



Calgary Transit Safety, Security and Cleanliness Survey – Final report 2016

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Calgary Transit has been conducting an annual telephone survey of transit users since 2008 to measure perceptions and experiences related to safety, security, cleanliness and overall performance of its transit operations. Calgary Transit has made considerable investments in keeping its passengers safe and secure through additional Peace Officers, cameras, and area enhancements around major stops and CTrain stations. There has also been considerable focus on cleanliness of the fleet in recent years. Assessing the impact of changes such as these to the services offered are an important aspect of tracking performance over the years. Additionally the survey has been used to identify areas where performance improvements might be examined with the ultimate goal of providing transit users with a safe, efficient and enjoyable experience.

The survey includes measurement of:

- Perceptions of safety and security at bus stops and CTrain stations,
- Perceptions of safety and security while riding Calgary Transit buses and CTrains;
- Cleanliness of both fleet and facilities;
- Perceptions and visibility of Peace Officers and other City staff and their impact on safety and security
- Performance, service levels and client satisfaction

The results of the survey are an important input and feedback mechanism for Calgary Transit management to consider when reviewing safety and security policies, staffing levels, budgetary requests, and more.

The 2016 Calgary Transit (CT) Safety, Security, and Cleanliness Survey was conducted via a telephone survey with an average duration of 18 minutes.

Fieldwork took place between September 27th and October 4th 2016.

The target population for this survey was all transit users aged 15+ who have used transit on average at least once a week in the past year. In total, 500 randomly selected Calgary residents were spoken to via random digit dialling (RDD) which included numbers from both landlines and cell phones (to ensure an objective, randomly selected and statistically representative measure of the opinions of Calgary Transit users).

The parameters of the 2016 Calgary Transit Safety, Security and Cleanliness Survey were as follows;

- Sample size; n=500
- Quotas applied for demographics with final data weighted according to the 2015 Civic Census for age and gender
- Sample frame included regular users of transit (avg. of once per week) who were aged 15 and older
- 30% cell phone sample
- Survey length was between 14 and 20 minutes (the average length was 18 minutes)

In 2016 a quota of n=30 was applied to the under 18 segment – due to their extensive use of transit services. This was achieved by ensuring that the introductory survey script allowed for immediate identification of transit users aged 15-17 and during the initial fieldwork phase those under 18 were specifically targeted.

Results for the 2016 Calgary Transit Safety, Security and Cleanliness survey have been weighted to the 2016 Civic Census for age and gender. All figures shown represent valid responses (excluding don't know and refused).

Note: For a sample size of n=500 the maximum margin of error is +/- 4.4% at the 95% level of confidence - this is based on 50/50 split on any given question. As consensus on a question increases, the margin of error decreases. For instance, if the results are split 90/10 on a subgroup sample of 100, the margin of error at the 95% level of confidence narrows from +/- 9.8% to +/- 5.9%.

Safety and Security

- Year-on-year, safety ratings for transit remain relatively stable. This holds true for overall ratings, as well as safety ratings for Calgary buses and CTrains. Over time ratings remain positive.
- 1-in-10 (11%) Calgary Transit users feel very safe when using transit. Spontaneously, the reasons provided for this are mainly by circumstance (feeling safe/never having an issue), great drivers and a safe environment (i.e. well lit, open areas). The main factor contributing towards lower safety ratings is the behavior of others (i.e. unruly, intoxication).
- Over time, Calgary Transit users are feeling increasingly safer on transit vehicles before 6pm. In particular, since 2011 there has been a significant positive shift in safety perceptions for CTrain travel prior to 6pm.
- When it comes to travel after 6pm, safety feelings are more positive for bus vs. CTrain travel – this holds true in 2016 and historically. This is likely due to the visible presence of a driver in the event of any perceived safety compromises. Post 6pm, there is a higher level of concern for safety when waiting at transit stops vs. actual travel within vehicles. On the positive side, safety perceptions around waiting at a CTrain station are improving amongst Calgary Transit users. While the same long-term trend has not occurred for bus stations, safety perceptions here are now showing signs of recovery back to 2014 levels, after slipping in 2015.
- There are a number of factors that can play a role in feelings of safety and security and these include perceptions around the transit environment, awareness of safety and security measures and their degree of influence. Peace Officers are a visible presence for Calgary Transit users and in 2016 their visibility reached a 6-year peak (in 2016, 56% observed a Peace Officer in the last month).
- Peace Officer visibility is growing, particularly during rush-hour periods. However, Peace Officer sufficiency perceptions are declining and they have a declining degree of influence on feelings of safety and security amongst Calgary Transit users.
 - It is likely that there could be a link between these two factors – i.e. even though Peace Officers are more visible during rush-hour periods, their sufficiency could be negatively impacted by the perceived ratio of transit passengers to officers.

Safety and Security (continued)

- Having buses, trains and waiting areas that are well lit and free of places for people to hide plays an important role in safety perceptions. Notable improvements are occurring with regard to lighting at both bus stops and CTrain stations. Attitudes towards sufficient bus stop lighting are up significantly from 2015, and attitudes towards sufficient lighting at CTrain stations are showing continued year-on-year improvements and are up significantly from 2011.
- Transit users currently perceive there are fewer places for people to hide on buses and CTrains than when this was first measured in 2014. Perceptions are strengthening year-on-year and currently they are up significantly since 2014 (for both buses and CTrains). The area currently requiring attention is perceived hiding places in CTrain stations – currently less than a third of Calgary Transit users strongly agree that none exist, and since 2014 positive scores have fallen 9 percentage points (a significant decline).
- When prompted with a range of aspects that might have an influence on feelings of safety and security, surveillance and monitoring equipment (help intercoms/cameras and real-time station displays) have the strongest influence for Calgary Transit users. This is followed by the presence of Transit Personnel and Peace Officers. Given there are numerous security touch points for transit users, the availability of real-time information both via the Calgary Transit website and Smartphone app helps to support these more visible security measures.
- In 2016, around 1-in-10 (9%) Calgary Transit users claim they never travel at night. Among those who do travel at night, a third claim to have avoided it at some point in time for reasons of personal safety or security. A similar proportion claim to be avoiding certain routes, stops or stations for the same reasons.
- Over the last five years there have been some notable improvements with regards to safety and security. Awareness of video cameras on buses and new CTrain cars is on the rise and Calgary Transit users are feeling safer on transit vehicles and at stops after 6pm. However, continued action in the form of raising awareness of surveillance equipment (help intercoms/cameras and real-time station displays) and ensuring a strong presence of Peace Officers will continue to assist transit users in this area.

Cleanliness

- In general, Calgary Transit users have positive attitudes towards the cleanliness of transit vehicles and stations. For the last 5 years the proportion feeling positive towards CTrain and CTrain station cleanliness has remained above 90% and the same holds true for interior and exterior bus cleanliness.
- Bus stops continue to be the weakest performing area in terms of cleanliness, maintenance and absence of graffiti. While some improvement has occurred for cleanliness and maintenance, presence of graffiti is the area requiring the most attention, as performance here is weakest.



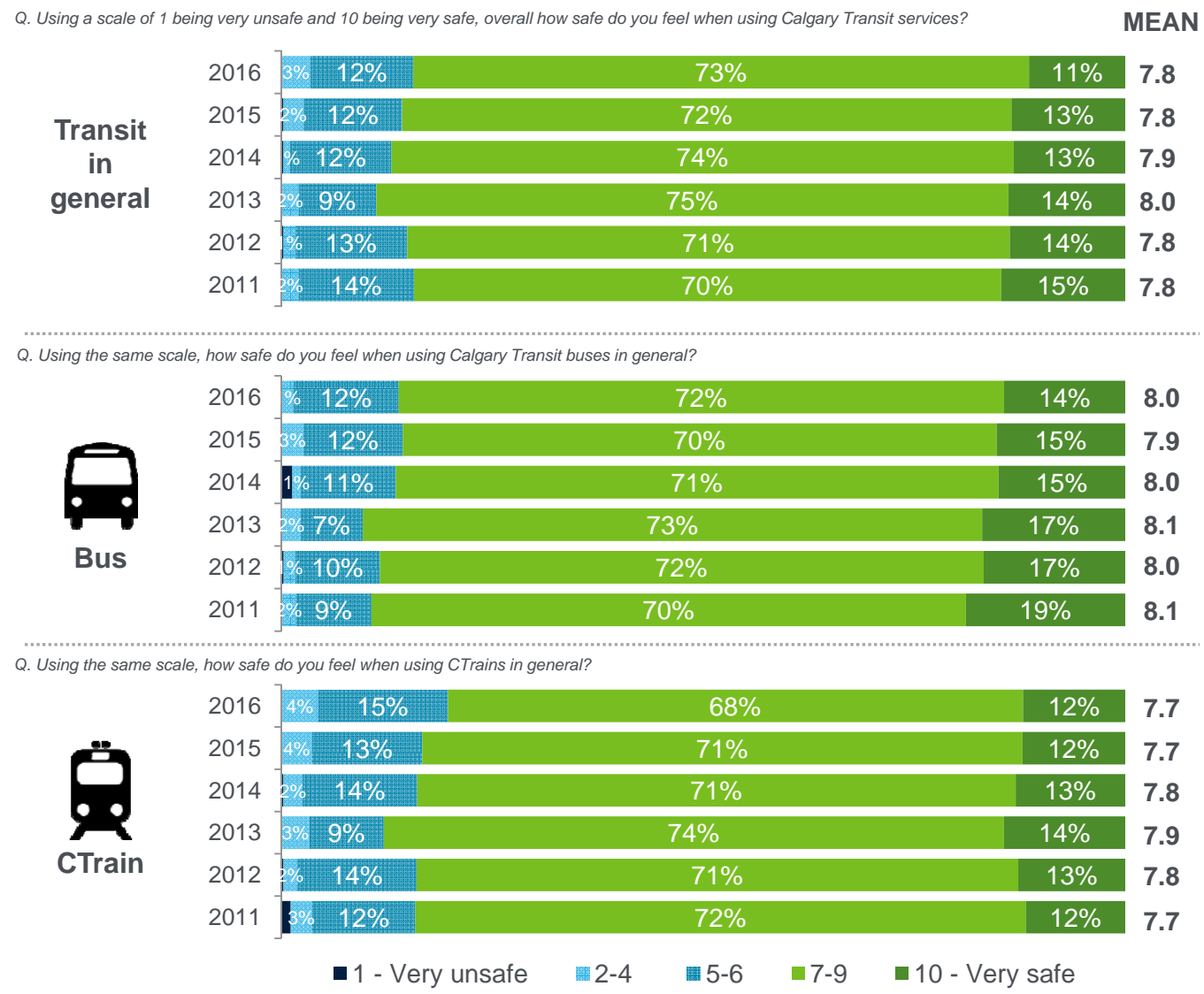
Main findings – Safety and Security

Calgary Transit safety ratings

Average safety ratings based on 1 being very unsafe and 10 being very safe

Year-on-year, safety ratings for transit remain relatively stable. This holds true for overall ratings, as well as safety ratings for Calgary buses and CTrains. Over time these ratings have remained positive.

In 2016, males are more likely to feel safe when using Calgary Transit in general (8.0 vs. 7.6 females), CTrains (8.0 vs. 7.4) and buses (8.2 vs. 7.8). Those who are regular users of just buses and not CTrains are more likely to feel safe on Calgary Transit in general compared to those who are regular users of both buses and CTrains (mean 8.2 vs. 7.7).

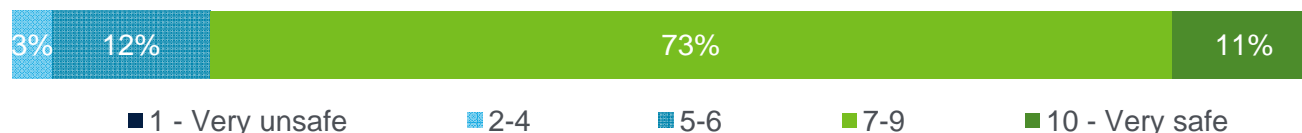


Reasons for Calgary Transit safety ratings

Average safety ratings based on 1 being very unsafe and 10 being very safe

Q. Using a scale of 1 being very unsafe and 10 being very safe, overall how safe do you feel when using Calgary Transit services?

2016 Calgary Transit average safety rating: 7.8 (no change from 2015)



Around 1-in-10 (11%) currently feel very safe when using Calgary Transit and the spontaneous reasons for this come down to never having experienced any issues to feel otherwise. The other key factors to feeling safe are the drivers and the transit environment (e.g. well lit, no hiding places).

For those who can't give a perfect score, the main reasons lie within the behaviour of members of the public (general unruly behaviour or intoxicated people). For those with even lower safety ratings, lack of Peace Officer/security presence is also a factor.

Peace Officer/security presence helps mitigate any safety concerns. As such, Calgary Transit should ensure continued presence and visibility across all times.

Reasons for providing a rating of less than 10/10:	Rated 1-6/10	Rated 7-9/10	Reasons for providing a rating of 10/10:	%
Unruly behavior/Shady, sketchy characters	32%	26%	Feel safe/I have never had an issue	54%
Presence of intoxicated people (alcohol, drugs)	31%	24%	Great drivers (friendly, professional, on top of things)	19%
Peace Officers/security/police not visible enough/Need more	22%	12%	Safe environment (well-lit/open areas/no hiding places)	13%
Feel safe in daylight only/in rush-hour	14%	11%	Presence of Peace Officers	7%
I feel safe most but not 100% of the time (can't give a perfect score)	0%	11%	Presence of other people/scheduled routes back and forth all the time	6%
Bus drivers going too fast/stopping suddenly/not opening doors etc	10%	2%	Have the safety bell/button to use if needed	5%
Presence of homeless people/Panhandlers	10%	9%	Use only when professional commuters are using it/No panhandlers	5%
Depends on situation(time, place etc)/Nobody has control over everything	5%	8%		
Drivers not visible on train/No control over who gets on/Not helpful	5%	6%		
Sketchy neighbourhoods/areas/downtown area	8%	5%		
Bus stops, stations, areas not well lit	3%	5%		
Witnessed/Involved in an incident/A Past experience/Heard about an incident	4%	5%		

Bases: Rated Calgary Transit safety in general as 1-6/10: n=74, Rated Calgary Transit safety in general as 7-9/10: n=350

Base (rated Calgary Transit safety in general as 10/10): n=55



Significantly higher than the proportion providing this as reason for their safety score being 7-9/10

2016 Overall safety rating base; n=499



2016 snapshot of safety attitudes at different travel times

On CTrains and at CTrain stations / On buses and at bus passenger shelters

Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.

Safety ratings are very positive when it comes to using CTrains or buses before 6pm, yet they diminish significantly for travel after 6pm.

After 6pm, Calgary Transit users feel safer travelling on a bus vs. a CTrain. This is likely due to the visible presence of a driver in the event of any perceived safety compromises.



BEFORE 6PM

AFTER 6PM

Safe on CTrains BEFORE 6PM

Total agreement: 96%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=478

Safe at a CTrain station BEFORE 6PM

Total agreement: 95%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=480

Safe on CTrains AFTER 6PM

Total agreement: 76%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=437

Safe at a CTrain station AFTER 6PM

Total agreement: 74%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=432



BEFORE 6PM

AFTER 6PM

Safe on buses BEFORE 6PM

Total agreement: 98%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=417

Safe at bus stops/passenger shelters BEFORE 6PM

Total agreement: 97%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=415

Safe on buses AFTER 6PM

Total agreement: 86%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=376

Safe at bus stops/passenger shelters AFTER 6PM

Total agreement: 74%



■ Strongly agree ■ Somewhat agree

Base (valid responses) n=374





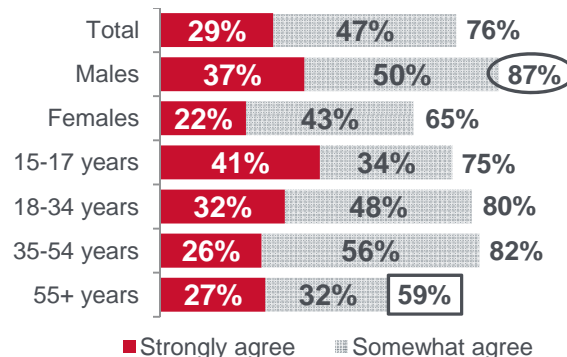
2016 snapshot of safety attitudes at different travel times

Demographic differences

Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.



Safe on CTrains AFTER 6PM



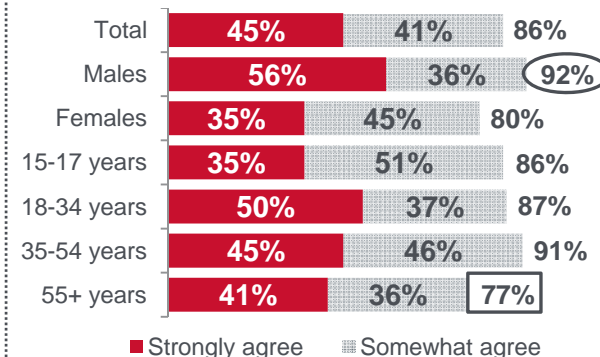
Base (valid responses) Total; n=437, Males; n=222, Females; n=216, 15-17; n=20, 18-34; n=154, 35-54; n=163, 55+; n=100

Males feel safer than females when travelling on transit vehicles after 6pm or waiting at transit stops after 6pm.

Those aged 55+ feel the most vulnerable under these same circumstances – relative to those under 55.



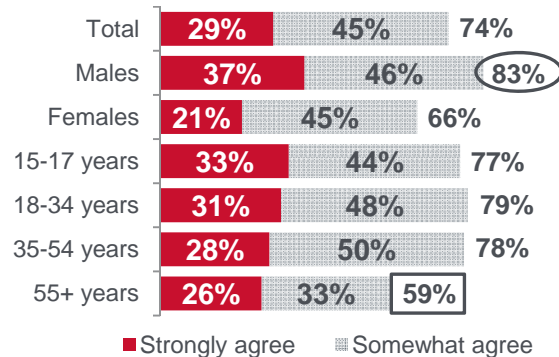
Safe on buses AFTER 6PM



Base (valid responses) Total; n=376, Males; n=179, Females; n=196, 15-17; n=20, 18-34; n=134, 35-54; n=133, 55+; n=88



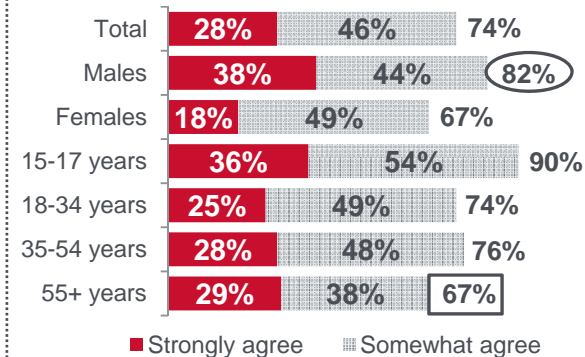
Safe at a CTrain station AFTER 6PM



Base (valid responses) Total; n=432, Males; n=219, Females; n=213, 15-17; n=20, 18-34; n=153, 35-54; n=163, 55+; n=97



Safe at bus stops/ passenger shelters AFTER 6PM



Base (valid responses) Total; n=374, Males; n=178, Females; n=196, 15-17; n=20, 18-34; n=133, 35-54; n=133, 55+; n=88

○ Significantly higher relative to females
□ Significantly lower relative to other age groups



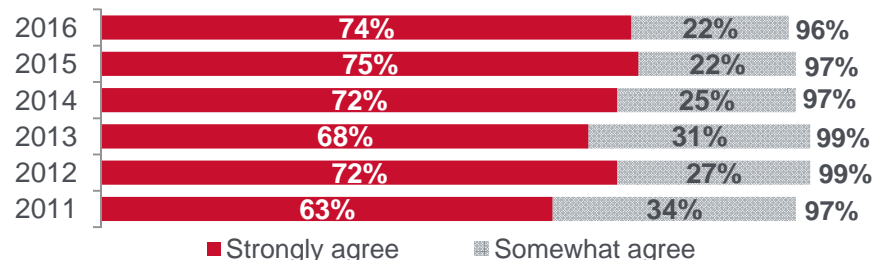
CTrain safety attitudes at different travel times

On CTrains and at CTrain stations



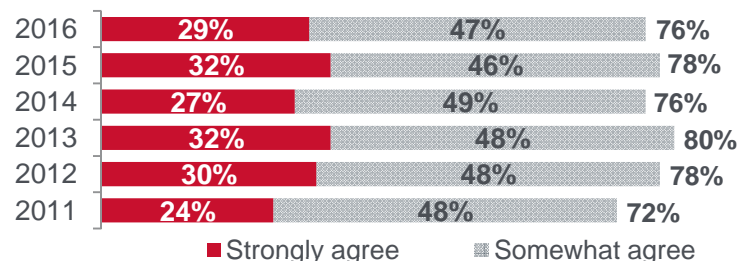
Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.

Safe on CTrains BEFORE 6PM



2016 Base (valid responses): n=478

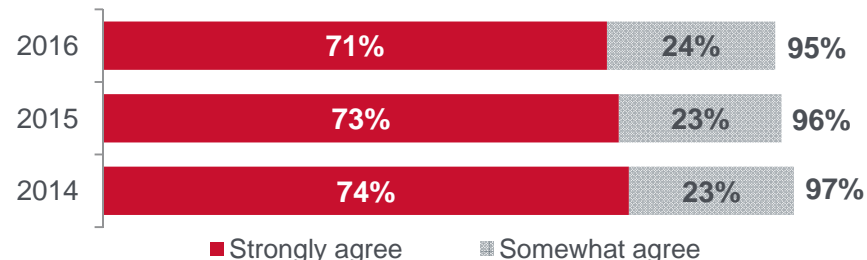
Safe on CTrains AFTER 6PM



2016 Base (valid responses): n=437

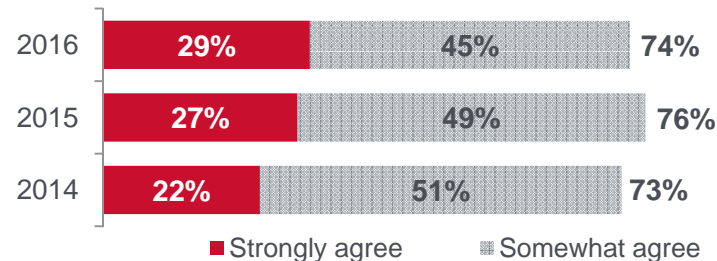
Safety attitudes towards CTrains have seen some minor fluctuations over the last few years – however there is a long-term trend towards increased safety pre 6pm (this is supported by a significant increase in top box scores from 2011 to 2016).

Safe at a CTrain station BEFORE 6PM



2016 Base (valid responses): n=480

Safe at a CTrain station AFTER 6PM



2016 Base (valid responses): n=432

Safety feelings are generally weakest with respect to waiting at a CTrain station after 6pm. However, year-on-year top box scores for this measure have seen gradual improvement and in 2016 the result is significantly higher relative to 2014.



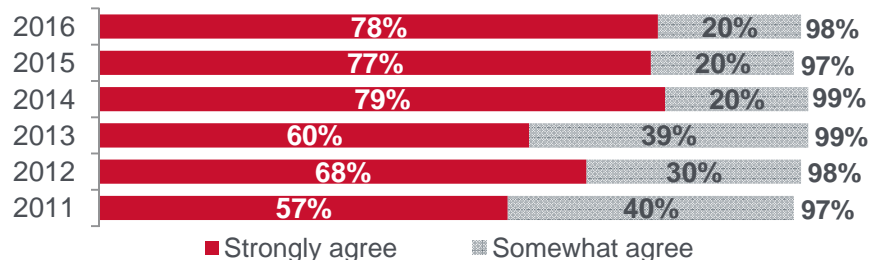
Bus safety attitudes at different travel times

On buses and bus passenger stops



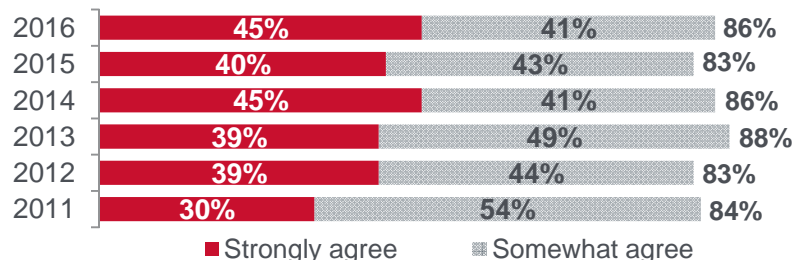
Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.

Safe on buses BEFORE 6PM



2016 Base (valid responses): n=417

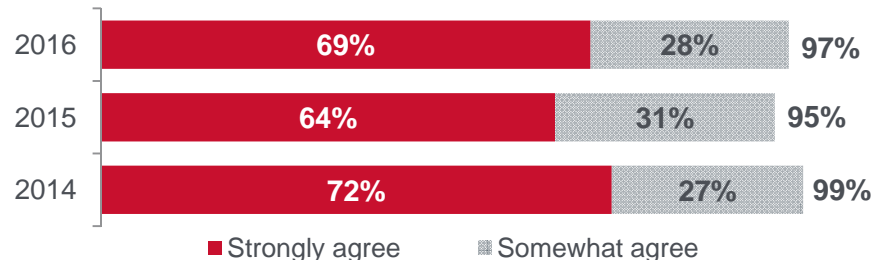
Safe on buses AFTER 6PM



2016 Base (valid responses): n=376

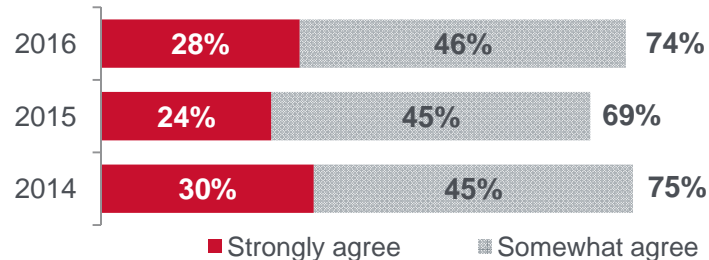
Safety attitudes towards bus travel have fluctuated slightly in recent years but the long-term trend is a feeling of increased safety for travel both before and after 6pm. Although total agreement remains quite stable, this trend is evidenced by a significant increase in top box scores (from 2011 to 2016).

Safe at bus stops/passenger shelters BEFORE 6PM



2016 Base (valid responses): n=415

Safe at bus stops/passenger shelters AFTER 6PM



2016 Base (valid responses): n=374

When comparing top box scores, safety feelings are generally weaker with respect to waiting at a bus stop vs. actual bus travel particularly after 6pm. Here attitudes weakened in 2015 but in 2016 these are showing signs of recovery back to the 2014 levels.





Nuisance behaviours

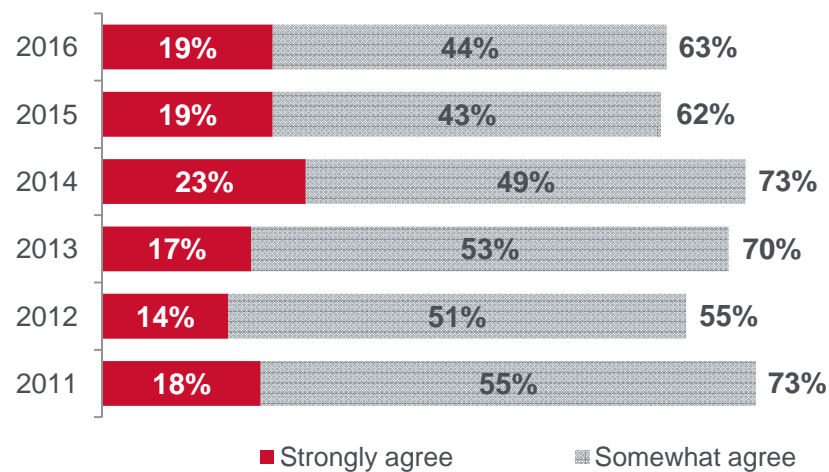
Are CTrain stations generally free of nuisance behaviors (e.g. peddlers, intoxicated riders)?

Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.

Historically, almost two-thirds of Calgary Transit users believe CTrain stations are generally free from nuisance behaviours.

While results have remained relatively stable from 2015, there is room for improvement to bring perceptions back in line with 2014 levels.

CTrain stations are generally free of nuisance behaviours



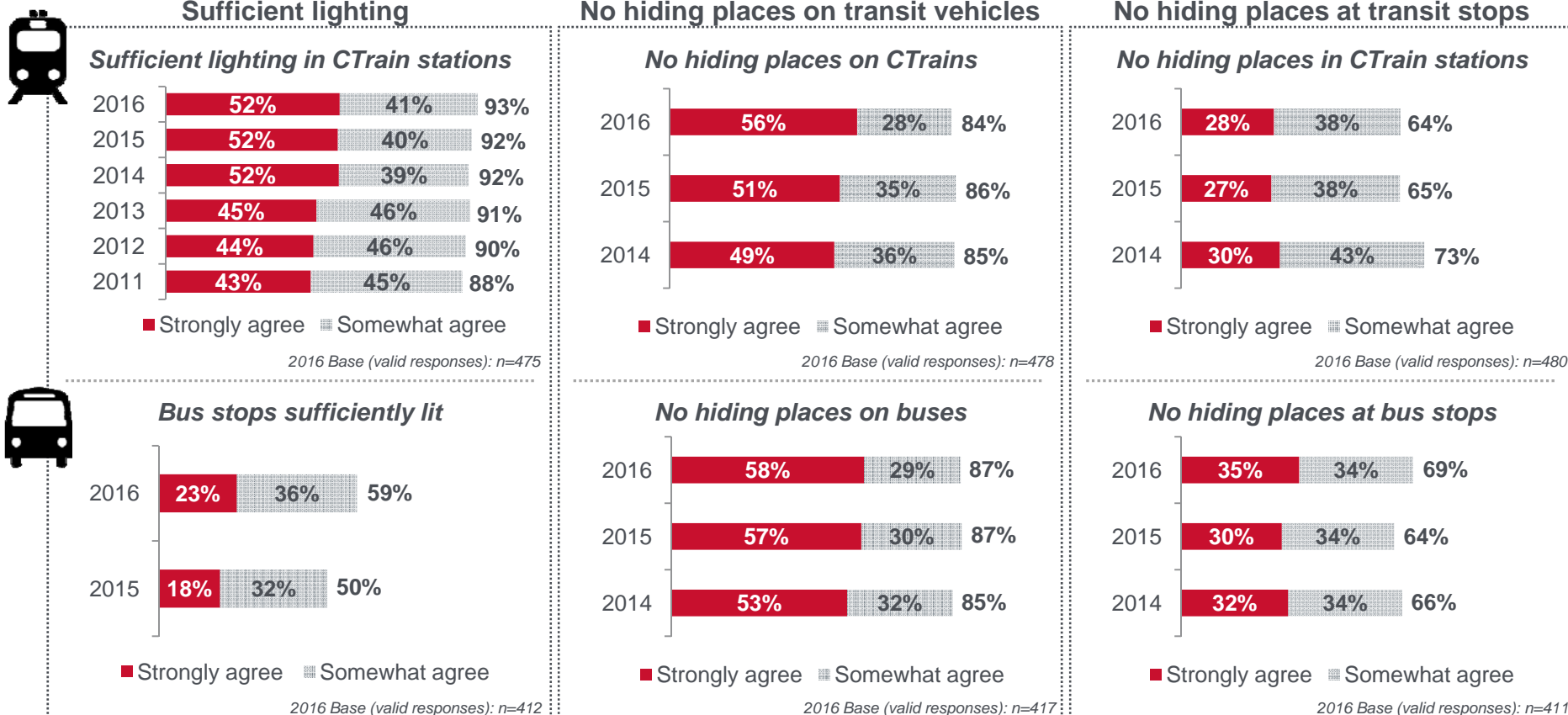
2016 Base (valid responses): n=486



Environmental perceptions with regards to safety and security

Presence or availability of certain measures making Calgary Transit users feel safe and secure

Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.



Calgary Transit users perceive CTrain stations to be more sufficiently lit than bus stops (and feelings here are significantly more positive than they were 5 years ago). However, perceptions of sufficient bus stop lighting are up significantly from 2015 (total agreement grew 9 percentage points year-on-year).

Since 2014 there has been a significant improvement for Calgary Transit users with respect to a perceived lack of hiding places on CTrain vehicles (supported by a significant increase in strongly agree scores). The area requiring attention is perceptions of hiding places in CTrain stations – currently less than a third of Calgary Transit users strongly agree that none exist, and since 2014 agreement scores have fallen 9 percentage points (a significant decline).

Demographically, those aged 55+ are the least likely to agree that CTrain stations are sufficiently lit (86% vs. 95% under 55) or that there are no hiding places on Ctrains where someone could sneak up on a passenger (76% vs. 86% under 55).

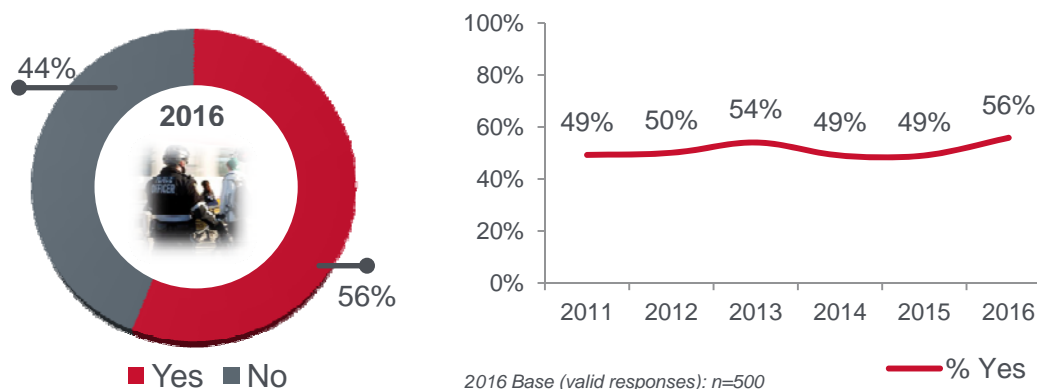


Visibility of Peace Officers

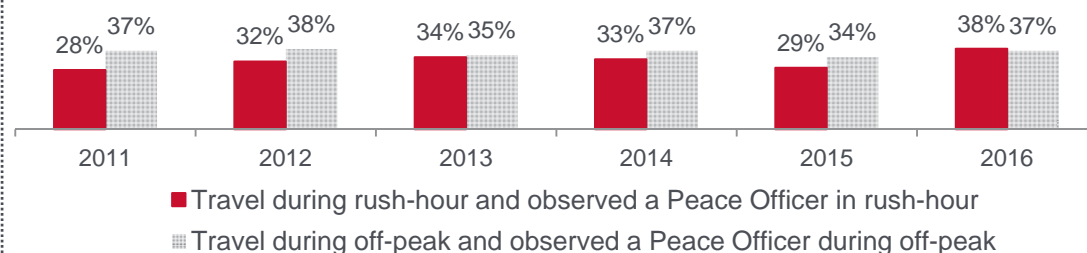
Can transit users recall seeing Peace Officers in the last month – if so when?

Q. Have you seen any peace officers in the past month?

Observed a Peace Officer in the last month



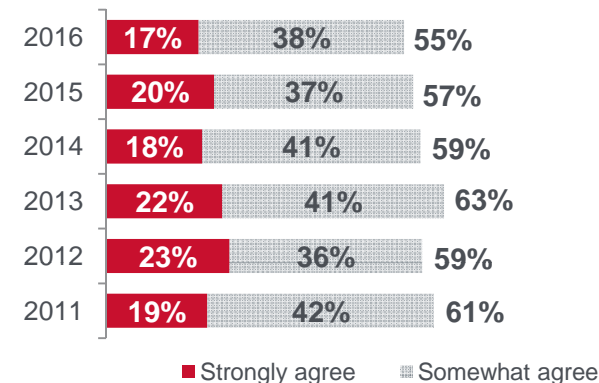
Times Peace Officers observed – amongst those who use transit at different times



2016 Base (valid responses): Travel during rush-hour; n=425, Travel during off-peak; n=246

Q. Calgary Transit is also interested in your views on safety and security with CTrains/Calgary Transit buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security.

Sufficiency of Peace Officers on CTrains



2016 Base (valid responses): n=458

The area requiring attention is perceived sufficiency of Peace Officers on CTrains – attitudes here are weakening with agreement at its lowest point in 5 years (in 2016, 44% disagree there are sufficient numbers of Peace Officers on CTrains – up significantly from 2013 when this figure was 37%).

Peace Officers are becoming more visible and this is stemming largely from a rise in their rush-hour presence. Since 2011 there has been a significant increase in the proportion of Calgary Transit users who have observed a Peace Officer in the last month. Observation of Peace Officers during non rush-hour periods has remained more stable relative to rush-hour periods. In 2016, 38% of those who travel during rush-hour claim they have observed a Peace Officer during rush hour (up 10 percentage points from 2011 – a significant increase).



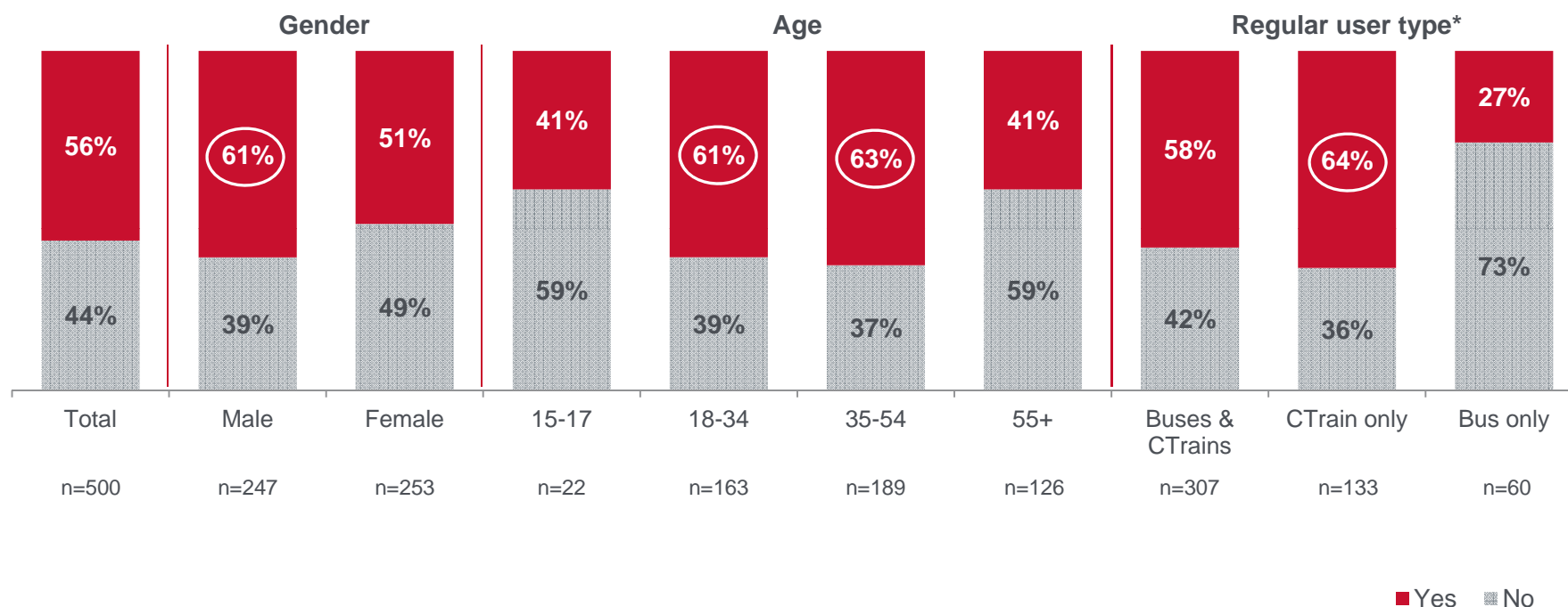


Visibility of Peace Officers

Can transit users recall seeing Peace Officers in the last month?

Q. Have you seen any peace officers in the past month?

In 2016, Peace Officers are more visible amongst males, those aged 18-54 and regular Ctrain only users.



*Regular user defined as someone who makes an average of 1 transit trip per week

○ Significantly higher relative to its counterparts

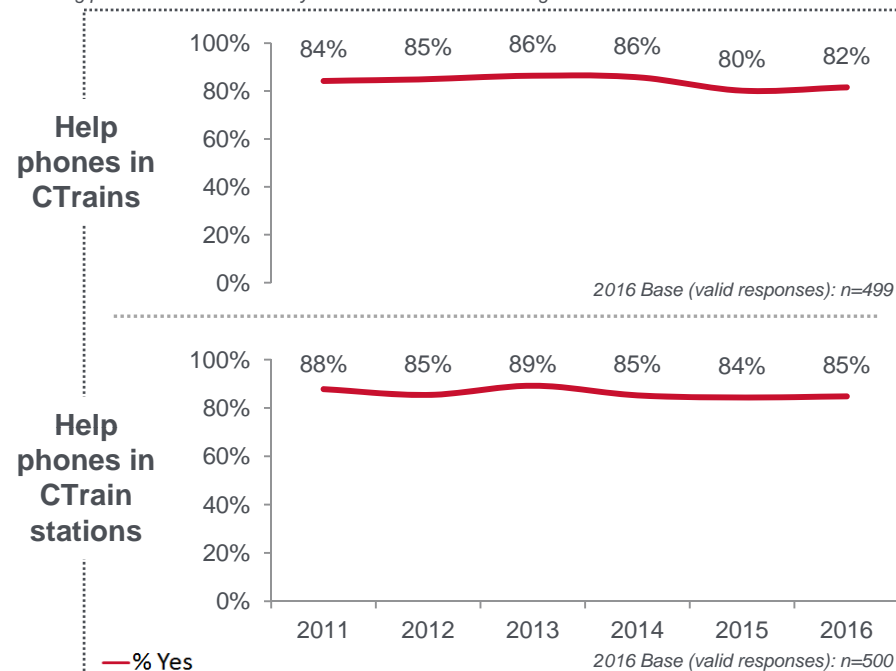
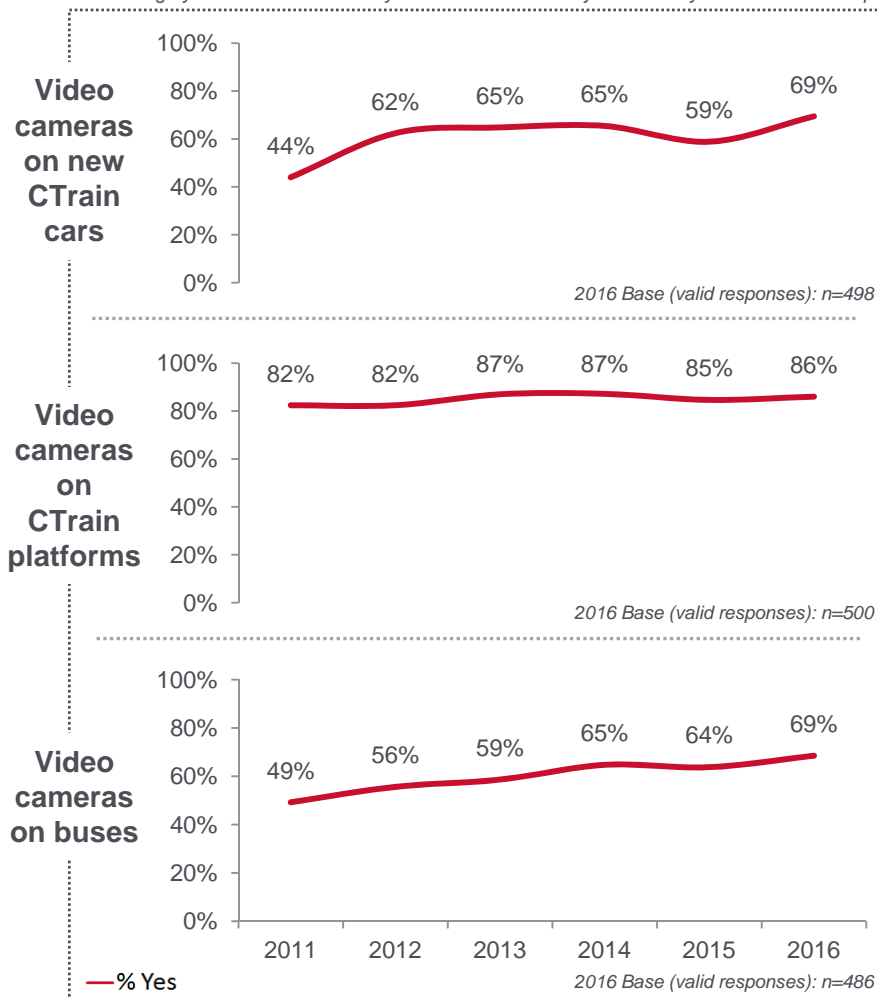




Awareness of safety and security measures

To what extent are Calgary Transit users aware of Video cameras and help phones

Q. Calgary Transit is interested in your awareness of safety and security measures taken to protect the traveling public. Please indicate if you are aware of the following measures:



Video camera awareness remains more prominent on CTrain platforms, while awareness of video cameras in transit vehicles (buses/CTrains) has been steadily on the rise over the last 5 years (currently significantly higher relative to 2011).

Help phone awareness (either in CTrains or on CTrain platforms) has held relatively strong in recent years. However, after peaking in 2013, awareness of help phones in CTrains has declined.

Demographically, awareness of cameras in Calgary Transit vehicles (CTrains and buses) weakens with age

- In 2016, 77% of those aged under 35 are aware of video cameras in buses vs. 59% of those over 55
- In 2016, 78% of those aged under 35 are aware of video cameras in CTrains vs. 62% of those over 55

Therefore, Calgary Transit should ensure greater awareness amongst older transit users (especially given those over 55 years are less likely to feel safe after 6pm).





Influence of security measures on feelings of safety and security

Q. To what extent do you agree or disagree that the presence or availability of the following over the past 12 months has made you feel safe and secure when using Calgary Transit?

The presence and availability of surveillance equipment (help intercoms/cameras and real-time station displays) has the strongest influence on feelings of safety and security for Calgary Transit users – this is followed by the presence of Transit Personnel and Peace Officers.

Given there are numerous security touchpoints for transit users, the availability of real-time information both via the Calgary Transit website and Smartphone app helps to support these more visible security measures.

Demographically, Peace Officers have a significantly stronger influence on safety feelings amongst those aged 55+ (55% strongly agree they have an influence vs. 32% of those under 55).

Help intercoms

Total agreement: 89%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=470

Surveillance/security cameras

Total agreement: 88%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=492

Real-time displays at CTrain stations

Total agreement: 83%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=474

Calgary Transit personnel

Total agreement: 83%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=476

Peace officers

Total agreement: 81%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=472

Real-time information on website

Total agreement: 79%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=387

Real-time information on Smartphone app

Total agreement: 73%



■ Strongly agree ■ Somewhat agree

2016 Base (valid responses): n=338





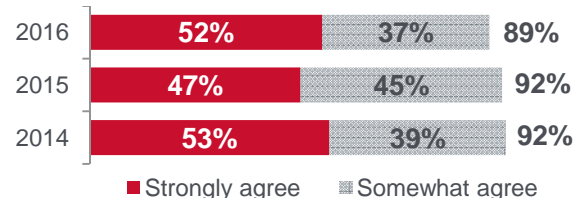
Influence of security measures on feelings of safety and security

Q. To what extent do you agree or disagree that the presence or availability of the following over the past 12 months has made you feel safe and secure when using Calgary Transit?

Over the last three years some minor fluctuations have occurred in relation to the degree of influence held by various security measures.

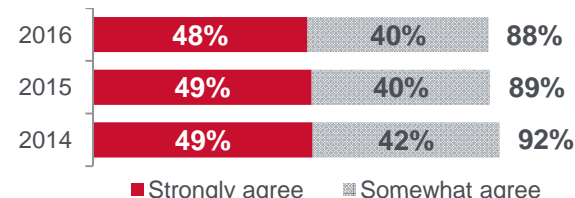
Peace Officers have a declining influence on perceptions of safety (here 2016 results are down significantly from 2014). This could be related in part to their perceived decline in sufficiency on CTrains. This is something that should be explored by Calgary Transit, given Peace Officers' degree of influence amongst the over 55 demographic (who are less inclined to feel safe on transit vehicles and at stops post 6pm).

Help intercoms



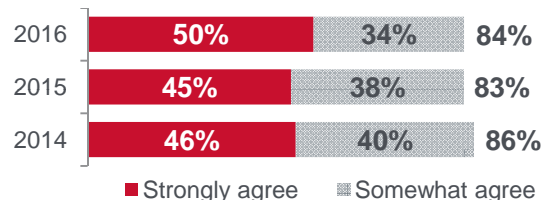
2016 Base (valid responses): n=476

Surveillance/security cameras



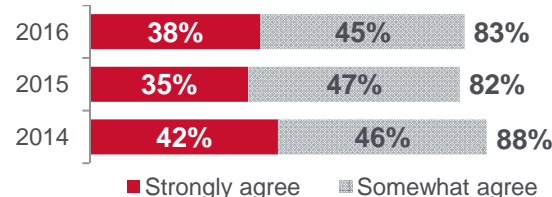
2016 Base (valid responses): n=492

Real-time displays at CTrain stations



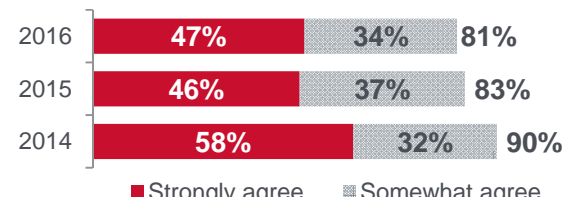
2016 Base (valid responses): n=474

Calgary Transit personnel



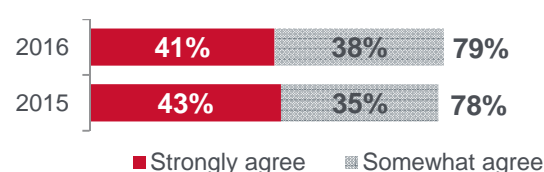
2016 Base (valid responses): n=476

Peace officers



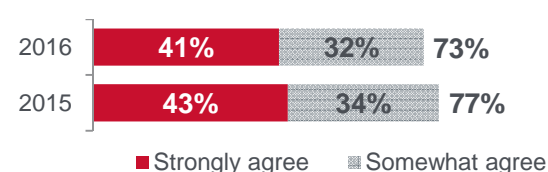
2016 Base (valid responses): n=472

Real-time information on website



2016 Base (valid responses): n=387

Real-time information on Smartphone app



2016 Base (valid responses): n=338



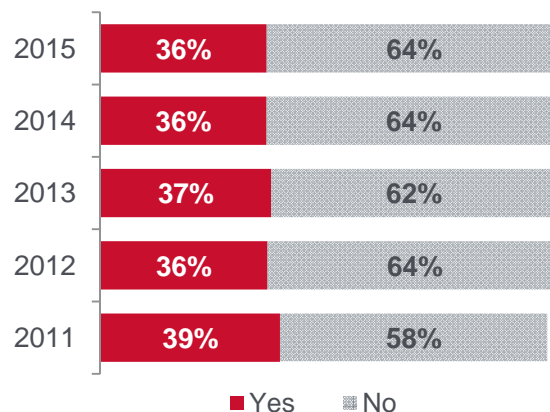
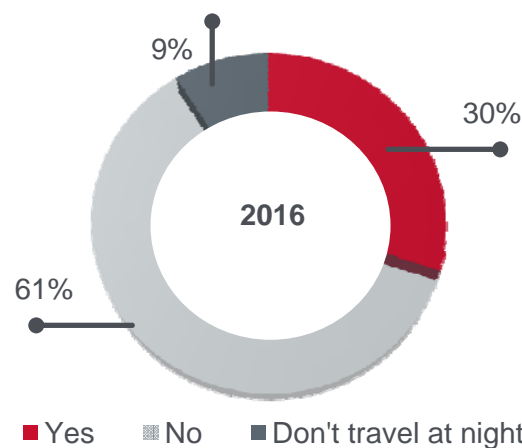
Avoidance of Calgary Transit at night

In general or on certain routes, stops or stations

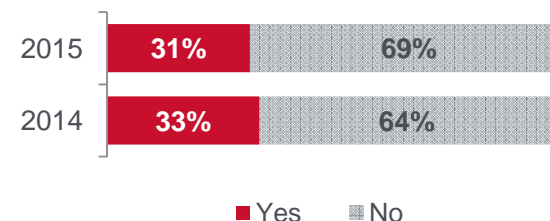
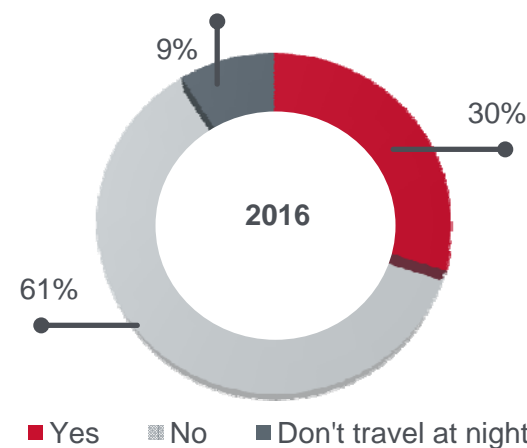
Around 1-in-10 Calgary transit users claim they never travel at night – and of those who do, a third claim to have avoided it at some point in time for reasons of personal safety or security. A similar proportion claim to be avoiding certain routes, stops or stations due to reasons of personal safety or security.

Awareness of transit vehicle video cameras is rising and Calgary Transit users are feeling safer on transit vehicles and in stops after 6pm. Continued action in the form of raising awareness of surveillance equipment (help intercoms/cameras and real-time station displays) and ensuring a strong presence of Peace Officers will continue to assist transit users in this area.

Q. Have you ever avoided traveling on Calgary Transit at night because of personal safety or security reasons?



Q. Have you ever avoided certain routes, stops, or stations at night on Calgary Transit from what you would typically use during the day because of personal safety or security reasons?



NB: 'Don't travel at night' added as a code in 2016

Avoidance of Calgary Transit at night

By demographics

Gender differences are significant with respect to avoidance of night time travel – both in general and with respect to certain routes, stops and stations.

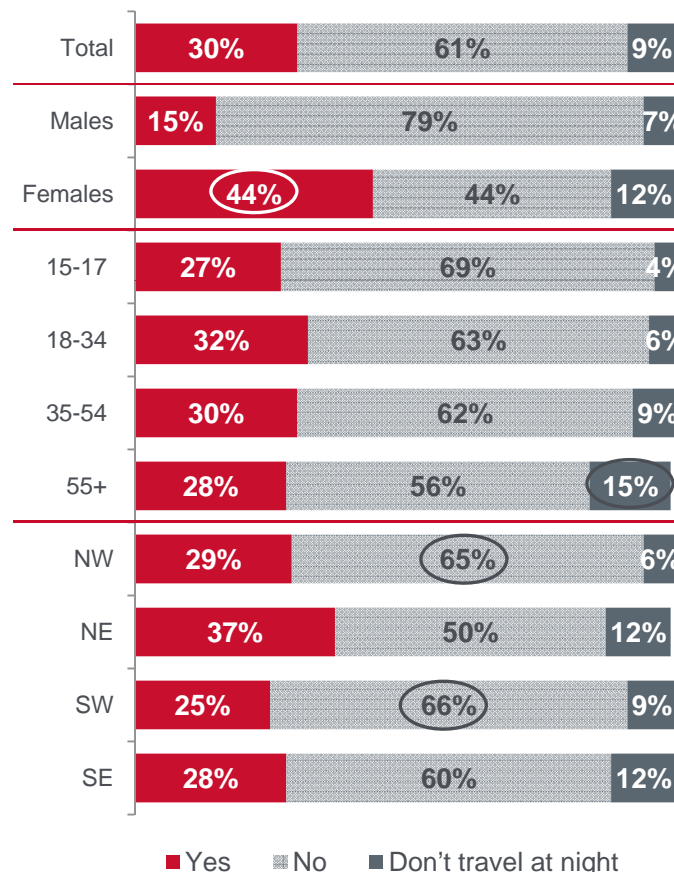
Those in the western quadrants (NW and SW) are less likely to avoid night travel on Calgary Transit compared to those in the North East.

Those aged 15-17 are significantly less likely to avoid any routes, stops or stations at night.

Calgary Transit users over 55+ have the highest propensity to never travel at night.

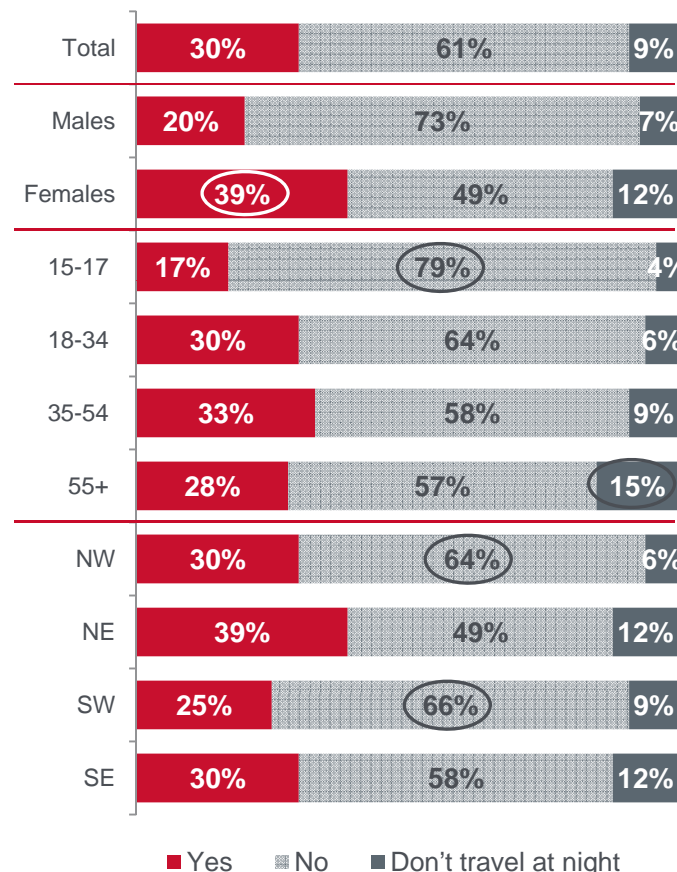
Although there will be parts of the journey out of the control of Calgary Transit, there is a need to ensure continued focus on what can be controlled – i.e. awareness of safety and security measures and Peace Officer presence.

Q. Have you ever avoided traveling on Calgary Transit at night because of personal safety or security reasons?



Base (valid responses) Total; n=498, Males; n=246, Females; n=252, 15-17; n=22, 18-34; n=163, 35-54; n=189, 55+; n=124

Q. Have you ever avoided certain routes, stops, or stations at night on Calgary Transit from what you would typically use during the day because of personal safety or security reasons?



Base (valid responses) Total; n=496, Males; n=245, Females; n=251, 15-17; n=22, 18-34; n=163, 35-54; n=188, 55+; n=123

○ Indicates significant differences. Female figures significantly higher relative to males, NW and SW significantly higher relative to figures for the NE, 15-17 figure for avoidance of routes/stops significantly higher relative to all other age groups

Elements with a significant impact on CTrain safety ratings



A regression model looking at all elements related to safety and security on Ctrains helps to identify the key focal areas:



Calgary Transit should ensure continued presence and awareness of security surveillance/video cameras in CTrain stations and ensure that sufficient lighting is maintained across the network.

Maintaining CTrain safety ratings means ensuring passengers feel safe on CTrains throughout the day (before and after 6pm) and safe when waiting at a CTrain station after 6pm.

Based on a linear stepwise regression where variables were transformed to account for multi-collinearity – regression model chosen accounts for 50% of the variation in the safety ratings for CTrains – see Technical Appendix for further information

Elements with a significant impact on bus safety ratings



A regression model looking at all elements related to safety and security on buses helps to identify the key focal areas:



Maintaining bus safety ratings means ensuring passengers feel safe on buses throughout the day (before and after 6pm) and safe when waiting at a bus stop or station after 6pm.

Passengers also need to have a good feeling about there not being any places on a bus where someone could sneak up on them.

*Based on a linear stepwise regression where variables were transformed to account for multi-collinearity – regression model chosen accounts for 41% of the variation in the safety ratings for buses – see Technical Appendix for further information



Main findings – Cleanliness

2016 snapshot of cleanliness perceptions – general cleanliness/maintenance

Q. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor.

Feelings towards cleanliness are overwhelmingly positive amongst Calgary Transit users in 2016 – all aspects have a total positive score of greater than 80% while all vehicle cleanliness scores are higher than 90%.

Bus stops are the area requiring the greatest attention. In 2016, only 1-in-5 (20%) rate the cleanliness as very good – and the same proportion (20%) rate the maintenance and condition as very good.

Males are more positively disposed towards the maintenance/condition of CTrain stations (97% of males are positive towards this vs. 91% of females) while those aged 15-17 are generally happier with the cleanliness of CTrain interiors (100% positive), bus exteriors (100% positive) and bus stops (96% positive).

Cleanliness of CTrain interiors

Total positive: 94%



■ Very good ■ Good

2016 Base (valid responses): n=488

Cleanliness of CTrain stations

Total positive: 94%



■ Very good ■ Good

2016 Base (valid responses): n=489

Maintenance and condition of CTrain stations

Total positive: 94%



■ Very good ■ Good

2016 Base (valid responses): n=492

Cleanliness of bus interiors

Total positive: 92%



■ Very good ■ Good

2016 Base (valid responses): n=420

Cleanliness of bus exteriors

Total positive: 96%



■ Very good ■ Good

2016 Base (valid responses): n=420

Cleanliness of bus stops

Total positive: 86%



■ Very good ■ Good

2016 Base (valid responses): n=421

Maintenance and condition of bus shelters

Total positive: 87%



■ Very good ■ Good

2016 Base (valid responses): n=424

Historical comparisons - cleanliness perceptions for CTrains/CTrain stations

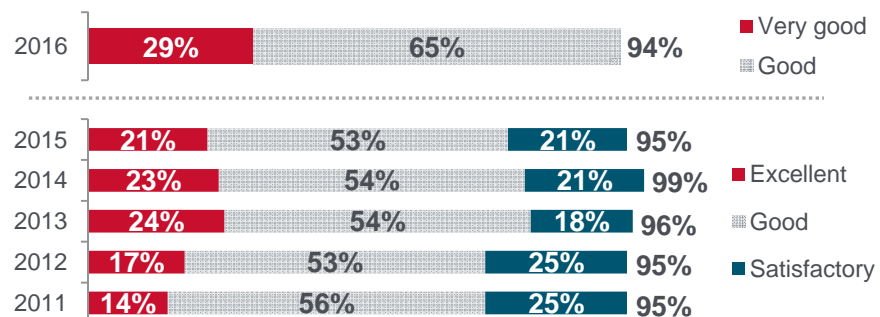


Q. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor.

Although 2016 results are not directly comparable to historical results due to a change in scale, total positive scores for CTrain and CTrain station cleanliness remain relatively consistent over the last 5 years – repeatedly sitting above 90%.

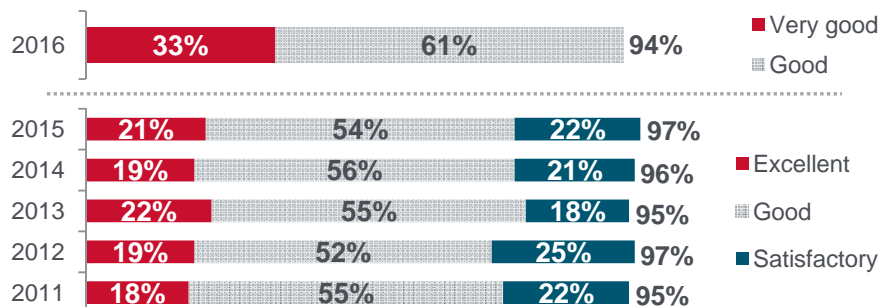
Since 2011, there has been a growing strength of conviction in attitudes towards CTrain station cleanliness – evidenced by a gradual improvement in top box scores.

Cleanliness of CTrain stations



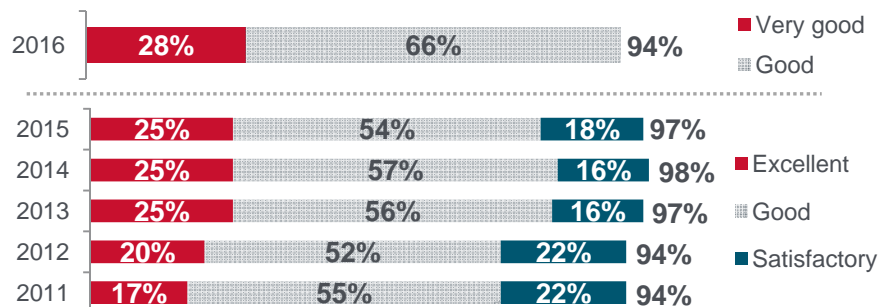
2016 Base (valid responses): n=489

Cleanliness of CTrain interiors



2016 Base (valid responses): n=488

Maintenance and condition of CTrain stations



2016 Base (valid responses): n=492

2016 Base (valid responses): n=xxx

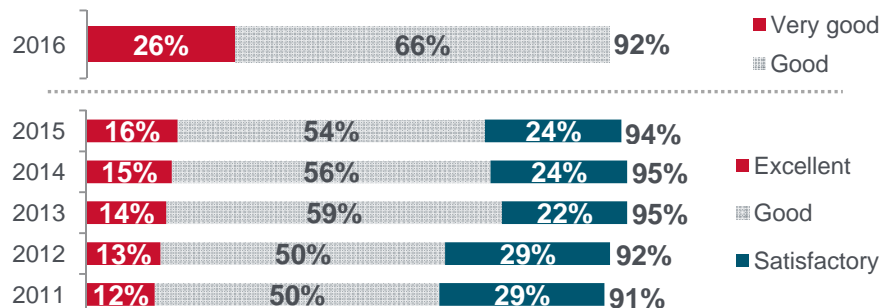


Historical comparisons - cleanliness perceptions for buses/bus stops



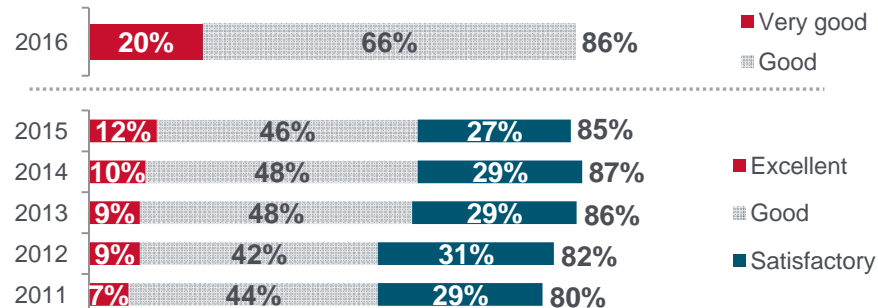
Q. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor.

Cleanliness of bus interiors



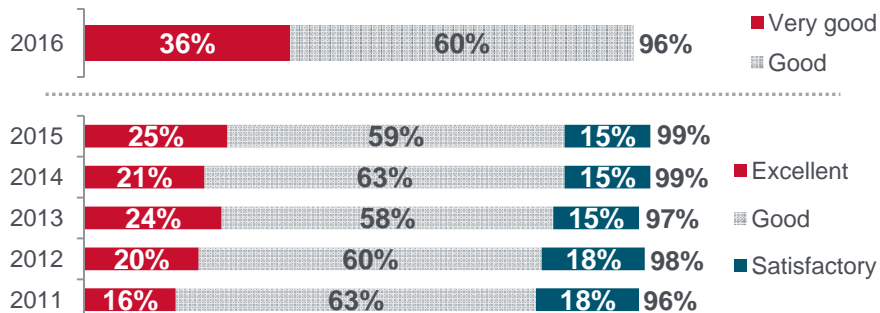
2016 Base (valid responses): n=420

Cleanliness of bus stops



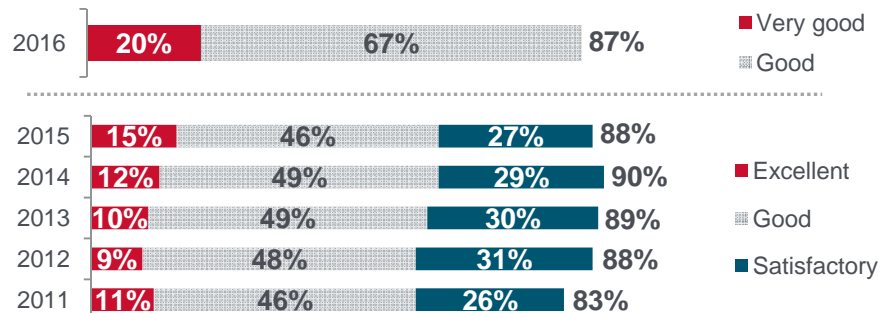
2016 Base (valid responses): n=421

Cleanliness of bus exteriors



2016 Base (valid responses): n=420

Maintenance and condition of bus passenger shelters



2016 Base (valid responses): n=424

Although a scale change prevents a direct comparison from 2016 results to previous years, total positive scores for bus cleanliness remain relatively consistent over the last 5 years. Bus vehicles themselves consistently rate higher on cleanliness relative to bus stops/passenger shelters – and the same holds true in 2016.

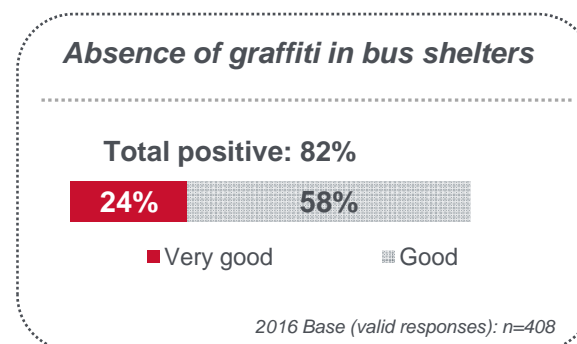
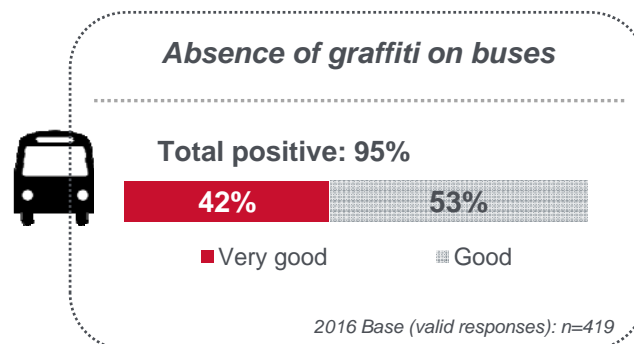
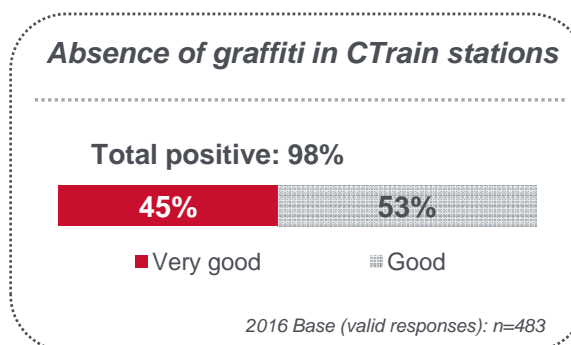
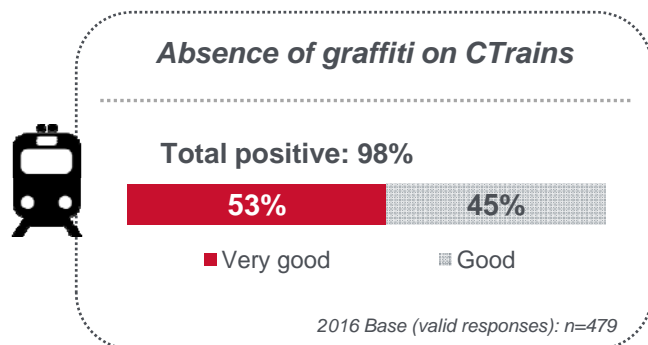
Attitudes towards bus stop cleanliness and maintenance have seen some gradual improvement in recent years– as such, Calgary Transit should ensure that this is maintained into 2017 (especially as these are the areas requiring the most attention).



2016 snapshot of cleanliness perceptions – absence of graffiti

To what extent do Calgary Transit users feel there is an absence of graffiti within transit vehicles/stops

Q. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor.



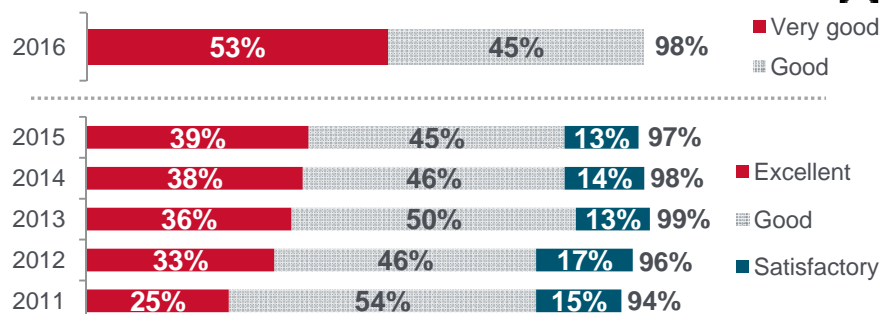
In 2016, Calgary Transit users have strong positive attitudes towards CTrains and buses being absent of graffiti. Bus shelters are perceived to be the weakest area, here only 1-in-4 (24%) rate the absence of graffiti as very good (around half the top box score seen for other graffiti measures).



Historical comparisons - cleanliness perceptions related to absence of graffiti

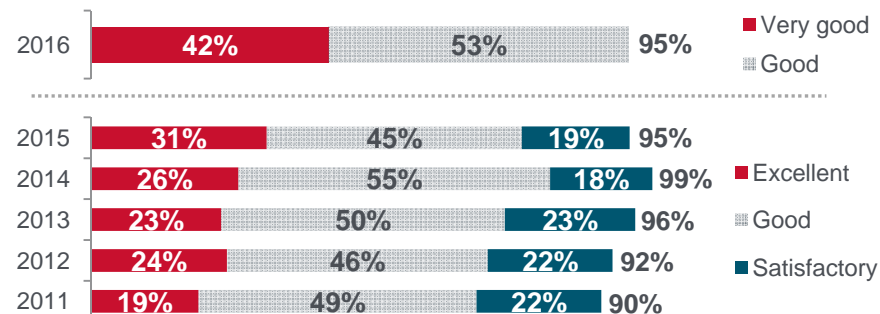
Q. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor.

Absence of graffiti on CTrains



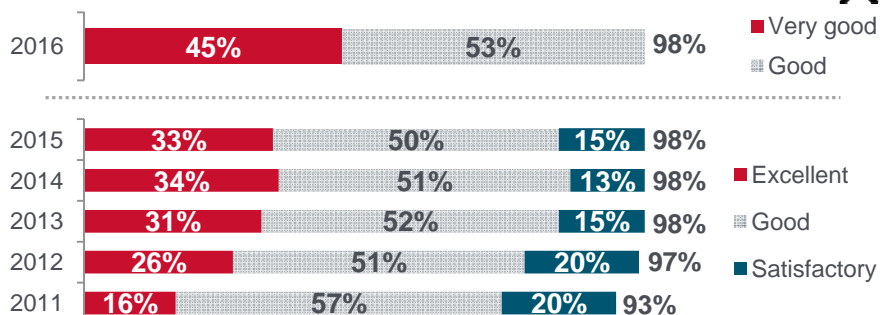
2016 Base (valid responses): n=470

Absence of graffiti on buses



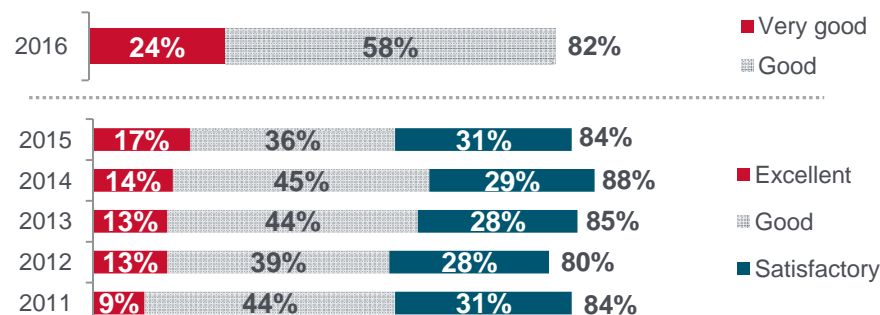
2016 Base (valid responses): n=419

Absence of graffiti in CTrain stations



2016 Base (valid responses): n=483

Absence of graffiti in bus shelters



2016 Base (valid responses): n=408

Although a scale change prevents a direct comparison from 2016 results to previous years, positive scores have remained strong over the last 5 years and all graffiti measurement points have seen continued growth on the top box score (for CTrain stations and bus shelters the top box score doubled from 2011 to 2016 – a significant shift for both measures).

In spite of these improvements, attitudes continue to be weaker for bus shelters – where top box scores remain significantly lower relative to transit vehicles (bus and CTrain) and CTrain stations. This highlights that while Calgary Transit is on the right track, there remains further room for improvement.





Appendix A - Questionnaire

- Instructions to interviewers are presented as **words in red** and are not read to respondents
- For Computer Aided Telephone Interviewing software programming, instructions are presented as **words in green** and are not provided to the interviewers or respondents

INTRODUCTION/SCREENING SHEET

Hello, my name is _____. I am calling from NRG Research Group on behalf of Calgary Transit. Today we are conducting an important survey to gather opinions from Calgary Transit users related to safety, security and cleanliness. The survey will take approximately 10-15 minutes.

QS1. Can I ask, how many regular users of Calgary Transit there are in this household? By regular user we mean those who use Calgary Transit, either CTrain or bus, at least once a week on average.

(INTERVIEWER NOTE: IF CREDIBILITY IS AN ISSUE OR IF RESPONDENT HAS A CONCERN SAY: If you wish to talk to a City official about this survey, we encourage you to contact The City at 3-1-1 during regular business hours and specifically mention the "2016 Calgary Transit Safety, Security, and Cleanliness Survey." City staff would be happy to address your concerns.)

NO, NOT INTERESTED IN SURVEY → THANK AND CLOSE
YES → CONTINUE

INTERVIEWER RECORD NUMBER OF TRANSIT USERS IN HOUSEHOLD ____ **[IF <1 THANK AND CLOSE]**

QS2. Thanks for that – and can I check, are you a current user of Calgary Transit?

IF YES → CONTINUE
IF NO → GO TO QS4

QS3. Are you aged over 18?

IF YES → GO TO QS8
IF NO → ASK TO SPEAK TO PARENT/GUARDIAN AS PERMISSION IS NEEDED TO CONDUCT THIS INTERVIEW IF RESPONDENT IS AGED 15-17- IF PERSON IS AGED 15-17 AND PARENT/GUARDIAN AVAILABLE GO TO QS6 [IF NOT AVAILABLE ARRANGE CALL BACK]

QS4. Are there other transit users in the house who could take part in this survey?

IF YES → CONTINUE
IF NO → THANK AND CLOSE

QS5. Are any of these transit users aged between 15-17?

IF YES → GO TO QS7
IF NO → ASK FOR NAME OF PERSON AND ASK FOR TRANSFER IF AVAILABLE – REINTRODUCE SURVEY AS NECESSARY AND GO TO QS8 – OTHERWISE ARRANGE CALL BACK IF POSSIBLE



QS6. REINTRODUCE PURPOSE OF SURVEY AND CONFIRM - Am I speaking with the parent/guardian of the transit user who is aged between 15-17?

QS7. Am I speaking with the parent/guardian of the transit user who is aged between 15- 17?

IF YES ->

"CALGARY TRANSIT IS LOOKING TO GET FEEDBACK FROM CALGARIANS ABOUT SERVICES THAT ARE PROVIDED. WE WOULD LIKE TO INTERVIEW YOUR CHILD FOR THIS RESEARCH, BUT WE UNDERSTAND HE/SHE IS NOT 18 YEARS OF AGE. BEFORE WE PROCEED WITH THE INTERVIEW, I MUST RECEIVE PERMISSION FROM YOU TO INTERVIEW YOUR CHILD. DO YOU PROVIDE PERMISSION FOR ME TO INTERVIEW YOUR CHILD FOR THIS IMPORTANT SURVEY?"

IF YES-> "THE CITY'S FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY POLICY REQUIRES THAT I HAVE THE YOUR FIRST AND LAST NAME BEFORE PROCEEDING WITH INTERVIEWING YOUR CHILD. CAN I HAVE YOUR FIRST AND LAST NAME."
MUST RECORD FIRST AND LAST NAME OF PARENT OR GUARDIAN

- IF NOT WILLING TO PROVIDE BOTH FIRST AND LAST NAME, INFORM PARENT OR GUARDIAN:

"IT IS THE REQUIREMENT OF THE CITY'S FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY POLICY THAT FIRST AND LAST NAMES OF PARENTS OR GUARDIANS MUST BE PROVIDED WITH CONSENT. UNFORTUNATELY, WE WILL NOT BE ABLE TO CONTINUE WITH THE INTERVIEW."

IF CONCERNS EXPRESSED BY PARENT – INFORMATION ABOUT THIS FOIP REQUIREMENT CAN BE OBTAINED BY CONTACTING THE CITY AT 311 OR CALGARY TRANSIT AT 403-262-1000.

FIRST NAME: _____

LAST NAME: _____

ONCE NAMES CAPTURED – ASK TO SPEAK TO THE PERSON AGED UNDER 18 THEN REINTRODUCE SURVEY IF NECESSARY

IF NO -> ASK FOR NAME OF PERSON AND ASK FOR TRANSFER IF AVAILABLE OR CALL BACK IF NOT

QS8. If you have some time now I would like to interview you for this important survey. It will take approximately 10-15 minutes depending on your answers.

IF YES -> GO TO QS9

IF NO -> ASK:

Could I call back _____?

IF YES -> ASK FOR NAME OF PERSON AND RECORD TIME ON CALL SHEET

IF NO -> THANK AND DISCONTINUE; MARK AS "REFUSED" ON CALL SHEET

Please be assured that all your responses are confidential, and you will not be personally identified. Any personal information collected is under the authority of the Freedom of Information Protection and Privacy Act, Section 33(c), and is used solely for the review and improvement of City of Calgary Transit related programs. Would you be willing to answer our survey today?



First, to help us determine if you qualify for the survey, I need to ask a few questions

QS9. During the past 12 months, in an AVERAGE week, that includes all 7 days, how many times would you normally ride Calgary Transit CTrains?
Please count a one-way trip as one ride and a trip to and from a destination as two rides.

_____ # of CTrain rides

QS10. During the past 12 months, in an AVERAGE week, that includes all 7 days, how many times would you normally ride Calgary Transit buses?
Please count a one-way trip as one ride and a trip to and from a destination as two rides.

_____ # of bus rides

If S9 or S10 are 1 or more, complete Safety, Security, and Cleanliness Questionnaire
If 0 to both, end interview

QS11. DO NOT READ - Male ☐ 1 Female ☐ 2
[CHECK SOFT QUOTAS HERE FOR THOSE AGED 18+ AND DETERMINE ELIGIBILITY]

QS12. Are you a permanent resident of Calgary?
IF YES, CONTINUE
IF NO, TERMINATE WITH THANK YOU..

QS13. Do you or does a member of your household work for Calgary Transit?
IF YES, TERMINATE WITH THANK YOU.
IF NO, CONTINUE.

QS14. And to confirm which age group are you in?
[IF SPEAKING TO SOMEONE UNDER 18 - CHECK]

[READ GROUP CATEGORIES]

- ☐ 1 15 to 17 yrs
- ☐ 2 18 to 19 yrs
- ☐ 3 20 to 24 yrs
- ☐ 4 25 to 34 yrs
- ☐ 5 35 to 44 yrs
- ☐ 6 45 to 54 yrs
- ☐ 7 55 to 64 yrs
- ☐ 8 65 to 74 yrs
- ☐ 9 75 and older
- ☐ 10 Refused

QUESTIONNAIRE

Q1A. During what time period do you use Calgary Transit **most often** - rush hour or some other time period? **[TAKE ONLY ONE RESPONSE - IF ASKED, RUSH HOUR IS WEEKDAYS 6:00 - 9:00 AM & 3:00 - 6:00 PM]**

- 1 ☐ No Specific Time Period [\(Go to Q2C\)](#)
- 2 ☐ Rush Hour ONLY [\(Go to Q2C\)](#)
- 3 ☐ Rush hour and other Time Periods [\(Go to Q2C\)](#)
- 4 ☐ Non-Rush Hour

Q1B. [\(If Q1A is 4 Non-Rush Hour\)](#) Would that be on a weekday midday, weekday evening or a weekend?

- 1 ☐ Weekday midday
- 2 ☐ Evening
- 3 ☐ Weekend
- 4 ☐ Don't Know

Q2A. [\(If S9 > 0\)](#) Can you tell me how many minutes on average you usually wait at a CTrain station before a CTrain arrives?

_____ Minutes

Q2B. [\(If S10 > 0\)](#) Can you tell me how many minutes on average you usually wait at a bus stop before a bus arrives?

_____ Minutes

Q2C. [\(If S9 is 0\)](#) In the past 12 months, have you used CTrains at least once?

- 1 ☐ Yes
- 2 ☐ No=> [SKIP TO Q2E](#)
- 3 ☐ Don't Know=> [SKIP TO Q2E](#)



Q2D. Which two CTrain stations do you use most often?
(DO NOT READ - SELECT UP TO 2 STATIONS)

NE Leg Stations

- 1 ☐ Barlow/Max Bell - 2022 Memorial Drive NE
- 2 ☐ Bridgeland - 1010 Memorial Drive NE
- 3 ☐ Franklin - 2826 Memorial Drive NE
- 4 ☐ Marlborough - 889 - 36 Street NE
- 5 ☐ Rundle - 2529 - 36 Street NE
- 6 ☐ Whitehorn - 3801 - 36 Street NE
- 7 ☐ Zoo - 1400 Memorial Drive NE
- 8 ☐ McKnight Westwinds - 6200C 36 St NE
- 9 ☐ Saddletowne - 450C Saddletowne Circle NE
- 10 ☐ Martindale - 618C Martindale Boulevard NE

NW Leg Stations

- 11 ☐ Banff Trail - 2374C Banff Trail NW
- 12 ☐ Brentwood - 4099 Crowchild Trail NW
- 13 ☐ Crowfoot - Scurfield Dr. NW
- 14 ☐ Dalhousie - 4785 Dalhousie Drive NW
- 15 ☐ Lions Park - 1901C - 14 Avenue NW
- 16 ☐ S.A.I.T. - 1414C - 14 Avenue NW
- 17 ☐ Sunnyside - 938C - 3 Avenue NW
- 18 ☐ Tuscany - 10210 Crowchild Trail NW
- 19 ☐ University - 3103 Crowchild Trail NW

South Leg Stations

- 20 ☐ 39 Avenue - 4115 - 1 Street SE
- 21 ☐ Anderson - 11015 Anderson Station Way SW
- 22 ☐ Canyon Meadows - 416 Cantrell Drive SW
- 23 ☐ Chinook - 229 - 61 Avenue SW
- 24 ☐ Erfton/Stampede - 2408 - 3A Street SE
- 25 ☐ Fish Creek Lacombe - 14300 Shawnee Gate SW
- 26 ☐ Heritage - 12 Haddon Road SW
- 27 ☐ Shawnessy - 17 Shawville Blvd. SW
- 28 ☐ Somerset/Bridlewood - 17100 - 6 Street SW
- 29 ☐ Southland - 10158 Sacramento Drive SW
- 30 ☐ Victoria/Stampede - 1414 Macleod Trail SE

West Leg Stations

- 31 ☐ 45 Street - 4708 17 Avenue SW
- 32 ☐ 69 Street - 6999C 17 Avenue SW
- 33 ☐ Shaganappi Point - 2750C Bow Trail SW
- 34 ☐ Sirocco - 5700C 17 Avenue SW
- 35 ☐ Sunalta - 1708C 10 Avenue SW
- 36 ☐ Westbrook - 1417C 33 Street SW

Downtown stations (WEST - NORTHSIDE)

- 37 ☐ City Hall - 310C 7 Avenue SE
- 38 ☐ 1 Street SW - 124 - 7 Avenue SW (Northside)
- 39 ☐ 4 Street SW - 530C - 7 Avenue SW (Northside)
- 40 ☐ 7 Street SW - 840C - 7 Avenue SW (Northside)
- 41 ☐ Kerby Downtown (Northside)

Downtown stations (EAST - SOUTHSIDE)

- 42 ☐ Kerby Downtown (Southside)
- 43 ☐ City Hall - 323C - 7 Avenue SE (Southside)
- 44 ☐ Centre Street - 121C - 7 Avenue SE (Southside)
- 45 ☐ 3 Street SW - 333C - 7 Avenue SW (Southside)
- 46 ☐ 6 Street SW - 631C - 7 Avenue SW (Southside)

47 [] 8 Street SW - 901C - 7 Avenue SW (Southside)

OTHER

48 [] Other (specify _____)

Q2E. (If S10 is 0) In the past 12 months, have you used Calgary buses at least once?

1 [] Yes

2 [] No

3 [] Don't Know

ASK Q3A OF CTrain users – either QS9>0 OR Q2C=1

Q3A. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor. ROTATE

	Very Good	Good	Poor	Very Poor	Don't know	Refused
a) Cleanliness of CTrains interiors	1	2	3	4	5	6
b) Cleanliness of CTrain stations	1	2	3	4	5	6
c) Absence of graffiti on CTrains	1	2	3	4	5	6
d) Absence of graffiti in CTrain stations	1	2	3	4	5	6
e) Maintenance and condition of CTrain stations	1	2	3	4	5	6

ASK Q3A OF Calgary bus users – either QS10>0 OR Q2E=1

Q3B. Calgary Transit is interested in your perceptions regarding its vehicles and facilities. Based on your last transit trip, please rate the following being very good, good, poor, or very poor. ROTATE

	Very Good	Good	Poor	Very Poor	Don't know	Refused	Not Applicable
a) Cleanliness of bus interiors	1	2	3	4	5	6	
b) Cleanliness of bus exteriors	1	2	3	4	5	6	
c) Absence of graffiti on buses	1	2	3	4	5	6	
d) Absence of graffiti in bus shelters	1	2	3	4	5	6	7
e) Cleanliness of bus stops	1	2	3	4	5	6	
f) Maintenance and condition of bus stops	1	2	3	4	5	6	

Q4A. Calgary Transit is interested in the visibility of its peace officers, also known as Public Safety and Enforcement Officers, transit police or transit security (grey uniforms).

Have you seen any peace officers in the past month?

1 ☐ YES 2 ☐ NO =>Go to Q5A

Q4B Did you see the peace officers during rush hour (7-9 AM, 4-6 PM) or during off-peak times?

1 ☐ Rush-hour 2 ☐ Non rush-hour (off peak) 3 ☐ Both

ASK Q5A OF CTrain USERS – EITHER QS9>0 OR Q2C=1

Q5A. Calgary Transit is also interested in your views on safety and security with CTrains. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security. For each of the following statements, please tell me if you **strongly agree**, **somewhat agree**, **somewhat disagree** or **strongly disagree**. If any of the statements are not applicable, please tell me. **ROTATE**

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	Refused	Not applicable
a) I feel safe when traveling on the CTrain before 6 PM	1	2	3	4	5	6	7
b) I feel safe when traveling on the CTrain after 6 PM	1	2	3	4	5	6	7
c) I feel safe when I wait for a CTrain at a CTrain station before 6 PM	1	2	3	4	5	6	7
d) I feel safe when I wait for a CTrain at a CTrain station after 6 PM	1	2	3	4	5	6	7
e) CTrain stations are generally free of nuisance behaviours (peddlers, intoxicated riders, noisy kids)	1	2	3	4	5	6	7
f) I feel there are sufficient peace officers on the CTrain to ensure my personal security	1	2	3	4	5	6	7
g) I feel that CTrain stations are sufficiently lit to make them safe	1	2	3	4	5	6	7
h) There are no hiding places at CTrain stations where someone could sneak up on a passenger	1	2	3	4	5	6	7
i) There are no hiding places within CTrains where someone could sneak up on a passenger	1	2	3	4	5	6	7

ASK Q5B OF CALGARY BUS USERS – EITHER Q510>0 OR Q2E=1

Q5B. IF Q5A WAS NOT ASKED: Calgary Transit is also interested in your views on safety and security with buses. I'd like to ask you how strongly you agree or disagree with a few statements concerning safety and security. For each of the following statements, please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree. If any of the statements are not applicable, please tell me.

ROTATE

IF Q5A WAS ASKED: And for each of the following statements, please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree. If any of the statements are not applicable, please tell me. **ROTATE**

Q6A.

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	Refused	Not applicable
a) I feel safe when traveling on buses before 6 PM	1	2	3	4	5	6	7
b) I feel safe when traveling on buses after 6 PM	1	2	3	4	5	6	7
c) I feel safe when I wait for a bus at a bus passenger shelter before 6 PM	1	2	3	4	5	6	7
d) I feel safe when I wait for a bus at a bus passenger shelter after 6 PM	1	2	3	4	5	6	7
e) I feel that there is sufficient lighting at bus stops to make them safe	1	2	3	4	5	6	7
f) There are no hiding places at bus stops where someone could sneak up on a passenger	1	2	3	4	5	6	7
g) There are no hiding places within buses where someone could sneak up on a passenger	1	2	3	4	5	6	7

Using a scale of 1 being very unsafe and 10 being very safe, overall how safe do you feel when using Calgary Transit services?

(ENTER '98' IF UNSURE/REFUSE)

TYPE #: _____

Q6B. Using the same scale, how safe do you feel when using CTrains in general?

TYPE #: _____ (ENTER '98' IF UNSURE/REFUSE, 99 IF NOT APPLICABLE)

Q6C. And, how safe do you feel when using Calgary Transit buses in general?

TYPE #: _____ (ENTER '98' IF UNSURE/REFUSE, 99 IF NOT APPLICABLE)

Q6D. (IF Q6A<10) For what reasons, if any, did you give the rating of (Show results of Q6A) rather than a higher rating to how safe you feel when using Calgary Transit services generally?

Q6E. (IF Q6A=10) For what reasons, if any, did you give a rating of 10 to how safe you feel when using Calgary Transit services generally?

Q9A. Have you ever avoided traveling on Calgary Transit at night because of personal safety or security reasons?

1 [] YES 2 [] NO 3 [] DON'T KNOW

Q9B. Have you ever avoided certain routes, stops, or stations when you have travelled at night on Calgary Transit from what you would typically use during the day because of personal safety or security reasons?

1 ☐ YES 2 ☐ NO 3 ☐ DON'T RIDE AT NIGHT 98 ☐ DON'T KNOW

Q10. Calgary Transit is interested in your awareness of safety and security measures taken to protect the traveling public. Please indicate if you are aware of the following measures:

1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	Video cameras on CTrain platforms
1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	Video cameras on buses
1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	Video cameras on new CTrain cars
1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	Help phones in CTrain stations
1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	Help phones in CTrains

Q11A. To what extent do you agree or disagree that the presence or availability of the following over the past 12 months has made you feel safe and secure when using Calgary Transit?

ROTATE	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't know	Not applicable
a) Transit Peace Officers (prompt, if necessary, Transit Peace Officers are in grey uniforms)	1	2	3	4	5	6
b) Calgary Transit personnel (operators, maintenance but not Transit Peace Officers)	1	2	3	4	5	6
c) Security surveillance 4 or video cameras	1	2	3	4	5	6
d) Help phones	1	2	3	4	5	6
e) Real time displays at CTrain stations	1	2	3	4	5	6
f) Real time Transit schedule information on the Calgary Transit website	1	2	3	4	5	6
g) Real time Transit schedule information on the Calgary Transit smartphone app	1	2	3	4	5	6

Q11.B What, if anything else, has made you feel safe and secure when using Calgary Transit in the past 12 months by its presence or availability?

Demographic Questions

The last few questions are being asked so that we can group your answers with others provided in the survey. All responses will be held in strict confidence and will not be attributed to any individual.

D3. What community do you live in?

D4. What is your postal code?

D6. And which of the following income groups includes your annual household income, before taxes, in 2015? **[READ LIST]**

- | | |
|---|--|
| 1 <input type="checkbox"/> Less than \$15,000 | 7 <input type="checkbox"/> \$65,000 to less than \$75,000 |
| 2 <input type="checkbox"/> \$15,000 to less than 25,000 | 8 <input type="checkbox"/> \$75,000 to less than \$85,000 |
| 3 <input type="checkbox"/> \$25,000 to less than 35,000 | 9 <input type="checkbox"/> \$85,000 to less than \$100,000 |
| 4 <input type="checkbox"/> \$35,000 to less than 45,000 | 10 <input type="checkbox"/> \$100,000 to less than \$120,000 |
| 5 <input type="checkbox"/> \$45,000 to less than 55,000 | 11 <input type="checkbox"/> \$120,000 to less than \$140,000 |
| 6 <input type="checkbox"/> \$55,000 to less than \$65,000 | 12 <input type="checkbox"/> \$140,000 or more |
| | 13 <input type="checkbox"/> Refused/Don't know |

Thank Thank you for participating in this survey today. May I have your first name in case my supervisor wants to confirm this interview:

Thank you for your time and for participating in the survey today. Have a good evening (afternoon).



Technical appendix A – Regression output



CTrain Safety Regression outputs – model summary and collinearity diagnostics

Model Summary^f

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.605 ^a	0.366	0.365	1.322	0.366	214.942	1	372	0.000
2	.667 ^b	0.445	0.442	1.239	0.079	52.564	1	371	0.000
3	.696 ^c	0.484	0.480	1.196	0.039	28.177	1	370	0.000
4	.709 ^d	0.502	0.497	1.176	0.018	13.526	1	369	0.000
5	.714 ^e	0.510	0.504	1.168	0.008	5.971	1	368	0.015

e. Predictors: (Constant), Zscore: Q5AD. Calgary Transit is also interested in your views on safety and security with CTrains. I feel safe when I wait for a CTrain at a CTrain station after 6 PM, Zscore: Q5AG. Calgary Transit is also interested in your views on safety and security with CTrains. I feel that CTrain stations are sufficiently lit to make them safe, Zscore: Q5AA. Calgary Transit is also interested in your views on safety and security with CTrains. I feel safe when traveling on the CTrain before 6 PM, Zscore: Q5AB. Calgary Transit is also interested in your views on safety and security with CTrains. I feel safe when traveling on the CTrain after 6 PM, Zscore: Q11AC. To what extent does the presence or availability of the

f. Dependent Variable: Q6B. Using the same scale, how safe do you feel when using CTrains in general?

Collinearity Diagnostics^a

Model		Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Zscore: Q5AD. I feel safe when I wait for a CTrain at a CTrain station after 6 PM	Zscore: Q5AG. I feel that CTrain stations are sufficiently lit to make them safe	Zscore: Q5AA. I feel safe when traveling on the CTrain before 6 PM	Zscore: Q5AB. I feel safe when traveling on the CTrain after 6 PM	Zscore: Q11AC. Security surveillance / or video cameras
5	1	2.389	1.000	0.00	0.05	0.06	0.05	0.05	0.00
	2	1.894	1.123	0.03	0.00	0.00	0.00	0.00	0.03
	3	0.811	1.716	0.00	0.08	0.12	0.50	0.09	0.00
	4	0.589	2.013	0.00	0.01	0.77	0.44	0.01	0.00
	5	0.248	3.101	0.00	0.80	0.00	0.00	0.83	0.00
	6	0.068	5.942	0.96	0.06	0.04	0.00	0.01	0.96

a. Dependent Variable: Q6B. Using the same scale, how safe do you feel when using CTrains in general?



Regression outputs – coefficients from chosen model (50% of variance accounted for)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
5	(Constant)	7.244	0.165		43.814	0.000		
	Zscore: Q5AD. I feel safe when I wait for a CTrain at a CTrain station after 6 PM	-0.420	0.095	-0.256	-4.435	0.000	0.399	2.507
	Zscore: Q5AG. I feel that CTrain stations are sufficiently lit to make them safe	-0.325	0.070	-0.200	-4.613	0.000	0.707	1.414
	Zscore: Q5AA. I feel safe when traveling on the CTrain before 6 PM	-0.334	0.067	-0.205	-5.019	0.000	0.801	1.248
	Zscore: Q5AB. I feel safe when traveling on the CTrain after 6 PM	-0.364	0.095	-0.217	-3.842	0.000	0.417	2.395
	Zscore: Q11AC. Security surveillance / or video cameras	-2.767	1.132	-0.097	-2.443	0.015	0.851	1.175

a. Dependent Variable: Q6B. Using the same scale, how safe do you feel when using CTrains in general?

Bus Safety Regression outputs – model summary and collinearity diagnostics

Model Summary ^e									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.565 ^a	0.319	0.317	1.220	0.319	164.756	1	352	0.000
2	.624 ^b	0.390	0.386	1.156	0.071	40.680	1	351	0.000
3	.636 ^c	0.405	0.400	1.143	0.015	9.002	1	350	0.003
4	.644 ^d	0.415	0.408	1.135	0.010	5.982	1	349	0.015

d. Predictors: (Constant), Zscore: Q5BD. Calgary Transit is also interested in your views on safety and security with Buses. I feel safe when I wait for a bus at a bus passenger shelter after 6 PM, Zscore: Q5BA. Calgary Transit is also interested in your views on safety and security with Buses. I feel safe when traveling on buses before 6 PM, Zscore: Q5BB. Calgary Transit is also interested in your views on safety and security with Buses. I feel safe when traveling on buses after 6 PM, Zscore: Q5BG. Calgary Transit is also

e. Dependent Variable: Q6C. And, how safe do you feel when using Calgary Transit buses in general?

Collinearity Diagnostics ^a								
Model		Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Zscore: Q5BD. I feel safe when I wait for a bus at a bus passenger shelter after 6 PM	Zscore: Q5BA. I feel safe when traveling on buses before 6 PM	Zscore: Q5BB. I feel safe when traveling on buses after 6 PM	Zscore: Q5BG. There are no hiding places within buses where someone could sneak up on a passenger
4	1	2.304	1.000	0.00	0.07	0.07	0.07	0.06
	2	1.000	1.518	1.00	0.00	0.00	0.00	0.00
	3	0.769	1.731	0.00	0.10	0.00	0.06	0.83
	4	0.603	1.955	0.00	0.14	0.88	0.02	0.11
	5	0.325	2.663	0.00	0.69	0.05	0.85	0.00

a. Dependent Variable: Q6C. And, how safe do you feel when using Calgary Transit buses in general?

Regression outputs – coefficients from chosen model (41% of variance accounted for)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
4	(Constant)	7.919	0.060		131.218	0.000		
	Zscore: Q5BD. I feel safe when I wait for a bus at a bus passenger shelter after 6 PM	-0.499	0.083	-0.334	-6.007	0.000	0.542	1.844
	Zscore: Q5BA. I feel safe when traveling on buses before 6 PM	-0.333	0.072	-0.223	-4.606	0.000	0.715	1.398
	Zscore: Q5BB. I feel safe when traveling on buses after 6 PM	-0.235	0.087	-0.157	-2.695	0.007	0.491	2.037
	Zscore: Q5BG. There are no hiding places within buses where someone could sneak up on a passenger	-0.161	0.066	-0.109	-2.446	0.015	0.840	1.190

a. Dependent Variable: Q6C. And, how safe do you feel when using Calgary Transit buses in general?



Technical appendix B – Regression syntax



REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA COLLIN TOL CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Q6B
/METHOD=STEPWISE Q5AA Q5AB Q5AC Q5AD Q5AE Q5AF Q5AG Q5AH Q5AI Q4A Q11AA Q11AB Q11AC Q11AD Q11AE Q11AF Q11AG
/RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).
```

****COLLINEARITY DIAGNOSTICS INDICATE A TRANSFORMATION OF VARIABLES – SO VARIABLES TRANSFORMED AND ZSCORES SAVED****

```
DESCRIPTIVES VAR=Q5AA Q5AB Q5AC Q5AD Q5AE Q5AF Q5AG Q5AH Q5AI Q4A Q11AA Q11AB Q11AC Q11AD Q11AE
/SAVE.
```

REGRESSION LINEAR STEPWISE APPROACH - WITH TRANSFORMED VARIABLES - FOR DRIVERS OF CTRAIN SAFETY RATING

REGRESSION

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA COLLIN TOL CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Q6B
/METHOD=STEPWISE ZQ5AA ZQ5AB ZQ5AC ZQ5AD ZQ5AE ZQ5AF ZQ5AG ZQ5AH ZQ5AI ZQ4A ZQ11AA ZQ11AB ZQ11AC ZQ11AD ZQ11AE
/RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).
```


REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA COLLIN TOL CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Q6C
/METHOD=STEPWISE Q5BA Q5BB Q5BC Q5BD Q5BE Q5BF Q5BG Q4A Q11AA Q11AB Q11AC Q11AD Q11AF Q11AG
/RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).
    
```

****COLLINEARITY DIAGNOSTICS INDICATE A TRANSFORMATION OF VARIABLES – SO VARIABLES TRANSFORMED AND ZSCORES SAVED****

```

DESCRIPTIVES VAR=Q5BA Q5BB Q5BC Q5BD Q5BE Q5BF Q5BG Q4A Q11AA Q11AB Q11AC Q11AD Q11AE Q11AF Q11AG
/SAVE.
    
```

REGRESSION LINEAR STEPWISE APPROACH - WITH TRANSFORMED VARIABLES - FOR DRIVERS OF CTRAIN SAFETY RATING

REGRESSION

```

/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA COLLIN TOL CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Q6C
/METHOD=STEPWISE ZQ5BA ZQ5BB ZQ5BC ZQ5BD ZQ5BE ZQ5BF ZQ5BG ZQ4A ZQ11AA ZQ11AB ZQ11AC ZQ11AD ZQ11AF ZQ11AG
/RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).
    
```