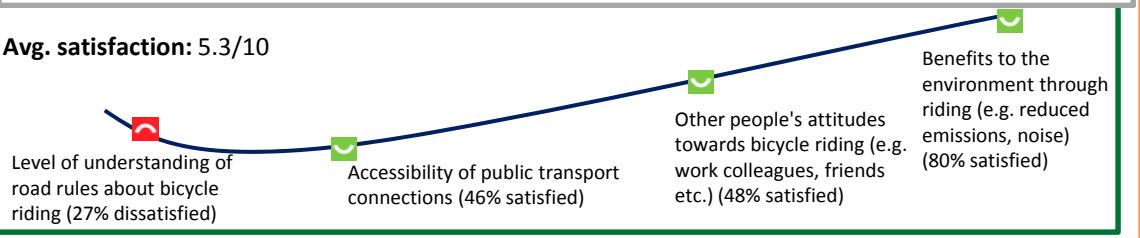
Physical ability and emotional wellbeing
Feeling safe and confident riding in traffic

Safety (infrastructure)
Adequate safe separation from cars

Safety (attitudes and behaviours)
Being able to cross / turn in traffic safely

What are we more/less satisfied with than other segments?

Avg. satisfaction: 5.3/10



What would persuade more of us to ride a bicycle more and/or further?

Safe connectivity and flow

1. Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only
2. Higher priority for bicycles at road intersections (e.g. priority stop lanes, phasing of traffic lights, left turn on red at traffic signals)
3. Enable pedestrians and cyclists to share dedicated off road paths more responsibly
4. Increase driver awareness of road rules, bicycle safety and sharing the road
5. More direct routes and/or short cuts for bicycle riders

*More likely to go to **websites** (76%), friends, family etc via **word of mouth** (30%), **national/state wide events** (21%) or **blogs/forums** (20%) to find information and advice about bicycle riding*

Source: Transport for NSW, Cycling CVP Research, June 2013

Older potential bicycle riders

We represent 16% of the survey population

16% (n=146)

Who are we?

- Majority of us are **aged 50+** (52%) and do not have dependent children (74%)
- We all live in **Sydney** in a **separate or detached house** (64%) or a unit/flat (31%). Within Sydney, the majority live in '**other Sydney areas**' (55%) with a higher proportion living in Penrith compared to other segments (10%)
- Members of this segment are **equally likely to be male** (47%) **or female** (53%)
- 55% of us are **potential** and 29% are **infrequent** bicycle riders
- 76% of us are **confident** in our ability to ride a bicycle overall
- Majority have achieved a **university/postgraduate qualification** (45%) or a TAFE/tertiary qualification (27%)
- Compared to other segments, significantly more of us are **retired** (32%) or performing **full time home duties** (14%) and have yearly household incomes **<$50k** (56%)
- More of us believe that **bicycle riders are an annoyance to drivers** (46%) compared to other segments and we are not differentiated from other segments in our knowledge of road rules

How do we travel?

- We generally **ride a bicycle less than once per year/never** as a form of transport (70% ; 18% have ridden a bicycle for socialising and recreation and 19% for shopping/running errands) and 32% have ridden a bicycle for **physical activity** with no transport purpose
- 41% of us **own a bicycle** and 24% do not own but have access to a bicycle
- Majority do not currently use bicycle storage facilities (95%) and few are likely to take up the options suggested
- Majority **own a car** (71%) and **do not have car parking available at work** (58%, higher than any other segment)
- Generally ride on **weekdays and weekends** (52%) or just on weekdays (38%) and usually start their journey between **8am-12pm** (71%) and return between 10am-2pm (52%) or between **2pm-5pm** (37%)
- Usually ride/perceive we could ride for **5-15 mins** (43%) over **1-5km** (63%) for a trip purpose and for those who do not currently ride a bicycle, 53% might sometimes choose to ride a bicycle if the trip were shorter

What journey experience attributes are more important to us?

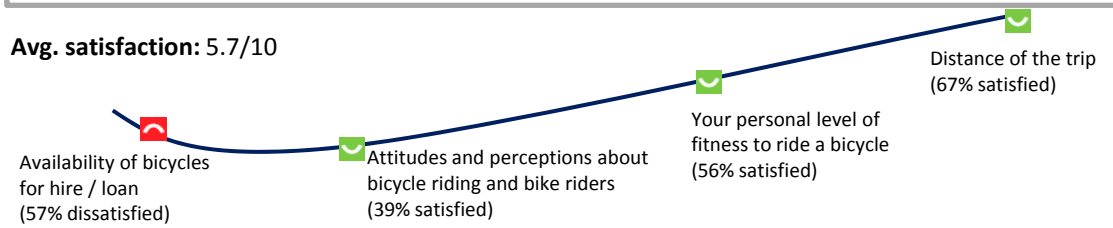
Journey ambience and environment
- Enjoyment of outdoors (e.g. scenery, personal space, fresh air)

Comfort through equipment and support facilities
- Facilities available at the end of the trip (e.g. showers, change rooms, storage)

Safety (attitudes and behaviours)
- Level of understanding of road rules about bicycle riding

What are we more/less satisfied with than other segments?

Avg. satisfaction: 5.7/10



What would persuade more of us to ride a bicycle more and/or further?

Safe connectivity and flow

Supporting facilities

Safe behaviour

1. Separated street space/lanes for drivers, those riding a bike and those Cycling including pedestrian-only
2. Increase enforcement of road rules that endangers cyclists
3. Increase driver awareness of road rules, bicycle safety and sharing the road
4. Enable pedestrians and cyclists to share dedicated off road paths more responsibly
5. More and better located bicycle racks, lockers and cages

*More likely to go to **websites** (66%), friends, family etc via **word of mouth** (31%), **newspaper**(20%) and **national/state wide events** (19%) to find information and advice about bicycle riding*

Source: Transport for NSW, Cycling CVP Research, June 2013

DRAFT

Confident, practical men

We represent 17% of the survey population

17% (n=164)

Who are we?

- All of us are **male** and **live outside of Sydney** (46% in Regional NSW and 54% in Rural NSW) and the majority live in a separate or detached house (81%) and do not have dependent children (72%)
- Even distribution of ages between **25-70** (84%)
- 27% are regular transport bicycle riders, 28% **infrequent** and 45% **potential bicycle riders**
- 14% of us are **cycling enthusiasts** and feel **very comfortable** in all on road environments
- High proportion are **employed full time** (42%) or **retired** (14%), have **lower levels of education** (68% have a TAFE/Tertiary college lower level qualification) and are employed as professionals (29%) or technical/trade workers (17%, higher than any other segment)
- We are generally **confident** in our ability to ride a bicycle (90%, higher than other segments) and compared to other segments, the majority of us **do not feel anxious** about our personal safety/security when riding a bicycle (34%)
- We generally have a **good understanding of the road rules** with a slightly higher proportion getting each question right compared to other segments

How do we travel?

- 27% ride a bicycle once a month or more often as a form of transport which is higher than some other segments while the majority (61%) **ride a bicycle less often/never for transport purposes** and 39% ride a bicycle once a month or more often for the **purpose of recreation**
- 76% perceive trips under 5km taking <20 mins (68%) to be a distance they do/could ride
- The majority of us **own a car** (83%) and significantly more have **car parking available at work** compared to other segments (77%) . The majority of us also **own a bicycle** (57%) and 51% would consider an electrical bicycle
- Of those who ride a bicycle, 49% ride a bicycle on **weekdays and weekends** and the majority travel most frequently for purposes other than commuting to work/school (72%), starting their journey in the morning between **8am-12pm** (55%) and return throughout all times of the day depending on travel purpose
- 86% of us do **not currently use bicycle storage facilities** and the majority would not be willing to pay for it (63%). 31% of us **would not ride a bicycle to connect to public transport** while 32% are likely to use secure bicycle cage at interchanges if they were provided

What journey experience attributes are more important to us?

Journey ambience and environment

- Appropriate weather conditions for bicycle riding

Physical, social and emotional wellbeing

- Bicycle's capacity for carrying (e.g. shopping, change of clothe etc.)

Convenience due to time

- Distance of the trip

What are we more/less satisfied with than other segments?

Avg. satisfaction: 6.2/10

- Infrastructure improvements on roads (64% dissatisfied)
- Bicycle's capacity for carrying (61% dissatisfied)
- Level of understanding of road rules about bicycle riding (60% satisfied)
- Appropriate signage to easily find your way (59% satisfied)

What would persuade more of us to ride a bicycle more and/or further?

Safe connectivity and flow

Health, well being and knowledge

1. Programs that improve the quality of roads for bicycle riders
2. More direct routes and/or short cuts for bicycle riders
3. Enable pedestrians and cyclists to share dedicated off road paths more responsibly
4. Increase knowledge of road rules by bicycle riders
5. Financial incentives and discounts for people who ride a bicycle to work

*More likely to go to **websites** (68%), friends, family etc via **word of mouth** (35%) or to a **newspaper**(23%) to find information and advice about bicycle riding*

Source: Transport for NSW, Cycling CVP Research, June 2013

DRAFT

Safety conscious regional women

We represent 16% of the survey population

16% (n=199)

Who are we?

- All of us are **female** and **live outside of Sydney** (45% in Regional NSW and 55% in Rural NSW) in separate or detached house (82%)
- Majority of us are aged between 40-69 (65%) , do not have dependent children (73%) and are confident in our ability to ride a bicycle (76%)
- 15% are regular transport bicycle riders, 29% infrequent and 56% **potential bicycle riders**
- Majority have yearly household income <$50k (50%) have achieved a TAFE/Tertiary college or lower level qualification (61%), are employed part time (21%), retired (16%) or are performing full time home duties (14%) and, of those that are working, are employed outside the private sector (47%) as clerical or administrative workers (20%), sales workers (15%) and higher proportion are community and personal service workers (13%) compared to other segments
- We are generally **late adopters** with majority feeling that family and friends do not often ask our opinion about transport (61%) and that they are generally not the first to try new, more active ways of travelling (63%)
- Significantly **fewer** (33%) knew that a bicycle rider is allowed to ride in the **centre of the lane** with 64% believing that they must always ride in the road shoulder

How do we travel?

- We are evenly split in ownership of bicycles (51% own a bicycle and 49% do not) while the majority **own a car** (88% , higher than any other segment)
- The majority of us **do not ride for transport purposes** (76%) or **recreation** (57%) and 34% have ridden for the purpose of physical activity with no transport purpose
- 73% perceive trips **under 5km** to be a distance they do/could ride for and the majority (50%) might ride a bicycle sometimes if the trip were shorter
- Of those who ride, 45% ride a bicycle on **weekdays and weekends** and 46% just on weekdays. The majority travel most frequently for purposes other than commuting to work/school (85%) and start their journey in the morning between **8am-12pm** (69%) and generally return between **2-5pm** (49%) depending on travel purpose
- 97% of us **do not currently use bicycle storage facilities** and the majority would not be willing to pay for it (67%). 37% are likely to use secure bicycle cage at interchanges if they were provided

What journey experience attributes are more important to us?

Safety (attitudes and behaviours)

★ Safe behaviour of drivers when bicycle riders are on the road or street

Comfort through equipment and support facilities

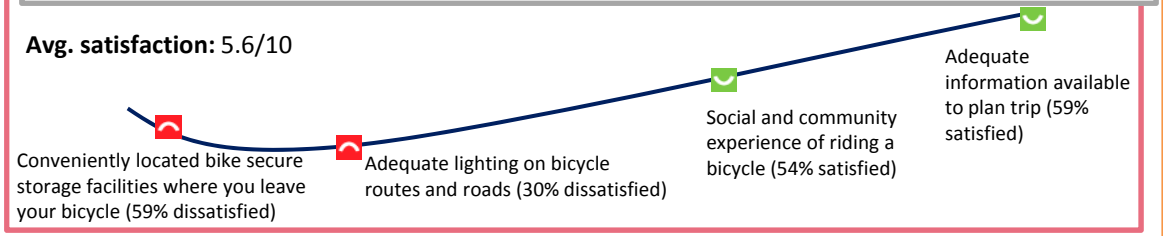
★ Feeling comfortable while riding (e.g. comfortable seat, equipment)

Physical ability and emotional wellbeing

★
- Feeling safe and confident riding in traffic

What are we more/less satisfied with than other segments?

Avg. satisfaction: 5.6/10



What would persuade more of us to ride a bicycle more and/or further?

Health, well being and knowledge

Safe behaviour

1. Increase driver awareness of road rules, bicycle safety and sharing the road
2. Increase enforcement of road rules that endangers cyclists
3. Increase knowledge of road rules by bicycle riders
4. Higher priority for bicycles at road intersections
5. Projects that promote the health benefits of bicycle riding

*More likely to go to **websites** (69%), friends, family etc via **word of mouth** (40%), and more than other segments, **localised events** (24%), through **children's school** l (11%) and to a **get healthy information and coaching** service (17%) to find information and advice about bicycle riding*

Source: Transport for NSW, Cycling CVP Research, June 2013

DRAFT

Potential bicycle riders seeking comfort

We represent 17% of the survey population

17% (n=192)

Who are we?

- Majority are aged between **40-69** (66%) and live **throughout NSW** (61% in Sydney, 20% in Regional NSW and 19% in Rural NSW) in a separate or detached **house** (73%) and do not have dependent children (74%)
- Members of this segment are **equally likely to be male** (45%) **or female** (55%)
- Majority of us are **potential bicycle riders** (71%)
- Compared to other segments, more of us are **not confident** in our ability to ride a bicycle (25%)
- We are generally **less supportive of giving higher priority to bicycle riders** particularly if it comes at the expense of drivers or leads to higher taxes and/or council rates
- We generally have a **lesser understanding of bicycle road rules** however we are not significantly differentiated from other segments based on this
- We span various levels of education with 35% achieving a **University/Post Graduate** degree and 30% a **TAFE/Tertiary** college qualification (21%)
- 30% are **employed full time**, 17% part time and 19% are retired and of those who are employed, 27% are professionals, 19% clerical and administrative workers and 12% are managers

How do we travel?

- Compared to other segments, we **ride a bicycle less often** with the majority riding a bicycle less than once a year/never as a form of transport (86%) or for recreation only (72%)
- The majority of us **own a car** (82%) and **do not own a bicycle** (68%) however a few have access to a bicycle if they wanted to ride (22%)
- Of those who ride, 48% ride a bicycle on **weekdays and weekends** and 42% just on weekdays
- Majority (81%) ride a bicycle/travel on a trip of a distance they could ride for 5km or less with a higher proportion selecting **<1km** (26%)
- The majority travel most frequently for purposes other than commuting to work/school (83%) and start their journey in the morning between **10am-12pm** (58%) and generally return between **2-5pm** (65%)
- 78% of us **do not currently use bicycle storage facilities** and the majority would **not be willing to pay for it** (76%). A higher proportion of us would not ride a bicycle to connect to public transport (42-46%) compared to other segments

What journey experience attributes are more important to us?

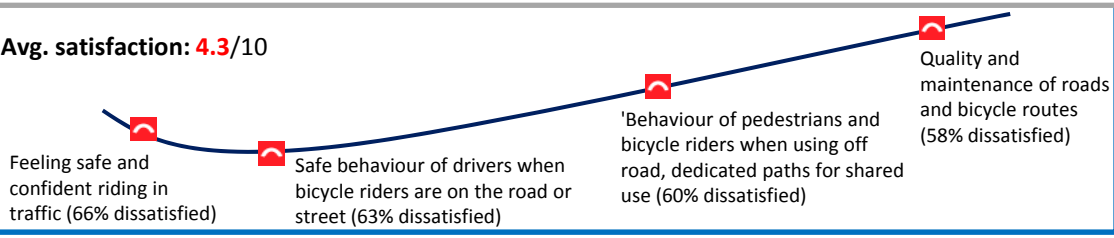
Physical, social and emotional wellbeing
Your personal level of fitness to ride a bicycle

Comfort through equipment and support facilities
Having comfortable equipment/clothing (e.g. helmet, breathable clothing)

Safety (attitudes and behaviours)
Attitudes and perceptions about bicycle riding and bike riders

What are we more/less satisfied with than other segments?

Avg. satisfaction: 4.3/10



What would persuade more of us to ride a bicycle more and/or further?

Supporting facilities

1. Enable pedestrians and cyclists to share dedicated off road paths more responsibly
2. Increase knowledge of road rules by bicycle riders
3. Better street lighting on popular routes
4. Better connected bicycle routes to more easily access public transport
5. More amenities and facilities during the trip (e.g. drinking fountains, benches, toilets)

*More likely to go to **websites** (62%), friends, family etc via **word of mouth** (28%) or to a **newspaper**(20%) to find information and advice about bicycle riding*

Source: Transport for NSW, Cycling CVP Research, June 2013

How do these findings compare to previous research?

9. Integrated research findings

INSIGHT: Customers are generally satisfied with the availability of trip information, in particular information for trip planning

Trip Information

Related attributes
(in order of importance)

1. Appropriate signage to easily find your way (0.2%)
2. Adequate information available to plan trip (0.2%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

Existing literature highlights the significance of providing relevant and useful trip information to bicycle riders.

- Participants in City of Sydney's research[1] reported that **information** (maps, website, courses) is not personalised enough to be useful
- Parson Brinckeroff[2] identified that **availability of information about bicycle parking** at interchanges is an important attribute
- Quantum Market Research[3] found that better **information on planned works and paths** was highly valued

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed information related attributes / initiatives in the following context:

- **Signage** for bicycle riders and motorists to ensure safety of bicycle riders on roads as well as added convenience
- Distance and expected time to key destinations as well **signs for shortcuts**
- **Information** relating to traffic congestion – especially for frequent bicycle riders
- **Information** that supports personal safety including training courses to increase confidence and fitness

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Respondents are satisfied with information available for trip planning (6.4) and signage for wayfinding (6.3). Satisfaction scores of these attributes are above overall average
- **Share of importance** – Trip information attributes are less important when compared to other journey attributes (0.2%)
- **Initiatives** – Initiatives relating to provision of signage (2.6%) and comprehensive website pages and apps featuring information about bicycle riding (1.8%) are of lower importance compared to other initiatives

Link to findings from Walking CVP research

- *Majority of both respondents who walk and ride a bicycle are satisfied with trip information*
- *Trip information is of low importance for both Cycling and cycling*
- *Most of the initiatives relating to trip information in order to promote Cycling and bicycle riding have below average importance however more comprehensive signage is of higher importance for persuading people to walk more often/further*

[1] City of Sydney, Cycling: Community Research to Optimise Program Effectiveness, 2012
[2] Parson Brinckerhoff, The Provision and Use of Bicycle Parking at Sydney Region Public Transport Interchanges, Prepared for the Premiers Council of Active Living, 2009
[3] Quantum Market Research, Customer Scorecard Qualitative Findings,2012

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Perceived safety and confidence, ability to cross/turn safely in traffic, and drivers' behaviours are all important safety attributes with high dissatisfaction

Safety (attitudes and behaviours)

Related attributes
(in order of importance)

1. Feeling safe and confident riding in traffic (14.1%) ♥
2. Safe behaviour of drivers when bicycle riders are on the road or street (6.3%)
3. Being able to cross / turn in traffic safely (3.8%) ♥
4. Behaviour of pedestrians and bicycle riders when using off road, dedicated paths for shared use (0.9%)
5. Level of understanding of road rules about bicycle riding (0.7%)
6. Other people's attitudes towards bicycle riding (e.g. work colleagues, friends etc.) (0.4%)
7. Attitudes and perceptions about bicycle riding and bike riders (e.g. in media and school programs) (0.4%)
8. Available education on safe bicycle riding (0.2%)

♥ Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

- **Personal safety** is a key priority for cyclists[1] that is rated lower than the average of all transport modes[2]
- **A lack of perceived personal safety** is as a key barrier to cycling.[3,4,5] It is one of the top reasons for not riding in Sydney CBD[6]
- Previous studies found that motorists and pedestrians did not pay enough attention to cyclists [3] and there is a **lack of respect and cooperation between road users**[7]
- Findings suggest that some cyclists **lack the knowledge of road rules about cycling**[7]
- **Safety related to crossing traffic lights or roads** is identified as a key priority for cyclists[1]

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed safety related attributes / initiatives in the following context:

- **Fear of being hit** by other drivers and concern over safety when sharing roads/paths with motorists and pedestrians and other bicycle riders
- **Behaviour of others** drive the need for knowledge and enforcement of road rules
- Fear of getting "injured or worse"
- **Driver and rider safety education and awareness programs** on TV or other media sources covering the dangers of road sharing between bicycle riders and drivers
- **Free skills training and road safety education courses** to increase confidence of infrequent and new bicycle riders and for children

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – While respondents are satisfied with their understanding of road rules (6.3) and others' attitudes (5.9), they are highly dissatisfied with behaviours of drivers (4.4), ability to cross/turn in traffic safely (4.8) and perceived safety and confidence while riding in traffic (4.7)
- **Share of importance** – Feeling safe and confident is very important to respondents. Safe behaviour of drivers and the ability to cross/turn in traffic safely have higher importance than the overall average
- **Initiatives** – Increasing driver awareness of bicycle road rules and safety is rated as the 2nd most important initiative (6.8%). Increasing enforcement of road rules (5.6%) and knowledge of road rules (3.6%) are also identified as important

Link to findings from Walking CVP research

- *In general, there is greater concern over safety for bicycle riding than Cycling. While all safety attributes related to infrastructure are identified as Moments of Truth for bicycle riding, this is not the case in the Cycling research*
- *Consistent across both active modes, respondents are highly dissatisfied with the behaviours of other road users*

[1] Quantum Market Research, Customer Scorecard Qualitative Findings, 2012 [2] Quantum Market Research, Customer Scorecard Research Quantitative Findings, 2012 [3] City of Sydney, Cycling: Community Research to Optimise Program Effectiveness, 20
[4] Department of Infrastructure and Transport, Cycling, Riding and Access to Public Transport, 2012 [5] AMR Interactive, Research into Barriers to Cycling in NSW, 2009 [6] Taverner Research, Sydney Cycling Research, 2009
[7] Network Management Directorate, Cyclist Research, 2008

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: All safety attributes related to infrastructure are identified as Moments of Truth yet and are also of high dissatisfaction to customers

Safety (infrastructure)

Related attributes
(in order of importance)

1. Adequate safe separation from cars (10.2%)
2. Separate paths for bicycle riders and walkers (4.0%)
3. Quality and maintenance of roads and bicycle routes (2.8%)
4. Infrastructure improvements (e.g. road width / size of kerb ramps) (2.6%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

Existing literature shows that the promotion of bicycle riding is impeded by poor road quality and the lack of bicycle riding infrastructure

- **Lack of physical safety related to infrastructure**[1] and **lack of bicycle riding infrastructure**[2,3] are identified as key barriers to cycling
- In line with this, Environmetrics[3] found that selected segmented participants exhibited a propensity to cycle more in the future given the right **infrastructure**
- Research performed by AMR[4] suggests that increasing safety through infrastructure, in particular separated cycle paths was a key way to address barriers to cycling
- Interim evaluation of the PRESTO cycling projects[5] reveals infrastructure (e.g. creating spaces with fewer cars, lower speeds) is the best promotion of cycling
- Findings[6] indicate that **poor road quality** (e.g. loose gravel, potholes) is a key barrier to cycling

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed safety related attributes / initiatives in the following context:

- A key barrier to increased bicycle riding is having a **quality cycle path** for their route
- The initiative of providing more dedicated cycle paths and **infrastructure** to improve safety

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Satisfaction scores for all four attributes in this category (4.3-4.9) are significantly lower than the overall average
- **Share of importance** – Importance of adequate safe separation from cars (ranked 3rd) and from pedestrians is higher than the overall average, while that of the other two attributes are close to the overall average
- **Initiatives** – Programs that improve the quality of roads for bicycle riders (6.7%) and enabling pedestrians and bicycle riders to share dedicated off road paths more responsibly (6.3%) are ranked 3rd and 4th most important by respondents

Link to findings from Walking CVP research

- *For both Cycling and bicycle riding, respondents are less satisfied with safety aspects relating to infrastructure*
- *Initiatives aimed to increase safety through improving infrastructure are of high importance to people walk and current and potential bicycle riders (ranked 3rd or 4th) for persuading them to walk/ride a bicycle more often/further*

[1] Department of Infrastructure and Transport, Cycling, Riding and Access to Public Transport, 2012
[2] Transport for London, Travel in London Report 2, 2010
[3] Environmetrics, Sydney Cycling research: focus groups, 2007
[4] AMR Interactive, Research into Barriers to bicycle riding in NSW, 2009
[5] Presto, Promoting bicycle riding for Everyone as a Daily Transport Mode, 2009
[6] Network Management Directorate, Cyclist Research, 2008

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Customers are generally dissatisfied with their personal security while riding

Personal security

Related attributes
(in order of importance)

1. Bike lock-up storage facilities and parking at destination (2.6%)
2. Clear lines of sight along bicycle route (e.g. no dark corners) (0.9%)
3. Adequate lighting on bicycle routes and roads (0.6%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

- **Lack of personal safety** and comfort, particularly at night, is identified as a key barrier to increasing cycling mode share[1]
- Similarly, Quantum Market Research found that **safety related to lighting at night** is a key priority for bike/Cycling path users[2]
- **Increasing the provision of bicycle storage facilities** in general[1] and at public transport interchanges[4] is seen as effective ways to increase the mode of share of bicycle riding and to encourage greater bicycle riding to public transport interchanges

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed personal security related attributes / initiatives in the following context:

- **Secure bike storage** at transport interchanges and at key destinations is a barrier to riding a bicycle to connect to public transport.
- Safety means having **adequate lighting** on roads and cycle paths so participants are able to see obstacles and have clear line of sight when riding
- Providing more **bicycle locking facilities** at more convenient locations including transport interchanges

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – The satisfaction scores for all three attributes in this category are below the overall average and fall between 4.6 and 5.1
- **Share of importance** – The share of importance for bike storage/parking at destination is the same as the overall average, while that of the other two attributes in the same category is below average
- **Initiatives** – While better street lighting on popular routes has an average share of importance (3.3%), the initiative of more and better located bicycle storage facilities (2.9%) is rated as less important

Link to findings from Walking CVP research

- *In general, bicycle riders tend to be less satisfied with their personal security than respondents who walk. Inadequacy of street lighting is identified as a common source of dissatisfaction for both modes*
- *Programs aimed at improving personal security for people who walk are viewed as second most important among all initiatives. In contrast, initiatives relating to personal security (better lighting and storage facilities) are less important compared to other initiatives for bicycle riders*

[1] Department of Infrastructure and Transport, Cycling, Riding and Access to Public Transport, 2012 [2] Quantum Market Research, Customer Scorecard Qualitative Findings, [3] Parson Brinckerhoff, The Provision and Use of Bicycle Parking at Sydney Region Public Transport Interchanges, Prepared for the Premiers Council of Active Living, 2009

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Customers are satisfied with the convenience related to time associated with bicycle riding and they would welcome initiatives designed to further increase time savings for bicycle riders

Convenience due to time

Related attributes
(in order of importance)

1. Distance of the trip (6.3%)
2. Time required to ride for the trip (2.8%)
3. Consistency or predictability of travel time (0.5%)
4. Time required to organize gear / prepare for journey (0.4%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

Convenience due to time was explored in the literature

- **Limited distance** is considered a constraint in relation to cycling[1]
- Department of Infrastructure[2] and Transport identify that **distance** is the most commonly reported reason for not riding to work / full-time study
- **Time saving** is identified as a key benefit of bicycle riding [3,4] and motivator for cycling[5,6]
- On the contrary, Quantum Market Research[7] find that **timeliness** has a negative impact on satisfaction for those using bike/Cycling paths
- Despite the time saving, **lack of time** is identified as a main barrier to cycling[3,8]

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed convenience due to time related attributes / initiatives in the following context:

- **Consistency of travel time** (i.e. that the trip takes approximately the same time on each ride and that expected time of travel equals the actual time of travel)
- Riding to work and riding home can be a **time saver**
- Being organised and ready to go means having the right shoes, helmet, bikes in working order, sunscreen etc. For some participants, particularly parents with dependent children, the **pre-journey planning** required is an important consideration as to whether they will choose to take the trip or not

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Average satisfaction scores for all four attributes in this category range from 6.3 to 6.8 and are higher than the overall average
- **Share of importance** – In this category, trip distance has the highest, above-average share of importance, followed by trip time
- **Initiative** –More direct routes and /or short cuts for bicycle riders (6%) and increasing the priority for bicycles at road intersections (4.6%) are important for persuading respondents to ride a bicycle more often/further

Link to findings from Walking CVP research

- *Across both active modes, respondents appear to be satisfied with trip distance, trip time and consistency of trip time*
- *Waiting time at traffic signals is a source of dissatisfaction for respondents who walk. The initiative of increasing the priority of bicycles at intersections is valued by bicycle riders*
- *In this attribute category, trip distance is consistently identified as an important attribute for Cycling and bicycle riding. Trip time is also considered important for Cycling*
- *Respondents believe they will be persuaded to walk or ride a bicycle through introducing more direct routes*

[1]Transport for London, Travel in London Report 2, 2010
[2]Department of Infrastructure and Transport, Cycling, Riding and Access to Public Transport, 2012
[3]AMR Interactive, Research into Barriers to Cycling in NSW, 2009
[4]Network Management Directorate, Cyclist Research, 2008
[5]City of Sydney, Cycling: Community Research to Optimise Program Effectiveness, 2012
[6]Environmetrics, Sydney Cycling research: focus groups, 2007
[7]Quantum Market Research, Customer Scorecard Qualitative Findings, 2012
[8]Woolcott Research, Spring Cycle, 2011

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Connectivity between bicycle routes has been consistently identified as important to bicycle riders in existing literature and qualitative research

Convenience due to ease of access and connectivity

Related attributes
(in order of importance)

1. Ease of connecting between bicycle routes (2.8%)
2. Access to a bicycle to use / availability of bicycles for hire (0.3%)
3. Accessibility of public transport connections (0.3%)
4. Convenience of bicycle riding for connecting to public transport (0.3%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

Existing literature shows that bicycle routes to be important

- Department of Infrastructure and Transport[1] identify that bicycle riding is more common in areas with **well-connected bicycle pathways** which allow people to ride from door-to-door safely and easily
- Findings from focus groups[2] support that the provision of **cycleways on key routes** could help promote further cycling

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed convenience through access and connectivity related attributes / initiatives in the following context:

- **A well integrated cycle path** that is closer to the starting point of the trip and takes participants where they need to go
- Being able to easily take a bicycle on the train, being able to park their bicycle securely at an interchange and being able to **easily connect** with a train station
- **Bicycle sharing and rental scheme** in CBD in order to encourage the usage of bicycle riding – the benefits of this suggested initiative include that it is a cheap and enjoyable means of travel, people do not have to own the bike and it would reduce worry about where to store the bike

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Accessibility of and convenience of connecting to public transport both have an average satisfaction score of 5.3. Respondents show below-average satisfaction towards availability of bicycle for hire (4.4) and connection between bicycle routes (4.8)
- **Share of importance** – The share of importance of connectivity is close to the overall average, while that of the other two attributes in the same category is low
- **Initiatives** –Improving the connection of bicycle routes to each other and places of interest (4.7%) is more important for persuading respondents to ride a bicycle than better connected bicycle routes with easy access to public transport (3.3%)

Link to findings from Walking CVP research

- *respondents appear to be satisfied with attributes relating to accessibility and connectivity*
- *Connection between routes is identified as a source of dissatisfaction for bicycle riders but not for respondents who walk*
- *Within this category, access to public transport and connectivity between bicycle routes are the most important attributes to respondents*
- *The initiative of improving the connection of footpaths and bicycle routes are important to both those that walk and current and potential bicycle riders. However, improving connections to public transport is more important for persuading respondents to walk more often/further than bicycle riding*

[1]Department of Infrastructure and Transport, Cycling, Riding and Access to Public Transport, 2012

[2] Network Management Directorate, Cyclist Research, 2008

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Consistent with existing literature, personal level of fitness and bicycle's carrying capacity are considered important

Physical, social and emotional wellbeing

Related attributes
(in order of importance)

1. Your personal level of fitness to ride a bicycle (7.5%)
2. Bicycle's capacity for carrying (e.g. shopping, change of clothe etc.) (5.3%)
3. Benefits to the environment through riding (e.g. reduced emissions, noise) (1.2%)
4. Social and community experience of riding a bicycle (0.4%)
5. Availability of bicycle riding companions and groups (0.1%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

A number of barriers and benefits of bicycle riding related to physical, social and emotional well-being are discussed in existing literature:

- **Lack of fitness** is a common barrier to bicycle riding in London[1] and Sydney[2]
- Another constraint related to bicycle riding is **limited carrying capacity**[1]
- One of the key benefits of bicycle riding is its **positive impacts on the environment**[3,4]
- Findings from qualitative research[5] suggest that **social networks** seemed to play a role in encouraging cycling, with the most passionate cyclists mentioning bicycle riding with 'mates', group or club

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed physical, social and emotional wellbeing related attributes / initiatives in the following context:

- **Health benefits** - Health and fitness benefits including a sense of achievement, freedom, fitness and a relief from stress
- **Enjoying the company of others**, participating in the culture of bicycle riding and sharing the experience – In particular, those with dependent children identify wanting to spend more time with their children as the primary reason they would consider bicycle riding (particularly recreationally)

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Respondents are more satisfied with the environmental (7.5) and social benefits of bicycle riding (6.0) and personal level of fitness (5.9). They are significantly less satisfied with the bicycle's carrying capacity (5.2) and the availability of bicycle riding companions (4.7) (both below overall average)
- **Share of importance** –The share of importance for personal level of fitness and bicycle's carrying capacity are significantly above average
- **Initiatives** –Projects to promote social aspects (1.9%) and health benefits (2.3%) are rated as less important than other initiatives

Link to findings from Walking CVP research

- *Respondents expressed high satisfaction with the health benefits associated with Cycling and bicycle riding. In addition, the social and environmental benefits are also valued by respondents from both active modes*
- *Well-being attributes are considered important for bicycle riding and Cycling however fitness level and carrying capacity are considered important for bicycle riding, while respondents who walk tend to value physical and emotional well-being*
- *Promotion of health benefits is preferred more by respondents who walk than those respondents who currently or potentially would consider riding a bicycle*

[1] Transport for London, Travel in London Report 2, 2010
[2] City of Sydney, Cycling: Community Research to Optimise Program Effectiveness, 2012
[3] Taverner Research, Sydney Cycling Research, 2009
[4] AMR Interactive, Research into Barriers to cycling in NSW, 2009
[5] Network Management Directorate, Cyclist Research, 2008

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Weather conditions are consistently identified as a key driver of bicycle riding in existing literature and quantitative research

Journey ambience and environment

Related attributes
(in order of importance)

1. Appropriate weather conditions for bicycle riding (13.4%)
2. Enjoyment of outdoors (e.g. scenery, personal space, fresh air) (2.0%) ♥
3. Cleanliness of the footpaths, streets and public spaces (e.g. levels of graffiti, fly posting, litter) (0.2%) ♥

♥ Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

- **Weather** is consistently identified as a key factor for choosing to /not to cycle[1,2,3]
- Sydney bicycle riding Survey[4] suggests that commuter bicycle riding dropped by around 30% in winter months in climates such as Sydney, while recreational bicycle riding can drop by 50% or more depending on the weather
- **Enjoyment of outdoors** is considered to be a key benefit of bicycle riding by respondents in Sydney bicycle riding research[5]
- Results from telephone interviews[2] with NSW residents suggests that **being outside on a nice day** is a key driver of bicycle riding behaviour
- Previous studies reveal that **cleanliness** related to cycling /Cycling is not a factor of high importance or satisfaction to Sydney respondents[6,7]

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed journey ambience and environment related attributes / initiatives in the following context:

- **Connection with nature** - "connecting with the urban environment"
- Variability of **weather conditions** and **wet weather** due to safety concerns over slipping

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Respondents are highly satisfied with enjoyment of outdoors (7.2). Satisfaction scores for weather conditions and cleanliness of public spaces are also above overall average (5.9-6.0)
- **Share of importance** – Appropriate weather conditions for bicycle riding is most important to respondents in this category. The share of importance for enjoyment of outdoors and cleanliness of public space is lower than the overall average

Link to findings from Walking CVP research

- *Appropriate weather conditions is identified as a Moment of Truth for both active modes*
- *Majority of respondents are satisfied with the enjoyment of outdoors from bicycle riding, while respondents who walk for purposes other than commute enjoy a pleasant route*
- *Satisfaction with cleanliness is average with low importance by respondents across both modes*
- *The initiative of creating a more pleasant environment along footpaths to promote Cycling is more important to respondents*

[1] City of Sydney, Cycling: Community Research to Optimise Program Effectiveness, 2012
[2] Woolcott Research, Spring Cycle, 2011
[3] AMR Interactive, Research into Barriers to cycling in NSW, 2009
[4] BTS, Sydney Cycling Survey, 2011
[5] Taverner Research, Sydney Cycling Research, 2009
[6] Quantum Market Research, Customer Scorecard Qualitative Findings, 2012
Quantum Market Research, Customer Scorecard Research Quantitative Findings, 2012

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Level of comfort when riding a bicycle is a key driver of bicycle riding that is also of high satisfaction and importance for customers

Comfort through equipment and support facilities

Related attributes
(in order of importance)

1. Feeling comfortable while riding (e.g. comfortable seat, equipment) (3.1%)
2. Facilities available at the end of the trip (e.g. showers, change rooms, storage) (1.3%)
3. Having comfortable equipment/clothing (e.g. helmet, breathable clothing) (1.2%)
4. Adequate amenities and facilities during the trip (e.g. water fountain, toilets) (0.3%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

Existing literature shows that the provision of mid- and end-of-trip facilities is important in promoting comfort in cycling.

- **Comfort** is identified as a key reasons for choosing other modes of transport over bicycle riding[1]
- Department of infrastructure and Transport[2] finds that riding is more common in areas where secure **facilities for parking and changing** are available
- **Lack of trip facilities (e.g. Storage, shower)** is a key barrier to cycling[3,4], especially for individuals who do not have access to these facilities at work or at gym[3]
- Quantum Market Research[5] found that the **unavailability and poor quality of toilets** during the trip is a key dissatisfaction point related to cycling

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed comfort related attributes / initiatives in the following context:

- **Comfort** of seat - those complaining of comfort agreed they would be willing to consider a non-standard bike for added comfort
- Having somewhere to **change and shower** at work - the "easier the better" and not being able to take bicycle into the office or having a place to shower

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – Compared to the overall average, respondents are more satisfied with the level of comfort of bicycle riding (6.2) and of equipment/clothing (6.4), they are significantly less satisfied with the availability of amenities during (4.8) and at the end of the trip (4.6)
- **Share of importance** – The share of importance of feeling comfortable while riding is above the overall average, while that of the other attributes in this category is below average
- **Initiatives** – The share of importance of all initiatives in this category (e.g. more facilities during and at the end of trip and at public transport interchanges) range from 1.5-2.6 % and are below the overall average

Link to findings from Walking CVP research

- *For both Cycling and bicycle riding, respondents are dissatisfied with the availability of amenities during and at the end of the trip*
- *Survey results suggest that support facilities are of lower importance than other journey experience attributes for both modes however the overall feeling of comfort is important for bicycle riding experience*
- *Providing shelter is more important for persuading respondents to walk more often/further than ride a bicycle. Providing more amenities during and at the end of trips are less important than other initiatives for persuading respondents to walk/ride a bicycle more often/further*

[1] Woolcott Research, Spring Cycle, 2011 [2] Department of Infrastructure and Transport, Cycling, Riding and Access to Public Transport, 2012 [3] City of Sydney, Cycling: Community Research to Optimise Program Effectiveness, 2012
[4] AMR Interactive, Research into Barriers to Cycling in NSW, 2009 [5] Quantum Market Research, Customer Scorecard Qualitative Findings, 2012

Source: Transport for NSW, Cycling CVP Research, June 2013

INSIGHT: Financial costs and initiatives for bicycle riding are of lower importance compared to other aspects of the bicycle riding experience

Financial considerations

Related attributes
(in order of importance)

1. Cost of equipment and maintaining a bicycle (1.9%)

Moment of Truth

Existing literature review and qualitative research used to inform quantitative research

Existing Literature

Existing literature suggests that bicycle riding is associated with cost savings but is likely to incur certain operating and maintenance costs.

- Through a series of qualitative and quantitative research, AMR[1] identify **savings on petrol, public transport and gym costs** as one of the key benefits of cycling. Other qualitative research also indicates that cost saving is a benefit[2] and key motivator of cycling[3]
- Respondents in AMR research[1] identified financial rewards (e.g., rebates or taxation) as a way to address barriers associated with cycling
- A report released by Transport for London in 2010[4] suggests **operating costs** is a barrier

Qualitative research

Participants in the focus groups and in depth telephone interviews discussed financial consideration related attributes / initiatives in the following context:

- Free way of travelling - **potential cost savings** on petrol and public transport
- Perceived cost for potential bicycle riders due to the cost of bicycle equipment
- Participants suggested initiatives of cash back scheme on the **cost of bicycle** to encourage bicycle riding

Quantitative research

Analysis of the quantitative research shows that:

- **Satisfaction** – The average satisfaction score for the cost of equipment and maintaining a bicycle (5.8) is slightly higher than overall average
- **Share of importance** – The share of importance of cost of equipment and maintenance is significantly below average (2.6%).
- **Initiatives** – Both initiatives of providing financial incentives or discounts to people who cycle to work (2.5%) and incurring congestion charges on drivers coming into busy cities/towns in peak hours (1.8%) have below average share of importance

Link to findings from Walking CVP research

- *While respondents are highly satisfied with the cost savings associated with Cycling, cost of equipment and maintaining a bicycle are identified as a barrier for bicycle riding, in particular to potential bicycle riders*
- *Financial incentives for Cycling and bicycle riding are less important for persuading customers to walk/ride a bicycle more often/further which is In line with the finding that cost is of average or below importance to people who walk and to current and potential bicycle riders*

[1] AMR Interactive, Research into Barriers to bicycle riding in NSW, 2009
[2] Network Management Directorate, Cyclist Research, 2008
[3] Environmetrics, Sydney bicycle riding research: focus groups, 2007
[4] Transport for London, Travel in London Report 2, 2010

Source: Transport for NSW, Cycling CVP Research, June 2013

10. Where do I go for further information?

Refer to Appendices (separate supporting document)