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Executive Summary
This research explored several key aspects of cycling behaviour and motivation as well as attitudes regarding cycling facilities. Specifically, the research measured frequency of cycling, barriers to cycling, the use of cycling with transit, and the perceived magnitude of bicycle theft. With respect to facilities, the research measured attitudes regarding the current bike locker program as well as reactions to other possible end-of-trip cycling facilities.

Cycling Segments
As in past research, research participants were segmented based on their current frequency of cycling and their intention to cycle in the future. These segments are used because they represent distinct groups that differ with respect to the purposes they use their bicycles for, the barriers they perceive as most significant and the motivations underlying their decision to use their bicycles. As such, subsequent marketing communications and services can be developed to match the needs of targeted segments.

The cyclist segments used in the current research were as follows:

- **Regular Cyclists** who ride a bike at least once per week in at least one season (25% of adult residents),
- **Monthly Cyclists** (13%), who ride a bike at least one to three times per month in at least one season,
- **Yearly Cyclists** (9%) who ride at least once per year in at least one season,
- **Less than Yearly Residents** (8% of adult residents).

In total, individuals who currently cycle with any frequency represent 55% of Metro Vancouver residents.

Two other segments were also used:

- **Uninterested Non-Cyclists** (34% of adult residents),
- **Potential Cyclists**, or those who “would consider” cycling in the future (11% of adult residents).

In total, current non-cyclists represent 45% of Metro Vancouver, with one in ten expressing a desire to begin cycling.

Those who cycle regularly are much more likely than those who do not cycle regularly to cycle for utilitarian purposes (e.g., to get to work, for personal business). Seven-in-ten regular cyclists use their bicycles for utilitarian trips. Less than four-in-ten cyclists who use their bicycles less frequently use their bicycles for utilitarian trips. This is consistent with the idea that recreational cycling is a gateway to non-recreational, or utilitarian cycling. As recreational cyclists gain more experience and trust in their skills they begin to convert utilitarian trips previously taken by another mode to cycling trips.
**Cycling and End-of-Trip Facilities**

**Barriers to Cycling**

The research evaluated the perceived impact of a series of potential barriers to cycling. These included safety-related barriers, barriers related to the conditions in which cycling trips are made (e.g., weather, trip length, terrain), infrastructure barriers (e.g., bike lanes, routes), and facility-related barriers, among others.

The following table summarizes the barriers to cycling, and highlights the differences among the segments.

<table>
<thead>
<tr>
<th></th>
<th>Regular (n=579)</th>
<th>Monthly (n=249)</th>
<th>Yearly (n=178)</th>
<th>&lt; Yearly (n=149)</th>
<th>Potential (n=164)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel unsafe riding next to vehicles on the road</td>
<td>36%</td>
<td>36%</td>
<td>36%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>Usual trip lengths too far</td>
<td>17%</td>
<td>24%</td>
<td>20%</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>Insufficient bicycle lanes</td>
<td>22%</td>
<td>17%</td>
<td>17%</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Poor weather</td>
<td>24%</td>
<td>18%</td>
<td>14%</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of places to park/lock bike at destination</td>
<td>15%</td>
<td>10%</td>
<td>10%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Lack of bicycle routes/trails</td>
<td>14%</td>
<td>11%</td>
<td>9%</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Health barriers</td>
<td>6%</td>
<td>10%</td>
<td>9%</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td>Terrain too steep or hilly</td>
<td>8%</td>
<td>11%</td>
<td>8%</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>Don’t own a bicycle</td>
<td>&lt;1%</td>
<td>1%</td>
<td>8%</td>
<td>17%</td>
<td>27%</td>
</tr>
<tr>
<td>No place to shower/change</td>
<td>6%</td>
<td>10%</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Bridges are dangerous to cross</td>
<td>7%</td>
<td>5%</td>
<td>3%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Poor road conditions/Potholes</td>
<td>5%</td>
<td>4%</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Cost of bicycle/Maintenance too much</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>

*Percentages in the same row with the same superscript numbers represent homogenous subsets and do not differ from one another. Subsets within a given row with the same superscripts differ significantly from subsets with different superscripts. Percentages in a row without superscripts do not differ from any others in the same row.

Across all segments, safety was among the most significant barrier mentioned. Even among regular cyclists, who are presumably among the more skilled cyclists in Metro Vancouver, ‘feeling unsafe riding next to vehicles’ was mentioned as a barrier by over a third of these cyclists. Maximizing safety, whether it be for those making
Cycling and End-of-Trip Facilities

utilitarian trips on busy city streets, or for those using streets during a recreational ride, should be viewed as a ‘cost of entry’ for converting more trips to utilitarian cycling trips or for converting more potential cyclists into current cyclists.

Our analysis of the barriers cited within each segment showed that the consideration set that drives decisions to cycle varies by segment. Regular cyclists tend to evaluate barriers from the perspective of what will influence their decisions to take trips for utilitarian purposes. These types of barriers include weather conditions, facilities and a lack of bike lanes. Monthly or yearly cyclists are more likely to view the barriers from the perspective of what would inhibit them from attempting to make utilitarian trips—e.g., the length of the trip being too far. Less than yearly cyclists and potential cyclists cite barriers that prevent them from doing any riding at all—e.g., health issues, lack of bicycle ownership.

Figure 1 summarizes the key barriers within each group by highlighting the common objections (or excuses) likely to be voiced by each segment.

Figure 1. Cyclist segments and barriers to increased cycling
Cycling and End-of-Trip Facilities

Safety from Personal Injury While Cycling to SkyTrain Stations

When asked to rate their perceived safety from injury while cycling to SkyTrain, Current and Potential cyclists are more likely to view the bike ride to the closest SkyTrain station as dangerous (in terms of causing personal injury) rather than safe, by a margin of about two-to-one. Current and Potential cyclists living south of the Fraser were more likely than those living in other areas to perceive a cycling trip to a SkyTrain station as dangerous. This makes sense given that cyclists south of the Fraser will typically have a longer ride to a SkyTrain station than cyclists living in other areas along the Skytrain lines.

Overall, more than six-in-ten cyclists rated the ride to the closest SkyTrain station as potentially dangerous. Women were more likely to rate the trip as dangerous relative to men (58% vs. 50%), and those aged 55 or older were more likely to rate the trip as dangerous relative to those under age 55 (63% vs. 51%).

The magnitude of the percentage of Current and Potential cyclists evaluating a cycling trip to the SkyTrain as dangerous indicates that concerns over safety are a significant barrier to increasing the number of bike / transit trips. Cyclists suggested some solutions that they feel would reduce their risk of personal injury. These suggestions included: dedicated bicycle lanes (35%), more paths (14%), barriers between cycling lanes and car lanes (7%), and better lighting and signage (5%).

Concerns About Theft as a Barrier to Cycling

Over half of Current and Potential cyclists (57%) indicated that bicycle theft is a serious problem. Three-in-ten Current and Potential cyclists (29%) reported that they have avoided bike trips in the past two years due to concerns about bike theft. Approximately two-in-ten Current and Potential cyclists (18%) have had a bicycle stolen within the past five years.

Awareness, Usage and Experiences with the Bicycle Locker Rental Program

Awareness of the TransLink Locker Rental Program

Four-in-ten Current and Potential cyclists are aware of the TransLink bicycle locker rental program. The main source of awareness is observing the lockers at SkyTrain stations, followed by TransLink publications with information about the program.

Very few cyclists rent lockers, even among frequent cyclists. The majority (55%) of non-renters say they do not need a bicycle locker. Less frequently mentioned reasons for not renting a locker include not knowing enough about the program, lockers not being available where cyclists need them, and a preference for shorter-term rentals, and cost.
Cycling and End-of-Trip Facilities

The high rate of concern about bicycle theft indicates there is a need for more secure bicycle end-of-trip facilities. Communicating the effective use of lockers and providing information on cost, location, and rental terms may assist in overcoming these barriers.

**Locker renters’ usage patterns**

*Locker renters* use their lockers quite frequently – more than half of access their lockers four days per week or more. Lockers are primarily used in the summer, corresponding to the general seasonal variations in cycling frequency. The lockers are used primarily for commuting to work. The most common trip originates in Surrey and terminates in Vancouver, although many other origin and destination combinations exist.

Three-quarters of Locker renters use their lockers as a place to leave their bikes and ride the SkyTrain for the longer leg of their trips. Six of the 67 people used the locker on the other end of their trip, first taking transit to the locker and then riding to their destination. The most creative use of the bike lockers came in the form of the “double-locker system,” where an individual would ride one bike to a locker, ride the SkyTrain, and then obtain another bike from a second locker to ride to their destination.

** Locker renters’ satisfaction**

Most Locker renters were satisfied with the price of their locker rental. Nine-in-ten said that the price and term of the locker rental provided *good or excellent value for money*. Accordingly, eight-in-ten indicated that they will continue to rent their lockers into the foreseeable future.

Lockers were viewed as *very secure* places by two-thirds of Locker renters, but the feeling of personal security when accessing the lockers was not rated as high, as only 27% said it was *very safe*. A minority of *Locker renters* thought that the surrounding environment was not safe or well maintained, especially at King George SkyTrain station.

The locker area was seen as *reasonably well maintained* by most *Locker renters*, although one-quarter thought it was *not well maintained* and one-quarter had problems with the rental program.

Overall, the results suggest that the locker program satisfies the need for a secure bike lock-up for a reasonable price, but that more work could be done to make the surrounding environment more appealing and safe, especially at King George Station.
Cycling and End-of-Trip Facilities

Pricing and Term Alternatives to the Current Program

Among Locker renters, TransLink bicycle lockers are perceived to provide good value for money, and meet their preferences for longer term rental options—monthly or longer. In contrast, current cyclists showed a stronger preference for daily or hourly rentals on a first-come first-served basis. This is perhaps not surprising given that current cyclists are less committed to regular cycling, and cycling for utilitarian purposes, than Locker renters are. However, a more open, or casual, rental system would likely not serve the needs of cyclists in the long term. For example, a first come first served system would create a great deal of disruption for cyclists on days when the weather is particularly nice and many cyclists decide to use their bicycle to commute. Many cyclists would be greeted by a full locker facility once they reached their destination. Therefore, a mix of short and longer term bike parking would meet the needs of the different cycling segments.

New End-of-Trip Facility Concepts

Perceptions of bike parking facility security and costs

When current cyclists were presented with four options for bicycle end-of-trip facilities, the “fenced area with bike rack, staffed by an attendant at a cost of $10 per month” was considered most secure (95% said it was reasonably or very secure). This was closely followed by the “bike cage with bike racks at a transit stop with monitored video cameras, accessed with a card reader at a cost of $8” (91% reasonably or very secure). All options considered were preferred to the basic bike rack (26% reasonably or very secure).

Locker renters’ opinions were quite different than those who did not rent lockers. Locker renters were much more confident in the security of the locker accessed with a key than any other concept tested. Locker renters preferred accessing the bicycle parking area using a key rather than a key card or an attendant.

Cost was also identified as an important consideration. Regression modeling indicated that although security is a more important factor than price in predicting likelihood of use of lockers, price is also an important factor.

Satisfaction with current end-of-trip facilities

Bike station facilities and services were generally well-received by cyclists. However, only one-fifth of Regular cyclists and only 15% of other current cyclists said bike end-of-trip facilities would result in them being much more likely to cycle. The most popular facilities were those that would be used by the general population, such as toilets (likely due to the lack of washrooms at SkyTrain stations), gear lockers, and general retail.

Conversion of Private Vehicle Trips to Cycling Trips

Before Locker renters began using their bicycle lockers for the same trip purpose, 25 out of 67 (37%) used private vehicles in some way for their trips, divided between driving alone the entire way (24%) and those who parked at a SkyTrain station and took the train (12%). Therefore, a clear benefit of the TransLink bicycle locker program is the reduction of private vehicle travel, reducing Greenhouse Gas emissions.
Cycling and End-of-Trip Facilities

Objectives

This study was conducted to understand cycling patterns and attitudes which impact proposed end-of-trip facilities throughout the region. The following specific information needs were addressed:

1. The degree to which the absence of certain end-of-trip facilities represents a barrier to cycling.
2. The degree to which distance and time are related to the perceived attractiveness of end-of-trip facilities.
3. The attractiveness of end-of-trip facilities, demand, and willingness to pay.
4. Characteristics of existing and potential users.
5. Potential for mode shift.

Method

Participants

This survey was launched to two groups of potential participants:

• 6627 TransLink Listens Online Panel members were invited to participate on March 23, 2009. An email reminder was sent on March 31, and the survey closed on April 2.
  o 2927 panelists completed the survey, which is a 44% completion rate. This response rate is comparable to the typical response rate for TransLink Listens surveys, which is around 45%.
  o Entry into a prize draw with two prizes of $100 cash or a 3-Zone FareCard (retail price $136) was provided as an incentive to encourage participation.

• 127 Bicycle Locker Renters were invited to participate on April 30. An email reminder was sent on May 6, and the survey closed on May 10.
  o 69 Locker renters completed the survey, but two were disqualified for providing invalid responses. The completion rate for Bicycle Locker Renters was thus 53%.
  o Entry into a $100 cash prize draw was offered as an incentive to encourage participation.

Weighting

The data from the TransLink Listens Online Panel members was weighted to represent the age, gender and regional distributions of Metro Vancouver residents, as well as their main mode of transportation. The Locker renters’ results were not weighted because all TransLink Locker renters were invited to participate; thus, they are a population in and of themselves.

Weighting the panelists’ data by these factors occurs in two steps:

1. Calculating Sex-Age by Region weights.
   a. Using 2006 Canada Census data, the appropriate proportions of age (16-34, 35-54, 55+) by sex by region groups are determined for the Metro Vancouver regions (Vancouver, North Shore, Burnaby/New West, North-East Sector, Richmond, Delta, and Surrey/Langley).
   b. This results in a 6 (Sex-Age groups) by 7 (Regions) matrix of parameter proportions that sum to 1.00 (a sample row for Vancouver is shown below).
Cycling and End-of-Trip Facilities

c. The *obtained* proportions for those same matrix cells are then calculated based on the survey results.
d. By dividing the obtained proportions into the parameter proportions, weights for each group are obtained. Each case is up- or down-weighted in accordance with its under- or over-representation in the sample.

Table 1. Example of weighting by sex-age and region.

<table>
<thead>
<tr>
<th></th>
<th>M 16 - 34</th>
<th>M 35 - 54</th>
<th>M 55+</th>
<th>F 16 - 34</th>
<th>F 35 - 54</th>
<th>F 55+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver (Parameter)</td>
<td>0.049</td>
<td>0.054</td>
<td>0.037</td>
<td>0.051</td>
<td>0.055</td>
<td>0.043</td>
</tr>
<tr>
<td>Vancouver (Obtained)</td>
<td>0.053</td>
<td>0.077</td>
<td>0.039</td>
<td>0.068</td>
<td>0.066</td>
<td>0.029</td>
</tr>
<tr>
<td><strong>Vancouver (P/O=Weight)</strong></td>
<td><strong>0.922</strong></td>
<td><strong>0.706</strong></td>
<td><strong>0.958</strong></td>
<td><strong>0.750</strong></td>
<td><strong>0.839</strong></td>
<td><strong>1.491</strong></td>
</tr>
</tbody>
</table>

2. Correcting for Main Mode of Transportation after applying the first weights.
   a. Parameters for Main Mode were obtained from a general population telephone survey of 500 Metro Vancouver residents (Synovate, April 2008).
   b. Using these parameters, weighting factors are calculated for each mode.
   c. The original weights are then multiplied by the Main Mode weighting factor to obtain the final weights.
   d. The second weights slightly offset the initial corrections, but because of the over-representation of transit users on *TransLink Listens*, it is an important correction to make when extrapolating to the Metro Vancouver population.

Table 2. Example of weighting by main mode.

<table>
<thead>
<tr>
<th></th>
<th>Parameters</th>
<th>Obtained results</th>
<th>Weighting factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOV</td>
<td>51.1%</td>
<td>30.4%</td>
<td>1.68</td>
</tr>
<tr>
<td>Ride-share</td>
<td>20.4%</td>
<td>20.2%</td>
<td>1.01</td>
</tr>
<tr>
<td>Transit</td>
<td>20.8%</td>
<td>31.9%</td>
<td>0.65</td>
</tr>
<tr>
<td>Walk</td>
<td>2.8%</td>
<td>4.3%</td>
<td>0.65</td>
</tr>
<tr>
<td>Cycle</td>
<td>1.4%</td>
<td>2.0%</td>
<td>0.71</td>
</tr>
<tr>
<td>Combination incl. transit</td>
<td>2.6%</td>
<td>10.0%</td>
<td>0.26</td>
</tr>
<tr>
<td>Others</td>
<td>0.8%</td>
<td>0.8%</td>
<td>1.05</td>
</tr>
</tbody>
</table>
Cycling and End-of-Trip Facilities

**TransLink’s Cycling Mandate**

*Metro Vancouver residents strongly support having TransLink plan, fund, and promote cycling as a way to get around the region. Support was strongest in Vancouver and Burnaby/New Westminster, but was still very strong in other areas.*

The promotion, planning and funding of cycling in the Metro Vancouver area by TransLink and local municipal governments is broadly supported by area residents (83%). Overall support for TransLink and local municipal government’s role in planning, funding and promoting cycling was found across all ages, genders, and regions, but was stronger among specific groups. Women provided stronger support compared to men (86%, compared to 81%), and support decreased significantly with each successively older age cohort (88% for those under age 35, 85% for 35-54, and 78% for those over age 54).

Almost all **Locker renters strongly support** TransLink and local municipal governments’ role in planning, funding and promoting cycling – 93% \( (n=67) \). Thus **Locker renters** can be viewed as a special group whose attitudes are more passionate than other residents.

**Figure 2. “Do you support or oppose TransLink and local municipal governments planning, funding and promoting cycling as a way to get around Metro Vancouver?” (Base: TransLink Listens Panelists)**

<table>
<thead>
<tr>
<th></th>
<th>Support strongly</th>
<th>Support somewhat</th>
<th>Oppose somewhat</th>
<th>Oppose strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total (n=2927)</strong></td>
<td>39%</td>
<td>45%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Vancouver &amp; Burnaby/NW (n=1396)</strong></td>
<td>47%</td>
<td>40%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>SoF, NES, North shore (n=1531)</strong></td>
<td>34%</td>
<td>47%</td>
<td>13%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>&lt;35 (n=933)</strong></td>
<td>44%</td>
<td>44%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>35-54 (n=1277)</strong></td>
<td>39%</td>
<td>46%</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>&gt;54 (n=717)</strong></td>
<td>35%</td>
<td>43%</td>
<td>14%</td>
<td>9%</td>
</tr>
</tbody>
</table>
Cycling and End-of-Trip Facilities

Cycling Participation

Cycling is an activity that residents prefer to do during the summer months, when about half of residents ride. There are significant decreases in cycling frequency between each season – from summer to spring, spring to fall, and then fall to winter. Three-quarters of residents do not ride in the winter.

Before segmenting the cyclist groups and asking them relevant questions in the survey, participants were asked about the number of times they cycle in each season. Area residents indicated a definite preference for cycling in the summer months, followed by spring, fall, and winter. The chart below shows the cycling distributions by season; the pattern is most apparent in the Do not ride in season category, where we can see that cycling takes a decline from summer to spring, then larger declines into fall and then winter.

Figure 3. “Please indicate how often you ride a bicycle for any purpose, if at all, during [SEASON].” (Base: TransLink Listens Panelists; n=2927)
Cycling and End-of-Trip Facilities

Cyclist Segments

One-half of local residents cycle at least occasionally. Of the one-half that do not cycle, one-quarter are interested in cycling in the future. Cyclists were segmented according to the amount they cycle in the season when they cycle most often, which was generally in the summer. The segments are used throughout the report to compare more and less frequent cyclists; they are: Regular, Monthly, Yearly, and Less than yearly cyclists. Residents who did not cycle in any season are segmented as Uninterested non-cyclists and Potential cyclists. The small group of residents who currently rent lockers is referred to as Locker renters. Locker renters are reported as a distinct segment from other cyclists because they display unique characteristics and the source of sample was the locker rental customer database (as opposed to the TransLink Listens panel).

There is a fairly substantial cyclist population in the region, which is matched by an equally sized non-cyclist population. For the purposes of the survey and analysis, participants were grouped into five segments using reported cycling trips per season and willingness to cycle in the future.

- The largest single group is Non-cyclists, who represent 45% of participants. This group of participants did not ride a bike during any season. One-quarter (24%) of Non-cyclists (11% of the area’s adult population) would consider riding a bicycle in the future, and are classified as Potential cyclists. The rest are classified as Uninterested non-cyclists.

- Regular cyclists ride a bike at least once per week in at least one season, and represent 25% of participants. While this group is considered the most dedicated cycling group in the study, there are still many opportunities for increased cycling among this group. Only 15% of them ride weekly, and 38% of them ride at least one to three times per month in all four seasons (i.e., 62% of Regular cyclists ride less than once per month in at least one season).

- Monthly cyclists ride a bike at least one to three times per month in at least one season, and represent 13% of participants.

- Yearly cyclists ride a bike at least once per year in at least one season, and represent 9% of participants.

- Less than yearly cyclists ride a bike less than once per year in at least one season, but more often than never, and represent 8% of participants.

There is a small group of individuals who rent lockers from TransLink; they are referred to as Locker renters throughout the report. Because their data were collected from the population survey of TransLink locker renters, they cannot be amalgamated with the TransLink Listens panelists’ data.

Throughout the report, the combined group of all cyclists who ride at least occasionally (i.e., TransLink Listens Panelists excluding the non-cyclist groups) is referred to as ‘current cyclists’.
Cycling and End-of-Trip Facilities

Figure 4. Cyclist segments based on frequency of riding and “Would you consider riding a bicycle in the future?” (Base: TransLink Listens Panelists; n=2927)

Differences among the Cyclist Segments

Several differences help to characterize the cyclist segments. Vancouver has a high proportion of Regular cyclists, and current cyclists tend to be younger and male. Potential cyclists have several characteristics which are similar to current cyclists – they are younger (i.e., under 55), often use transit to get around as their main mode of transportation, and like Regular cyclists, are relatively less likely to have access to a passenger vehicle.

Regular cyclists were significantly more likely to reside in Vancouver or Richmond, while Uninterested non-cyclists, who were more likely to reside in Surrey and Langley. The Potential cyclists group is dispersed about evenly across all regions of Metro Vancouver, with a slightly higher incidence in Burnaby/New Westminster.

The 55+ age group was significantly over-represented in the Uninterested non-cyclists segment, where they represented 49% of the group (compared to 22% of the current and Potential cyclists). A similar pattern emerged when comparing men and women – men were more likely than women to be included in the Regular (59% male) and Monthly cyclist (63% male) groups, and women were more likely to be included in the Uninterested non-cyclists group (61% female).
**Cycling and End-of-Trip Facilities**

*Regular cyclists* were significantly less likely to use Single Occupancy Vehicle (SOV) driving as their main mode of transportation compared to the other segments except for *Potential cyclists* (44% SOV main mode for *Regular cyclists* and 50% SOV main mode for *Potential cyclists* vs. 54% SOV main mode for all other TransLink Listens Panelists). *Potential cyclists* were significantly less likely to have access to a passenger vehicle (76%) compared to *Uninterested non-cyclists* (84%).

*Regular cyclists* were significantly more likely to walk for most of their trips compared to all other segments (5% compared to 2%). An interesting characteristic of the *Potential cyclist* segment was that they had the highest proportion of main mode transit users (26%), a result that is significantly higher than for other segments combined (20%).

*Locker renters (n=67)* were notably different from the *Regular cyclists* surveyed from the panel. First, *Locker renters* were primarily from Surrey/Langley (40%) rather than Vancouver. They were similar in age to the *Regular cyclists* group, with 87% in the 25 to 54 age group. Two-thirds (66%) of *Locker renters* were men. The *Renters* group was most likely to use a combination mode including transit for most of their trips around Metro Vancouver (40%), presumably a combination of cycling and SkyTrain (originating in Surrey for many of them). All *Locker renters* own a bicycle.

**Table 3. Differences in demographic characteristics of cyclist segments.**

<table>
<thead>
<tr>
<th></th>
<th>Regular cyclists (n=794)</th>
<th>Potential cyclists (n=341)</th>
<th>Locker renters (n=67)</th>
<th>Uninterested non-cyclists (n=943)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Region</strong></td>
<td>- More likely to live in Vancouver (35%), Surrey Langley (19%) and Richmond (13%)</td>
<td>- Tend to live in Vancouver (28%), Surrey/Langley (22%) and Burnaby/New Westminster (17%)</td>
<td>- Primarily from Surrey/Langley (40%)</td>
<td>- Reside in Surrey/Langley (29%) and Vancouver (22%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>- Mostly under 55 (78%)</td>
<td>- Mostly under 55 (73%)</td>
<td>- Mostly under 55</td>
<td>- More likely 55+ (49%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>- More likely to be men (59%)</td>
<td>- Equally likely Male/Female (50%)</td>
<td>- More likely to be men (66%)</td>
<td>- More likely to be women (61%)</td>
</tr>
<tr>
<td><strong>Main mode</strong></td>
<td>- Less likely to drive SOV (44%)</td>
<td>- Less likely to have access to a vehicle (76%)</td>
<td>- Most likely to use combination mode (Bike + Transit 40%)</td>
<td>- More likely to drive SOV (52%)</td>
</tr>
<tr>
<td></td>
<td>- More likely to walk (5%)</td>
<td>- Highest proportion of transit users (26%)</td>
<td>- More likely to have access to a vehicle (84%)</td>
<td></td>
</tr>
</tbody>
</table>
Transit Use by Cyclist Segment

Current and Potential cyclists tend to use more transit modes compared to Uninterested non-cyclists. Mode usage is positively correlated with cycling frequency. Potential cyclists demonstrated similar transit mode usage and frequency as current cyclists.

All cyclist segments were significantly more likely to use public transit compared to Uninterested non-cyclists. Generally, more frequent cycling was positively correlated with increased transit mode usage. There is a relationship between transit modes used and cycling frequency that can be observed in the figure below; it applies most strongly to transit bus and SkyTrain usage. Compared to current and Potential cyclists, Uninterested non-cyclists are significantly more likely to have not used any transit modes in the 30 days preceding the survey (i.e., Non-cyclists are more likely to be Non-riders; 47%, compared to 33% for Current and Potential cyclists). A high proportion of Locker renters used transit in the past 30 days.

**Figure 5.** “Have you travelled on any of the following transit modes in the past 30 days in Metro Vancouver?” [Multiple responses allowed; presented as checkboxes]. (Base: All participants by segment)

Potential cyclists showed transit mode usage that was more comparable to current cyclists than to Uninterested non-cyclists. In addition to similar mode usage, Potential cyclists and Regular cyclists were the only segments that were significantly more likely to take 10 or more one-way transit trips per week compared to Uninterested non-cyclists (17%, n=1135; compared to 13%, n=943). Locker renters had the highest transit ridership frequency of all, with 46% (n=67) taking ‘10 or more one-way transit trips per week’ and 31% taking 4-9 one-way transit trips per week. There were no other notable differences in transit ridership frequency between the segments.
Cycling and End-of-Trip Facilities

Cyclist Segments’ Riding by Season

The seasonal drop-off in cycling frequency for each cyclist segment provides insight into the groups’ commitments to cycling. Compared to Monthly and Yearly cyclists, Regular cyclists are more committed to riding and less likely to reduce their riding frequency in poor riding seasons, and much less likely to stop riding entirely. However, Regular cyclists do, like all cyclist segments, show a strong seasonal decline in cycling frequency. If Regular cyclists can be described as ‘committed,’ Locker renters might be described as ‘passionately dedicated.’ Half of them maintain weekly cycling frequency even in the winter, compared to less than two-in-ten Regular cyclists.

To segment the cyclist groups, participants were asked about the frequency with which they cycle in each season. Participants were assigned to groups using the frequency of cycling in the season that they cycled the most in (the summer, for the overwhelming majority). Using this data, we can observe the seasonal fluctuations in cycling frequency for each cycling segment.

As seen in the charts on the next page, the baseline season for comparing cycling frequency is the summer. All cyclist segments cycled the most often in the summer, where virtually all of the cyclists in a given segment said they cycled at their maximum level of frequency. From summer to spring, we can see the Regular, Monthly, and Yearly cyclist segments reduce their frequency of engaging in their maximum cycling by almost half – that is, about half of Regular cyclists reduce their cycling to less than weekly, half of Monthly cyclists reduce their cycling to less than once per month, and one-half of Yearly cyclists reduce their cycling to less than once per season.

From the spring to the fall, there is a similar reduction in the proportions of the segments engaging in maximum cycling frequency. Only 36% of Regular cyclists ride weekly in the fall, compared to 56% in the spring. An effect of somewhat greater magnitude can be observed in the Monthly and Yearly groups, where the reduction is even greater. Finally, moving to winter, we can see an even greater decline in maximum cycling frequency among Regular, Monthly, and Yearly cyclists.

On the converse side of the cycling frequencies, changes in the frequency of not riding at all in a given season also provides insight into the segments’ commitments to riding. In the Regular cyclists group, we can see that just 10% stop cycling in the fall, and 33% stop in the winter. In contrast, 9% of Monthly and 23% of Yearly cyclists stop riding entirely in the spring, 34% and 45% in the fall, and 59% and 63% in the winter. Only 4% of Monthly and 12% of Yearly cyclists maintain their maximum levels of cycling in the winter, compared to 16% of Regular cyclists and even 39% of Less than yearly cyclists (although this group does not have to ride particularly often to maintain their “maximum” level).
Cycling and End-of-Trip Facilities

Figure 6. Cycling frequency by season for Regular cyclists. (Base: Regular cyclists; n=794)

Figure 7. Cycling frequency by season for Monthly cyclists. (Base: Monthly cyclists; n=366)

Figure 8. Cycling frequency by season for Yearly cyclists. (Base: Yearly cyclists; n=264)

Figure 9. Cycling frequency by season for Less than yearly cyclists. (Base: Less than yearly cyclists; n=219)

Legend:
- Do not ride in season
- Less than once in season
- At least once in season
- 1-3 times per month
- Once per week or more
Cycling and End-of-Trip Facilities

*Locker renters’* cycling frequency is very high – they are dedicated cyclists and 87% of them continue to cycle even in the winter, with 48% riding weekly during the worst cycling season. Their pattern of seasonal drop-off in frequency is significantly lower than the *Regular cyclists* segment.

Figure 10. Cycling frequency by season for *Locker renters*. (Base: *Locker renters*; n=67)

Cycling Trip Purposes

*Cycling for utilitarian purposes* (work, shopping, personal business, and social/entertainment) is a key characteristic of *Locker renters* and *Regular cyclists* compared to all other segments. While fewer than four-in-ten cyclists who ride once per month or less ride for utilitarian purposes, seven-in-ten *Regular cyclists* and nine-in-ten *Locker renters* ride for utilitarian trips, and many of them for multiple trip types. Encouraging people to cycle for utilitarian purposes may increase cycling among less frequent cyclists.

The information about trip purposes provides clear insight into the difference between *Regular cyclists* and other segments. *Regular cyclists* and *Locker renters* are significantly more likely to cycle for all purposes except recreation compared to the other segments, and the differences are very large. In contrast, *Monthly* and *Yearly cyclists* are significantly more likely to ride for recreation compared to *Regular cyclists* and *Locker renters*. *Monthly cyclists* are also significantly more likely to ride for social, shopping, personal business, and work commute trips (‘utilitarian’ trips) compared to *Yearly* and *Less than yearly* groups.
Cycling and End-of-Trip Facilities

Figure 11. “What are the main purposes of these bicycle trips?” [Multiple responses allowed; presented as checkboxes]. (Base: Current cyclists)

The average number of trip purposes cited provides further insight into the behaviours of the cyclist segments.

Almost all cyclists in all segments said they ride for recreational purposes. After removing the recreation purpose, the number of defined trip types remaining indicates the utilitarian purposes for which participants use their bicycle trips. Regular cyclists average almost 1.5 trip types after removing recreation because 70% of them cycle for at least one utilitarian purpose. Similarly, Locker renters average 1.9 utilitarian trip types because 92% of them cycle for one or more utilitarian purpose. In contrast, only 37% of Monthly cyclists, 25% of Yearly cyclists, and 14% of Less than yearly cyclists cycled for utilitarian trips, and they have an average of less than one utilitarian trip purpose.
Barriers to Cycling

Reasons for Not Riding at All

Potential cyclists and Uninterested non-cyclists can be differentiated in part by the reasons that they do not cycle. Compared to Uninterested non-cyclists, Potential cyclists are less likely to cite immovable barriers, such as the weather, and are significantly more likely to mention barriers that can be overcome more easily, such as getting a bike. Potential cyclists most often mention that they do not own a bicycle, and some say that bikes are too expensive, so supporting the acquisition of bicycles through community garage sales or bike swaps could convert some Potential cyclists to cyclists. Potential cyclists who say they do not cycle because they don’t own a bicycle tended to report lower household income levels compared to those in this segment who did not mention this reason, further supporting their claim that lack of bike ownership is a barrier to cycling (through cost).

Participants who said they did not cycle in any of the seasons were asked why they do not cycle. This question sheds light on the differences in the barriers between those who would consider cycling more and those who would not. Potential cyclists are generally less likely to mention barriers that are unchangeable, such as the weather, the relative slowness of bicycles, health, interest, and even hills. Compared to Uninterested non-cyclists, Potential cyclists (11% of the adult population) were significantly more likely to mention barriers that could be relatively easily overcome, such as access to a bicycle (67%, compared to 49%), the cost of bicycles (12%, compared to 5%), and “motivation” (18%, compared to 8%).

Further analysis showed that Potential cyclists who do not cycle because they do not own a bike are more likely to report lower household income levels than members of this segment who did not mention this reason. For example, among those who mentioned ownership as a barrier, 35% reported household income levels of $55,000 or higher, compared to 51% among those who did not mention this reason. Potential cyclists represent 11% of the adult population; as 67% cited a lack of bike ownership (7% of total adult population) and 12% cited the cost of a bicycle as reasons for not cycling (1% of total adult population).
There were also several barriers that were mentioned equally by both non-cyclist segments. The first was the lack of secure places to lock up (19% for both segments combined). This was mentioned significantly more frequently by Vancouver and Burnaby/New Westminster residents (27%; n=573) compared to those in the rest of Metro Vancouver (14%; n=711). The safety of cycling in some areas was mentioned by one-in-ten residents (10%), even though it was not offered in the list of responses (i.e., it was coded from the ‘other’ responses). This barrier was mentioned significantly less frequently by residents of the Northeast Sector (4%; n=171) compared to those in Vancouver (14%; n=358) and South of Fraser (10%; n=431). The final barrier mentioned equally by both groups of non-riders was that they were not fit enough to cycle (13%).

The lack of bicycles among Uninterested non-cyclists and Potential cyclists was very apparent when they were asked about bicycle access and ownership later in the survey. As seen in the figure below, almost all Regular and Monthly cyclists own their bicycles (94%). As well, many Yearly and Less than yearly cyclists own their bikes (68%) while some borrow bikes (17%). Most Uninterested non-cyclists and Potential cyclists do not own or have access to bicycles (75%); there was no difference between the two non-cyclist groups.
Cycling and End-of-Trip Facilities

Figure 13. “Do you own or have access to a bicycle on a regular basis?” (Base: TransLink Listens Panelists)

![Bar chart showing percentage of cyclists owning a bike, having access to a bike, or neither by frequency of cycling.]

**Reasons for Not Cycling More**

Three-quarters of Regular cyclists and Locker renters, and two-thirds of other cyclists said there are barriers that prevented them from cycling more frequently. The most frequently stated barrier was the issue of safety while riding on city streets, followed by trip length, lack of bike lanes, and poor weather. There are significant and meaningful differences between the cyclist segments regarding these barriers – after overcoming initial barriers around health and bike ownership, the barriers shift to unchangeable environmental barriers initially, and after some time these may be overcome and shift further to more focused infrastructural barriers.

Cyclists were asked if there are barriers preventing them from cycling more frequently or from making some trip types by bicycle. Seventy-two percent of Regular cyclists (n=794) and 73% of Locker renters (n=67) said there were barriers, which was a significantly greater proportion compared to Monthly, Yearly, and Less than yearly cyclists (66%; n=849). This difference is rather interesting – it indicates that the behaviour of cycling may have an cumulative effect, whereby people who cycle more frequently identify an ever-increasing number of opportunities to cycle, but some of those opportunities have barriers to acting on. Alternatively, it could be that less frequent riders say there are fewer barriers to riding more often because they do not want to cycle more often (i.e., they cycle as often as they want to, and have no interest in cycling more often). Potential cyclists were also asked this question, and 55% (n=289) said they could identify barriers; this segment’s responses are harder to diagnose because they had just completed a question about the barriers (see previous section).

Participants who said there were barriers were asked, in an open-end question (i.e., no list from which to select options), what barriers prevented them from cycling more frequently. Their responses were content-coded into 18 categories, twelve of which were mentioned by 5% of more participants and are shown in the figure below. The results strongly indicate that the biggest barrier to cycling more frequently is riders’ feelings of safety while riding on city streets (33%). Related to this issue was the lack of bicycle lanes (17%), and lack of bike routes (11%). Some of the more frequently mentioned reasons, such as the weather (17%), health issues (10%), and the need for cargo space (8%) are not directly controllable by TransLink and thus represent more significant barriers to encouraging cycling.
There were a number of demographic differences in the barriers to cycling. Women were more likely than men to mention feeling unsafe next to vehicles (37% vs. 30%), or that they commute with children (9% vs. 3%). Those 55 years of age or older were more likely than those under 55 to mention health barriers (21% vs. 7%) or terrain being too steep or hilly (15% vs. 8%).

Figure 14. “Please describe any barriers that prevent you from cycling more than you do now, or from making certain types of trips by bicycle.” [Multiple responses allowed; presented as open-end] (Base: Current and Potential cyclists who said there are barriers; \( n = 1319 \) )

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel unsafe riding next to vehicles on the road</td>
<td>33%</td>
</tr>
<tr>
<td>Usual trip lengths are too far</td>
<td>18%</td>
</tr>
<tr>
<td>Insufficient bicycle lanes</td>
<td>17%</td>
</tr>
<tr>
<td>Poor weather</td>
<td>17%</td>
</tr>
<tr>
<td>Lack of places to store/lock bike</td>
<td>12%</td>
</tr>
<tr>
<td>Lack of bicycle routes/trails</td>
<td>11%</td>
</tr>
<tr>
<td>Health barriers</td>
<td>10%</td>
</tr>
<tr>
<td>Terrain too steep or hilly</td>
<td>10%</td>
</tr>
<tr>
<td>Require cargo space</td>
<td>8%</td>
</tr>
<tr>
<td>Don't own a bicycle</td>
<td>7%</td>
</tr>
<tr>
<td>No place to shower/change</td>
<td>6%</td>
</tr>
<tr>
<td>Normally commute with children</td>
<td>6%</td>
</tr>
</tbody>
</table>
There were also a number of significant differences between the cyclist segments with regards to the barriers to cycling more often. As seen in the table below, more frequent cyclists (Yearly or more often) were significantly more likely to mention barriers in the cycling environment, such as bicycle lanes, poor weather, and bike trails when compared to Less than yearly and Potential cyclists. Less than yearly and Potential cyclists, conversely, were significantly more likely to mention individual-level barriers, such as health, bike ownership, and the cost of bicycles compared to Yearly or more frequent cyclists.

Table 5. Significant differences in barriers to cycling by segment.

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Regular (n=579)</th>
<th>Monthly (n=249)</th>
<th>Yearly (n=178)</th>
<th>&lt; Yearly (n=149)</th>
<th>Potential (n=164)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel unsafe riding next to vehicles on the road</td>
<td>36%</td>
<td>36%</td>
<td>36%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>Usual trip lengths too far</td>
<td>17%</td>
<td>24%</td>
<td>20%</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>Insufficient bicycle lanes</td>
<td>22%</td>
<td>17%</td>
<td>17%</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Poor weather</td>
<td>24%</td>
<td>18%</td>
<td>14%</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of places to park/lock bike at destination</td>
<td>15%</td>
<td>10%</td>
<td>10%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Lack of bicycle routes/trails</td>
<td>14%</td>
<td>11%</td>
<td>9%</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Health barriers</td>
<td>6%</td>
<td>10%</td>
<td>9%</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td>Terrain too steep or hilly</td>
<td>8%</td>
<td>11%</td>
<td>8%</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>Don’t own a bicycle</td>
<td>&lt;1%</td>
<td>1%</td>
<td>8%</td>
<td>17%</td>
<td>27%</td>
</tr>
<tr>
<td>No place to shower/change</td>
<td>6%</td>
<td>10%</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Bridges are dangerous to cross</td>
<td>7%</td>
<td>5%</td>
<td>3%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Poor road conditions/Potholes</td>
<td>5%</td>
<td>4%</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Cost of bicycle/Maintenance too much</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>

*Percentages in the same row with the same superscript numbers represent homogenous subsets and do not differ from one-another. Subsets within a given row with the same superscripts differ significantly from subsets with different superscripts. Percentages in a row without superscripts do not differ from any others in the same row.
Cycling and End-of-Trip Facilities

Just under three-quarters of Locker renters’ said there were barriers to cycling more often (73%; n=67), and their barriers to cycling were focused around a different theme than those of the rest of the cyclist population. Locker renters’ primary barriers to cycling included lack of secure bike parking, and not being able to take bikes on-board SkyTrain (29% for each; n=49), followed by the lack of bicycle routes and feeling unsafe riding on the road (24% for each). These were followed by the lack of bike lanes (18%), trips that are too long (16%), weather (12%), bridge crossing danger (10%), and the lack of bike racks on buses (10%). These barriers suggest that some Locker renters may have reached their maximum level of cycling given the current environment, and will only cycle more often if infrastructure changes.

The differences in barriers between the segments are logical and suggest that cyclists’ needs change as their cycling proficiency increases. After overcoming the initial barriers to cycling such as general fitness and the ownership of a bicycle, people will tend to cycle more frequently for recreational purposes. After a time, increased frequency may lead to or coincide with cycling for broader array of utilitarian trip purposes. This in turn may result in the identification of new barriers which are relatively broad in scope (e.g., bike paths in heavy traffic areas, light rain, bad drivers). Some cyclists will overcome these general barriers, at least to a degree, but they will identify new, specific barriers, such as the problematic bridges in Metro Vancouver and the lack of proper facilities for changing and showering.

Concerns about Bicycle Theft

Bicycle theft in the Metro Vancouver area is considered a serious problem by more than half of Current and Potential cyclists. This is most pronounced in Vancouver, where three-quarters said theft is a serious or very serious problem, as well as in the opinions of Regular cyclists. About one-third of cyclists had avoided making trips by bicycle because of bike theft concerns, and the locations that were most concerning tended to be shopping centres, downtown Vancouver, and Surrey. Because the destinations that elicit the greatest concerns about theft tend to be for utilitarian cycling, bicycle theft could be considered one of the more significant barriers to converting infrequent cyclists into Regular cyclists.

More than half of regional residents said they would describe bicycle theft as a serious or very serious problem (57%), and the perceptions of Locker renters are even stronger (69%; n=67). This description was most common in Vancouver, which had a significantly higher proportion of residents that said serious or very serious problem (74%) compared to all other areas (51% combined; n=1229), as well as a significantly higher proportion who said theft was a very serious problem (24%, compared to 11%). In comparing the municipalities with sufficiently large sample sizes, we found that Burnaby, Surrey, and Langley residents were significantly more likely to say serious or very serious compared to North Vancouver, Coquitlam, and Richmond (61%, compared to 46%). Of these municipalities, Delta had a markedly lower concern about bicycle theft, with just 30% saying it was a serious or very serious problem. Regular cyclists were also significantly more concerned about bike theft compared to current cyclists who ride Monthly or less frequently (61%, compared to 53%). Note that the effect of cyclist segment was independent of region; that is, the effects are additive in a model predicting concern about theft.
Cycling and End-of-Trip Facilities

Figure 15. “How would you describe bicycle theft in your municipality? Would you say it is a...” (Base: Current and Potential cyclists)

<table>
<thead>
<tr>
<th>Location</th>
<th>Very serious problem</th>
<th>Serious problem</th>
<th>Not a very serious problem</th>
<th>Not a problem at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (n=1932)</td>
<td>15%</td>
<td>34%</td>
<td>40%</td>
<td>3%</td>
</tr>
<tr>
<td>Vancouver (n=703)</td>
<td>24%</td>
<td>50%</td>
<td>25%</td>
<td>2%</td>
</tr>
<tr>
<td>Burnaby (n=204)</td>
<td>12%</td>
<td>47%</td>
<td>39%</td>
<td>3%</td>
</tr>
<tr>
<td>Coquitlam (n=76)</td>
<td>7%</td>
<td>34%</td>
<td>54%</td>
<td>5%</td>
</tr>
<tr>
<td>North Vancouver (n=106)</td>
<td>16%</td>
<td>29%</td>
<td>51%</td>
<td>4%</td>
</tr>
<tr>
<td>Richmond (n=131)</td>
<td>7%</td>
<td>41%</td>
<td>48%</td>
<td>3%</td>
</tr>
<tr>
<td>Delta (n=86)</td>
<td>3%</td>
<td>27%</td>
<td>64%</td>
<td>6%</td>
</tr>
<tr>
<td>Surrey (n=255)</td>
<td>17%</td>
<td>46%</td>
<td>34%</td>
<td>3%</td>
</tr>
<tr>
<td>Langley (n=80)</td>
<td>14%</td>
<td>46%</td>
<td>37%</td>
<td>3%</td>
</tr>
<tr>
<td>Regular cyclists (n=794)</td>
<td>20%</td>
<td>41%</td>
<td>38%</td>
<td>3%</td>
</tr>
<tr>
<td>Monthly or less (n=849)</td>
<td>12%</td>
<td>41%</td>
<td>43%</td>
<td>4%</td>
</tr>
</tbody>
</table>

*Only municipalities with sample sizes of 75 or greater are shown. With samples of less than 75, the variation required to reliably establish group differences becomes too large to state confidently. For example, with a sample of 75 per group, the difference between them that is needed to identify a statistically reliable difference is 16%. With a sample of 50 per group, that difference becomes 20% (i.e., at this sample size, differences of less than 20% are not likely to be ‘true’ differences, but random variation).

The threat of bicycle theft precludes many cyclists from making some trips by bike. Three-in-ten (29%; n=1932) current and Potential cyclists said that they have avoided bike trips in the past two years due to concerns about bike theft. The frequency of cycling was strongly related to whether a cyclist had avoided a trip due to this concern. Forty-five percent of Regular cyclists (n=794) said they had not taken a trip, compared to 26% of Monthly and Yearly cyclists (n=630), and just 15% of Less than yearly cyclists (n=219). Fifty-eight percent of Locker renters (n=67) had avoided cycling due to theft concerns. The difference in trip avoidance based on frequency of cycling is related to the fact that more frequent cyclists are more likely to take utilitarian bike trips (rather than recreational), and utilitarian bike trips may lead to locations where the concern about theft is highest (as seen below in the responses to the next survey question).

The locations that participants had avoided taking trips to by bicycle due to concerns about theft were very diverse – some mentioned areas, some mentioned location types, and some mentioned both (or combined them, such as Metrotown shopping centre). Using the responses, we identified 29 geographic areas mentioned...
Cycling and End-of-Trip Facilities

by at least 1% of participants, but just five were mentioned by more than 5% or more. Generally, participants tended to mention locations that were in or close to their areas of residence. This is because the trips that are taken by bicycle tend to be relatively local.

We also content-coded their responses by location type; these responses were much more focused. Only six location types were mentioned, and four of these were mentioned by at least 5% of participants. There were some notable trends in the frequency of responses by region. South of Fraser, Northeast Sector, and North Shore residents were significantly more likely to mention shopping centres and malls compared to Vancouver and Burnaby/New Westminster residents (35%, \(n=241\); compared to 13%, \(n=380\)). Burnaby/New Westminster residents were significantly more likely to mention SkyTrain stations compared to residents in the other areas (21%, compared to 8%); this is largely a function of the number of SkyTrain stations in the area. Locker renters mentioned the same locations as TransLink Listens Panel cyclists.

Figure 16. “Which location or locations have you avoided making a trip by bicycle because you were worried about your bike being stolen?” [Multiple responses allowed; presented as open-end] (Base: Current and Potential cyclists who said they did not take a trip because of theft concern; \(n=621\))

<table>
<thead>
<tr>
<th>Location Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping centers, malls</td>
<td>24%</td>
</tr>
<tr>
<td>SkyTrain Stations</td>
<td>9%</td>
</tr>
<tr>
<td>Grocery store</td>
<td>7%</td>
</tr>
<tr>
<td>Recreation centres / Places to play sports</td>
<td>5%</td>
</tr>
<tr>
<td>No location type specified</td>
<td>54%</td>
</tr>
<tr>
<td>Downtown (unspecified)*</td>
<td>16%</td>
</tr>
<tr>
<td>Surrey</td>
<td>13%</td>
</tr>
<tr>
<td>Downtown Core / Downtown Vancouver</td>
<td>13%</td>
</tr>
<tr>
<td>Downtown Eastside (centred on Main &amp; Hastings)</td>
<td>5%</td>
</tr>
<tr>
<td>Metrotown</td>
<td>5%</td>
</tr>
<tr>
<td>No geography specified</td>
<td>30%</td>
</tr>
</tbody>
</table>

*"Downtown (unspecified)” appears to refer to downtown Vancouver, as it was mentioned significantly more often by residents who live closer to Vancouver, including Vancouver, Burnaby/New Westminster, and the North Shore, and less often by South of Fraser and Northeast Sector residents.
Experiences with Bicycle Theft

Bicycle theft is not just perceived as a serious problem by cyclists – two-in-ten cyclists said they actually experienced a theft in the five years preceding the survey. If this rate is averaged over five years, this would amount to a 3.5% incidence per year (of course, some people may be victimized multiple times). The impact of bike theft on cycling appears to be somewhat limited, and appears to be mitigated by the cyclists’ commitment to riding. The more frequently a person cycles, the more likely they are to overcome the theft and return to regular cycling quickly.

About two-in-ten (18%) current and Potential cyclists had a bicycle stolen in the five years preceding the survey. The rate was significantly higher in Vancouver (26%; n=703) compared to all other regions (15%; n=1229). The Burnaby, North Vancouver, and Surrey regions had higher rates compared to Coquitlam, Delta, and Langley (17%, compared to 9%). Note that these rates do not perfectly mirror the concerns about theft seen earlier.

The theft rate was also significantly higher among Regular cyclists (25%; n=794) and Locker renters (31%; n=67) compared to less frequent cyclists (13%; n=1138), confirming their greater concerns about the seriousness of bike theft seen in the previous section. The increased incidence among Regular cyclists and Locker renters may be the result of their higher probability of bicycle ownership, and because they tend to cycle to destinations where theft is more likely. Just under half of participants who experienced a theft reported it to the police (45%;
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This is markedly lower than the overall proportion of crime that is reported to police by Vancouver residents (58% in 2004, 60% in 2006, and 65% in 2008)\(^1\).

Contrary to the fears that cyclists expressed earlier in the survey about having their bicycles stolen from shopping malls, grocery stores, and SkyTrain stations, one-half of cyclists who had a bike stolen said their bike was taken from their home or garage (38% for home, and 11% for garage). The next most frequently mentioned theft locations were educational institutions (8%), shopping centres (7%), and SkyTrain stations (5%). Ironically, the thefts that Locker renters experienced were most often from SkyTrain stations (24%; \(n=21\)). This might be the reason they started renting the lockers.

The geographic locations of the thefts were coded and, because bicycles tend to be stolen from homes and garages, the geographic locations correlate strongly with the respondents’ areas of residence. The only areas that were mentioned by more than 5% of participants were Downtown Vancouver (9%) and Surrey (6%); 44% did not mention a geographic location.

The influence of bicycle theft on cyclists’ frequency of riding was about evenly split between less than a month and one month or more. That is, for about 46% of cyclists who experienced theft, the influence of the theft was relatively short term, negatively impacting their cycling frequency for a month or less. However, for a sizeable proportion of those who experienced bike theft, the influence was longer term – 23% were impacted for up to a year and 32% for one year or longer.

The amount of time that cyclists were influenced by bike theft varied depending on the frequency with which they cycled. Regular cyclists (57%) and Locker renters (57%) were significantly more likely to say the theft affected their cycling for one month or less compared to other current cyclists (37%). The proportion of participants who said the theft had a long term influence on their cycling generally increased inversely with the frequency of cycling. While only 21% of Regular cyclists and 34% of other current cyclists were affected for one

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year or more, the strong majority (86%) of Potential cyclists said that the theft affected their cycling for one year or more (however, as only 40 potential cyclists responded to this question, caution is advised).

Interestingly, Locker renters were more likely compared to other cyclists to say the theft had affected their cycling for one year or more (38%).

Figure 19. “Did the theft of your bicycle have an influence on how frequently you cycled afterward?” (Base: Cyclists who had a bike stolen)

*C”Short-term” is less than one month, “Medium-term” is up to one year, and “Longer-term” is one year or longer. Caution: small base size for Potential cyclists.

Cycling Safely to the SkyTrain Station

When asked about their perceived safety from injury while riding, current and potential cyclists are more likely to think that the bike ride to the closest SkyTrain station is dangerous rather than safe, by a margin of about two-to-one. The best predictor of their rating is to be the region of residence – in Burnaby/New Westminster, where there are numerous SkyTrain stations, more than half of residents said the ride was safe. The highest proportion of dangerous ratings was from residents in the South of Fraser area where there are few SkyTrain stations and more than six-in-ten of whom rated the ride as dangerous.

Current and Potential cyclists were significantly more likely to say that cycling to the nearest SkyTrain station is dangerous (54%) rather than safe (29%). There were significant differences between the ratings of the cyclist segments, with Regular cyclists significantly more likely to say safe (34%) compared to other groups (24% for other current cyclists, and 27% for Potential cyclists). Locker renters were much more likely to say that the ride to the SkyTrain station was safe (46%) compared to the cyclist segments.

While there were differences by cyclist segment, the best predictor of the safety rating was region of residence. Generally, the more SkyTrain stations in an area, the safer the ride – in cities with more SkyTrain stations, the stations are closer and therefore result in safer cycling trips. Burnaby/New Westminster residents were, by far,
Cycling and End-of-Trip Facilities

more likely to say *Safe* (55%) compared to all other areas, which ranged from 18% in South of Fraser and the Northeast Sector to 39% in Vancouver. There was also a difference by demographic groups; women were more likely than men (58% vs. 50%), and those aged 55+ were more likely than those under age 55 (63% vs. 51%) to describe cycling to the closest SkyTrain station as *somewhat* or *very dangerous*.

Figure 20. “In terms of your safety from personal injury while cycling, how safe do you think cycling is from your home to the nearest SkyTrain station?” (Base: Current and Potential cyclists)

![Bar chart showing safety perceptions across different groups and regions.](chart.png)
Cycling and End-of-Trip Facilities

The suggestions that cyclists made to improve their safety when riding to SkyTrain stations indicate that feelings of safety would be enhanced through improvements to the cycling path system, including dedicated lanes (35%), more paths (14%), barriers (7%), and better lighting and signage (5%). As alluded to earlier, the distance to SkyTrain stations was mentioned by a rather large proportion of cyclists (19%). Locker renters had similar recommendations for improving the safety of the ride to the closest SkyTrain station, except that they did not mention the distance to the station; presumably there is one that is close enough if they are renting a locker.

Figure 21. “What needs to change to make cycling to the nearest SkyTrain Station safer?” [Multiple responses allowed; presented as open-end] (Base: Cyclists who did not say Very safe or Don’t know; n=1632)

Bicycles and Train Trips

Slightly more than one-in-ten cyclists had taken advantage of their option to take bicycles on-board SkyTrain or West Coast Express in the two years preceding the survey. Usage of this service was largely predicted by two factors: (1) Region, as those with SkyTrain stations near them were more likely to take bikes on-board, and (2) cycling frequency, as more frequent cyclists were more likely to take bikes on-board. Future intentions to take bikes on-board were just over double the current rate, with similar increases across all cyclist segments and demographic groups. Two-thirds of Locker renters have taken their bikes on-board SkyTrain. They appear to be comfortable bringing their bikes on-board and, because they cycle for so many purposes, they often find reasons to do so.

Taking bicycles on-board the SkyTrain or West Coast Express is an option that is not used by many cyclists. Just 14% of current cyclists had taken advantage of this option in the 2 years preceding the survey. There were regional differences in riding SkyTrain with bicycles, which seemed to be based on their proximity of the stations. Vancouver and Burnaby/New Westminster cyclists were significantly more likely to have taken bikes on-board (23%; n=823) compared to Northeast Sector and North Shore cyclists (13%; n=316), who were significantly more likely to have done so compared to South of Fraser cyclists (7%; n=504). There was also a strong relationship between cycling frequency and bringing bikes on-board. Regular cyclists were significantly more likely to say they had brought bikes on-board (24%; n=794) compared to Monthly cyclists (11%; n=264), and less frequent cyclists were much less likely to have done so (3%; n=483).
Cycling and End-of-Trip Facilities

In assessing future intentions to take bicycles on-board SkyTrain, it seems that a fair number of Metro Vancouver cyclists would like to take their bikes on-board but have not yet. There was an increase of 20% when comparing the Yes group of the past to the Likely group of the future. This increase varied somewhat depending on region, with a smaller difference of 13% in the North Shore (n=125) compared to 21% in the rest of Metro Vancouver (n=1518). The difference between past Yes and future Likely responses was contingent on cyclist segment; Regular and Monthly cyclists had a larger difference (24%; n=1160) than less frequent riders (10%; n=483).

Locker renters were many times more likely to have taken their bikes on-board the SkyTrain (66%; n=67) compared to other current cyclists, and did not show a large increase when asked about future intentions (67%; n=67). When considered against the context of other cyclists, this suggests that many Locker renters are comfortable bringing their bikes on-board and, because they cycle for so many purposes, they often find reasons to do so. There seems to remain a group of Locker renters who do not intend to take their bikes on-board, however.

Locking Up at SkyTrain Stations

Locking up bikes at SkyTrain stations occurs less frequently than taking bikes on-board trains. Similar to taking bikes on-board trains, proximity to SkyTrain stations was the best predictor of lock-ups. When asked about intentions to lock up at stations in the future “if secure bicycle parking were available,” almost half of cyclists and eight-in-ten Locker renters said they were ‘likely’ to do so, indicating that if the right facilities were available many cyclists could see themselves riding to SkyTrain stations and leaving their bikes while getting on a train. The most frequently suggested stations for such facilities were along the Expo Line.
Cycling and End-of-Trip Facilities

Fewer cyclists locked up their bikes at SkyTrain and West Coast Express stations in the two years preceding the survey (4%) compared to those who had taken their bicycles on-board in the same period (14%; see previous section). There was a similar pattern of greater usage among those living in proximity to SkyTrain stations, however. Again, Vancouver and Burnaby/New Westminster cyclists were significantly more likely to have locked up (7%; n=823) compared to the rest of Metro Vancouver (3%; n=820). Regular cyclists were significantly more likely to have locked up (6%; n=794) compared to Monthly cyclists (4%; n=366), who were significantly more likely to have done so compared to less frequent riders (1%; n=483). Locker renters were almost 10 times more likely compared to Regular cyclists to have locked up their bicycles at a SkyTrain station (52%; n=67).

When cyclists were asked if they would lock up at stations in the future “if secure bicycle parking were available,” a substantial proportion said they would be very or somewhat likely to do so (44%). Locker renters were even more enthusiastic about the “secure bicycle parking,” and 84% said they were likely to use such facilities (61% very likely). In comparing this intention to the bikes on-board question that was previously asked and which resulted in a difference of 20% between the yes and likely response groups, the increase of 40% is very large. The difference between the two questions was that while the ‘bikes on-board’ question asked about future behaviour while maintaining the rules of the status quo, the ‘lock up’ question alludes to changes at the stations (”if secure parking were available”). Clearly, with the right changes, many more cyclists could see themselves locking up bikes at SkyTrain stations.
Cycling and End-of-Trip Facilities

The cyclists who said they were very or somewhat likely to use secure parking facilities were asked at which SkyTrain and West Coast Express stations, as well as bus loops, they would be most likely to use such facilities. Cyclists tended to choose stations and exchanges that were in their regions, and the responses indicate that secure facilities would be most used at the most heavily trafficked stations. Overall, the Expo Line stations have the greatest potential for use of secure locking facilities by a large margin.

Figure 26. “If secure bicycle parking were available, please select which stations you would be likely to lock up a bicycle.” [Multiple responses allowed; presented as checkboxes; response categories exceeding 10% shown]. (Base: Current cyclists who are Likely to use secure parking; n=804)

<table>
<thead>
<tr>
<th>Station</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterfront</td>
<td>24%</td>
</tr>
<tr>
<td>Burrard station</td>
<td>20%</td>
</tr>
<tr>
<td>Broadway station</td>
<td>18%</td>
</tr>
<tr>
<td>Granville station</td>
<td>18%</td>
</tr>
<tr>
<td>Main Street station</td>
<td>13%</td>
</tr>
<tr>
<td>Stadium station</td>
<td>13%</td>
</tr>
<tr>
<td>King George station</td>
<td>12%</td>
</tr>
<tr>
<td>Richmond Bridgehouse station</td>
<td>11%</td>
</tr>
<tr>
<td>Surrey Central station</td>
<td>10%</td>
</tr>
<tr>
<td>Lougheed station</td>
<td>10%</td>
</tr>
<tr>
<td>At least one Expo</td>
<td>66%</td>
</tr>
<tr>
<td>At least one Canada</td>
<td>34%</td>
</tr>
<tr>
<td>At least one Bus Loop</td>
<td>34%</td>
</tr>
<tr>
<td>At least one Millenium</td>
<td>27%</td>
</tr>
<tr>
<td>At least one WCE</td>
<td>9%</td>
</tr>
</tbody>
</table>

*A complete list of stations and exchanges state is presented in Appendix 3.

Generally, the preferred stations and bus loops of Locker renters were very similar to those of the cyclists in the TransLink Listens Panel. There were a few notable trends, however. First, Locker renters were much less likely to select stations along the Canada Line and WCE. This is because Locker renters are not part of the general population, and not many of them live in areas that are served by the Canada Line and WCE. Second, Locker renters tended to select more stations compared to current cyclists, presumably because they were familiar with the areas they travel around and were easily able to identify trips that could be made by bicycle if the right circumstances existed.
The Current Locker Rental Program

Awareness and Barriers to the Current Locker Program

Four-in-ten Current and Potential cyclists are aware of the current TransLink bicycle locker rental program. The principal source of awareness of the program is observing lockers at SkyTrain stations, followed by TransLink publications with information about the program. Very few cyclists actually rent lockers, even among frequent cyclists. The majority of non-renters say they do not need a bicycle locker from TransLink, although smaller groups of participants did not know enough about the program, or said they did not like one or more aspects of the program, including cost, locker locations, and rental terms.

Four-in-ten current and Potential cyclists (37%; \( n=1932 \)) said that they were aware of the bicycle rental program. Regular cyclists were significantly more likely to be aware of the program (43%; \( n=794 \)) compared to other cyclist segments (33%, \( n=1138 \)). Younger cyclists (i.e., those under 35 years old) were significantly more likely to be aware of the rental program (45%; \( n=708 \)) compared to older cyclists (33%; \( n=1224 \)). Finally, North Shore cyclists were significantly less likely to be aware of the rental program (25%; \( n=147 \)) compared to the rest of Metro Vancouver cyclists (38%). This difference could be the result of less experience with SkyTrain stations and less frequent transit riding.
Cycling and End-of-Trip Facilities

The most common source of initial information about the rental program was seeing the lockers on-site (44%). TransLink publications, including the website (12%) and The Buzzer (9%), were the second and third most frequently mentioned sources. Locker renters were most likely to have learned about the lockers on-site (39%; n=67), through a friend (27%), or from the website (22%).

Figure 28. “How did you first learn about the locker rental program?” [Multiple responses allowed; presented as checkboxes]. (Base: Aware of locker rental program; n=812)

Cyclists who were aware of the locker rental program were asked if they had ever rented a locker through TransLink, but very few had done so (1% of those who were aware of the lockers; n=812). More than half of cyclists who did not rent a locker said that they did not need it (55%). The second most frequently mentioned reason was that they did not have enough information about the program (19%). There were several program-related issues that were selected by participants with reasonably high frequency. The locker locations (15%), rental term (14%), and cost (11%) were selected as barriers by some cyclists. The availability of lockers was not mentioned as a barrier for many cyclists (i.e., the lockers near cyclists are not all rented out and cyclists can still rent lockers if they are so inclined).

Using Factor Analysis\(^2\), three patterns of response selection for not renting bicycle lockers were apparent. First, there were cyclists said they ‘Have no need for a bicycle locker’ and did not tend to select other options – these participants simply had no need for a locker and did not see any deficiency in the program itself. This group represented about half of the participants who were aware of the lockers but did not rent one.

Second, there was a group of participants who selected Don’t know much about the lockers, and that selection related quite strongly with the Minimum three-month rental term too long response. This co-selection of information and the three-month rental term indicates that, without knowing the details of the program, the

\(^2\) “Factor analysis is a statistical method used to describe variability among observed variables in terms of fewer unobserved variables called factors.” That is, it reduces observed variables into fewer, more broad factors. Reference: http://en.wikipedia.org/wiki/Factor_analysis.
Cycling and End-of-Trip Facilities

three-month term presented in this question may be seen as an onerous commitment. This group represented about two-in-ten participants who were aware of the locker rental program but who did not rent a locker.

The third response pattern was that of participants who thought the program had some inadequacy, and typically participants selected multiple inadequacies. The most common selection pattern was Minimum three-month rental term too long, Too expensive, and Would rather rent on a per use basis options together – these participants would support a daily rental program rather than a three-month term rental. The second barrier selection pattern was less pronounced; it tied the No lockers where I need them, Minimum three-month rental term too long, and Lockers not available/waitlist options together. This group of participants represented about two-in-ten participants. The remaining one-in-ten participants are the group who did not specify a reason for renting bicycle lockers.

Figure 29. “Are there any reasons why you haven’t rented one of TransLink’s bicycle lockers?” [Multiple responses allowed; presented as checkboxes]. (Base: Aware of locker rental program but did not rent; n=801)
Renters’ Use of TransLink Bicycle Lockers

Most Locker renters have been renting for less than two years. They tend to use their lockers quite frequently – more than half of them access their lockers on four days per week or more. The lockers are primarily used in the summer, and their usage corresponds to the seasonal variations in cycling frequency. Almost half of renters have lockers at King George Station, where they board the SkyTrain after parking their bicycles.

Most of the Locker renters who were surveyed had been renting their lockers for 2 years or less. Thirty-seven percent (n=67) had been renting for one year or less, 30% for 1-2 years, 18% for 3-4 years, and 15% for longer.

While the median frequency of locker usage was three days per week (18%), almost half used the locker at least four days per week. Eighteen percent used it less than once per week, 20% used their locker 1-2 days per week, 19% use it 4 days per week and 23% used it five days or more per week. Those who used their lockers less than once per week were mostly infrequent cyclists, and they would have been considered yearly or monthly cyclists if they were in the TransLink Listens Panel segments.

Locker renters tend to use their lockers during the better-weather seasons, most often in summer (93%), spring (84%), and fall (78%). A notable decrease in locker usage occurs during the winter (54%). Seasonal usage of the lockers is strongly correlated with Locker renters’ cycling frequency by season.

Almost half of Locker renters who completed the survey rent their lockers at King George Station (45%). Another 16% rent at Lougheed Town Centre Station, 13% at 22nd Avenue Station, and 10% at Main Street Station. There was no consensus about where additional lockers should be located – not a single location was suggested by more than 7% of Locker renters (5 out of 67 participants), and 43% of them said there were no additional locations where they would like to have lockers.

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2 A measure of central tendency, where one-half of the responses are above the median and one-half are below.
Travel Patterns When Using the Locker

Lockers were used primarily for commuting to work. The most common trip originated in Surrey and terminated in Vancouver, although many other origin and destination combinations exist. Three-quarters of Locker renters locked their bike in the locker, and then rode SkyTrain for the longer leg of their trips, disembarking at or within walking distance of their destinations. One-in-ten used the locker on the other end of their trip, first taking transit to the locker and then riding to their destination. The most creative use of the bike lockers came in the form of the “double-locker system,” where an individual would ride one bike to a locker, ride the SkyTrain, and then obtain a bike from a second locker to ride to their destination.

A noteworthy finding is that the locker rental program changed Locker Renters’ modes of getting around (mostly to work). By getting cars off of the road, a benefit of the locker program is reduced Greenhouse Gas emissions. Before they rented the locker, 25 out of 67 (37%) used private vehicles in some way for their trips; these were principally divided between those who drove alone the entire way (24%) and those who parked at a SkyTrain station and took the train (12%).

Bike lockers are typically used for trips to work (84%). In fact, considering that 85% of Locker renters commute to work by using their bicycles, almost every Locker renter’s trip to work involves their locker.

Figure 30. “What are the main purposes of these bicycle trips?” and “What is the main trip purpose for which you use the bicycle locker?” (Base: Locker renters; n=67)
Cycling and End-of-Trip Facilities

As seen in the table of origin and destination cities below, the most common destination is Vancouver, where 34 (out of 67) Locker renters said they terminate their trip. The most common trip is from Surrey to Vancouver (n=14). In fact, many of the Locker renters in Surrey begin their trips in close proximity to one-another. Other more common trips were Burnaby to Vancouver (n=6) and Coquitlam to Burnaby (n=5). The trips that were mentioned as the “most typical cycling trip where you’ve used your bicycle locker” by cyclists began overwhelmingly in the morning (96%; n=67) and most ended in the morning also (90%). Presumably, on most days participants would have to make the reverse trip later in the day to return to their origins.

Table 6. Origin and destination of Locker renters’ trips (counts presented).

<table>
<thead>
<tr>
<th>Origin City</th>
<th>Burnaby</th>
<th>Coquitlam</th>
<th>New Westminster</th>
<th>North Vancouver</th>
<th>Surrey</th>
<th>Vancouver</th>
<th>West Vancouver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnaby</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Coquitlam</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>0</td>
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<td>Delta</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Langley</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<tr>
<td>New Westminster</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
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<tr>
<td>North Delta</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>North Vancouver</td>
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<td>Pitt Meadows</td>
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<td>2</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Locker renters were also asked to describe, for the trip they make most often involving the use of the locker, which modes of transportation they used to get to the locker, followed by the modes they used to get from the bike locker. Most Locker renters used their bike locker prior to boarding transit. Starting from home the order of events was: (1) The person cycles to a SkyTrain station, (2) the bike is parked in the bike locker, (3) the person takes the SkyTrain, and (4) the person arrives at, or within walking distance, or their destination. This trip event order was the case for 39 of 67 Locker renters. Another 10 took a bus after the SkyTrain, and then arrived close to their destinations.
Cycling and End-of-Trip Facilities

Nine of the Locker renters said that their trip involved taking transit to the bike locker, and then cycling to the destination. These trips are the reverse order of the trips mentioned above, and represent a trip strategy for workplaces or other destinations that are not close to SkyTrain stations or bus exchanges.

The remaining nine Locker renters had a variety of mode sequences. Two of them used a “double-locker setup,” whereby they (1) biked to a SkyTrain, (2) parked in a bike locker, (3) rode the train, (4) took a bike from a second bike locker, and (5) cycled to their destination. Three of them said that they cycled to the bike locker, used it, and then cycled directly to their destination without any mode in-between. One person did a similar sequence, except that after using the locker the individual walked straight to the destination (using the bike locker as a secure bike lock-up). The remaining three individuals’ sequences were incomplete or illogical.

The locker rental program appears to have had profound impacts on Locker renters’ modes of getting around (mostly to work). By reducing car trips, Greenhouse Gas emissions have been reduced. Before the Locker renters began using their bicycle lockers, 25 out of 67 (37%) used private vehicles in some way for their trips; these were principally divided between those who drove alone the entire way (24%) and those who parked at a SkyTrain station and took the train (12%). There were another 31% who previously used transit for their entire trip; many of these individuals would have used buses to connect to SkyTrain stations, but now cycle to the stations instead. About one-in-five (19%) Locker renters seemed to have reduced their level of cycling activity because of the lockers, however. These individuals had previously cycled for their entire trips but now only cycle part of the way; this may have been done to save time on their trips.

Figure 31. “Which describes your same typical trip BEFORE you began using a bicycle locker?” (Base: Locker renters; n=67)

Renters’ Experiences with the TransLink Locker Rental Program

Most Locker renters were satisfied with the price of their locker rental, as nine-in-ten said that the price and term of the locker rental provided good or excellent value for money. Accordingly, eight-in-ten will continue to rent their lockers into the foreseeable future. Lockers were seen as very secure places by two-thirds of Locker renters, but the feeling of personal security when accessing the lockers was not rated as high, as only 27% said it was very safe. The locker area was seen as reasonably well maintained by most Locker renters, although one-quarter thought it was not well maintained and one-quarter had problems with the rental program. Overall, the
Cycling and End-of-Trip Facilities

locker program seems to satisfy the need for a secure bike lock-up for a reasonable price, but more work could be done to make the surrounding environment more appealing and safe, especially at King George Station.

The TransLink locker rental program, with its three-month term at a cost of $10 per month, was seen as providing excellent value for money by 57% (n=67) of Locker renters. Thirty-one percent said it was good, 7% said average, and only 4% said it was poor value for money. Eight-in-ten Locker renters (81%) intend on continuing the rental into the ‘foreseeable future.’

The bicycle locker space is seen as a rather secure place to store items – 66% of Locker renters rated the security of the lockers as very secure, and 34% rated it as reasonably secure. Not a single Locker renter rated the security as not secure enough. While all of the Locker renters thought the lockers were secure, their feelings of personal security when accessing the lockers were not rated quite as positively. While 60% of Locker renters rated their “personal security when accessing the bicycle lockers” as reasonably safe and 27% said very safe, 13% said not safe enough. Five out of nine Locker renters who said it was not safe enough rented lockers at King George Station. Considering that 30 individuals rent lockers at King George, this means that 17% of King George station renters thought the area was not safe enough; this is markedly higher than 11% at the rest of the stations. The locker facilities at King George Station thus appear to be in need of some improvements to ensure that locker renters feel safe when using their lockers.

The Locker renters’ views of “general maintenance of the bicycle lockers and the surrounding area” were mostly positive, with 62% who said reasonably and 11% who said very well maintained. Just over one-quarter (28%) thought the areas were not maintained well enough. The same proportion (28%) said that they had problems with the locker rental program. Most of the problems mentioned pertained to cleaning of the areas (32%; n=19), frozen locks (26%), poor customer service from C-Media (26%), and problems with the doors (16%). A small number of Locker renters reported more troubling issues, such as human waste around the locker area (11%), chewing gum being stuck in the locks (11%), and attempted thefts (11%).

Pricing and Term Alternatives to the Current Program

Results indicate that the current locker rental terms do not fit with most cyclists’ preferences, but are quite well suited for current Locker renters. Most cyclists who had an opinion about the term for locker rentals preferred daily or hourly rentals on a first-come first-served basis; these short-term options were selected by twice as many cyclists as those with terms of one week or longer. Locker renters, on the other hand, had an obvious preference for longer-term rentals; nine-in-ten selected terms of one month or longer. The price of $1 per day for locker rentals was seen as an appropriate price, with 80% of cyclists saying that it was ‘about right.’

If changing the structure of the program is under consideration, TransLink should consider offering lockers with both terms to ensure that locker rentals are suitable to individuals who want to use them, including casual and more serious cyclists. The principal drawback of such a system is the lack of alternatives for cyclists who ride to a station and find the short-term lockers full.

Current cyclists’ preferences for the price structure of the current locker rental program indicated that they prefer a short-term, first-come first-served structure to a reserved long-term structure. Twice as many current cyclists selected short-term rentals compared to long-term rentals. Specifically, more than four-in-ten cyclists
Cycling and End-of-Trip Facilities

(43%) chose daily or hourly rentals (65% after removing the one-third who did not state a preference), whereas three-in-ten (27%) selected the weekly, monthly, or annual rental options (35% after removing those who did not select any option). Interestingly, there were no notable differences between the cyclist segments.

Figure 32. “At present, TransLink rents bicycle lockers at a cost of $10 per month for a minimum three month term. If you had the choice, would you rather:” (Base: Current cyclists; n=1643)

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1 per day, first-come basis</td>
<td>35%</td>
</tr>
<tr>
<td>$10 per month, reserved</td>
<td>17%</td>
</tr>
<tr>
<td>$.25 per hour, first-come basis</td>
<td>8%</td>
</tr>
<tr>
<td>$80 per year, reserved</td>
<td>5%</td>
</tr>
<tr>
<td>$5 per week, first-come basis</td>
<td>2%</td>
</tr>
<tr>
<td>None of the above</td>
<td>17%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>17%</td>
</tr>
</tbody>
</table>

Locker renters, on the other hand, had a strong preference for longer-term locker rentals. Two-thirds (64%) said they would prefer annual rentals, and one-quarter prefer monthly (24%). Together, just under nine-in-ten Locker renters said they would prefer a term of one month or longer for their locker rentals.

Figure 33. “At present, TransLink rents bicycle lockers at a cost of $10 per month for a minimum three month term. If you had the choice, would you rather:” (Base: Locker renters; n=67)

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$80 per year, reserved</td>
<td>64%</td>
</tr>
<tr>
<td>$10 per month, reserved</td>
<td>24%</td>
</tr>
<tr>
<td>$1 per day, first-come basis</td>
<td>3%</td>
</tr>
<tr>
<td>$.25 per hour, first-come basis</td>
<td>3%</td>
</tr>
<tr>
<td>$5 per week, first-come basis</td>
<td></td>
</tr>
<tr>
<td>None of the above</td>
<td>4%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1%</td>
</tr>
</tbody>
</table>
Cycling and End-of-Trip Facilities

One of two possible prices for daily locker rentals, $1 or $3, was presented randomly to each participant. The cost of $1 per day for locker rentals was seen as *about right* by a strong majority of current cyclists who were presented with that price (80%). *Locker renters* also tended to think that was an appropriate price, even though they were paying much less because they rent by the month (70% said *about right*). In contrast, the price of $3 per day was seen as *too high* by the majority of current cyclists (60%), and among *Locker renters* the *too high* group had an even stronger majority (80%).

Figure 34. “If locker rentals were available on a daily basis, at a cost of $x per day, would you say this cost was:” (Base: Current cyclists)

![Cost Perception Chart]

New End-of-Trip Facilities

Security of Bicycle Parking Options

*Creating an end-of-trip facility for securely locking up bicycles to cyclists’ complete satisfaction seems to be a challenge. The two concepts that received the highest security ratings from current cyclists were the cage with an attendant and the video-surveillance cage with key card reader. Both concepts were said to be reasonably secure or better by nine-in-ten cyclists. Even with a 24-hour attendant, only seven-in-ten thought it was very secure. Regardless of the security features required to make their bikes perfectly secure, relative to the basic bike rack concept all of the other concepts tested with cyclists would make them feel less anxious about bike theft. The reduction or elimination of this concern would probably result in increased consideration for utilitarian cycling trips by Metro Vancouver cyclists.*

*Interestingly, Locker renters’ opinions were quite different than those who did not rent lockers. Locker renters’ were much more confident in the security of the Locker accessed with a key than any other concept tested (except the plain bike rack), and preferred accessing the bicycle parking area using a key rather than a key card or an attendant. It is likely that individuals who have not seen or used a bike locker were not able to evaluate that option as validly as Locker renters.*
Cycling and End-of-Trip Facilities

Participants were presented with five options of bicycle parking facilities located at a transit stop, including the traditional bike rack, and asked to rate the security of each one. The five options were:

1. Bike rack at a transit stop
2. Bicycle locker at a transit stop, accessed with a key
3. Bike cage with bike racks at a transit stop, accessed with a card reader
4. Bike cage with bike racks at a transit stop, with monitored video cameras, accessed with a card reader
5. Fenced area with bike racks, staffed by an attendant

The number of security precautions that would be required to convince all cyclists that a bicycle parking facility at a transit stop is very secure would be quite high. The most convincing security measure is having a 24-hour staff member at the facility, which seven-in-ten (68%) said was very secure and another three-in-ten (27%) said was reasonably secure (with just 6% saying that it was not secure enough).

Even when presented with the concept of a locked cage, accessed via key card, under video surveillance, with a bike rack to tether bicycles securely, only half of current cyclists (52%) thought it was very secure. Fortunately, a total of nine-in-ten thought this facility was at least reasonably secure and only one-in-ten of these cyclists thought that such a facility was not secure enough, indicating that this type of facility would be sufficient for most cyclists to use without feeling great anxiety about the risk of their bicycle being stolen.

The locker accessed with a key, and the cage with card reader did not inspire as much confidence from current cyclists, as only three-in-ten (29% and 27%, respectively) thought those concepts were very secure, and another six-in-ten (56% and 58%) thought they were reasonably secure. As a baseline, we see that the plain bike rack was clearly perceived as a much less desirable option, as three-quarters of cyclists (74%) said it was not secure enough. The only notable trends in differences between comparison groups were that (1) younger people tended to give more very secure ratings to facilities compared to older people and (2) Vancouver residents tended to give more very secure ratings compared to the rest of regional residents.
A very interesting difference can be observed in *Locker renters* ratings of the security of the bicycle parking arrangements. While their ratings of most of the parking options were generally comparable to the current cyclists’ ratings, *Locker renters* rated the security of the locker with key *better* than any other option, with two-thirds (64%) saying it is *very secure* and not a single one saying *not secure enough*. This strongly suggests that *Locker renters* have a great deal of faith in the bike locker system, and that new parking systems are not considered more secure until they have been observed and proven.
Cycling and End-of-Trip Facilities

After reviewing the five bike parking options, cyclists were asked specifically about their preferred method of entry into a bike locker or bike cage area. The results of this question are generally consistent with the results of the previous questions, with a strong preference for a fenced area with an attendant who controls access. This was followed by a card reader, and then a key lock. The card reader was preferred over the key lock by a margin of more than three-to-one which is unlike the results of the security-level question where the locker with key and cage with card reader were rated equally. One-quarter of cyclists did not state a preference. Locker renters also showed similar preferences for gaining access to the bike parking facilities, with the majority (51%) choosing the key lock and just 10% opting for the attendant option.

Adding the Cost Consideration

When considering the types of bike parking facilities to install, TransLink should be mindful of the balance between security and costs that cyclists seek, as well as the costs of installing and operating the facilities. Using statistical modeling, we found that security ratings were stronger drivers of likelihood to use each facility, but the cost of bicycle parking facilities was a strong, independent, secondary predictor. All of the options presented were preferred to the option that currently exists (a locker with key for $10 per month). In contrast, Locker renters demonstrated a preference for the option that they currently had, and the locker with key was preferred to the other options.

Cyclists were presented with the four bicycle parking arrangements seen earlier (excluding the simple bike rack) with monthly prices affixed to determine their likelihood of use for each with consideration given to cost. Half of participants were shown lower prices, and half were shown prices that were 50% higher (between $2.50 and $5 higher, depending on the base price). The results were very similar to those previously seen when rating the security of the four facilities without an associated price – the attendant option was preferred, followed by the
Cycling and End-of-Trip Facilities

cage with cameras and card reader, the cage with card reader, and the locker with a key. That is, with the prices presented, participants’ selections were essentially ranked in the same order as their ratings of security and preferred methods for access.

Figure 39. “... please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.” (Base: Current cyclists; n=851)

To consider further implications of the results of these questions, focus will be placed on the participants who said they were very likely to use the facilities. It is widely known that survey participants’ intentions to purchase a product or service are overstated, but the very likely respondent group represents the most probable group that would act on their intentions if and when the time came.

Figure 40. “... please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.” (Base: Current cyclists; n=792)

As seen in the figure below, which includes only the very likely proportions for each parking option, pricing clearly has an impact on likelihood to use. The increase in price of $5 for the preferred option, the fenced area with attendant, reduced the very likely to use group by one-quarter (from 22% to 16%). For the second most preferred option, the cage with cameras and card reader, the increase of $4 reduced the very likely group by one-half (from 18% to 9%). The $2.50 price increase also decreased the very likely group for cage with card reader by one-half (from 12% to 6%). The locker with key, the least preferred option by a wide margin, did not see any significant change as a function of price. This suggests that a small core group of cyclists wanted some type of bicycle parking facility and will use it regardless of security and price.
Cycling and End-of-Trip Facilities

The *very likely* proportions can also be used to determine the equivalencies in price and facilities that cyclists perceived. Using statistical comparisons of these proportions, we see that:

- A **fenced area with attendant** for $10 is unmatched in *very likely* usage (22%).
- A **fenced area with attendant** for $15 has the same support as a **cage with cameras and card reader** for $8 (16% vs. 18%).
- A **cage with card reader** for $5 has the same support as a **cage with cameras and card reader** for $12 (12% vs. 9%).
- A **locker with key** receives the same support regardless of whether its cost is $10 or $15 (i.e., it would probably need to cost less than $10 to receive a decent amount of support). A **cage with card reader** for $7.50 receives equally low endorsement.

Figure 41. “Thinking of the trips you currently take by bicycle, or may take by bicycle in the future please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.” (Base: Current cyclists; n=851 for lower prices and n=792 for higher prices)

Further to these comparisons, we created regression models\(^4\) using price level (high/low; alternatively, base and base + 50%) and security ratings to predict likelihood to use for each bicycle parking option. In each of these models, the security rating accounted for more than twice as much variance in the likelihood to use score compared to the price level (approximately 25% compared to 10%). This further substantiates the importance of perceived security level over price. Note that this conclusion remains limited to the price options that were presented, and a wider spread of pricing could strengthen the price relationship.

\(^4\) Regression is a statistical technique used to predict an outcome based on one or more independent variables.
Cycling and End-of-Trip Facilities

Based on the usage that each type of bike parking option would probably receive, we suggest that security is a stronger driver of cyclists’ intention to use bike parking facilities compared to cost, but that cost remains an important secondary consideration. If the four security options were considered steps, cyclists seem to be willing to pay double the price to move up one step (although the evidence limits this statement to the $5 to $15 range).

These conclusions are evidenced by the results of the regression models, as well as the following observations:

- The most expensive and secure option (fenced area with attendant for $15; 16% very likely to use) received as much support as an option half of the price which was the second most secure (cage with cameras and card reader for $8; 18%).
- The second most expensive and second most secure option (cage with cameras and card reader for $12; 9%) received equal support as the third most secure option at just under half of the price (cage with card reader for $5; 12%).

It is also clear that providing a facility that is seen as comparably less secure for a price that is perceived as too high (e.g., locker with key for $10 or more, and cage with card reader for $7.50) results in significantly reduced intentions to use.

Note that the preferences and intended usage ratings were compared by cycling segment, but there were only minor differences between them.
Cycling and End-of-Trip Facilities

*Locker renters* showed a preference for the locker with key again after the cost was added for consideration. For the lower cost of $10, 84% said they would be very likely to use the locker with key; 46% did so for the higher cost of $15. The other bicycle parking options were ranked in the same order by *Locker renters* as they were by current cyclists, and the drop-off based on cost was of a similar magnitude. Generally, the *Locker renters* endorsed the bicycle parking options more strongly compared to cyclists, but care should be taken in the observations and conclusions drawn due to the smaller sample sizes that resulted from splitting the sample between the two price points.

Figure 42. “... please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.” (Base: *Locker renters*; n=32 *Caution: small sample size)

<table>
<thead>
<tr>
<th>Facility</th>
<th>Lower prices</th>
<th>Higher prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fenced area w/ attendant for $10</td>
<td>6% 9% 9% 13%</td>
<td>84% 23% 23% 14% 14%</td>
</tr>
<tr>
<td>Cage w/ cameras &amp; card reader for $8</td>
<td>19% 25% 53% 53%</td>
<td>44% 29% 40% 40% 14%</td>
</tr>
<tr>
<td>Cage w/ card reader for $5</td>
<td>41% 19% 13%</td>
<td>29% 40% 40% 14% 29% 23% 23% 14% 9% 9% 9%</td>
</tr>
<tr>
<td>Locker w/ key for $10</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>locker w/ key for $15</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>Locker w/ key for $15</td>
<td>46%</td>
<td>46%</td>
</tr>
</tbody>
</table>

Figure 43. “... please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.” (Base: *Locker renters*; n=35 *Caution: small sample size)

<table>
<thead>
<tr>
<th>Facility</th>
<th>Lower prices</th>
<th>Higher prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fenced area w/ attendant for $15</td>
<td>6% 9% 9% 13%</td>
<td>84% 23% 23% 14% 14%</td>
</tr>
<tr>
<td>Cage w/ cameras &amp; card reader key for $10</td>
<td>19% 25% 53% 53%</td>
<td>44% 29% 40% 40% 14%</td>
</tr>
<tr>
<td>Cage w/ card reader for $7.50</td>
<td>41% 19% 13%</td>
<td>29% 40% 40% 14% 29% 23% 23% 14% 9% 9% 9%</td>
</tr>
<tr>
<td>Locker w/ key for $15</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>locker w/ key for $12</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>Locker w/ key for $15</td>
<td>46%</td>
<td>46%</td>
</tr>
</tbody>
</table>

Legend:
- Not at all likely
- Not very likely
- Somewhat likely
- Very likely
Cycling and End-of-Trip Facilities

**Bike Station Amenities**

Bike station facilities and services are generally well-received by cyclists, but the most popular options were those that would be used by the general population, such as toilets, lockers, and general retail. About one-quarter of cyclists said that they would be likely to use cycling- and personal care-related options, such as bike repairs, bike-related retail, showers, and drying racks. About one-quarter of Regular cyclists and Locker renters said the bike stations would be very likely to increase their cycling frequency, but fewer than one-in-ten infrequent cyclists thought that bike stations would make them much more likely to cycle. Overall, it appears that, at present, putting a lot of stock in bike stations as a way to encourage more frequent cycling may not be effective.

The facilities and services that would be offered at bike stations were mostly well-received by cyclists. While facilities and services that were not necessarily related to cycling were the most popular, including public toilets (81%), lockers for personal gear (51%), and non-cycling retail (43%), a fair number of more dedicated cyclists indicated that they would use bike repair services (37%), showers (28%), and bike-related retail (28%). Toilets were likely selected by so many participants due to their absence at SkyTrain stations and bus exchanges. Regular cyclists’ dedication to riding was apparent in their responses to their anticipated usage of bike station amenities. Compared to the less frequent cyclist segments, Regular cyclists were significantly more likely to say they would use bike repair services (43%, \(n=794\); compared to 33%, \(n=849\)), bike-related retail (33%, compared to 24%), showers (32%, compared to 25%), and drying racks (16%, compared to 10%).

Locker renters showed similar preferences for bike- and personal care-related amenities. Forty percent of Locker renters (\(n=67\)) said they would use bike repair services, 36% would use bike-related retail, 34% would use showers, 24% would use a change area without a shower, and 18% would use a drying rack. Fifteen percent of Locker renters said that they would not use any of the bike station amenities.
Cycling and End-of-Trip Facilities

Using factor analysis⁵, three categories of bike station amenities were identified: Retail and services (repair services, bike retail, non-bike retail), general purpose (toilets, lockers, change rooms), and personal care that would be used after a cycling trip (showers, laundry, drying rack).

Figure 44. “A ‘bike station’ is a place where you can park your bike and use other services. Please indicate which of the following services you would likely use, if they were available at a conveniently located bike station:” [Multiple responses allowed; presented as checkboxes]. (Base: Current cyclists; n=1643)

There were some differences in the amenities that men and women selected. Women were more likely to select Toilets (84%; n=776) compared to men (78%; n=867), as well as Bike repair services (42%, compared to 34%). Men were more likely to want Showers with change area (31%, compared to 24%), Drying racks (15%, compared to 1%), and Laundry service (7%, compared to 2%).

Those over 55 were less likely than younger cyclists to select the various bike station services with the exception of toilets, which were selected as frequently as other age categories (81%).

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⁵ “Factor analysis is a statistical method used to describe variability among observed variables in terms of fewer unobserved variables called factors.” That is, it reduces observed variables into fewer, more broad factors. Reference: http://en.wikipedia.org/wiki/Factor_analysis.
The idea of providing bike stations rather than just secure bicycle parking did not elicit strong intentions to cycle more from cyclists. One-half of cyclists (52%) said that the bike stations would make them somewhat or much more likely to cycle. This was most strongly driven by Regular cyclists, 60% of whom said the bike stations would make them at least somewhat more likely to cycle. Locker renters were the group of cyclists who responded most positively toward the bike station concept. More than one-quarter of Locker Renters (28%) said the availability of a bike station would make them much more likely to cycle, and another 28% said they would be somewhat more likely. It is also apparent from cyclists’ responses that bike stations will probably not help Yearly and Less than yearly cyclists ride more frequently; 51% said it would make no difference, and only 9% of these infrequent cyclists said that bike stations would make them much more likely to cycle.

Figure 45. “Given the range of services available at a “bike station”, would having a conveniently located bike station make you more likely to cycle than if just secure bicycle parking were available or would it make no difference?” (Base: Current cyclists)
Appendix 1 – Pre- and Post-Weighting Demographics

Table 7. Main mode of transportation.

<table>
<thead>
<tr>
<th>Mode</th>
<th>TransLink Listens Panel (n=2927)</th>
<th>Locker Renters (n=67)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weighted %</td>
<td>Unweighted %</td>
</tr>
<tr>
<td>SOV</td>
<td>51%</td>
<td>29%</td>
</tr>
<tr>
<td>Rideshare</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Transit</td>
<td>21%</td>
<td>33%</td>
</tr>
<tr>
<td>Walk</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Cycle</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Combination incl. transit</td>
<td>3%</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Table 8. Age-gender.

<table>
<thead>
<tr>
<th>Age/Gender</th>
<th>TransLink Listens Panel (n=2927)</th>
<th>Locker Renters (n=67)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weighted %</td>
<td>Unweighted %</td>
</tr>
<tr>
<td>M 16-34</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>M 35-54</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>M 55+</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>F 16-34</td>
<td>13%</td>
<td>19%</td>
</tr>
<tr>
<td>F 35-54</td>
<td>20%</td>
<td>24%</td>
</tr>
<tr>
<td>F 55+</td>
<td>16%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Cycling and End-of-Trip Facilities

Table 9. Region of residence.

<table>
<thead>
<tr>
<th>Region</th>
<th>TransLink Listens Panel (n=2927)</th>
<th>Locker Renters (n=67)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weighted %</td>
<td>Unweighted %</td>
</tr>
<tr>
<td>Vancouver</td>
<td>26%</td>
<td>33%</td>
</tr>
<tr>
<td>North Shore</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Burnaby / New Westminster</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>Northeast Sector</td>
<td>13%</td>
<td>12%</td>
</tr>
<tr>
<td>Richmond</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>Delta</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Surrey / Langley</td>
<td>25%</td>
<td>21%</td>
</tr>
</tbody>
</table>
Appendix 2 – Survey

BICYCLE END-OF-TRIP FACILITIES QUESTIONNAIRE
MARCH 18, 2009

Section 1: Main Mode and Transit Classification

1. What mode of transportation do you use most often for your trips around Metro Vancouver? (Please select one response)
   1 Drive alone
   2 Travel in a private vehicle with at least one other person (as driver or passenger)
   3 Bicycle
   4 Walk
   5 Transit bus
   6 SeaBus
   7 SkyTrain
   8 West Coast Express
   9. Albion Ferry
   10. HandyDART
   11 Taxicab
   12 Motorcycle/Motorized scooter
   13 Combination of modes; (e.g. Bicycle and SkyTrain) (Please specify ___________
   95 Other [please specify: __________]

2. Aside from your regular mode, what other modes of transportation do you use for your trips around Metro Vancouver? (Please select as many as apply)
   1 Drive Alone
   2 Travel in a private vehicle with at least one other person (as driver or passenger)
   3 Bicycle
   4 Walk
   5 Transit Bus
   6 SeaBus
   7 SkyTrain
   8 West Coast Express
   9 Albion Ferry
   10 HandyDART
   11 Taxicab
   12 Motorcycle/Motorized scooter
   13 Combination of modes (eg Bicycle and SkyTrain) (Please specify __________
   95 Other [please specify: __________]
   No other mode

3. Have you travelled on any of the following transit modes in the past 30 days in Metro Vancouver?
   RANDOMIZE OPTIONS A THROUGH D
   A. A Transit Bus?
   B. SkyTrain?
   C. SeaBus?
   D. West Coast Express?

   1. YES
   2. NO
   DONT KNOW
   REFUSED
4. (A) Ask if yes to at least one of Q3A, B, C, D. In an average week, about many one-way trips do you take on transit, that is, bus, SeaBus, SkyTrain or West Coast Express.

A trip to a single destination, like work or school, counts as one one-way trip. A trip back home from the destination would count as another one-way trip.

A trip to work and back home with one stop to shop along the way would be 3 one-way trips (3 destinations). A trip to and from work using 3 modes (e.g. bus, SeaBus and SkyTrain) would be 2 one-way trips.

1. 10 or more one-way transit trips per week
2. 4-9 one-way transit trips per week, or
3. 1-4 one-way transit trips per week
4. Less than “1” one-way transit trips per week
5. No transit trips

DON’T KNOW
REFUSED

FOR ANALYSIS CLASSIFICATION PURPOSES
IF 10 or more one-way transit trips/week = HIGH FREQUENCY TRANSIT RIDER
IF 4-9 one-way transit trips/week = MEDIUM FREQUENCY TRANSIT RIDER
IF less than 4 one-way transit trips/week = LOW FREQUENCY TRANSIT RIDER

IF USED SKYTRAIN PAST 30 DAYS:
4B. Which SkyTrain station close to your home do you use? [Please select one response.]

SKYTRAIN EXPO LINE
Waterfront
Burrard station
Granville station
Stadium station
Main Street station
Broadway station
Nanaimo station
29th Avenue station
Joyce/ Collingwood station
Patterson station
Metrotown station
Royal Oak station
Edmonds station
22nd Street station
New Westminster station
Columbia station
Scot Road station
Gateway station
Surrey Central station
King George station

SKYTRAIN MILLENNIUM LINE
Sapperton station
Braid station
Lougheed station
Production Way/ University station
Lake City Way station
Sperling - Burnaby Lake station
Holdom station
Brentwood station
Gilmore station
Section 2: Bicycle Classification and Barriers

5. Do you support or oppose TransLink and local municipal governments planning, funding and promoting cycling as a way to get around Metro Vancouver?

- Support strongly
- Support somewhat
- Oppose somewhat
- Oppose strongly

6. For each season, please indicate how often you ride a bicycle for any purpose, if at all. (Please record a response in each column below) [NOTE: IN PANEL SURVEY THE SEASONS ARE IN ROWS, AND THE RESPONSES ARE IN COLUMNS]

<table>
<thead>
<tr>
<th>During Summer (July Aug Sept)</th>
<th>During Fall (Oct Nov Dec)</th>
<th>During Winter (Jan Feb Mar)</th>
<th>During Spring (April May June)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike once a week or more often</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Bike 1 to 3 times a month (but not weekly)</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Bike at least once a year (but not monthly)</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Bike less often than once a year</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Do not ride a bicycle</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

IF 1-3+ PER WEEK IN 1+ SEASONS = REGULAR (WEEKLY) CYCLIST
IF NOT REGULAR CYCLIST BUT IF 1-3 TIMES/MONTH IN 1+ SEASON = MONTHLY CYCLIST
IF NOT REGULAR OR MONTHLY CYCLIST, BUT IF AT LEAST ONCE A YEAR IN 1+ SEASON=YEARLY CYCLIST
IF NOT REGULAR, MONTHLY OR ANNUAL CYCLIST, BUT IF LESS OFTEN THAN ONCE A YEAR IN 1+ SEASON=LESS THAN YEARLY CYCLIST
IF DO NOT RIDE A BICYCLE IN ALL FOUR SEASONS=NON-CYCLIST

IF RIDE BIKES IN ONE OR MORE SEASONS
7. What are the main purposes of these bicycle trips? (Please select as many as apply)
   1. Commute to/from work
   2. Commute to/from school
   3. Shopping
   4. Personal business such as the doctor or the bank
   5. Entertainment or social reasons
   6. Recreation (eg cycling as a form of recreation)
   7. Other
   8. Don't know

IF DO NOT RIDE A BIKE IN ALL FOUR SEASONS Q6
8. Are there any reasons why you do not ride a bicycle? [Please select as many as apply]
   1. Age/Health concerns
   2. Not fit enough to cycle
   3. Can't afford a bicycle/Don't own a bicycle
   4. Lack of safe bicycle routes in my area
   5. Lack of secure places to store/lock up bicycles
9. IF DO NOT RIDE A BIKE IN ALL FOUR SEASONS Q6
Would you consider riding a bicycle in the future?
   Yes [POTENTIAL CYCLIST] - CONTINUE
   No [NON-CYCLIST] - SKIP TO DEMOS

10. Are there any barriers that prevent you from cycling more than you do now, or prevent you from making certain types of trips by bicycle?
    Yes
    No

11. IF YES Please describe any barriers that prevent you from cycling more than you do now, or from making certain types of trips by bicycle? (Please be as specific as possible)

Section 3: Bicycle Theft and Safety

12. How would you describe bicycle theft in your municipality? Would you say it is a:
    1 Very serious problem,
    2 Serious problem,
    3 Not a very serious problem or
    4 Not a problem at all

13. At any time in the past two years have you avoided making a trip by bicycle to a certain location because you were worried about your bike being stolen?
    Yes
    No
    Not applicable to me

14. IF YES Which location or locations have you avoided making a trip by bicycle because you were worried about your bike being stolen? (Please be as specific as possible)

15. In the past five years, have you personally had a bicycle stolen in Metro Vancouver?
    Yes
    No

IF YES BIKE STOLEN:
16. Did the theft of your bicycle have an influence on how frequently you cycled afterward?
Cycling and End-of-Trip Facilities

Had very little or no influence on my cycling frequency
A short-term influence (cycled less for up to a month)
A medium-term influence (cycled less for up to a year)
A longer-term influence (cycled less for a year or longer)

IF YES BIKE STOLEN

17. Where was the bicycle stolen from? (Please be as specific as possible)

IF YES BIKE STOLEN

18. Did you report the bike theft to the police?
   Yes
   No

19. In terms of your safety from personal injury while cycling, how safe do you think cycling is from your home to the nearest SkyTrain station? Would you say it is...
   1. Very safe
   2. Somewhat safe
   3. Neither safe nor dangerous (neutral)
   4. Somewhat dangerous
   5. Very dangerous
   6. Don’t know

IF 2-5 ABOVE

20. What needs to change to make cycling to the nearest SkyTrain Station safer?

[Section 4: Awareness of Locker Rental Program]

ASK IF NON-RENTER

21. Before now, have you heard about TransLink’s bicycle locker rental program?
   Yes
   No - SKIP TO SECTION 7

ASK ALL

22. How did you first learn about the locker rental program?
   On-site (signage on the lockers)
   The Buzzer
   TransLink web site
   From a friend
   Other: ________________________

ASK IF NON RENTER

23. Have you ever rented a bicycle locker through TransLink (now or in the past)?
   Yes
   No

IF NO

24. Are there any reasons why you haven’t rented one of TransLink’s bicycle lockers?
   Don’t know much about the lockers
   Minimum three-month rental term too long
   No lockers where I need them
Cycling and End-of-Trip Facilities

Too expensive
Have no need for a bicycle locker
Lockers not available/waitlist
Would rather rent on a per use basis
Other reason: ______________________
No Reason in particular/Don't Know

[Section 5: Locker Usage - ASKED IF CURRENT LOCKER USER - IMPORTED FROM LIST]
IF RENTER = 1 [HIDDEN VARIABLE] AND IF Q23 = YES

Next, we have a few questions about your experience with the TransLink Bike Locker Rental Program.

25. For how many years have you been renting a bicycle locker?
   Less than one year
   1 or 2 years
   3 or 4 years
   5 years or longer
   Not applicable - Not currently renting a bike locker SKIP TO SECTION 7

26. How often do you normally access your locker?
   Less than 1 day per week
   1 day per week
   2 days per week
   3 days per week
   4 days per week
   5 days per week
   More than 5 days per week

27. During which seasons do you actively use (or intend to use) your locker at least 1 days a week? (Select as many as apply)
   Winter (Jan-Mar)
   Spring (April-June)
   Summer (July-Sept)
   Fall (Oct-Dec)
   Not applicable

28. What is the main trip purpose for which you use the bicycle locker? (One answer please)
29. For what other purpose(s) do you use your locker, if ever? (As many as apply)
   Commuting to work
   Commuting to school
   Recreational trips
   No other purpose
   Other: ______________________

30. Where is your locker located?
   **Expo SkyTrain Line**
   - King George Stn
   - Scott Road Stn
   - 22nd St. Stn
   **Millennium SkyTrain Line**
   - Sapperton Stn
   - Braid Stn
   - Lougheed Town Ctr Stn
   - Production Way Stn
   - Lake City Stn
   - Metrotown Stn
   - Main St. Stn
   - Stadium Stn
   - Sperling - Burnaby Lake Stn
   - Brentwood Stn
   - Gilmore Stn
   - Rupert Stn
   - Renfrew Stn
Cycling and End-of-Trip Facilities

**West Coast Express**
- Mission City station
- Port Haney station
- Maple Meadows station
- Pitt Meadows station

**Other**
- Ladner Exchange
- Phibbs Exchange
- Sexsmith Park & Ride
- South Surrey Park & Ride
- Other (Specify ____________)

31. Are there any locations that do not currently have bicycle lockers, where you would like to see them located? (Please name the SkyTrain Station, transit exchange, or other specific location and municipality. Please be as specific as possible, by providing the nearest cross streets and municipality or major landmark and municipality) Click here to see a list of existing locations:

32. Do you intend to continue renting your locker for the foreseeable future?
- Yes
- No
- Don't know

33. How would you rate the security of the bicycle lockers?
- Very secure
- Reasonably secure
- Not secure enough

34. How would you rate your personal security when accessing the bicycle lockers?
- Very safe
- Reasonably safe
- Not safe enough

35. How would you rate the general maintenance of the bicycle lockers and their surrounding area?
- Very well maintained
- Reasonably well maintained
- Not maintained well enough

ASK ALL
Presently, bicycle lockers are rented on a three-month term, at a cost of $10 per month.

36. How would you rate the bicycle lockers in terms of providing Value for Money?
- Excellent
- Good
- Average
- Poor
- Very Poor

37. Have you had any problems with the TransLink bike lockers or with the TransLink bike locker rental program?
- Yes
- No

IF YES
38. Please describe any problems you have had with the bike lockers or the TransLink bike locker rental program.
Cycling and End-of-Trip Facilities

[Section 6: Travel Patterns and Mode Shift ASKED IF CURRENT LOCKER USER IMPORTED FROM LIST]

IF RENTER = 1 [HIDDEN VARIABLE]

We're interested in your bicycle travel patterns, in order to plan for future service improvements.

39. Please indicate the origin and destination points and the arrival and departure times for your most typical cycling trip where you've used your bicycle locker (overall trip, not just the bicycle portion).

<table>
<thead>
<tr>
<th>ORIGIN:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESTINATION:</td>
</tr>
</tbody>
</table>

(Please provide either address, municipality and postal code or nearest intersection/cross-streets, and municipality.)

| DEPARTURE TIME: |
| Arrival Time: |

40. Starting from home, please describe the order of travel including the bicycle locker, for your typical bicycle locker trip? Please select a response for each “trip part”. If there are unused trip parts, select “not applicable”. If you have more than 6 “parts” to the trip, you can enter additional information in the “other specify” field. Please refer to the following examples.

- Example 1: If you cycled to the locker and parked it there, then took SkyTrain, and then walked to your destination, you would indicate: “Trip Part 1 = Bike”, “Trip Part 2 = Locker”, “Trip Part 3 = SkyTrain”, “Trip Part 4 = Walk”, “Trip Part 5 = Destination”, “Trip Part 6 = Not applicable”.

- Example 2: If you walked to the SkyTrain, took SkyTrain to locker, removed bike from locker and then cycled to your destination, you would indicate: Trip Part 1 = Walk; Trip Part 2 = SkyTrain; Trip Part 3 = Locker; Trip Part 4 = Bike; Trip Part 5 = Destination; Trip Part 6 = Not Applicable.
Cycling and End-of-Trip Facilities

41. Which describes your same typical trip BEFORE you began using a bicycle locker?

1. Drove alone in a vehicle all the way
2. Travelled in a vehicle with at least one other person all the way
3. Rode a bicycle all the way
4. Walked all the way
5. Took transit all the way (Bus, SeaBus, SkyTrain, West Coast Express)
6. Combination of modes: [Please specify __________]  
7. Did not make trip before getting locker
8. Don’t know

Section 7. Bicycles and Transit

[THIS SECTION IF CURRENT CYCLIST]

42. In the past two years, have you:

A. Taken a bicycle on board SkyTrain or West Coast Express?
B. Locked up a bicycle at a SkyTrain station or West Coast Express station?

Yes
No
Don’t Know

43. In the future, how likely are you to take a bicycle on board SkyTrain, Canada Line or West Coast Express?

Very likely
Somewhat likely
Not very likely
Not at all likely

44. In the future, if secure bicycle parking were available, how likely are you to ever lock up a bicycle at a SkyTrain, Canada Line or West Coast Express station?

Very likely
Somewhat likely
Not very likely
Not at all likely

IF YES TO Q42B OR VERY OR SOMEWHAT LIKELY Q44
45. If secure bicycle parking were available, please select which stations you would be likely to lock up a bicycle. (Please select as many as apply)

SKYTRAIN EXPLORE LINE
Waterfront
Burrard station
Granville station
Stadium station
Main Street station
Broadway station
Nanaimo station
29th Avenue station
Cycling and End-of-Trip Facilities

Joyce/ Collingwood station
Patterson station
Metrotown station
Royal Oak station
Edmonds station
22nd Street station
New Westminster station
Columbia station
Scott Road station
Gateway station
Surrey Central station
King George station

SKYTRAIN MILLENNIUM LINE
Sapperton station
Braid station
Lougheed station
Production Way/ University station
Lake City Way station
Sperling - Burnaby Lake station
Holdom station
Brentwood station
Gilmore station
Rupert station
Renfrew station
Commercial Drive station
VCC/ Clark station

CANADA LINE (Opening in Fall 2009)
Waterfront station
Vancouver City Centre station
Yale Towne/Roundhouse station
Olympic Village station
Broadway - City Hall station
King Edward station
Oakridge - 41st Ave station
Langara - 49th Ave station
Marina Drive station
Bridgeport station
Aberdeen station
Lansdowne station
Richmond Brighouse station
Templeton station
Sea Island station
YVR Airport station

WEST COAST EXPRESS
Mission City station
Port Haney station
Maple Meadows station
Pitt Meadows station
Port Coquitlam station
Coquitlam Central station
Port Moody station
Waterfront station

BUS EXCHANGES AND LOOPS
(too many to list here)
Cycling and End-of-Trip Facilities

NON RESPONSE OPTIONS
Don’t Know
None of the above

[Section 8: Attractiveness of End-of-Trip Facility Concepts]
[THIS SECTION, IF CURRENT CYCLIST]

46. Please rate the level of security of each of the following bicycle parking arrangements.

   Very secure
   Reasonably secure
   Not secure enough

   a. Bike rack at a transit stop
   b. Bicycle locker at a transit stop, accessed with a key
   c. Bike cage with bike racks at a transit stop, accessed with a card reader
   d. Bike cage with bike racks at a transit stop, with monitored video cameras, accessed with a card reader
   e. Fenced area with bike racks, staffed by an attendant

47. Which of the following is your most preferred way of gaining access to a bicycle locker or bike cage?
   (Please select one response)

   1. Key Lock
   2. Card reader
   3. Staffed by attendant who controls access
   4. Have no preference
   5. Don’t know

RANDOMLY ASK Q48 OR Q49 (NOT BOTH)

48. Thinking of the trips you currently take by bicycle, or may take by bicycle in the future, please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.

   A Bicycle locker at a transit stop, accessed with a key (at a cost of $10 per month)
   B Bike cage with bike racks at a transit stop, accessed with a card reader (at a cost of $5 per month)
   C Bike cage with bike racks at a transit stop, with monitored video cameras, accessed with a card reader (at a cost of $8 per month)
   D Fenced area with bike racks staffed by an attendant (at a cost of $10 per month)

USE SCALE: VERY LIKELY, SOMewhat LIKELY, NOT VERY LIKELY, NOT AT ALL LIKELY

49. Thinking of the trips you currently take by bicycle, or may take by bicycle in the future, please tell us which bicycle parking facilities you would be likely to use, if available at the cost indicated.

   A Bicycle locker at a transit stop, accessed with a key (at a cost of $15 per month)
   B Bike cage with bike racks at a transit stop, accessed with a card reader (at a cost of $7.50 per month)
   C Bike cage with bike racks at a transit stop, with monitored video cameras, accessed with a card reader (at a cost of $12 per month)
   D Fenced area with bike racks staffed by an attendant (at a cost of $15 per month)

USE SCALE: VERY LIKELY, SOMewhat LIKELY, NOT VERY LIKELY, NOT AT ALL LIKELY

At present, TransLink rents bicycle lockers at a cost of $10 per month for a minimum three-month term.

50. If you had the choice, would you rather: (Please select one response)

   Rent by the hour at a cost of $0.26 per hour? (Locker availability would be on a first-come first serve basis)
   Rent by the day at a cost of $1 per day? (Locker availability would be on a first-come first serve basis)
   Rent by the week at a cost of $5 per week? (Locker availability would be on a first-come first serve basis)
Cycling and End-of-Trip Facilities

Rent by the month at a cost of $10 per month (Locker reserved)
Rent by the year at a cost of $80 per year (Locker reserved)
None of the above
Don't know

ASK EITHER Q51 OR Q52 RANDOMLY

51. If locker rentals were available on a daily basis, at a cost of $1 per day, would you say this cost was:
   [ROTATE]:
   1 Too low
   2 About right
   3 Too high

52. If locker rentals were available on a daily basis, at a cost of $3 per day, would you say this cost was:
   [ROTATE]:
   1 Too low
   2 About right
   3 Too high

A "bike station" is a place where you can park your bike and use other services.

53. Please indicate which of the following services you would likely use, if they were available at a conveniently located bike station: (Select as many as apply)

Shower with a change area
Change room with no showers
Lockers for personal items/cycling gear
Toilets
Bike repair services
Bike-related retail stores
Non-bike-related retail (such as stores, banks)
Laundry service
Drying rack

54. Given the range of services available at a "bike station", would having a conveniently located bike station make you more likely to cycle than if just secure bicycle parking were available or would it make no difference?

1. Much more likely
2. Somewhat more likely
3. No difference
4. Don't know

[Section 9: Demographics]

Finally just a few questions to make sure we have represented all different groups of people in our study.

ASK ALL

55. Do you own or have access to a bicycle on a regular basis?
   Yes, own a bicycle
   Yes, have access
   No

Your gender: [ASK ONLY IF RENTER = 1] [HIDDEN VARIABLE] [PANELIST DATA FROM PROFILING QRE]
Female Male

56. Your age group: [ASK ONLY IF RENTER = 1] [HIDDEN VARIABLE] [PANELIST DATA FROM PROFILING QRE]
17 or under 45 - 54
Cycling and End-of-Trip Facilities

18 - 24 │ 55 - 64
25 - 34 │ 65 or over
35 - 44

57. Number of bicycles in your household: [ASK ALL]
   1 [   ]  2 [   ]  3 [   ] More than 3

62. Please indicate the number of people in your household: ___________

58. Your highest level of education completed: [ASK ALL]
   Some high school [   ]
   High school graduate [   ]
   Vocational or Technical [   ]
   College [   ]
   Some university [   ]
   University graduate [   ]
   Other: ____________________

59. Which of the following describes your household income before taxes for 2008: [ASK ALL]
   under $15,000 [   ]
   $15,000 to <$25,000 [   ]
   $25,000 to <$35,000 [   ]
   $35,000 to <$45,000 [   ]
   $45,000 to <$55,000 [   ]
   $55,000 to <$65,000 [   ]
   $65,000 to <$75,000 [   ]
   $75,000 to <$85,000 [   ]
   $85,000 or over [   ]

60. What is your home postal code: ____________________ [HIDDEN VARIABLE] [PANELIST DATA FROM PROFILING QRE; RENTER DATA IMPORTED FROM EXTERNAL FILE]

MUNICIPALITY
   [HIDDEN VARIABLE] [PANELIST DATA FROM PROFILING QRE; RENTER DATA IMPORTED]

ACCESS CAR
   [ASK ONLY IF RENTER = 1 [HIDDEN VARIABLE] [PANELIST DATA FROM PROFILING QRE]

EMPLOYMENT
   [ASK ONLY IF RENTER = 1 [HIDDEN VARIABLE] [PANELIST DATA FROM PROFILING QRE]

ASK ALL
61. In closing, do you have any final comments or suggestions to make about any of the topics covered in this survey?

Closing Screen
Those are all our questions.
Thank you for participating.
You may now close this window, or click “next” to be redirected to the TransLink home page.
## Appendix 3 – Preferred bicycle lock-up locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNWEIGHTED 'N'</strong></td>
<td>804</td>
</tr>
<tr>
<td><strong>SKYTRAIN EXPO LINE</strong></td>
<td></td>
</tr>
<tr>
<td>Waterfront</td>
<td>24%</td>
</tr>
<tr>
<td>Burrard station</td>
<td>20%</td>
</tr>
<tr>
<td>Granville station</td>
<td>18%</td>
</tr>
<tr>
<td>Stadium station</td>
<td>13%</td>
</tr>
<tr>
<td>Main Street station</td>
<td>13%</td>
</tr>
<tr>
<td>Broadway station</td>
<td>18%</td>
</tr>
<tr>
<td>Nanaimo station</td>
<td>4%</td>
</tr>
<tr>
<td>29th Avenue station</td>
<td>2%</td>
</tr>
<tr>
<td>Joyce/ Collingwood station</td>
<td>4%</td>
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<td>Patterson station</td>
<td>3%</td>
</tr>
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<td>Metrotown station</td>
<td>16%</td>
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<td>3%</td>
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</tr>
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</tr>
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<td>4%</td>
</tr>
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<td>12%</td>
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<td></td>
</tr>
<tr>
<td>Sapperton station</td>
<td>1%</td>
</tr>
<tr>
<td>Braid station</td>
<td>5%</td>
</tr>
<tr>
<td>Lougheed station</td>
<td>10%</td>
</tr>
<tr>
<td>Production Way/ University station</td>
<td>3%</td>
</tr>
<tr>
<td>Lake City Way station</td>
<td>2%</td>
</tr>
<tr>
<td>Sperling - Burnaby Lake station</td>
<td>2%</td>
</tr>
<tr>
<td>Holdom station</td>
<td>2%</td>
</tr>
</tbody>
</table>
### Cycling and End-of-Trip Facilities

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brentwood station</td>
<td>6%</td>
</tr>
<tr>
<td>Gilmore station</td>
<td>3%</td>
</tr>
<tr>
<td>Rupert station</td>
<td>2%</td>
</tr>
<tr>
<td>Renfrew station</td>
<td>2%</td>
</tr>
<tr>
<td>Commercial Drive station</td>
<td>9%</td>
</tr>
<tr>
<td>VCC/ Clark station</td>
<td>4%</td>
</tr>
</tbody>
</table>

**CANADA LINE (OPENING IN FALL 2009)**

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterfront station</td>
<td>9%</td>
</tr>
<tr>
<td>Vancouver City Centre station</td>
<td>8%</td>
</tr>
<tr>
<td>Yaletown/Roundhouse station</td>
<td>9%</td>
</tr>
<tr>
<td>Olympic Village station</td>
<td>6%</td>
</tr>
<tr>
<td>Broadway - City Hall station</td>
<td>8%</td>
</tr>
<tr>
<td>King Edward station</td>
<td>5%</td>
</tr>
<tr>
<td>Oakridge - 41st Ave station</td>
<td>8%</td>
</tr>
<tr>
<td>Langara - 49th Ave station</td>
<td>4%</td>
</tr>
<tr>
<td>Marine Drive station</td>
<td>3%</td>
</tr>
<tr>
<td>Bridgeport station</td>
<td>3%</td>
</tr>
<tr>
<td>Aberdeen station</td>
<td>3%</td>
</tr>
<tr>
<td>Lansdowne station</td>
<td>6%</td>
</tr>
<tr>
<td>Richmond Brighouse station</td>
<td>11%</td>
</tr>
<tr>
<td>Templeton station</td>
<td>1%</td>
</tr>
<tr>
<td>Sea Island station</td>
<td>3%</td>
</tr>
<tr>
<td>YVR Airport station</td>
<td>8%</td>
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</table>

**WEST COAST EXPRESS**

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission City station</td>
<td>0%</td>
</tr>
<tr>
<td>Port Haney station</td>
<td>2%</td>
</tr>
<tr>
<td>Maple Meadows station</td>
<td>2%</td>
</tr>
<tr>
<td>Pitt Meadows station</td>
<td>3%</td>
</tr>
<tr>
<td>Port Coquitlam station</td>
<td>3%</td>
</tr>
<tr>
<td>Coquitlam Central station</td>
<td>2%</td>
</tr>
</tbody>
</table>
### Cycling and End-of-Trip Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Usage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Moody station</td>
<td>1%</td>
</tr>
<tr>
<td>Waterfront station</td>
<td>1%</td>
</tr>
<tr>
<td><strong>BUS EXCHANGES AND LOOPS</strong></td>
<td>-</td>
</tr>
<tr>
<td>Blanca Loop</td>
<td>1%</td>
</tr>
<tr>
<td>Dunbar Loop</td>
<td>2%</td>
</tr>
<tr>
<td>Kootenay Loop</td>
<td>2%</td>
</tr>
<tr>
<td>Marpole Loop</td>
<td>1%</td>
</tr>
<tr>
<td>Stanley Park Loop</td>
<td>6%</td>
</tr>
<tr>
<td>UBC Loop</td>
<td>8%</td>
</tr>
<tr>
<td>Night Bus Downtown Terminus</td>
<td>1%</td>
</tr>
<tr>
<td>SFU Exchange</td>
<td>3%</td>
</tr>
<tr>
<td>Lonsdale Quay</td>
<td>6%</td>
</tr>
<tr>
<td>Park Royal Shopping Centre</td>
<td>3%</td>
</tr>
<tr>
<td>Phibbs Exchange</td>
<td>2%</td>
</tr>
<tr>
<td>Capilano University Exchange</td>
<td>2%</td>
</tr>
<tr>
<td>Airport Station</td>
<td>4%</td>
</tr>
<tr>
<td>Ladner Exchange</td>
<td>3%</td>
</tr>
<tr>
<td>Richmond Centre</td>
<td>6%</td>
</tr>
<tr>
<td>South Delta Exchange</td>
<td>2%</td>
</tr>
<tr>
<td>Coquitlam Recreation Centre</td>
<td>1%</td>
</tr>
<tr>
<td>Coquitlam Station</td>
<td>2%</td>
</tr>
<tr>
<td>Haney Place Transit Exchange</td>
<td>0%</td>
</tr>
<tr>
<td>Maple Meadows Way Station</td>
<td>1%</td>
</tr>
<tr>
<td>Port Coquitlam Centre Loop</td>
<td>1%</td>
</tr>
<tr>
<td>Port Coquitlam Station Loop</td>
<td>1%</td>
</tr>
<tr>
<td>Port Moody Station Loop</td>
<td>1%</td>
</tr>
<tr>
<td>Guildford Mall Exchange</td>
<td>5%</td>
</tr>
<tr>
<td>Langley Centre</td>
<td>2%</td>
</tr>
<tr>
<td>Newton Exchange</td>
<td>3%</td>
</tr>
<tr>
<td>Scottsdale Exchange</td>
<td>4%</td>
</tr>
</tbody>
</table>
## Cycling and End-of-Trip Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Surrey Park and Ride</td>
<td>3%</td>
</tr>
<tr>
<td>White Rock Centre</td>
<td>4%</td>
</tr>
<tr>
<td>Walnut Grove Park &amp; Ride</td>
<td>2%</td>
</tr>
</tbody>
</table>

### NON-RESPONSE OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DON'T KNOW</td>
<td>7%</td>
</tr>
<tr>
<td>NONE OF THE ABOVE</td>
<td>2%</td>
</tr>
</tbody>
</table>

### Other Mentioned Stations

- **AT LEAST ONE EXPO LINE STATION MENTIONED**: 66%
- **AT LEAST ONE SKYTRAIN MILLENIUM LINE STATION MENTIONED**: 27%
- **AT LEAST ONE CANADA LINE STATION MENTIONED**: 34%
- **AT LEAST ONE WEST COAST EXPRESS STATION MENTIONED**: 9%
- **AT LEAST ONE BUS EXCHANGE OR LOOP MENTIONED**: 34%
Appendix 4 – Future Research Considerations

The following topics could be considered for future marketing research.

- The extent to which the weather barrier would be mitigated by having separate cycling paths.
  - Is the weather barrier a safety barrier, or not wanting to get wet, particularly on the way to work, or both? (As it is even less safe to cycle in the rain if there are no cycling paths, then cycling paths might partially overcome the weather barrier).

- In the current survey, we asked cyclists if they wanted to take their bicycle on board SkyTrain in the future, but didn’t ask why they hadn’t done so already. This would be useful in identifying the barriers in combination bike-SkyTrain trips.
### Cycling and End-of-Trip Facilities

#### Appendix 5 – Amenity selection by preferred lock-up location

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total 'N'</strong></td>
<td>1608</td>
<td>168</td>
<td>144</td>
<td>126</td>
<td>91</td>
<td>91</td>
<td>127</td>
<td>74</td>
<td>87</td>
<td>68</td>
<td>77</td>
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<tr>
<td><strong>UNWEIGHTED 'N'</strong></td>
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<td>216</td>
<td>196</td>
<td>177</td>
<td>124</td>
<td>135</td>
<td>198</td>
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<td>86</td>
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<td>70</td>
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<tr>
<td><strong>Toilets</strong></td>
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<tr>
<td></td>
<td>81%</td>
<td>90%</td>
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<td>90%</td>
<td>87%</td>
<td>84%</td>
<td>90%</td>
<td>89%</td>
<td>87%</td>
<td>91%</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Lockers for personal items/cycling gear</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>51%</td>
<td>57%</td>
<td>57%</td>
<td>60%</td>
<td>63%</td>
<td>54%</td>
<td>64%</td>
<td>73%</td>
<td>66%</td>
<td>68%</td>
<td>65%</td>
</tr>
<tr>
<td><strong>Non-bike-related retail (such as stores, banks)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>43%</td>
<td>56%</td>
<td>55%</td>
<td>54%</td>
<td>50%</td>
<td>56%</td>
<td>57%</td>
<td>49%</td>
<td>47%</td>
<td>55%</td>
<td>46%</td>
</tr>
<tr>
<td><strong>Bike repair services</strong></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>37%</td>
<td>58%</td>
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<td>54%</td>
<td>59%</td>
<td>59%</td>
<td>59%</td>
<td>50%</td>
<td>41%</td>
<td>56%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Showers with a change area</strong></td>
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<td>39%</td>
<td>39%</td>
<td>46%</td>
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<td>47%</td>
<td>37%</td>
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<td>32%</td>
</tr>
<tr>
<td><strong>Bike-related retail stores</strong></td>
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<td></td>
<td></td>
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<td>41%</td>
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<td>45%</td>
<td>42%</td>
<td>31%</td>
<td>49%</td>
<td>41%</td>
</tr>
<tr>
<td><strong>Change room with no showers</strong></td>
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<tr>
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<td>24%</td>
<td>25%</td>
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<td>31%</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Drying rack</strong></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
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<td>21%</td>
<td>20%</td>
<td>19%</td>
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<td>22%</td>
<td>26%</td>
<td>19%</td>
<td>20%</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Laundry service</strong></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>5%</td>
<td>9%</td>
<td>11%</td>
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<td>7%</td>
<td>10%</td>
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<td>12%</td>
<td>16%</td>
<td>2%</td>
<td>11%</td>
</tr>
</tbody>
</table>
## Cycling and End-of-Trip Facilities

<table>
<thead>
<tr>
<th>None of the above</th>
<th>3%</th>
<th>0%</th>
<th>1%</th>
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<th>2%</th>
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</tr>
</thead>
</table>
