Appendices

Appendix A – Key papers relating to personal security perceptions on public transport

References cited in these resumés of key papers are listed in the reference sections of those papers.
n/a – not applicable

Reference
Auckland Regional Transport Authority. 2005. ARTA Customer Satisfaction Summary Report.

Market research methods
Customer satisfaction survey

Importance of personal security and its impact on mode-choice/travel decisions
n/a

Evidence on personal security concerns
Surveys of passengers (about 4,000) were conducted in 2005. Passengers were interviewed by trained researchers at bus stops, wharves, rail stations, and on vehicles, using a questionnaire.

The passengers were asked to contribute to satisfaction scores for various attributes, including safety. The safety satisfaction scores were as follows:
  − Trains   (4.4/6.0)
  − Ferries   (4.4/6.0)
  − Buses   (4.3/6.0)

The safety satisfaction scores were similar to the scores assigned to other attributes, such as cleanliness, availability of seating, etc.

The performances of individual operators were assessed. One of the performance measures was personal safety:
  − Trains (all Connex) were given a high rating for safety (4.5/6.0)
  − Ferries had good ratings for safety   (4.9-5.9/6.0)
  − Buses had the lowest ratings   (4.1-5.0/6.0)

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
n/a

Reference
Audit Office of New South Wales. 2003.
Auditor-General's Report, Performance Audit, State Rail Authority, CityRail passenger security

Market research methods
n/a

Importance of personal security and its impact on mode-choice/travel decisions
n/a

Evidence on personal security concerns
n/a

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
The report discusses the Symonds Travers Morgan (1996) findings from the 1995 survey of passengers. The report states that 18% of respondents indicated they felt safe travelling at night during the week. *(In reality, 20% of on-system respondents felt safe travelling at night during the week and 15% of telephone respondents felt safe travelling at night during the week.)*

The report notes that passengers in that survey indicated strong support for:
   − an increased presence of transit police and/or security guards on trains
   − an increased presence of security guards on platforms
   − improved lighting in station car parks, walkways, subways and on platforms

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
Most of the initiatives described above become part of the NSW Government's security upgrade for CityRail stations and trains.

Passengers were surveyed in September 1998, after security guards were introduced. Those guards seemed to affect perceptions of security: up to 35% of passengers felt safe travelling on trains at night; and 27% now felt safe waiting on stations at night. Passengers generally felt safer on trains with security guards than without.

Passengers were surveyed again in April 1999, and perceptions of security were similar: 33% of passengers felt safe on trains travelling at night, and 29% of passengers felt safe waiting on stations at night.

Key points and implications
n/a

Reference

Booz Allen Hamilton. 2002. *Task B.3 Market Perspectives, Work's Team B: Network and Service Planning, Stage 2: Base Line Studies, Metropolitan Bus Plan.* Report for Department of Infrastructure. Melbourne, Australia: Booz Allen Hamilton.

Market research methods

An on-going rolling survey of public transport passengers.

Importance of personal security and its impact on mode-choice/travel decisions

A 1999 survey of 1082 bus users by Yann Campbell Hoare Wheeler (YCHW) asked respondents *unprompted* questions about problems and concerns with bus services. The main concern was the need for buses to be more punctual; other concerns related to buses being more frequent and having longer hours of operation.

The survey also asked bus users to rank improvements to bus services, including the following improvements which relate to security:
- lighting and video surveillance at bus stops
- safer pedestrian crossings at bus stops
- bus services operating closer to home

Interestingly, bus users gave these security-related improvements relatively low rankings. Reliability was given the highest rating. Other services to receive a high rating were the provision of more services during weekends, peak hours and late at night on weekends. Improved bus information was also given a high rating.

A 1988 survey of Met bus users asked *prompted* questions about possible key concerns. Adequacy of bus shelters and overcrowding were rated higher than more obvious security issues (such as safety of buses after dark).

However these more obvious safety issues were still a concern:
- safety of buses after dark was a key concern for about 35% of respondents
- assault at bus stops and on buses and the effectiveness of drivers in dealing with louts was a key concern for about 20% of respondents

Evidence on personal security concerns

n/a

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes

n/a

Key points and implications

n/a

Reference

Booz Allen Hamilton. 2003. Investigation into Public Transport Passenger Safety and Security on the Arterial Road Network. *R&D Project – P862,* Commissioned for VicRoads, Melbourne, Australia.

Market research methods

The market research methods primarily employed intercept surveys. The intercept surveys were undertaken at three tram stops and three bus interchanges around Melbourne. Around 60 respondents were interviewed on one weekday between 2pm and 5pm. Focus groups were also recruited.

Importance of personal security and its impact on mode-choice/travel decisions

The intercept survey revealed that 95% of respondents felt secure overall using the bus or tram.

But the fears of respondents increased after dark. Of the intercept survey respondents, only 31% indicated that they would use a tram or bus service after 9.00pm.

Evidence on personal security concerns

The report discusses statistics relating to victims of crime related to bus and tram use:
  – Victims were most likely to be male – interestingly, 62% of all victims were male, with a strong representation for males under 18. Anecdotal evidence was that male youths tend to target each other as individuals or in groups. Incidents include robberies, bullying and assaults.
  – Victims were most strongly represented in the 18 to 39 year-old age group. This age group is the most likely to travel after dark, particularly on Friday and Saturday evenings.

The report also notes a national survey of women's safety and security (Australian Bureau of Statistics 1996). The survey found that 30% of women did not use public transport because they felt unsafe doing so. Furthermore, 38% of women did not walk alone after dark because they felt insecure.

The intercept survey found that around 40% of respondents felt insecure using public transport (buses and trains) at night. It also found that the proportion of respondents who felt insecure was highest (about 50%) when waiting for the bus or tram.

However, the incidence of insecurity was roughly constant across all stages of the journey. A similar level of insecurity was found when walking to the stop or getting to the final destination (just under 50%). Insecurities were lowest on the bus or tram – about 40% of people felt insecure on these vehicles.

The age groups that felt most insecure were those between 16 and 18 years old and those over 40 years old. However, the report notes that people over 40 are less likely to be victims, according to crime statistics.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

The intercept surveys used two approaches to elicit suggestions for 'countermeasures' to address security concerns:
  – open questions
  – asking respondents to nominate their top three countermeasures (and then listing the percentage who chose the countermeasure as one of their top three preferences)

In response to the open question, many intercept survey respondents (and focus group participants) nominated increased security staff or conductors.

In responses to the question about the top three countermeasures, CCTV cameras (16%) and better lighting (13%) were giving the highest rankings. However, countermeasures such as real time information, clean and visible shelters, public telephone at stop, and help-point emergency intercom (11%) were all given similar ratings. This even spread of responses was interpreted as evidence of the importance of a package of countermeasures.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
n/a

Reference
Booz Allen Hamilton. 2005. *Dunedin Modal Change Market Research Project.* Prepared for the Otago Regional Council, Dunedin, New Zealand.

Market research methods
This research project involved a random household survey of ~600 non-bus users.

Importance of personal security and its impact on mode-choice/travel decisions
The survey of non-bus users asked respondents for their main and other reasons for not taking a bus on a given journey.

The most common reasons given were:
- infrequency of services
- absence of a direct route
- inconvenience

Security concerns did not appear to deter many non-bus users from using the bus instead of car.

None of the non-bus users chose *I don't feel safe waiting for a bus* or *I don't feel safe walking to/from the bus* as a main reason for not using the bus.

Only a negligible percentage of non-bus users chose either of these reasons as another reason for not using the bus. The highest incidence was on education-based journeys and, even there, only 3% listed *I don't feel safe waiting for a bus* as a reason for not using the bus.

Evidence on personal security concerns
n/a

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
Non-bus users were asked to rate the likelihood that they would use the bus if service improvements were made to address the reasons given for not using the bus.

The most effective improvements were greater frequency, more direct bus trips, and faster bus trips.

In contrast, the introduction of safer buses has only a small impact on the likelihood of using buses: only negligible percentage described themselves as likely to use the bus if bus stops were safer.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
The report indicates that improvements to bus stop or bus security are unlikely to cause many non-bus users in Dunedin to switch to bus for journeys.

It is possible that the same conclusion applies to other cities and also to rail transport. Therefore, attempts to attract non-public transport users with improvements to security may be futile.

Focusing attention on increasing patronage on existing public transport by making existing patrons feel safer at the times when now they avoid public transport, may be more successful.

Reference

Casey, C., Crothers, C. 2005. *Perceptions of public safety in the Auckland CBD.* Prepared for the Auckland City District Police, Auckland, New Zealand.

Market research methods

The report comments on the findings of a 2005 customer-satisfaction survey of three discrete population samples:
- 820 random households
- 209 senior college students
- 117 international tertiary students

The report also examines some strategies that the council has developed which may influence on perceptions of public safety in the Auckland CBD.

The strategies that were considered include CCTV and lighting. As these security initiatives also have relevance to perceptions of security in public transport they are discussed in this review.

Importance of personal security and its impact on mode-choice/travel decisions

n/a

Evidence on personal security concerns

Casey & Crothers discuss previous research relating to public safety in Auckland.

In 2002, Auckland City carried out a survey of perceptions of public safety. The survey included residents, workers and visitors to the central city.
- Approximately 50% of respondents felt unsafe alone in the city after dark, corresponding to 64% of women and 42% of men
- The majority of respondents felt unsafe because of offensive and threatening behaviour, and isolated back streets
- Respondents also identified poor street lighting and lack of police/surveillance as problems.

Casey & Crothers also identify literature relating to Asian people in the Auckland CBD, including international students. They identify literature stating that international students are more likely to be victims of crime.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

In the 2002 survey of perceptions of public safety, respondents identified that the most important improvement would be to provide police. The second priority was more lighting, and the third was CCTV.

Casey & Crothers draw attention to research by Megan Fillder Research (2005) which suggests that Asians seek a greater police presence, improved lighting, *and safe public transport*.

The report primarily discusses the 2005 survey of perceptions of safety in the CBD. This survey found significant concerns about the CBD among some people, especially students:

Perception	Telephone survey %	Domestic students %	International students %
Safe	86	53	76
Unsafe	14	35	22
No response		13	1

Respondents were asked why they felt unsafe. The most frequent reason cited was the presence of people loitering in the CBD at night. These people are ranked in terms of number of 'mentions':
- bad/dodgy/creepy people
- homeless people
- drunks and intoxicated persons

- street kids
- criminals
- boy racers

Other survey questions showed that (of the telephone respondents) about 21% felt safer over the past five years while 29% felt less safe. Interestingly, this would cover the period in which Auckland City introduced initiatives to improve security.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
Only a few respondents mentioned any of the security initiatives that had been introduced. The security initiatives that elicited the most 'mentions' were good lighting and video camera operations.

Key points and implications
This report draws attention to the security concerns of international students, which is relevant because international students are commonly understood to be frequent users of public transport.

The report provides similar findings to the research relating to perceptions of security on public transport. In particular, certain groups or types of 'undesirable' people are commonly seen as a threat.

The report finds that the relative effectiveness of various security initiatives is comparable to that in the literature relating to public transport:
- a personal presence (e.g. police) is given the highest rating
- improved lighting is also rated very highly
- CCTV is also rated high but not as high as lighting or a personal presence

Reference
Gravitas Research & Strategy Limited. 2005. *Quality of Life in New Zealand's Twelve Largest Cities.* Prepared for Quality of Life Project Team and Ministry of Social Development. Published 28 Feb 2005.

Market research methods
Nationwide CATI telephone survey of 7800+ respondents with segments of 500+ respondents in each of the main cities (or suburbs, in the case of Auckland).

Importance of personal security and its impact on mode-choice/travel decisions
n/a

Evidence on personal security concerns
The survey found that 77% of New Zealand residents agreed or strongly agreed that public transport was safe.

Regional Differences
Perceptions of safety were similar across all cities or suburbs, but highest in Wellington:
  – 87% of Wellington residents agreed or strongly agreed that public transport was safe
  – 78% of Auckland residents agreed or strongly agreed
  – 78% of Christchurch residents agreed or strongly agreed

Perceptions of danger were highest in Manukau and Waitakere:
  – 11% of Manukau residents disagreed or strongly disagreed that public transport was safe
  – 7% of Waitakere residents disagreed or strongly disagreed

Gender Differences
Perceptions of safety were slightly lower among women:
  – 5% of women disagreed or strongly disagreed that public transport was safe, compared to 3% of men

Age Differences
Perceptions of safety were particularly positive among residents aged 65 years or over:
  – 85% agreed or strongly agreed that public transport was safe
  – 1% disagreed or strongly disagreed

Perceptions of safety were lowest among residents aged 15-24 years:
  – 75% agreed or strongly agreed that public transport was safe
  – 8% disagreed or strongly disagreed

Ethnicity Differences
Both Asian/Indian respondents and NZ European respondents expressed similar perceptions of safety.

However, Maori had lower perceptions of safety of public transport. About 6% disagreed or strongly disagreed that public transport was safe.

Pacific Peoples had the lowest perceptions of safety of public transport. About 9% disagreed or strongly disagreed that public transport was safe.

Perceptions of Safety After Dark
The survey also asked about perceptions of safety in the city centre after dark. These perceptions are important because a significant component of a public transport trip is waiting and walking out after dark.

Perceptions of safety after dark by gender				
			Twelve Cities respondents – data extracted from report and tabulated	
Gender	Unsafe or very unsafe		Safe or very safe	
	Local neighbourhood after dark %	City centre after dark %	Local neighbourhood after dark %	City centre after dark %
Males	8	18	77	52
Females	21	36	61	36

The key findings from this table include the following:
- Females are more likely than males to feel unsafe or very unsafe after dark
- Both females and males are more likely to feel safe in their own neighbourhoods in the dark than in the city centre after dark

As people got older, the proportion of people who felt safe in the city declined, but this can be attributed mostly to an increased number of 'neutral' responses because older people have less experience with city centres after dark:

Perspectives of safety in the city after dark			
		Twelve Cities respondents – data extracted from report and tabulated	
Age (years)	Unsafe or very unsafe %	Safe or very safe %	Don't know %
15-24	24	47	1
25-49	30	46	3
50-64	30	41	9
65+	30	33	21

The tables below show how perceptions of safety differ across the twelve main cities:

Regional comparisons: Perspectives of safety in the neighbourhood after dark		
		Twelve Cities – data extracted from report and tabulated
Region	Unsafe or very unsafe %	Safe or very safe %
Manukau	23	59
Auckland	19	63
Hamilton	19	64
Waitakere	16	67
Lower Hutt	15	68
Christchurch	14	67
Tauranga	13	74
Porirua	11	71
North Shore	9	83
Wellington	8	78
Dunedin	8	80
Rodney	7	79
Total Twelve Cities	**15**	**69**

The table shows that the people in the greater Auckland region are more likely to feel apprehension in their own neighbourhoods after dark.

Residents in Wellington, Dunedin and Rodney are the least likely to fear for themselves in their own neighbourhoods.

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Regional comparisons: Perspectives of safety in the city/town centre after dark		
		Twelve Cities – data extracted from report and tabulated
Region	**Unsafe or very unsafe %**	**Safe or very safe %**
Manukau	35	42
Christchurch	35	29
Hamilton	34	37
Tauranga	32	41
Auckland	31	37
Waitakere	27	44
Porirua	26	46
Dunedin	23	53
Lower Hutt	19	51
Wellington	19	55
North Shore	16	62
Rodney	13	62
Total Twelve Cities	**28**	**44**

People in the greater Auckland region are also more likely to be fearful in the city/town centres. However, Christchurch, Hamilton and Tauranga also emerge as cities where the fear associated with cities is relatively pronounced.

Christchurch is an interesting case because fears associated with the city centre are very high (34%) but fears associated with neighbourhoods are relatively moderate (14%). This perhaps indicates that travelling and/or waiting for buses in the city is more distressing to residents than travelling and/or waiting for buses in a resident's own neighbourhood.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
The survey indicates, perhaps surprisingly, that younger people (both 15-24 and 25-49 age groups) are more likely to have concerns about safety of public transport than older people. It is not clear whether this is related to perceptions of risk or because young people use public transport more in evenings.

The survey also indicates that a minority of Maori and Pacific People have concerns about safety of public transport. Again, the reasons for this are not clear but it could be related to other factors (e.g. insecurity from being an immigrant).

Reference

Morris, A., Reilly, J., Berry, S., Ransom, R. 2003. *New Zealand National Survey of Crime Victims 2001*. Commissioned for the Ministry of Justice, Wellington, New Zealand. *http://www.justice.govt.nz/pubs/reports/2003/victims-survey/foreword.html*

Market research methods
A random sample of around 5,300 people. Only one interview per household was carried out and a quasi-random procedure was used for selecting the particular participant for interview.

Computer Assisted Personal Interviewing (CAPI) was employed because it produces more reliable data.

Importance of personal security and its impact on mode-choice/travel decisions
The survey asked people about measures employed to protect against victimisation at night-time. One of these measures was 'try not to use buses or trains'. The survey responses indicated the following:
- 19% of people 'always' avoided buses or trains at night
- 7% of people 'mostly' avoided buses or trains at night
- 6% of people 'sometimes' avoided buses or trains at night

As the table below shows, 24% of women 'always' avoided buses or trains at night, compared to 13% of men. Similarly, 8% of women 'mostly' avoided buses or trains at night, compared to 5% of men.

Table A10.1a   Measures taken by participants to protect themselves against victimisation at night by sex: percentage.

Frequency measure is taken	Always		Mostly		Sometimes		Rarely		Never	
Gender	F	M	F	M	F	M	F	M	F	M
Measure										
Use a car or taxi rather than walk	54.6	27.9	23.5	22.7	10.4	16.3	4.4	13.1	4.4	17.5
Go out with someone else rather than by yourself	44.0	11.8	31.5	22.0	13.0	23.1	5.3	19.5	4.0	22.0
Stay away from certain streets, areas or activities	40.3	15.8	26.6	21.4	16.4	27.5	6.2	17.1	6.6	16.2
Try not to walk near certain sorts of people	29.6	11.4	22.3	15.3	24.6	30.8	10.0	20.4	9.5	20.2
Try not to use buses or trains	23.9	12.8	8.0	5.3	6.2	5.6	7.3	10.1	14.7	27.5
Carry a weapon or something you could use as a weapon	7.0	2.1	4.4	1.8	7.1	3.4	12.7	9.6	66.6	82.0
Carry a personal alarm of some sort	3.9	1.2	1.4	0.4	3.2	0.9	5.5	3.7	83.8	92.7

Sample size (people) Women: 3001; Men: 2146

Evidence on personal security concerns
The tables below show that women are more likely than men to feel 'a bit' or 'very' unsafe walking alone in the neighbourhood after dark.

These fears are similar across all ages and ethnic groups, except slightly more pronounced for people aged 60+ and people of Pacific ethnicity.

Table A9.3a Feelings of safety walking alone in neighbourhood after dark by sex: percentage.

Feeling of safety	Gender	
	Women %	**Men %**
Very safe	13.5	41.5
Fairly safe	40.6	47.1
A bit unsafe	30.1	9.5
Very unsafe	15.1	1.7
A bit unsafe or very unsafe	45.2	11.1
Sample size (people)	3001	2146

Table A9.3b Feelings of safety walking alone in neighbourhood after dark by age: percentage.

Feeling of safety	Age group (years)				
	15-16	**17-24**	**25-39**	**40-59**	**60+**
Very safe	20.5	29.2	27.7	30.2	21.1
Fairly safe	53.0	43.9	42.2	44.0	43.7
A bit unsafe	17.7	19.6	22.0	18.0	21.5
Very unsafe	8.8	7.3	8.0	7.2	12.4
A bit unsafe or very unsafe	26.5	26.9	30.0	25.2	33.9
Sample size (people)	155	552	1544	1636	1258

Table A9.3c Feelings of safety walking alone in neighbourhood after dark by ethnicity: percentage.

Feeling of safety	Ethnicity %			
	European	**Māori**	**Pacific**	**Other**
Very safe	26.1	35.7	28.5	24.3
Fairly safe	44.3	42.2	33.4	45.6
A bit unsafe	20.5	16.3	21.9	22.8
Very unsafe	8.6	5.5	15.9	6.7
A bit unsafe or very unsafe	29.1	21.8	37.8	29.5
Sample size (people)	3629	922	745	236

Table A9.3d Feelings of safety walking alone in neighbourhood after dark by ethnicity and sex: percentage.

Ethnicity	European %		Māori %		Pacific %		Other %	
Gender	Female	Male	Female	Male	Female	Male	Female	Male
Feeling of safety								
Very safe	11.7	41.2	24.1	48.0	15.3	42.8	12.6	35.7
Fairly safe	40.9	47.9	41.7	42.8	31.7	35.1	40.5	50.6
A bit unsafe	31.2	9.1	24.2	7.9	27.0	16.5	33.5	12.3
Very unsafe	15.2	1.7	9.7	1.2	26.0	5.1	13.1	0.4
A bit unsafe or very unsafe	46.4	10.8	33.9	9.1	53.0	21.6	46.6	12.7
Sample size (people)	1554	2075	343	579	291	454	115	121

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
n/a

Reference

Pinnacle Research & Capital Research. 2001. *Reducing car use by morning commuter*s. *www.pinnacleresearch.co.nz*

Market research methods
The sample for section 4 consisted of 737 car commuters across Auckland, Wellington and Christchurch. Respondents appeared to have been interviewed in-person.

Importance of personal security and its impact on mode-choice/travel decisions
The survey of car commuters, described in section 4 (unpublished), indicated that security is not one of the main reasons for avoiding public transport.

The survey asked respondents open-ended questions about their reasons for not choosing passenger transport.

The survey responses indicated that security was not a common driver of mode-choice decisions. The survey results (unpublished) identify responses that fit into the PT service too crowded / not safe / too uncomfortable category. This category was given as a main reason for 1% or less of the sample, across Auckland, Wellington and Christchurch.

Evidence on personal security concerns
The survey asked people to whether they agreed with the following statements:
   − I feel safe riding on PT
   − I feel it is safe to wait at a bus stop / train or ferry station during the day

The findings were as follows:
   − The majority of people felt safe during the day
      • 77% agreed or strongly agreed with both statements
      • 86% agreed or strongly agreed with the first statement
      • 86% agreed or strongly agreed with the second statement
   − Women were slightly less likely to feel safe, but the gender differences were not particularly large
   − Aucklanders were less likely to feel safe - 81% of Auckland residents agreed or strongly agreed, compared to 91% of Wellington residents

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
n/a

Reference

Smith, M.J., Clarke, R.V. 2000. Crime and Public Transport. *Crime and Justice 27:* 169-233.

Market research methods

The paper mentions the Shellow, Romualdi & Bartel (1974) suggestion that travel decisions should be analysed by type of trip (e.g. commuting in work in the CBP, off-peak shopping by those without).

Importance of personal security and its impact on mode-choice/travel decisions

The paper notes the 'cycle of fear' described by Carr & Spring (1993):

- Crime on public transport leads to increased fear, which in turn results in a drop in patronage.
- The drop in patronage means there is less guardianship from other passengers and crime risks increase even more.
- Fear rises again, leading to a further drop in patronage.

The paper notes that fear of crime can encourage patrons to make fewer trips. Fear of crime can also encourage patrons to shift to other forms of public transport or to private cars. However, ascertaining the impact of fear of crime on modal shift is difficult because a number of other factors affect modal shift.

Unlike motorists, many public transport users face a high marginal cost associated with each trip (unless they have a monthly pass, etc.). Therefore, public transport users are going to weigh a decision on using public transport more carefully, and security may be an important factor in that decision.

Shellow, Romualdi & Bartel (1974) found that riders of both bus and rail agreed the both systems were not safe after 9:00 pm, which 90% reporting that they used neither system after that time. Almost no respondents reported that they used these forms of public transit after midnight.

The Department of Transport (1986) study of crime on the Underground found that one-half of their sample of passengers did not use the Underground at night, with one-third of these giving fears about security as the reason.

Evidence on personal security concerns

The Greater London Council Women's Committee (1985) survey of women found that half described buses as safe during the day, but only 9% described buses as safe at night.

Shellow, Romualdi & Bartel (1974) found that the least secure areas of the rail system were stairs, ramps and tunnels, followed by train platforms and the trains themselves. The most secure places were buses, bus stops, and walking from home to the bus stop or stations.

Patterson (1985) surveyed respondents attending senior centres in Philadelphia and found that fear was highest while waiting at the bus stop, followed by walking to and from the stop, and on the bus itself.

Brantingham, Brantingham & Wong (1991) claim that fear on public transport is related to the unpredictability and uncontrollability of exposure to potential crime situations. Patrons do not know who they are sitting next to and cannot exit the vehicle until the next stop. Furthermore, exiting the vehicle can lead to unknown situations and persons. This lack of control is exacerbated by the lack of staff to provide reassurance.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

Wilson & Healy (1986) advocate three sets of measures to manage fear associated with graffiti on a train system in Australia. These measures are designed to reassure patrons that graffiti and violence are not the same thing:

- discouraging publicity about graffiti, art and artists
- differentiating between vandalism and violent crime incidents on the train system
- discussing the measures taken to combat vandalism and graffiti and those used against violent crime.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes

The paper discusses New York City publicity campaigns to inform the public about greatly reduced levels of crime on the subway. However, they note that only half of the respondents in a study said they believed the crime statistics showing a drop in subway crime.

A series of initiatives were introduced at the London Underground to address exaggerated fears of crime at quiet, low-crime, suburban stations. These initiatives involved passenger alarm points monitored by ticket sellers, waiting areas, mirrors and a staffed information point. However, Webb & Laycock (1992) reported that off-peak travellers did not seem to feel that these stations were any safer three months after the measures were adopted. Therefore, those researchers called for more publicity to increase awareness of the changes.

The paper notes that CCTV can fail to reassure patrons, unless patrons have confidence in CCTV. Brown (1998) found that women using town centre facilities received little comfort from CCTV because it detects only extreme forms of assault, whereas the source of much of the fear is related to the unruly and harassing behaviour of men. Trench, Oc & Tiesdel (1992) found that women were sceptical about the level of monitoring behind CCTV.

The paper provides considerable discussion on strategies to reduce incivilities because these have been found to increase fear on public transport. These strategies are based on Wilson & Kelling's (1982) 'broken windows' theory: if a window remains unrepaired then people will become intimidated and will not seek to control antisocial behaviour. The solution to this cycle is 'zero tolerance' policing.

The authors note that the 'zero tolerance' approach was applied to the New York City subway in the 1990s. A crack-down on minor offending (especially fare-evasion) led to less felonies.

However, the graffiti clean-up in the New York subway in the 1980s did not appear to be successful at reducing crime rates. In addition, incivilities other than graffiti had not disappeared from the New York subway by 1989.

The paper also discusses policies to 'design out' crime by tailoring the public transport systems to prevent specific crimes. For example, spacious platforms, open escalators, passageways between platforms, CCTV, attendants, and a lack of restrooms and vendors were implemented in the Washington Metro.

Similarly, Felson et al. (1990) recommended a range of low-cost measures to reduce opportunities for crime on existing stations: these recommendations were designed to improve surveillance by other passengers or passersby, to allow wider lines of sight, and to increase their ability to call for help. For example, see-through fencing on the periphery should be installed or repaired to prevent access. Multiple entrances should be closed off and the waiting areas moved closer together.

Felson et al. (1996) reported on the impact of a massive redevelopment of the Port Authority Bus Terminal in Manhattan. The location of restrooms closer to retailers, introduction of corner mirrors, elimination of nooks, improvement of lighting, etc. all contributed to lower rates of crime and disorder.

Key points and implications

The authors highlight literature offering insights into the causes of security concerns including Carr & Spring's (1993) 'cycle of fear' and Brantingham, Brantingham & Wong's (1991) claim that fear on public transport is related to the unpredictability and uncontrollability of exposure to potential crime situations.

The authors draw attention to literature that suggests patrons can be sceptical or unaware of security initiatives such as CCTV.

The authors also provide wide discussion on policies to prevent crime associated with public transport, either directly or via discouraging incivilities.

Reference
Stafford, J., Pettersson, G. 2002. *People's perceptions of personal security and their concerns about crime on public transport – literature review.* Prepared by Crime Concern for the Department for Transport, UK.

Market research methods
The paper comments on the authors' own research but this is not reviewed here because it is covered in the "research findings" paper (which is reviewed elsewhere).

Importance of personal security and its impact on mode-choice/travel decisions
Some criminologists comment that increased knowledge from research fails to address concerns because it does not address the causes of insecurities. For example, perhaps the anxiety of older people should be considered in the context of structural changes leaving them feeling socially isolated and de-skilled. Similarly, people in poverty are more likely to experience fear of crime.

Growing 'fear of crime' may be related to a breakdown of the norms that people believed had once controlled criminal behaviour, such as close family and community networks, price, honour, shame and class solidarity.

Simon Carpenter Ltd (2001) found that concerns about harassment were a deterrent to the use of public transport in the West Midlands in the evening, especially for women: 53% of women had such concerns, compared to 26% of men.

However, a survey by Transport & Travel Research (2001) found that personal security did not affect modal choice: personal security was the seventh most important option for deciding modal choice, out of a total of eight options. Women gave personal security a higher rating than men.

The paper identifies a few studies which indicate that people avoid using public transport due to concerns about personal security:
- In Exeter, Devon, 25% of respondents avoided using public transport because of security concerns; this tendency increased amongst older people.
- In Tower Hamlets, East London, about 50% of people avoided using public transport during evenings. Of women 66% avoid using public transport on weekday evenings, compared to 33% of men.

Evidence on personal security concerns
The 2001 British Crime Survey found that 33% of respondents felt 'unsafe' walking out alone after dark and 13% felt 'very unsafe'. Those feeling 'very unsafe' walking alone after dark were more likely to live in the inner city, within a social housing estate and in areas with a high level of physical disorder.

The paper notes that surveys indicate that a relatively larger proportion of women feel fearful after dark. The reasons for this fear, as posited in the literature, include less physical ability to defend, a greater tendency to recall early life experiences and to transfer fear, concerns over children, less control over personal space, continuous low-level sexual harassment, socialisation of fear of public space. Some authors suggest that women are responding realistically to the risks they face, and one author suggests that women's fear is rational, but that men tend to neutralise their fears.

The paper suggests that women's anxieties about crime more generally could be heightened by threatening behaviour experienced more regularly: sexual harassment, being stared at, verbal abuse, harassment at work, and domestic violence.

Gilchrist, Bannister, Ditton & Farrell (1998) question the stereotype of a woman fearful of crime and note that some men and women express similar fears; also, there are groups of men and women who could both be described as 'fearless'.

This study noted that that the 'fearful' of both genders exhibited similar characteristics: a constant awareness of fear with heightened awareness of situations and people and a tendency to seek out

information about victimisation. Interestingly, familiarity was the only variable that reduced this fear, although this was more common for men.

LeGrange & Ferraro (1987) conclude that the 'fear' of older people may be associated more with signs of disorder and a lack of community control, rather than criminal acts. Such people may be bothered or intimidated by unruly behaviour from young or disorderly people. This should not be described as 'fear of crime' because it is more accurately described as intimidation from disorder.

Analysis of the 1994 British Crime Survey identified 'seeing signs of crime in the neighbourhood, such as vandalism and litter' as one of the factors that increased anxiety about crime and fear of victimisation.

Research from Sampson & Raudenbush (2001) suggests that incivilities and disorder do not result directly in crime, but rather that crime, incivilites and disorder are characteristics of areas where social control is weak and poverty levels are high.

The 1991 Queensland Crime Victims Survey concluded that 'fear of crime' was a valid objective because 'fear of crime' and actual crime were both influenced by a lack of neighbourhood cohesion, incivilities, and a perception of high crime levels.

The paper also drew on the 1994 British Crime Survey to identify minorities with elevated concerns about personal security. Asian, Pakistani, Bangladeshi and Indian respondents all had relatively higher concerns about crime. The 2001 British Crime Survey identified that people with a limiting disability or illness were more likely to believe that they will be a victim of crime in the year to come. The authors' own research found that racist graffiti can also have an impact on the feelings of security for minority ethnic groups and visible faith passengers.

A Stockhold County survey of found that respondents were not fearful during the day, but both men and women were fearful after dark. Fear was highest in the city centre, then on public transport. Fear was lowest in the respondent's home neighbourhood.

The paper lists a number of other studies also showing that people are more likely to feel unsafe after dark, as well as a number of studies that identify aspects that contribute to feelings of insecurity, with poor lighting a common concern:
  - subways
  - dimly and inadequately lit streets
  - alleyways
  - areas of low pedestrian activity
  - bus stations and other transport interchanges, including car parks
  - isolated bus stops and unstaffed stations
  - unlit bus stops

The paper notes that the walk to or from the station to the stop is when people feel most insecure, especially after dark. This is a consistent finding from national and almost all local studies. The research from the authors' qualitative research indicates that the walk to the station after dark can be very isolated if the station is located away from the city or town centre. Therefore, people will avoid quiet back streets and will take a longer detour to enhance security by going through public spaces.

Consultations conducted by the Scottish Executive found that security was a constraint on women's use of public transport. Women's security travelling to and from work was seen as a key issue, especially with women working shift patterns involving early morning starts and late night finishes. This was exacerbated by the location of workplaces in otherwise deserted areas.

Local authority consultations with Derbyshire local authority noted that school journeys were a particular problem in that authority, with many parents preferring to drive their children to school.

The paper also draws on quantitative and qualitative research covered in the associated paper on 'research findings'. These are reviewed elsewhere but can be summarised as:
  − lack of clear boundaries at bus and train stations
  − absence of clear sight lines
  − presence of recesses in infrastructure
  − location of public toilets off the main concourse or platform
  − subways and ramps, especially if dark, dingy and in poor condition (graffiti, litter, etc.)
  − superfluous numbers of entries and exits at stations
  − absence of good quality and appropriate lighting

The paper briefly discusses a number of initiatives introduced (at a number of different locations) to improve perceptions of security and to reduce unsettling aspects of bus and train stations:
  − park and ride facilities and/or taxi ranks
  − secure and/or generously sized waiting areas near park and ride facilities
  − improved lighting
  − improved information provision
  − CCTV surveillance of stations
  − CCTV surveillance of other areas of concern, such as park and ride facilities and/or taxi ranks
  − notices on stations informing people of CCTV and recording equipment
  − staff surveillance
  − clear, toughened glass to provide clear sight lines
  − help buttons, e.g. at one bus station there are two: one for information and one for assistance in emergencies, which when activated, a CCTV camera will automatically focus on the help point

The paper also discusses initiatives to improve bus stops and shelters:
  − glass panels with good visibility inwards and outwards
  − barrel-shaped roofs that let through ambient lighting
  − public telephones nearby
  − CCTV at shelters with notices informing people of surveillance
  − security lighting for rural bus stops
  − taxi stands and bus stops were located after consulting with Police about the best locations for personal security
  − locked keypads at stops that can only be accessed by disabled passengers, that inform the driver of the next approaching service that they are waiting

Initiatives to improve security on buses and trains include the following:
  − onboard CCTV
  − emergency alarms linked to a control centre
  − patrols by the British Transport Police
  − school buses that collect pupils from within 300 metres of their home; these buses offer guaranteed seats, a reliable pick-up time and telephone links to a bus control room

The paper also discusses demand-responsive services for rural communities. The Wiltshire Wigglybus deviates off its circular routes to pick up passengers who call a central number. The Fare Cars scheme provides a taxi service at the same price as a bus fare.

The paper notes that retail outlets contribute to a busy environment around stations and lessen feelings of insecurity, especially retail businesses that operate around off-peak times. Indeed, it appears that train and bus stations are recognised as becoming more important as sites for retail centres. However, encouraging commercial activities to smaller stations is more difficult. Dutch Railways have addressed this by providing premises for a local shop at smaller and unstaffed stations that also sell tickets and provide information from a dedicated counter.

The paper also identifies training initiatives, including training for drivers and other staff so they can better manage large groups of rowdy and noisy young people. Training has also been provided to school children to enable them to better manage their personal security.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

These are not discussed in great depth in this paper, except with respect to the authors' 'research findings', which are covered in another review.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes

In Germany and France examples of initiatives include making passengers less indifferent to the violent behaviour perpetrated by a small number of people. Unfortunately, the paper does not report on how effective these initiatives are at addressing concerns or increasing patronage.

The paper notes that Ramsay (1991) finds that improvements to street lighting have been associated with reductions in concerns for personal security.

The paper notes that evidence from SouthWest Trains and c2c Trains that demonstrates that personal security measures have an impact on patronages. In addition, six 'Showcase' bus priority schemes contributed to patronage growth of between 5-20% and these schemes including a component (better waiting facilities and customer care trained drivers) that are likely to have also improved personal security.

Key points and implications

One piece of research found that fear was highest in the city centre, then public transport and lowest in the home neighbourhood. It would be interesting to see if a similar pattern of fears are reflected in New Zealand.

Reference

Stafford, J., Pettersson, G. 2004. *People's perceptions of personal security and their concerns about crime on public transport – research Findings.* Prepared by Crime Concern for the Department for Transport, UK.

Market research methods

The paper drew on three quantitative surveys:
- – A household interview survey of 1618 adults (16 years and older) in 1996
- – A survey of 1809 adults (16 years and older) in 2002
- – A survey of 310 young people (12 to 16 years) in 2002

The 2002 survey of adults used the same core schedule of questions used in 1996. Quotas were used to ensure sufficient numbers of people who used PT and ensured representation for people with restricted mobility, a hearing or sight impairment and for people with mental health problems.

'Public transport' (PT) was defined to include taxis and private hire for minicabs; consequently, a relatively low percentage of respondents are car owners or have car licences.

The paper also drew on qualitative research from discussion groups. These discussion groups were also carried out in both 1996 and 2002. The discussion groups used innovative approaches which are reported to have made discussion clearer:
- – In 1996, groups were taken on a journey through public transport infrastructure and/or on a bus, train or tram. They found that this context made the experience 'come alive' and enabled elicitation of views in greater detail.
- – In 2002 the approach was different: stations were not chosen to explore reasons why respondents felt unsafe or insecure. Instead, the station and/or transport route was chosen to explore how well initiatives to improve personal security were working. In addition, two escorted journeys with disabled participants were made that sought to identify their concerns and the effectiveness of the initiatives for those participants. At first, initiatives or improvements were not identified for participants but they were given time to 'self identify' features that might enhance their personal security.

Importance of personal security and its impact on mode-choice/travel decisions

The quantitative research suggests that a significant proportion (40-50%) of users of PT have no fears, but most of the remainder have some concerns:
- – About 40-50% (across all demographic groups) stated that they used PT and had no fear for their security.
- – About 5-13% (across all demographic groups) stated that they might use PT if they were happy about their personal security.

Evidence on personal security concerns

Key groups of interest include:
- – Women - a greater proportion of women (relative to men) feel very/rather unsafe during all aspects of the journey
- – Young People - the proportion of young people (12-16 year olds) who feel very/rather unsafe, during all aspects of the journey, increases quite dramatically when it is dark
- – People with restricted mobility, a sight or hearing impairment, or mental problems also had specific fears. For example, visual impairments make assessment of facial expressions difficult; wheelchair-bound people are less able to work effectively; and fireworks thrown on a train can frighten visually impaired people
- – Older people – the survey indicates that older people generally feel more unsafe than younger people, although for a variety of reasons. They are less likely to be travelling late into the evening. The researchers note that older people are more likely to feel anxiety about being the victim of a crime but are actually less likely to be a victim than a young person

The quantitative survey suggested that the level of light (daylight v darkness) had more impact on perceptions of safety than the stage of the journey (waiting at stop/station, travelling on PT, walking

between stop/station and home). The proportion of people who felt unsafe was reasonably consistent across all the stages of the journey.

In contrast, darkness had a dramatic impact on the proportion of people who felt unsafe, particularly young people (12-16 years):
- Less than 10% of young people felt unsafe during any stage of the journey but this increased to about 50% (for waiting at stops/stations and travelling between stops/stations and home) and about 40% (whilst travelling on PT increased to about 40%)

Darkness had a similar effect on women's perceptions of safety:
- 5-10% of women felt unsafe waiting at stops/stations was, but this increased to 50% or more after dark
- 5% of women felt unsafe travelling on PT, but this increased to around 40-50% after dark
- 5% of women felt walking between stop/station and home during daylight, but this increased to around 50% after dark

Darkness had less impact on men's perceptions of safety:
- Less than 5% of men felt unsafe at stops/stations during daylight and this increased to about 20% after dark
- A negligible proportion of men felt unsafe travelling on PT during daylight but this increased to about 20% after dark
- A negligible proportion of men felt unsafe walking between home and stop/station but this increased to 20% after dark

The quantitative survey results summarised above exclude information on fears associated with the underground because this information is not relevant to the NZ context. However, this report notes that proportion of people with fears associated with the underground (both waiting and travelling) were greater than those described above, which relate to 'traditional' bus and rail travel.

This report also notes that the fears described above are not confined to just PT; walking in open and multi-storied car parks evokes similar fear in a similar proportion of people. A smaller minority of people even had concerns when stationary at traffic lights.

The researchers also compared ratings of fear in 2002 with 1996. If anything, evidence was that fears had since increased, despite a number of initiatives in the meantime. The researchers, drawing on the qualitative research with discussion groups, concluded that respondents are sceptical about the impact of security measures.

The qualitative research identified darkness as a key influences on peoples' fear. In apparent contradiction to the quantitative results discussed above, darkness was particularly a problem when people walked between the stop/station and home. Even participants using a rural bus service, especially older passengers, described their anxiety of walking along rural roads.

People identified the following as key influences that made them feel less safe at stops and stations:
- Isolated or secluded locations made people feel at risk because of reduced opportunities for informal surveillance from passers-bay or nearby houses or shops
- Trees or buses made people feel less safe because they reduced visibility and provided opportunities for people to hide
- Poor lighting or dark shadows made people feel more vulnerable for similar reasons
- Subways and long flights of stairs made people feel unsafe primarily because of a fear of entrapment, but also because they are often poorly lit and dingy; recesses and concealed corners have a similar effect

Other influences that made people feel less safe, both on stops/stations and during trips including the following:
- Antisocial behaviour and people with alcohol and /or drugs raised concerns about the unpredictability of such behaviour

- Noisy or rowdy groups of young people made people feel unsafe, partly from a sense of oppression from the numbers involved, but also because of associations with anti-social or criminal behaviour
- Aggressive begging can contribute to a threatening atmosphere for passengers
- Inadequate announcements of upcoming stations or stops can reinforce a passenger's sense of the unknown, especially in an unfamiliar location
- Fears of missing connections and having to waiting for long periods can increase passenger anxieties, especially in unfamiliar locations

People raised problems such as litter, graffiti and a poorly maintained environment. For some people, this made them feel that there was no one was responsible for the situation.

Some people felt uncomfortable with cramped seating. This encroaches on personal space and may make people feel uneasy, which may be related to perceptions of security.

The two themes which the reviewer draws from the paper are:
- Some 'comfort' factors, such as confined seating, presence of begging and announcements and scheduling information may influence feelings of security even though they do not directly relate to actual security
- Some people will perceive apparently trivial things, such as graffiti, litter or an unwillingness to control youth as an indication of a lack of responsibility, hence this may accentuate fears.

A large number of people identified the presence of visible and available staff as a factor that made them feel safer. However, some people expressed dissatisfaction with less staff during evenings.

Up to 24% of people had experienced an incident, such as being stared at in an intimidating way, threatened or subjected to sexual harassment. These incidents were very rarely ever reported.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
Measures favoured to improve security while waiting at a bus stop:
- CCTV was one of the top three measures for 25-30% of survey respondents; but was less popular in 1996
- The other measures were rated similarly: well-lit stops, publicly visible stops, public telephone, accurate and up-to-date timetables, real-time information, and clean and well-maintained shelters

Measures favoured to improve security while waiting for the train:
- Presence of staff at station, CCTV and good lighting at station were all rated highly (each was one of the top three measures for about 25% of respondents)
- Alarm systems and well-lit platforms rated as one of the top three measures for about 10% of respondents
- Up-to-date timetables and a well-maintained station were given relatively low average ratings

Measures favoured to improve security while travelling on a bus:
- CCTV was one of the top three measures for 25-30% of survey respondents
- Presence of staff other than a driver was one of the top three measures for about 20% of survey respondents
- Driver's refusal to carry people under the influence of drugs or alcohol was one of the top three measures for about 20% of survey respondents
- Other measures that were given lower ratings included an on-vehicle radio for driver contact, encouraging uniformed police to travel on bus, using single decker buses and cleaner and graffiti-free vehicles

Measures favoured to improve security when travelling by train:
- The presence of a guard or conductor regularly walking through the train was one of the top three measures for 25-30% of survey respondents
- CCTV was one of the top three measures for about 25% of survey respondents

— An emergency alarm system (communicating to the guard or driver) and regular spot patrols by the British Transport Police were one of the top three measures for about 15% of survey respondents

The location of the guard's base, clean and graffiti-free carriages, and audio messages about delays were all rated as relatively low.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
The report does not provide any before/after evidence of the impacts of security initiatives on patronage. However, the discussion groups were used to seek feedback on the impacts of security initiatives on perceptions.

Focus groups discussed the impact of measures designed to improve security whilst waiting at a bus station:
— CCVT and the presence of visible staff were paramount, but it is also the 'package' of safety measures that made people feel safer
— The presence of visible staff were considered beneficial when 'odd', 'noisy' people or lots of young people were around
— The presence of help-points were described as important for personal security, but people suggested more information about how they should be used and what response to expect
— The lack of information was described as a problem, especially for people for whom English is not their first language
— The public address systems warning patrons to take care with belongings was favoured by people as a good reminder, especially for people foreign to the station

Focus groups also discussed their perceptions of security initiatives at bus shelters and bus stops:
— Secluded and inadequately-lit stops were described as contributing to increasing concerns about personal security
— Glass shelters were favoured by at least one respondent because they enabled clear visibility by other people
— Vandalism was described as a problem, but people were resistant to reductions in the number of shelters; some suggested CCTV as a means of discouraging vandalism
— Real-time information made a number of people feel safer because they knew how long they would have to wait

Focus groups also discussed their views on security at light rail or tram stations:
— CCTV was welcomed but people sought assurance that the cameras were actually had film and/or were being watched
— Participants described one station where station lighting was bright and effective, but it became poor on the public footpaths leading off the station
— Participants wanted more information on help-points and what they were intended to achieve

Finally, focus groups discussed their views on security initiatives at train stations:
— Disabled participants emphasised the importance of having their means of access well-lit and visible to the public
— Lighting was considered essential
— Litter and vandalism made people feel less comfortable
— The presence of staff was emphasised by a number of participants
— CCTV was favoured by participants but they emphasised scepticism about their effectiveness, due to poor quality images or the absence of live monitoring; participants also mentioned that the presence of CCTV should be stated in signs, both to deter trouble-makers and to comfort other patrons
— Help-points were welcomed but participants wanted information identifying what they were used for and what sort of response they could expect
— The presence of buffet and retail facilities that were open on the stations in the evenings was welcomed by some participants as a contribution to security

On a walk around an accredited 'secure station', participants commented on the availability of staff but were often less aware of other features (e.g. CCTV coverage, help-points, and convex mirrors to enable better visibility).

Participants discussed their views on personal security associated with bus travel:
- Double-deckers were sometimes seen to be less safe because the driver cannot monitor behaviour in the top deck. However, other participants favoured the more spacious seats associated with double-deckers
- The presence of a pleasant bus driver is appreciated because it makes the atmosphere more comfortable and encourages patrons to approach the driver if they have problems
- Similarly, a lack of cultural awareness or diversity in bus drivers can make minorities feel less comfortable
- Participants emphasised the importance of bus drivers 'taking control' of their vehicle by not allowing those under the influence of alcohol or illegal drugs to board the vehicle and not allowing young people without valid tickets to board
- Free travel for police officers was favoured but participants emphasised that they should be in uniform to contribute to security
- CCTV surveillance on buses was also favoured by participants

Participants described their views on personal travel associated with train:
- The presence of staff was favoured by participants, but the staff should not be 'locked away' in places where people cannot see them
- Women's carriages were dismissed by participants because it might advertise presence of women who are travelling alone
- Disabled participants echoed the similar complaints to bus users: greater use of buggies and cycles meant that space was often insufficient for disabled passengers
- Participants expressed doubts about CCTV because they thought no-one was actually watching it
- Participants wanted more information about the response to expect to on-train alarms
- Participants also wanted clearer announcements about which station they were arriving at, so participants do not have to worry about whether they are getting off at the wrong stop
- Clear signage directing participants to the town centre was considered helpful
- The presence of a taxi rank or a freephone for taxis was seen as an important and reassuring measure for participants

The paper mentions that a West Yorkshire initiative to deter crime used the local media (freephone number for reporting perpetrators, publishing of photographs from CCTV camera footage) to encourage people to report perpetrators. This initiative seems to have been successful at reducing a number of crimes.

The paper also described a Flexi Bus in East Devon, which provides a virtual 'door-to-door' service; its patrons are mostly older people. The bus service was appreciated by its patrons but the take-up of the service was low, perhaps because the service was not sufficiently publicised.

Key points and implications

The concept of taking focus groups on public transport trips or infrastructure is innovative and a useful

Focus groups for specific groups (women, people with disabilities) could also be considered.

The idea of asking people to self-classify themselves is an effective means of clustering.

Some key findings, which can be drawn out from the statistics in the report, include the following:
- The proportion of people who are fearful is constant regardless of the stage of the journey
- The proportion of people who are fearful during daytime is about 10%; this increases to about 40-50% in the dark for women and young people, but only about 20% for men
- A significant proportion of people (40-50%) state that they use PT and have no concerns for their safety
- A minority of people (5-13%) state that they would consider using PT if their security concerns were resolved
- Communication of security measures is important; and so is having the right combination of security measures

Reference
Sullivan, C., O'Fallon, C. 2006. Increasing cycling and walking: an analysis of readiness to change. *Land Transport New Zealand Research Report 294.*

Market research methods
Analysis of 2003 SPARC dataset

Importance of personal security and its impact on mode-choice/travel decisions
n/a

Evidence on personal security concerns
The report used the SPARC dataset to analyse perceived barriers to physical activity in the neighbourhood.

The analyses indicates that inadequate street lighting is a concern, probably due to security concerns: 20% of respondents saw *not enough street lighting* as a barrier to increased physical activity in their neighbourhood.

Inadequate street lighting was of particular concern to women (25% identified it as a barrier, compared to 14% of men).

Inadequate street lighting was also of concern for young people: 26% of people under 35 years of age identified it as a barrier, compared to only 8% of seniors. The report suggests that this disparity could occur because young people are more likely to be out walking after dark.

The analyses indicate that fear of crime is an issue, albeit only for a minority of people: 11% of respondents identified *a lot of crime* as a barrier to increased physical activity in their neighbourhood.

The report also finds that concerns about security are more likely among women than among men.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
n/a

Reference
Sweeney Research. 2006. *The Sunshine Rail Corridor*. Research report prepared for Sky High Traffic Data, published in June 2002.

Market research methods
The market research consisted of 10 focus groups in Melbourne, Ballarat and Bendigo.

Importance of personal security and its impact on mode-choice/travel decisions
The participants in the focus group implied that safety is a prime concern and can have a negative impact on the propensity to use the rail services. Safety emerged as a key issue in almost every group.

Participants were asked to rank the following factors in order of importance: safety, frequency, punctuality, cancellations and advanced information about delays.

Safety – on the train, at the station and around the station – was rated as the most important factor.

In contrast to some other literature, participants indicated that graffiti (especially on the train) was not important.

Evidence on personal security concerns
The rail stations were an area of particular concern:
- Participants expressed a lack of trust in the security cameras because they "didn't work", "looked so rusted" and "all they are good for is to help catch someone after the event"
- Participants bemoaned the absence of security staff
- Participants also discussed the lack of security around car parks

However, the trains also raised security concerns but these related to the behaviour of other passengers: the presence of drug-dealing, smoking on the train, and 'hoons' were identified as causes of insecurity. Participants also indicated that they felt vulnerable on trains because they felt enclosed and the driver could not necessarily see what was going on.

Feelings of insecurity in the presence of suspicious groups of people (e.g. 'young guys', 'druggies' etc.) was a common theme for both trains and stations.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
Participants offered the following solutions to alleviate security concerns:
- staff all stations to improve security (and provide a degree of customer service)
- introduce roving transit police on trains

As noted above, many participants had doubts about the effectiveness of CCTV, especially since the cameras will catch an assailant but are unlikely to prevent crime.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications
n/a

Reference

Symonds Travers Morgan. 1996. *Fear of Crime Project.* Final report for CityRail, Sydney, Australia.

Market research methods

The market research consisted of two survey approaches:
- An on-system survey of 433 CityRail customers
- A telephone survey of 400 respondents

Both surveys asked respondents if they avoided using CityRail at specific times. This question gave an indication of the impact of fears on patronage.

Importance of personal security and its impact on mode-choice/travel decisions

The survey asked respondents whether they avoided using CityRail at specific times: this question was fruitful because it demonstrated that fears associated with darkness were discouraging patronage from about half of all respondents.

Percentage of patrons who avoid CityRail at different times.

Time of day	On-system %	Telephone %
Daytime (weekdays & weekends)	2-5	3-11
Night-time on weekdays	43	51
Night-time on weekends	54	55

The literature review notes a number of other studies with similar conclusions. Parolin (1986) found that 64% of respondents avoided weekday night travel on the Sydney train system and 70% avoided weekend night travel. However, three of the five rail corridors selected for the survey were selected on the basis of being 'prone to crime and violence'.

The telephone survey asked respondents about factors limiting the use of CityRail services after dark. It eventuated that concern about personal safety caused 82% of respondents to avoid CityRail services after dark.

Evidence on personal security concerns

The review of literature concluded that the fear of crime in relation to night travel on urban railway is sufficiently high to discourage rail use, particularly amongst females and the elderly. Urban railways appeared to contribute more to apprehension than other modes because of exposure to criminal risks (e.g. walking to the station via pedestrian subways).

The review noted inconsistency in the literature: some literature suggests that strong communication should ensure that patrons are aware of improvements to security. However, other literature concludes that communication about security issues may make patrons more apprehensive.

The on-system survey found the following:
- Security concerns were relatively low during daylight
- Security concerns were higher at night-time on weekdays
- Security concerns were highest at night-time on weekends; note in the table below that 19% of users and 31% of telephone respondents felt very unsafe at this time

On-system survey:

Time of day	Unsafe %	Very Unsafe %
Daytime (weekdays & weekends)	2-5	1
Night-time on weekdays	28	9
Night-time on weekends	26	19

Telephone survey:

Time of day	Unsafe %	Very Unsafe %
Daytime (peak, off-peak & weekends)	2-10	1-3
Night-time on weekdays	33	22
Night-time on weekends	28	31

A high proportion of respondents identified walking through station walkways and subways, and using station toilets/waiting rooms as particular areas of concern. In the on-system survey, approximately 35% of respondents felt unsafe and about 20% felt very unsafe under these conditions.

A high proportion of respondents (60% of on-system survey and 74% of the telephone survey) identified the presence of groups/gangs of young people on stations and trains as a factor contributing to the fear of crime. Media reports was the next most common factor contributing to the fear of crime. The experience of friends/family, etc. or a personal experience of victimisation contributed to a fear of crime for about a third of respondents.

The literature review drew attention to a survey by Lynch & Atkins (1988) in Southampton, which found that women were concern about being alone and isolated for lengthy periods while on trains. In addition, the areas immediately adjacent to the stations, particularly the station approaches, were found to be threatening.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
Respondents were asked about their support for various initiatives that might be pursued to improve personal safety.

The presence of transit police or security guards was commonly rated as important (25-30%) or very important (57-67%) in both surveys. Improved lighting was also rated highly.

However, the literature review noted that the CityRail Western Line Security Perception Survey (1995) found relatively less support for transit police or security guards.

The report notes that surveillance cameras, staff presence on the station and 'help points' were given lower ratings of important (25-35%) and very important (40-50%).

However, the differences between the 'highly rated' and 'lowly rated' initiatives are not dramatic.

66% of telephone respondents and 53% of on-system respondents indicated that they would increase their use of CityRail services if investment was made in passenger security.

The literature review noted that the Lynch & Atkins (1998) survey in Southhampton recommended the following improvements:
- alarm systems allowing communication with the driver or guard
- shorter trains at night producing busier and safer travelling conditions
- guaranteed availability of taxis at all stations at night

Lynch & Atkins (1998) found that women-only carriages were not favoured on the basis that some women may also perpetuate crime and that segregation would attract attention to women travelling alone.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
None were noted in this report.

Reference

Thomas, L.J., Rhind, D.J.A., Robinson K.J. 2006. Rail passenger perceptions of risk and safety and priorities for improvement. *Cognitive Tech Work 8:* 67-75.

Market research methods

The researchers used a 'bag of points' approach to get respondents to rate security initiatives relating to the car-park and the way into the station.

Importance of personal security and its impact on mode-choice/travel decisions

n/a

Evidence on personal security concerns

n/a

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

CCTV cameras monitored by a member of staff were given the highest rating, but this was closely followed by *good lighting in and around the car park*.

A member of staff in a booth in the car park was rated third and the lowest rating was assigned to *strong and secure fencing around the car park*.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes

n/a

Key points and implications

n/a

Reference

TNS. 2005. *Public transport customer satisfaction monitor.* Report prepared for Greater Wellington Regional Council, Wellington, New Zealand.

Market research methods
Telephone interviews with 752 randomly selected New Zealanders residing in the Greater Wellington region.

Importance of personal security and its impact on mode-choice/travel decisions
The regression analysis discussed below indicates that security is not as important as running on time, reliability and convenience.

Evidence on personal security concerns
Bus Services
The interviews collected satisfaction scores for bus service attributes, including the following:

Satisfaction for bus services	2003 (means)	2004 (means)	2005 (means)
Safe at bus stop	-	3.8	3.6
Behaviour of other patrons	-	3.7	3.6
How clean the buses are inside	-	3.8	3.6
Overall satisfaction	4.0	3.9	3.8

The survey used regression analysis to identify the relationship between specific attributes and overall satisfaction. The most important attributes were ascertained to be running on time, reliability, and convenience of catching buses.

Train Services
The interviews also collected satisfaction scores for train service attributes, including the following:

Satisfaction for train services	2003 (means)	2004 (means)	2005 (means)
How safe you feel when waiting	-	3.5	3.4
Behaviour of other patrons	3.6	3.5	3.5
Safety of pedestrian access to stations	3.5	3.5	3.3
Overall satisfaction	3.6	3.6	3.6

The survey used regression analysis to identify the relationship between specific attributes and overall satisfaction. The most important attributes were ascertained to be convenience and reliability.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
The interviews also asked about important public transport attributes that would encourage use. The most important attributes were:
- public transport that arrives and leaves on time
- service goes where customer wants
- extra services put on when services are crowded
- real-time information

Some respondents (67%) indicated that bus/train stops that felt safer would encourage them to increase their use.

Key points and implications
n/a

Reference

Tulloch, M. 2000. The meaning of age differences in the fear of crime. *British Journal of Criminology 40:* 451-467.

Market research methods

The researchers carried out focus groups and interviews in Sydney, Wollongong, Bathhurst and Tasmania.

The researchers also had focus groups with young people and old people in metropolitan Sydney and in the Blue Mountains, a commuter belt west of Sydney. The purpose of these focus groups was to introduce narratives relating to public transport and to seek the perspectives of the focus groups on these issues.

One focus group was conducted with a group of gay teenagers from a youth refuge. This group also discussed issues relating to public transport.

Importance of personal security and its impact on mode-choice/travel decisions

n/a

Evidence on personal security concerns

The paper suggested that existing stereotypes of older people as paralysed by fear as inaccurate. Furthermore, the antithesis – that younger people are stronger and fearless – also appears to be inaccurate.

The paper noted that the claims that older people are more fearful may be based on a certain measure of fearfulness: for example, the claim is often based on surveys showing that older people feel less safe walking alone in their neighbourhood.

Ferraro (1995) found that it is the young who have the highest levels of perceived risk and fear of specific violent crimes.

Ferraro also found that sexual danger and specifically fear of rape to underlie women's heightened fear of crime.

General Focus Groups and Interviews

The more general focus groups related to fear of crime more generally:
- These focus groups indicated that most people felt safe alone in their neighbourhoods during the day but many felt less safe at night
- Neighbourhoods were usually deemed unsafe on the basis of social incivilities, such as groups of youth or the presence of drunks
- For women, particularly young women, their primary fear was of sexual assault and they employed strategies to assess and avoid possible threats. For young women, the threat was primarily from individual, strange males and was a fear of physical or sexual attack. This is consistent with the findings of Ferraro above.
- Young men were less concerned about individual attacks and were more concerned about assault from a gang of youths or another subcultural group.

The interviews from focus groups and individuals gave insights into willingness to travel alone at night:
- Two thirds of women and one third of men rarely or never walk alone in their neighbourhood at night
- 60% of over 65's never walk alone in their neighbourhood at night and 25% do so only rarely
- 18% of under 25's never walk alone in their neighbourhood at night and 24% do so rarely

Younger people were more likely to be out alone regardless of their feeling of safety, suggesting a higher level of risk tolerance. Instead, they employed a number of strategies to manage risk: walking quickly, crossing the road to escape people, avoiding eye contact, and staying in the company of friends.

In contrast, while older people claimed that the neighbourhoods in which they lived were fairly safe, they did not live a lifestyle that put them at risk. Therefore, it seems that older people are not living in fear, but rather being relatively more careful about how they manage their lives.

Focus Groups Relating to Public Transport:
In the focus groups consisting of older people (60+), the older people rarely travelled on public transport at night and recounted few specific incidents of crime and harassment. Most of the older participants, especially older women who no longer had a partner, stated that they did not want to go out at night. Older people even preferred to avoid trains during the day that were crowded with school children.

Older people had a sense of vulnerability that made the potential consequences of victimisation more alarming. They worried about pushy young people who may 'knock your head off' with large bags. They worried about deep steps, 'the parachute jump' off the bus, and the dangerous gaps produced by curved platforms. Most older people saw young people as a threatening out-group; they were 'noisy', 'rowdy', 'up and down the aisles yahooing', 'using pretty crook language', and 'out of control'.

Most older people claimed that they stayed at home through choice, but under pressure from a strident older woman who advocated reclaiming public space for the elderly, they admitted they would enjoy sometimes going out in the evenings if they felt really safe.

Younger people (15-19) generally found trains and buses to be an important source of transport, and often used them despite some fears. While older people avoided risks, younger people felt transport was necessary and generally sought means of managing risks. Travelling in groups was a frequent strategy for both sexes.

Young males generally had confidence dealing with individual threats but were concerned with the threat from gangs of other young males, frequently described as 'home boys'.

Young females expressed a wider range of fears, including fear of individual males. They experienced a spectrum of harassment, from intrusive stares, unwanted physical proximity, through to physical or sexual assault. They tended to view male passengers, particularly those whose behaviour was in any way odd, as potential assailants. Their main task was to discriminate between the harmless male passenger and the potential threat.

Young females agreed that they did not feel threatened by unknown female passengers who entered the conversation. Therefore, the fear is clearly one of physical or sexual assault.

Many young women were not prepared to travel alone at night.

The young people who were gay teenagers noted that their individuality in appearance (painted finger nails, dyed hair, cross dressing, etc.) made them obvious targets for hostile gangs and made transport personnel less likely to protect them. However, this group of people rejected the course of becoming more socially inconspicuous to reduce risks to themselves.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
n/a

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
n/a

Key points and implications

The study indicated that the presence of groups of young men can be threatening for both other young men and the elderly, and probably young women as well.

The study shows that young people, especially young women, perceive high risks to themselves but use public transport anyway, and choose to manage risks rather than avoid them.

In contrast, elderly people perceive less risks to themselves but prefer to avoid taking risks and this preference dictates how they place restrictions on themselves, including not going out in evenings.

This may have implications for how these market segments respond to security initiatives.

Reference

Volinski, J., Tucker, L.E. 2003. Safer stops for vulnerable customers. *Report Number NCTR-473-13.* Tallahassee, Florida, State of Florida Department of Transportation, published in March 2003.

This paper provides guidance on design of bus stops and most of its detail is not reviewed here. However, it provides a useful literature review which is discussed below.

Market research methods
n/a

Importance of personal security and its impact on mode-choice/travel decisions
Nsour (1999) surveyed 381 transit users and 531 non-users. The researcher found that security ranked fourth among all non-users as their reason for not using their bus and safety only 'accounted for a small portion of responses'.

Nsour found that about 28% of female respondents stated that issues of safety and security prevented them from using bus transit, compared to 12% of male respondents.

Nsour noted that punctuality and the uncertainty of arrival were found to be significant to transit users in terms of personal security. Also, many users suggested increasing the frequency of buses as a means of increasing security.

Bell (1998) reviewed women's experience and perceptions in relation to community safety in general and touches on public transport. She noted that women are fearful on public transport, especially the train at night-time. Women are fearful at the ends of journeys, especially waiting at a bus stop or walking from a station to a parked car.

Bell noted that women are generally fearful of deserted spaces which lead them to feel vulnerable to attack by a stranger because no other people are in the area to deter or prevent the attack.

Evidence on personal security concerns
Lusk (2002) noted that women may have difference needs related to personal security at the bus stop because they are not as strong as men and may have to care for small children; therefore 'fight or flight' is less of an option.

Reed, Wallace & Rodriguez (2000) found that passengers generally claimed to feel less safe when travelling after dark. Also, those passengers travelling on smaller systems feel somewhat safer than those using larger systems.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns
Lusk (2002) used 15 focus groups with 168 participants from Detroit, and Ann Arbor, Michigan, Burlington, Vermont and Washington DC. She used visual preference surveys in an assessment of bus and bus stop-design characteristics that contribute to the perception of crime. The following characteristics were regarded favourably:
- brick/masonry construction
- open space
- no buses
- architecture

A bus stop with no side and rear walls was least favoured by participants because they felt vulnerable to sidewalk traffic behind the shelter. Blind alley entranceways near the stop were also mentioned as causing feelings of insecurity.

Participants also reported a preference for clear glass walls all the way around with no advertising, not too much or too dense vegetation around the stop, and a shelter that is not too artistic. The stop should be well-maintained and clean or a suggestion of criminal activity will occur.

Reed, Wallace & Rodriguez (2000) surveyed 761 transit passengers in Michigan and asked them to rate the following potential security enhancements:
- more police
- more driver safety training
- increased lighting at bus stops
- see-through bus shelters
- emergency telephones at bus stops
- video cameras on transit buses
- driver-operated emergency alarms

Respondents from most urban areas gave the highest rating to the installation of emergency telephones at bus stops.

Increased lighting, see-through bus shelters and more police also rated highly among all of the types of urban areas surveyed.

Women in all urban areas favoured see-through bus shelters, more driver safety training and increased lighting at bus stops: this indicated that women feel less secure waiting at bus stops than while travelling on the bus.

Reed, Wallace & Rodriguez (2000) also reported that respondents were dissatisfied with limited services on weekends and during night-time. They suggest that this is related to security because the limited services increase waiting times.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes
Wallace, Rodiguez, White & Levine (1999) investigated awareness of security enhancements made at in Ann Arbor, Michigan, between 1997 and 1998.

In 1997, passengers suggested that the enhancements that would make them feel more secure were the following:
- increased lighting
- emergency telephones
More police and video monitoring scored much lower.

However, in 1998, after security initiatives were introduced, the researchers found that the most effective initiatives at increased the perception of security were the following:
- increased lighting
- greater police presence
Emergency telephones and the presence of video monitoring were noticed by passengers but did not have as much of a positive effect on perspectives of security. The researchers attribute this to the higher visibility of police compared to telephones.

The researchers also found that women were more likely to notice and appreciate measures taken to improve safety and security.

Key points and implications
The high rating assigned to telephones at bus stops suggests that this option is worthy of further investigation.

Reference

Wallace, R.R., Rodriguez, D.A., White, C., Levine, J. 1999. Who noticed? Who cares? Passenger reactions to transit safety measures. *Transportation Research Record 1666:* 133-138. Transportation Research Board, National Research Council, Washington DC, USA.

Market research methods

A survey of the Ann Arbor Transportation Authority (AATA) passengers was employed. The survey was stratified by route and by time of day. Therefore, the survey provided a representative picture of AATA weekday patrons at the time of the survey.

The survey sought the following information to answer the following questions:
- How safe did passengers feel at different stages of the journey?
- Did passengers notice various security measures?
- How did security measure affect the passenger's feelings of safety?

The survey also sought demographic and other information from passengers.

Importance of personal security and its impact on mode-choice/travel decisions

n/a

Evidence on personal security concerns

Respondents were asked to rate different stages in terms of safety. The stages were given safety ratings from 'very unsafe' (1) to 'very safe' (5).

The mean safety ratings are shown below:
- waiting at the usual stop   4.4
- riding an AATA bus   4.5
- waiting at the Blake Transit Center   4.1
- waiting at the Ypsilanti Transit Center   3.6
- riding the bus after dark   3.7
- walking to and from usual stop   4.3

The mean safety ratings indicate that *waiting at the usual stop* was given a similar safety rating to *walking to and from the usual stop*.

However, darkness had an influence on safety ratings, as demonstrated by the lower safety rating given to *riding the bus after dark*.

Evidence of market perceptions on effectiveness of different measures in ameliorating concerns

In a 1997 survey, respondents were asked which of the four approaches (emergency phones, video cameras, increased lighting, more police) would do the most to make them feel more safe.

Respondents stated that increased lighting and emergency phones would be the most effective measure.

However, empirical models (see below) indicate that increased lighting and more police were the most effective. Emergency phones were the least effective, perhaps because they were not noticed.

Before/after evidence on impacts of measures in addressing concerns and inducing travel behaviour changes

The survey measured the percentage of respondents who noticed any of five security measures introduced by the AATA:
- on-board video cameras (70%)
- transit centre video cameras (63%)
- more police (51%)

- increased lighting (42%)
- emergency phones (28%)

The figures above show that cameras were most noticeable, whereas emergency phones were not noticed by nearly three-quarters of people.

The researchers built an empirical model to predict the likelihood of a respondent noticing one of the five measures described above. Interesting findings included the following:
- Women were (significantly) more likely to notice increased lighting
- Frequent riders (significantly) were more likely to notice more police and video cameras
- High income riders were (significantly) less likely to notice more police, increased lighting and transit centre video cameras

The researchers also built an empirical model to predict how each safety measure affected feelings of safety. Interesting findings included the following:
- Women were (significantly) more likely to state that emergency phones and increased lighting made them feel safer
- Older people had a small but significantly higher likelihood of stating that video cameras made them feel safer

The researchers also built an empirical model to predict safety ratings at each stage of the journey. Interesting findings including the following:
- Women feel (significantly) less safe at every stage of the journey (except on the bus during the day)
- Noticing video cameras made people feel safer on the bus after dark
- Noticing more police and increased lighting made people feel safer at the stations, but noticing cameras had little effect
- Noticing emergency phones had some effect at one station

Insights
As might be expected, a measure was more effective at ameliorating fears if it was noticed.

People were more likely to notice cameras, followed by police and increased lighting. Emergency phones were unnoticed by nearly 75% of respondents.

When noticed, the most effective measures at the stations were more police and increased lighting. Emergency phones were effective, but only at one station. Cameras were not effective at stations.

When noticed, the most effective measure on the bus during the day was increased lighting.

When noticed, the most effective measure on the bus at night-time was an on-board camera (and this was the most effective measure observed by the researchers). More police and cameras at stations were also effective at alleviating peoples' fears when on the bus at night-time.

Women express higher concerns about security. The research suggests that a particular package to address women's concerns might be based around the following findings:
- Women are more likely to notice increased lighting
- Women were more responsive to increased lighting or emergency phones

Key points and implications
n/a

Appendix B – Screen shots of questionnaire

B1　　Full questionnaire for bus users

The following screen shots from the computer are an example of how the questions were presented to bus users.

However, some of the questions shown in the screen shots below were not presented to some respondents. For example, a bus user was not presented with security measures relating to the travelling stage if they indicated that they had no security concerns when travelling.

Thank you for agreeing to participate in this survey.

Please remember:

- Your views are important to us and your answers will be kept in the strictest confidence.
- None of the responses you give are directly linked to you as an individual. They are used purely for statistical purposes only. To see our privacy statement click here. **Privacy Policy**
- The survey incentives and expected length are outlined in the invitation e-mail.
- Even if you are unable to complete the survey you will still receive incentive points
- To understand the benefits of participating in legitimate research visit

To answer a question: Most questions have a round button to click or a tick box to check. Click on the box or button that best describes your answer to each question. Sometimes you may need to type in your answer in the spaces provided.

If you forget to answer a question, or miss part of a question, then a message reminding you that the question needs to be answered will appear. If this happens, you need to complete your answer to carry on with the survey. Sometimes you'll need to scroll across or down the page to see all of the possible answers.

To change an answer: For questions with a single choice, click on a different button. For questions with multiple choices (tick boxes), click again on your original answer to clear the box and make a new choice.

To go to the next question: When you've finished answering a question, click the >> button at the bottom of the screen.

To pause the survey and return to it later: Simply close the window and click on the link in the invitation e-mail to resume.

Dial-up users: If you are on a dial up modem or other slow connection, some of the questions may take a few moments to load. Please be patient.

To begin the survey, click on the button below. As you move through the survey please do not use your browser buttons - use the buttons at the bottom of each screen.
Please click the >> button to continue.

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The following survey has been developed by TNS New Zealand and Booz Allen Hamilton, on behalf of Land Transport NZ. The survey has been developed as part of the New Zealand Government's Land Transport Research Programme and will be used to enable more informed decisions in transport policy and transport operation.

The data from your responses will be analyzed by Booz Allen Hamilton, an international consulting firm recognized for objective and professional research in the public sector.

Your responses to this survey are completely anonymous and confidential, and no personal details (eg names, addresses) will be released by TNS New Zealand.

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To begin with, we would like to ask a few background questions to determine which sections of questions we will ask you.

Please indicate where you usually live?

Auckland Region
- ○ North Shore City
- ○ Waitakere City
- ○ Auckland City
- ○ Manukau City
- ○ Somewhere else in Auckland region

Canterbury Region
- ○ Christchurch City
- ○ Somewhere else in Canterbury region

Wellington Region
- ● Wellington City
- ○ Porirua City
- ○ Hutt City
- ○ Upper Hutt City
- ○ Somewhere else in Wellington region
- ○ **Another Region**

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Have you **ever** used a public transport bus or train in **Wellington** in the **last 12 months**?

- ⦿ Yes
- ○ No

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Which types of public transport do you use?
Select one box only

- ⦿ Only Bus
- ○ Only Train
- ○ Both Bus and Train

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*The following questions will ask about your use of **buses**.*

To what extent have the following factors discouraged you from travelling by bus **during daytime**?

(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Transfer from one bus to another would be required	●	○	○
Lack of information about local bus services	●	○	○
Personal disability / health issues	●	○	○
Cost of fare	●	○	○
Awareness of safety risks while walking to and from bus stop, or waiting at the bus stop	○	○	○
Buses not running often enough	○	○	○
Buses don't go near my destination	○	○	○
Distance to the nearest bus stop	○	○	○
Buses too unreliable	○	○	○
Buses take too long to get to my destination	○	○	○
Feeling uneasy or unsafe while waiting at the bus stop or travelling on the bus	○	○	○
Other - please specify:	○	○	○

To what extent have the following factors discouraged you from travelling by bus **after dark**?
(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Transfer from one bus to another would be required	○	○	○
Lack of information about local bus services	○	○	○
Personal disability / health issues	○	○	○
Cost of fare	○	○	○
Awareness of safety risks while walking to and from bus stop, or waiting at the bus stop	○	○	○
Buses not running often enough	○	○	○
Buses don't go near my destination	○	○	○
Distance to the nearest bus stop	○	○	○
Buses too unreliable	○	○	○
Buses take too long to get to my destination	○	○	○
Feeling uneasy or unsafe while waiting at the bus stop/station or travelling on the bus	○	○	○
Other - please specify:	○	○	○

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In an average week, how many trips do you make for the following purposes?
(Select one response for each row)

	None (or less than 1 trip a week)	1-4 trips per week	5 or more trips per week
Number of bus trips to **work**	○	◉	○
Number of bus trips to **school, university** or other **learning institution**	◉	○	○
Number of bus trips for **other purposes** (e.g. medical, shopping, social)	◉	○	○

In an average week, how many bus trips do you make during the following times?
(Select one response for each row)

	None (or less than 1 trip a week)	1-4 trips per week	5 or more trips per week
Number of bus trips **after dark**	○	◉	○
Number of bus trips **during daylight**	○	◉	○

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If you were unable to travel by public transport, how would you choose to travel?
(Select one only)

○ Walk
◉ Motorbike / scooter
○ Car (drive my own car)
○ Bicycle
○ Car (purchase a car and drive myself)
○ Car (get a ride from friend or family)
○ Other - please specify: [   ]

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What is your main means of transport **to and from the bus stop or bus station**?
(Select one only)

- ○ Taxi
- ● Train
- ○ Motorbike / scooter
- ○ Car (driven by myself)
- ○ Car (given a ride by friend or family)
- ○ Long walk (more than 5 minutes)
- ○ Bicycle
- ○ Short walk (5 minutes or less)
- ○ Other - please specify: [   ]

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How safe do you feel during the following stages, **during daylight**?

*Please check **"Not Applicable"** if you do not walk to from bus stop*
(Select one response for each row)

	Safe	Slightly Unsafe	Very Unsafe	Not applicable
How safe do you feel when **walking to the bus stop,** or **walking home** from the bus stop?	●	○	○	○
How safe do you feel while **waiting at the bus stop**?	○	●	○	○
How safe do you feel while **travelling on the bus**?	●	○	○	○

How safe do you feel during the following stages, **after dark**?

*Please check **"Not Applicable"** if you do not walk to from bus stop*
(Select one response for each row)

	Safe	Slightly Unsafe	Very Unsafe	Not applicable
How safe do you feel when **walking to the bus stop, or walking home** from the bus stop?	○	○	●	○
How safe do you feel while **waiting at the bus stop**?	○	○	●	○
How safe do you feel while **travelling on the bus**?	○	●	○	○

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Please indicate the **one** stage in which you feel the **least** safe.
(Select one only)

- ● Walking to the bus stop, or walking home from the bus stop
- ○ Waiting at the bus stop
- ○ Travelling on the bus

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Have you ever altered your actions in any of the following ways because you felt unsafe using a bus or bus stop?
(Select one response for each row, except the last row, which is optional)

	Yes	No
Moved to a bus stop that is busier	○	●
Stopped using the bus after dark	○	●
Waited for other people to alight before getting off at stop	○	●
Sat at the front of the bus, near the driver	○	●
Moved to a different stop to wait	●	○
Got off at a different stop to the one originally planned	○	●
Avoided the back of the bus	○	●
Other actions - please specify:	○	○

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To what extent do the following factors make you feel unsafe or uneasy when **walking to the bus stop** or **walking home from the** bus stop?
(Select one response for each row, except the last row, which is optional)

	This is not really a problem for me	This happens occasionally and it makes me feel **a bit** uneasy or unsafe	This happens occasionally and it makes me feel **very** uneasy or unsafe	This occurs a **lot** and it makes me feel **a bit** uneasy or unsafe	This occurs a **lot** and it makes me feel **very** uneasy or unsafe
People hanging around in groups/gangs	○	●	○	○	○
Drunk/intoxicated people	●	○	○	○	○
Graffiti / unclean surroundings	○	○	○	○	○
Rowdy/noisy people	○	○	●	○	○
Large numbers of young people / school children	○	○	○	●	○
Lonely isolated streets, few people around	○	●	○	○	○
Alleyways and secluded pathways	○	●	○	○	○
Darkness	○	●	○	○	○
Other (Please Specify):	○	○	○	○	○

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From the list below, please rank the **four** most effective security measures that would make you feel calmer and/or safer when **walking to the bus stop,** or **walking home** from the bus stop?

Please rank your top four measures by typing in a 1 for the top measure, a 2 for the second, a 3 for the third, and a 4 for the fourth.

(Please RANK the items)

	Reduced graffiti in the neighbourhood
1	Occasional security or police patrols in neighbourhood
	Some shops open late at night in the city centre
2	Security cameras in the city centre
4	Occasional security or police patrols in the city centre
3	Flexible night buses/shuttles that drop off outside people's homes
	Cutting back bushes/trees along footpaths
	Increased lighting along footpaths

Please note - You will get an opportunity later to recommend any security measures that have not been mentioned above.

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*We are now going to focus on the stage of **waiting at the bus stop**.*

To what extent do the following factors make you feel unsafe or uneasy when entering, exiting and waiting at the bus stop?
(Select one response for each row, except the last row, which is optional)

	This is not really a problem for me	This happens occasionally and it makes me feel **a bit** uneasy or unsafe	This happens occasionally and it makes me feel **very** uneasy or unsafe	This occurs **a lot** and it makes me feel **a bit** uneasy or unsafe	This occurs **a lot** and it makes me feel **very** uneasy or unsafe
People hanging around in groups/gangs	○	●	○	○	○
Drunk/intoxicated people	○	○	●	○	○
Uncertainty about when the next bus is coming	○	●	○	○	○
Rowdy/noisy people	●	○	○	○	○
Large numbers of young people/school children	●	○	○	○	○
Isolated and/or secluded stops	●	○	○	○	○
Graffiti at stop	●	○	○	○	○
Darkness at stop	○	●	○	○	○
Other (Please Specify): [ ]	○	○	○	○	○

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From the list below, please rank the **four** most effective security measures that would make you feel calmer and/or safer when **waiting at the bus stop?**

Please rank your top four measures by typing in a 1 for the top measure, a 2 for the second, a 3 for the third, and a 4 for the fourth.

(Please RANK the items)

[ ]	Real time information at bus stops
[2]	Security cameras at bus stops
[1]	Emergency alarms or 'panic buttons' at bus stops to alert security guards
[3]	Fewer bus stops but more people waiting at each bus stop
[4]	Moving bus stops to more visible locations and removing impairments to visibility (eg trees)
[ ]	Clear safety glass shelters
[ ]	Lighting at bus stops

Please note - You will get an opportunity later to recommend any security measures that have not been mentioned above.

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*We are now going to focus on the stage of **travelling on the bus**.*

To what extent do the following factors make you feel unsafe or uneasy when **travelling on the bus**?
(Select one response for each row, except the last row, which is optional)

	This is not really a problem for me	This happens occasionally and it makes me feel **a bit** uneasy or unsafe	This happens occasionally and it makes me feel **very** uneasy or unsafe	This occurs **a lot** and it makes me feel **a bit** uneasy or unsafe	This occurs **a lot** and it makes me feel **very** uneasy or unsafe
Large numbers of young people/school children	○	⦿	○	○	○
Rowdy/noisy people	○	⦿	○	○	○
Uncertainty about when the bus will arrive at the desired stop	⦿	○	○	○	○
Graffiti on bus	○	⦿	○	○	○
Crowded conditions on the bus	○	○	⦿	○	○
Drunk/intoxicated people	○	○	○	⦿	○
People hanging around in groups/gangs	○	○	○	⦿	○
Darkness on bus	○	○	⦿	○	○
Other (Please Specify): [ ]	○	○	⦿	○	○

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From the list below, please rank the **four** most effective security measures that would make you feel calmer and/or safer when **travelling on the bus**?

Please rank your top four measures by typing in a 1 for the top measure, a 2 for the second, a 3 for the third, and a 4 for the fourth.
(Please RANK the items)

[ ]	Emergency alarms or 'panic buttons' to alert driver
[1]	Lighting on buses
[ ]	Immediate removal of abusive people and/or vandals
[2]	Announcement of the next destination for buses
[3]	Driver training to be able to address/deal with conflict
[ ]	Single seating options on buses
[ ]	Refusal of entry to intoxicated persons
[4]	Security cameras on buses

Please note - You will get an opportunity later to recommend any security measures that have not been mentioned above.

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Of all of the security measures you selected, pick the **four** that would make you feel the safest and/or most calm throughout your **whole journey**.
(Select up to four only)

☐ Flexible night buses/shuttles that drop off outside people's homes
☐ Occasional security or police patrols in neighbourhood
☐ Security cameras in the city centre
☑ Occasional security or police patrols in the city centre
☑ Moving bus stops to more visible locations and removing impairments to visibility (eg trees)
☐ Security cameras at bus stops
☐ Emergency alarms or 'panic buttons' at bus stops to alert security guards
☑ Fewer bus stops but more people waiting at each bus stop
☑ Security cameras on buses
☐ Lighting on buses
☐ Announcement of the next destination for buses
☐ Driver training to be able to address/deal with conflict

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*Now we are going to focus on your **whole journey.***

The list below shows all of the security measures that you have selected.

Security cameras in the city centre

Cutting back bushes/trees along footpaths

Increased lighting along footpaths

Flexible night buses/shuttles that drop off outside people's homes

Emergency alarms or 'panic buttons' at bus stops to alert security guards

Clear safety glass shelters

Lighting at bus stops

Moving bus stops to more visible locations and removing impairments to visibility (eg trees)

Refusal of entry to intoxicated persons

Security cameras on buses

Single seating options on buses

Driver training to be able to address/deal with conflict

Thinking about your last week, if all of these measures were introduced, how would your travel have been affected?

(Select one response for each row)

	Agree	Disagree
I would travel as much as I do now	○	○
I would travel more than I do now	○	○

Please read the following carefully

How many **additional** trips would you make each week **during daylight** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel

(Please enter the whole number in the box below)

[ ]

Please read the following carefully

How many **additional** trips would you make each week **after dark** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel

(Please enter the whole number in the box below)

[ ]

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Can you recommend any other security measures that have not been mentioned?
(Select one only)

○   Yes - (Please Specify): [   ]
◉   No

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Now we are going to ask about your existing bus service.

What is your impression of the type (or types) of people who travel on your bus service? Please comment on whether any of these types of people make you feel unsafe or uneasy.
(Please be as specific and detailed as possible in your answer below)

[   ]

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Have you noticed any security measures associated with your bus or at the bus stop?
(Select one only)

○ Yes - (Please Specify): [_____]
○ No

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The following questions will allow us to produce better estimates and will provide us with a better understanding of the characteristics of bus users.

What is your gender?
(Select one)

○ Male
○ Female

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What is your age?
(Select one)

○ 15-16
○ 17-19
○ 20-24
○ 25-29
○ 30-39
○ 40-49
○ 50-64
○ 65+

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Do you identify with any of the following ethnic groups?

Note - Ethnicity is the ethnic group or groups that people identify with or feel they belong to. Ethnicity is a measure of cultural affiliation, as opposed to race, ancestry, nationality or citizenship. Ethnicity is self perceived and people can belong to more than one ethnic group.
(Select all that apply)

☐ New Zealand European   ☐ Niuean
☐ Māori   ☐ Chinese
☐ Samoan   ☐ Indian
☐ Cook Islands Maori   ☐ Other - please specify: [   ]
☐ Tongan   ☐ None of these

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Please confirm that you have answered the questions in this survey honestly and to the best of your ability?
(Neither of these questions will affect your reward points)

○ Yes - I confirm
○ No

Please confirm that you are the person that the email was originally sent to?
(Neither of these questions will affect your reward points)

○ Yes - I confirm
○ No

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And finally, do you have any comments that you would like to make about this questionnaire?
(Please click next to collect your reward points)

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That is the end of our survey. We would like to thank you for taking the time to complete our survey. Your opinions and responses are gratefully received and extremely important to us.

The insights which you have given us will be used to develop future products and others like it. Your responses will be used at an aggregate level only, and as such we would like to assure you once again that your details will be used in the strictest of confidence and will not be passed on to any other party for any purpose other than which it was intended. If you have any questions please contact us at TNS.

This survey was conducted by TNS New Zealand on behalf of BAH.

We hope you will take part in future surveys with us.

(Please ensure to click the >> button on the following screen to receive your points)

B2   Sub-section for train users

The questions presented to train users were similar to those shown in the screen shots for bus users in Appendix B1. However, a different sub-section was presented for train users, which is shown in the following screen shots.

Which types of public transport do you use?
Select one box only

○ Only Bus
● Only Train
○ Both Bus and Train

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*The following questions will ask about your use of **trains**.*

To what extent have the following factors discouraged you from travelling by train **during daytime**?
(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Cost of fare	○	○	○
Feeling uneasy or unsafe while entering the station, waiting at the station or travelling on the train	○	○	○
Trains not running often enough	○	○	○
Transfer between a bus and a train would be required	○	○	○
Trains take too long to get to my destination	○	○	○
Transfer from one train to another would be required	○	○	○
Personal disability / health issue	○	○	○
Awareness of safety risks while walking to and from station, or waiting at the station	○	○	○
Lack of information about local train services	○	○	○
Trains don't go near my destination	○	○	○
Concern about bike or car being stolen if I leave it at the station	○	○	○
Trains too unreliable	○	○	○
Distance to the nearest station	○	○	○
Other (Please Specify):	○	○	○

To what extent have the following factors discouraged you from travelling by train **after dark**?
(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Cost of fare	○	○	○
Feeling uneasy or unsafe while entering the station, waiting at the station or travelling on the train	○	○	○
Trains not running often enough	○	○	○
Transfer between a bus and a train would be required	○	○	○
Trains take too long to get to my destination	○	○	○
Transfer from one train to another would be required	○	○	○
Personal disability / health issue	○	○	○
Awareness of safety risks while walking to and from station, or waiting at the station	○	○	○
Lack of information about local train services	○	○	○
Trains don't go near my destination	○	○	○
Concern about bike or car being stolen if I leave it at the station	○	○	○
Trains too unreliable	○	○	○
Distance to the nearest station	○	○	○
Other (Please Specify):	○	○	○

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In an average week, how many trips do you make for the following purposes?
(Select one response for each row)

	None (or less than 1 trip a week)	1-4 trips per week	5 or more trips per week
Number of train trips to **work**	○	◉	○
Number of train trips to **school**, **university** or other **learning institution**	○	◉	○
Number of train trips for **other purposes** (eg medical, shopping, social)	◉	○	○

In an average week, how many train trips do you make during the following times?
(Select one response for each row)

	None (or less than 1 trip a week)	1-4 trips per week	5 or more trips per week
Number of train trips **after dark**	○	◉	○
Number of train trips **during daylight**	○	◉	○

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If you were unable to travel by public transport, how would you choose to travel?
(Select one only)

○ Walk
○ Motorbike / scooter
○ Car (drive my own car)
○ Bicycle
◉ Car (purchase a car and drive myself)
○ Car (get a ride from friend or family)
○ Other (Please Specify): [_____]

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What is your main means of transport **to and from the train station**?
(Select one only)

- ○ Taxi
- ○ Bus
- ○ Motorbike / scooter
- ○ Car (driven by myself)
- ○ Car (given a ride by friend or family)
- ○ Long walk (more than 5 minutes)
- ○ Bicycle
- ● Short walk (5 minutes or less)
- ○ Other (Please Specify): [_____]

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How safe do you feel during the following stages, **during daylight**?

Please check **"Not Applicable"** if you do not walk between home and the station and check **"Not Applicable"** if you do not walk between the car park and the station

(Select one response for each row)

	Safe	Slightly Unsafe	Very Unsafe	Not applicable
How safe do you feel when **walking to the station or walking home from the station**?	●	○	○	○
How safe do you feel when **walking between the car park and the station**?	○	○	○	●
How safe do you feel while **entering, exiting and waiting at the station**?	○	●	○	○
How safe do you feel while **travelling on the train**?	●	○	○	○

How safe do you feel during the following stages, **after dark**?

Please check **"Not Applicable"** if you do not walk between home and the station and check **"Not Applicable"** if you do not walk between the car park and the station

(Select one response for each row)

	Safe	Slightly Unsafe	Very Unsafe	Not applicable
How safe do you feel when **walking to the station or walking home from the station**?	○	○	●	○
How safe do you feel when **walking between the car park and the station**?	○	○	○	●
How safe do you feel while **entering, exiting and waiting at the station**?	○	○	●	○
How safe do you feel while **travelling on the train**?	○	●	○	○

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Pick the **one** stage in which you feel the **least** safe.
(Select one only)

- ◉ Walking to the station / Walking home from the station
- ○ Walking between the car park and the station
- ○ Entering, exiting and waiting at the station
- ○ Travelling on the train

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Have you ever altered your actions because you felt unsafe using a train or train station?
(Select one response for each row, except the last row, which is optional)

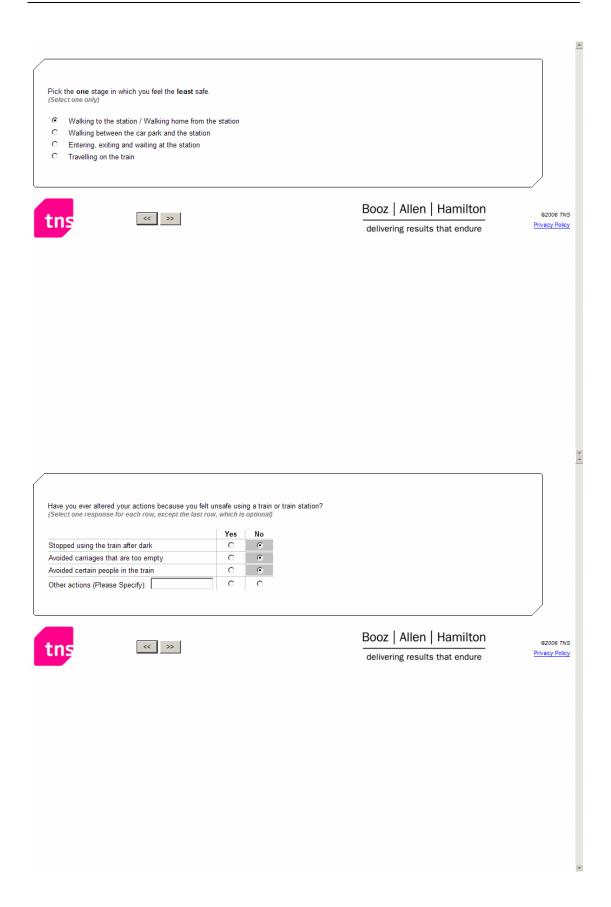|	Yes	No
Stopped using the train after dark	○	◉
Avoided carriages that are too empty	○	◉
Avoided certain people in the train	○	◉
Other actions (Please Specify):	○	○

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To what extent do the following factors make you feel unsafe or uneasy when **walking to the station** or **walking home from the station**?
(Select one response for each row, except the last row, which is optional)

	This is not really a problem for me	This happens **occasionally** and it makes me feel **a bit** uneasy or unsafe	This happens **occasionally** and it makes me feel **very** uneasy or unsafe	This occurs a **lot** and it makes me feel **a bit** uneasy or unsafe	This occurs a **lot** and it makes me feel **very** uneasy or unsafe
People hanging around in groups/gangs	○	◉	○	○	○
Drunk/intoxicated people	○	○	◉	○	○
Graffiti / unclean surroundings	○	◉	○	○	○
Rowdy/noisy people	○	◉	○	○	○
Large numbers of young people / school children	○	◉	○	○	○
Lonely isolated streets, few people around	○	◉	○	○	○
Alleyways and secluded pathways	◉	○	○	○	○
Darkness	◉	○	○	○	○
Other (Please Specify): [ ]	○	○	○	○	○

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From the list below, please rank the **four** most effective security measures that would make you feel calmer and/or safer when **walking to the station,** or **walking home from the station?**

Please rank your top four measures by typing in a 1 for the top measure, a 2 for the second, a 3 for the third, and a 4 for the fourth.
(Please RANK the items)

[ ]	Occasional security or police patrols in neighbourhood
[ ]	Reduced graffiti in the neighbourhood
[1]	Cutting back bushes/trees along footpaths
[2]	Increased lighting along footpaths
[ ]	Some shops open late at night in the city centre
[ ]	Taxi ranks at the station
[3]	Security cameras in the city centre
[4]	Flexible night buses/shuttles at the station that drop off outside people's homes
[ ]	Occasional security or police patrols in the city centre

Please note - You will get an opportunity later to recommend any security measures that have not been mentioned above.

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*We are now going to focus on the stage of **waiting at the train station**.*

To what extent do the following factors make you feel unsafe or uneasy when entering, exiting and waiting at the station?
(Select one response for each row, except the last row, which is optional)

	This is not really a problem for me	This happens occasionally and it makes me feel **a bit** uneasy or unsafe	This happens occasionally and it makes me feel **very** uneasy or unsafe	This occurs **a lot** and it makes me feel **a bit** uneasy or unsafe	This occurs **a lot** and it makes me feel **very** uneasy or unsafe
People hanging around in groups/gangs	○	●	○	○	○
Drunk/intoxicated people	○	○	●	○	○
Uncertainty about when the next train is coming	○	○	○	●	○
Rowdy/noisy people	○	○	●	○	○
Large groups of young people/school children	○	●	○	○	○
Isolated and/or secluded stations	○	●	○	○	○
Graffiti at stations	●	○	○	○	○
Darkness at station	●	○	○	○	○
Other (Please Specify):	○	○	○	○	○

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From the list below, please rank the **four** most effective security measures that would make you feel calmer and/or safer when **entering, exiting and waiting at the station?**

Please rank your top four measures by typing in a 1 for the top measure, a 2 for the second, a 3 for the third, and a 4 for the fourth.
(Please RANK the items)

	Emergency alarms or 'panic buttons' at station to alert guards
	Security guards at stations during busy times
1	Real time information at station
	Increased lighting at the station
2	Increased lighting in the car park
3	Open café/kiosks at stations
4	Random security guard patrols at stations during less busy times
	Security cameras at the station
	Security cameras in car park

Please note - You will get an opportunity later to recommend any security measures that have not been mentioned above.

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We are now going to focus on the stage of **travelling on the train**.

To what extent do the following factors make you feel unsafe or uneasy when **travelling on the train**?
(Select one response for each row, except the last row, which is optional)

	This is not really a problem for me	This happens occasionally and it makes me feel **a bit** uneasy or unsafe	This happens occasionally and it makes me feel **very** uneasy or unsafe	This occurs **a lot** and it makes me feel **a bit** uneasy or unsafe	This occurs **a lot** and it makes me feel **very** uneasy or unsafe
Large groups of young people/school children	○	◉	○	○	○
Rowdy/noisy people	○	○	◉	○	○
Uncertainty about when the train will arrive at the desired station	○	◉	○	○	○
Graffiti on train	◉	○	○	○	○
Crowded conditions on the train	◉	○	○	○	○
Drunk/intoxicated people	◉	○	○	○	○
People hanging around in groups/gangs	○	○	◉	○	○
Darkness on train	○	○	◉	○	○
Other (Please Specify): [ ]	○	○	○	○	○

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From the list below, please rank the **four** most effective security measures that would make you feel calmer and/or safer when **travelling on the train?**

Please rank your top four measures by typing in a 1 for the top measure, a 2 for the second, a 3 for the third, and a 4 for the fourth.
(Please RANK the items)

1	Announcement of the next destination for trains
2	Roaming security guard / warden on trains
3	Refusal of entry to intoxicated persons
4	Increased lighting on trains
[ ]	Single seating options on trains
[ ]	Security cameras on trains
[ ]	Emergency alarms or 'panic buttons' on trains to alert conductor or guard/warden

Please note - You will get an opportunity later to recommend any security measures that have not been mentioned above.
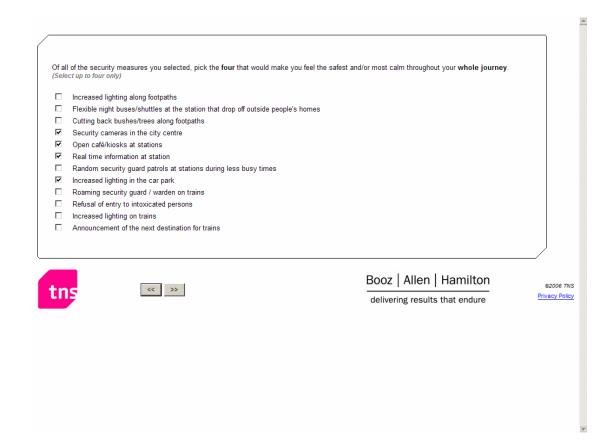
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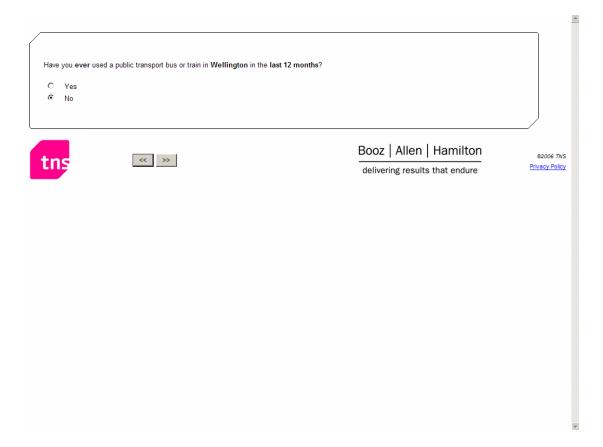[<<] [>>]

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*Now we are going to focus on your **whole journey.***

The list below shows all of the security measures that you have selected.

Flexible night buses/shuttles at the station that drop off outside people's homes

Cutting back bushes/trees along footpaths

Some shops open late at night in the city centre

Occasional security or police patrols in neighbourhood

Security cameras at the station

Real time information at station

Increased lighting in the car park

Emergency alarms or 'panic buttons' at station to alert guards

Security cameras on trains

Single seating options on trains

Refusal of entry to intoxicated persons

Increased lighting on trains

Thinking about your last week, if all of these measures were introduced, how would your travel have been affected?

(Select one response for each row)

	Agree	Disagree
I would travel as much as I do now	○	○
I would travel more than I do now	○	○

Please read the following carefully

How many **additional** trips would you make each week **during daylight** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel
(Please enter the whole number in the box below)

Please read the following carefully

How many **additional** trips would you make each week **after dark** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel
(Please enter the whole number in the box below)

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Of all of the security measures you selected, pick the **four** that would make you feel the safest and/or most calm throughout your **whole journey**.
(Select up to four only)

- ☐ Increased lighting along footpaths
- ☐ Flexible night buses/shuttles at the station that drop off outside people's homes
- ☐ Cutting back bushes/trees along footpaths
- ☑ Security cameras in the city centre
- ☑ Open café/kiosks at stations
- ☑ Real time information at station
- ☐ Random security guard patrols at stations during less busy times
- ☑ Increased lighting in the car park
- ☐ Roaming security guard / warden on trains
- ☐ Refusal of entry to intoxicated persons
- ☐ Increased lighting on trains
- ☐ Announcement of the next destination for trains

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B3 Sub-section for people who do not use public transport (bus or rail)

Non-users of public transport are presented with the same introductory and concluding questions as shown in Appendix B1. However, the sub-section in the middle is different, and it is shown in the following screen shots.

Have you **ever** used a public transport bus or train in **Wellington** in the **last 12 months**?

○ Yes
⦿ No

To what extent have the following factors discouraged you from travelling by bus **during daytime**?
(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Transfer from one bus to another would be required	●	○	○
Lack of information about local bus services	●	○	○
Personal disability / health issues	●	○	○
Cost of fare	○	●	○
Awareness of safety risks while walking to and from bus stop, or waiting at the bus stop	○	●	○
Buses not running often enough	○	●	○
Buses don't go near my destination	●	○	○
Distance to the nearest bus stop	●	○	○
Buses too unreliable	○	○	●
Buses take too long to get to my destination	○	○	●
Feeling uneasy or unsafe while waiting at the bus stop or travelling on the bus	●	○	○
Other (Please Specify):	○	○	○

To what extent have the following factors discouraged you from travelling by bus **after dark**?
(Select one response for each row, except the last row, which is optional)

	No effect (or verly little effect)	Some effect	Strong effect
Transfer from one bus to another would be required	○	●	○
Lack of information about local bus services	○	●	○
Personal disability / health issues	○	●	○
Cost of fare	○	●	○
Awareness of safety risks while walking to and from bus stop, or waiting at the bus stop	●	○	○
Buses not running often enough	●	○	○
Buses don't go near my destination	○	○	●
Distance to the nearest bus stop	○	○	●
Buses too unreliable	○	●	○
Buses take too long to get to my destination	○	●	○
Feeling uneasy or unsafe while waiting at the bus stop or travelling on the bus	○	●	○
Other (Please Specify):	○	○	○

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Imagine a sophisticated package of safety measures were introduced for your local bus service. For example, improved lighting, alarm buttons and cameras on bus stops and on buses.

Thinking about your last week, if all of these measures were introduced, what would be your response?
(Select one response for each row)

	Agree	Disagree
I would continue to not use the bus	○	○
I would start using the bus	○	○

Please read the following carefully

How many **additional trips** would you make each week **during daylight** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel

(Please enter the whole number in the box below)

How many **additional** trips would you make each week **after dark** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel

(Please enter the whole number in the box below)

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What is your impression of the type (or types) of people who travel on bus services? Please comment on whether any of these types of people make you feel unsafe or uneasy.
(Please be as specific and detailed as possible in your answer below)

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Is there a train service near you that you could use to commute to work if you wanted to?
(Select one only)

○ Yes
○ No
○ Not sure

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To what extent have the following factors discouraged you to from travelling by train **during daytime**?
(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Cost of fare	●	○	○
Feeling uneasy or unsafe while entering the station, waiting at the station or travelling on the train	●	○	○
Trains not running often enough	○	●	○
Transfer between a bus and a train would be required	○	●	○
Trains take too long to get to my destination	●	○	○
Transfer from one train to another would be required	●	○	○
Personal disability / health issue	●	○	○
Awareness of safety risk while walking to and from station, or waiting at the station	●	○	○
Lack of information about local train services	●	○	○
Trains don't go near my destination	●	○	○
Concern about bike or car being stolen if I leave it at the station	●	○	○
Trains too unreliable	●	○	○
Distance to the nearest station	●	○	○
Other (Please Specify):	○	○	○

To what extent have the following factors discouraged you to from travelling by train **after dark**?
(Select one response for each row, except the last row, which is optional)

	No effect (or very little effect)	Some effect	Strong effect
Cost of fare	●	○	○
Feeling uneasy or unsafe while entering the station, waiting at the station or travelling on the train	●	○	○
Trains not running often enough	●	○	○
Transfer between a bus and a train would be required	●	○	○
Trains take too long to get to my destination	●	○	○
Transfer from one train to another would be required	●	○	○
Personal disability / health issue	●	○	○
Awareness of safety risk while walking to and from station, or waiting at the station	●	○	○
Lack of information about local train services	●	○	○
Trains don't go near my destination	●	○	○
Concern about bike or car being stolen if I leave it at the station	●	○	○
Trains too unreliable	●	○	○
Distance to the nearest station	●	○	○
Other (Please Specify):	○	○	○

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Imagine a sophisticated package of safety measures were introduced for your local train service. For example, improved lighting, alarm buttons and cameras at train stations and cameras and security guards on trains.

Thinking about your last week, if all of these measures were introduced, what would be your response?
(Select one response for each row)

	Agree	Disagree
I would continue to not use the train	○	○
I would start using the train	○	○

Please read the following carefully

How many **additional** trips would you make each week **during daylight** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel

(Please enter the whole number in the box below)

How many **additional** trips would you make each week **after dark** in response the security measures above, over and above what you already make?
(Note - A return trip counts as 2 trips)

Please type in 0 if the security measures would have little or no effect on your travel

(Please enter the whole number in the box below)

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What is your impression of the type (or types) of people who travel on train services? Please comment on whether any of these types of people make you feel unsafe or uneasy.
(Please be as specific and detailed as possible in your answer below)

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